

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

AGENDA

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

- A. Pledge of Allegiance
- B. Conflict of Interest Disclosure
- C. Executive Summary

II. ACCEPTANCE OF MINUTES (October 25, 2024) – (Board Action)

III. EDUCATION (30 minutes) – (Information)

- A. Portfolio Construction/Asset Allocation – Mr. Anderson

IV. INVESTMENTS (30 minutes)

- A. Consultant Quarterly Performance Update (Board Action) – Verus
- B. Internal Investment Initiative Update (Information) – Mr. Anderson

(Break)

V. GOVERNANCE (90 minutes)

- A. Legacy & Budget Stabilization Fund Advisory Board Update (Information) – Sen. Klein, Mr. Anderson
- B. Investment Committee Update (Information) – Treasurer Beadle, Mr. Anderson
- C. Governance & Policy Review Committee Update (Information) – Dr. Lech, Ms. Murtha
 - 1. 2025 Legislative Session – Ms. Murtha
- D. Audit Committee Update (Information) - Treasurer Beadle, Ms. Thorsen
- E. Annual Strategic Communications Update (Board Action) – Ms. Mudder

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

- A. Quarterly Audit Activities Report – Ms. Thorsen
- B. Quarterly Budget/Fiscal Conditions – Mr. Skor
- C. Executive Limitations/Staff Relations Report – Ms. Murtha

VII. OTHER

- A. Board Resolutions for Lt. Gov. Miller & Ms. Sisk (Board Action)
- B. Next Meetings:
 - Securities Litigation Comm – December 5, 2024, at 9:00 a.m. (tentative)
 - Investment Committee – December 13, 2024 & January 10, 2025, at 9:00 a.m.
 - SIB ERCC – January 15, 2025, at 10:00 a.m.
 - TFFR Board – January 23, 2025, at 1:00 p.m.
 - SIB Meeting – January 24, 2025, at 8:30 a.m.

VIII. ADJOURNMENT

EXECUTIVE SUMMARY

SIB Regular Meeting

November 22, 2024 – 8:30 a.m. CT

- **Agenda:** The November 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 \(nd.gov\)](#)
- I. **Minutes (Board Action):** The October 25, 2024, Board meeting minutes are included for review and approval.
- II. **EDUCATION**
- A. **Portfolio Construction/Asset Allocation (Information):** CIO Anderson will provide board education on portfolio construction and asset allocation.
- III. **INVESTMENTS**
- A. **Consultant Quarterly Performance Update (Board Action):** CIO A representative from Verus will present quarterly 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.
- IV. **GOVERNANCE**
- A. **Legacy and Budget Stabilization Advisory Board Update (Information Only):** The Committee Chair and CIO Anderson will provide an update on recent committee activities.
- B. **Investment Committee Update (Information Only):** The Committee Chair and CIO Anderson will provide an update on recent committee activities.
- C. **GPR Committee Update (Information):** The committee Chair and Ms. Murtha will provide the Board with an update on committee activities.
- D. **Audit Committee Update (Information):** The committee Chair and Ms. Thorsen will provide the Board with an update on committee activities.
- E. **2025 Legislative Session Planning (Information):** Ms. Murtha will update the Board on planning for the upcoming legislative session.
- F. **Annual Strategic Communications Update (Board Action):** Ms. Mudder will present the annual strategic communications plan for program activities for board approval.
- V. **REPORTS (Board Action):** Staff will provide monitoring reports for quarterly audit activities, quarterly budget and fiscal conditions, and executive limitations/staff relations.
- VI. **Other (Board Action):** Dr. Lech will present a Resolution in Appreciation for Lt. Governor Miller for board approval.

Adjournment.

**NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
OCTOBER 25, 2024, BOARD MEETING (IN-PERSON)**

MEMBERS PRESENT:

Tammy Miller, Lt. Governor, Chair
Dr. Rob Lech, TFFR Board, Vice Chair
Thomas Beadle, State Treasurer, Parliamentarian
Rep. Glenn Bosch, LBSFAB
Pete Jahner, Investment Professional
Sen. Jerry Klein, LBSFAB
Cody Mickelson, TFFR Board
Adam Miller, PERS Board
Dr. Prodosh Simlai, Investment Professional
Art Thompson, Director of WSI

MEMBERS ABSENT:

Joseph Heringer, Commissioner of Univ. & School Lands
Joe Morrisette, PERS Board
Susan Sisk, Director of OMB

STAFF PRESENT:

Scott M. Anderson, CIO
Eric Chin, Deputy CIO/Head of AFM
Derek Dukart, Sr. Investment Analyst
Jennifer Ferderer, Fiscal/Investment Admin.
Chirag Gandhi, Portfolio Mgr.
Brian Hermanson, Investment Accountant
Rachel Kmetz, Fiscal/Investment Operations Mgr.
Missy Kopp, Executive Assistant
George Moss, Portfolio Mgr.
Sarah Mudder, Communications/Outreach Dir.
Jan Murtha, Executive Director
Matt Posch, Portfolio Mgr.
Emmalee Riegler, Procurement/Records Coord.
Chad Roberts, DED/CRO
Ryan Skor, CFO/COO
Mike Schmitcke, Sr. Investment Accountant
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:

Mary Kae Kelsch, 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, October 25, 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. Jahner, Sen. Klein, Dr. Lech, Mr. Mickelson, Mr. Miller, Lt. Gov. Miller, Dr. Simlai, and Mr. Thompson.

ACCEPTANCE OF AGENDA:

The Board considered the agenda for the October 25, 2024, meeting.

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

AYES: TREASURER BEADLE, MR. MILLER, REP. BOSCH, MR. THOMPSON, DR. SIMLAI, MR. MICKELSON, SEN. KLEIN, DR. LECH, MR. JAHNER, AND LT. GOV. MILLER

NAYS: NONE

**ABSENT: COMMISSIONER HERINGER, MR. MORRISSETTE, AND MS. SISK
MOTION CARRIED**

MINUTES:

The Board considered the minutes of the September 27, 2024, SIB meeting.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY DR. LECH AND CARRIED BY A VOICE VOTE TO APPROVE THE SEPTEMBER 27, 2024, MINUTES AS DISTRIBUTED.

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

NAYS: NONE

**ABSENT: COMMISSIONER HERINGER, MR. MORRISSETTE, AND MS. SISK
MOTION CARRIED**

EDUCATION:

Fixed Income:

Mr. Anderson provided board education on fixed income. The presentation provided information on bond yields and risks, fixed income securities risks and opportunities, and an illustration of the fixed income markets and trends in the U.S. Board discussion followed.

INVESTMENTS:

Quarterly and Annual Performance Update:

Mr. Anderson provided the quarterly/annual performance update as of the end of fiscal year (FY) 2024. The report included a review of market performance as of June 30, 2024, and October 16, 2024, and performance for PERS, TFFR, Legacy Fund, and WSI. Board discussion followed.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY DR. LECH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE QUARTERLY/ANNUAL INVESTMENT PERFORMANCE UPDATE.

AYES: SEN. KLEIN, DR. SIMLAI, MR. MORRISSETTE, MR. MICKELSON, MR. MILLER, TREASURER BEADLE, MR. JAHNER, MR. THOMPSON, DR. LECH, AND LT. GOV. MILLER

NAYS: NONE

**ABSENT: COMMISSIONER HERINGER, MR. MORRISSETTE, AND MS. SISK
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. Staff are in the process of establishing broker dealer arrangements and developing the new order and portfolio management system. Significant progress has been made in defining necessary data, compliance, and investment strategies. A detailed strategy review is planned for the next Investment Committee meeting, with the aim of finalizing and seeking approval in December to begin implementation early next year. Board discussion followed.

Asset Allocation Consultant:

IT WAS MOVED BY DR. LECH AND SECONDED BY TREASURER BEADLE AND CARRIED BY A ROLL CALL VOTE TO ENTER INTO EXECUTIVE SESSION PURSUANT TO NDCC 44-04-19.2, 44-04-18.4(6)(b), AND 44-04-19.1(9) TO DISCUSS EXEMPT PROPOSAL PROCUREMENT INFORMATION DURING A COMPETITIVE BIDDING PROCESS AND STRATEGY OR INSTRUCTIONS REGARDING A CONTRACT.

AYES: TREASURER BEADLE, MR. JAHNER, REP. BOSCH, MR. THOMPSON, DR. SIMLAI, DR. LECH, MR. MILLER, SEN. KLEIN, MR. MICKELSON, AND LT. GOV. MILLER

NAYS: NONE

ABSENT: COMMISSIONER HERINGER, MR. MORRISSETTE, AND MS. SISK
MOTION CARRIED

The executive session started at 10:19 a.m. and ended at 10:27 a.m. The session was attended by staff, board members, and Ms. Kelsch.

The Board recessed at 10:27 a.m. and reconvened at 10:45 a.m.

GOVERNANCE:

Investment Committee (IC) Update:

Treasurer Beadle provided an update from the October 17, 2024, IC meeting. The IC received a detailed review of public market strategies and discussed adjustments for the U.S. Equity 2.0 strategy. Manager recommendations and updates were discussed in closed session pending contract negotiation. Staff provided an update on efforts to enable international transactions in separately managed accounts. Board discussion followed.

Governance and Policy Review (GPR) Committee Update:

Dr. Lech provided an update from the October 21, 2024, GPR meeting. The Committee has had past discussions about the need to consider a change to the Board's governance model which is currently the Carver model. This model is getting to be outdated so the Committee is planning to revisit the topic in the future. The Committee set a schedule to review the SIB Governance Manual. Dr. Lech reviewed the Committee's discussion on preparation for the legislative session, specifically on procurement and the confidentiality of investment data. ND currently uses a confidentiality analysis model for data, but the Committee is exploring a simpler list model which would provide greater clarity, though developing a draft has been complicated. Staff will continue to work with other agencies to develop a draft bill.

Ms. Murtha commented on recent communication and media stories in relation to Legacy Fund transparency which was shared with Board members. The Board was invited to provide input on steps to respond to the misinformation that has been shared in the media. Board discussion followed on the best way to respond to the misinformation including press releases and continued education. The Board asked staff to put together a communications strategy for the near term to provide information to counter the misinformation.

QUARTERLY MONITORING REPORTS:

Quarterly Investment Ends:

Mr. Posch provided the Investment Ends Report for the quarter ended September 30, 2024. The public markets team made significant progress on the Equity 2.0 project, with new managers onboarded and further international portfolio recommendations underway. In private markets, a new private equity manager has been onboarded and additional manager recommendations are anticipated by the end of the year. The risk team continues to work on the implementation of the order and portfolio management system with a rollout expected by March of 2025. Board discussion followed.

Quarterly Outreach Report:

Ms. Mudder provided the outreach report for the quarter ended September 30, 2024. Staff released the investment newsletter in September and are planning a regular release schedule. The agency launched a LinkedIn account and made the agency's YouTube account public, and both are available at the top of RIO's website. Social media engagement has been promising. Mr. Anderson's interview with Pensions and Investments magazine gained substantial attention on social media. The Investment Seminar evaluation respondents gave an average rating of 3.52 on a 4-point scale. Board discussion followed.

Annual Budget/Fiscal Conditions Report:

Mr. Skor provided the annual Budget/Fiscal Conditions report for the period ended June 30, 2024. The report includes an expenditure summary, budget appropriation status, pension administration system modernization project summary, and schedules of consulting and investment expenses. Board discussion followed.

Executive Limitations/Staff Relations:

Ms. Murtha provided the Executive Limitations/Staff Relations Report. Ms. Murtha reviewed the status of current staffing activities and current projects and initiatives. ED activities for the past month have included a career day panel at the University of Mary and the National Council on Teacher Retirement (NCTR) Conference where Ms. Murtha moderated a panel discussion on securities litigation. Board discussion followed.

IT WAS MOVED BY TREASURER BEADLE AND SECONDED BY MR. JAHNER AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE QUARTERLY INVESTMENT ENDS, QUARTERLY OUTREACH, ANNUAL BUDGET/FISCAL CONDITIONS, AND EXECUTIVE LIMITATIONS/STAFF RELATIONS REPORTS.

AYES: MR. MILLER, SEN. KLEIN, DR. LECH, MR. JAHNER, MR. THOMPSON, DR. SIMLAI, TREASURER BEADLE, REP. BOSCH, AND LT. GOV. MILLER

NAYS: NONE

ABSENT: COMMISSIONER HERINGER, MR. MICKELSON, MR. MORRISSETTE, AND MS. SISK
MOTION CARRIED

ADJOURNMENT:

With no further business to come before the SIB, Lt. Gov. Miller adjourned the meeting at 11:46 a.m.

Prepared by: Missy Kopp, Assistant to the Board

ASSET ALLOCATION/ PORTFOLIO CONSTRUCTION

Scott M Anderson, CFA – Chief Investment Officer

November 22, 2024



Retirement & Investment

THREE STEPS FORWARD ONE STEP BACK

Three Steps Forward One Step Back

$$\text{Efficiency} = 50\% * 3 + 50\% * -1 = 1 \text{ step forward}$$



Three Steps Forward Two Steps Back

$$\text{Efficiency} = 50\% * 3 + 50\% * -2 = .5 \text{ steps forward}$$



RETURN EFFICIENCY

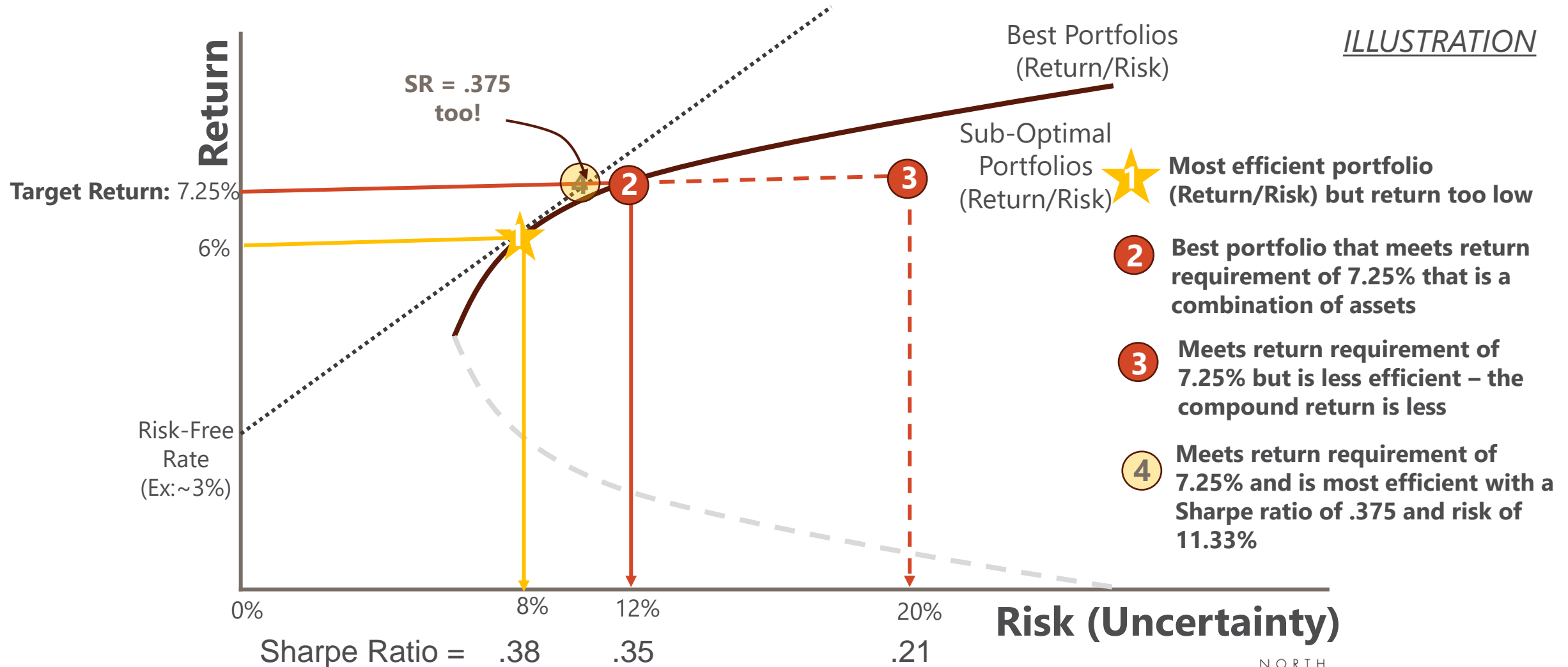
$$\text{RETURN EFFICIENCY} = \frac{\text{Return} - \text{RISK FREE RATE}}{\text{Risk (Range of Returns)}} \quad \triangleright \quad \frac{8.1\%}{10\%} \text{ IS BETTER THAN } \frac{8.1\%}{20\%}$$

EXAMPLE:

1 YEAR EXPECTED RETURN	RISK FREE RATE	RISK	EFFICIENCY	AVERAGE COMPOUND RETURN (MANY YEARS)
8.1%	3.1%	10%	.5	7.6%
8.1%	3.1%	20%	.25	6.1%

33% Lower long-term
return because of the
doubling of risk!

THE EFFICIENT FRONTIER



ALLOCATION OF WARDROBE



	Warm Wear Warm State	Cold Wear Cold State	Payoff Expectation
Payoff	100	100	
Frequency In State%	70%	30%	
Allocation % 1	70%	30%	54
Allocation % 2	30%	70%	39
Allocation % 3	100%	0%	24

Payoff = 0 if not performing well

TYPICAL RETURN AND RISK ASSUMPTIONS

ASSET CLASS	ARITHMETIC	COMPOUND	RISK	EFFICIENCY ¹	
	RETURN	RETURN			
IG Fixed Income	4.00%	3.90%	5.05%	0.25	<div>LOW LIQUIDITY RISK</div> <div>↑</div> <div>HIGH LIQUIDITY RISK</div>
Domestic Equities	6.50%	5.20%	16.14%	0.23	
World Ex US	9.15%	7.38%	18.88%	0.34	
High Yield	7.00%	6.45%	10.53%	0.40	
Core Real Estate	5.75%	5.00%	12.62%	0.24	
Private Infrastructure	7.25%	6.00%	15.72%	0.29	
Private Debt	8.00%	7.10%	13.24%	0.40	
Private Equity	9.75%	7.20%	22.63%	0.31	

1. Assumes a 2.75% risk free rate
2. RVK capital market assumptions

ASSET COMBINATION DIFFERENCES

ASSET CLASS	FUND #1 Alloc	FUND #2 (Less Liquid) Alloc	
IG Fixed Income	18.50%	18.00%	
Domestic Equities	28.00%	24.40%	<u>ILLUSTRATION</u>
World Ex US	19.00%	16.60%	
High Yield	5.00%	2.00%	
Core Real Estate	6.50%	11.00%	
Private Infrastructure	3.50%	6.50%	
Private Debt	10.00%	3.50%	
Private Equity	10.00%	18.00%	
Expected Return	6.83%	6.93%	
Expected Risk	11.98%	10.83%	▶
Compound Return	6.11%	6.35%	
Return/Risk	0.34	0.39	

1. Assumes a 2.75% risk free rate
2. RVK capital market assumptions

LIQUIDITY RISK



- WATER IN = CASH-IN/CONTRIBUTIONS
- SOME WATER FROZEN (CAN'T FLOW OUT) = ILLIQUID ASSETS THAT ARE DIFFICULT OR EXPENSIVE TO SELL
- SOME WATER NOT FROZEN AND IS ABLE TO FLOW OUT = SPENDING

LIQUIDITY RISK = CASH-IN PLUS LIQUID ASSETS IS NOT ENOUGH TO MEET CASH OUT REQUIREMENTS

PERFORMANCE

PERS \$3.9 Billion Total value of fund

Total Fund Return - Net

Policy Benchmark Return

Total Relative Return

Year to Date	Performance of the Fund			Risk (5 Year)
	1 Year	3 year	5 Year	
7.1%	8.0%	8.6%	6.9%	10.2%
7.1%	8.7%	8.3%	6.9%	10.4%
	0.0%	0.6%	0.3%	

Opportunity Cost Benchmark

Excess Return (Uncertainty of Excess Return is Tracking Error)

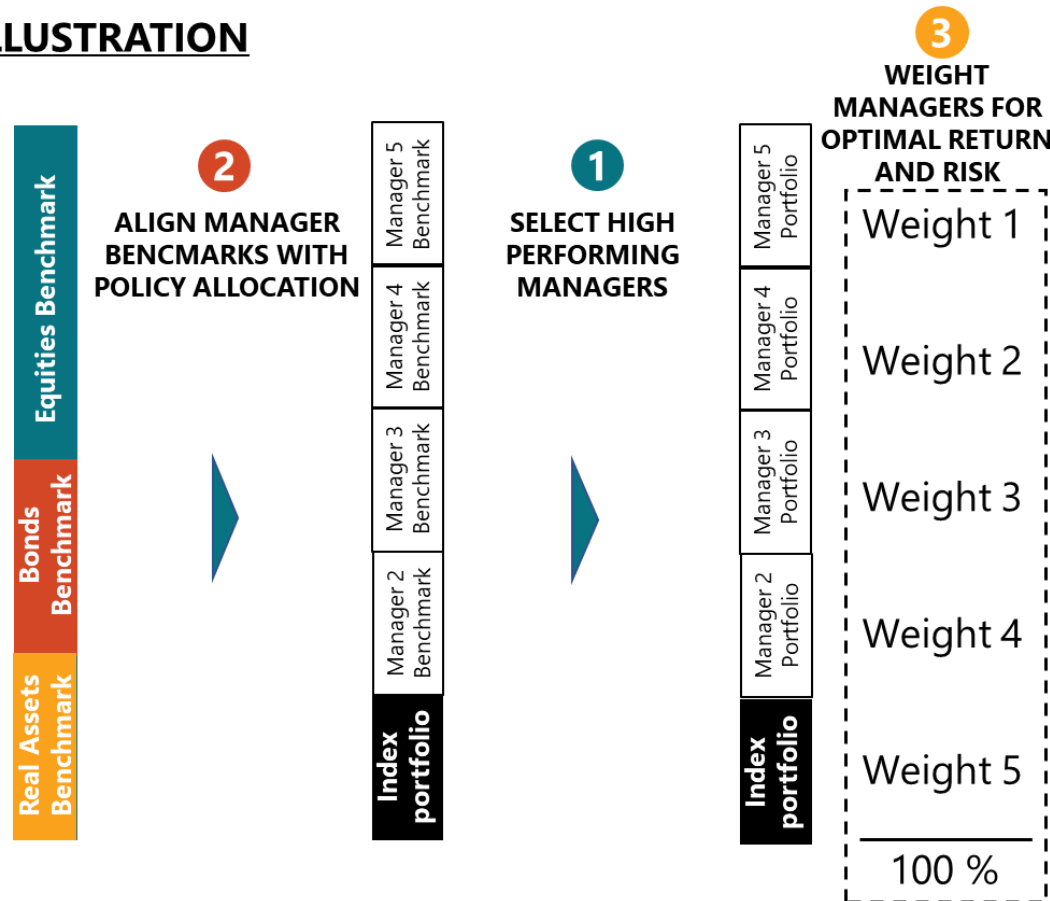
EXCESS OR ACTIVE RETURN IS IMPORTANT

Initial Capital	Benchmark Return	Active Return	Return Multiple (30 Yrs) ¹	Ending Capital
\$22.0	6.5%	0.0%	6.61	\$145.5
\$22.0	6.5%	0.5%	7.61	\$167.5
			1.00	\$22.0 (\$0.733/Yr)

1. $1.065^{30} = 6.61$; $1.07^{30} = 7.61$

PORTFOLIO CONSTRUCTION GOALS

ILLUSTRATION



1 SELECT HIGH PERFORMING MANAGERS:

TRACKING ERROR (TE) GOAL	1.0%
X RETURN EFFICIENCY (IR) GOAL	0.50
ACTIVE RETURN (RTRN) GOAL	0.75%
FUND SHARE OF RETURN GOAL	0.67%
MANAGER FEE GOAL	0.25%

2 ALIGN MANAGER BENCHMARKS AND WEIGHTS TO POLICY BENCHMARK SERIES

3 WEIGHT MANAGERS FOR OPTIMAL RETURN AND RISK:

	WEIGHT	RTRN	TE	IR
MGR1	33.0%	1.0%	2.5%	0.40
MGR2	33.0%	1.5%	3.5%	0.43
MGR3	33.0%	0.5%	1.3%	0.39
TOTAL	100.0%	1.0%	1.8%	0.54

SELECTING HIGH PERFORMING MANAGERS

MANAGER CAPABILITIES	IMACT TO FUND
Talent	Absolute risk and return
Ownership & Compensation	Active return and risk
Locations	Incremental impact to active return and risk
Firm Size (Mandate Dependent)	Risk factor exposure and risk
Assets Under Management	Non-linear exposure and risk (Greeks)
Investment Strategy/Philosophy	Benchmark and fit
Source Of Risk And Return	Upside and downside returns
Organization Structure	Liquidity impact
Max Mandate Size	Private market metrics (TVPI, IRR, etc.)
Operations	Portfolio passive and active correlations
Headline risks	Pacing and commitment
Intellectual property/knowledge transfer	Cost

WEIGHTING MANAGERS FOR OPTIMAL RETURN

	WEIGHT	RTRN	TE ¹	IR
MGR1	33.0%	1.0%	2.5%	0.40
MGR2	33.0%	1.5%	3.5%	0.43
MGR3	33.0%	0.5%	1.3%	0.39
TOTAL	100.0%	1.0%	1.8%	0.54

>

	WEIGHT	RTRN	TE ¹	IR
MGR1	70.0%	1.0%	2.5%	0.40
MGR2	15.0%	1.5%	3.5%	0.43
MGR3	15.0%	0.5%	1.3%	0.39
TOTAL	100.0%	1.0%	2.0%	0.48

Correlation is the measurement of the change of one manager's returns when another manager's returns change.

Low Correlation of Active Returns

	MGR1	MGR2	MGR3
MGR1	1	.2	.3
MGR2	.2	1	.1
MGR3	.3	.1	1

Diversification enables a lower variation of active returns

1. Variation of active returns

APPENDIX

	Warm Wear Warm State	Cold Wear Cold State	Payoff Expectation
Payoff	100	100	
Frequency In State%	70%	30%	
Allocation % 1	70%	30%	54
Allocation % 2	30%	70%	39
Allocation % 3	100%	0%	24

Payoff = 0 if not performing well

$$\begin{aligned}
 & \frac{(1+70\%*100)^{(700/1000)} * (1+70\%*0)^{(300/1000)}}{(1+30\%*0)^{(700/1000)} * (1+30\%*1000)^{(300/1000)}} \\
 & \quad \times \\
 & \quad -1 \\
 & \quad \text{1000 trials, investment of 1}
 \end{aligned}$$



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING: September 30, 2024

Investment Performance Summary for

North Dakota State Investment Board

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VERUSINVESTMENTS.COM

SEATTLE 206.622.3700

CHICAGO 312.815.5228

PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

Investment Landscape	TAB I
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Consolidated Pension Plan	TAB II
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Public Employees Retirement System	TAB III
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Teachers’ Fund For Retirement	TAB IV
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Legacy Fund	TAB V
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Consolidated Insurance Trust	TAB VI
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Workforce Safety & Insurance Trust	TAB VII
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Budget Stabilization Fund	TAB VIII
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3rd quarter summary

THE ECONOMY

- On September 18th, the Federal Reserve cut interest rates by 50 basis points, bringing the target rate from 5.25-5.50% to 4.75-5.00%. This larger cut surprised many investors who still see inflation risks on the horizon and the economy as generally strong. This move likely kicks off a multi-year period of cuts as the Fed brings interest rates towards what they see as a more neutral level.
- U.S. inflation (CPI) fell to 2.4% year-over-year in September, moving closer to the Fed's 2% target. However, risks remain that inflation moderates above the Fed target, as shelter inflation is still elevated and food prices accelerated in September. Core inflation (ex-Food & Energy) has not budged from Q2 levels—at 3.3% year-over-year.

EQUITY

- Global markets delivered strong performance, with consistent results across regions. Emerging markets (MSCI EM +8.7%) led, followed by international developed (MSCI EAFE +7.3%) and lastly the U.S. market (S&P 500 +5.9%). U.S. dollar weakness provided particular benefits to investors in international developed equities.
- Small cap and value style investing reversed their run of underperformance during the second quarter. Small cap led large cap by +3.2% (-8.9% over the past year), while value also outperformed by +6.2% (-14.4% over the past year). Despite this improvement, the market environment has been incredibly difficult for these style factors.

FIXED INCOME

- The 10-year U.S. Treasury yield fell from 4.36% to 3.79% during the quarter, alongside a series of economic data releases that suggested inflation is moving further towards the Fed's 2% target, and that the labor market is softening. Interestingly, yields moved slightly higher in late September after the Fed's aggressive 50 bps rate cut.
- Default activity remained low, given economic strength. High yield bond default rates continued to decline, falling to 1.4%, well below the long-term annual average of 3.4%. However, distressed exchange activity was high. Total distressed exchange volume was roughly \$13.5 billion, the second largest quarter on record (since Q4 2008).

ASSET ALLOCATION ISSUES

- China announced an aggressive stimulus program in the form of both fiscal and monetary support. Those moves followed a People's Bank of China rate cut from 2.3% to 2.0%. Chinese equities rallied more than 30% in late September. It is not yet clear whether these efforts will help solve any of China's deep and structural issues.
- On August 5th, volatility spiked 42 points to 66, marking the largest one day jump in volatility in modern market history. This was widely attributed to the unwinding of carry trade positions (one popular carry trade involved borrowing in Yen to invest in equities) following a weak labor market data release and an unexpected interest rate hike from the Bank of Japan.

In September, the Fed enacted the first of likely a series of interest rate cuts.

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

U.S. economics summary

- On September 18th, the Federal Reserve cut interest rates by 50 basis points, bringing the target rate from 5.25-5.50% to 4.75-5.00%. This larger cut surprised many investors who still see inflation risks on the horizon and see the economy as generally strong. This move likely kicks off a multi-year period of cuts as the Fed brings interest rates towards what they see as a more neutral level.
- U.S. inflation (CPI) fell to 2.4% year-over-year in September, moving closer to the Fed's 2% target. However, risks remain that inflation remains above the Fed target, as shelter inflation is still high and food prices accelerated in September. Core inflation (ex-Food & Energy) has not budged from Q2 levels—at 3.3% year-over-year.
- Since earlier in 2024, unemployment had been ticking higher, but in August and September this trend reversed, with unemployment ending the quarter at 4.1%. The September nonfarm employment report reflected a 254,000

gain in jobs, dramatically outperforming expectations. The impacts of unlawful immigration on official employment statistics have continued to cause discrepancies in data and confusion regarding true labor conditions. We believe analyzing jobs data requires careful analysis.

- Multiple labor strikes have been occurring around the country, including Boeing and the International Longshoremen's Association (ILA). As organized labor fights for higher wages and benefits, disruptions to production and trade could contribute to inflation flareups.
- Consumer sentiment improved slightly during the third quarter, as illustrated by the University of Michigan Consumer Sentiment survey. Households expressed further frustration about high prices, but optimism has grown around the economy and the inflation outlook. According to the survey, expectations have brightened for Americans across the economic and political spectrum.

	Most Recent	12 Months Prior
Real GDP (YoY)	2.7% 9/30/24	2.4% 6/30/23
Inflation (CPI YoY, Core)	3.3% 9/30/24	3.7% 9/30/23
Expected Inflation (5yr-5yr forward)	2.3% 9/30/24	2.5% 9/30/23
Fed Funds Target Range	4.75–5.00% 9/30/24	5.25–5.50% 9/30/23
10-Year Rate	3.79% 9/30/24	4.59% 9/30/23
U-3 Unemployment	4.1% 9/30/24	3.8% 9/30/23
U-6 Unemployment	7.7% 9/30/24	7.0% 9/30/23

International economics summary

- The Eurozone faces slowing growth, with recession potentially imminent for Germany. A global shift in consumer purchase patterns towards *services* and away from *goods* has likely had a major impact on manufacturing-heavy economies. These effects are biting especially hard in export-heavy economies such as Germany and Japan. China's struggling economy is having widespread impacts on global growth, as well as energy and other commodity prices.
- Falling inflation and moderating economic growth creates conditions central banks may see as conducive to interest rate cuts. The European Central Bank and Federal Reserve kicked off a rate cutting cycle during the quarter. The Bank of Japan stands out from the crowd, deciding earlier this year to raise rates modestly. The bank sees Japan's economy growing faster than potential and wishes to normalize rates carefully.
- One year has passed since the Hamas attack on Israel, and the beginning of

the Israel-Hamas war. The conflict has now broadened out as Israel engages with the Iranian-backed militia Hezbollah, which is designated a terrorist group by much of the western world. Over the past month, Israel and Iran have clashed directly, substantially increasing risks of widespread war in the Middle East.

- China announced an aggressive economic stimulus program in the form of fiscal and monetary support. Those moves followed a People's Bank of China rate cut from 2.3% to 2.0%. Chinese equities rallied more than 30% in the last few weeks of September. It is not yet clear whether these developments will be sufficient to help turnaround the Chinese economy, which faces serious structural issues.
- India continues to be the fastest-growing major economy in the world, posting strong real GDP growth (+6.7%) on the back of a rapidly growing manufacturing sector and large investments in public infrastructure.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.7% 9/30/24	2.4% 9/30/24	4.1% 9/30/24
Eurozone	0.6% 6/30/24	1.7% 9/30/24	6.4% 8/31/24
Japan	(1.0%) 6/30/24	2.2% 9/30/24	2.5% 8/31/24
BRICS Nations	4.8% 6/30/24	2.0% 9/30/24	5.3% 12/31/23
Brazil	3.3% 6/30/24	4.4% 9/30/24	6.6% 8/31/24
Russia	4.1% 6/30/24	8.6% 9/30/24	2.4% 8/31/24
India	6.7% 6/30/24	5.5% 9/30/24	7.8% 9/30/24
China	4.6% 9/30/24	0.4% 9/30/24	5.1% 9/30/24

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.

Equity environment

- Global markets delivered strong performance during the quarter, with fairly consistent results across broad regions. Emerging markets (MSCI EM +8.7%) led, followed by international developed equities (MSCI EAFE +7.3%), and lastly the domestic market (S&P 500 +5.9%). Dollar weakness provided particular benefits to investors in international developed equities.
- Market expectations for Federal Reserve rate cuts became aggressive, after the Fed cut by 50 basis points on September 18th. This likely contributed to dollar weakness, since expectations for lower rates make U.S. dollar holdings less attractive.
- S&P 500 blended year-over-year earnings growth was +3.4%, as of October 18th. Once again, technology companies led the way on earnings, providing growth of +15.2%, while Healthcare ranked second at +10.9%. Materials (-2.7%) and Energy (-20.9%) both acted as a drag on overall index earnings.
- Small cap and value reversed their run of underperformance. Small cap led large cap by +3.2% (Russell 2000 +9.3% vs. Russell 1000 +6.1%) in Q3, while value outperformed growth by +6.2% (Russell 1000 Value +9.4% vs. Russell 1000 Growth +3.2%). Despite size and style factors performing well during Q3, both have done poorly over the past full year, with small cap and value underperforming by -8.9% and -14.4%, respectively.
- On August 5th, volatility spiked 42 points to 66, marking the largest one day jump in volatility in modern market history. This was widely attributed to significant investor unwinding of carry trade positions (borrowing in Yen to purchase U.S. equities) following a weak labor market data release and an unexpected interest rate hike from the Bank of Japan.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	5.9%		36.4%	
U.S. Small Cap (Russell 2000)	9.3%		26.8%	
U.S. Equity (Russell 3000)	6.2%		35.2%	
U.S. Large Value (Russell 1000 Value)	9.4%		27.8%	
US Large Growth (Russell 1000 Growth)	3.2%		42.2%	
Global Equity (MSCI ACWI)	6.6%	5.1%	31.8%	30.8%
International Large (MSCI EAFE)	7.3%	1.5%	24.8%	20.9%
Eurozone (EURO STOXX 50)	6.6%	2.9%	29.4%	25.1%
U.K. (FTSE 100)	8.0%	1.9%	23.5%	12.9%
Japan (TOPIX)	(4.9%)	(4.0%)	21.7%	22.2%
Emerging Markets (MSCI Emerging Markets)	8.7%	6.7%	26.1%	25.2%

Source: Standard & Poor's, FTSE, MSCI, STOXX, JPX, as of 9/30/24

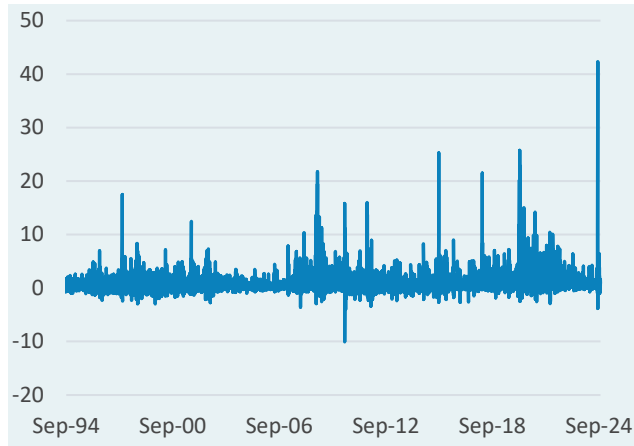
Market volatility

Market-priced volatility (Cboe VIX Index) rose during Q3, starting the quarter at 12.4% and ending at 16.7%—closer to the longer-term average of 19.5%. On August 5th, volatility spiked 42 points to 66, making the largest one day jump in volatility in modern market history. The previous record was set during market turmoil among COVID-19 lockdowns. This market shock in August was widely attributed to unwinding of carry trade positions (borrowing in Yen to purchase U.S. equities) following a weak labor market data release, as well as an unexpected interest rate hike from the Bank of Japan. Volatility has since subsided, and markets have recovered much of their losses. With valuations at elevated levels, it would not be surprising to see further market shakiness.

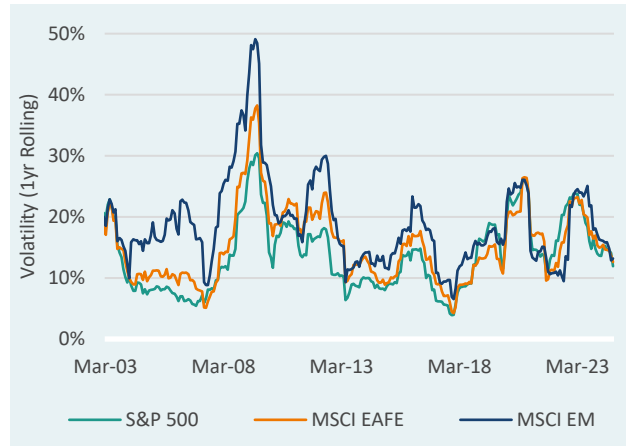
Bond market volatility remains significantly above the longer-term average, but has trended downward as inflation risk has eased, and economic conditions have outperformed expectations. The Federal Reserve path to lower interest rates, and bumps that will inevitably occur along that path, could result in elevated fixed income volatility.

Recent realized one-year volatility has drifted to very low levels, despite uncertainty around inflation and interest rates, geopolitical risk flareups, and the upcoming election. Domestic and foreign markets showed similar volatility levels during that time.

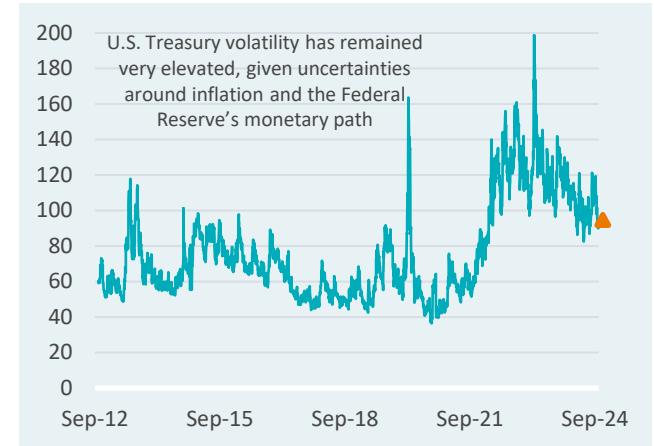
U.S. IMPLIED VOLATILITY (VIX)



REALIZED VOLATILITY



U.S. TREASURY IMPLIED VOL ("MOVE" INDEX)



Domestic equity

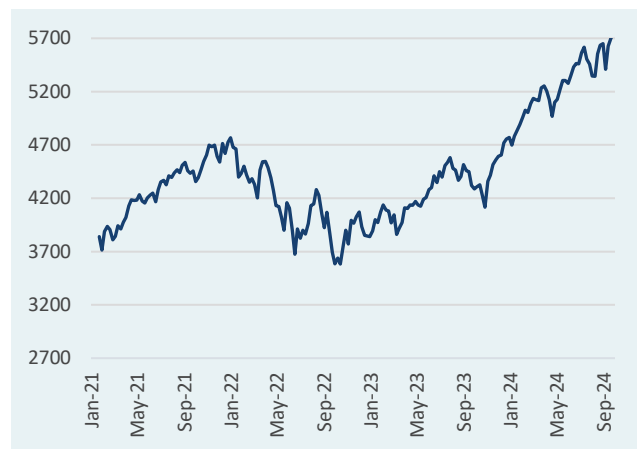
U.S. equities underperformed both international and emerging market shares—the S&P 500 ended Q3 up +5.9%. Market momentum was fueled by strengthening earnings expectations and a solid macro environment. Easing inflation and a normalizing labor market allowed for the Fed to kick off its rate cutting cycle on September 18th with a 50 bps cut. Many other central banks have also pivoted towards lower interest rates.

S&P 500 blended year-over-year earnings growth was +3.4%, as of October 18th. If earnings growth remains positive, it will mark a fifth straight quarter of positive earnings growth for large cap domestic equities. Once again, the Technology sector has led the way in earnings,

providing gains of +15.6%, year-over-year. The Communication Services sector was close behind at a +10.6% pace. Industrials (-8.4%) and Energy (-26.0%) both acted as a drag on the index.

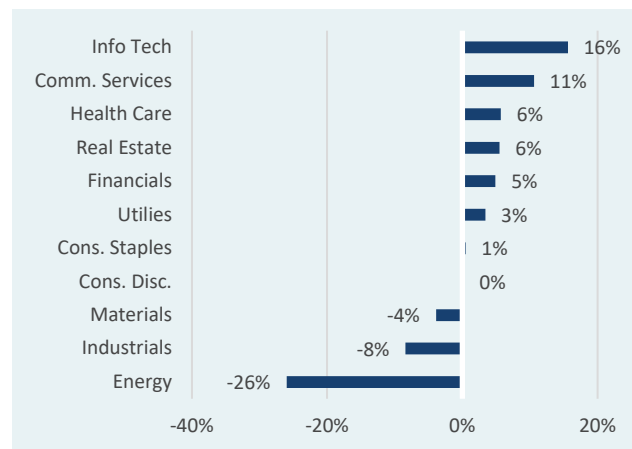
Robust price gains have continued to push valuations higher for the S&P 500, further generating concerns that U.S. equities are *priced for perfection*. Despite this, a resilient economy, interest rate cuts, and decreasing inflation risks arguably provide some fundamental justification for richer prices. Investors will be looking for these conditions to persist, specifically the trajectory of earnings and a path to profitability for recent substantial investments into artificial intelligence capabilities.

S&P 500 PRICE INDEX



Source: Standard & Poor's, as of 9/30/24

S&P 500 BLENDED EPS GROWTH (YOY)



Source: Factset, as of 9/30/24

S&P 500 EPS GROWTH (YEAR-OVER-YEAR)



Source: Factset, Verus, as of 10/18/24

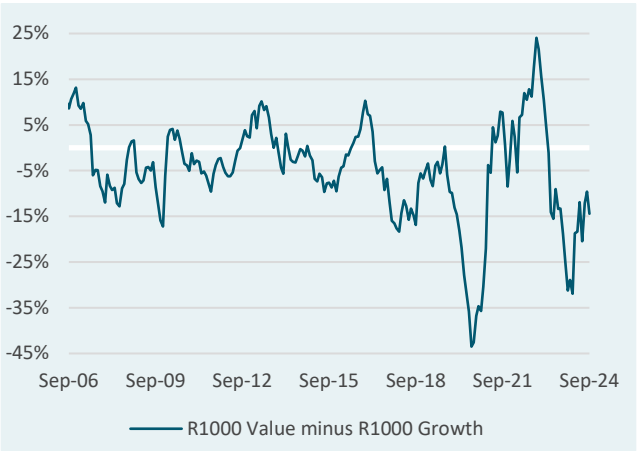
Domestic equity size & style

Small cap and value reversed their run of underperformance. Small cap led large cap by +3.2% (Russell 2000 +9.3% vs. Russell 1000 +6.1%) in Q3, while value outperformed growth by +6.2% (Russell 1000 Value +9.4% vs. Russell 1000 Growth +3.2%). Despite size and style factors performing well during the quarter, both have done poorly over the past year, with small cap and value underperforming by -8.9% and -14.4%, respectively.

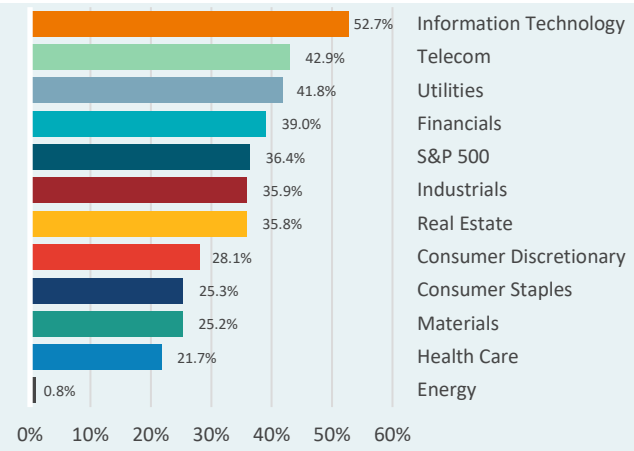
Sector performance differences continue to fuel significant volatility across size and style factors. The Information

Technology sector, which has a much greater concentration to Growth stocks, has delivered outsize performance. Mega cap technology companies have led other S&P 500 constituents during the past year. On the other hand, the Energy sector which has a much greater concentration of Value stocks, has lagged the overall index considerably over the same time period. For investors who engage in tactical factor timing, the current environment has likely proved particularly difficult to do so profitably.

VALUE VS. GROWTH 1-YR ROLLING



S&P 500 SECTOR RETURNS (PAST 1 YEAR)



1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	27.8%	35.7%	42.2%
Mid Cap	29.0%	29.3%	29.3%
Small Cap	25.9%	26.8%	27.7%

International developed equity

International developed shares (MSCI EAFE +7.3%) outperformed the U.S. market (S&P 500 +5.9%) during the quarter, but trailed emerging market equities (MSCI EM +8.7%). It should be noted that most of this performance was due to currency movements, rather than equity market performance. Unhedged currency exposure contributed +5.8% of the +7.3% index total return.

On a hedged basis, the international developed equity market underperformed the rest of the world (MSCI EAFE Hedged +1.5%). Many developed economies face more sluggish growth, with Europe's largest economy, Germany, now expected to contract -0.2% this year. High energy prices and increased competition with China have weighed on

European manufacturing. The European Union announced duties on these foreign exports with the goal of protecting their manufacturing sector. The European Central Bank has also implemented an accelerated rate cutting cycle in comparison to the U.S., where inflation is under the 2% target, and rate cuts may be necessary to stimulate growth.

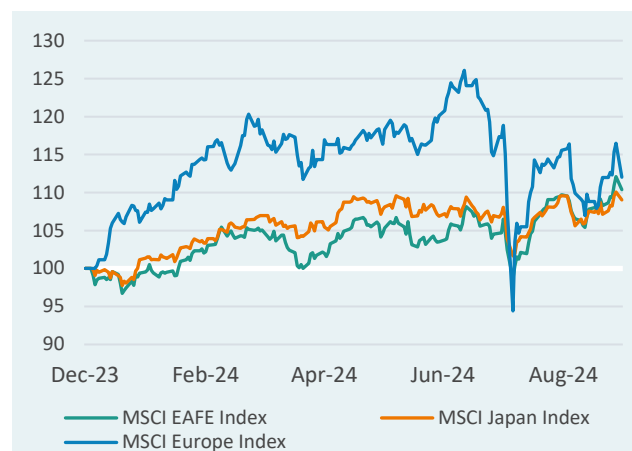
Japanese equities saw significant volatility in Q3, as an unexpected rate hike followed by weak U.S. economic data triggered what appeared to be the unwinding of a carry trade, triggering a sharp sell-off. Japanese equities recovered most of these losses, but the MSCI Japan (hedged) ended the quarter down -4.0%.

INTERNATIONAL DEVELOPED EQUITY



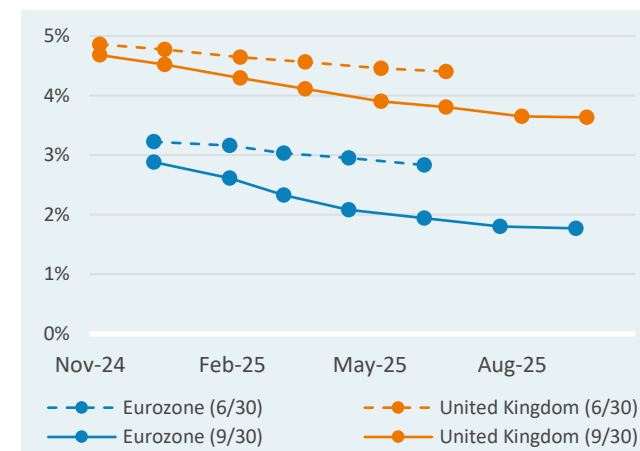
Source: MSCI, as of 9/30/24

MSCI EAFE PERFORMANCE



Source: MSCI, as of 9/30/24

ECB & BOE RATE EXPECTATIONS VS Q2



Source: Bloomberg, as of 9/30/24

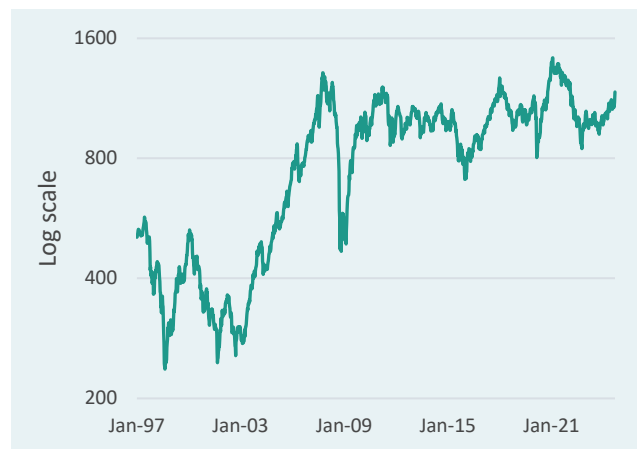
Emerging market equity

Emerging market equities (MSCI EM +8.7%) outperformed both international developed (MSCI EAFE +7.3%) and domestic equities (S&P 500 +5.9%) over the quarter. After dragging the index lower for multiple years, Chinese equities delivered an aggressive rally in September on government stimulus news, though in early October this reversed and much of those gains were lost.

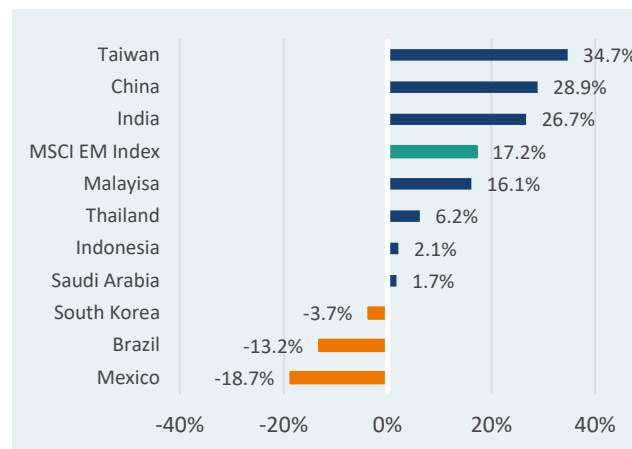
China announced an aggressive economic stimulus program in September, with President Xi pledging both fiscal and

monetary support. Spending was specifically aimed at the ailing real estate market, and at mitigating the downward trajectory of the stock market. Those moves followed the People's Bank of China rate cut from 2.3% to 2.0%. It is not yet clear whether these developments will be sufficient to help turn around the Chinese economy, which faces serious structural issues such as a declining population, shrinking workforce, and a real estate crisis due to substantial excess inventory.

EMERGING MARKET EQUITY



MSCI EM 2024 SECTOR RETURNS YTD (USD)



CHINA UNDERPERFORMANCE PARTLY REVERSED



Fixed income environment

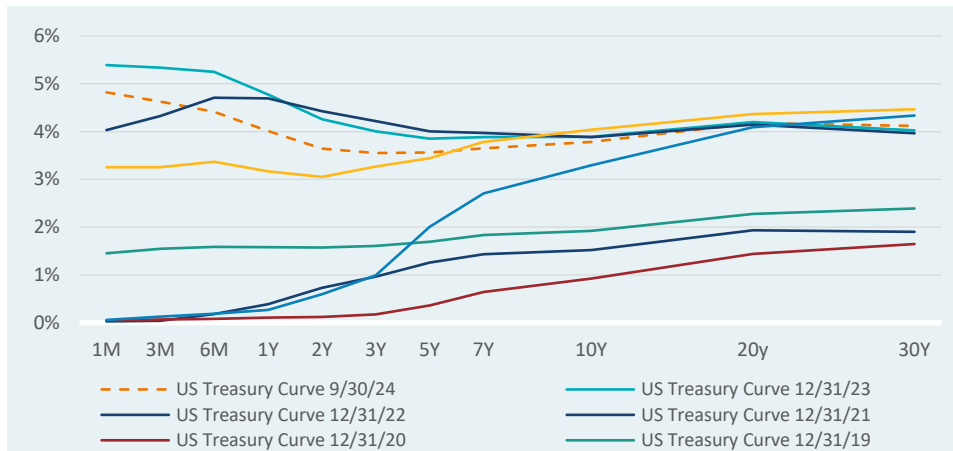
- On September 18th, the Federal Reserve cut interest rates by 50 bps, bringing the target rate from 5.25-5.50% to 4.75-5.00%. This larger cut surprised many investors who still see inflation risks and a generally strong economy. This move likely kicks off a multi-year period of cuts as the Fed brings interest rates towards what they believe to be a more neutral level. Investors have now focused sharply on what the neutral interest rate level, or “R-star”, might be today.
- The 10-year U.S. Treasury yield fell from 4.36% to 3.79% during the quarter, alongside a series of economic data releases that suggested inflation is moving further towards the Fed’s 2% target, and that the labor market is softening. Interestingly, yields moved slightly higher in late September after the Fed rate cut.
- Most credit indices saw positive returns, rising with the rest of the fixed income universe. However, greater credit risk only provided marginally higher returns, with high yield outperforming investment grade by +0.1%. Bank Loans (S&P/LSTA Leveraged Loan) underperformed other major fixed income indices, as the floating rate nature (and ultra-low duration) of bank loans meant these bonds did not benefit from the decline in yields.
- The U.S. yield curve *uninverted* during the quarter, indicated by the 10-year minus the 2-year Treasury yield, as shorter-term interest rates dropped along with more aggressive Federal Reserve rate cut expectations. This ended more than two years of yield curve inversion.
- Default activity remained low in Q3 as the economy remained strong. High yield bond default rates continued to decline, falling to 1.4%, down from 2.2% a year ago and well below the long-term annual average of 3.4%. However, distressed exchange activity was high. Total distressed credit volume was roughly \$13.5 billion, the second largest quarterly total on record (since Q4 2008).

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	5.2%	11.6%
Core Plus Fixed Income (Bloomberg U.S. Universal)	5.2%	12.1%
U.S. Treasuries (Bloomberg U.S. Treasury)	4.7%	9.7%
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	8.0%	15.2%
U.S. High Yield (Bloomberg U.S. Corporate HY)	5.3%	15.7%
Bank Loans (S&P/LSTA Leveraged Loan)	2.1%	9.6%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	9.0%	13.4%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	6.2%	18.6%
Mortgage-Backed Securities (Bloomberg MBS)	5.5%	12.3%

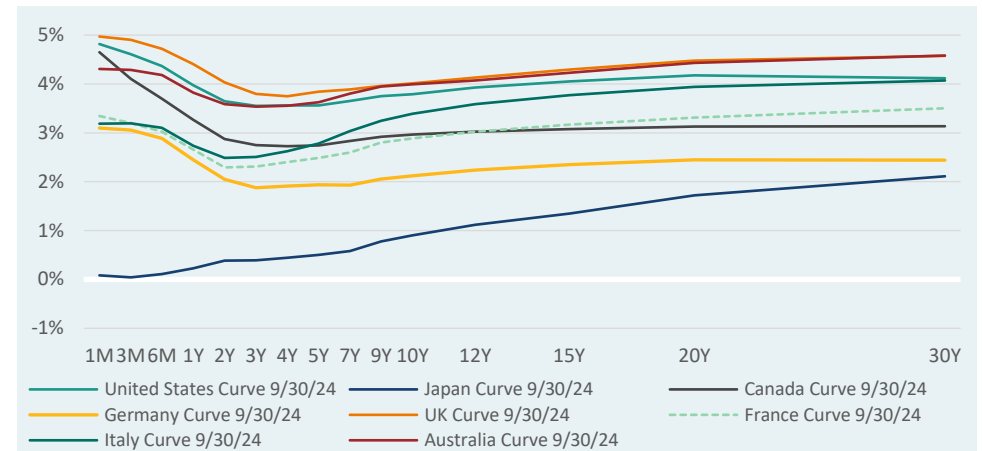
Source: Standard & Poor’s, J.P. Morgan, Bloomberg, as of 9/30/24

Yield environment

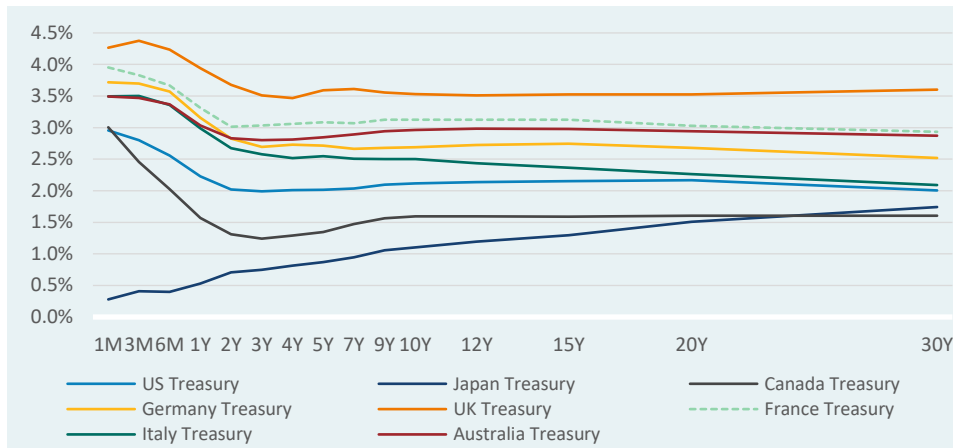
U.S. YIELD CURVE



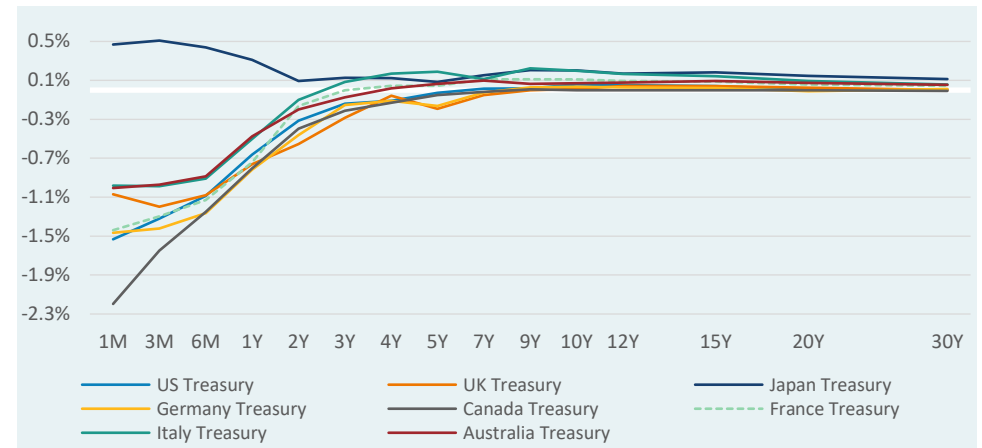
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/24

Credit environment

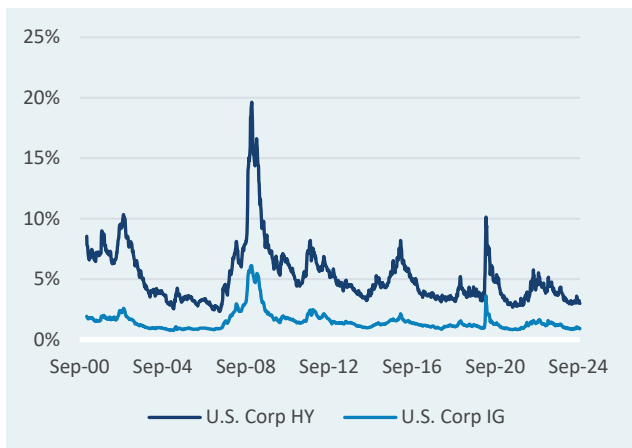
During the third quarter, longer duration credit outperformed shorter duration as U.S. interest rates headed downward. Long duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) gained 8.1% while lower quality credit markets also delivered strong returns—high yield and bank loans added +5.3% (Bloomberg U.S. Corporate High Yield) and +2.1% (CS Leveraged Loans), respectively.

Returns within the high yield bond market were broadly positive. Lower quality credits saw the strongest performance. Bonds rated CCC, which include distressed credit, returned +11.6%, compared to higher quality BB-rated bonds which returned +4.3%. Non-distressed CCC-rated bonds also delivered robust returns, gaining +6.9%. Similarly, lower quality

bank loans outperformed higher quality, with CCC-rated loans returning +2.6%, compared to +2.0% and +1.9% for B- and BB-rated loans.

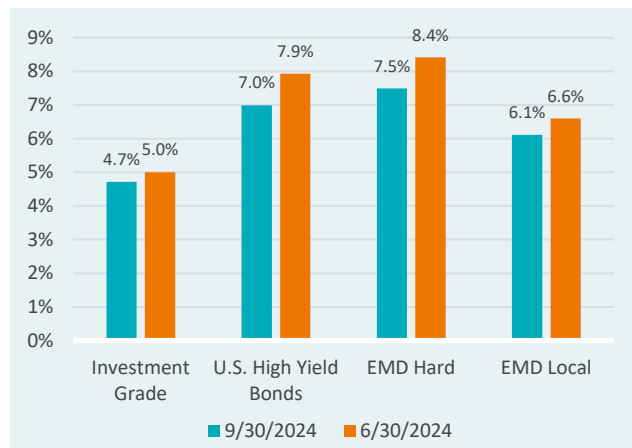
Credit spreads broadly declined alongside an easing of perceived U.S. recession risk. Lower-quality high yield bond spreads fell by roughly 0.2%, to 3.0%, while investment grade spreads tightened slightly to 0.9%. Broadly, across credit ratings, spreads remain well below their long-term historical averages. While some technical factors may be contributing to relative tightness, spreads suggest that investors are fairly confident in the ability of businesses to service debt in the future.

SPREADS



Source: Barclays, Bloomberg, as of 9/30/24

YIELD TO MATURITY



Source: Bloomberg, J.P. Morgan as of 9/30/24

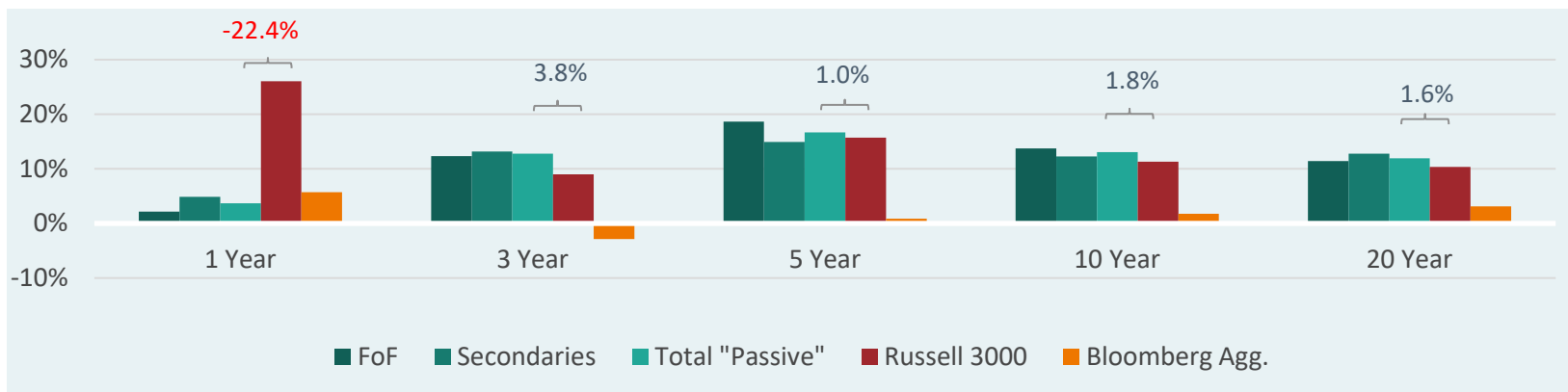
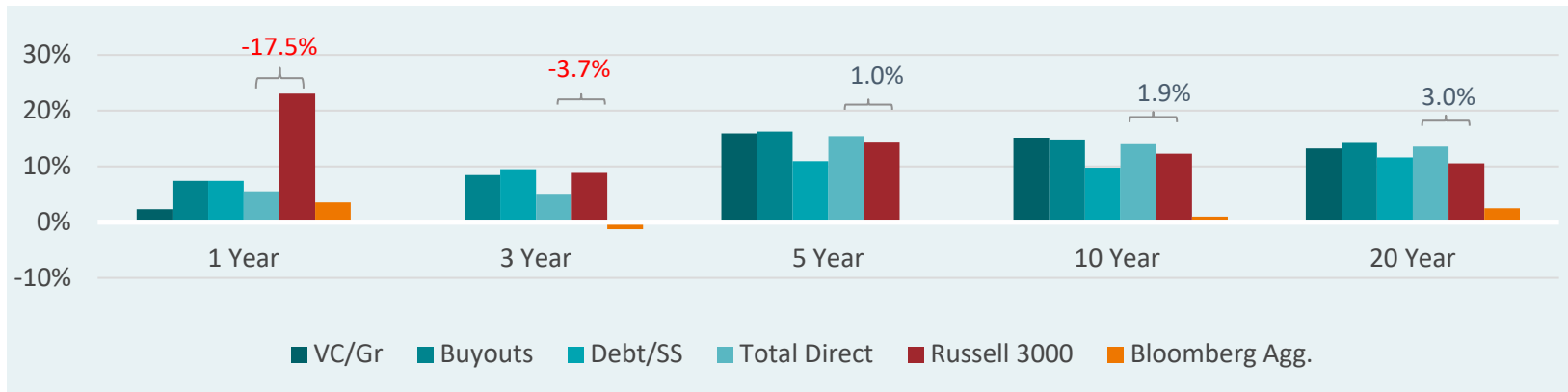
CREDIT SPREAD (OAS)

Market	9/30/24	9/30/23
Long U.S. Corp	1.1%	1.3%
U.S. Inv Grade Corp	0.9%	1.2%
U.S. High Yield	3.0%	3.9%
U.S. Bank Loans*	4.7%	5.2%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/24

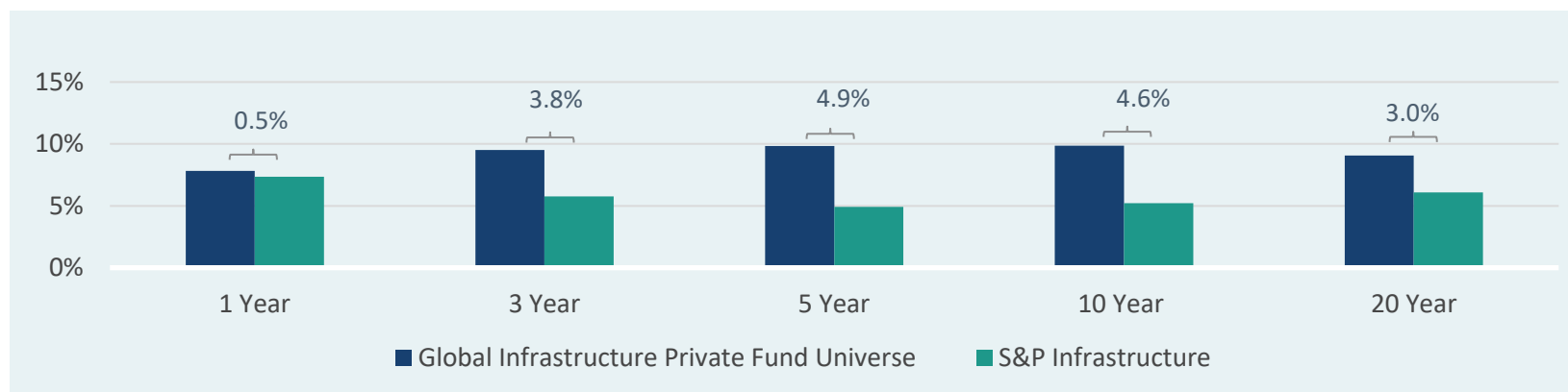
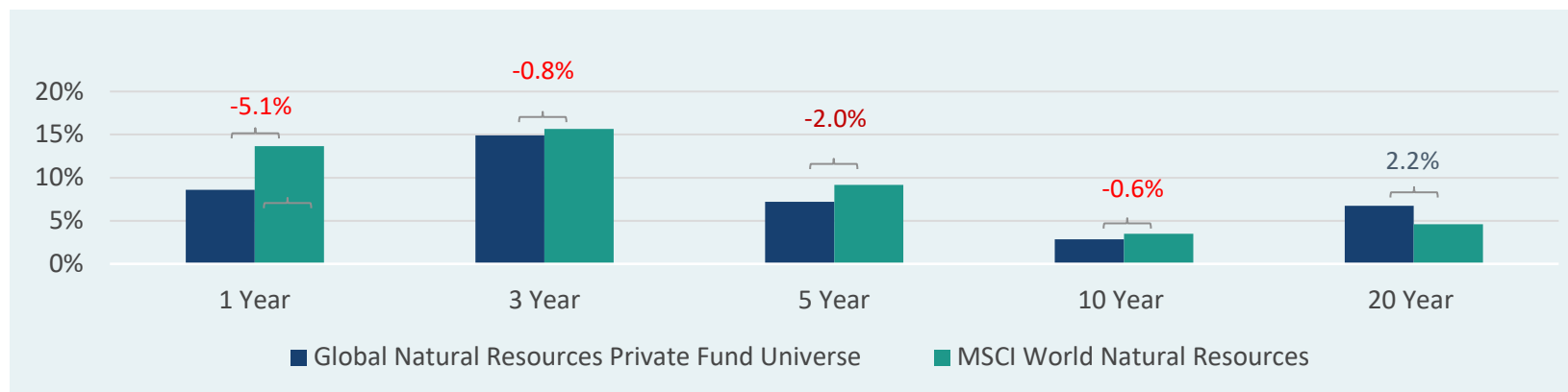
*Discount margin (4-year life)

Private equity vs. traditional assets performance



Sources: FTSE PME: U.S. Direct Private Equity returns are as of June 30, 2024, whereas "Passive" strategies as of March 31, 2024. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

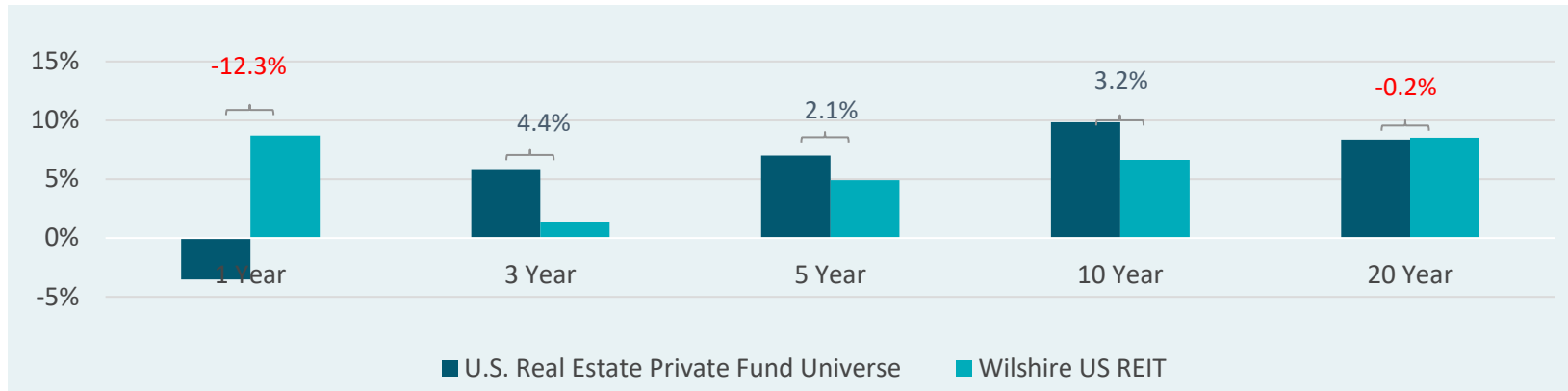
Private vs. liquid real assets performance



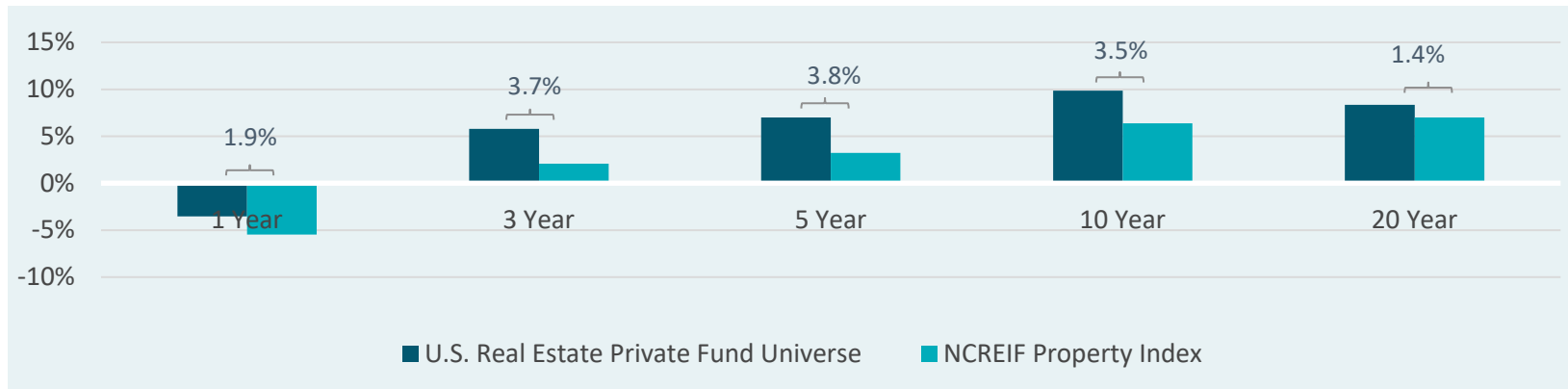
Sources: FTSE PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of June 30, 2024. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



Consolidated Pension Plan

Investment Performance Review
Period Ending: September 30, 2024



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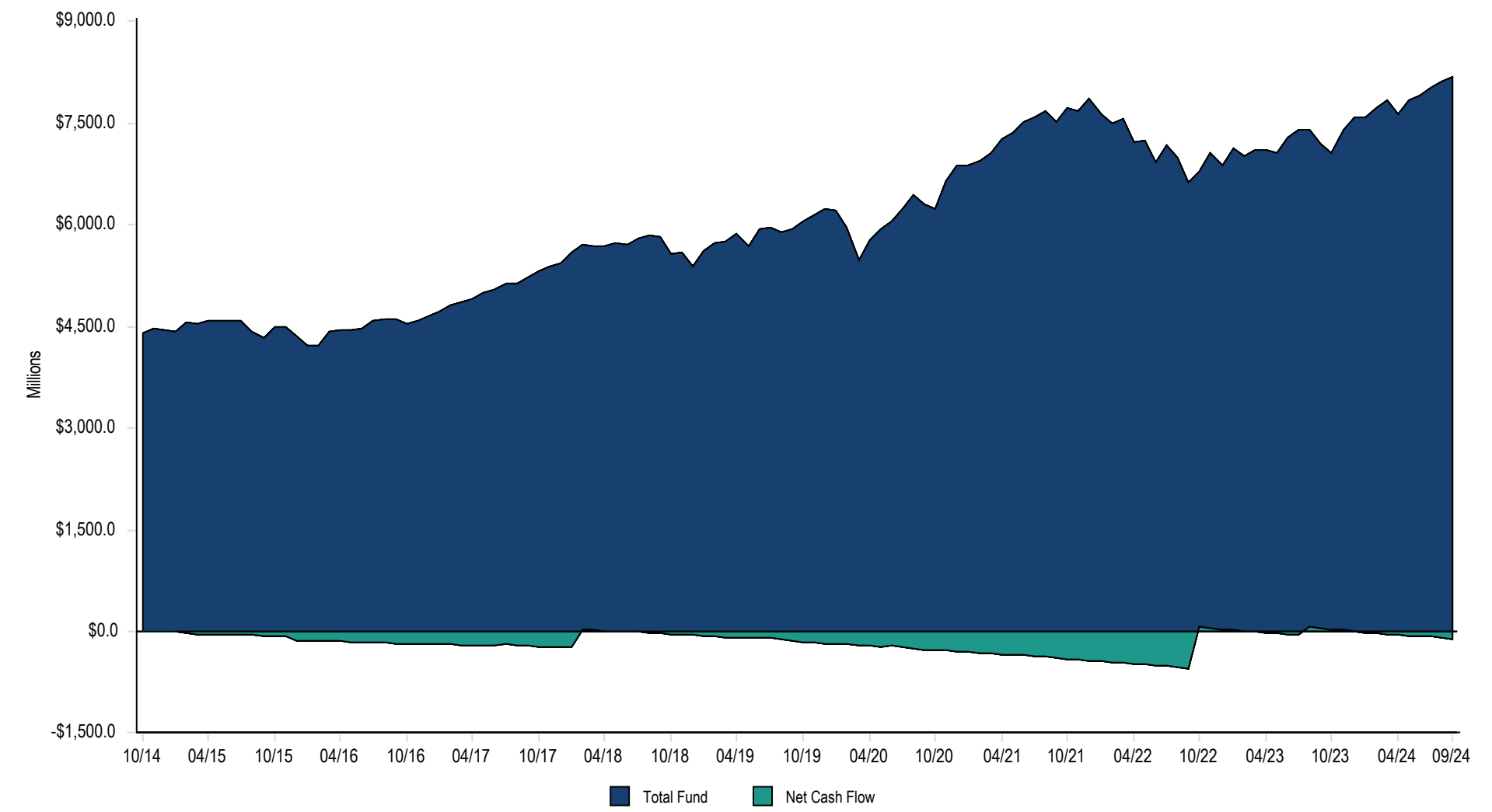
SEATTLE 206.622.3700

CHICAGO 312.815.5228

PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484



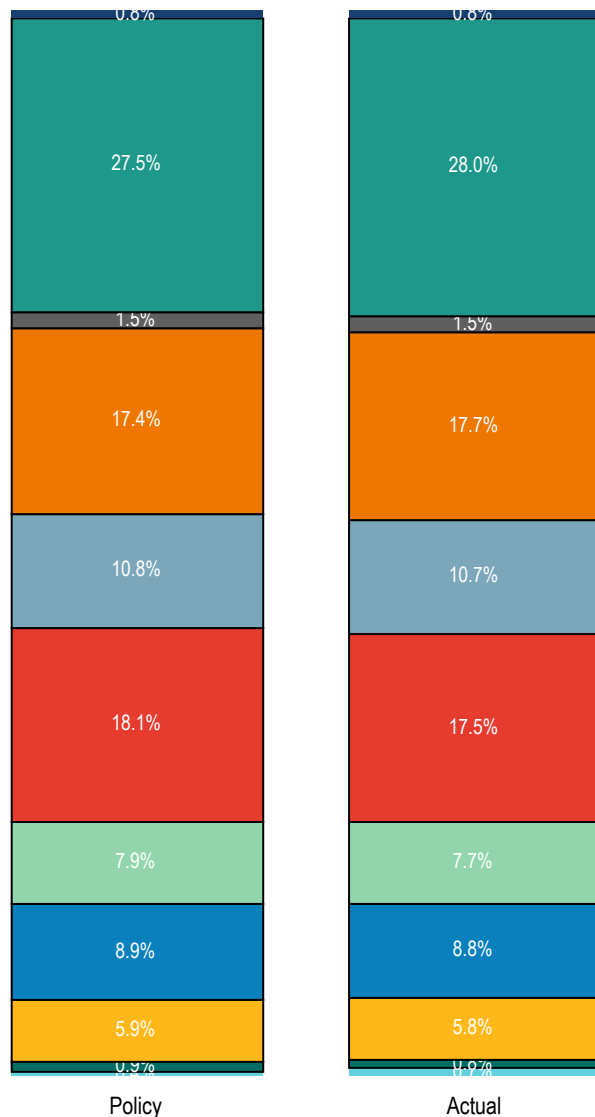
Net Cash Flow is Cumulative.

Total Fund

Asset Allocation vs Policy

NDSIB - Consolidated Pension Trust

Period Ending: September 30, 2024

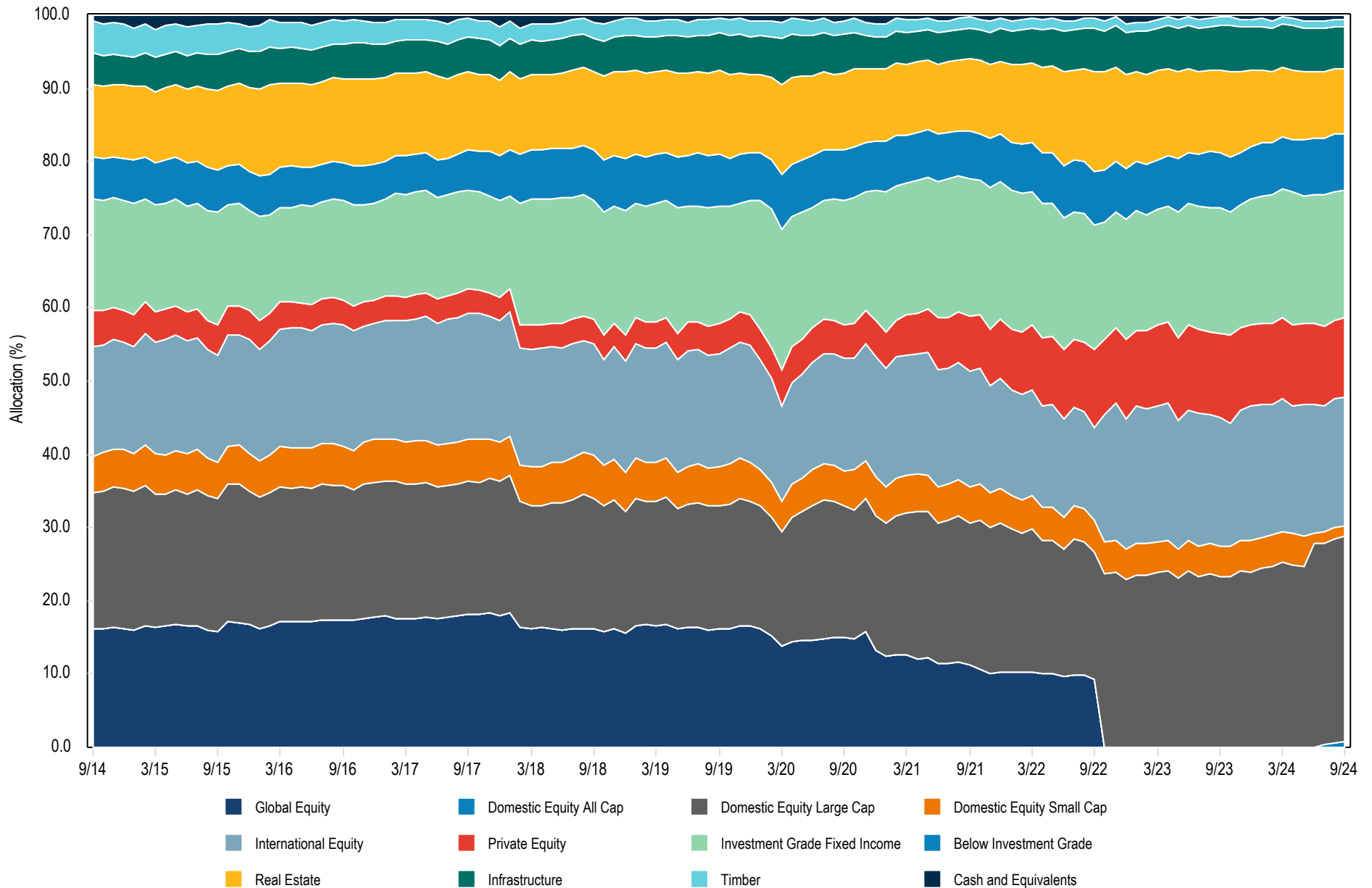


	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Domestic Equity All Cap	67,977,792	0.8	0.8	45,421
Domestic Equity Large Cap	2,287,831,642	28.0	27.5	35,587,084
Domestic Equity Small Cap	118,919,449	1.5	1.5	-3,124
International Equity	1,445,179,617	17.7	17.4	18,026,905
Private Equity	878,456,793	10.7	10.8	-1,881,257
Investment Grade Fixed Income	1,432,484,798	17.5	18.1	-47,949,811
Below Investment Grade	634,199,308	7.7	7.9	-9,193,906
Real Estate	718,278,709	8.8	8.9	-10,152,739
Infrastructure	475,676,255	5.8	5.9	-5,415,885
Timber	69,361,272	0.8	0.9	-617,255
Cash and Equivalents	56,257,367	0.7	0.4	21,554,565
Total	8,184,623,000	100.0	100.0	

Residual Holdings value \$4,494,763 & Transition Account value of \$264,915 included in Large Cap Domestic Equity value for styling purposes. Policy Asset Allocation based upon 8/31/2024 data.

Total Fund Asset Allocation History

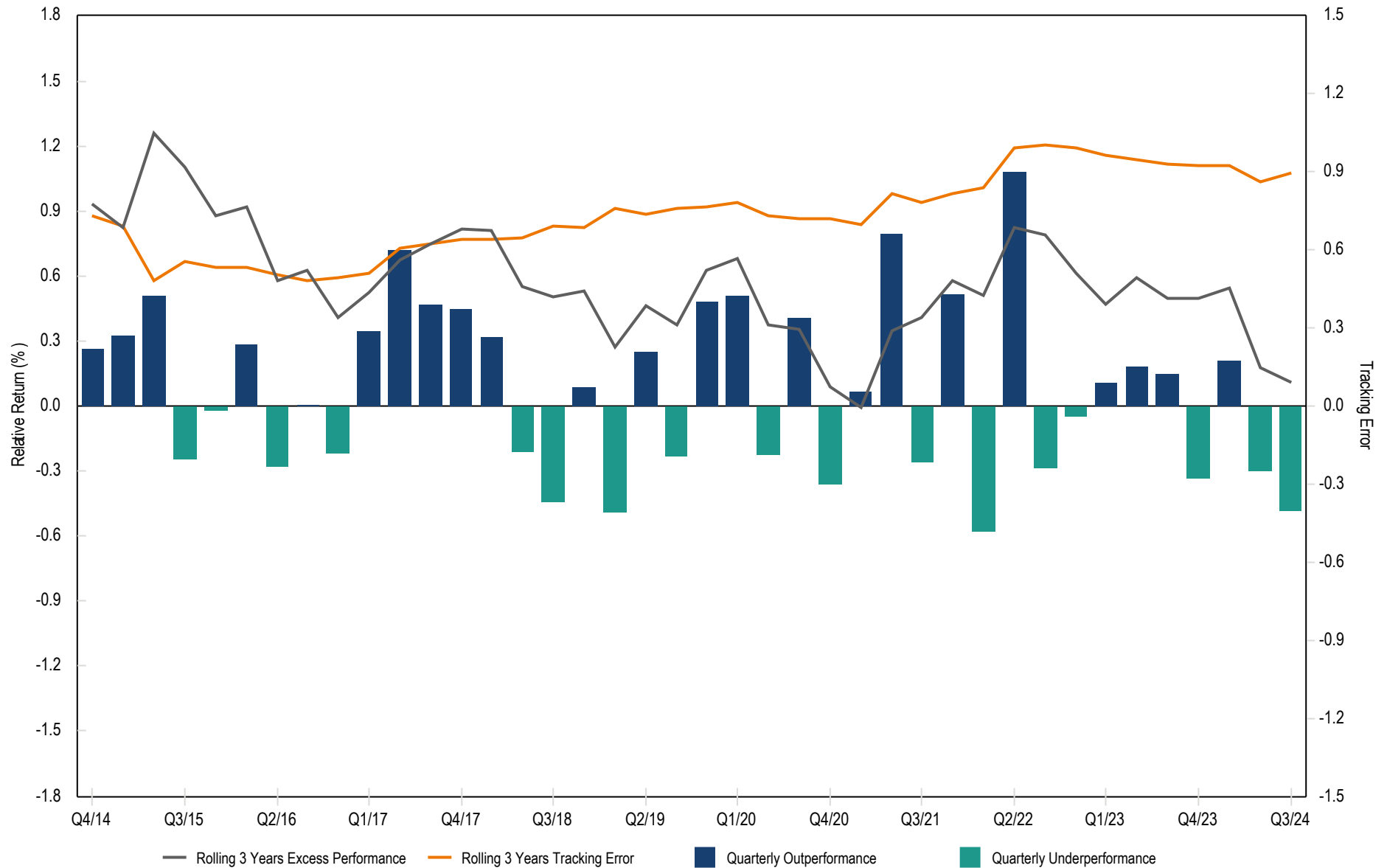
NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024



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

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

Rolling Annualized Excess Performance and Tracking Error

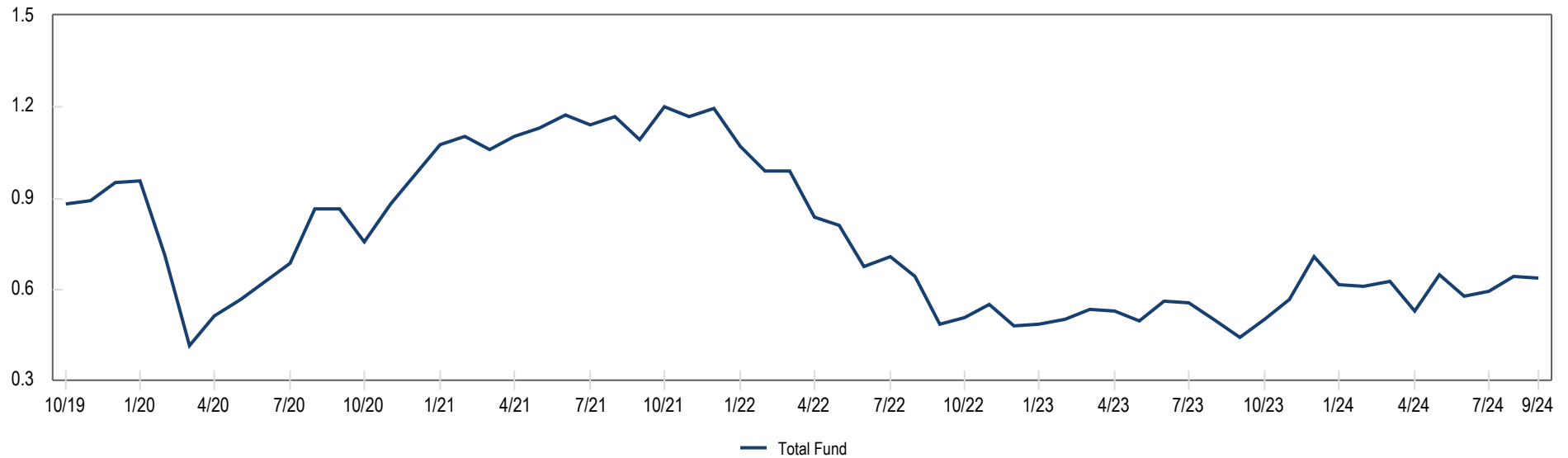


Analytic is using the Corridor Target Index

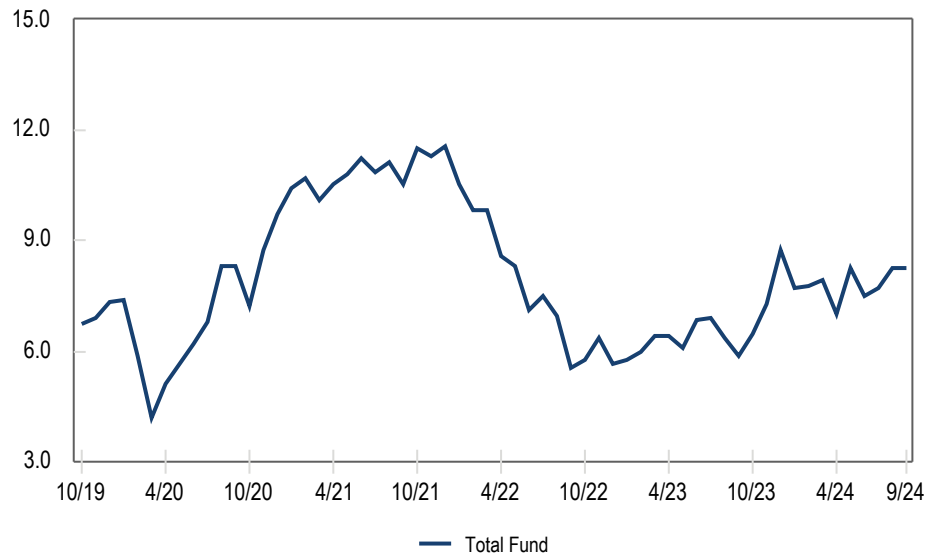
Total Fund
Risk Analysis - 5 Years (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

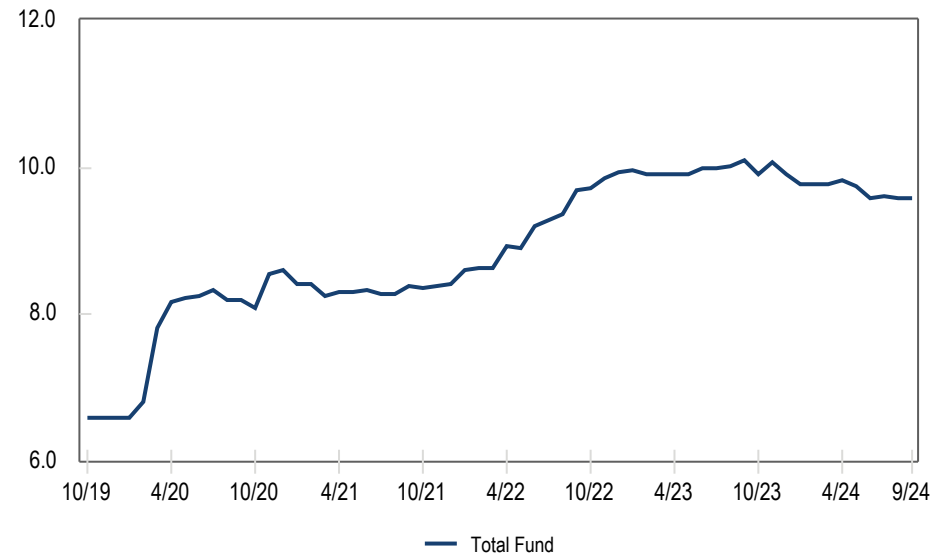
Rolling 5 Years Sharpe Ratio



Rolling 5 Years Return



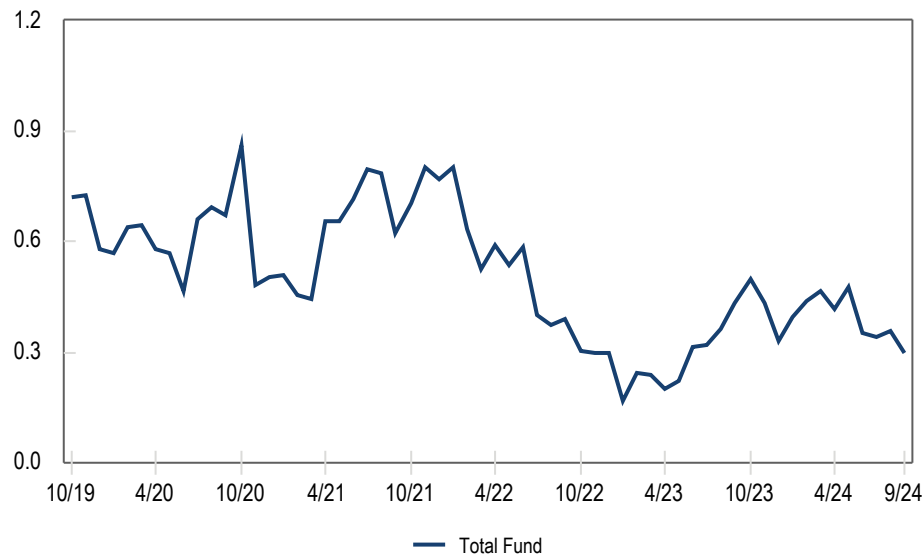
Rolling 5 Years Standard Deviation



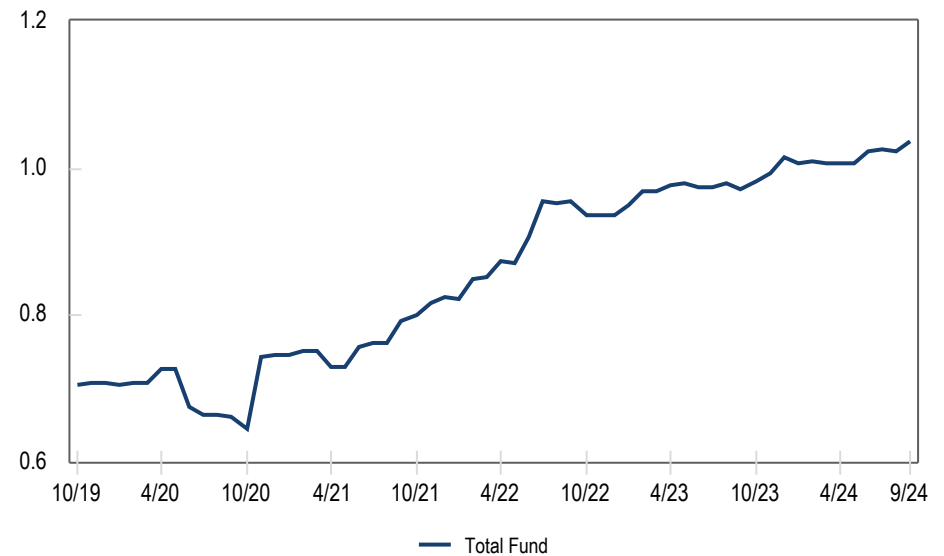
Total Fund Risk Analysis - 5 Years (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

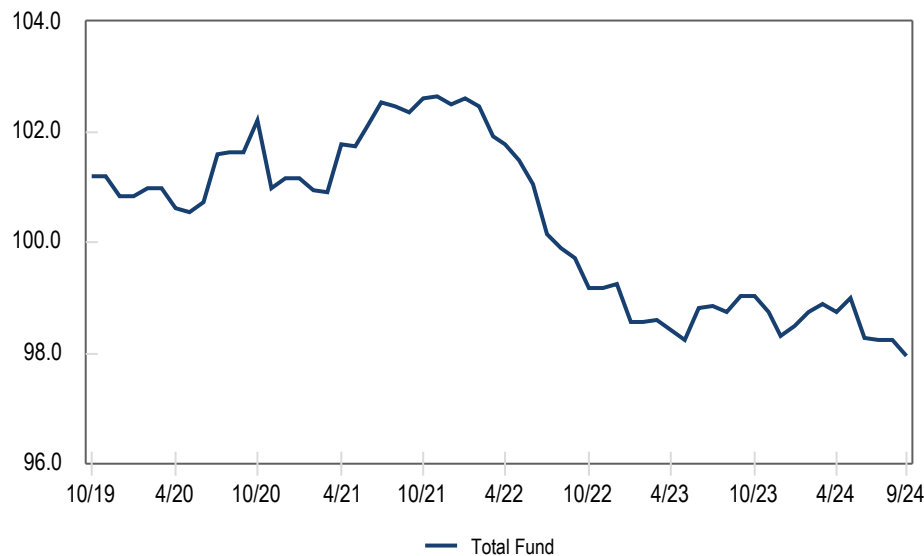
Rolling 5 Years Information Ratio



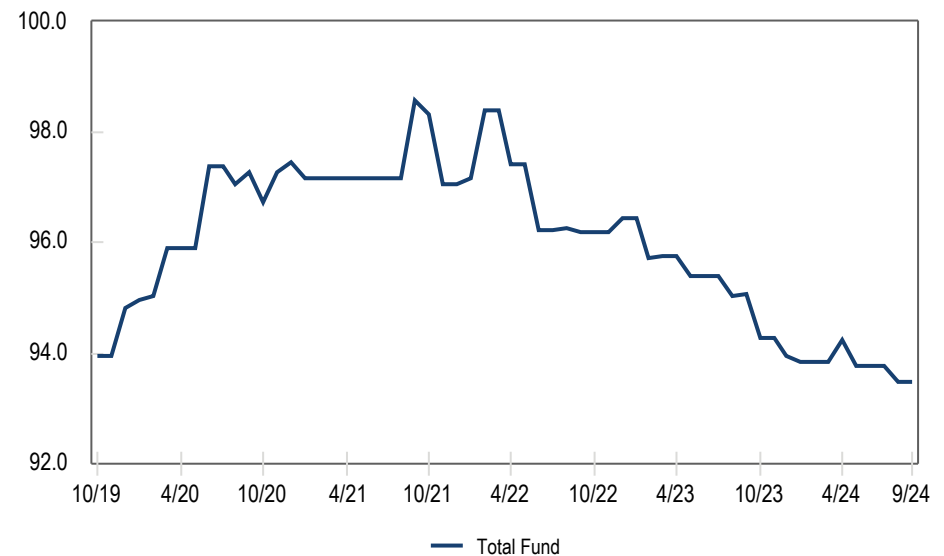
Rolling 5 Years Tracking Error



Rolling 5 Years Up Capture



Rolling 5 Years Down Capture

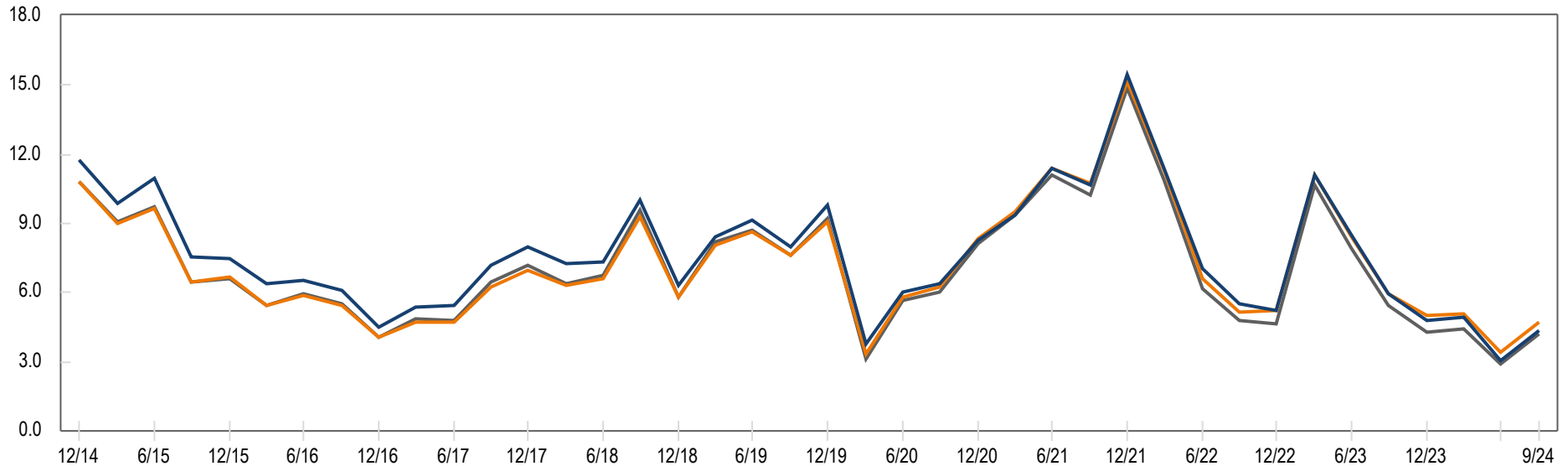


Analytic is using the Corridor Target Index

Total Fund Rolling Risk Statistics

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

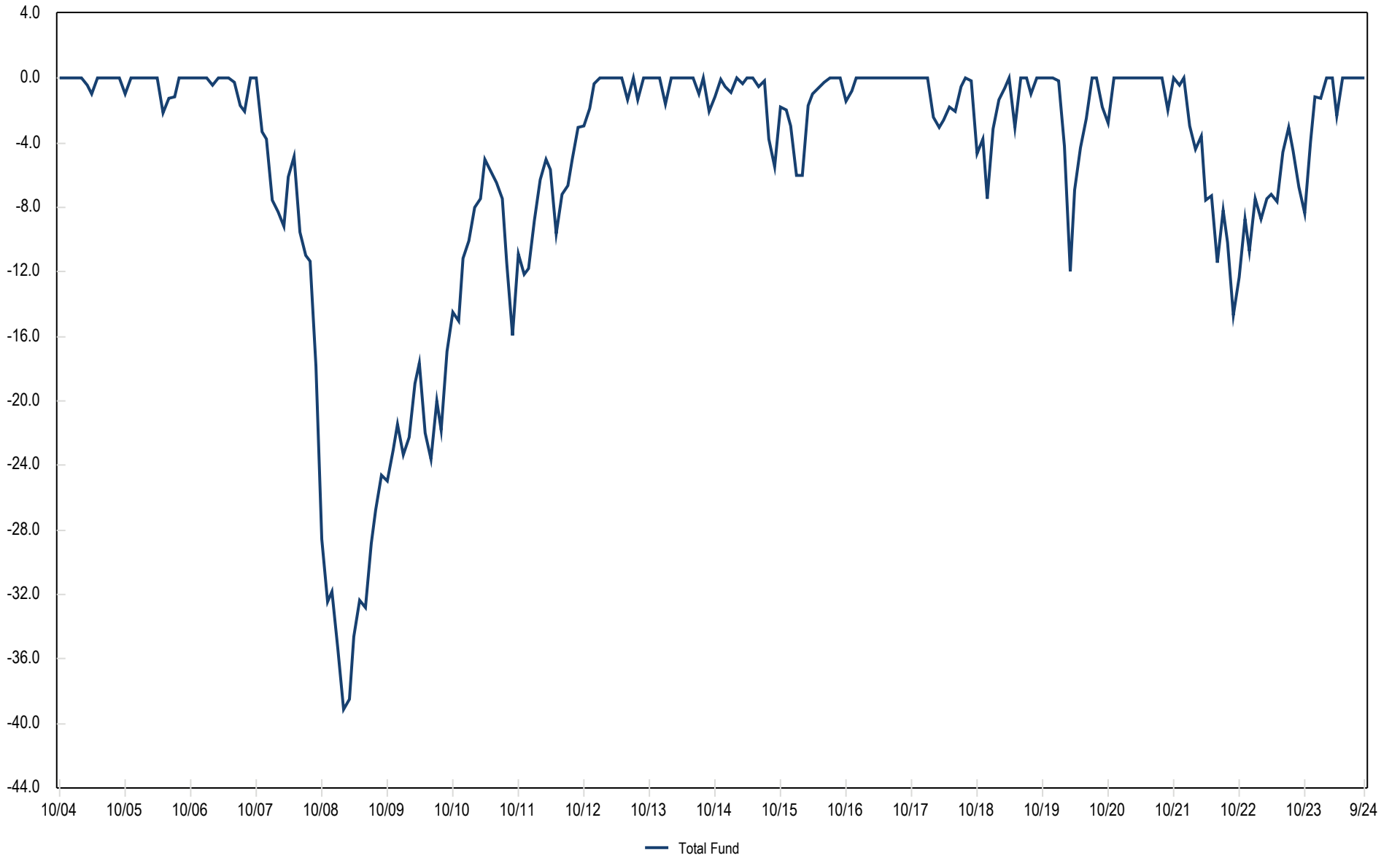
Rolling 3 Years Return



	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
Return	7.5	6.1	7.2	10.1	8.0	6.4	10.7	5.5	5.9	4.3
Standard Deviation	5.5	6.1	5.7	5.2	6.6	9.6	10.3	10.8	9.2	8.8
	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
<i>vs. Policy Index</i>										
Alpha	1.0	0.7	0.9	0.5	-0.1	-0.1	-0.2	0.5	0.3	0.0
Beta	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	0.9	0.9
Consistency	66.7	63.9	66.7	55.6	47.2	41.7	47.2	52.8	50.0	44.4
Tracking Error	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.1	1.2	1.3
<i>vs. Corridor Target Index</i>										
Alpha	1.2	0.8	1.0	0.6	0.3	0.4	0.6	1.0	0.8	0.4
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
Consistency	66.7	61.1	58.3	58.3	55.6	61.1	61.1	66.7	58.3	50.0
Tracking Error	0.7	0.7	0.7	0.7	0.6	0.7	0.9	1.1	1.1	1.0

Total Fund
Historical Drawdowns (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024



	Max Drawdown	Recovery Periods	# of Drawdowns in Period
Total Fund	-39.2	63 Months	24

Total Fund
Risk Statistics (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	38	38	82	82
Down Market Periods	3	3	15	15	22	22	38	38
Maximum Return	4.8	5.4	4.8	5.4	6.9	7.3	6.9	7.3
Minimum Return	-2.3	-2.2	-5.0	-5.4	-8.1	-7.9	-8.1	-7.9
Return	15.8	17.3	4.3	4.7	8.3	8.4	7.4	7.2
Cumulative Return	15.8	17.3	13.6	14.8	48.8	49.5	104.1	100.9
Active Return	-1.3	0.0	-0.4	0.0	-0.1	0.0	0.1	0.0
Risk Summary Statistics								
Beta	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0
Upside Risk	2.1	2.3	6.7	7.4	7.7	8.1	6.7	6.8
Downside Risk	2.8	3.1	5.8	6.4	6.2	6.4	5.2	5.3
Risk/Return Summary Statistics								
Standard Deviation	6.4	7.1	8.8	9.6	9.6	10.0	8.2	8.4
Alpha	0.4	0.0	0.0	0.0	0.3	0.0	0.4	0.0
Sharpe Ratio	1.5	1.5	0.1	0.2	0.6	0.6	0.7	0.7
Active Return/Risk	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tracking Error	1.1	0.0	1.3	0.0	1.2	0.0	1.0	0.0
Information Ratio	-1.2	-	-0.3	-	-0.1	-	0.1	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	33.3	100.0	44.4	100.0	48.3	100.0	50.8	100.0

Total Fund
Risk Statistics (Net of Fees)

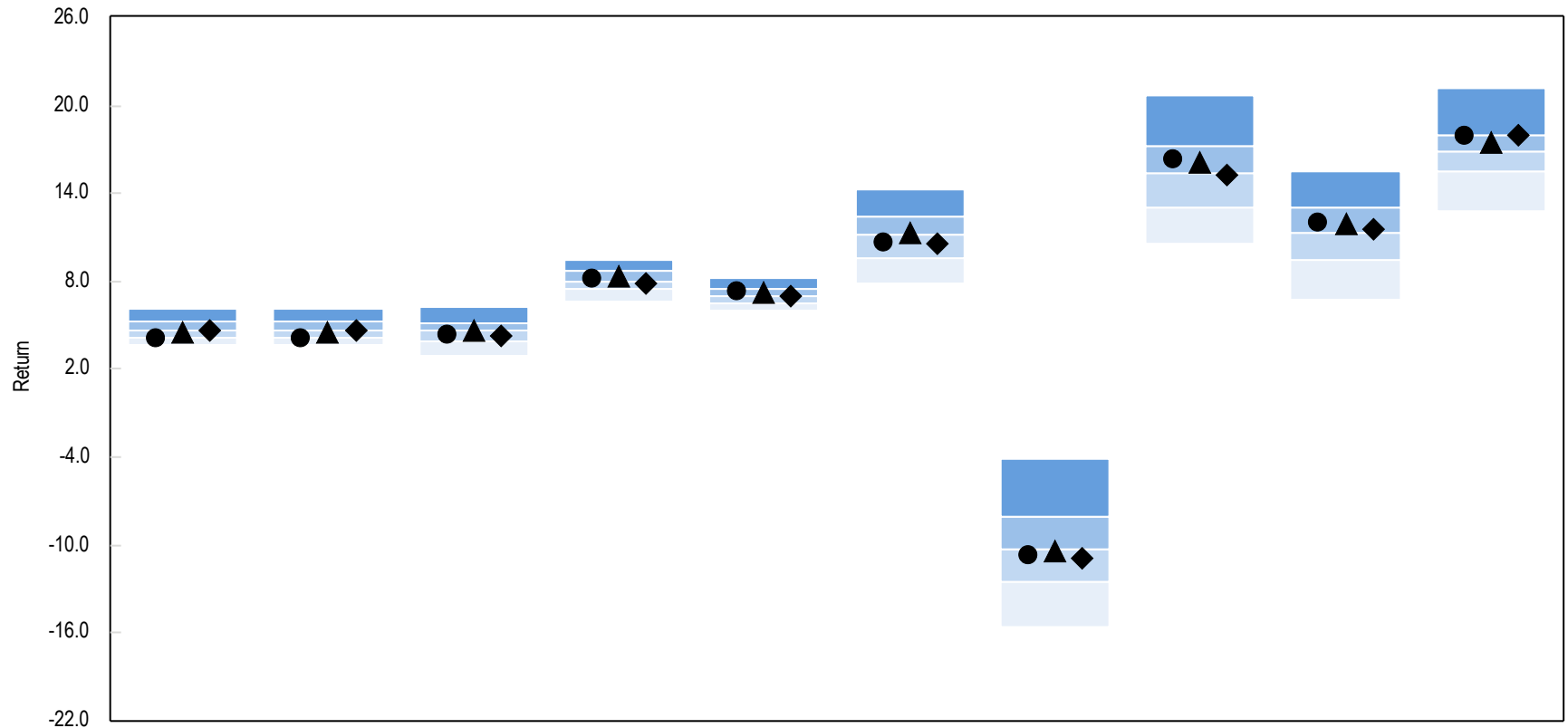
NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	38	38	82	82
Down Market Periods	3	3	15	15	22	22	38	38
Maximum Return	4.8	5.1	4.8	5.1	6.9	7.6	6.9	7.6
Minimum Return	-2.3	-2.2	-5.0	-5.2	-8.1	-8.4	-8.1	-8.4
Return	15.8	16.8	4.3	4.2	8.3	7.9	7.4	7.0
Cumulative Return	15.8	16.8	13.6	13.3	48.8	46.2	104.1	96.8
Active Return	-0.9	0.0	0.1	0.0	0.3	0.0	0.3	0.0
Risk Summary Statistics								
Beta	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0
Upside Risk	2.1	2.2	6.7	7.1	7.7	8.0	6.7	6.8
Downside Risk	2.8	3.0	5.8	6.3	6.2	6.5	5.2	5.5
Risk/Return Summary Statistics								
Standard Deviation	6.4	6.8	8.8	9.4	9.6	10.0	8.2	8.5
Alpha	0.0	0.0	0.4	0.0	0.7	0.0	0.6	0.0
Sharpe Ratio	1.5	1.6	0.1	0.1	0.6	0.6	0.7	0.6
Active Return/Risk	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tracking Error	0.9	0.0	1.0	0.0	1.0	0.0	0.9	0.0
Information Ratio	-1.1	-	0.0	-	0.3	-	0.4	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	33.3	100.0	50.0	100.0	58.3	100.0	56.7	100.0

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

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

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

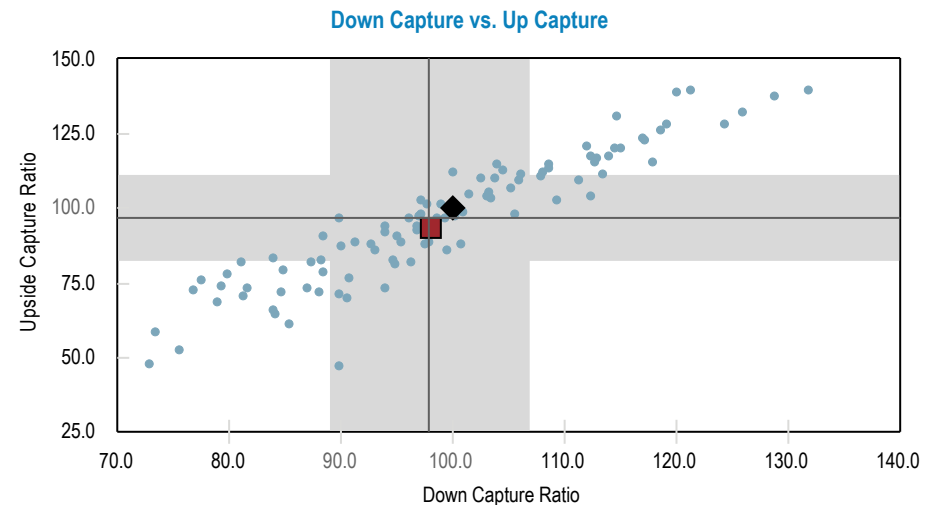
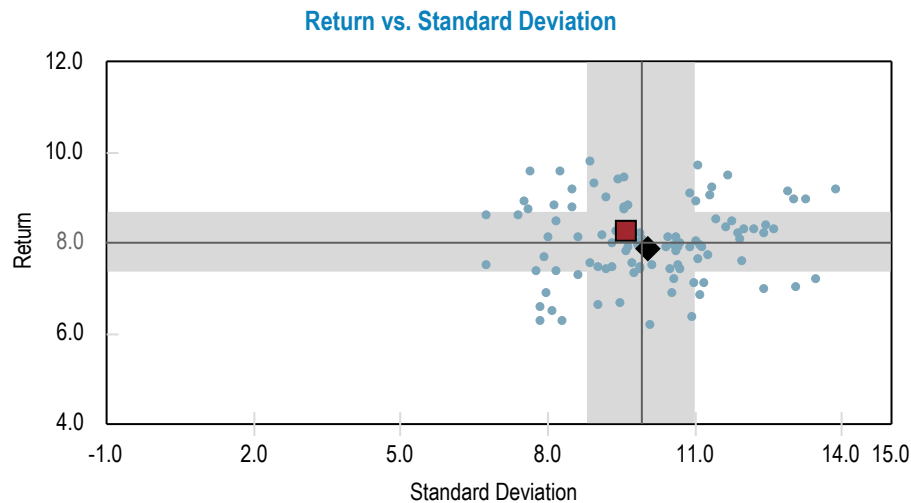


	3 Mo	Fiscal YTD	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
● Total Fund	4.1 (76)	4.1 (76)	4.3 (59)	8.3 (37)	7.4 (27)	10.7 (61)	-10.7 (58)	16.4 (38)	12.1 (41)	17.9 (27)
▲ Policy Index	4.6 (57)	4.6 (57)	4.7 (44)	8.4 (33)	7.2 (39)	11.3 (48)	-10.4 (53)	16.1 (41)	12.0 (44)	17.5 (34)
◆ Corridor Target Index	4.6 (56)	4.6 (56)	4.2 (60)	7.9 (61)	7.0 (49)	10.5 (65)	-10.9 (59)	15.2 (51)	11.6 (47)	17.9 (27)
5th Percentile	6.1	6.1	6.2	9.5	8.2	14.3	-4.1	20.7	15.5	21.2
1st Quartile	5.3	5.3	5.2	8.8	7.4	12.4	-8.0	17.2	13.1	18.0
Median	4.7	4.7	4.6	8.0	7.0	11.2	-10.3	15.3	11.3	16.8
3rd Quartile	4.1	4.1	4.0	7.5	6.5	9.6	-12.5	13.1	9.4	15.5
95th Percentile	3.7	3.7	2.9	6.6	6.0	7.8	-15.6	10.6	6.8	12.8
Population	104	104	101	100	96	177	177	207	217	193

Total Fund Risk Analysis 5 Years (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 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	8.28	9.58	0.72	0.95	0.99	97.97	93.49	0.30	1.04	0.64
Corridor Target Index	7.90	10.03	0.00	1.00	1.00	100.00	100.00	-	0.00	0.58



InvMetrics Public DB > \$1B

	Return	Standard Deviation
Total Fund	8.28	9.58
Corridor Target Index	7.90	10.03
Median	8.03	9.89
Population	100	100

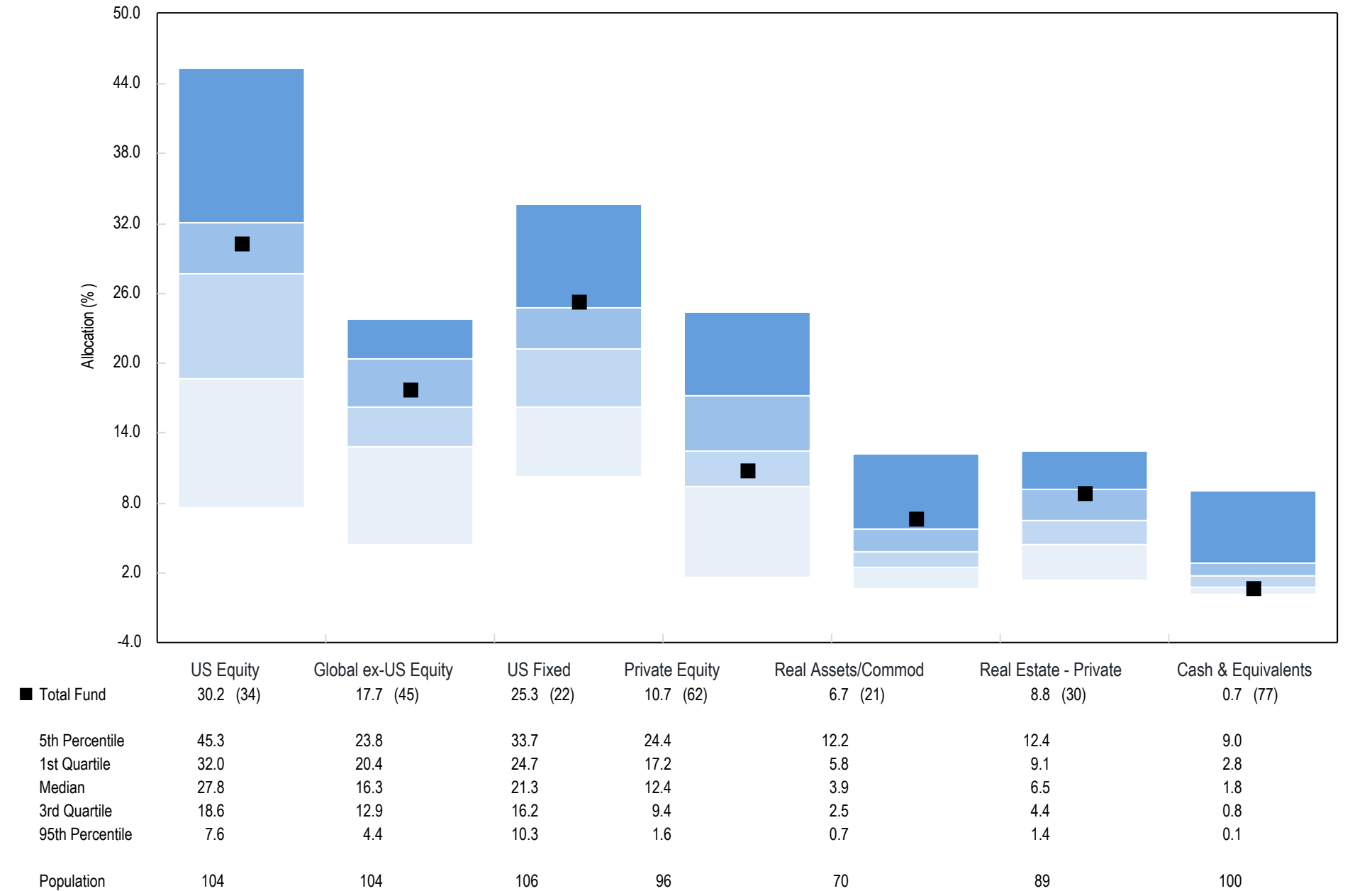
InvMetrics Public DB > \$1B

	Down Capture	Up Capture
Total Fund	93.49	97.97
Corridor Target Index	100.00	100.00
Median	97.04	97.90
Population	100	100

Total Fund

Peer Universe Comparison: Asset Allocation

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024



Residual Holdings & Transition Account included in US Equity for styling purposes. InvMetrics Public DB > \$1B is the Plan Sponsor Peer Group.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	8,184,623,000	100.0	4.1	9.3	4.1	15.8	4.3	8.3	7.5	7.4
Policy Index			4.6	9.9	4.6	17.3	4.7	8.4	7.6	7.2
Corridor Target Index			4.6	9.9	4.6	16.8	4.2	7.9	7.3	7.0
Total Equity	4,793,870,530	58.6	5.1	14.9	5.1	24.7	6.9	12.1	10.1	9.6
Total Equity Blend			5.8	-	5.8	-	-	-	-	-
Public Equity	3,915,413,736	47.8	6.1	17.1	6.1	29.7	7.4	12.1	-	-
MSCI AC World IMI Index (Net)			6.8	17.8	6.8	31.0	7.4	11.9	-	-
Domestic Equity	2,469,969,204	30.2	6.1	19.4	6.1	33.2	9.8	15.3	13.9	13.0
Russell 3000 Index			6.2	20.6	6.2	35.2	10.3	15.3	13.7	12.8
Domestic All Cap Equity	67,977,792	0.8	-	-	-	-	-	-	-	-
Russell 3000 Index			-	-	-	-	-	-	-	-
Large Cap	2,283,071,964	27.9	6.1	22.4	6.1	36.6	11.3	17.2	15.5	14.1
Russell 1000 Index			6.1	21.2	6.1	35.7	10.8	15.6	14.2	13.1
Small Cap	118,919,449	1.5	7.7	4.6	7.7	16.5	2.3	7.4	7.4	8.2
Russell 2000 Index			9.3	11.2	9.3	26.8	1.8	9.4	7.4	8.8
International Equity	1,445,179,617	17.7	5.9	13.6	5.9	24.5	2.8	8.5	6.1	6.4
MSCI AC World ex USA IMI (Net)			8.2	13.9	8.2	25.1	3.7	7.7	5.4	5.3
International All Cap	618,549,344	7.6	3.4	13.4	3.4	24.1	-	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	13.9	8.2	25.1	-	-	-	-
Developed International Equity	583,709,208	7.1	8.0	13.5	8.0	25.3	4.4	9.4	6.8	6.9
MSCI World ex U.S. (Net)			7.8	13.1	7.8	25.0	5.6	8.4	6.2	5.7
Developed International Large Cap	502,889,398	6.1	7.8	13.6	7.8	25.5	-	-	-	-
MSCI World ex U.S. (Net)			7.8	13.1	7.8	25.0	-	-	-	-
Developed International Small Cap	80,819,810	1.0	9.3	12.9	9.3	24.2	-	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	11.5	10.4	23.4	-	-	-	-
Emerging Markets	242,921,064	3.0	7.3	15.2	7.3	24.1	-2.7	5.5	3.6	4.6
MSCI Emerging Markets (Net)			8.7	16.9	8.7	26.1	0.4	5.7	3.7	4.0
Private Equity	878,456,793	10.7	0.8	5.8	0.8	5.9	6.5	14.3	12.5	7.9
Private Equity Benchmark			1.0	-	1.0	-	-	-	-	-
Total Income	2,066,684,105	25.3	4.5	5.8	4.5	12.5	0.9	2.6	3.5	3.7
Total Income Blend			5.2	-	5.2	-	-	-	-	-
Investment Grade Fixed Income	1,432,484,798	17.5	5.1	5.1	5.1	12.8	-1.0	1.0	2.3	2.9
Blmbg. U.S. Aggregate Index			5.2	4.4	5.2	11.6	-1.4	0.3	1.5	1.8
Below Investment Grade	634,199,308	7.7	3.2	7.6	3.2	11.8	6.0	6.7	6.3	6.2
Blmbg. U.S. High Yield - 2% Issuer Cap			5.3	8.0	5.3	15.7	3.1	4.7	4.7	5.0

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value \$4,494,763 included in Total Fund value. Transition Account value of \$264,915 included in Total Equity value.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Assets	1,263,316,236	15.4	0.4	-3.8	0.4	-5.7	1.2	3.5	4.1	5.1
<i>Total Real Assets Blend</i>			-0.6	-	-0.6	-	-	-	-	-
Global Real Estate	718,278,709	8.8	-0.6	-10.3	-0.6	-13.4	-2.9	0.8	2.4	5.1
<i>NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag</i>			-0.8	-8.4	-0.8	-10.3	1.1	2.6	3.8	5.8
Other Real Assets	545,037,527	6.7	1.7	6.0	1.7	6.6	7.5	7.7	-	-
<i>Other Real Assets Blend</i>			-0.3	-	-0.3	-	-	-	-	-
Infrastructure	475,676,255	5.8	2.0	6.6	2.0	7.1	8.4	8.6	8.0	6.5
<i>NFI-ODCE Equal-Weighted +1% (Smoothed Monthly Return) 1Q Lag</i>			-0.6	-7.7	-0.6	-9.4	2.1	3.6	4.8	6.9
Timber	69,361,272	0.8	0.0	2.2	0.0	3.0	3.2	4.1	3.1	2.0
<i>NCREIF Timberland Index (Smoothed Monthly Return) 1Q Lag</i>			1.7	8.4	1.7	9.8	11.0	7.2	6.0	5.9
Cash & Equivalents	56,257,367	0.7	1.3	4.1	1.3	5.6	3.6	2.4	2.3	1.7
<i>90 Day U.S. Treasury Bill</i>			1.4	4.0	1.4	5.5	3.5	2.3	2.2	1.6

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value \$4,494,763 included in Total Fund value. Transition Account value of \$264,915 included in Total Equity value.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Pension Trust

Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	8,184,623,000	100.0	4.1	4.1	9.3	15.8	4.3	8.3	7.4
Policy Index			4.6	4.6	9.9	17.3	4.7	8.4	7.2
Corridor Target Index			4.6	4.6	9.9	16.8	4.2	7.9	7.0
Total Equity	4,793,870,530	58.6	5.1	5.1	14.9	24.7	6.9	12.1	9.6
Total Equity Blend			5.8	5.8	-	-	-	-	-
Public Equity	3,915,413,736	47.8	6.1	6.1	17.1	29.7	7.4	12.1	-
MSCI AC World IMI Index (Net)			6.8	6.8	17.8	31.0	7.4	11.9	-
Domestic Equity	2,469,969,204	30.2	6.1	6.1	19.4	33.2	9.8	15.3	13.0
Russell 3000 Index			6.2	6.2	20.6	35.2	10.3	15.3	12.8
Domestic All Cap Equity	67,977,792	0.8	-	-	-	-	-	-	-
Russell 3000 Index			-	-	-	-	-	-	-
Two Sigma Active Extension U.S. All Cap Equity	67,977,792	0.8	-	-	-	-	-	-	-
Large Cap	2,283,071,964	27.9	6.1	6.1	22.4	36.6	11.3	17.2	14.1
Russell 1000 Index			6.1	6.1	21.2	35.7	10.8	15.6	13.1
LA Capital Large Cap Growth	54,349,829	0.7	2.8	2.8	28.0	45.1	13.4	20.7	16.7
NTAM R1000 Index	663,969,788	8.1	6.1	6.1	21.2	35.7	-	-	-
NTAM Quant Enh R1000	341,456,626	4.2	6.2	6.2	23.0	36.9	13.0	15.7	12.2
Parametric-Clifton Enh R1000	341,794,151	4.2	6.0	6.0	21.6	36.1	10.8	15.4	13.1
LA Capital Enhanced Alpha Fund	350,288,231	4.3	7.2	7.2	23.0	37.3	12.9	16.5	13.8
LA Capital Enhanced ex Alpha Fd	531,213,340	6.5	5.7	5.7	23.0	36.4	11.6	16.8	13.3
Small Cap	118,919,449	1.5	7.7	7.7	4.6	16.5	2.3	7.4	8.2
Russell 2000 Index			9.3	9.3	11.2	26.8	1.8	9.4	8.8
Atlanta Capital	38,106,307	0.5	9.0	9.0	8.0	21.0	8.4	9.9	-
Riverbridge Small Cap Growth	37,952,795	0.5	6.6	6.6	-0.5	9.3	-8.3	-	-
Sycamore Small Cap Value	37,285,417	0.5	7.0	7.0	4.8	17.0	5.7	-	-
NTAM R2000 Index	5,574,930	0.1	9.3	9.3	11.0	26.6	-	-	-
International Equity	1,445,179,617	17.7	5.9	5.9	13.6	24.5	2.8	8.5	6.4
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	3.7	7.7	5.3
International All Cap	618,549,344	7.6	3.4	3.4	13.4	24.1	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	-	-	-
William Blair Int'l Leaders	223,368,632	2.7	3.2	3.2	9.3	23.2	-2.7	7.0	-
Arrowstreet ACWI ex US	395,180,712	4.8	3.5	3.5	15.8	24.7	-	-	-
Developed International Equity	583,709,208	7.1	8.0	8.0	13.5	25.3	4.4	9.4	6.9
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	5.6	8.4	5.7

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Wellington International Small Cap value of \$111,259 and Residual Holdings value of \$4,494,763 included in Total Fund value. Fiscal year 06/30.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Pension Trust

Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Developed International Large Cap	502,889,398	6.1	7.8	7.8	13.6	25.5	-	-	-
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	-	-	-
State St MSCI World exUS	502,889,398	6.1	7.8	7.8	13.5	25.5	-	-	-
Developed International Small Cap	80,819,810	1.0	9.3	9.3	12.9	24.2	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	10.4	11.5	23.4	-	-	-
State St MSCI exUS Small	45,675,552	0.6	10.4	10.4	11.5	23.3	-	-	-
DFA Intl Small Cap Value	35,033,000	0.4	8.5	8.5	15.4	26.1	7.7	9.8	6.2
Emerging Markets	242,921,064	3.0	7.3	7.3	15.2	24.1	-2.7	5.5	4.6
MSCI Emerging Markets (Net)			8.7	8.7	16.9	26.1	0.4	5.7	4.0
DFA EM All Cap Core	120,865,317	1.5	6.6	6.6	15.2	24.3	-	-	-
State St MSCI EM China	34,227,440	0.4	23.5	23.5	29.7	24.2	-	-	-
State St MSCI EM ex China	87,828,307	1.1	3.1	3.1	10.8	24.9	-	-	-
Transition Account	264,915	0.0							
Private Equity	878,456,793	10.7	0.8	0.8	5.8	5.9	6.5	14.3	7.9
Private Equity Benchmark			1.0	1.0	-	-	-	-	-
Total Adams Street 2010 Funds	6,583,537	0.1	-2.8	-2.8	-0.8	-5.0	-4.3	11.5	12.7
Total ASP (Brinson) Fds 1998-2003	325,008	0.0	-8.7	-8.7	-5.7	56.4	8.7	7.8	4.7
Total ASP (Brinson) Non-US 1999-2004	179,207	0.0	-5.5	-5.5	0.1	-1.2	9.4	7.2	5.3
Adams St 2008 Non-US Partnership	1,992,804	0.0	-35.2	-35.2	-34.8	-37.5	-18.6	-1.9	5.7
Adams St 2015 Global Fund	34,131,135	0.4	-1.0	-1.0	4.3	0.3	0.1	15.6	-
Adams St 2016 Global Fund	33,560,738	0.4	-1.2	-1.2	3.1	-0.2	3.9	15.4	-
Adams St 2017 Global Fund	70,637,014	0.9	-1.7	-1.7	1.0	-1.2	5.2	16.7	-
Adams St 2018 Global Fund	75,554,574	0.9	-0.1	-0.1	5.3	4.9	7.2	19.3	-
Adams St 2019 Global Fund	70,750,603	0.9	-0.6	-0.6	3.8	2.5	4.9	36.4	-
Adams St 2020 Global Fund	52,312,038	0.6	-1.3	-1.3	4.4	3.2	5.2	-	-
Adams St 2021 Global Fund	36,300,678	0.4	0.3	0.3	6.1	5.4	-	-	-
Altor Fund VI	7,522,012	0.1	55.4	55.4	60.3	12.1	-	-	-
BlackRock PEP	224,148,440	2.7	2.3	2.3	6.5	7.0	8.8	16.0	-
Blackrock PEP 2020	138,618,989	1.7	2.8	2.8	7.8	10.8	11.1	-	-
HIG Capital	3,012,137	0.0	-1.1	-1.1	-	-	-	-	-
Sixth Street Partners - TAO	81,772,032	1.0	0.3	0.3	5.8	8.4	9.1	-	-
Kelso	11,026,757	0.1	2.8	2.8	19.2	19.2	-	-	-
Portfolio Advisors GP Solutions	10,450,842	0.1	-6.3	-6.3	-	-	-	-	-
Private Equity Misc Funds	19,578,249	0.2	5.2	5.2	28.7	32.6	3.0	2.3	-1.2

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Wellington International Small Cap value of \$111,259 and Residual Holdings value of \$4,494,763 included in Total Fund value.
Fiscal year 06/30.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Income	2,066,684,105	25.3	4.5	4.5	5.8	12.5	0.9	2.6	3.7
<i>Total Income Blend</i>			5.2	5.2	-	-	-	-	-
Investment Grade Fixed Income	1,432,484,798	17.5	5.1	5.1	5.1	12.8	-1.0	1.0	2.9
<i>Blmbg. U.S. Aggregate Index</i>			5.2	5.2	4.4	11.6	-1.4	0.3	1.8
Allspring Med Quality Credit	117,325,726	1.4	5.9	5.9	6.5	16.2	-	-	-
Manulife-Declaration TRBF	71,352	0.0	11.7	11.7	10.0	19.3	3.7	4.0	4.2
PIMCO DiSCO II	60,246,833	0.7	3.3	3.3	8.8	11.7	5.9	6.1	7.1
PIMCO Core Plus Constrained	363,181,168	4.4	4.6	4.6	5.2	12.6	-1.1	0.9	2.6
Prudential Core	366,392,551	4.5	5.4	5.4	5.2	13.0	-1.1	0.8	-
State Street Gov Index	145,510,299	1.8	4.7	4.7	4.0	9.7	-	-	-
State Street Credit Index	30,226,230	0.4	5.7	5.7	5.5	14.0	-	-	-
Western Asset Core Plus	349,530,639	4.3	5.6	5.6	4.6	13.3	-	-	-
Below Investment Grade	634,199,308	7.7	3.2	3.2	7.6	11.8	6.0	6.7	6.2
<i>Blmbg. U.S. High Yield - 2% Issuer Cap</i>			5.3	5.3	8.0	15.7	3.1	4.7	5.0
Cerberus ND Private Credit	151,553,234	1.9	0.1	0.1	4.3	6.0	7.2	8.3	-
Ares ND Credit Strategies	128,750,205	1.6	2.3	2.3	10.2	14.4	10.3	9.2	-
Loomis Sayles HY	2,585,003	0.0	0.6	0.6	-1.1	5.5	-1.3	2.2	3.4
PIMCO Bravo II	2,589,405	0.0	4.0	4.0	6.5	12.4	-10.5	-5.5	1.0
Nomura High Yield	174,627,795	2.1	5.1	5.1	-	-	-	-	-
PineBridge High Yield	174,093,666	2.1	4.8	4.8	-	-	-	-	-
Total Real Assets	1,263,316,236	15.4	0.4	0.4	-3.8	-5.7	1.2	3.5	5.1
<i>Total Real Assets Blend</i>			-0.6	-0.6	-	-	-	-	-
Global Real Estate	718,278,709	8.8	-0.6	-0.6	-10.3	-13.4	-2.9	0.8	5.1
<i>NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag</i>			-0.8	-0.8	-8.4	-10.3	1.1	2.6	5.8
Invesco Core Real Estate	352,899,086	4.3	-1.0	-1.0	-10.3	-10.3	0.2	1.8	5.4
Invesco Asia RE Fund III	15,811,917	0.2	-1.0	-1.0	1.5	-4.0	-6.4	1.1	-
Invesco RE Fund VI	48,710,716	0.6	-2.6	-2.6	-11.8	2.1	-	-	-
Invesco Value Added Fd IV	233,395	0.0	-6.4	-6.4	-31.4	-57.4	-40.4	-24.2	-
Invesco Value Added Fd V	53,961,568	0.7	0.0	0.0	-25.7	-25.7	-7.3	-0.2	-
JP Morgan SPC & Strat RE	246,662,027	3.0	0.3	0.3	-6.2	-14.7	-5.5	-0.5	3.9
Other Real Assets	545,037,527	6.7	1.7	1.7	6.0	6.6	7.5	7.7	-
<i>Other Real Assets Blend</i>			-0.3	-0.3	-	-	-	-	-
Infrastructure	475,676,255	5.8	2.0	2.0	6.6	7.1	8.4	8.6	6.5
<i>NFI-ODCE Equal-Weighted +1% (Smoothed Monthly Return) 1Q Lag</i>			-0.6	-0.6	-7.7	-9.4	2.1	3.6	6.9
ISQ Global Infrastructure II	76,213,272	0.9	2.8	2.8	9.4	10.5	11.2	12.0	-
ISQ Global Infrastructure III	38,607,991	0.5	2.7	2.7	17.0	12.6	-	-	-

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Wellington International Small Cap value of \$111,259 and Residual Holdings value of \$4,494,763 included in Total Fund value.
Fiscal year 06/30.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
The Rohatyn Group	15,093,811	0.2	3.3	3.3	3.3	9.0	3.2	-2.7	-2.0
JP Morgan IIF Infrastructure	131,626,105	1.6	1.9	1.9	8.9	9.8	7.0	7.5	5.9
Grosvenor CIS Fund I	8,227,178	0.1	0.5	0.5	5.4	3.5	12.1	11.0	8.8
Grosvenor CIS Fund II	18,987,089	0.2	0.7	0.7	2.6	1.6	9.4	11.6	-
Grosvenor CIS Fund III	35,981,215	0.4	3.4	3.4	5.7	4.0	-	-	-
Macquarie Infrastructure Fund IV	83,914,809	1.0	2.8	2.8	3.1	3.9	9.0	10.4	-
Macquarie Infrastructure Fund V	67,024,785	0.8	-0.7	-0.7	2.5	3.0	12.1	-	-
Timber	69,361,272	0.8	0.0	0.0	2.2	3.0	3.2	4.1	2.0
<i>NCREIF Timberland Index (Smoothed Monthly Return) 1Q Lag</i>			1.7	1.7	8.4	9.8	11.0	7.2	5.9
Springbank Timberland	45,504,273	0.6	-0.1	-0.1	1.1	1.1	0.0	2.5	0.3
Teredo	23,856,999	0.3	0.3	0.3	5.0	7.8	13.7	9.6	6.7
Cash & Equivalents	56,257,367	0.7	1.3	1.3	4.1	5.6	3.6	2.4	1.7
<i>90 Day U.S. Treasury Bill</i>			1.4	1.4	4.0	5.5	3.5	2.3	1.6
Northern Trust Cash Account	44,482,799	0.5	1.3	1.3	4.2	5.6	3.7	2.4	1.7
BND Cash	11,774,567	0.1	1.3	1.3	4.1	5.5	3.6	2.4	-

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Wellington International Small Cap value of \$111,259 and Residual Holdings value of \$4,494,763 included in Total Fund value.
Fiscal year 06/30.

Total Fund Monthly Index Performance

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Equity							
Total Equity Blend	5.8	5.8	-	-	-	-	-
Public Equity							
MSCI AC World IMI Index (Net)	6.8	6.8	17.8	31.0	7.4	11.9	9.2
Domestic Equity							
Russell 1000 Index	6.1	6.1	21.2	35.7	10.8	15.6	13.1
Russell 1000 Growth Index	3.2	3.2	24.6	42.2	12.0	19.7	16.5
Russell 2000 Index	9.3	9.3	11.2	26.8	1.8	9.4	8.8
Russell 2000 Value Index	10.2	10.2	9.2	25.9	3.8	9.3	8.2
Russell 2000 Growth Index	8.4	8.4	13.2	27.7	-0.4	8.8	8.9
Russell 3000 Index	6.2	6.2	20.6	35.2	10.3	15.3	12.8
S&P SmallCap 600 Index	10.1	10.1	9.3	25.9	4.0	10.2	10.0
International Equity							
MSCI AC World ex USA IMI (Net)	8.2	8.2	13.9	25.1	3.7	7.7	5.3
MSCI World ex U.S. (Net)	7.8	7.8	13.1	25.0	5.6	8.4	5.7
MSCI World ex U.S. Small Cap Index (Net)	10.4	10.4	11.5	23.4	0.0	6.9	6.0
MSCI World ex U.S. Small Value (Net)	10.9	10.9	12.1	23.3	3.6	7.4	5.6
MSCI Emerging Markets (Net)	8.7	8.7	16.9	26.1	0.4	5.7	4.0
MSCI China (Net)	23.5	23.5	29.3	23.9	-5.6	0.8	3.4
MSCI Emerging Markets ex China (Net)	4.0	4.0	12.7	27.4	3.4	8.4	4.8
Private Equity							
Private Equity Benchmark	1.0	1.0	-	-	-	-	-
Total Income							
Total Income Blend	5.2	5.2	-	-	-	-	-
Investment Grade Fixed Income							
Blmbg. U.S. Aggregate Index	5.2	5.2	4.4	11.6	-1.4	0.3	1.8
Blmbg. U.S. Corp: BAA Bond	5.8	5.8	5.6	15.0	-0.8	1.5	3.2
Blmbg. U.S. Credit Index	5.7	5.7	5.2	13.8	-1.1	1.1	2.8
Blmbg. U.S. Government Index	4.7	4.7	3.8	9.7	-1.7	-0.2	1.4
Libor 3 month Index	1.3	1.3	4.2	5.6	4.1	2.7	2.0

Fiscal year 06/30.

Total Fund Monthly Index Performance

NDSIB - Consolidated Pension Trust
Period Ending: September 30, 2024

	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Below Investment Grade Fixed Income							
Blmbg. U.S. High Yield - 2% Issuer Cap	5.3	5.3	8.0	15.7	3.1	4.7	5.0
Morningstar LSTA US LL B TR USD	2.2	2.2	6.9	10.2	6.9	6.2	5.2
Total Real Assets							
Total Real Assets Blend	-0.6	-0.6	-	-	-	-	-
NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag	-0.8	-0.8	-8.4	-10.3	1.1	2.6	5.8
Other Real Assets	-0.3	-0.3	-	-	-	-	-
NFI-ODCE Equal-Weighted +1% (Smoothed Monthly Return) 1Q Lag	-0.6	-0.6	-7.7	-9.4	2.1	3.6	6.9
NCREIF Timberland Index (Smoothed Monthly Return) 1Q Lag	1.7	1.7	8.4	9.8	11.0	7.2	5.9
Cash							
90 Day U.S. Treasury Bill	1.4	1.4	4.0	5.5	3.5	2.3	1.6

Fiscal year 06/30.

Public Employees Retirement System

Investment Performance Review
Period Ending: September 30, 2024



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SEATTLE 206.622.3700

CHICAGO 312.815.5228

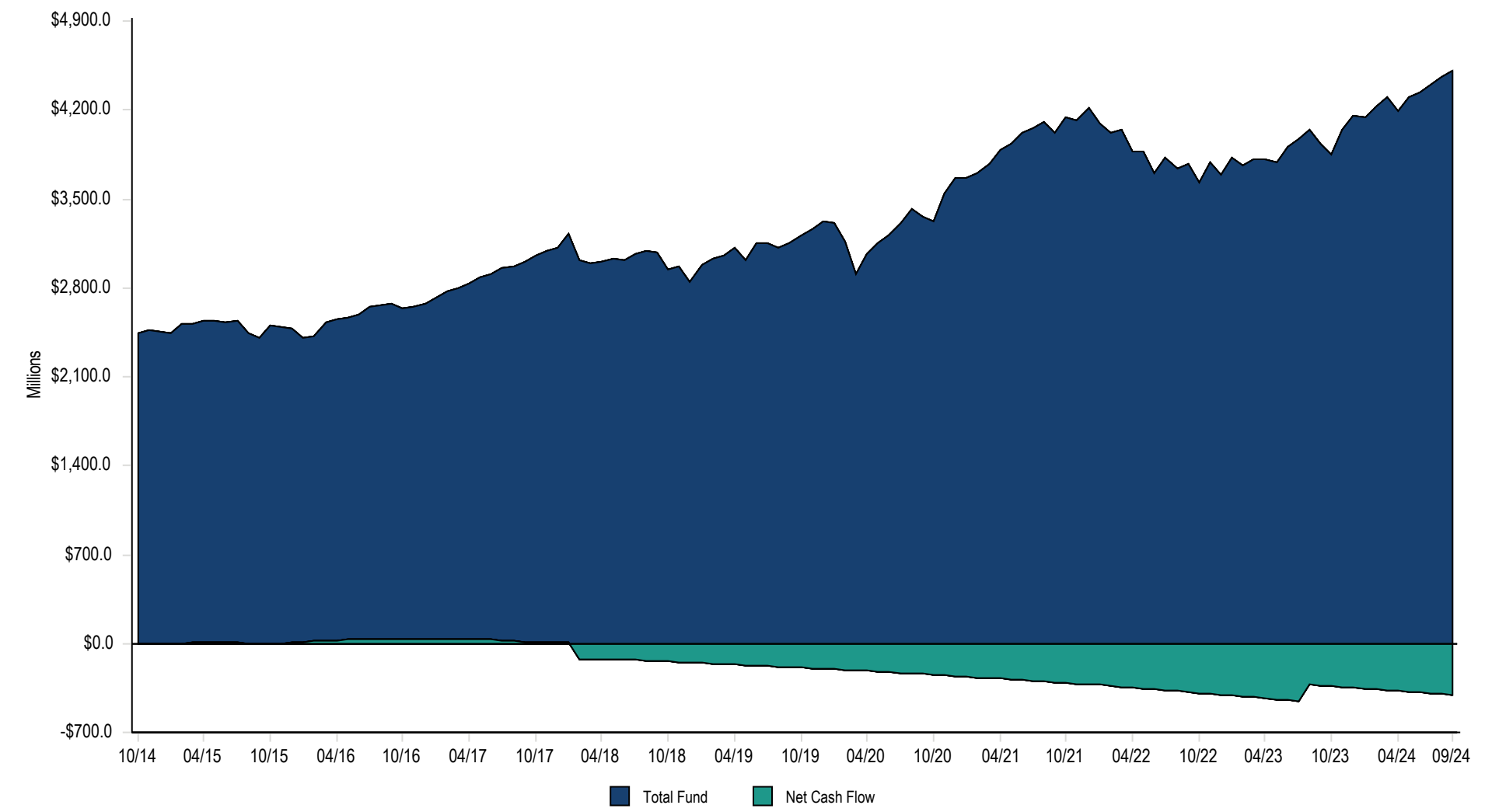
PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

Total Fund
Asset Allocation History

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



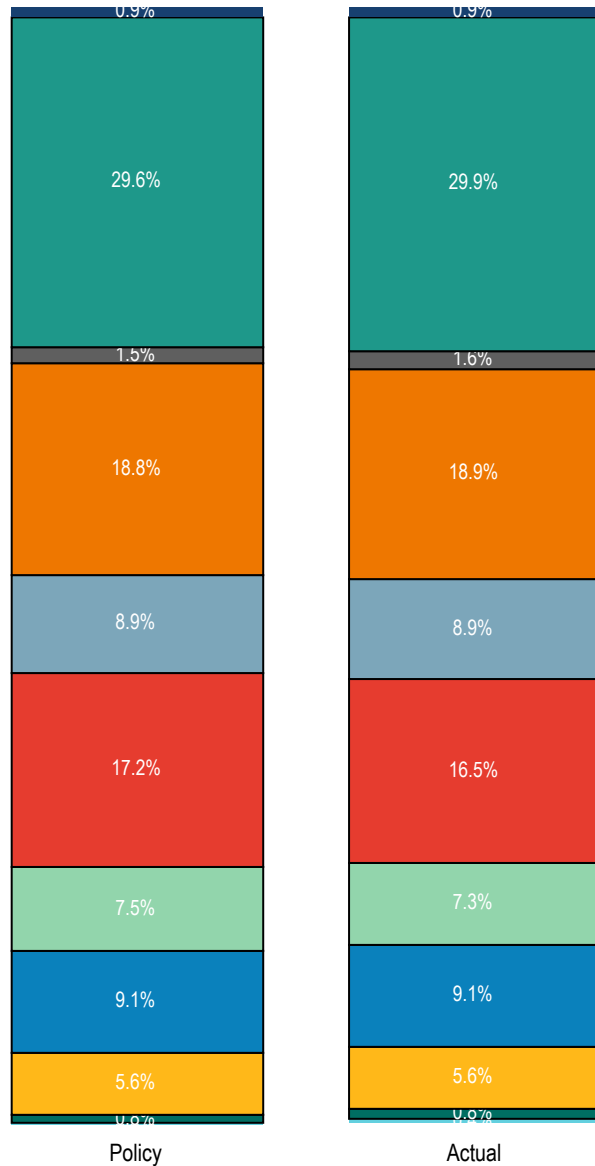
Net Cash Flow is Cumulative.

Total Fund

Asset Allocation vs Policy

NDSIB - Public Employees Retirement System

Period Ending: September 30, 2024

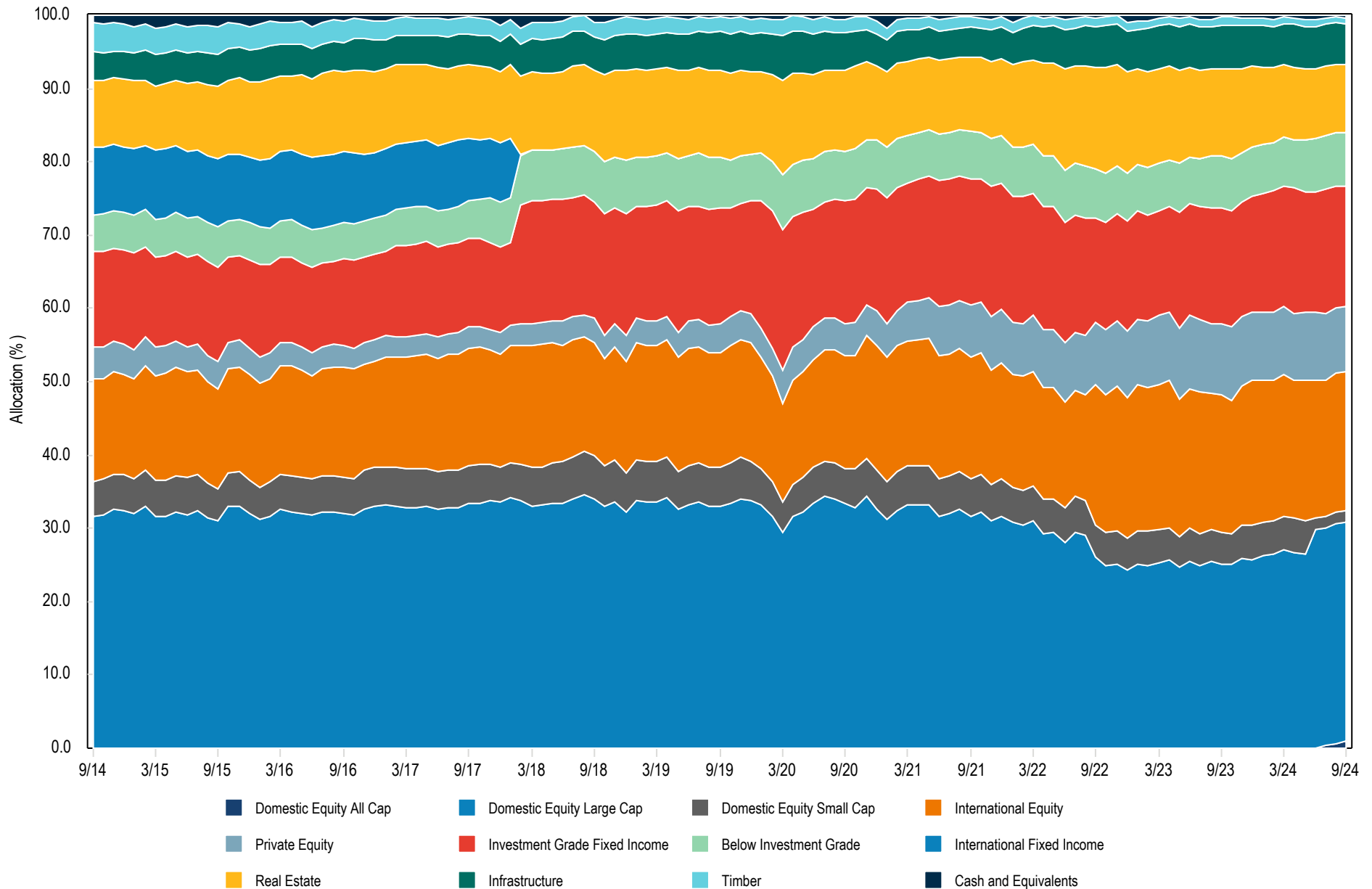


	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Domestic Equity All Cap	40,208,427	0.9	0.9	-17,836
Domestic Equity Large Cap	1,348,054,073	29.9	29.6	13,732,683
Domestic Equity Small Cap	72,457,047	1.6	1.5	5,308,049
International Equity	853,333,312	18.9	18.8	3,801,531
Private Equity	403,579,077	8.9	8.9	8,639
Investment Grade Fixed Income	744,102,671	16.5	17.2	-32,552,830
Below Investment Grade	329,783,660	7.3	7.5	-10,020,033
Real Estate	412,160,777	9.1	9.1	21,964
Infrastructure	251,189,017	5.6	5.6	355
Timber	35,075,339	0.8	0.8	-9,900
Cash and Equivalents	19,727,379	0.4	0.0	19,727,379
Total	4,509,670,778	100.0	100.0	

Residual Holdings value of \$441,308 & Transition Account value of \$26,010 included in Domestic Equity Large Cap value for styling purposes.

Total Fund Asset Allocation History

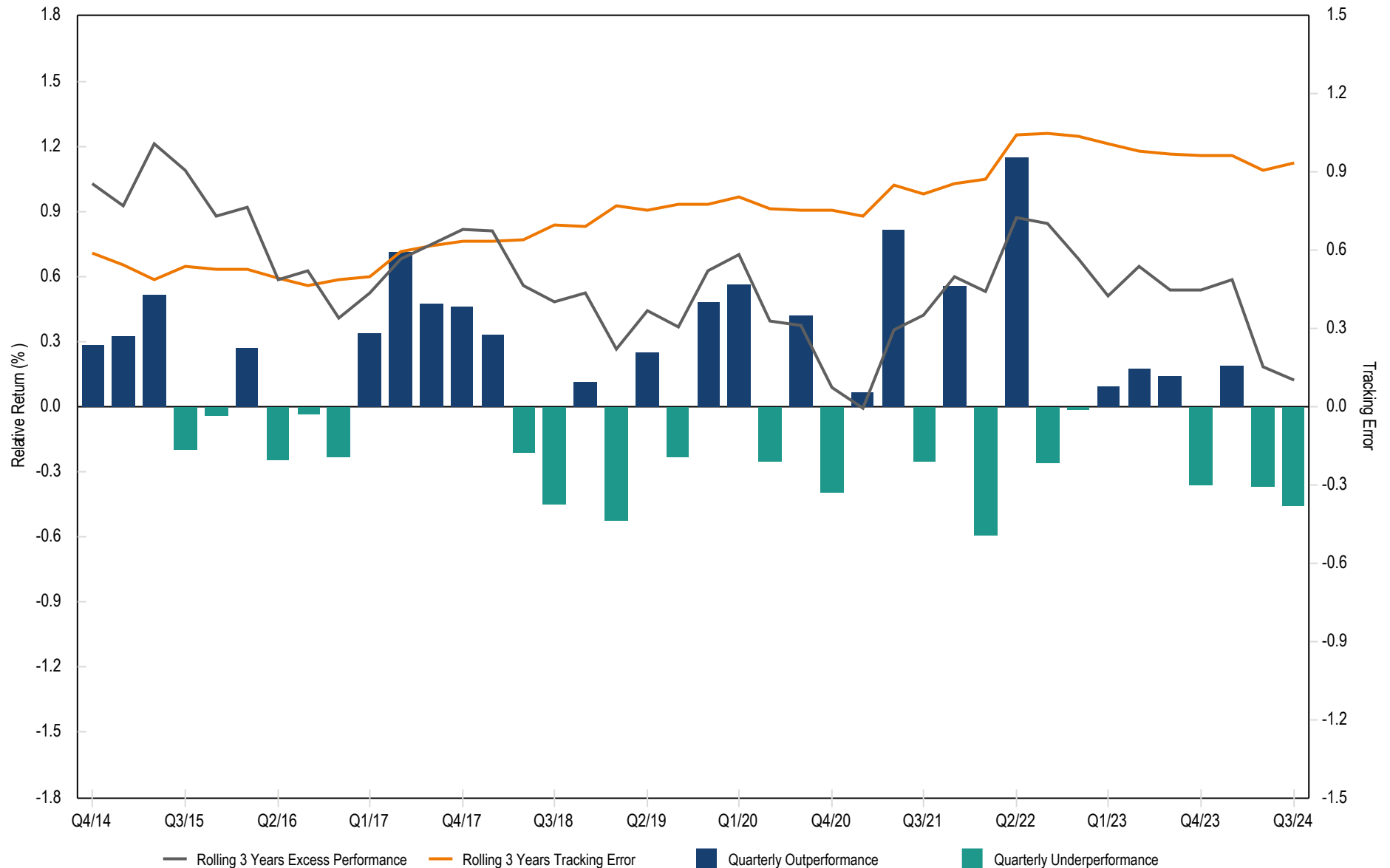
NDSIB - Public Employees Retirement System
Period Ending: September 30, 2024



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

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

Rolling Annualized Excess Performance and Tracking Error

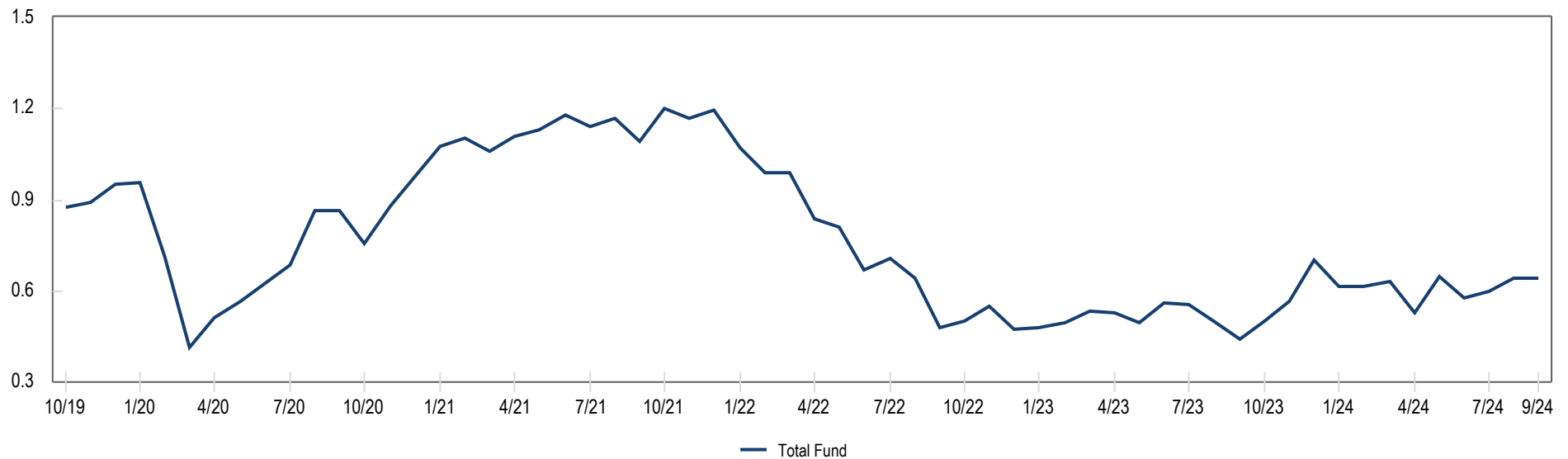


Analytic is using the Corridor Target Index

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

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

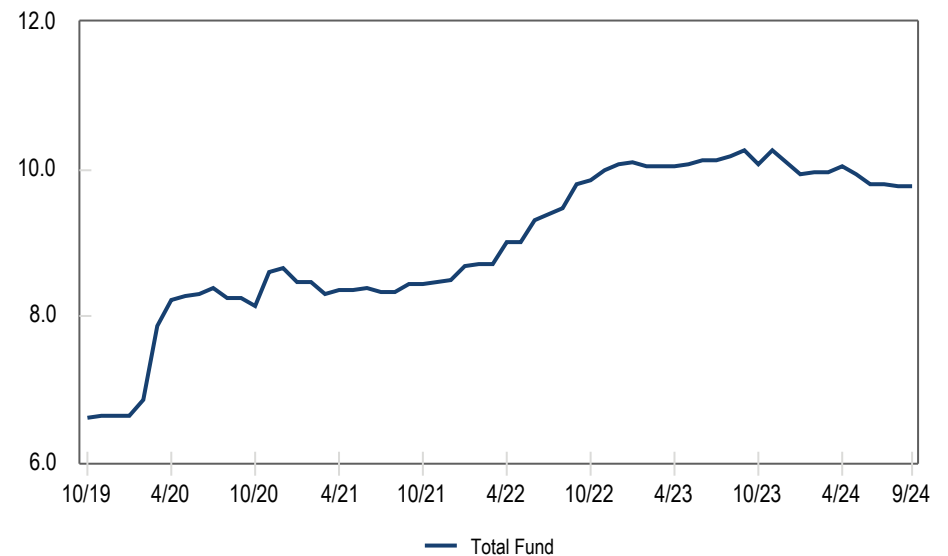
Rolling 5 Years Sharpe Ratio



Rolling 5 Years Return



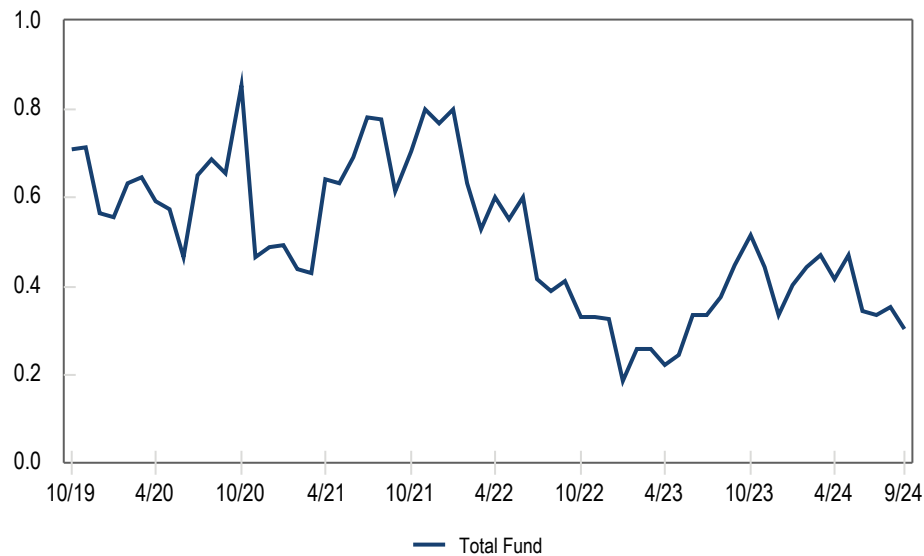
Rolling 5 Years Standard Deviation



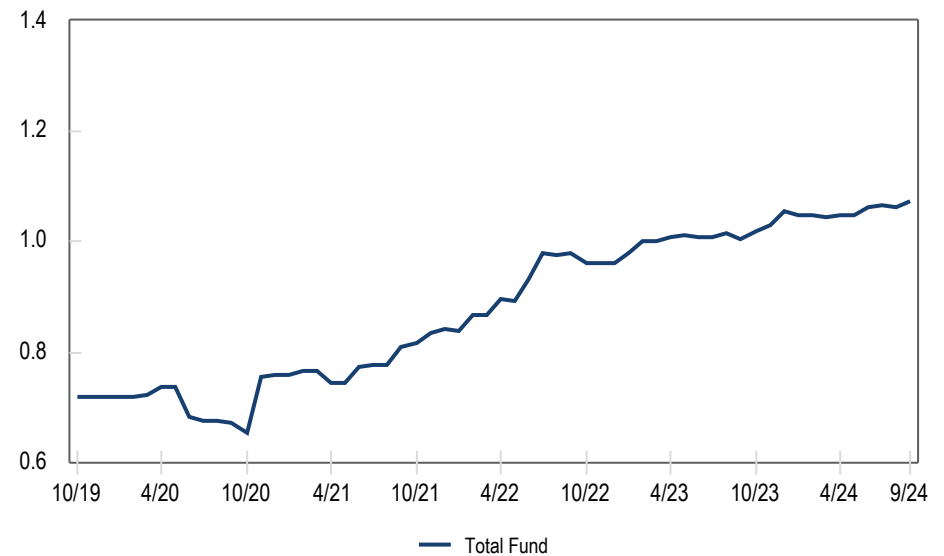
Total Fund Risk Analysis - 5 Years (Net of Fees)

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

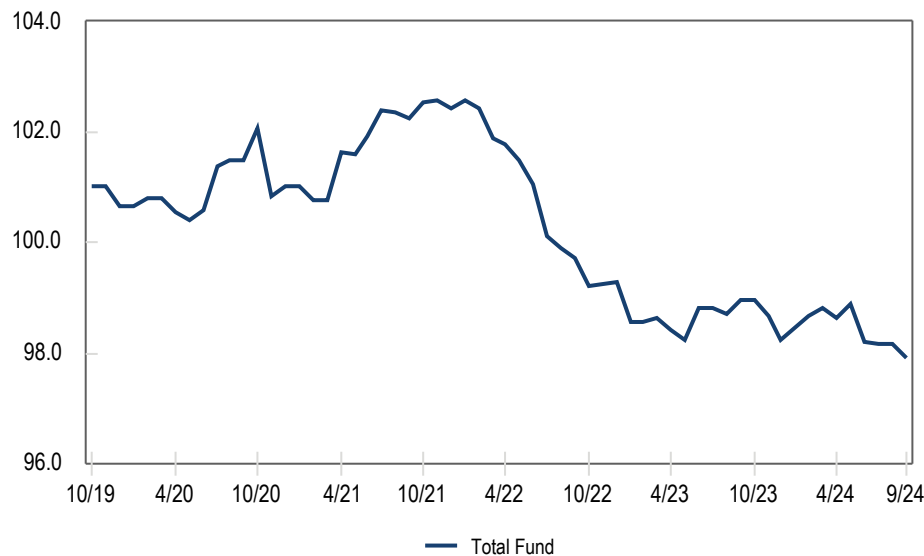
Rolling 5 Years Information Ratio



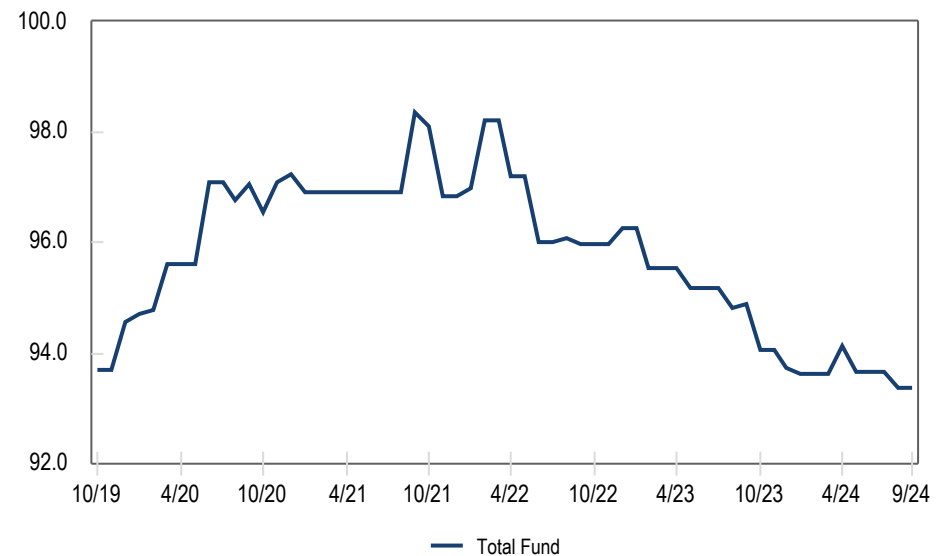
Rolling 5 Years Tracking Error



Rolling 5 Years Up Capture



Rolling 5 Years Down Capture

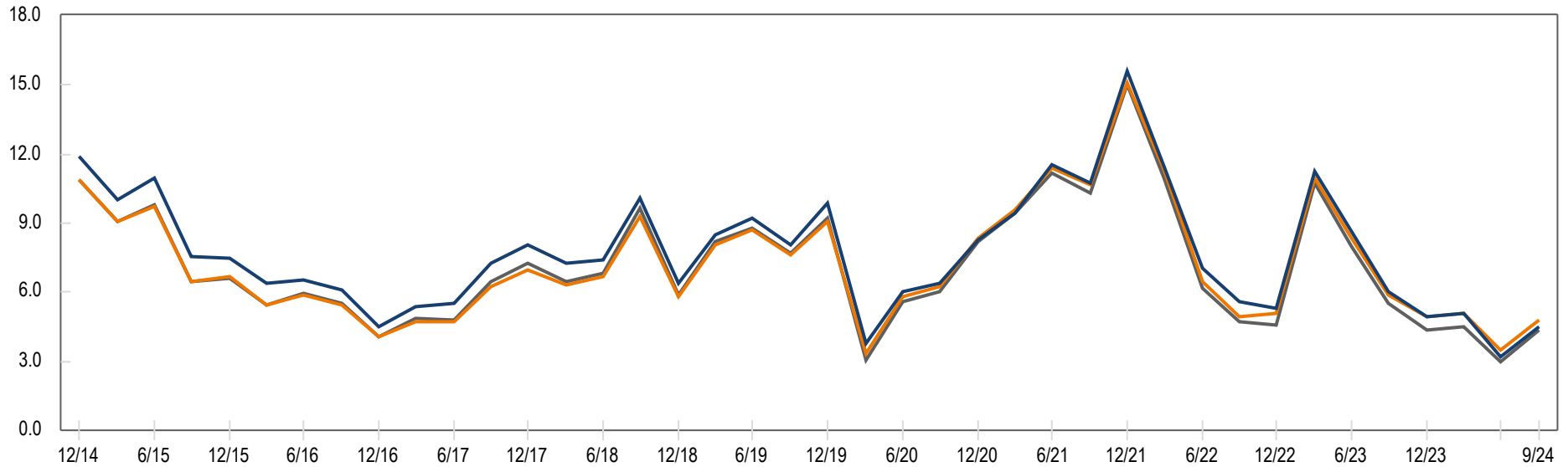


Analytic is using the Corridor Target Index

Total Fund Rolling Risk Statistics

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

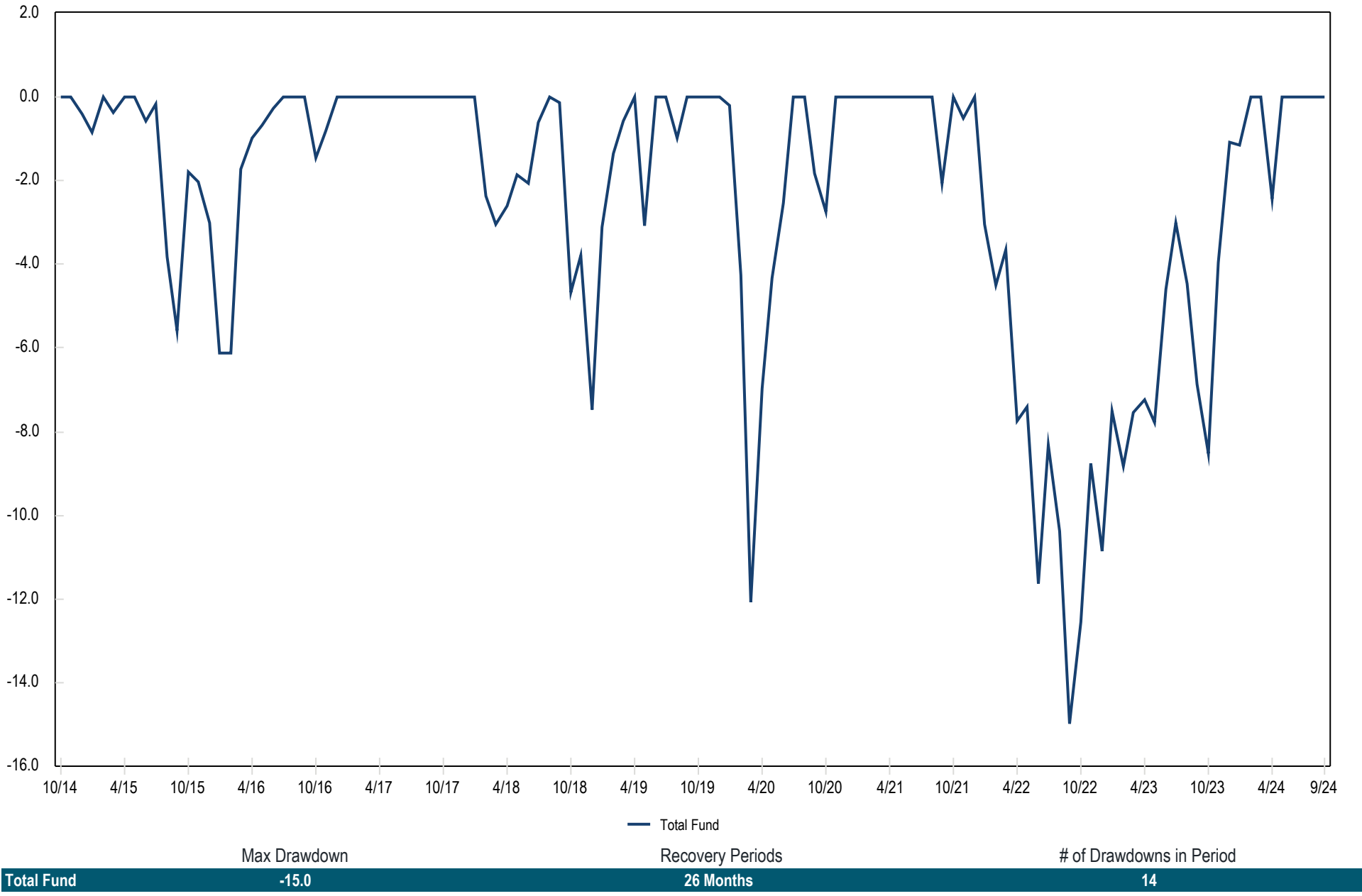
Rolling 3 Years Return



	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
Return	7.5	6.1	7.2	10.1	8.0	6.4	10.8	5.6	6.0	4.5
Standard Deviation	5.5	6.2	5.7	5.2	6.6	9.7	10.4	11.0	9.5	9.1
vs. Policy Index										
Alpha	1.0	0.7	1.0	0.5	-0.1	-0.1	-0.2	0.7	0.5	0.1
Beta	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	0.9	0.9
Consistency	66.7	63.9	66.7	58.3	52.8	47.2	50.0	52.8	47.2	44.4
Tracking Error	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.2	1.3	1.3
vs. Corridor Target Index										
Alpha	1.2	0.8	1.0	0.6	0.3	0.4	0.6	1.0	0.8	0.4
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
Consistency	66.7	61.1	58.3	58.3	55.6	61.1	61.1	66.7	61.1	52.8
Tracking Error	0.7	0.7	0.7	0.7	0.6	0.7	0.9	1.2	1.2	1.1

Total Fund
Historical Drawdowns (Net of Fees)

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



Total Fund
Risk Statistics (Net of Fees)

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

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	38	38	82	82
Down Market Periods	3	3	15	15	22	22	38	38
Maximum Return	5.0	5.6	5.0	5.6	6.9	7.3	6.9	7.3
Minimum Return	-2.4	-2.3	-5.1	-5.6	-8.2	-7.9	-8.2	-7.9
Return	16.4	17.7	4.5	4.8	8.4	8.4	7.5	7.2
Cumulative Return	16.4	17.7	14.2	15.0	50.0	49.6	105.9	101.1
Active Return	-1.2	0.0	-0.3	0.0	0.0	0.0	0.2	0.0
Risk Summary Statistics								
Beta	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0
Upside Risk	2.2	2.4	7.0	7.6	7.9	8.2	6.8	6.9
Downside Risk	3.0	3.2	6.0	6.6	6.3	6.5	5.3	5.4
Risk/Return Summary Statistics								
Standard Deviation	6.7	7.4	9.1	9.9	9.8	10.2	8.3	8.5
Alpha	0.3	0.0	0.1	0.0	0.4	0.0	0.4	0.0
Sharpe Ratio	1.5	1.6	0.2	0.2	0.6	0.6	0.7	0.7
Active Return/Risk	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tracking Error	1.1	0.0	1.3	0.0	1.2	0.0	1.0	0.0
Information Ratio	-1.1	-	-0.3	-	0.0	-	0.2	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	41.7	100.0	44.4	100.0	48.3	100.0	52.5	100.0

Total Fund
Risk Statistics (Net of Fees)

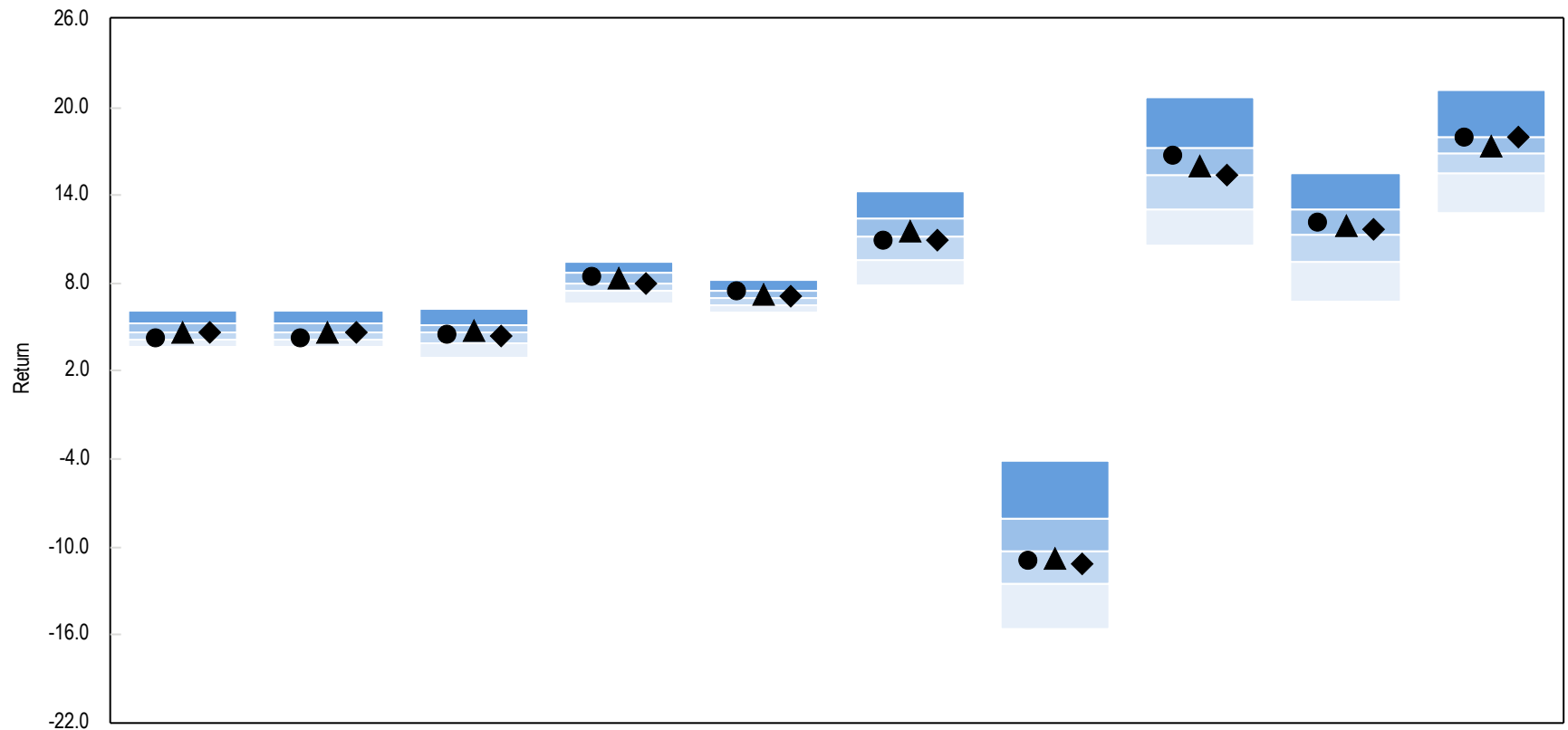
NDSIB - Public Employees Retirement System
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	38	38	82	82
Down Market Periods	3	3	15	15	22	22	38	38
Maximum Return	5.0	5.3	5.0	5.3	6.9	7.7	6.9	7.7
Minimum Return	-2.4	-2.3	-5.1	-5.4	-8.2	-8.5	-8.2	-8.5
Return	16.4	17.5	4.5	4.4	8.4	8.0	7.5	7.1
Cumulative Return	16.4	17.5	14.2	13.8	50.0	47.2	105.9	98.3
Active Return	-1.0	0.0	0.1	0.0	0.3	0.0	0.3	0.0
Risk Summary Statistics								
Beta	0.9	1.0	0.9	1.0	0.9	1.0	1.0	1.0
Upside Risk	2.2	2.3	7.0	7.3	7.9	8.1	6.8	7.0
Downside Risk	3.0	3.2	6.0	6.5	6.3	6.7	5.3	5.6
Risk/Return Summary Statistics								
Standard Deviation	6.7	7.1	9.1	9.7	9.8	10.3	8.3	8.7
Alpha	0.0	0.0	0.4	0.0	0.8	0.0	0.7	0.0
Sharpe Ratio	1.5	1.6	0.2	0.1	0.6	0.6	0.7	0.6
Active Return/Risk	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tracking Error	0.9	0.0	1.1	0.0	1.1	0.0	0.9	0.0
Information Ratio	-1.1	-	0.1	-	0.3	-	0.4	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	33.3	100.0	52.8	100.0	60.0	100.0	57.5	100.0

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

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

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

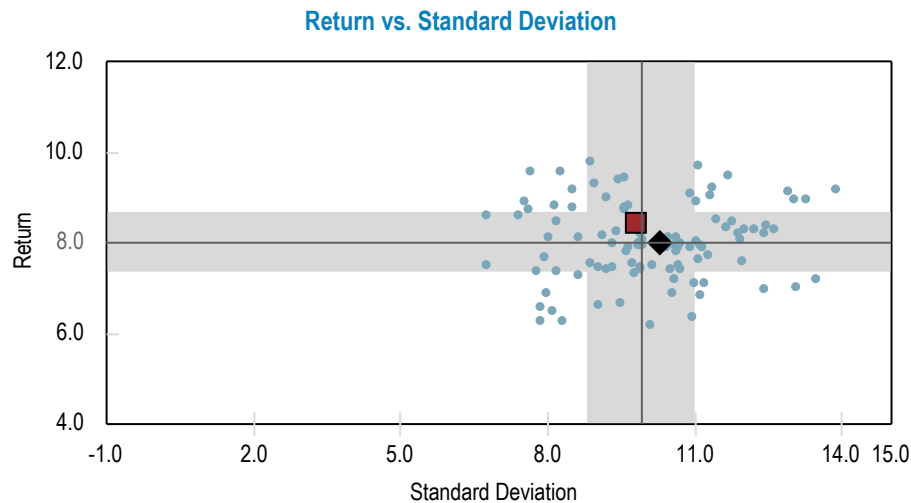


	3 Mo	Fiscal YTD	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
● Total Fund	4.3 (71)	4.3 (71)	4.5 (56)	8.4 (32)	7.5 (25)	11.0 (53)	-10.9 (59)	16.7 (33)	12.2 (38)	18.0 (26)
▲ Policy Index	4.6 (55)	4.6 (55)	4.8 (43)	8.4 (32)	7.2 (38)	11.6 (39)	-10.7 (58)	16.1 (44)	12.0 (44)	17.4 (36)
◆ Corridor Target Index	4.7 (50)	4.7 (50)	4.4 (58)	8.0 (49)	7.1 (46)	10.9 (55)	-11.2 (62)	15.4 (50)	11.7 (46)	18.0 (26)
5th Percentile	6.1	6.1	6.2	9.5	8.2	14.3	-4.1	20.7	15.5	21.2
1st Quartile	5.3	5.3	5.2	8.8	7.4	12.4	-8.0	17.2	13.1	18.0
Median	4.7	4.7	4.6	8.0	7.0	11.2	-10.3	15.3	11.3	16.8
3rd Quartile	4.1	4.1	4.0	7.5	6.5	9.6	-12.5	13.1	9.4	15.5
95th Percentile	3.7	3.7	2.9	6.6	6.0	7.8	-15.6	10.6	6.8	12.8
Population	104	104	101	100	96	177	177	207	217	193

Total Fund Risk Analysis 5 Years (Net of Fees)

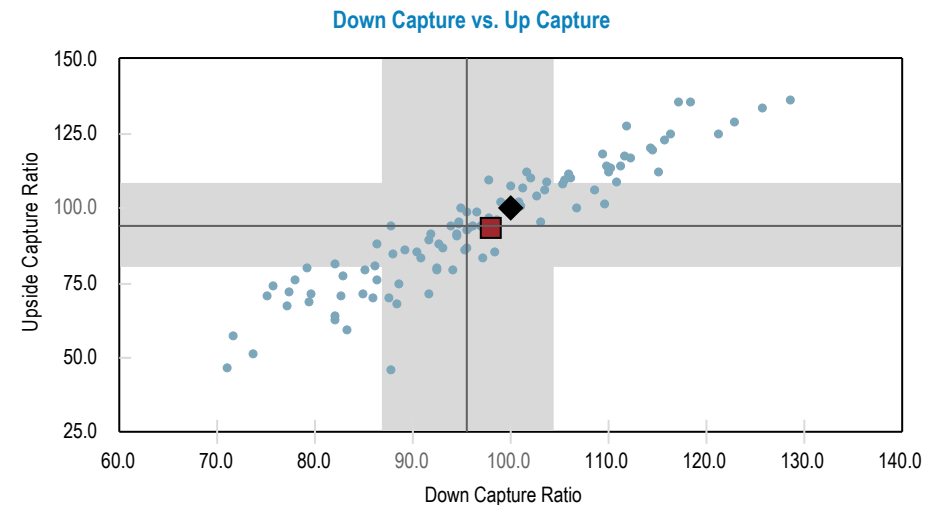
NDSIB - Public Employees Retirement System
Period Ending: September 30, 2024

	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	8.44	9.78	0.75	0.95	0.99	97.93	93.38	0.30	1.08	0.64
Corridor Target Index	8.04	10.26	0.00	1.00	1.00	100.00	100.00	-	0.00	0.58



InvMetrics Public DB > \$1B

	Return	Standard Deviation
Total Fund	8.44	9.78
Corridor Target Index	8.04	10.26
Median	8.03	9.89
Population	100	100

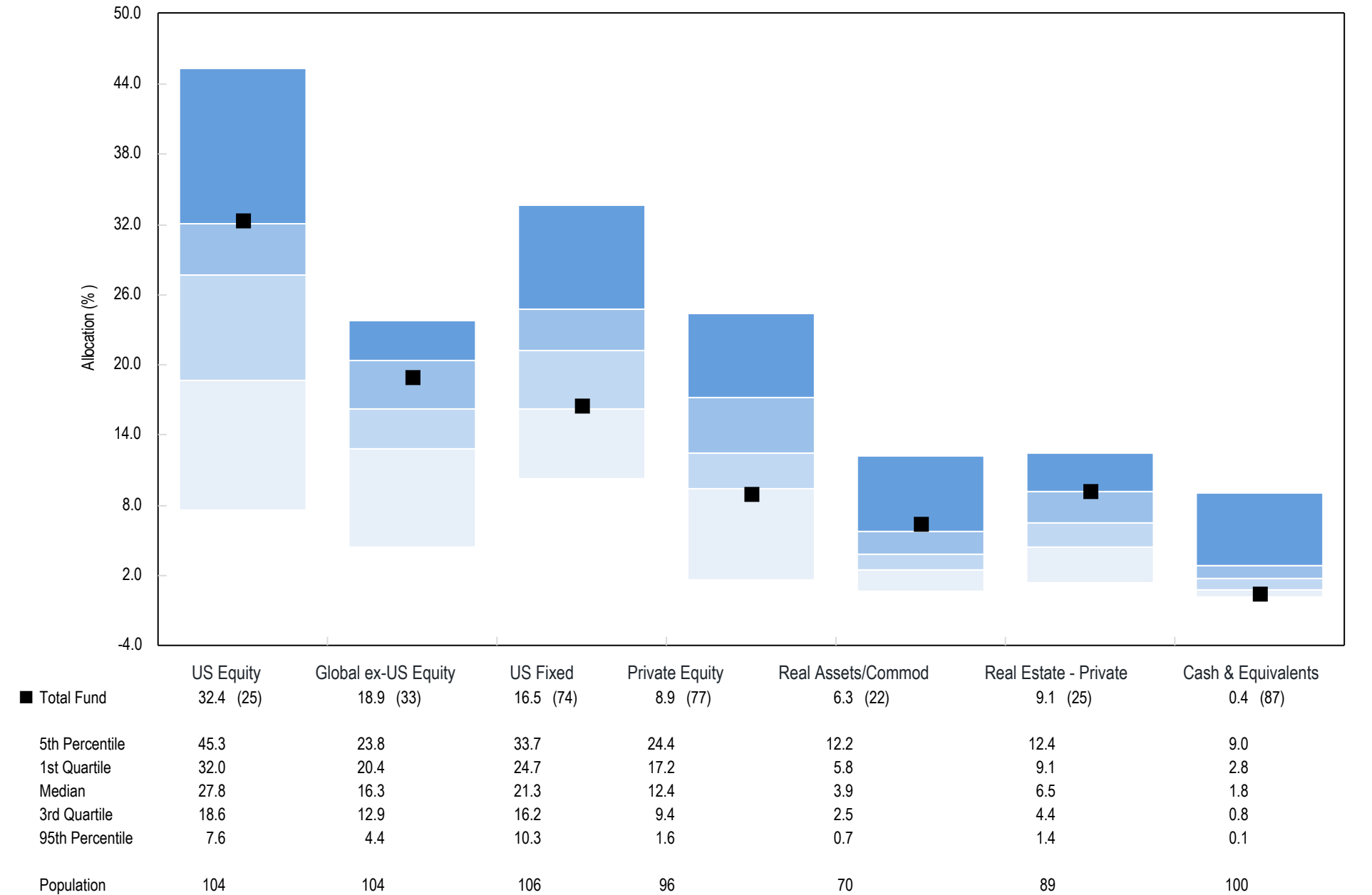


InvMetrics Public DB > \$1B

	Down Capture	Up Capture
Total Fund	93.38	97.93
Corridor Target Index	100.00	100.00
Median	94.41	95.59
Population	100	100

Total Fund
Peer Universe Comparison: Asset Allocation

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



Residual Holdings included in US Equity for styling purposes. InvMetrics Public DB > \$1B is the Plan Sponsor Peer Group.

Total Fund
Asset Allocation & Performance (Net of Fees)

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

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	4,509,670,778	100.0	4.3	9.6	4.3	16.4	4.5	8.4	7.6	7.5
Policy Index			4.6	10.1	4.6	17.7	4.8	8.4	7.7	7.2
Corridor Target Index			4.7	10.2	4.7	17.5	4.4	8.0	7.3	7.1
Total Equity	2,717,190,627	60.3	5.2	15.2	5.2	25.5	7.0	12.2	10.1	9.6
Total Equity Blend			5.9	-	5.9	-	-	-	-	-
Public Equity	2,313,611,550	51.3	6.1	17.0	6.1	29.7	7.3	12.1	-	-
MSCI AC World IMI Index (Net)			6.8	17.8	6.8	31.0	7.4	11.9	-	-
Domestic Equity	1,460,252,228	32.4	6.1	19.3	6.1	33.1	9.8	15.3	13.9	13.0
Russell 3000 Index			6.2	20.6	6.2	35.2	10.3	15.3	13.7	12.8
Domestic All Cap Equities	40,208,427	0.9	-	-	-	-	-	-	-	-
Russell 3000 Index			-	-	-	-	-	-	-	-
Large Cap	1,347,586,755	29.9	6.1	22.4	6.1	36.6	11.4	17.2	15.5	14.1
Russell 1000 Index			6.1	21.2	6.1	35.7	10.8	15.6	14.2	13.1
Small Cap	72,457,047	1.6	7.7	4.4	7.7	16.2	2.2	7.3	7.4	8.2
Russell 2000 Index			9.3	11.2	9.3	26.8	1.8	9.4	7.4	8.8
International Equity	853,333,312	18.9	5.9	13.5	5.9	24.4	2.8	8.5	6.1	6.5
MSCI AC World ex USA IMI (Net)			8.2	13.9	8.2	25.1	3.7	7.7	5.4	5.3
International All Cap	364,554,452	8.1	3.4	13.5	3.4	24.4	-	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	13.9	8.2	25.1	-	-	-	-
Developed International Equity	344,020,719	7.6	8.0	13.4	8.0	24.9	3.9	9.1	6.6	6.8
MSCI World ex U.S. (Net)			7.8	13.1	7.8	25.0	5.6	8.4	6.2	5.7
Developed International Large Cap	296,387,945	6.6	7.8	13.4	7.8	25.2	-	-	-	-
MSCI World ex U.S. (Net)			7.8	13.1	7.8	25.0	5.6	8.4	6.2	5.7
Developed International Small Cap	47,632,775	1.1	9.3	11.7	9.3	22.4	-	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	11.5	10.4	23.4	0.0	6.9	4.5	6.0
Emerging Markets	144,758,141	3.2	7.3	15.3	7.3	24.3	-2.6	5.6	3.6	4.6
MSCI Emerging Markets (Net)			8.7	16.9	8.7	26.1	0.4	5.7	3.7	4.0
Private Equity	403,579,077	8.9	0.8	5.8	0.8	5.8	6.4	14.3	12.5	7.9
Private Equity Benchmark			1.0	-	1.0	-	-	-	-	-
Total Income	1,073,886,332	23.8	4.5	5.9	4.5	12.5	1.0	2.7	3.6	3.8
Total Income Blend			5.2	-	5.2	-	-	-	-	-
Investment Grade	744,102,671	16.5	5.2	5.2	5.2	12.9	-1.0	1.0	2.3	2.9
Blmbg. U.S. Aggregate Index			5.2	4.4	5.2	11.6	-1.4	0.3	1.5	1.8
Below Investment Grade	329,783,660	7.3	3.0	7.7	3.0	11.6	6.1	6.8	6.3	6.3
Blmbg. U.S. High Yield - 2% Issuer Cap			5.3	8.0	5.3	15.7	3.1	4.7	4.7	5.0

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value of \$441,308 included in Total Fund value. Transition Account value of \$26,010 included in Total Equity & Total Fund values.

Total Fund
Asset Allocation & Performance (Net of Fees)

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

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Assets	698,425,133	15.5	0.3	-4.1	0.3	-6.0	1.0	3.4	4.0	5.1
<i>Total Real Assets Blend</i>			-0.6	-	-0.6	-	-	-	-	-
Global Real Estate	412,160,777	9.1	-0.6	-10.3	-0.6	-13.4	-2.9	0.9	2.4	5.1
<i>NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag</i>			-0.8	-8.4	-0.8	-10.3	1.1	2.6	3.8	5.8
Timber	35,075,339	0.8	0.0	2.2	0.0	3.0	3.2	4.1	3.1	2.0
<i>NCREIF Timberland Index (Smoothed Monthly Return) 1Q Lag</i>			1.7	8.4	1.7	9.8	11.0	7.2	6.0	5.9
Infrastructure	251,189,017	5.6	2.0	6.8	2.0	7.3	8.5	8.6	8.0	6.5
<i>NFI-ODCE Equal-Weighted +1% (Smoothed Monthly Return) 1Q Lag</i>			-0.6	-7.7	-0.6	-9.4	2.1	3.6	4.8	6.9
Cash & Equivalents	19,727,379	0.4	1.3	4.1	1.3	5.5	3.6	2.4	2.3	1.7
<i>90 Day U.S. Treasury Bill</i>			1.4	4.0	1.4	5.5	3.5	2.3	2.2	1.6

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value of \$441,308 included in Total Fund value. Transition Account value of \$26,010 included in Total Equity & Total Fund values.

Teachers' Fund For Retirement

Investment Performance Review
Period Ending: September 30, 2024



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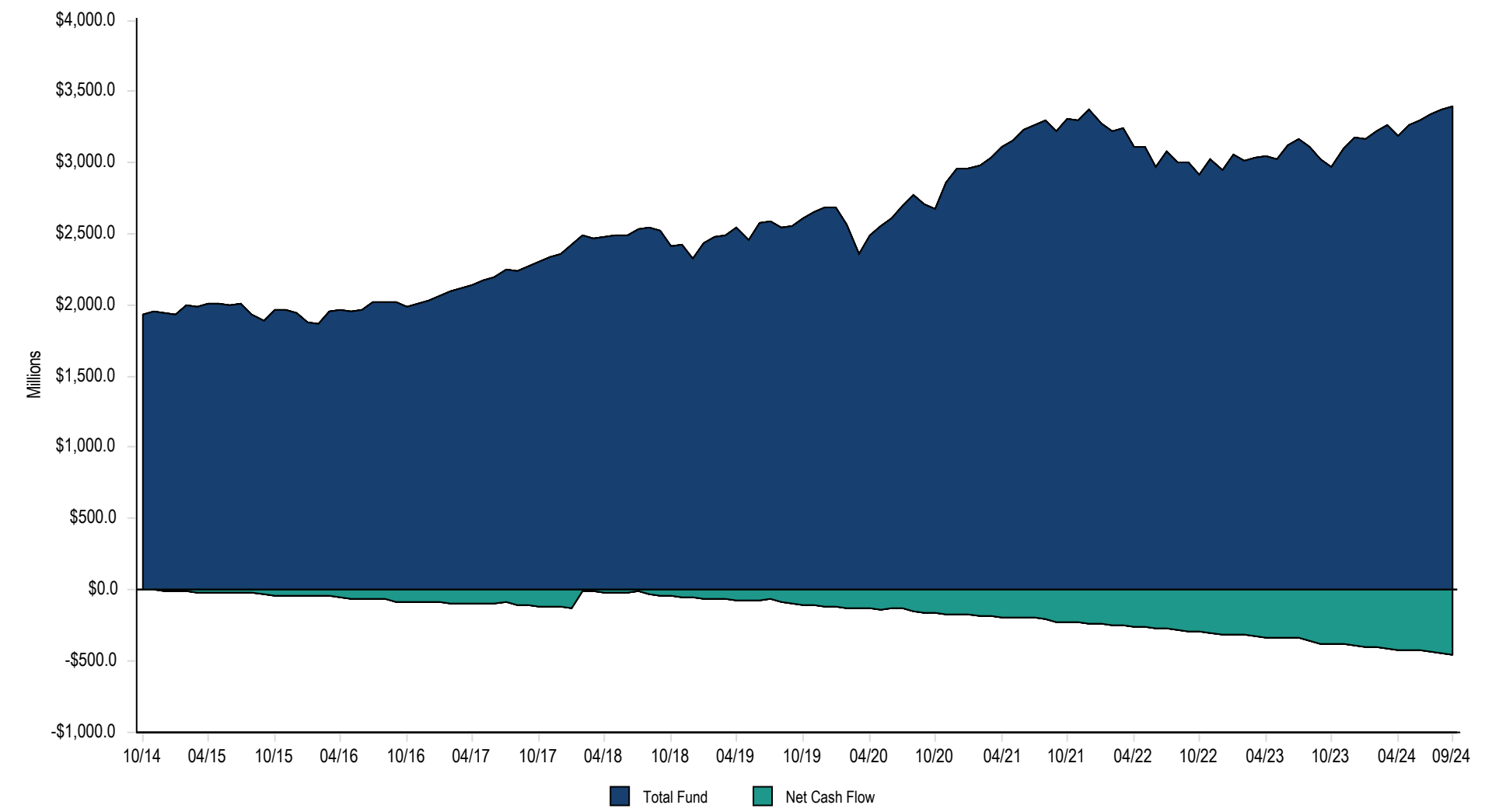
SEATTLE 206.622.3700

CHICAGO 312.815.5228

PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

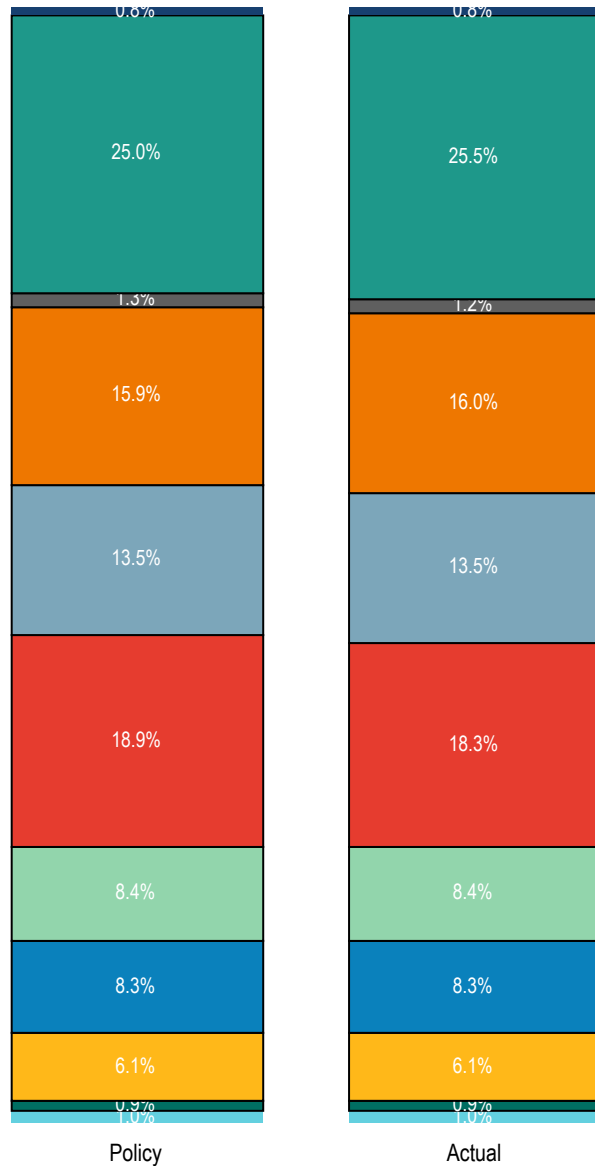
SAN FRANCISCO 415.362.3484



Net Cash Flow is Cumulative.

Total Fund Asset Allocation vs Policy

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

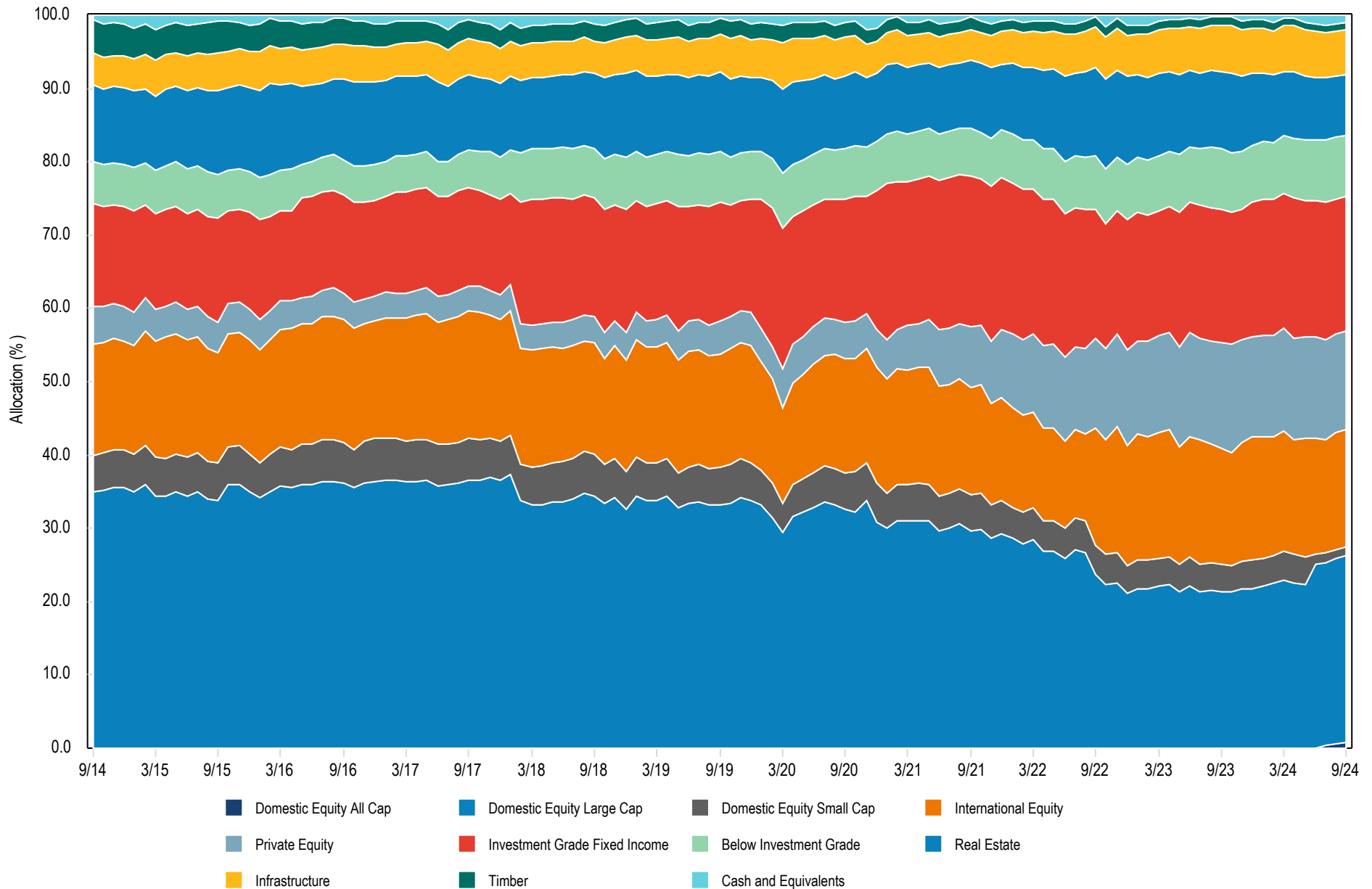


	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Domestic Equity All Cap	25,494,408	0.8	0.8	552
Domestic Equity Large Cap	865,086,682	25.5	25.0	17,780,904
Domestic Equity Small Cap	42,177,050	1.2	1.3	-459,811
International Equity	542,568,610	16.0	15.9	3,124,054
Private Equity	457,819,827	13.5	13.5	16,713
Investment Grade Fixed Income	622,378,616	18.3	18.9	-20,229,492
Below Investment Grade	284,179,373	8.4	8.4	-1,412,915
Real Estate	282,723,903	8.3	8.3	-16,875
Infrastructure	205,774,089	6.1	6.1	-9,870
Timber	31,309,252	0.9	0.9	10,537
Cash and Equivalents	35,142,749	1.0	1.0	1,196,204
Total	3,394,654,560	100.0	100.0	

Residual Holdings value of \$4,013,871 & Transition Account value of \$236,572 included in Domestic Equity Large Cap value for styling purposes.

Total Fund Asset Allocation History

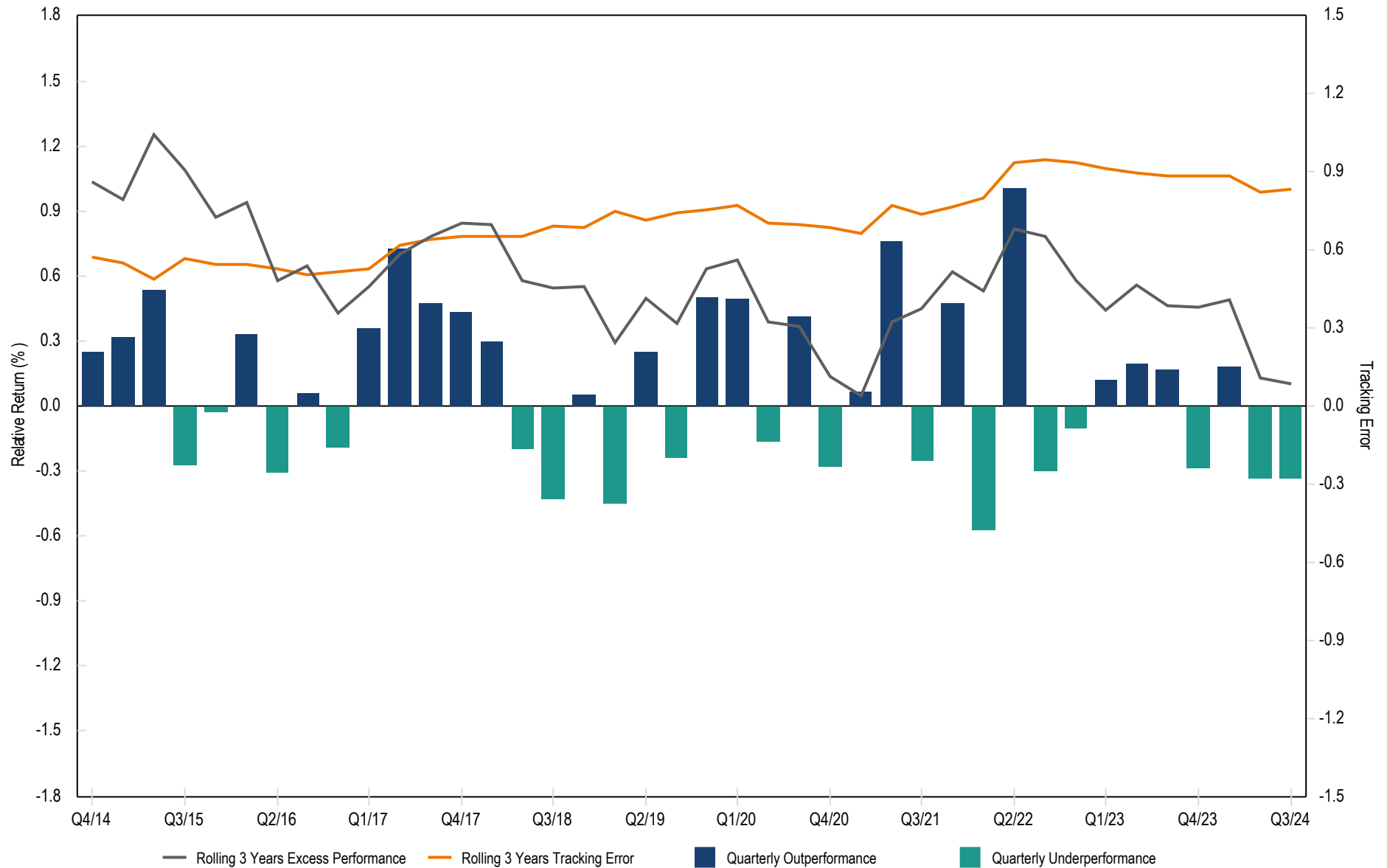
NDSIB - Teachers Fund For Retirement
Period Ending: September 30, 2024



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

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

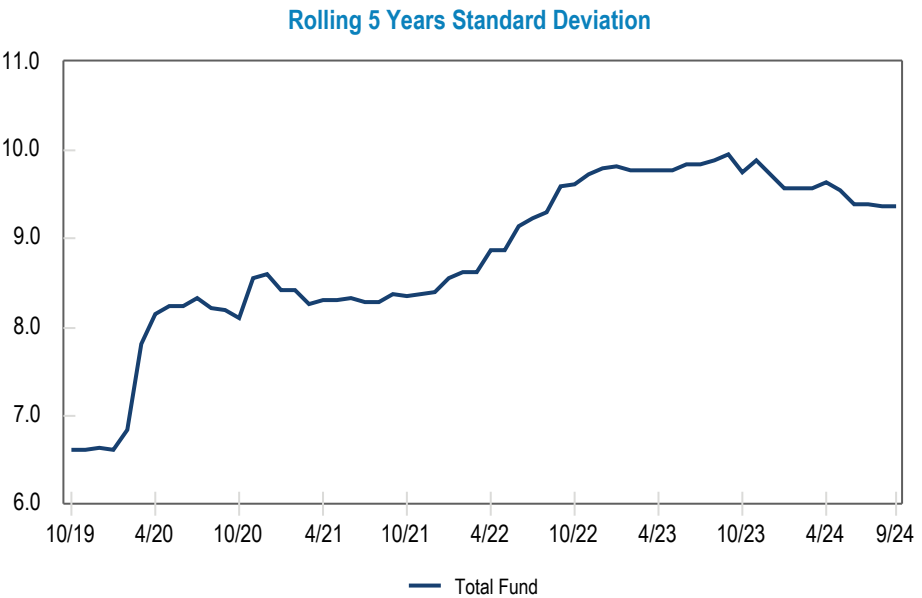
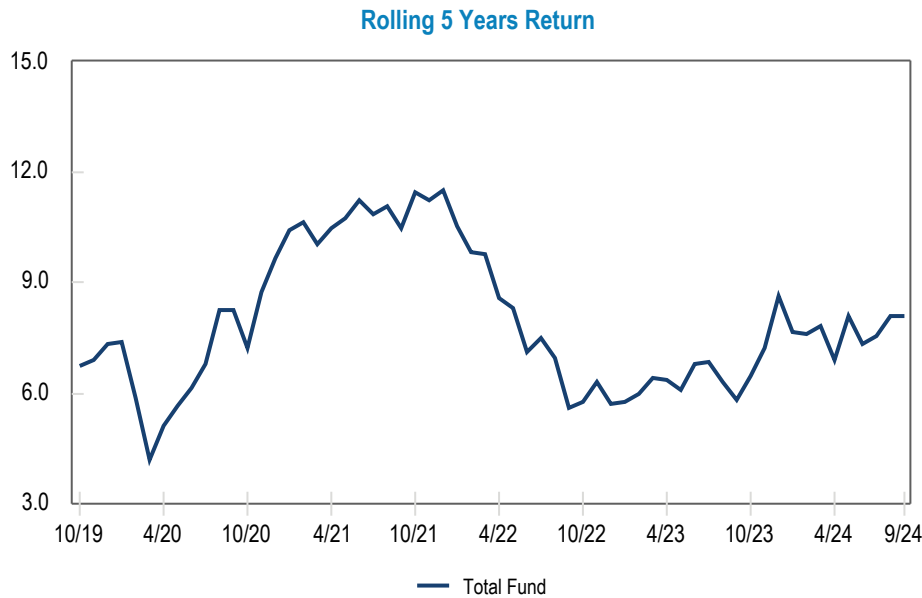
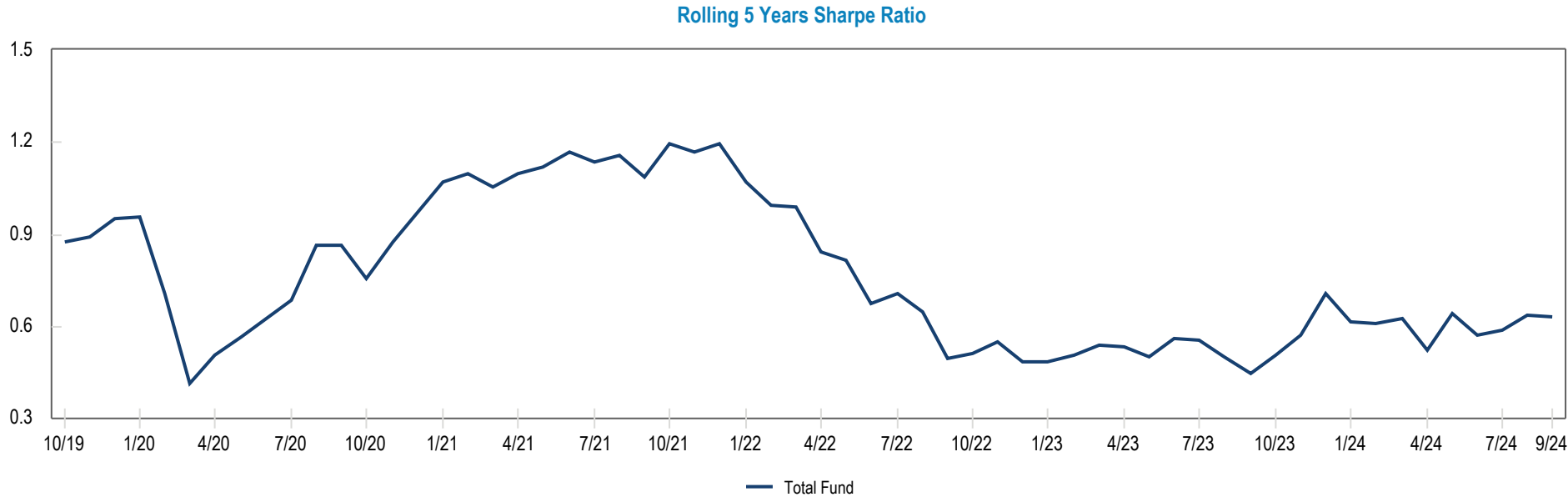
Rolling Annualized Excess Performance and Tracking Error



Analytic is using the Corridor Target Index

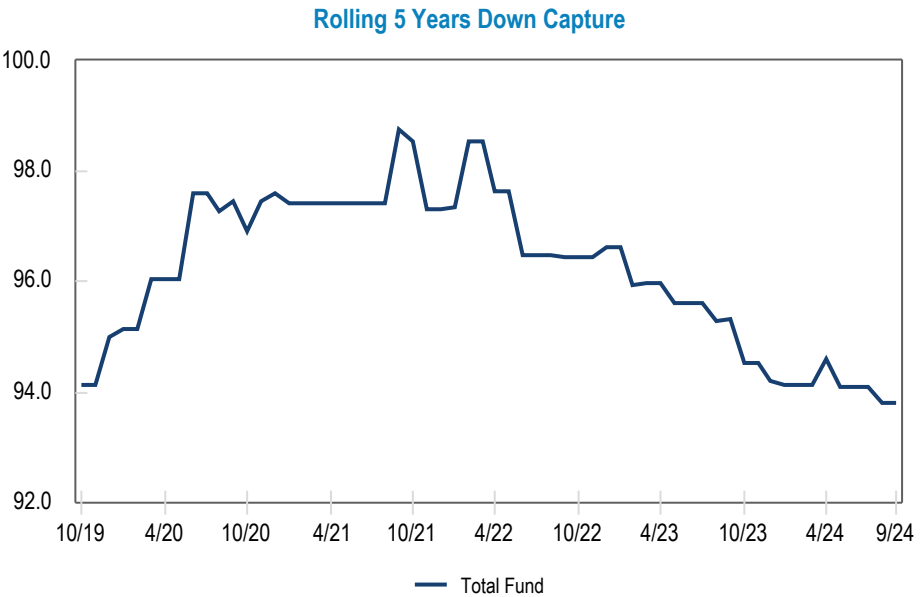
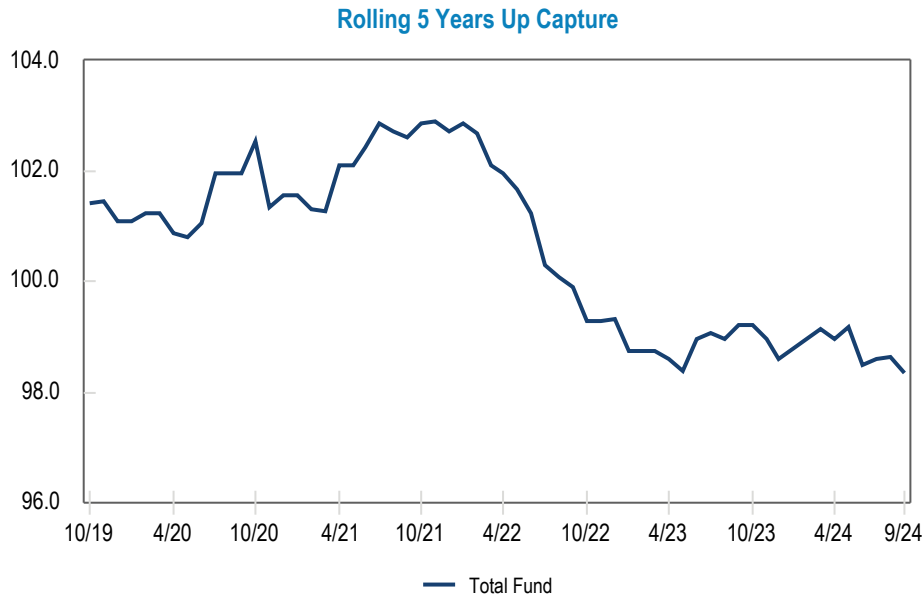
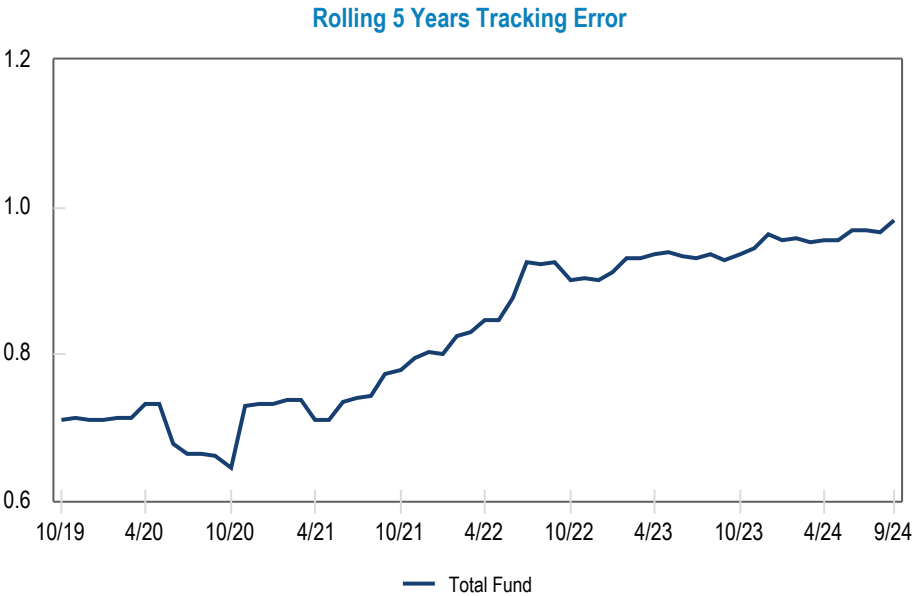
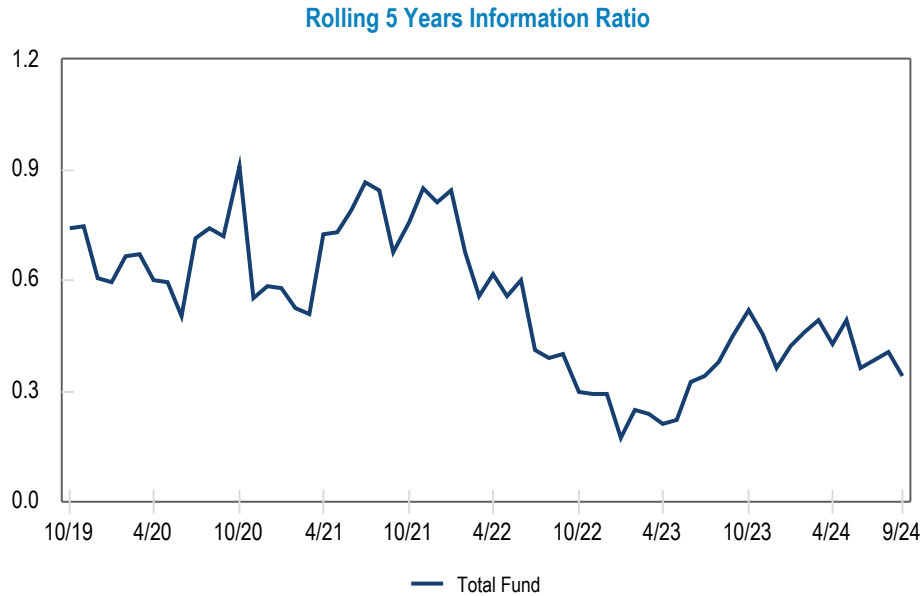
Total Fund
Risk Analysis - 5 Years (Net of Fees)

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



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

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

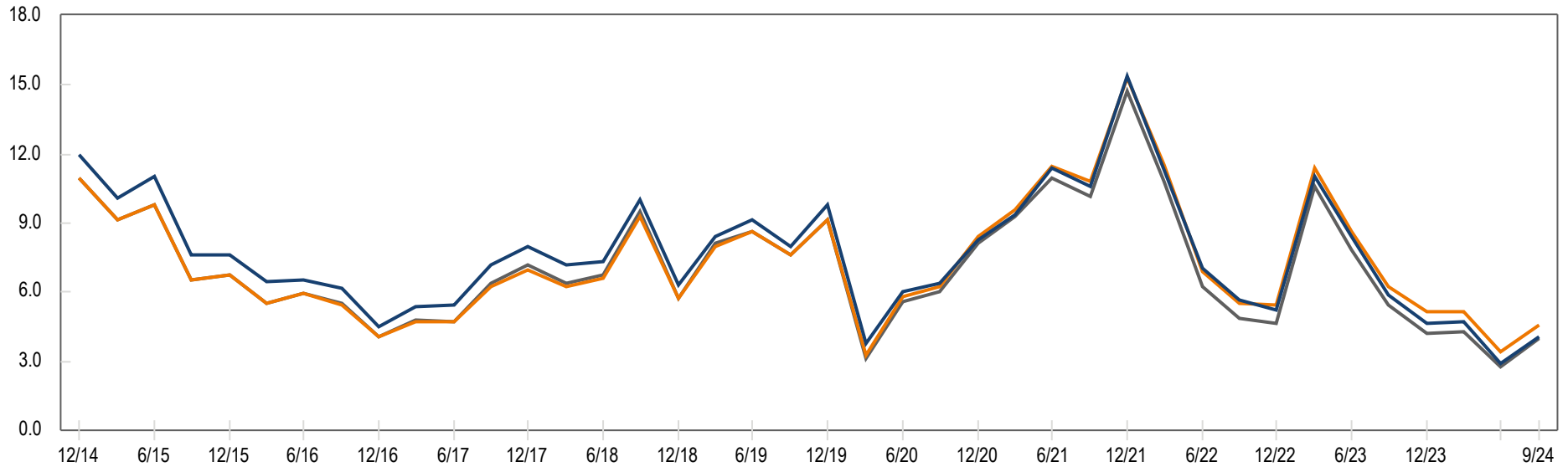


Analytic is using the Corridor Target Index

Total Fund Rolling Risk Statistics

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

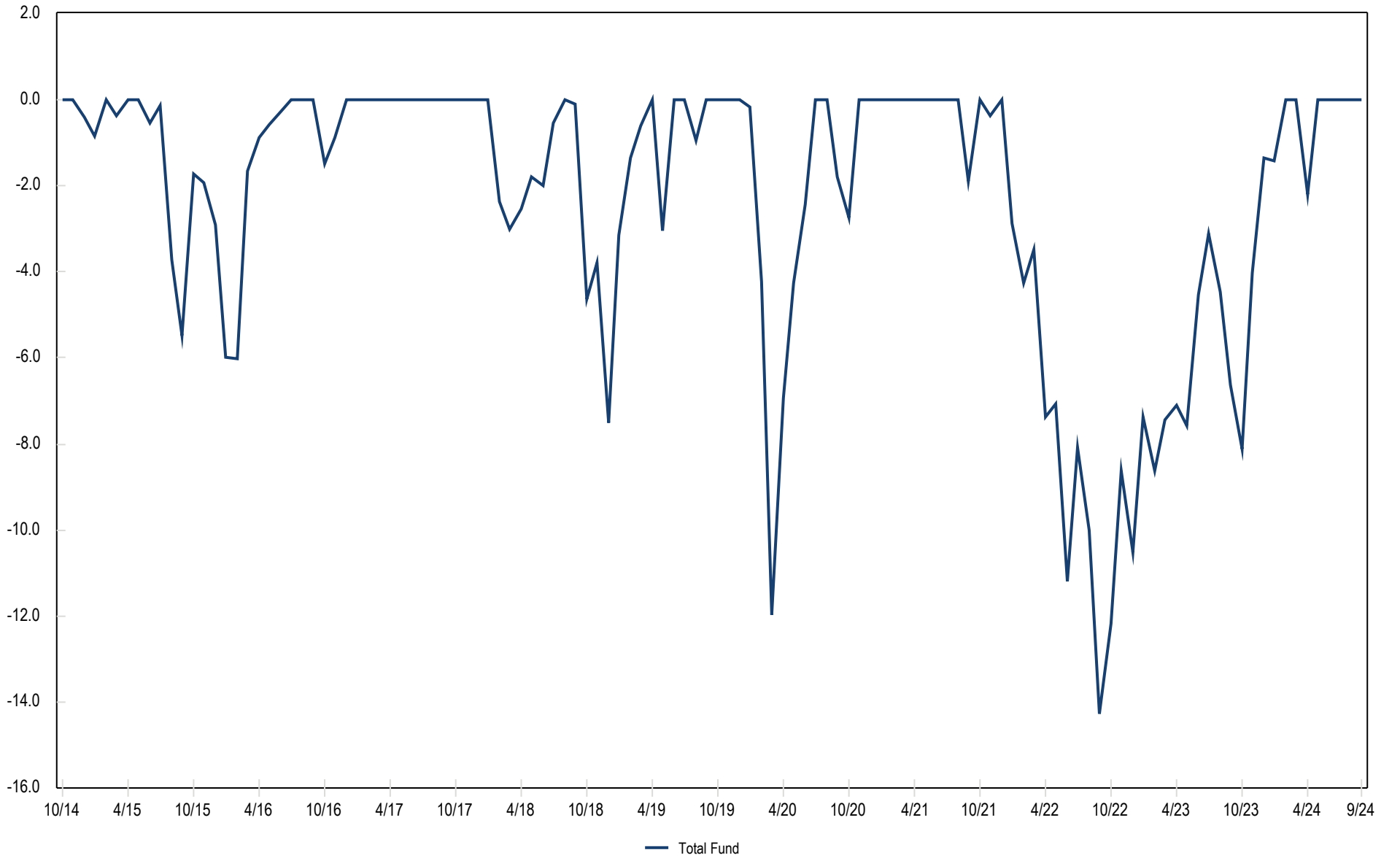
Rolling 3 Years Return



	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
Return	7.6	6.1	7.2	10.0	8.0	6.4	10.6	5.6	5.9	4.1
Standard Deviation	5.5	6.2	5.7	5.2	6.6	9.6	10.3	10.7	9.0	8.4
vs. Policy Index										
Alpha	1.0	0.7	1.0	0.5	0.0	0.0	-0.2	0.3	0.1	-0.1
Beta	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	0.9	0.9
Consistency	66.7	63.9	66.7	55.6	47.2	44.4	47.2	52.8	47.2	44.4
Tracking Error	0.7	0.7	0.7	0.7	0.7	0.8	0.9	1.2	1.2	1.2
vs. Corridor Target Index										
Alpha	1.2	0.8	1.0	0.6	0.3	0.4	0.6	0.9	0.7	0.3
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
Consistency	63.9	58.3	58.3	55.6	50.0	55.6	58.3	66.7	55.6	52.8
Tracking Error	0.7	0.7	0.7	0.7	0.6	0.7	0.8	1.1	1.1	1.0

Total Fund
Historical Drawdowns (Net of Fees)

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



	Max Drawdown	Recovery Periods	# of Drawdowns in Period
Total Fund	-14.3	26 Months	14

Total Fund
Risk Statistics (Net of Fees)

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

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	38	38	82	82
Down Market Periods	3	3	15	15	22	22	38	38
Maximum Return	4.5	5.2	4.5	5.2	6.9	7.5	6.9	7.5
Minimum Return	-2.2	-2.1	-4.7	-5.1	-8.1	-8.0	-8.1	-8.0
Return	14.9	16.6	4.1	4.6	8.1	8.4	7.3	7.2
Cumulative Return	14.9	16.6	12.8	14.5	47.6	49.6	102.3	100.9
Active Return	-1.6	0.0	-0.6	0.0	-0.3	0.0	0.1	0.0
Risk Summary Statistics								
Beta	0.9	1.0	0.9	1.0	0.9	1.0	1.0	1.0
Upside Risk	2.0	2.2	6.4	7.1	7.5	8.0	6.6	6.8
Downside Risk	2.7	3.0	5.6	6.1	6.1	6.3	5.2	5.3
Risk/Return Summary Statistics								
Standard Deviation	6.1	6.8	8.4	9.2	9.4	9.9	8.1	8.3
Alpha	0.3	0.0	-0.1	0.0	0.2	0.0	0.3	0.0
Sharpe Ratio	1.5	1.5	0.1	0.2	0.6	0.6	0.7	0.7
Active Return/Risk	-0.3	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Tracking Error	1.1	0.0	1.2	0.0	1.2	0.0	1.0	0.0
Information Ratio	-1.4	-	-0.5	-	-0.3	-	0.1	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	33.3	100.0	44.4	100.0	48.3	100.0	50.8	100.0

Total Fund
Risk Statistics (Net of Fees)

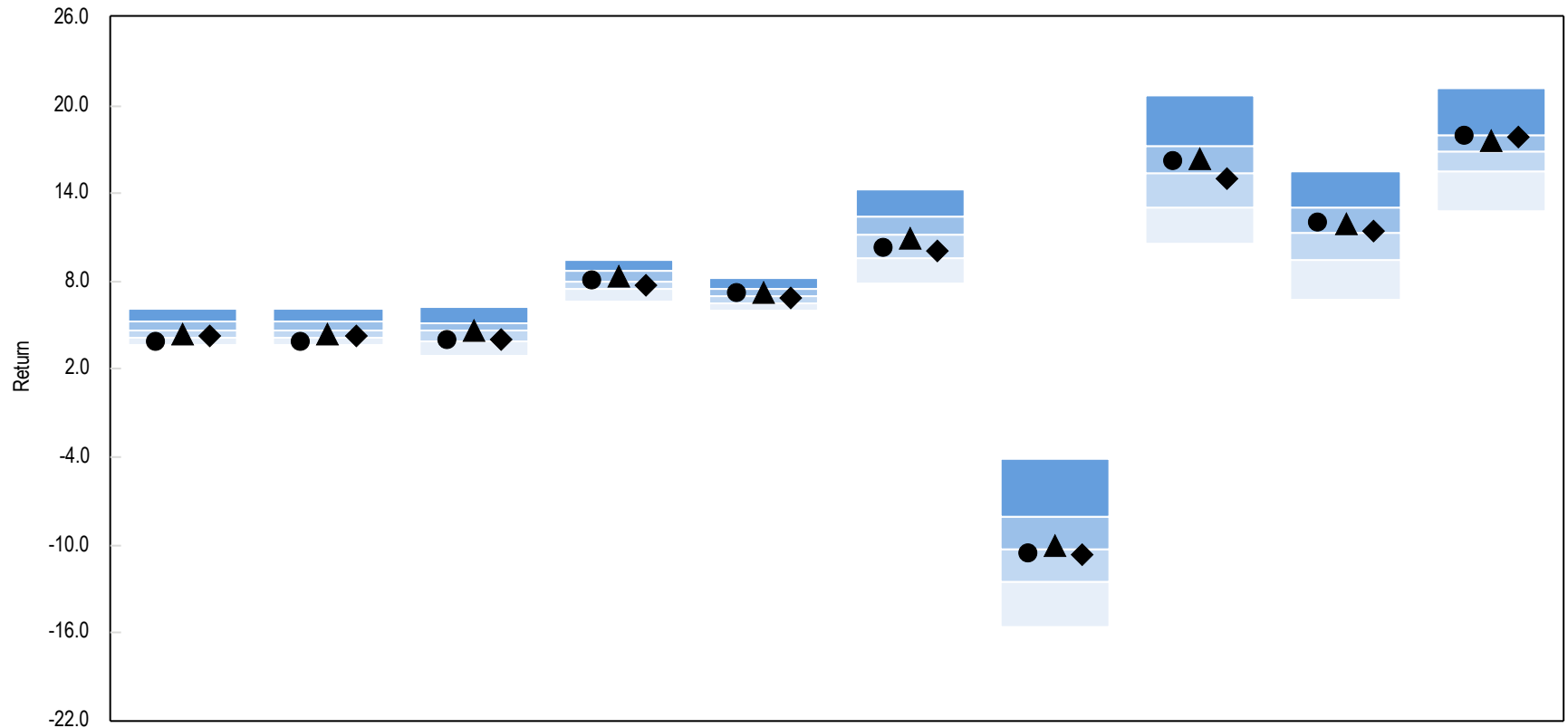
NDSIB - Teachers Fund For Retirement
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	38	38	82	82
Down Market Periods	3	3	15	15	22	22	38	38
Maximum Return	4.5	4.7	4.5	4.7	6.9	7.6	6.9	7.6
Minimum Return	-2.2	-2.0	-4.7	-5.1	-8.1	-8.3	-8.1	-8.3
Return	14.9	15.8	4.1	4.0	8.1	7.7	7.3	6.9
Cumulative Return	14.9	15.8	12.8	12.4	47.6	44.8	102.3	94.7
Active Return	-0.8	0.0	0.1	0.0	0.3	0.0	0.4	0.0
Risk Summary Statistics								
Beta	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0
Upside Risk	2.0	2.1	6.4	6.7	7.5	7.8	6.6	6.7
Downside Risk	2.7	2.8	5.6	6.0	6.1	6.4	5.2	5.4
Risk/Return Summary Statistics								
Standard Deviation	6.1	6.4	8.4	8.9	9.4	9.8	8.1	8.4
Alpha	0.0	0.0	0.3	0.0	0.7	0.0	0.6	0.0
Sharpe Ratio	1.5	1.5	0.1	0.1	0.6	0.6	0.7	0.6
Active Return/Risk	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tracking Error	0.8	0.0	1.0	0.0	1.0	0.0	0.9	0.0
Information Ratio	-1.0	-	0.1	-	0.3	-	0.4	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	50.0	100.0	52.8	100.0	60.0	100.0	55.8	100.0

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

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

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

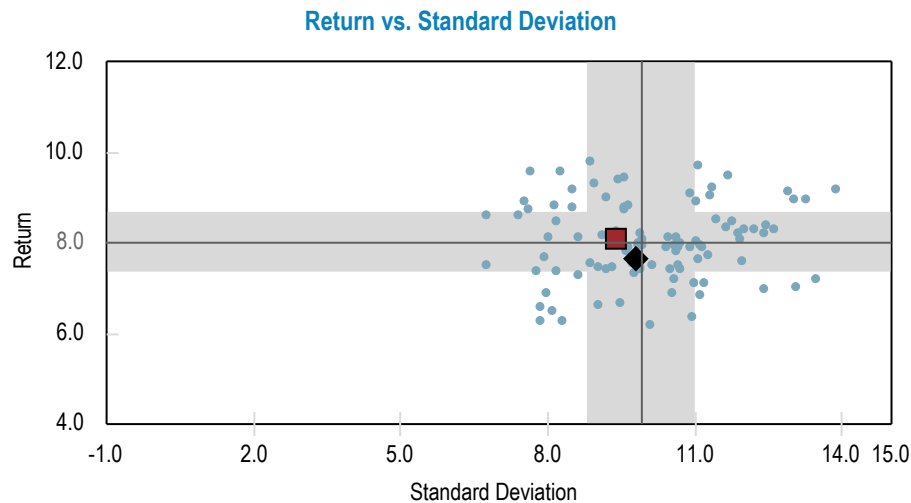


	3 Mo	Fiscal YTD	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
● Total Fund	4.0 (82)	4.0 (82)	4.1 (70)	8.1 (47)	7.3 (33)	10.3 (68)	-10.5 (54)	16.2 (41)	12.1 (40)	18.0 (26)
▲ Policy Index	4.4 (64)	4.4 (64)	4.6 (49)	8.4 (32)	7.2 (39)	10.9 (55)	-10.0 (46)	16.4 (39)	12.0 (42)	17.6 (32)
◆ Corridor Target Index	4.3 (70)	4.3 (70)	4.0 (75)	7.7 (65)	6.9 (54)	10.0 (72)	-10.6 (56)	15.1 (53)	11.4 (49)	17.9 (27)
5th Percentile	6.1	6.1	6.2	9.5	8.2	14.3	-4.1	20.7	15.5	21.2
1st Quartile	5.3	5.3	5.2	8.8	7.4	12.4	-8.0	17.2	13.1	18.0
Median	4.7	4.7	4.6	8.0	7.0	11.2	-10.3	15.3	11.3	16.8
3rd Quartile	4.1	4.1	4.0	7.5	6.5	9.6	-12.5	13.1	9.4	15.5
95th Percentile	3.7	3.7	2.9	6.6	6.0	7.8	-15.6	10.6	6.8	12.8
Population	104	104	101	100	96	177	177	207	217	193

Total Fund Risk Analysis 5 Years (Net of Fees)

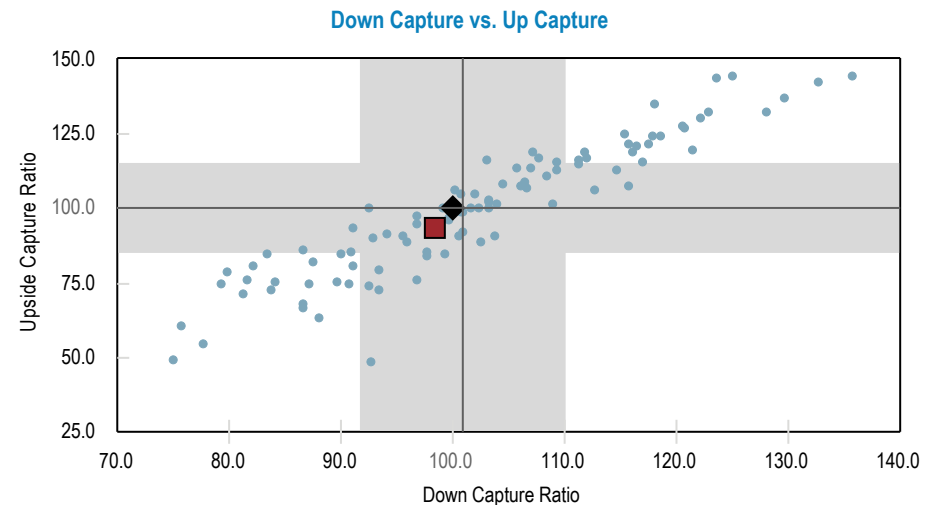
NDSIB - Teachers Fund For Retirement Period Ending: September 30, 2024

	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	8.09	9.37	0.71	0.95	0.99	98.35	93.80	0.34	0.98	0.63
Corridor Target Index	7.69	9.78	0.00	1.00	1.00	100.00	100.00	-	0.00	0.57



InvMetrics Public DB > \$1B

	Return	Standard Deviation
Total Fund	8.09	9.37
Corridor Target Index	7.69	9.78
Median	8.03	9.89
Population	100	100



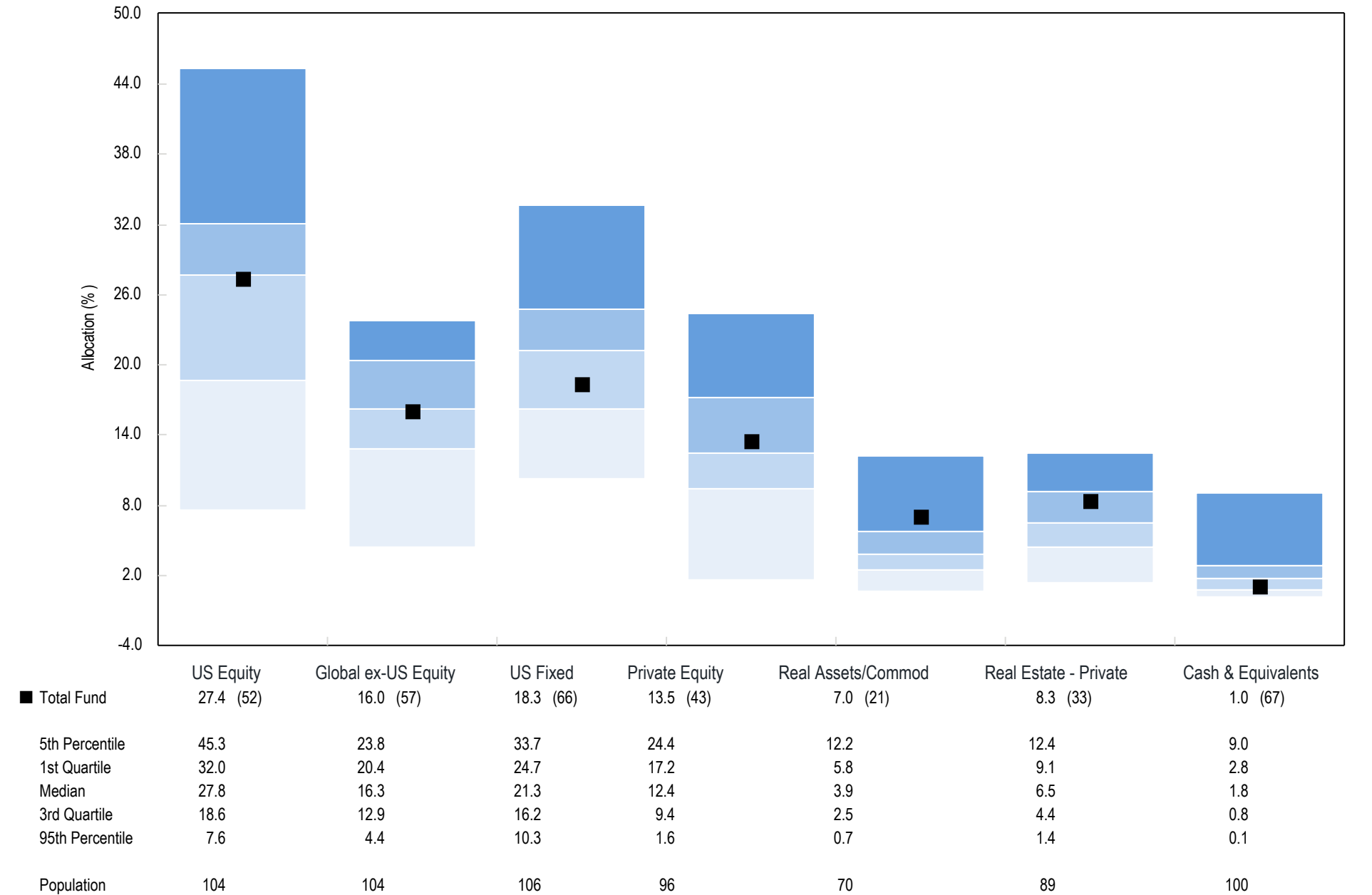
InvMetrics Public DB > \$1B

	Down Capture	Up Capture
Total Fund	93.80	98.35
Corridor Target Index	100.00	100.00
Median	100.22	100.88
Population	100	100

Total Fund

Peer Universe Comparison: Asset Allocation

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



Residual Holdings included in US Equity for styling purposes. InvMetrics Public DB > \$1B is the Plan Sponsor Peer Group.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Teachers Fund For Retirement

Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	3,394,654,560	100.0	4.0	8.8	4.0	14.9	4.1	8.1	7.4	7.3
Policy Index			4.4	9.5	4.4	16.6	4.6	8.4	7.7	7.2
Corridor Target Index			4.3	9.3	4.3	15.8	4.0	7.7	7.1	6.9
Total Equity	1,929,132,706	56.8	4.7	14.0	4.7	23.1	6.6	12.0	10.1	9.5
Total Equity Blend			5.4	-	5.4	-	-	-	-	-
Public Equity	1,471,312,879	43.3	6.0	16.8	6.0	29.4	7.3	12.1	-	-
MSCI AC World IMI Index (Net)			6.8	17.8	6.8	31.0	7.4	11.9	9.8	9.2
Domestic Equity	928,507,697	27.4	6.1	19.3	6.1	33.1	9.8	15.4	13.9	13.0
Russell 3000 Index			6.2	20.6	6.2	35.2	10.3	15.3	13.7	12.8
Domestic All Cap Equities	25,494,408	0.8	-	-	-	-	-	-	-	-
Russell 3000 Index			-	-	-	-	-	-	-	-
Large Cap	860,836,239	25.4	6.1	22.4	6.1	36.6	11.4	17.2	15.5	14.1
Russell 1000 Index			6.1	21.2	6.1	35.7	10.8	15.6	14.2	13.1
Small Cap	42,177,050	1.2	7.7	4.4	7.7	16.3	2.3	7.3	7.4	8.2
Russell 2000 Index			9.3	11.2	9.3	26.8	1.8	9.4	7.4	8.8
International Equity	542,568,610	16.0	5.9	13.1	5.9	23.9	2.7	8.4	6.1	6.4
MSCI AC World ex USA IMI (Net)			8.2	13.9	8.2	25.1	3.7	7.7	5.4	5.3
International All Cap	233,387,063	6.9	3.4	12.4	3.4	23.1	-	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	13.9	8.2	25.1	3.7	7.7	5.4	5.3
Developed International Equity	220,241,407	6.5	8.0	13.3	8.0	25.5	5.5	10.1	7.3	7.3
MSCI World ex U.S. (Net)			7.8	13.1	7.8	25.0	5.6	8.4	6.2	5.7
Developed International Large Cap	189,746,995	5.6	7.8	-	7.8	-	-	-	-	-
MSCI World ex U.S. (Net)			7.8	13.1	7.8	25.0	5.6	8.4	6.2	5.7
Developed International Small Cap	30,494,411	0.9	9.3	-	9.3	-	-	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	11.5	10.4	23.4	0.0	6.9	4.5	6.0
Emerging Markets	88,940,141	2.6	7.3	15.1	7.3	24.1	-2.7	5.5	3.6	4.6
MSCI Emerging Markets (Net)			8.7	16.9	8.7	26.1	0.4	5.7	3.7	4.0
Private Equity	457,819,827	13.5	0.8	5.8	0.8	5.8	6.5	14.3	12.5	7.9
Private Equity Benchmark			1.0	-	1.0	-	-	-	-	-
Total Income	906,557,989	26.7	4.6	5.9	4.6	12.7	0.8	2.5	3.4	3.6
Total Income Blend			5.2	-	5.2	-	-	-	-	-
Investment Grade	622,378,616	18.3	5.2	5.2	5.2	12.9	-1.0	1.0	2.3	2.9
Blmbg. U.S. Aggregate Index			5.2	4.4	5.2	11.6	-1.4	0.3	1.5	1.8
Below Investment Grade	284,179,373	8.4	3.3	7.8	3.3	12.3	5.8	6.6	6.2	6.2
Blmbg. U.S. High Yield - 2% Issuer Cap			5.3	8.0	5.3	15.7	3.1	4.7	4.7	5.0

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value of \$4,013,871 included in Total Fund value. Transition Account value of \$236,572 included in Total Equity & Total Fund values.

Total Fund
Asset Allocation & Performance (Net of Fees)

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

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Assets	519,807,245	15.3	0.4	-3.4	0.4	-5.2	1.4	3.7	4.2	5.1
<i>Total Real Assets Blend</i>			-0.6	-	-0.6	-	-	-	-	-
Global Real Estate	282,723,903	8.3	-0.6	-10.3	-0.6	-13.4	-2.9	0.8	2.4	5.1
<i>NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag</i>			-0.8	-8.4	-0.8	-10.3	1.1	2.6	3.8	5.8
Infrastructure	205,774,089	6.1	2.0	6.8	2.0	7.3	8.5	8.6	8.0	6.5
<i>NFI-ODCE Equal-Weighted +1% (Smoothed Monthly Return) 1Q Lag</i>			-0.6	-7.7	-0.6	-9.4	2.1	3.6	4.8	6.9
Timber	31,309,252	0.9	0.0	2.2	0.0	3.0	3.2	4.1	3.1	2.0
<i>NCREIF Timberland Index (Smoothed Monthly Return) 1Q Lag</i>			1.7	8.4	1.7	9.8	11.0	7.2	6.0	5.9
Cash & Equivalents	35,142,749	1.0	1.3	4.1	1.3	5.5	3.6	2.4	2.3	1.7
<i>90 Day U.S. Treasury Bill</i>			1.4	4.0	1.4	5.5	3.5	2.3	2.2	1.6

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value of \$4,013,871 included in Total Fund value. Transition Account value of \$236,572 included in Total Equity & Total Fund values.

Legacy Fund

Investment Performance Review
Period Ending: September 30, 2024



[VERUSINVESTMENTS.COM](https://verusinvestments.com)

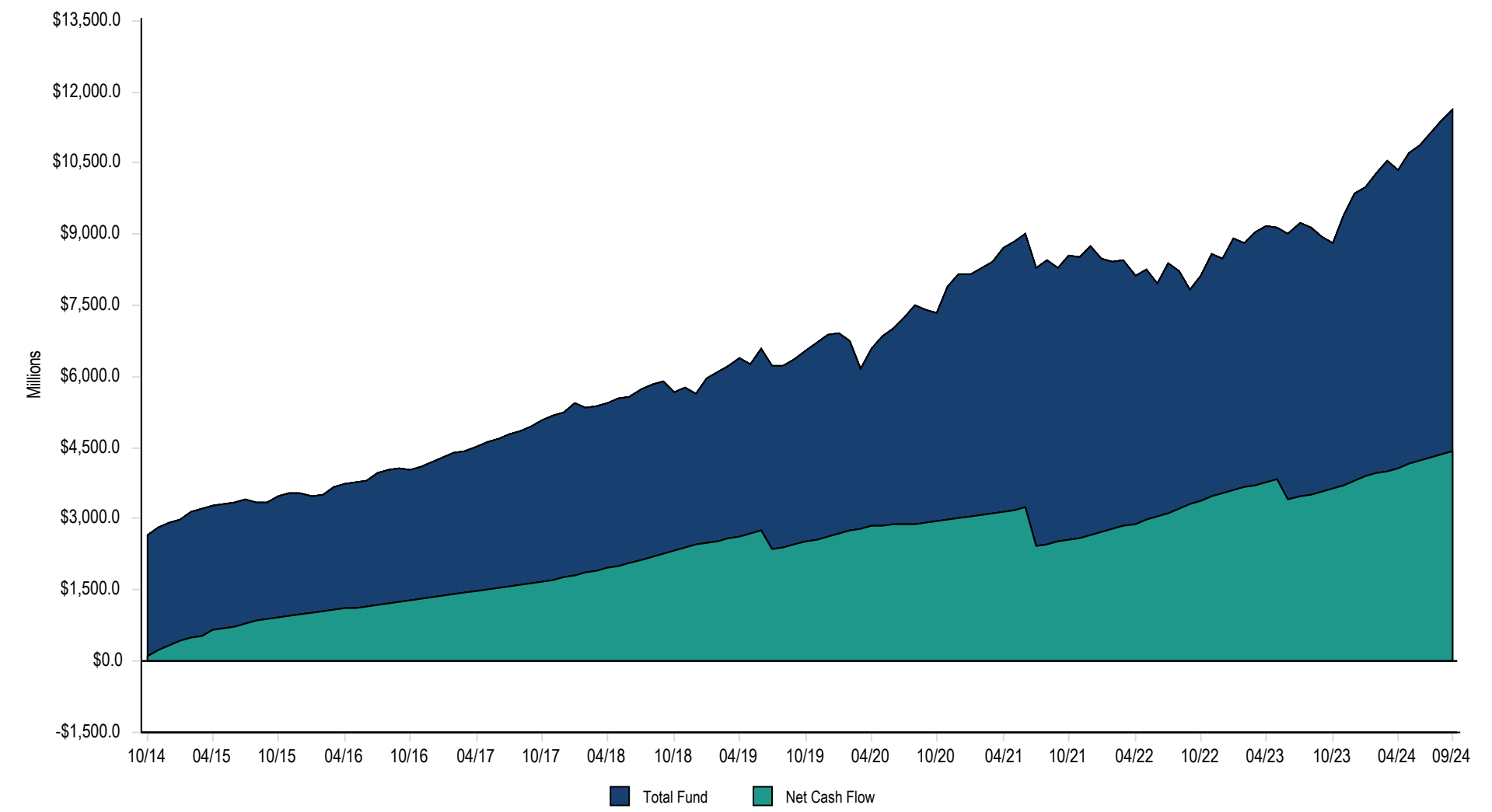
SEATTLE 206.622.3700

CHICAGO 312.815.5228

PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

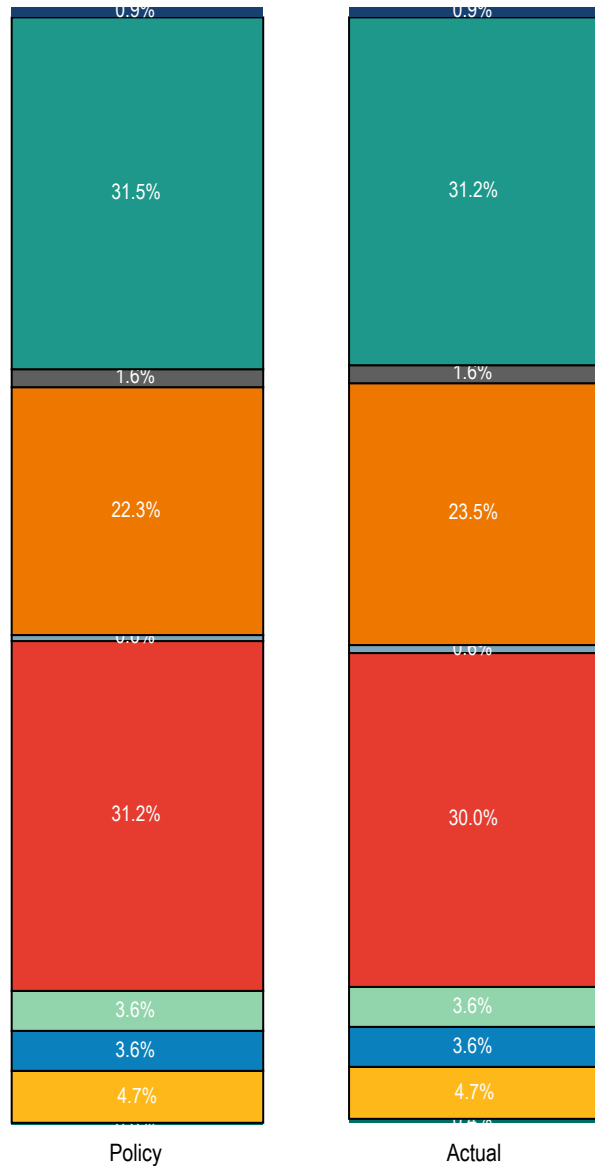


Net Cash Flow is Cumulative.

Total Fund

Asset Allocation vs Policy

NDSIB - Legacy Fund
Period Ending: September 30, 2024

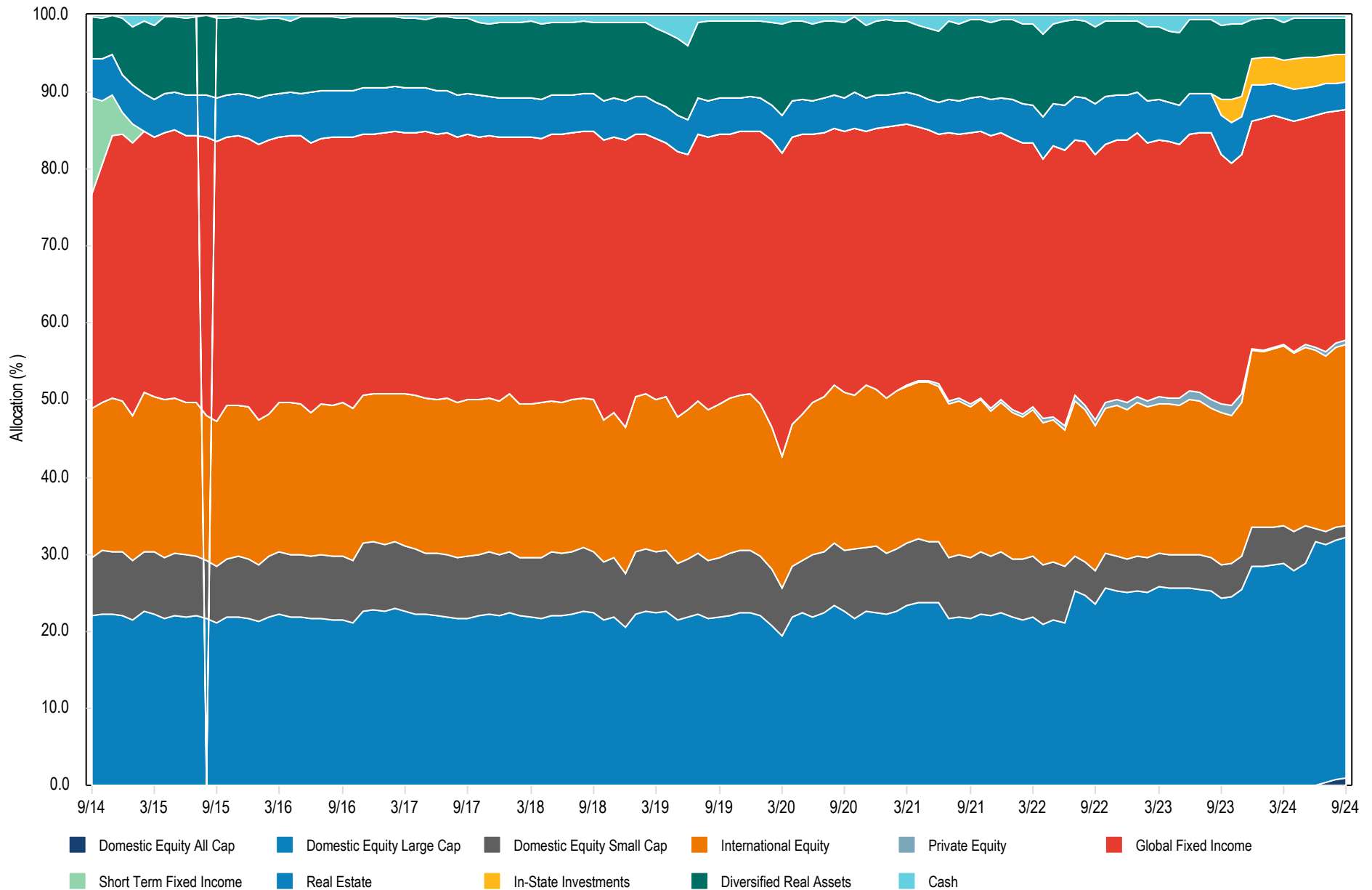


	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Domestic Equity All Cap	106,805,773	0.9	0.9	29,780
Domestic Equity Large Cap	3,626,735,697	31.2	31.5	-35,948,111
Domestic Equity Small Cap	191,039,667	1.6	1.6	6,766,842
International Equity	2,726,945,388	23.5	22.3	135,274,755
Private Equity	64,225,248	0.6	0.6	-26,248
Global Fixed Income	3,482,627,487	30.0	31.2	-147,291,544
Real Estate	415,545,718	3.6	3.6	-55,728
In-State Investments	417,101,459	3.6	3.6	-10,420
Diversified Real Assets	546,473,773	4.7	4.7	45,593
Cash	41,215,081	0.4	0.0	41,215,081
Total	11,618,715,290	100.0	100.0	

Residual Holdings value of \$1,790,527 & Transition Account value of \$47,276 included in Large Cap Domestic Equity value for styling purposes.

Total Fund Asset Allocation History

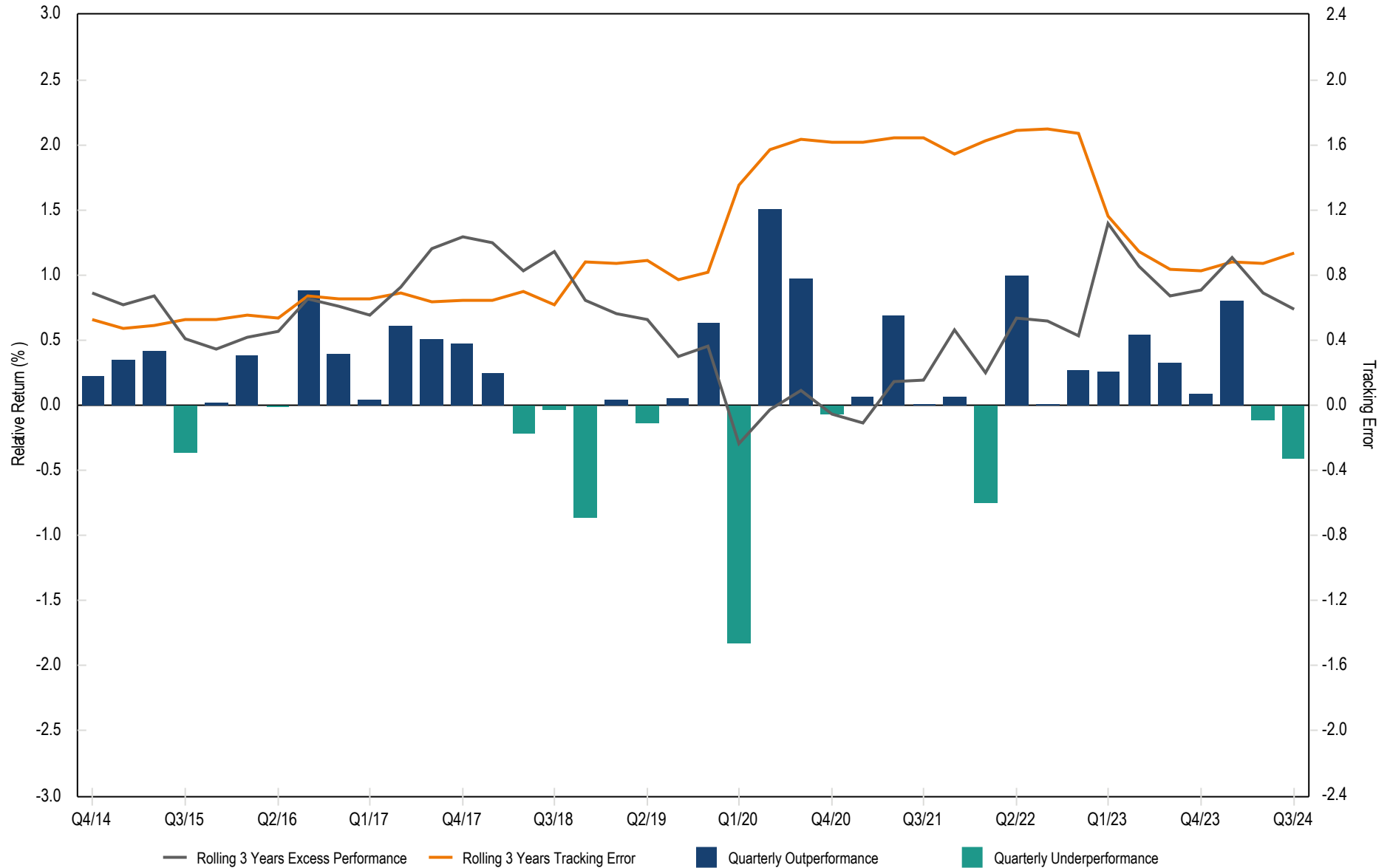
NDSIB - Legacy Fund
Period Ending: September 30, 2024



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

NDSIB - Legacy Fund
Period Ending: September 30, 2024

Rolling Annualized Excess Performance and Tracking Error

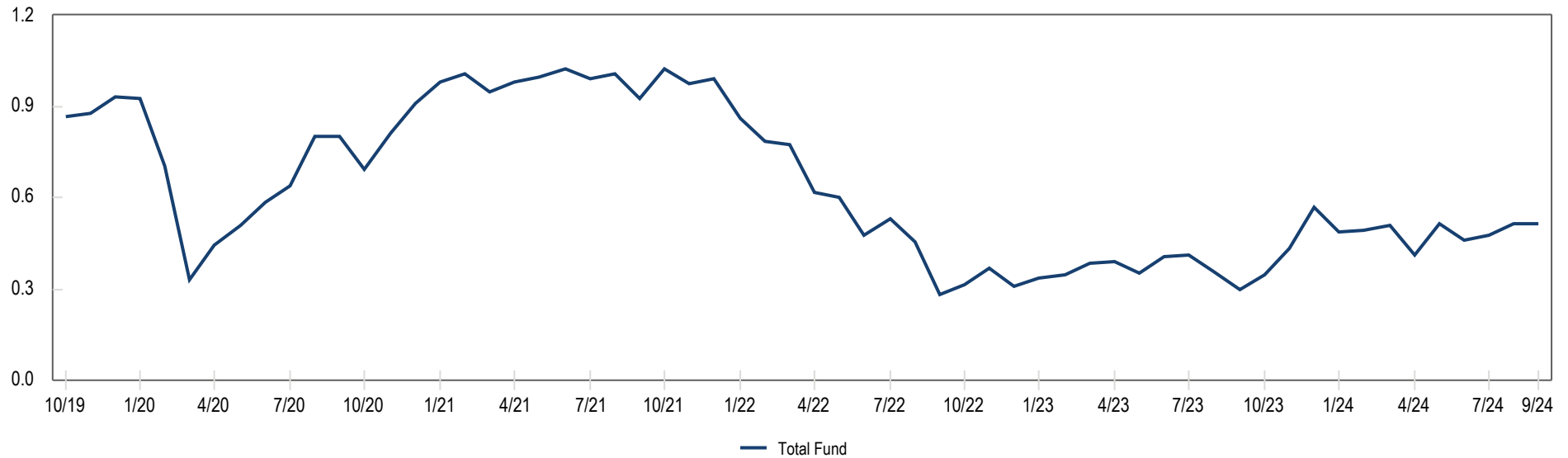


Analytic is using the Corridor Target Index

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

NDSIB - Legacy Fund
Period Ending: September 30, 2024

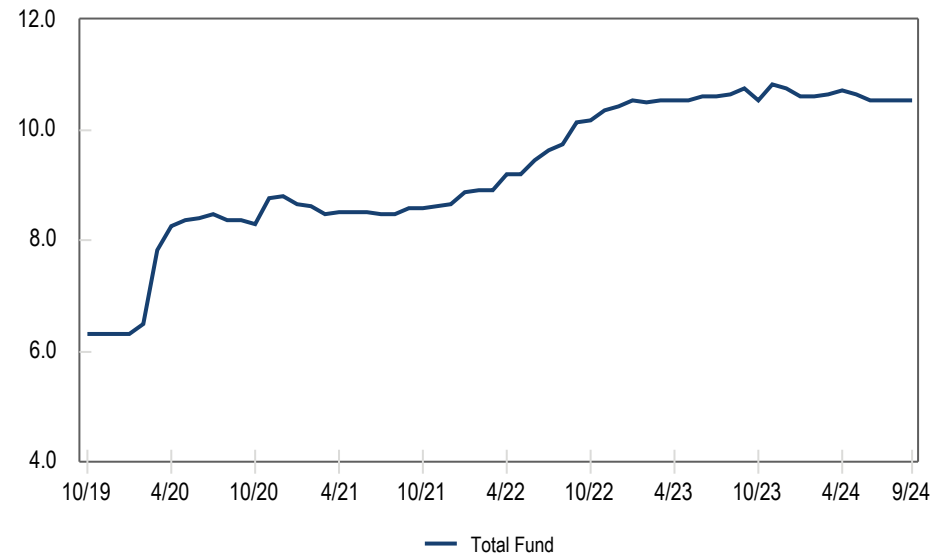
Rolling 5 Years Sharpe Ratio



Rolling 5 Years Return

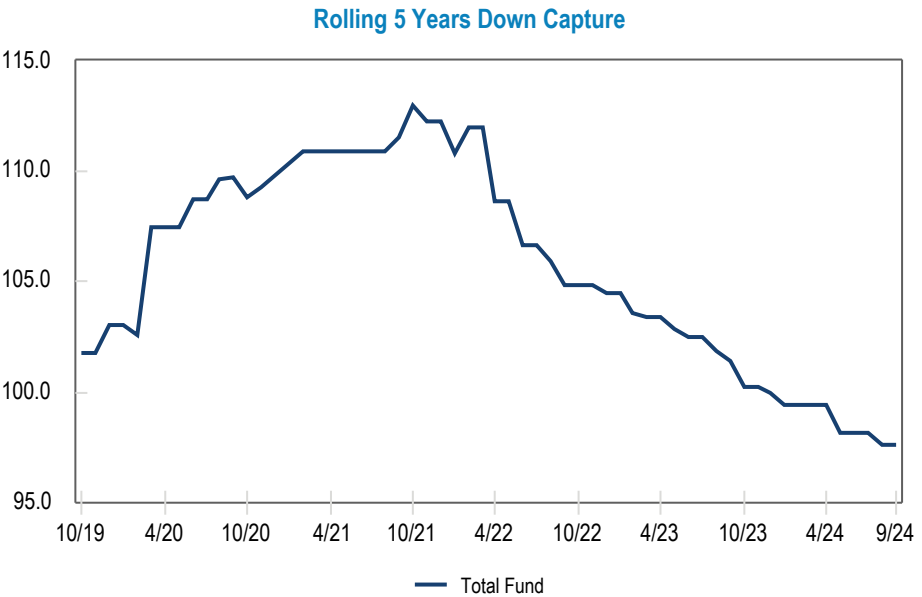
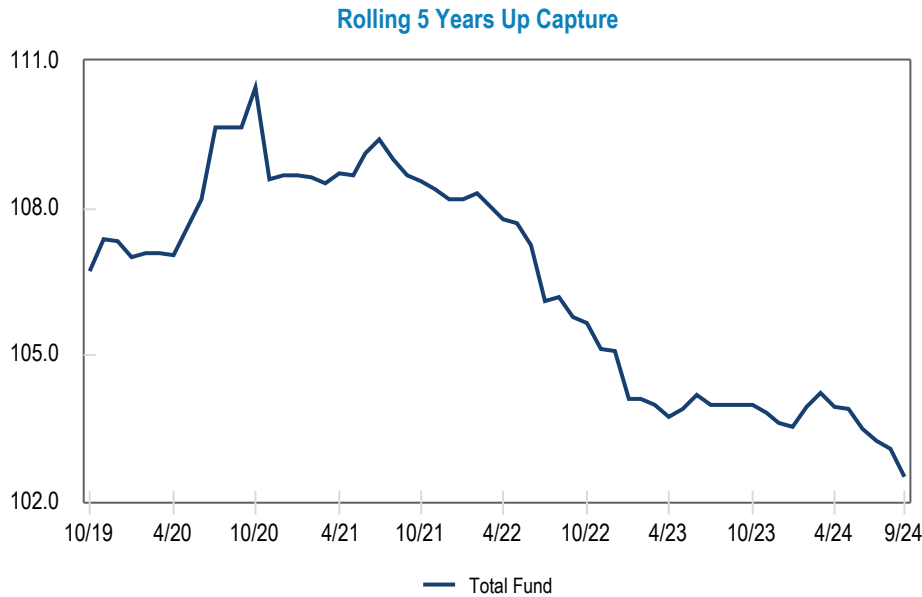
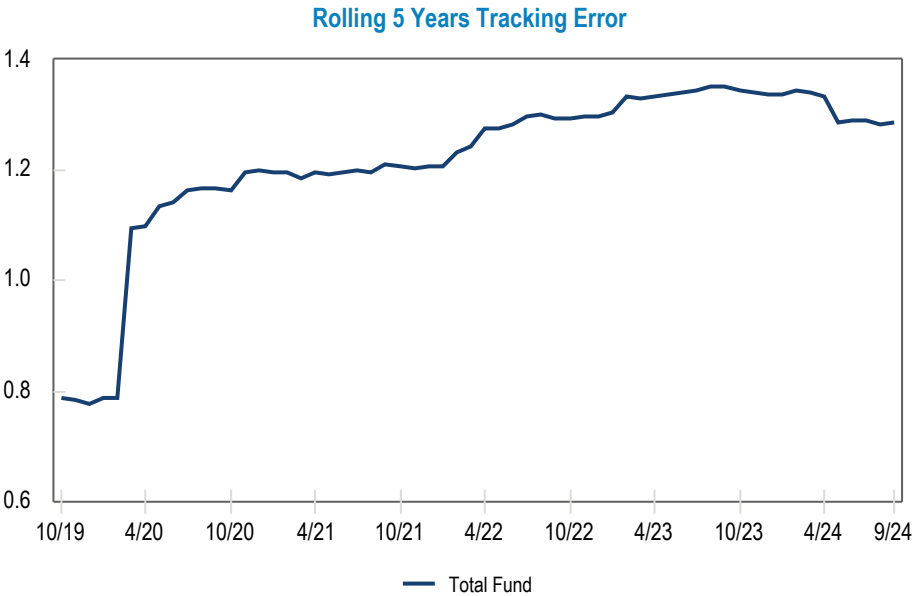
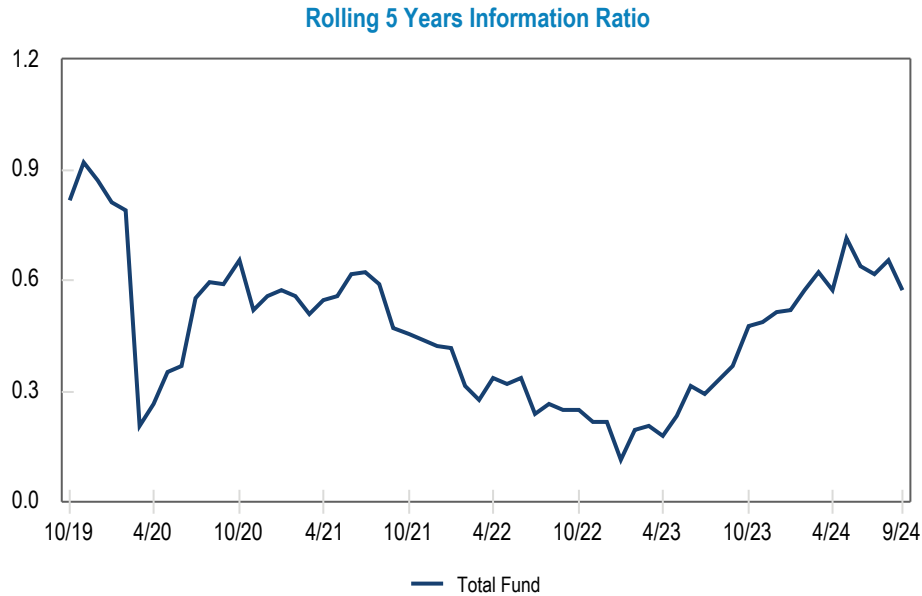


Rolling 5 Years Standard Deviation



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

NDSIB - Legacy Fund
Period Ending: September 30, 2024

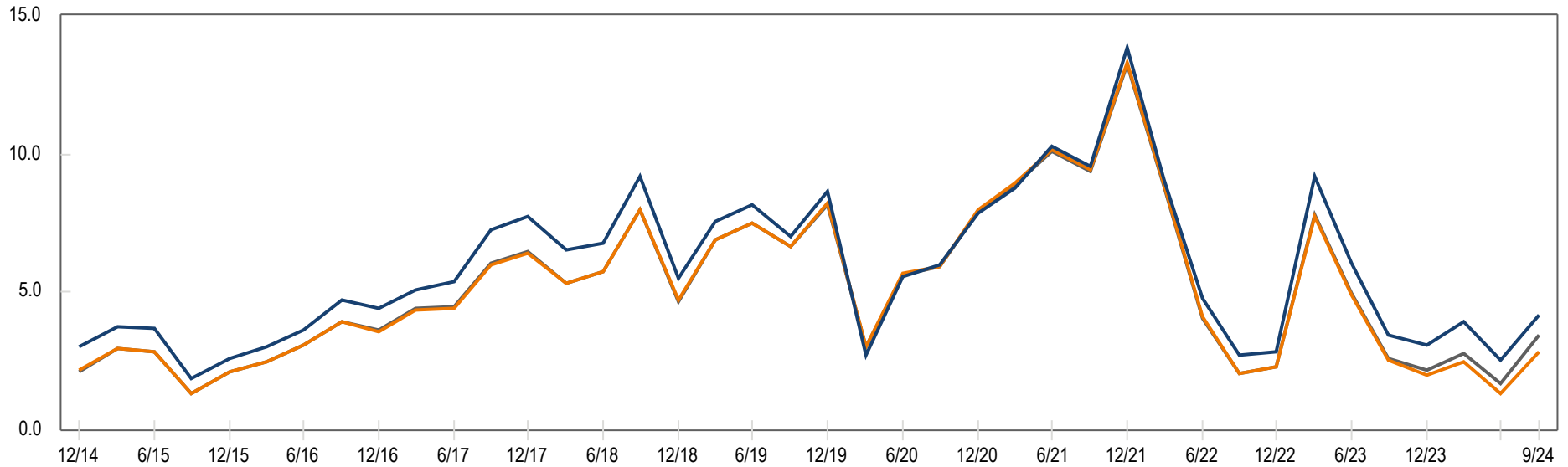


Analytic is using the Corridor Target Index

Total Fund Rolling Risk Statistics

NDSIB - Legacy Fund
Period Ending: September 30, 2024

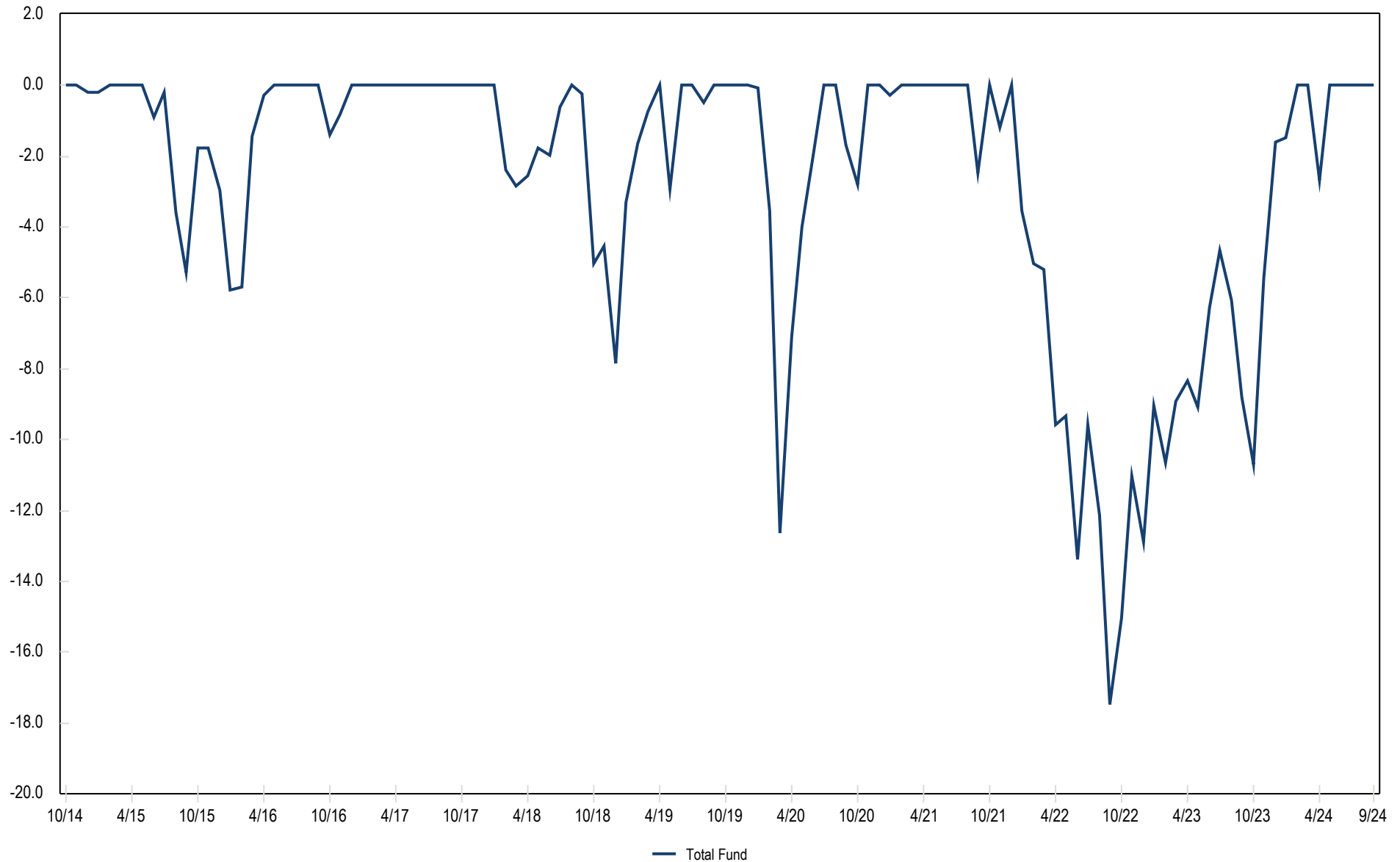
Rolling 3 Years Return



	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
Return	1.9	4.7	7.3	9.2	7.0	6.0	9.6	2.7	3.4	4.2
Standard Deviation	3.7	5.5	5.4	4.9	6.3	9.9	10.7	11.6	10.0	10.0
vs. Policy Index										
Alpha	0.5	0.8	1.2	0.9	-0.1	-0.6	-0.6	0.6	1.0	1.4
Beta	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0
Consistency	66.7	61.1	66.7	63.9	58.3	61.1	63.9	66.7	63.9	63.9
Tracking Error	0.5	0.6	0.7	0.6	0.8	1.4	1.5	1.5	1.1	1.3
vs. Corridor Target Index										
Alpha	0.5	0.7	1.1	0.8	-0.1	-0.5	-0.6	0.6	0.9	0.9
Beta	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	0.9
Consistency	69.4	63.9	66.7	63.9	58.3	61.1	63.9	66.7	61.1	55.6
Tracking Error	0.5	0.6	0.7	0.6	0.8	1.4	1.5	1.5	1.1	1.0

Total Fund
Historical Drawdowns (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024



	Max Drawdown	Recovery Periods	# of Drawdowns in Period
Total Fund	-17.5	26 Months	14

Total Fund
Risk Statistics (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	39	39	81	81
Down Market Periods	3	3	15	15	21	21	39	39
Maximum Return	5.9	6.0	5.9	6.0	7.1	7.6	7.1	7.6
Minimum Return	-2.7	-2.3	-6.1	-6.3	-9.4	-7.8	-9.4	-7.8
Return	19.6	17.4	4.2	2.9	7.5	6.3	6.9	6.0
Cumulative Return	19.6	17.4	13.0	8.8	43.3	35.9	94.6	79.2
Active Return	1.9	0.0	1.2	0.0	1.1	0.0	0.9	0.0
Risk Summary Statistics								
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Upside Risk	2.5	2.4	7.7	7.6	8.2	8.0	6.9	6.6
Downside Risk	3.4	3.1	6.6	7.1	7.0	6.8	5.7	5.5
Risk/Return Summary Statistics								
Standard Deviation	7.8	7.6	10.0	10.3	10.6	10.3	8.7	8.4
Alpha	1.9	0.0	1.4	0.0	1.0	0.0	0.7	0.0
Sharpe Ratio	1.7	1.5	0.1	0.0	0.5	0.4	0.6	0.5
Active Return/Risk	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0
Tracking Error	1.6	0.0	1.3	0.0	1.4	0.0	1.2	0.0
Information Ratio	1.1	-	1.0	-	0.8	-	0.7	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	66.7	100.0	63.9	100.0	66.7	100.0	64.2	100.0

Total Fund
Risk Statistics (Net of Fees)

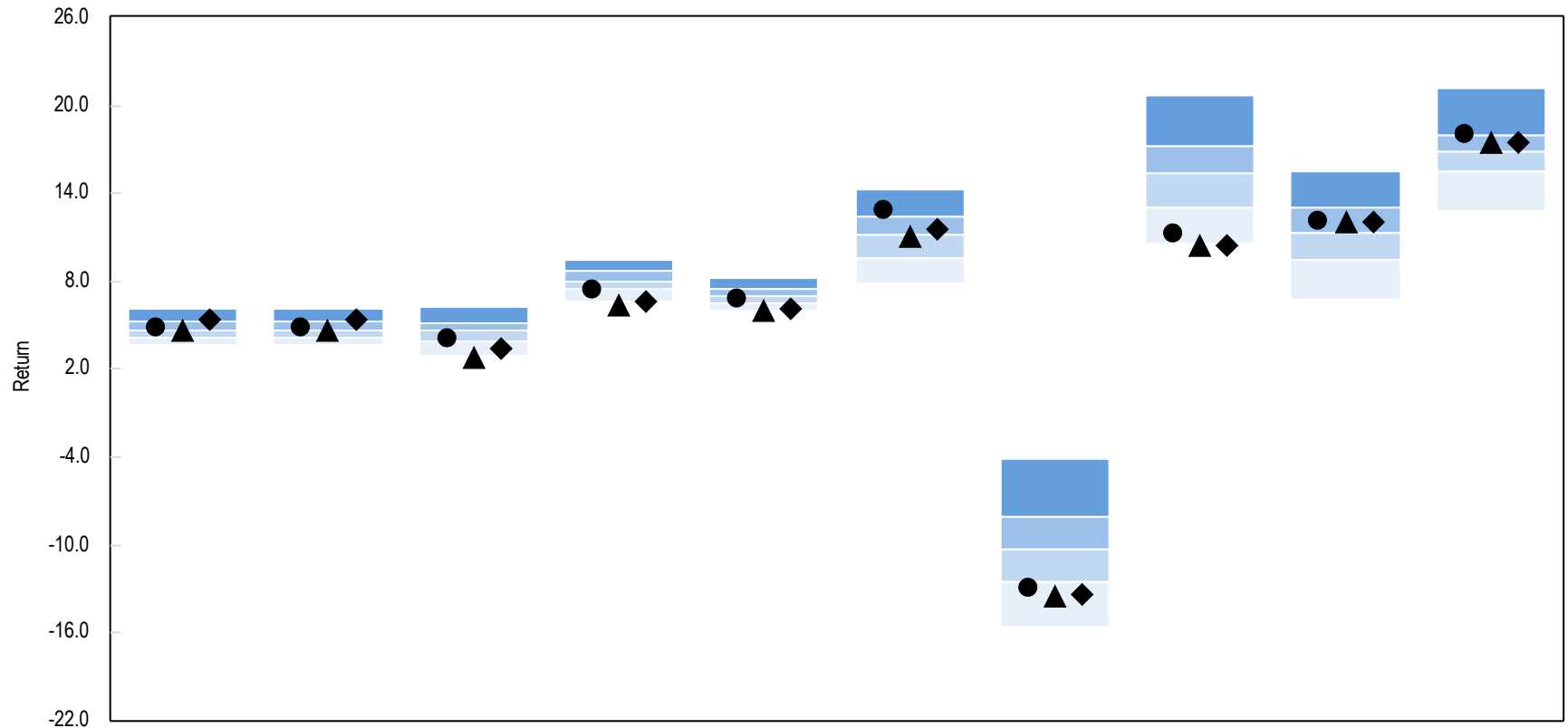
NDSIB - Legacy Fund
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index
Return Summary Statistics								
Up Market Periods	9	9	21	21	39	39	81	81
Down Market Periods	3	3	15	15	21	21	39	39
Maximum Return	5.9	6.1	5.9	6.1	7.1	7.6	7.1	7.6
Minimum Return	-2.7	-2.7	-6.1	-6.3	-9.4	-7.8	-9.4	-7.8
Return	19.6	19.2	4.2	3.4	7.5	6.7	6.9	6.2
Cumulative Return	19.6	19.2	13.0	10.7	43.3	38.2	94.6	82.3
Active Return	0.3	0.0	0.7	0.0	0.7	0.0	0.7	0.0
Risk Summary Statistics								
Beta	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0
Upside Risk	2.5	2.6	7.7	7.8	8.2	8.1	6.9	6.7
Downside Risk	3.4	3.6	6.6	7.2	7.0	6.9	5.7	5.5
Risk/Return Summary Statistics								
Standard Deviation	7.8	8.1	10.0	10.6	10.6	10.5	8.7	8.5
Alpha	1.1	0.0	0.9	0.0	0.7	0.0	0.6	0.0
Sharpe Ratio	1.7	1.6	0.1	0.0	0.5	0.5	0.6	0.6
Active Return/Risk	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
Tracking Error	0.7	0.0	1.0	0.0	1.3	0.0	1.1	0.0
Information Ratio	0.5	-	0.7	-	0.6	-	0.6	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	50.0	100.0	55.6	100.0	61.7	100.0	61.7	100.0

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

NDSIB - Legacy Fund
Period Ending: September 30, 2024

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



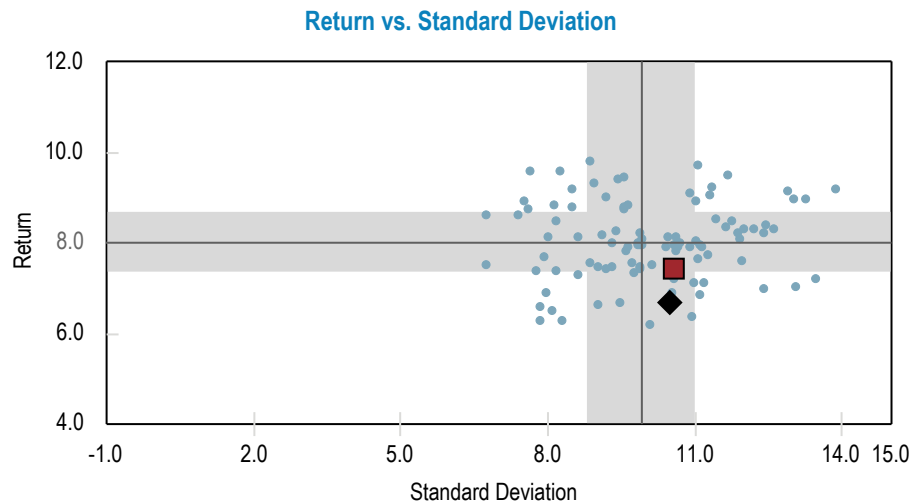
	3 Mo	Fiscal YTD	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
● Total Fund	5.0 (42)	5.0 (42)	4.2 (67)	7.5 (77)	6.9 (54)	12.9 (19)	-12.9 (79)	11.3 (93)	12.2 (38)	18.1 (24)
▲ Policy Index	4.7 (53)	4.7 (53)	2.9 (96)	6.3 (98)	6.0 (95)	11.1 (51)	-13.5 (85)	10.4 (96)	12.1 (40)	17.5 (34)
◆ Corridor Target Index	5.4 (22)	5.4 (22)	3.4 (89)	6.7 (94)	6.2 (93)	11.6 (40)	-13.4 (84)	10.4 (96)	12.0 (41)	17.5 (34)
5th Percentile	6.1	6.1	6.2	9.5	8.2	14.3	-4.1	20.7	15.5	21.2
1st Quartile	5.3	5.3	5.2	8.8	7.4	12.4	-8.0	17.2	13.1	18.0
Median	4.7	4.7	4.6	8.0	7.0	11.2	-10.3	15.3	11.3	16.8
3rd Quartile	4.1	4.1	4.0	7.5	6.5	9.6	-12.5	13.1	9.4	15.5
95th Percentile	3.7	3.7	2.9	6.6	6.0	7.8	-15.6	10.6	6.8	12.8
Population	104	104	101	100	96	177	177	207	217	193

Total Fund

Risk Analysis 5 Years (Net of Fees)

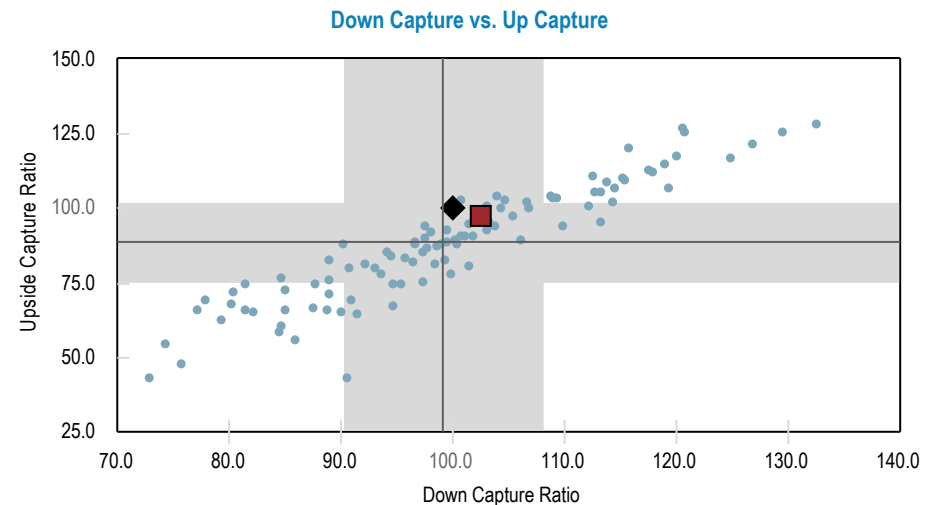
NDSIB - Legacy Fund
Period Ending: September 30, 2024

	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	7.45	10.56	0.73	1.00	0.99	102.52	97.65	0.57	1.29	0.52
Corridor Target Index	6.68	10.46	0.00	1.00	1.00	100.00	100.00	-	0.00	0.45



InvMetrics Public DB > \$1B

	Return	Standard Deviation
Total Fund	7.45	10.56
Corridor Target Index	6.68	10.46
Median	8.03	9.89
Population	100	100



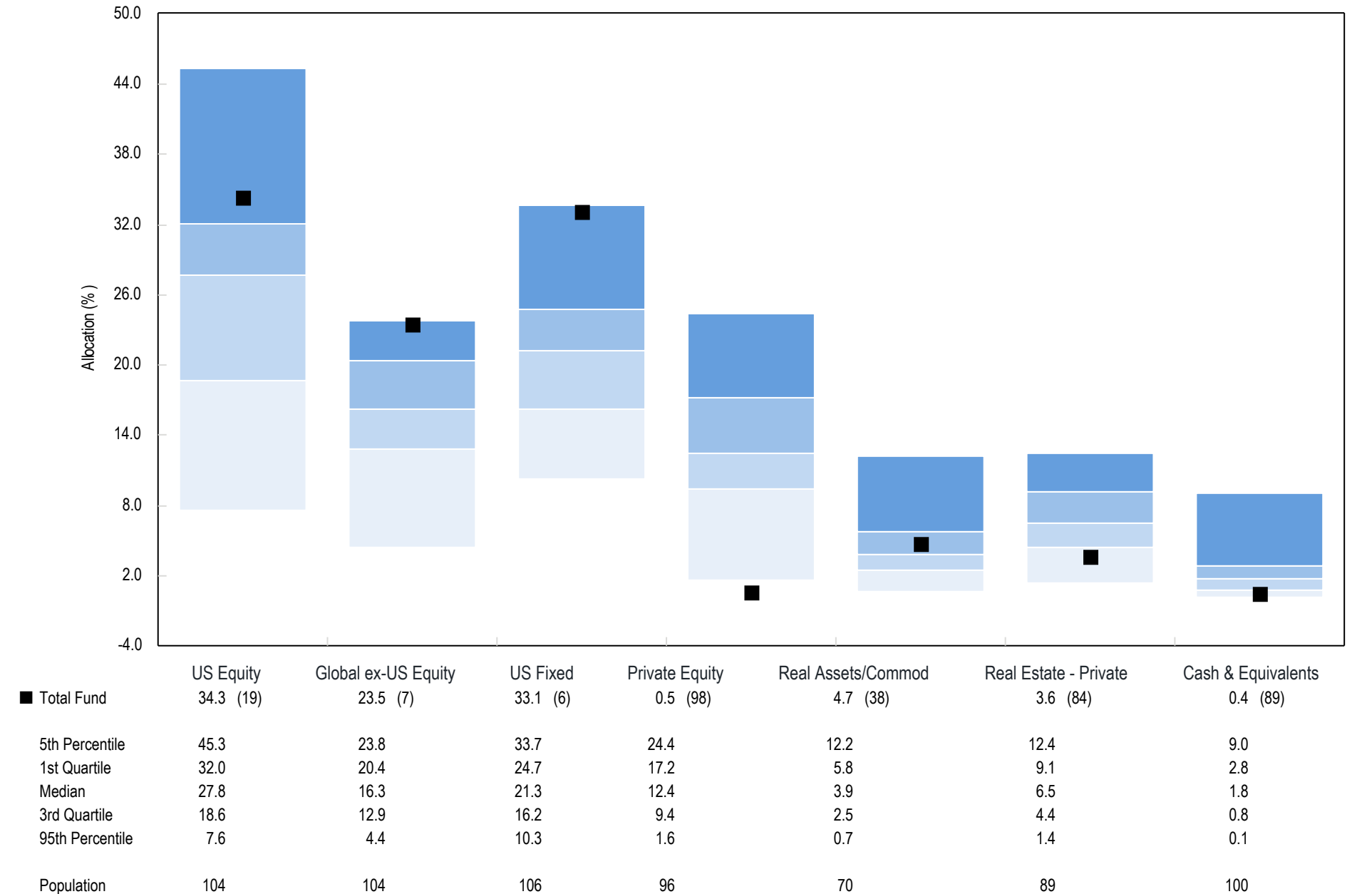
InvMetrics Public DB > \$1B

	Down Capture	Up Capture
Total Fund	97.65	102.52
Corridor Target Index	100.00	100.00
Median	88.53	99.12
Population	100	100

Total Fund

Peer Universe Comparison: Asset Allocation

NDSIB - Legacy Fund
Period Ending: September 30, 2024



In-State Equity included in US equity & In-State Fixed Income included in US Fixed for styling purposes. InvMetrics Public DB > \$1B is the Plan Sponsor Peer Group.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	11,618,715,290	100.0	5.0	5.0	10.9	19.6	4.2	7.5	6.7	6.9
Policy Index			4.7	4.7	9.3	17.4	2.9	6.3	6.0	6.0
Corridor Target Index			5.4	5.4	10.6	19.2	3.4	6.7	6.2	6.2
Total Equity	6,713,961,246	57.8	6.1	6.1	16.8	29.5	6.9	11.8	-	-
Total Equity Blend			7.0	7.0	17.1	30.1	7.2	11.7	-	-
Public Equity	6,649,735,999	57.2	6.2	6.2	16.9	29.6	-	-	-	-
MSCI AC World IMI Index (Net)			6.8	6.8	17.8	31.0	-	-	-	-
Domestic Equity	3,922,743,335	33.8	6.1	6.1	19.3	33.3	9.9	14.3	12.3	12.0
Russell 3000 Index			6.2	6.2	20.6	35.2	10.3	15.3	13.7	12.8
Domestic All Cap Equity	106,805,773	0.9	-	-	-	-	-	-	-	-
Russell 3000 Index			-	-	-	-	-	-	-	-
Large Cap	3,624,897,895	31.2	6.1	6.1	22.3	36.8	11.8	16.4	14.3	13.3
Russell 1000 Index			6.1	6.1	21.2	35.7	10.8	15.6	14.2	13.1
Small Cap	191,039,667	1.6	7.9	7.9	4.9	16.7	1.8	6.8	5.5	7.5
Russell 2000 Index			9.3	9.3	11.2	26.8	1.8	9.4	7.4	8.8
International Equity	2,726,945,388	23.5	6.2	6.2	13.4	24.4	2.8	8.2	5.7	6.2
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	3.7	7.7	5.4	5.3
International Equity All Cap	963,273,020	8.3	3.4	3.4	12.6	23.6	-	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	-	-	-	-
Developed International Equity	1,252,959,924	10.8	8.0	8.0	-	-	-	-	-	-
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	-	-	-	-
International Developed Large Cap	1,081,044,433	9.3	7.7	7.7	13.0	24.8	-	-	-	-
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	-	-	-	-
International Developed Small Cap	171,915,491	1.5	9.6	9.6	12.9	24.3	-	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	10.4	11.5	23.4	-	-	-	-
Emerging Markets	510,712,444	4.4	7.4	7.4	15.4	24.4	-	-	-	-
MSCI Emerging Markets (Net)			8.7	8.7	16.9	26.1	-	-	-	-
Private Equity	64,225,248	0.6	5.1	5.1	7.0	9.0	5.3	-	-	-
Private Equity Benchmark			2.8	2.8	-	-	-	-	-	-
Total Income	3,482,627,487	30.0	4.5	4.5	5.1	11.9	-0.1	1.6	2.7	3.2
Total Income Blend			4.6	4.6	3.9	11.0	-1.6	0.2	1.4	1.8
Core Fixed Income	2,112,451,230	18.2	5.3	5.3	5.1	13.0	-	-	-	-
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-	-	-	-
Private Credit	674,049,068	5.8	1.8	1.8	7.0	9.7	-	-	-	-
Morningstar LSTA Leveraged Loan Index + 100 bps			2.3	2.3	7.3	10.7	-	-	-	-

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value \$1,790,527 included in Total Fund value. Transition Account value of \$47,276 included in Total Equity value.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
High Yield	696,127,189	6.0	4.8	4.8	-	-	-	-	-	-
<i>Bimbg. U.S. High Yield - 2% Issuer Cap</i>			5.3	5.3	-	-	-	-	-	-
Total Real Assets	962,019,491	8.3	0.6	0.6	-1.6	-0.9	1.5	3.7	-	-
<i>Total Real Asset Blend</i>			-0.7	-0.7	-	-	-	-	-	-
Real Estate	415,545,718	3.6	-0.8	-0.8	-10.3	-10.4	0.4	1.6	2.8	5.1
<i>NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag</i>			-0.8	-0.8	-8.4	-10.3	1.1	2.6	3.8	5.8
Infrastructure	546,473,773	4.7	1.7	1.7	6.4	7.4	3.5	5.5	5.3	4.4
<i>NFI-ODCE Equal-Weighted +1% (Smoothed Monthly Return) 1Q Lag</i>			-0.6	-0.6	-7.7	-9.4	2.1	3.6	4.8	6.9
In-State Investments	417,101,459	3.6	1.2	1.2	2.9	-	-	-	-	-
<i>In-State Investments</i>			1.2	1.2	2.9	-	-	-	-	-
In-State Fixed Income	362,243,656	3.1	0.9	0.9	2.7	-	-	-	-	-
<i>In-State Fixed Income</i>			0.9	0.9	2.7	-	-	-	-	-
In-State Equity	54,857,803	0.5	3.5	3.5	3.9	-	-	-	-	-
<i>In-State Equity</i>			3.5	3.5	3.9	-	-	-	-	-
Cash and Equivalents	41,215,081	0.4	1.3	1.3	4.0	5.4	3.5	2.3	2.1	1.6
<i>90 Day U.S. Treasury Bill</i>			1.4	1.4	4.0	5.5	3.5	2.3	2.2	1.6

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value \$1,790,527 included in Total Fund value. Transition Account value of \$47,276 included in Total Equity value.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	11,618,715,290	100.0	5.0	5.0	10.9	19.6	4.2	7.5	6.9
Policy Index			4.7	4.7	9.3	17.4	2.9	6.3	6.0
Corridor Target Index			5.4	5.4	10.6	19.2	3.4	6.7	6.2
Total Equity	6,713,961,246	57.8	6.1	6.1	16.8	29.5	6.9	11.8	-
Total Equity Blend			7.0	7.0	17.1	30.1	7.2	11.7	-
Public Equity	6,649,735,999	57.2	6.2	6.2	16.9	29.6	-	-	-
MSCI AC World IMI Index (Net)			6.8	6.8	17.8	31.0	-	-	-
Domestic Equity	3,922,743,335	33.8	6.1	6.1	19.3	33.3	9.9	14.3	12.0
Russell 3000 Index			6.2	6.2	20.6	35.2	10.3	15.3	12.8
Domestic All Cap Equity	106,805,773	0.9	-	-	-	-	-	-	-
Russell 3000 Index			6.2	6.2	-	-	-	-	-
Two Sigma Active Extension U.S. All Cap Equity	106,805,773	0.9	-	-	-	-	-	-	-
Large Cap	3,624,897,895	31.2	6.1	6.1	22.3	36.8	11.8	16.4	13.3
Russell 1000 Index			6.1	6.1	21.2	35.7	10.8	15.6	13.1
LA Capital Large Cap Growth	87,314,844	0.8	2.8	2.8	27.9	45.1	13.1	20.5	-
NTAM R1000 Index	1,087,441,156	9.4	6.1	6.1	21.2	35.7	-	-	-
NTAM Quant Enh R1000	518,431,533	4.5	6.2	6.2	23.0	36.9	-	-	-
Parametric-Clifton Enh R1000	520,715,818	4.5	5.9	5.9	21.4	35.8	11.0	15.4	-
LA Capital Enhanced ex Alpha Fd	821,408,272	7.1	5.5	5.5	22.3	36.2	11.4	16.7	-
LA Capital Enhanced Alpha Fund	589,586,272	5.1	7.4	7.4	23.6	38.7	13.2	16.8	-
Small Cap	191,039,667	1.6	7.9	7.9	4.9	16.7	1.8	6.8	7.5
Russell 2000 Index			9.3	9.3	11.2	26.8	1.8	9.4	8.8
Atlanta Capital	50,656,893	0.4	9.0	9.0	8.0	20.6	8.2	-	-
Riverbridge Small Cap Growth	48,909,087	0.4	6.5	6.5	-0.9	9.1	-8.8	-	-
Sycamore Small Cap Value	49,163,479	0.4	7.0	7.0	4.7	16.6	5.7	-	-
NTAM R2000 Index	42,310,207	0.4	9.3	9.3	11.2	26.8	-	-	-
International Equity	2,726,945,388	23.5	6.2	6.2	13.4	24.4	2.8	8.2	6.2
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	3.7	7.7	5.3
International Equity All Cap	963,273,020	8.3	3.4	3.4	12.6	23.6	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	-	-	-
William Blair Int'l Leaders	448,858,324	3.9	3.2	3.2	8.9	22.8	-3.0	6.8	-
Arrowstreet ACWI ex US	514,414,696	4.4	3.5	3.5	15.8	24.7	-	-	-

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Residual Holdings value of \$1,790,527 included in Total Fund value. Fiscal year 06/30.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Developed International Equity	1,252,959,924	10.8	8.0	8.0	-	-	-	-	-
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	-	-	-
International Developed Large Cap	1,081,044,433	9.3	7.7	7.7	13.0	24.8	-	-	-
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	-	-	-
State St MSCI World exUS	1,081,044,433	9.3	7.7	7.7	13.0	24.8	-	-	-
International Developed Small Cap	171,915,491	1.5	9.6	9.6	12.9	24.3	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	10.4	11.5	23.4	-	-	-
DFA Intl Small Cap Value	69,483,729	0.6	8.5	8.5	15.4	26.3	7.7	9.9	-
State St MSCI exUS Small	102,431,762	0.9	10.3	10.3	11.3	23.0	-	-	-
Emerging Markets	510,712,444	4.4	7.4	7.4	15.4	24.4	-	-	-
MSCI Emerging Markets (Net)			8.7	8.7	16.9	26.1	-	-	-
DFA EM All Cap Core	256,067,638	2.2	6.6	6.6	15.2	24.3	-	-	-
State St MSCI EM China	70,805,107	0.6	23.5	23.5	29.7	24.2	-	-	-
State St MSCI EM ex China	183,839,699	1.6	3.1	3.1	11.1	25.4	-	-	-
Transition Account	47,276	0.0							
Private Equity	64,225,248	0.6	5.1	5.1	7.0	9.0	5.3	-	-
Private Equity Benchmark			2.8	2.8	-	-	-	-	-
Altor Fund VI	8,148,675	0.1	55.2	55.2	34.6	-	-	-	-
Kelso	11,945,654	0.1	3.0	3.0	19.2	-	-	-	-
Portfolio Advisors GP Solutions	15,676,237	0.1	-6.3	-6.3	-	-	-	-	-
HIG Capital	4,303,052	0.0	-1.1	-1.1	-	-	-	-	-
Cerberus Global II	15,118,094	0.1	0.0	0.0	-	-	-	-	-
Fortress	9,033,535	0.1	25.4	25.4	-	-	-	-	-
Total Income	3,482,627,487	30.0	4.5	4.5	5.1	11.9	-0.1	1.6	3.2
Total Income Blend			4.6	4.6	3.9	11.0	-1.6	0.2	1.8
Core Fixed Income	2,112,451,230	18.2	5.3	5.3	5.1	13.0	-	-	-
Bmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-	-	-
Allspring Med Quality Credit	180,249,470	1.6	6.0	6.0	6.5	16.2	-0.4	2.6	-
Manulife-Declaration TRBF	104,122	0.0	11.7	11.7	10.0	19.3	3.7	4.0	-
PIMCO Core Plus Constrained	553,376,046	4.8	5.0	5.0	5.5	12.8	-	-	-
Prudential Core Plus	554,325,352	4.8	5.3	5.3	5.4	12.9	-1.2	0.9	-
State Street Credit Index	62,188,209	0.5	5.7	5.7	5.5	14.0	-	-	-
State Street Gov Index	221,448,588	1.9	4.7	4.7	3.9	9.7	-	-	-
Western Asset Core Plus	540,759,443	4.7	5.7	5.7	4.7	13.5	-1.9	0.2	-

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Residual Holdings value of \$1,790,527 included in Total Fund value. Fiscal year 06/30.

Total Fund

Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Private Credit	674,049,068	5.8	1.8	1.8	7.0	9.7	-	-	-
<i>Morningstar LSTA Leveraged Loan Index + 100 bps</i>			2.3	2.3	7.3	10.7	-	-	-
Ares ND Credit Strategies	194,448,021	1.7	2.3	2.3	7.8	12.0	9.5	8.7	-
Cerberus ND Private Credit	231,257,578	2.0	0.1	0.1	5.3	7.0	7.6	8.7	-
PIMCO DiSCO II	118,097,212	1.0	3.3	3.3	8.8	11.7	5.9	6.0	-
PIMCO Bravo II	1,266,510	0.0	4.0	4.0	6.5	12.4	-10.6	-5.5	-
Sixth Street Partners - TAO	128,979,747	1.1	3.1	3.1	7.3	9.9	9.6	-	-
High Yield	696,127,189	6.0	4.8	4.8	-	-	-	-	-
<i>Blmbg. U.S. High Yield - 2% Issuer Cap</i>			5.3	5.3	-	-	-	-	-
Nomura High Yield	348,202,570	3.0	4.8	4.8	-	-	-	-	-
PineBridge High Yield	347,924,619	3.0	4.7	4.7	-	-	-	-	-
Total Real Assets	962,019,491	8.3	0.6	0.6	-1.6	-0.9	1.5	3.7	-
<i>Total Real Assets Blend</i>			-0.7	-0.7	-	-	-	-	-
Real Estate	415,545,718	3.6	-0.8	-0.8	-10.3	-10.4	0.4	1.6	5.1
<i>NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag</i>			-0.8	-0.8	-8.4	-10.3	1.1	2.6	5.8
Invesco Core Real Estate	186,540,612	1.6	-1.0	-1.0	-10.3	-10.3	0.2	1.8	-
Invesco RE Fund VI	48,710,716	0.4	-2.6	-2.6	-11.9	-14.3	-	-	-
JP Morgan Income & Growth Fd	180,294,390	1.6	0.0	0.0	-9.9	-9.4	0.4	1.2	-
Infrastructure	546,473,773	4.7	1.7	1.7	6.4	7.4	3.5	5.5	4.4
<i>NFI-ODCE Equal-Weighted +1% (Smoothed Monthly Return) 1Q Lag</i>			-0.6	-0.6	-7.7	-9.4	2.1	3.6	6.9
ISQ Global Infrastructure II	87,938,389	0.8	2.8	2.8	9.4	10.5	11.2	12.0	-
ISQ Global Infrastructure III	57,911,988	0.5	2.7	2.7	17.0	12.6	-	-	-
JP Morgan IIF Infrastructure	108,143,695	0.9	1.9	1.9	8.9	9.8	7.0	7.3	-
Grosvenor CIS Fund II	47,459,203	0.4	0.7	0.7	2.5	1.6	9.3	11.5	-
Grosvenor CIS Fund III	47,225,347	0.4	2.1	2.1	5.7	4.0	-	-	-
Macquarie Infrastructure Fund IV	96,824,780	0.8	2.8	2.8	3.1	3.9	9.0	10.4	-
Macquarie Infrastructure Fund V	100,537,178	0.9	-0.7	-0.7	2.5	3.0	12.1	-	-
Western US TIPS	433,193	0.0	1.3	1.3	-12.3	-8.4	-7.0	-1.4	0.3

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Residual Holdings value of \$1,790,527 included in Total Fund value. Fiscal year 06/30.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
In-State Investments	417,101,459	3.6	1.2	1.2	2.9	-	-	-	-
<i>In-State Investments</i>			1.2	1.2	2.9	-	-	-	-
In-State Fixed Income	362,243,656	3.1	0.9	0.9	2.7	-	-	-	-
<i>In-State Fixed Income</i>			0.9	0.9	2.7	-	-	-	-
BND Legacy Infrastructure Loan Fund	49,577,272	0.4	0.5	0.5	1.5	-	-	-	-
BND CDs	312,666,384	2.7	1.0	1.0	2.9	3.8	3.2	3.0	-
In-State Equity	54,857,803	0.5	3.5	3.5	3.9	-	-	-	-
<i>In-State Equity</i>			3.5	3.5	3.9	-	-	-	-
50 South Capital	54,857,803	0.5	3.5	3.5	-1.3	-1.3	-14.1	-	-
Cash and Equivalents	41,215,081	0.4	1.3	1.3	4.0	5.4	3.5	2.3	1.6
<i>90 Day U.S. Treasury Bill</i>			1.4	1.4	4.0	5.5	3.5	2.3	1.6
Northern Trust Cash Account	17,157,422	0.1	1.3	1.3	4.0	5.3	3.4	2.2	-
BND Cash	24,057,659	0.2	1.3	1.3	4.1	5.5	3.6	2.4	-

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. Residual Holdings value of \$1,790,527 included in Total Fund value. Fiscal year 06/30.

Consolidated Insurance Trust

Investment Performance Review
Period Ending: September 30, 2024



[VERUSINVESTMENTS.COM](https://www.verusinvestments.com)

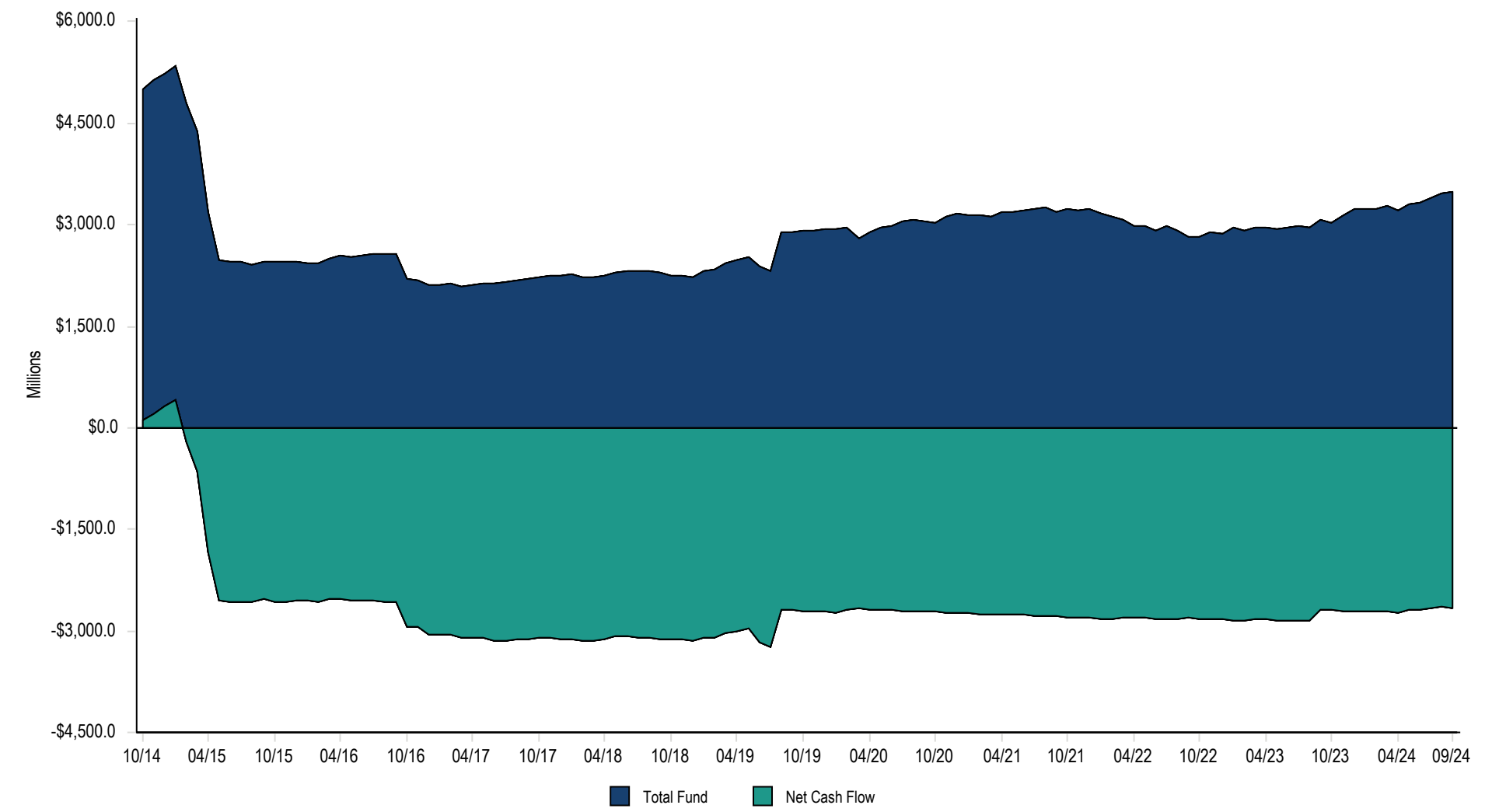
SEATTLE 206.622.3700

CHICAGO 312.815.5228

PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

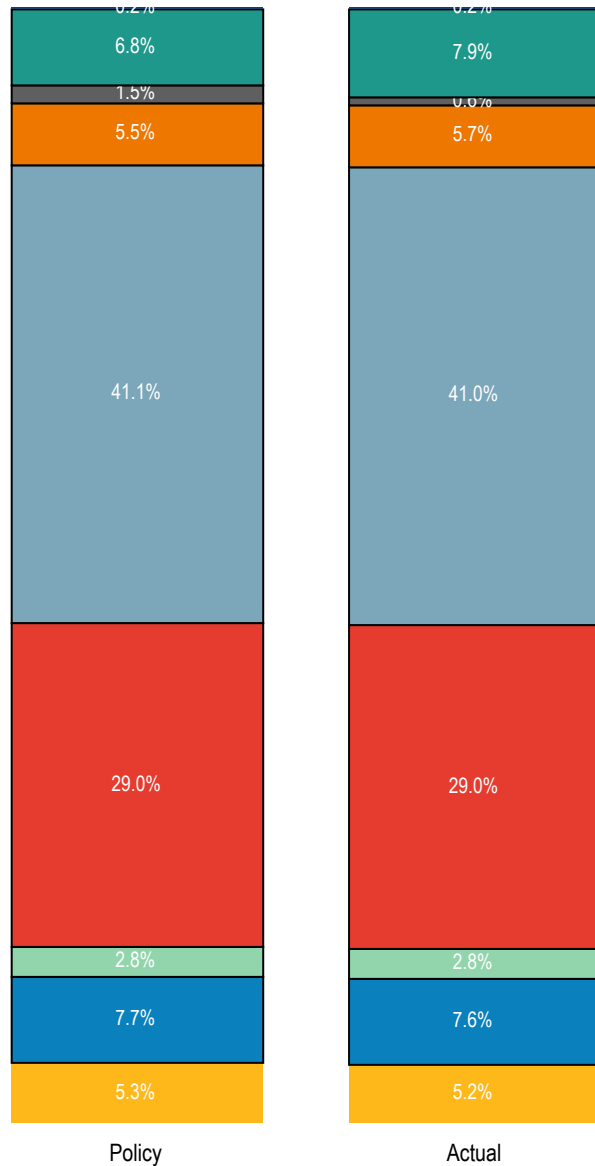


Net Cash Flow is cumulative.

Total Fund

Asset Allocation vs Policy

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

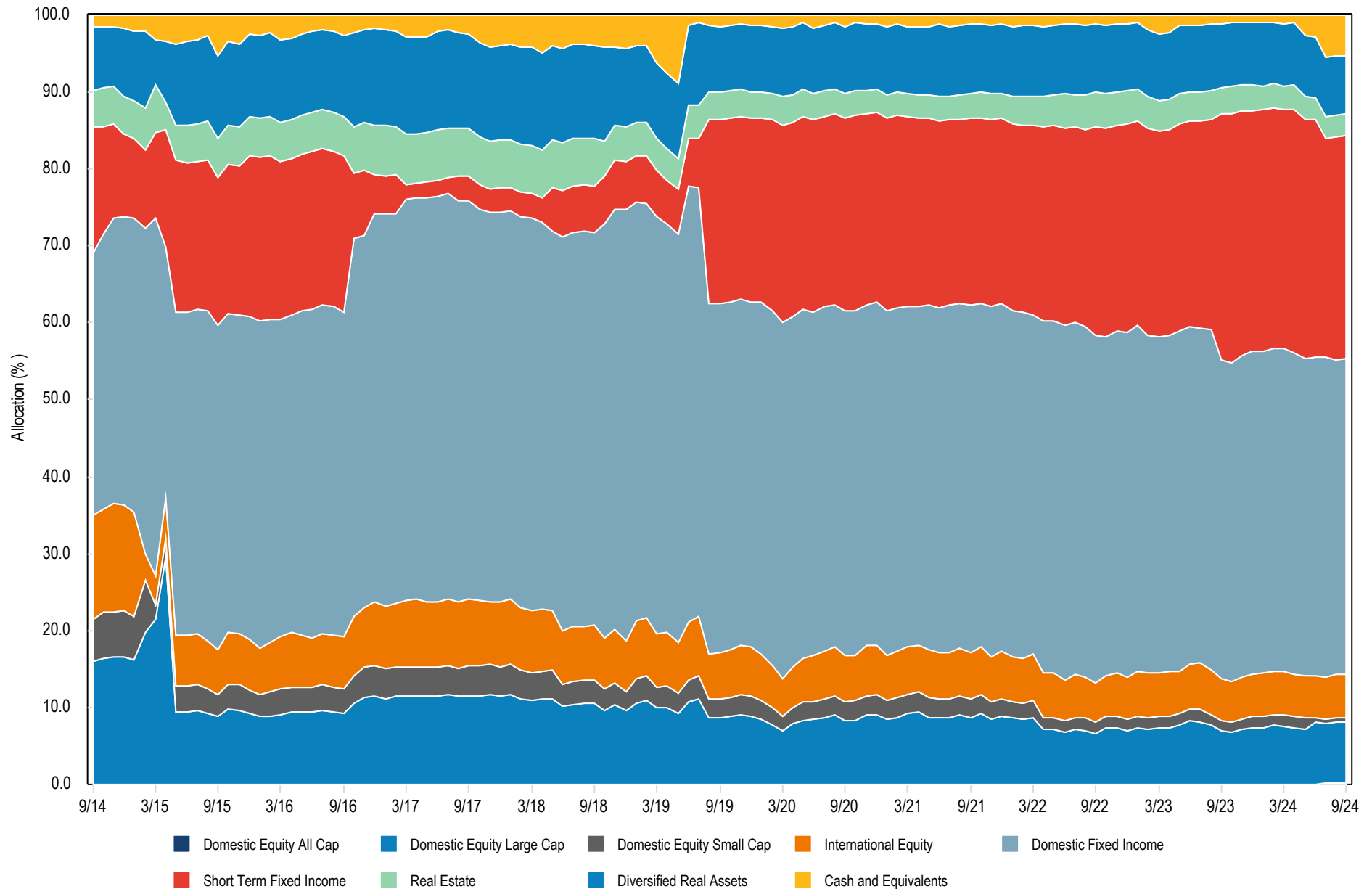


	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Domestic Equity All Cap	8,465,545	0.2	0.2	-140,463
Domestic Equity Large Cap	273,766,969	7.9	6.8	36,492,003
Domestic Equity Small Cap	21,594,590	0.6	1.5	-31,191,251
International Equity	197,101,445	5.7	5.5	5,295,470
Domestic Fixed Income	1,429,395,023	41.0	41.1	-3,244,046
Short Term Fixed Income	1,009,890,552	29.0	29.0	60,839
Real Estate	96,424,680	2.8	2.8	-1,412,047
Diversified Real Assets	264,852,178	7.6	7.7	-2,839,975
Cash and Equivalents	182,722,913	5.2	5.3	-3,020,530
Total	3,484,213,896	100.0	100.0	

Residual Holdings value of \$212,521 included in Domestic Equity Large Cap value for styling purposes. Policy Asset Allocation based upon 8/31/2024 data.

Total Fund Asset Allocation History

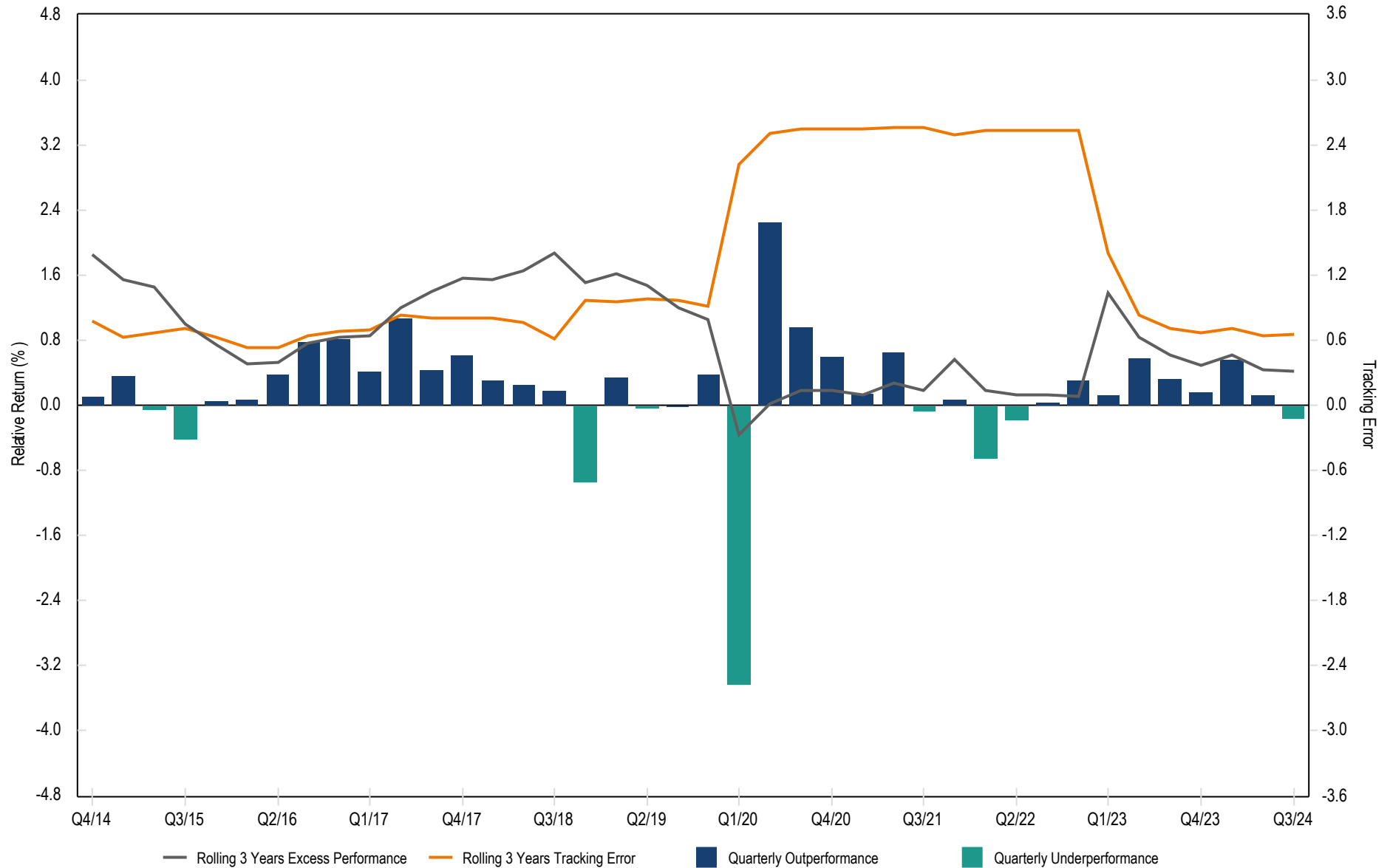
NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024



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

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

Rolling Annualized Excess Performance and Tracking Error

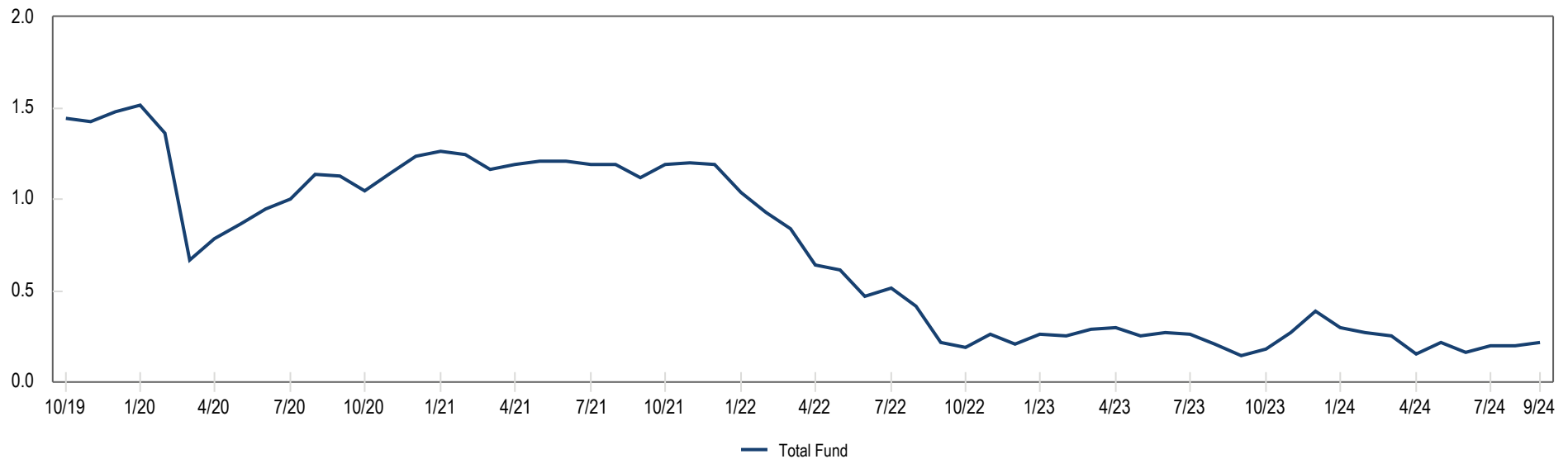


Analytic is using the Corridor Target Index

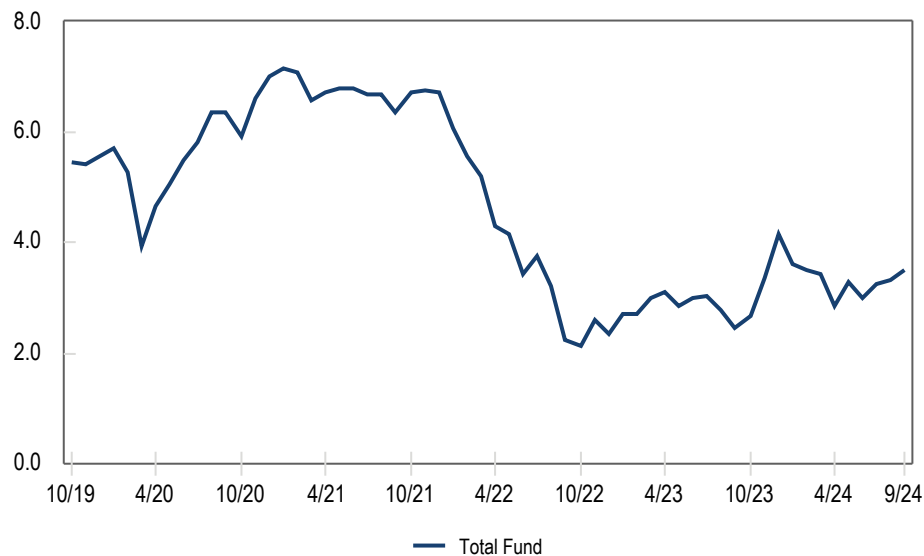
Total Fund
Risk Analysis - 5 Years (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

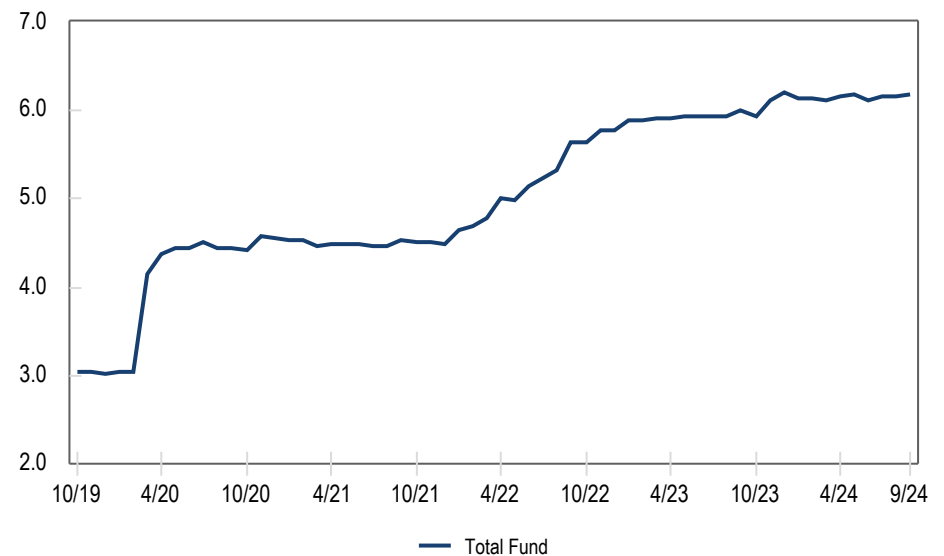
Rolling 5 Years Sharpe Ratio



Rolling 5 Years Return

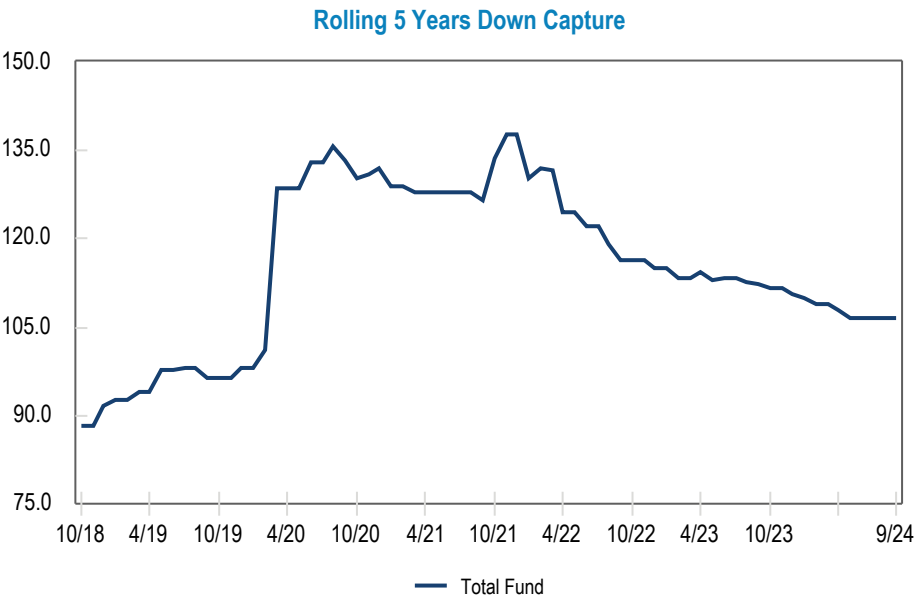
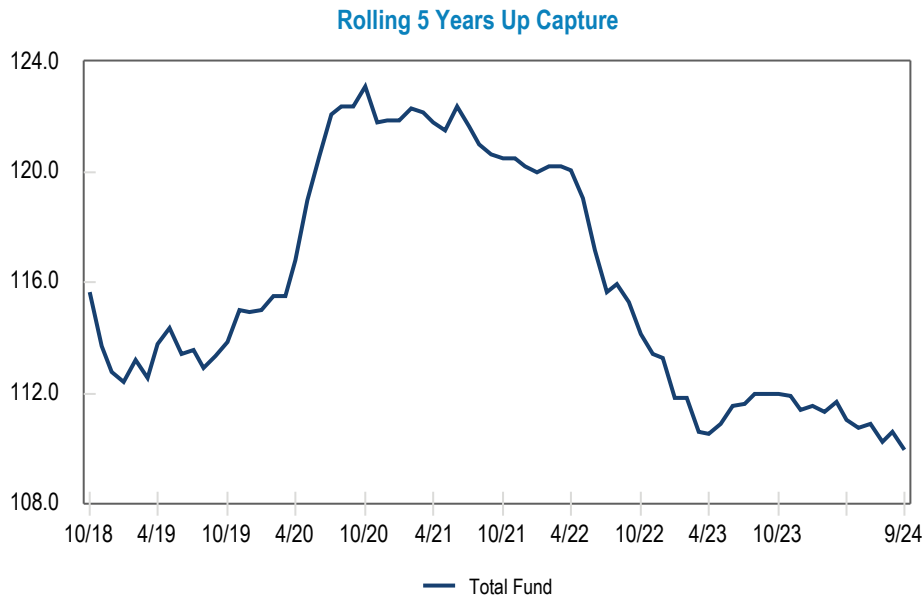
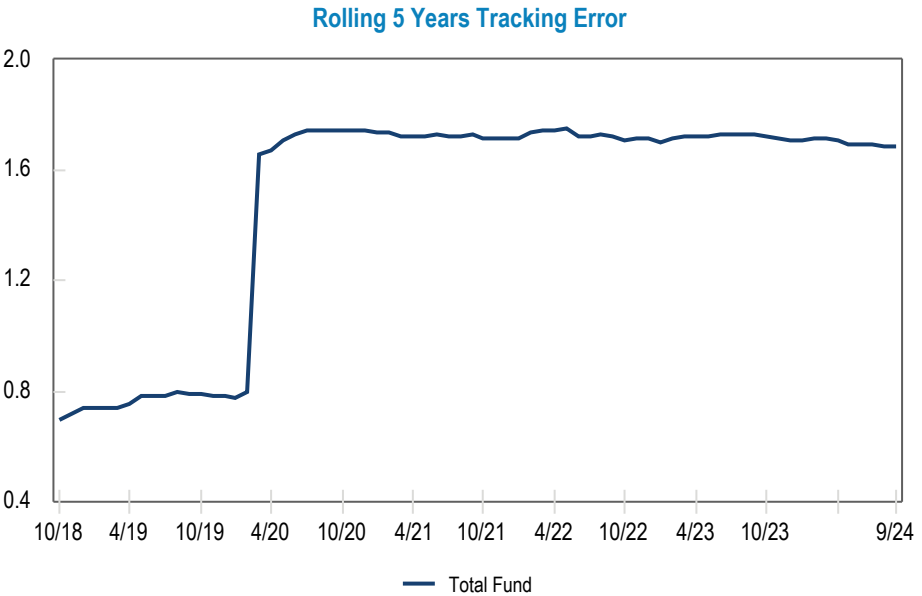
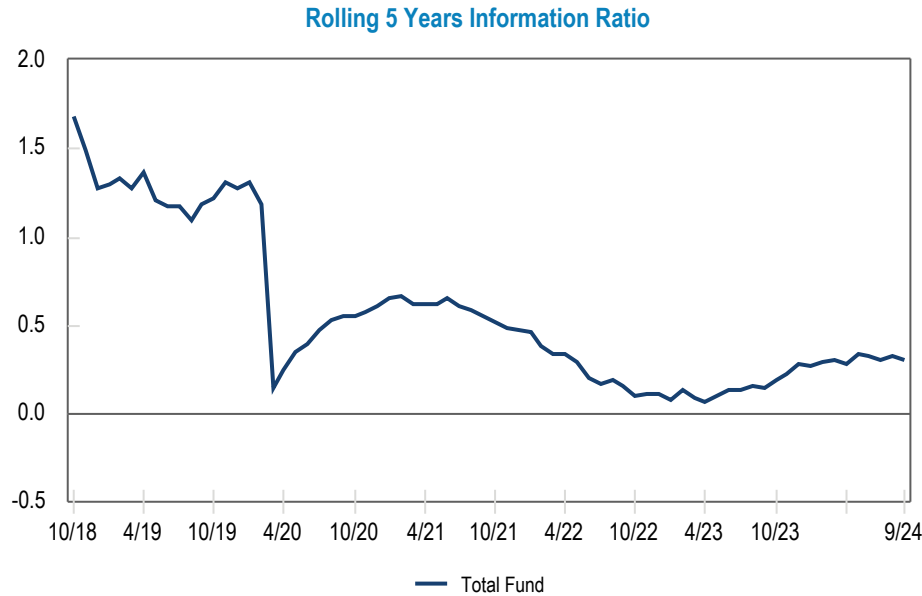


Rolling 5 Years Standard Deviation



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

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

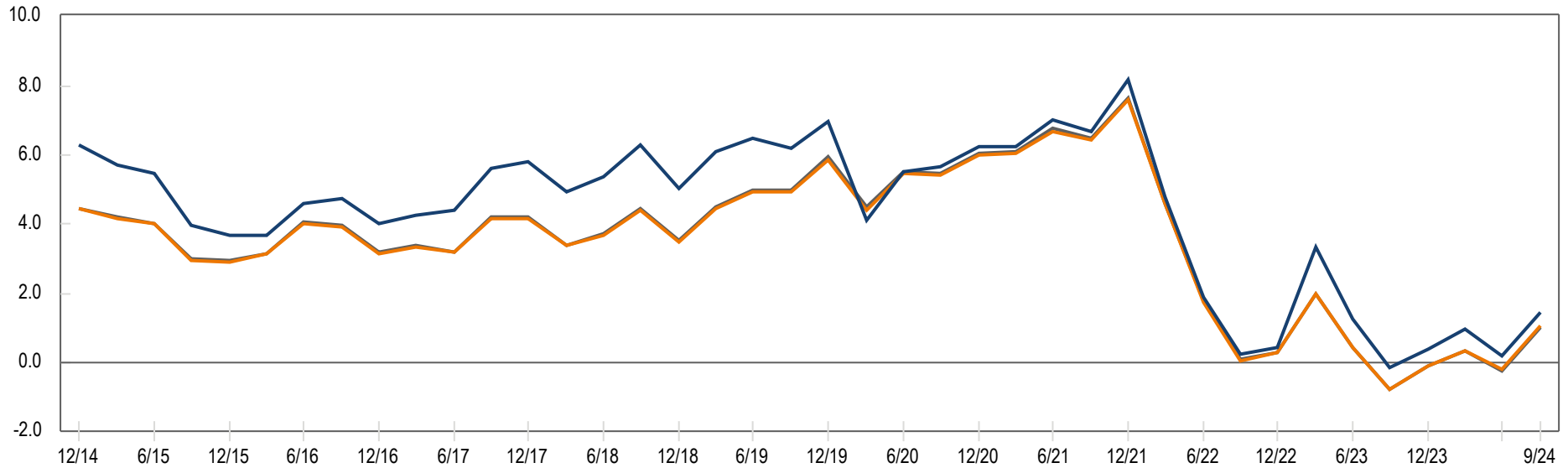


Analytic is using the Corridor Target Index

Total Fund Rolling Risk Statistics

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

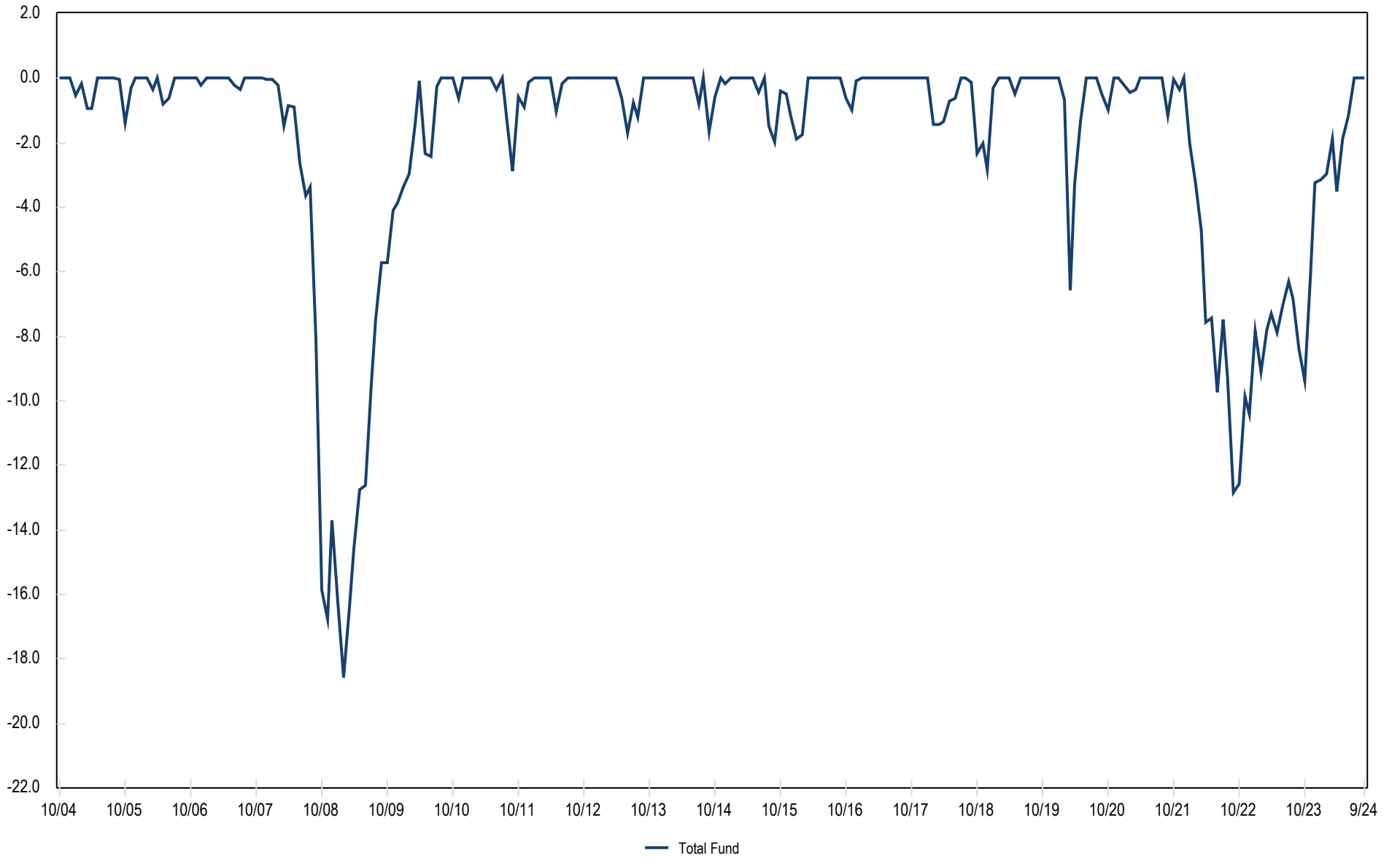
Rolling 3 Years Return



	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
Return	4.0	4.7	5.6	6.3	6.2	5.7	6.7	0.2	-0.1	1.5
Standard Deviation	2.7	3.0	2.7	2.5	3.1	5.3	5.6	6.6	5.7	6.2
	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
<i>vs. Policy Index</i>										
Alpha	1.0	0.6	1.3	1.6	1.1	-1.6	-1.8	0.2	0.6	0.4
Beta	1.0	1.1	1.0	1.0	1.0	1.4	1.3	1.2	1.0	1.0
Consistency	66.7	63.9	69.4	80.6	72.2	69.4	69.4	69.4	66.7	61.1
Tracking Error	0.6	0.6	0.7	0.7	0.8	2.1	2.1	2.1	0.7	0.7
<i>vs. Corridor Target Index</i>										
Alpha	1.0	0.5	1.2	1.6	1.0	-1.7	-1.9	0.2	0.6	0.4
Beta	1.0	1.1	1.0	1.0	1.0	1.4	1.3	1.2	1.0	1.0
Consistency	66.7	63.9	69.4	80.6	72.2	69.4	69.4	66.7	66.7	63.9
Tracking Error	0.6	0.6	0.8	0.7	0.8	2.2	2.1	2.1	0.7	0.7

Total Fund
Historical Drawdowns (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024



	Max Drawdown	Recovery Periods	# of Drawdowns in Period
Total Fund	-18.6	33 Months	26

Total Fund
Risk Statistics (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index
Return Summary Statistics								
Up Market Periods	8	8	19	19	35	35	78	78
Down Market Periods	4	4	17	17	25	25	42	42
Maximum Return	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Minimum Return	-1.6	-1.7	-4.0	-4.0	-5.9	-4.0	-5.9	-4.0
Return	12.3	11.5	1.5	1.1	3.5	3.0	4.5	3.7
Cumulative Return	12.3	11.5	4.4	3.2	18.9	16.1	55.3	44.4
Active Return	0.7	0.0	0.4	0.0	0.5	0.0	0.8	0.0
Risk Summary Statistics								
Beta	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.0
Upside Risk	1.6	1.6	4.6	4.6	4.6	4.3	3.9	3.6
Downside Risk	1.9	2.1	4.2	4.4	4.2	3.6	3.2	2.8
Risk/Return Summary Statistics								
Standard Deviation	5.0	5.1	6.2	6.3	6.2	5.6	4.9	4.4
Alpha	1.0	0.0	0.4	0.0	0.3	0.0	0.5	0.0
Sharpe Ratio	1.3	1.1	-0.3	-0.4	0.2	0.2	0.6	0.5
Active Return/Risk	0.1	0.0	0.1	0.0	0.1	0.0	0.2	0.0
Tracking Error	0.4	0.0	0.7	0.0	1.7	0.0	1.3	0.0
Information Ratio	1.7	-	0.5	-	0.3	-	0.6	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	0.9	1.0	0.9	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	58.3	100.0	61.1	100.0	68.3	100.0	67.5	100.0

Total Fund
Risk Statistics (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index
Return Summary Statistics								
Up Market Periods	8	8	19	19	35	35	78	78
Down Market Periods	4	4	17	17	25	25	42	42
Maximum Return	3.7	3.6	3.7	3.6	3.7	3.6	3.7	3.6
Minimum Return	-1.6	-1.7	-4.0	-3.9	-5.9	-3.9	-5.9	-3.9
Return	12.3	11.5	1.5	1.0	3.5	3.0	4.5	3.8
Cumulative Return	12.3	11.5	4.4	3.1	18.9	16.0	55.3	44.7
Active Return	0.7	0.0	0.4	0.0	0.5	0.0	0.7	0.0
Risk Summary Statistics								
Beta	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.0
Upside Risk	1.6	1.6	4.6	4.6	4.6	4.3	3.9	3.6
Downside Risk	1.9	2.1	4.2	4.3	4.2	3.6	3.2	2.8
Risk/Return Summary Statistics								
Standard Deviation	5.0	5.1	6.2	6.3	6.2	5.5	4.9	4.4
Alpha	1.0	0.0	0.4	0.0	0.3	0.0	0.5	0.0
Sharpe Ratio	1.3	1.1	-0.3	-0.4	0.2	0.2	0.6	0.5
Active Return/Risk	0.1	0.0	0.1	0.0	0.1	0.0	0.2	0.0
Tracking Error	0.4	0.0	0.7	0.0	1.7	0.0	1.3	0.0
Information Ratio	1.7	-	0.6	-	0.3	-	0.6	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	0.9	1.0	0.9	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	66.7	100.0	63.9	100.0	70.0	100.0	68.3	100.0

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	3,484,213,896	100.0	4.1	4.1	6.3	12.3	1.5	3.5	4.0	4.5
Policy Index			4.2	4.2	5.7	11.5	1.1	3.0	3.6	3.7
Corridor Target Index			4.2	4.2	5.8	11.5	1.0	3.0	3.6	3.8
Total Equity	500,716,028	14.4	6.0	6.0	17.0	29.6	7.3	12.2	-	-
Total Equity Blend			7.0	7.0	-	-	-	-	-	-
Domestic Equity	303,614,583	8.7	6.1	6.1	19.3	33.1	9.9	14.5	12.5	12.2
Russell 3000 Index			6.2	6.2	20.6	35.2	10.3	15.3	13.7	12.8
Domestic Equity All Cap	8,465,545	0.2	-	-	-	-	-	-	-	-
Russell 3000 Index			-	-	-	-	-	-	-	-
Large Cap	273,554,448	7.9	6.1	6.1	22.5	36.8	11.8	16.5	14.4	13.4
Russell 1000 Index			6.1	6.1	21.2	35.7	10.8	15.6	14.2	13.1
Small Cap	21,594,590	0.6	7.2	7.2	4.4	16.2	2.0	6.7	5.4	7.5
Russell 2000 Index			9.3	9.3	11.2	26.8	1.8	9.4	7.4	8.8
International Equity	197,101,445	5.7	5.9	5.9	13.5	24.4	3.5	8.7	5.9	6.4
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	3.7	7.7	5.4	5.3
International All Cap	81,849,800	2.3	3.4	3.4	13.2	24.0	-	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	-	-	-	-
Developed International Large Cap	70,499,398	2.0	7.7	7.7	12.9	24.8	-	-	-	-
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	-	-	-	-
Developed International Small Cap	11,121,691	0.3	9.4	9.4	12.9	24.1	-	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	10.4	11.5	23.4	-	-	-	-
Emerging Markets	33,630,557	1.0	7.4	7.4	15.7	24.7	-	-	-	-
MSCI Emerging Markets (Net)			8.7	8.7	16.9	26.1	-	-	-	-
Domestic Fixed Income	1,429,395,023	41.0	5.2	5.2	5.2	12.9	-0.9	1.1	2.3	3.1
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-1.4	0.3	1.5	1.8
Open Fixed Income	1,372,018,627	39.4	5.3	5.3	5.1	12.9	-1.1	0.9	2.2	-
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-1.4	0.3	1.5	-
Closed Fixed Income	57,376,396	1.6	3.3	3.3	8.7	11.7	5.3	5.3	5.4	-
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-1.4	0.3	1.5	-
Short Term Fixed Income	1,009,890,552	29.0	2.6	2.6	5.5	8.3	2.2	2.4	2.5	2.2
Bloomberg U.S. Gov/Credit 1-3 Year Index			3.0	3.0	4.4	7.2	1.5	1.7	1.9	1.6

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value of \$212,521 included in Total Fund value.

Total Fund
Asset Allocation & Performance (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Assets	361,276,858	10.4	2.3	2.3	0.7	3.0	1.2	2.8	-	-
<i>Total Real Assets</i>			<i>1.8</i>	<i>1.8</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Real Estate	96,424,680	2.8	-0.6	-0.6	-10.1	-9.9	0.3	1.5	2.7	5.1
<i>NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag</i>			<i>-0.8</i>	<i>-0.8</i>	<i>-8.4</i>	<i>-10.3</i>	<i>1.1</i>	<i>2.6</i>	<i>3.8</i>	<i>5.8</i>
Diversified Real Assets	264,852,178	7.6	3.3	3.3	5.2	8.6	1.7	3.4	4.1	3.5
<i>Diversified Real Assets Blend</i>			<i>2.7</i>	<i>2.7</i>	<i>3.4</i>	<i>6.4</i>	<i>1.1</i>	<i>3.0</i>	<i>3.3</i>	<i>2.8</i>
Cash & Equivalents	182,722,913	5.2	1.3	1.3	3.9	5.4	3.5	2.3	2.1	1.6
<i>90 Day U.S. Treasury Bill</i>			<i>1.4</i>	<i>1.4</i>	<i>4.0</i>	<i>5.5</i>	<i>3.5</i>	<i>2.3</i>	<i>2.2</i>	<i>1.6</i>

Domestic All Cap Equity funded 08/01/2024. Residual Holdings value of \$212,521 included in Total Fund value.

Total Fund
Performance Summary (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	3,484,213,896	100.0	4.1	4.1	6.3	12.3	1.5	3.5	4.5
Policy Index			4.2	4.2	5.7	11.5	1.1	3.0	3.7
Corridor Target Index			4.2	4.2	5.8	11.5	1.0	3.0	3.8
Total Equity	500,716,028	14.4	6.0	6.0	17.0	29.6	7.3	12.2	-
Total Equity Blend			7.0	7.0	-	-	-	-	-
Domestic Equity	303,614,583	8.7	6.1	6.1	19.3	33.1	9.9	14.5	12.2
Russell 3000 Index			6.2	6.2	20.6	35.2	10.3	15.3	12.8
Domestic Equity All Cap	8,465,545	0.2	-	-	-	-	-	-	-
Russell 3000 Index			-	-	-	-	-	-	-
Two Sigma Active Extension U.S. All Cap Equity	8,465,545	0.2	-	-	-	-	-	-	-
Large Cap	273,554,448	7.9	6.1	6.1	22.5	36.8	11.8	16.5	13.4
Russell 1000 Index			6.1	6.1	21.2	35.7	10.8	15.6	13.1
LA Capital Large Cap Growth	7,373,303	0.2	2.8	2.8	28.2	45.4	13.5	20.8	16.6
NTAM R1000 Index	75,738,978	2.2	6.1	6.1	21.2	35.7	-	-	-
NTAM Quant Enh R1000	40,086,248	1.2	6.2	6.2	22.9	36.9	-	-	-
Parametric-Clifton Enh R1000	42,479,550	1.2	5.9	5.9	21.6	36.0	10.9	15.3	13.1
LA Capital Enhanced Alpha Fund	51,860,541	1.5	7.2	7.2	23.7	38.2	13.1	16.6	13.9
LA Capital Enhanced ex Alpha Fd	56,015,828	1.6	5.6	5.6	22.9	36.4	11.8	17.1	13.6
Small Cap	21,594,590	0.6	7.2	7.2	4.4	16.2	2.0	6.7	7.5
Russell 2000 Index			9.3	9.3	11.2	26.8	1.8	9.4	8.8
Atlanta Capital	7,127,413	0.2	9.0	9.0	8.3	21.3	8.4	-	-
NTAM R2000 Index	409,556	0.0	9.3	9.3	11.3	26.9	-	-	-
Riverbridge Small Cap Growth	7,079,479	0.2	6.7	6.7	-0.2	9.6	-8.3	-	-
Sycamore Small Cap Value	6,978,141	0.2	5.4	5.4	3.8	16.1	5.5	-	-
International Equity	197,101,445	5.7	5.9	5.9	13.5	24.4	3.5	8.7	6.4
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	3.7	7.7	5.3
International All Cap	81,849,800	2.3	3.4	3.4	13.2	24.0	-	-	-
MSCI AC World ex USA IMI (Net)			8.2	8.2	13.9	25.1	-	-	-
Arrowstreet ACWI ex US	51,551,653	1.5	3.5	3.5	15.8	24.7	-	-	-
William Blair Int'l Leaders	30,298,147	0.9	3.2	3.2	9.1	22.9	-2.9	6.8	-
Developed International Large Cap	70,499,398	2.0	7.7	7.7	12.9	24.8	-	-	-
MSCI World ex U.S. (Net)			7.8	7.8	13.1	25.0	-	-	-
State St MSCI World exUS	70,499,398	2.0	7.8	7.8	13.0	24.9	-	-	-

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. State Street Gov Bond H funded 09/01/2024. Residual Holdings value of \$212,521 included in Total Fund value. Fiscal year 06/30.

Total Fund
Performance Summary (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Developed International Small Cap	11,121,691	0.3	9.4	9.4	12.9	24.1	-	-	-
MSCI World ex U.S. Small Cap Index (Net)			10.4	10.4	11.5	23.4	-	-	-
DFA Intl Small Cap Value	4,876,150	0.1	8.5	8.5	15.4	26.2	7.7	9.8	6.2
State St MSCI exUS Small	6,245,541	0.2	10.3	10.3	11.4	23.1	-	-	-
Emerging Markets	33,630,557	1.0	7.4	7.4	15.7	24.7	-	-	-
MSCI Emerging Markets (Net)			8.7	8.7	16.9	26.1	-	-	-
DFA EM All Cap Core	16,657,795	0.5	6.6	6.6	15.2	24.3	-	-	-
State St MSCI EM China	4,741,596	0.1	23.5	23.5	29.5	24.0	-	-	-
State St MSCI EM ex China	12,231,166	0.4	3.1	3.1	11.1	25.3	-	-	-
Domestic Fixed Income	1,429,395,023	41.0	5.2	5.2	5.2	12.9	-0.9	1.1	3.1
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-1.4	0.3	1.8
Open Fixed Income	1,372,018,627	39.4	5.3	5.3	5.1	12.9	-1.1	0.9	-
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-1.4	0.3	-
Allspring Med Quality Credit	116,377,295	3.3	6.0	6.0	6.6	16.3	-0.3	2.7	4.1
Manulife-Declaration TRBF	52,729	0.0	11.7	11.7	10.1	19.3	3.7	4.0	4.2
PIMCO Core Plus Constrained	352,338,113	10.1	4.8	4.8	5.4	12.7	-1.2	0.9	-
Prudential Core Plus	359,743,003	10.3	5.3	5.3	5.2	12.8	-1.2	0.9	2.8
Western Asset Core Plus	352,546,638	10.1	5.8	5.8	4.8	13.6	-1.8	0.3	2.5
State Street Credit Index	41,356,926	1.2	5.8	5.8	5.5	14.0	-	-	-
State Street Gov Index	148,740,406	4.3	4.7	4.7	4.0	9.7	-	-	-
State Street Gov Bond H	863,517	0.0	-	-	-	-	-	-	-
Closed Fixed Income	57,376,396	1.6	3.3	3.3	8.7	11.7	5.3	5.3	-
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-1.4	0.3	-
PIMCO Bravo II	1,322,896	0.0	4.0	4.0	6.5	12.4	-10.4	-5.4	1.0
PIMCO DiSCO II	56,053,500	1.6	3.3	3.3	8.8	11.7	5.9	6.1	7.1
Short Term Fixed Income	1,009,890,552	29.0	2.6	2.6	5.5	8.3	2.2	2.4	2.2
Bloomberg U.S. Gov/Credit 1-3 Year Index			3.0	3.0	4.4	7.2	1.5	1.7	1.6
Barings Active Short Duration	504,937,850	14.5	2.2	2.2	6.1	8.5	2.1	2.4	-
JP Morgan Short Term Bond	504,952,702	14.5	3.0	3.0	4.9	8.0	2.2	2.5	2.1
Total Real Assets	361,276,858	10.4	2.3	2.3	0.7	3.0	1.2	2.8	-
Total Real Assets Blend			1.8	1.8	-	-	-	-	-
Real Estate	96,424,680	2.8	-0.6	-0.6	-10.1	-9.9	0.3	1.5	5.1
NFI-ODCE Equal-Weighted (Smoothed Monthly Return) 1Q Lag			-0.8	-0.8	-8.4	-10.3	1.1	2.6	5.8
Invesco Core Real Estate	53,231,112	1.5	-1.1	-1.1	-10.3	-10.3	0.2	1.8	5.4
JP Morgan Income & Growth Fd	43,193,567	1.2	0.0	0.0	-9.9	-9.4	0.4	1.2	4.8

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. State Street Gov Bond H funded 09/01/2024. Residual Holdings value of \$212,521 included in Total Fund value. Fiscal year 06/30.

Total Fund
Performance Summary (Net of Fees)

NDSIB - Consolidated Insurance Trust
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Diversified Real Assets	264,852,178	7.6	3.3	3.3	5.2	8.6	1.7	3.4	3.5
<i>Diversified Real Assets Blend</i>			2.7	2.7	3.4	6.4	1.1	3.0	2.8
Grosvenor CIS Fund I	4,113,591	0.1	0.5	0.5	5.4	3.5	12.1	11.0	8.8
Grosvenor CIS Fund III	6,746,477	0.2	2.1	2.1	5.7	4.0	-	-	-
JP Morgan IIF Infrastructure	40,388,849	1.2	1.9	1.9	8.9	9.8	7.0	7.4	5.7
Macquarie Infrastructure Fund V	16,787,963	0.5	-0.7	-0.7	2.7	3.1	11.7	-	-
TIR Eastern Timber Opps	21,530,344	0.6	3.9	3.9	4.7	4.7	6.3	4.0	4.1
Western US TIPS	175,284,954	5.0	4.2	4.2	4.6	9.9	-1.1	2.2	2.2
Cash & Equivalents	182,722,913	5.2	1.3	1.3	3.9	5.4	3.5	2.3	1.6
<i>90 Day U.S. Treasury Bill</i>			1.4	1.4	4.0	5.5	3.5	2.3	1.6
BND Cash	22,550,545	0.6	1.3	1.3	4.1	5.5	3.6	2.4	-
Northern Trust Cash Account	160,172,368	4.6	1.3	1.3	3.9	5.5	3.4	2.2	1.5

Two Sigma Active Extension U.S. All Cap Equity funded 08/01/2024. State Street Gov Bond H funded 09/01/2024. Residual Holdings value of \$212,521 included in Total Fund value. Fiscal year 06/30.

Workforce Safety & Insurance Fund

Investment Performance Review
Period Ending: September 30, 2024



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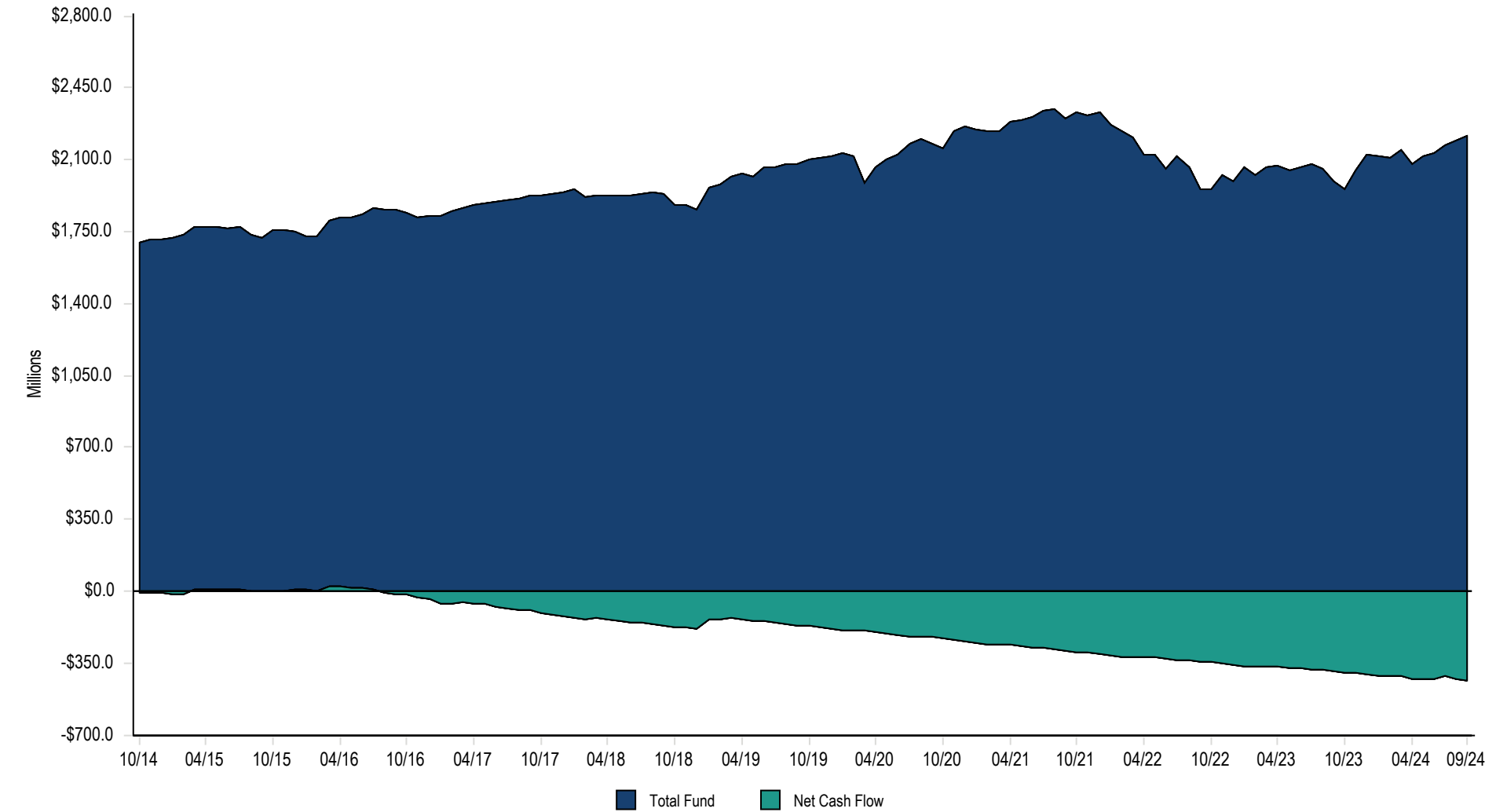
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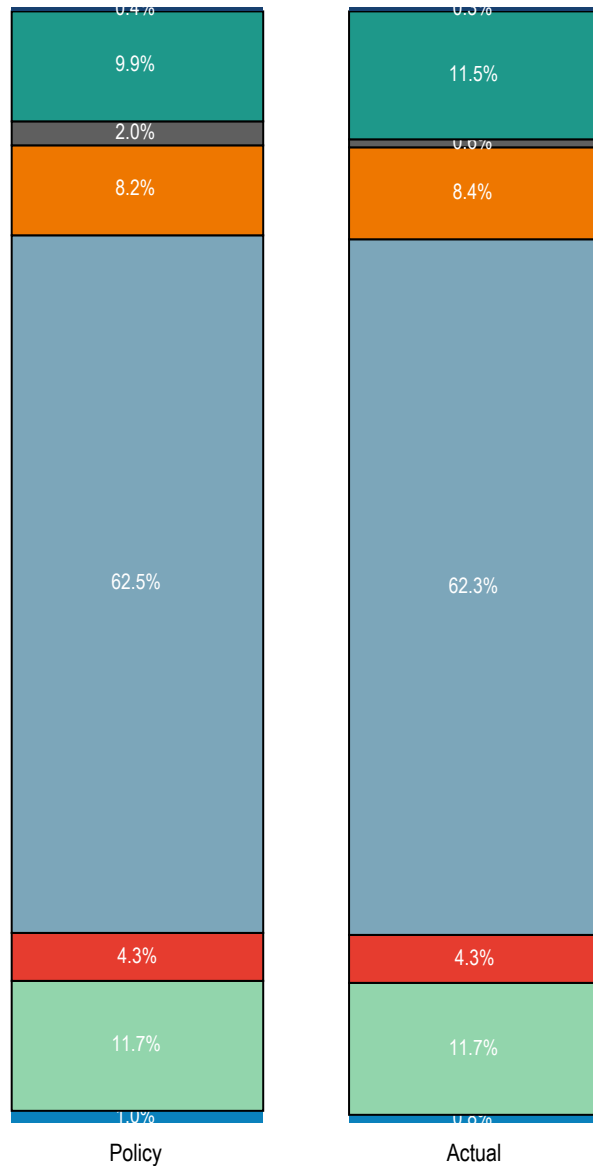
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Net Cash Flow is Cumulative.

Total Fund Asset Allocation vs Policy

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

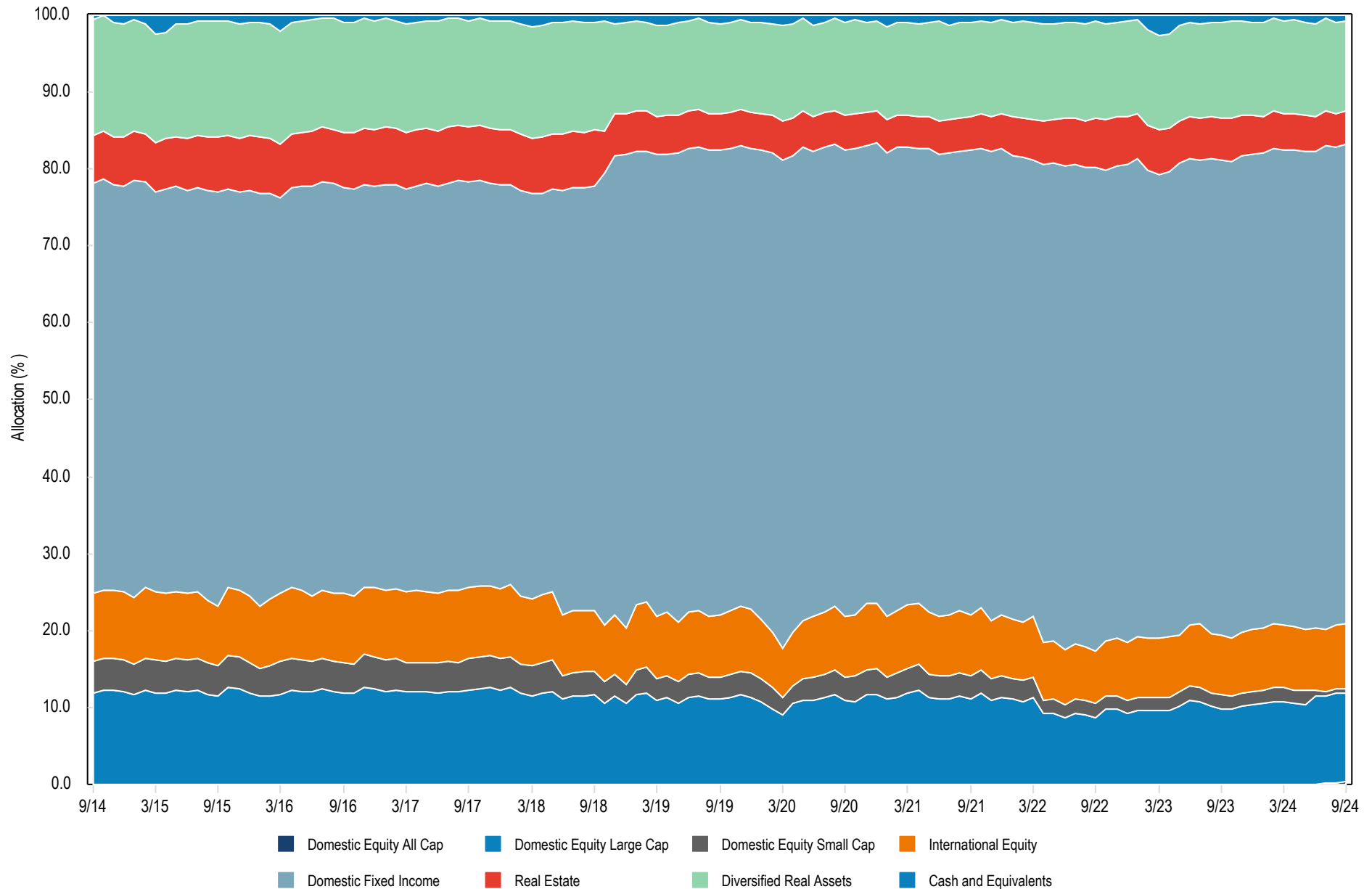


	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Domestic Equity All Cap	7,736,706	0.3	0.4	-173,940
Domestic Equity Large Cap	254,744,804	11.5	9.9	34,864,299
Domestic Equity Small Cap	13,635,834	0.6	2.0	-30,615,034
International Equity	186,004,225	8.4	8.2	4,657,652
Domestic Fixed Income	1,380,407,148	62.3	62.5	-3,645,676
Real Estate	96,061,738	4.3	4.3	3,894
Diversified Real Assets	260,208,500	11.7	11.7	-787
Cash and Equivalents	17,068,265	0.8	1.0	-5,090,407
Total	2,215,867,220	100.0	100.0	

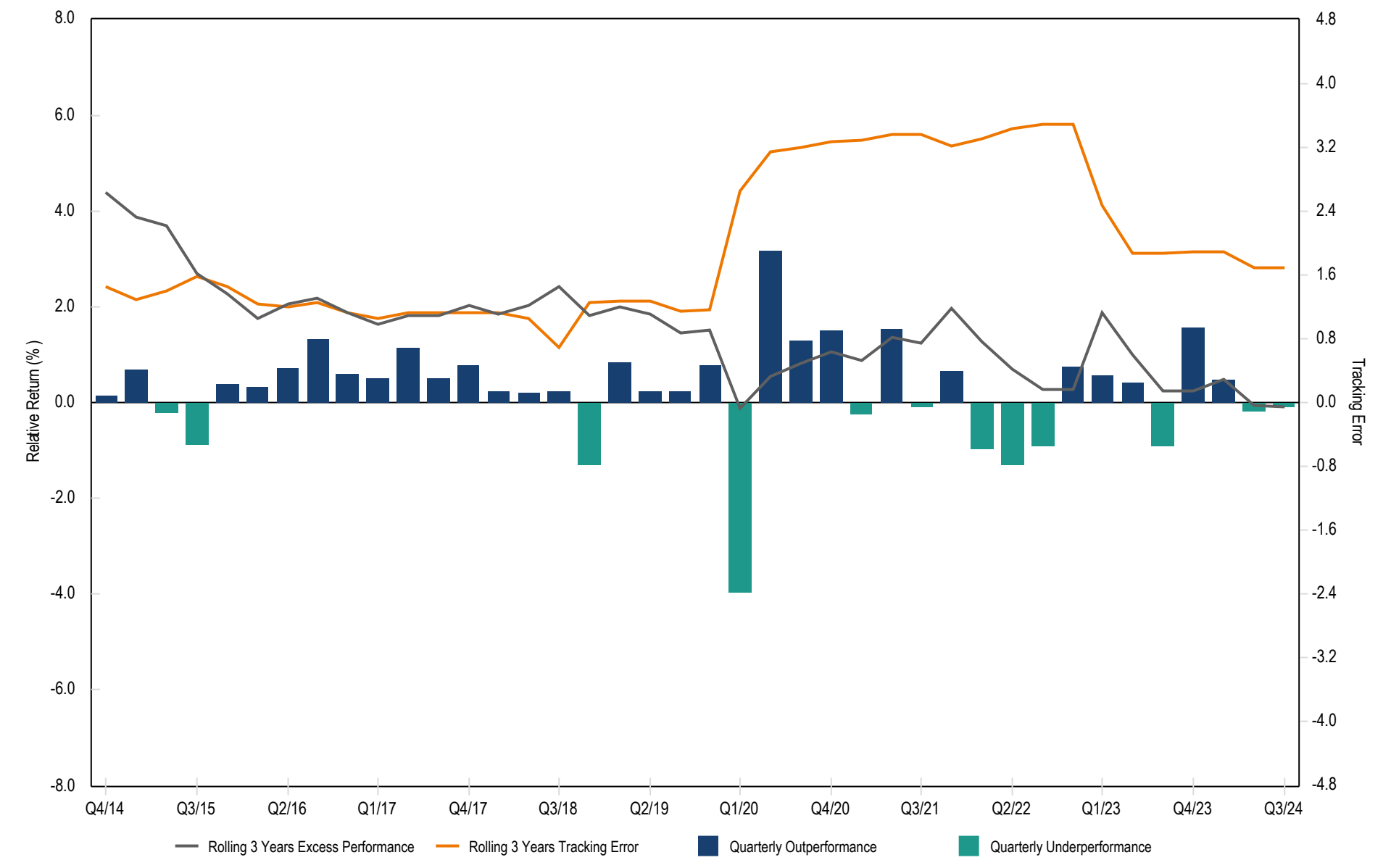
Residual Holdings value of \$199,456 included in Domestic Equity Large Cap for styling purposes.

Total Fund Asset Allocation History

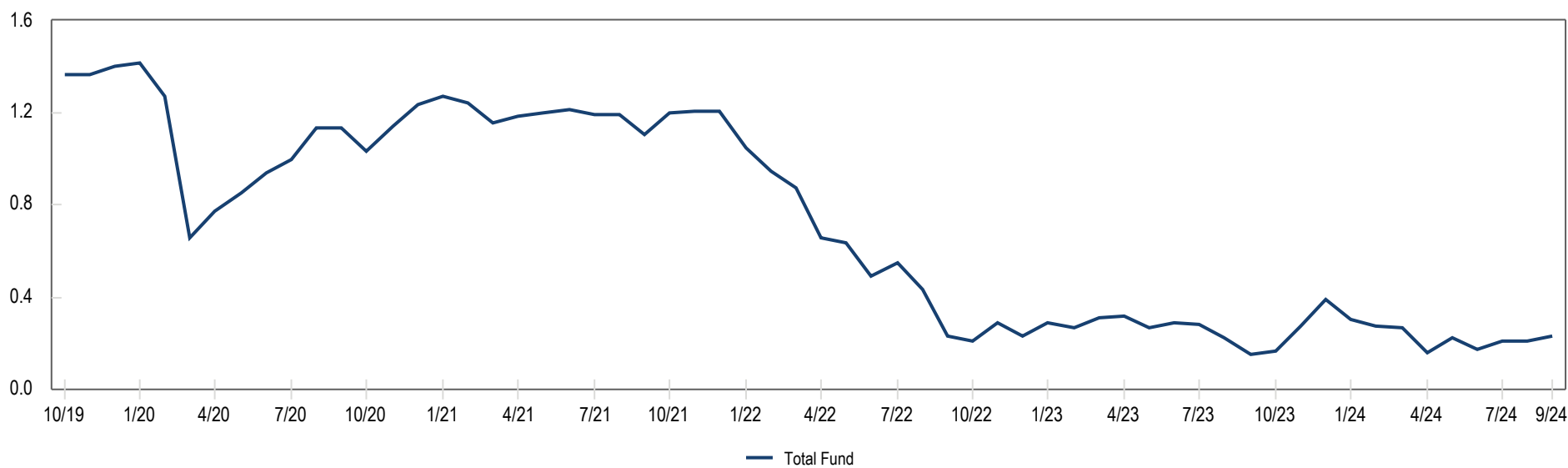
NDSIB - Workforce Safety & Insurance
Period Ending: September 30, 2024



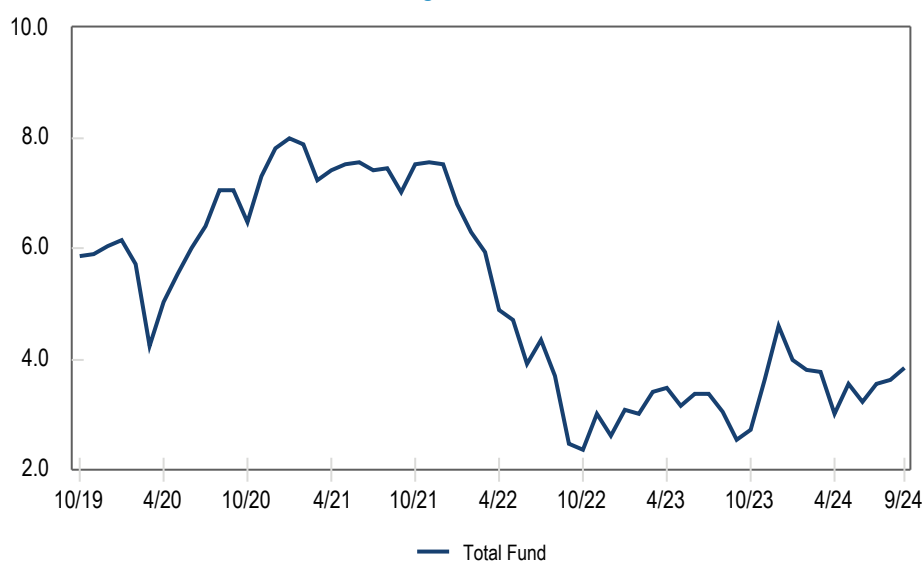
Rolling Annualized Excess Performance and Tracking Error



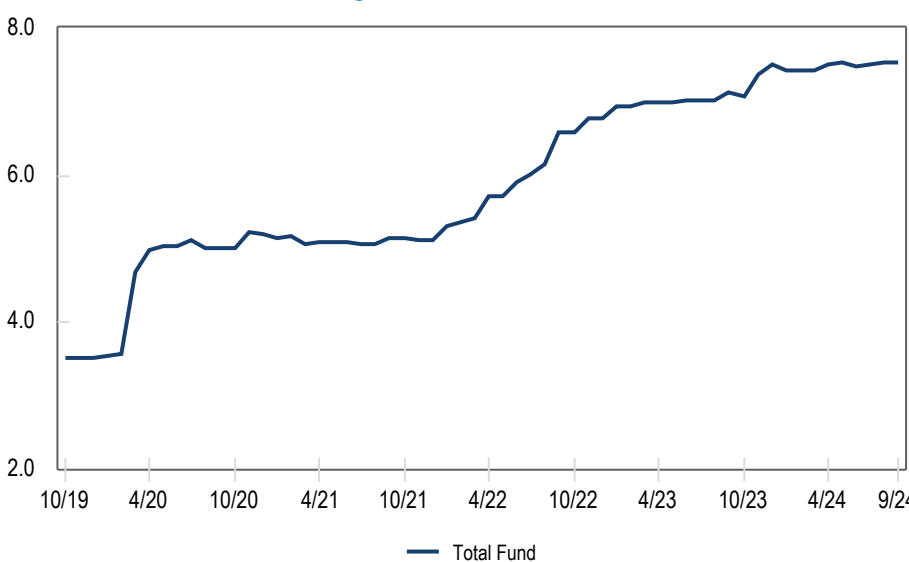
Rolling 5 Years Sharpe Ratio



Rolling 5 Years Return

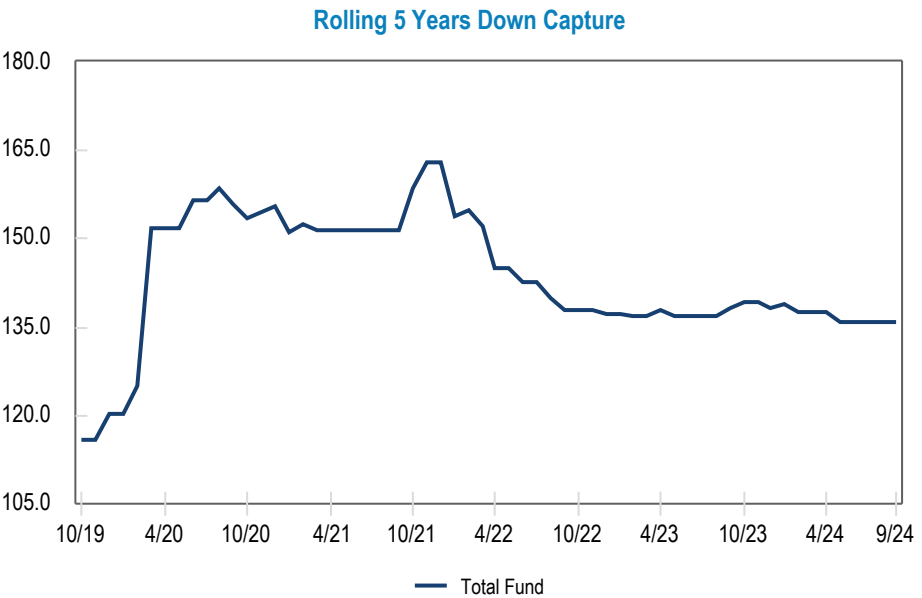
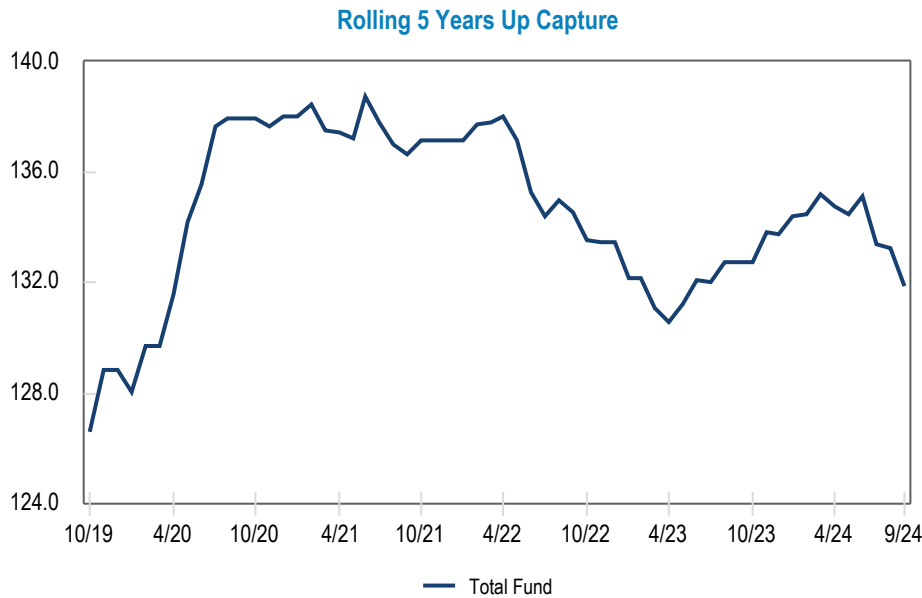
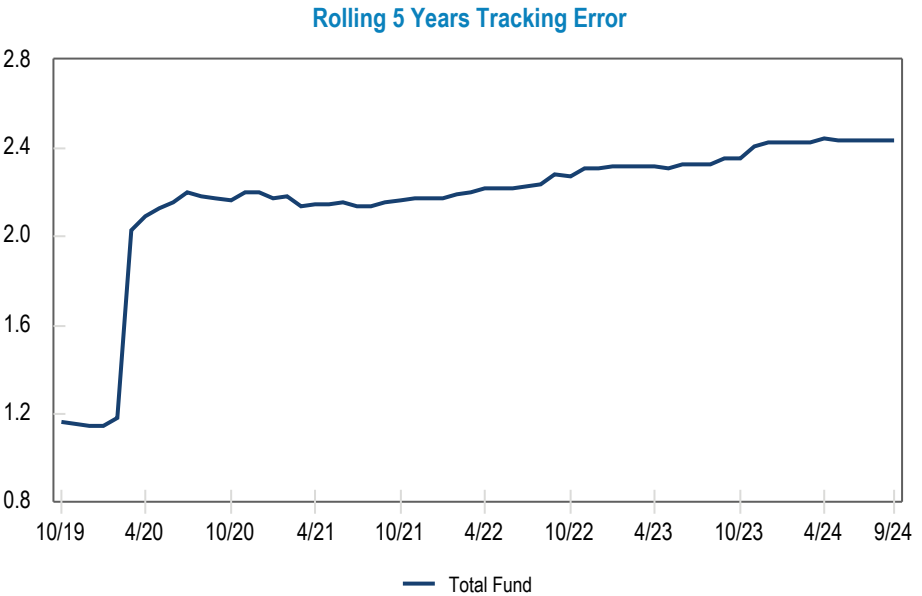
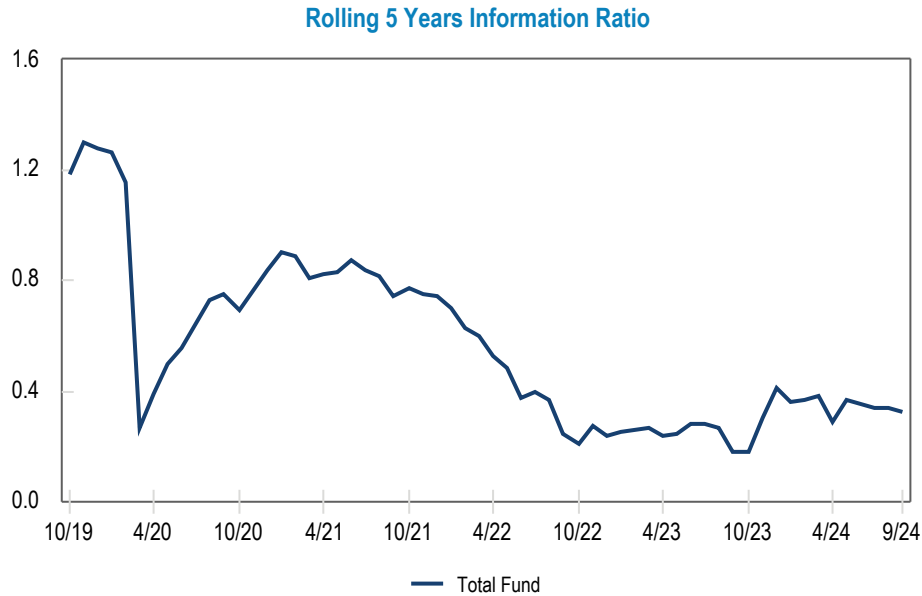


Rolling 5 Years Standard Deviation



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

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

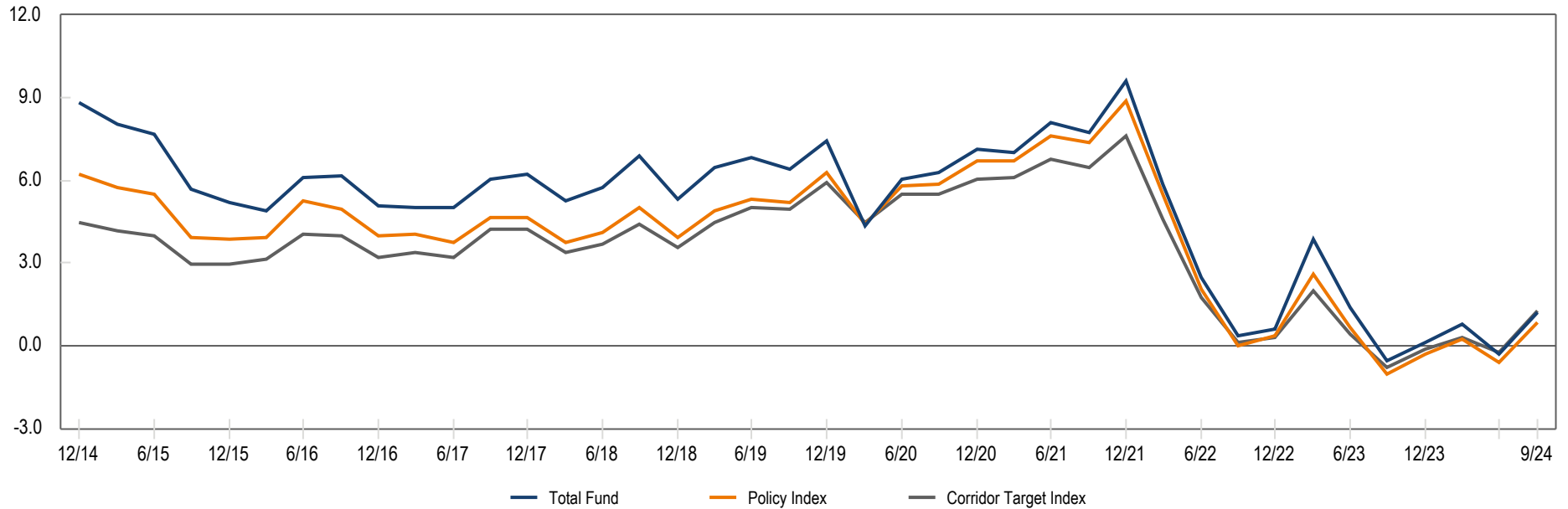


Analytic is using the Corridor Target Index

Total Fund Rolling Risk Statistics

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

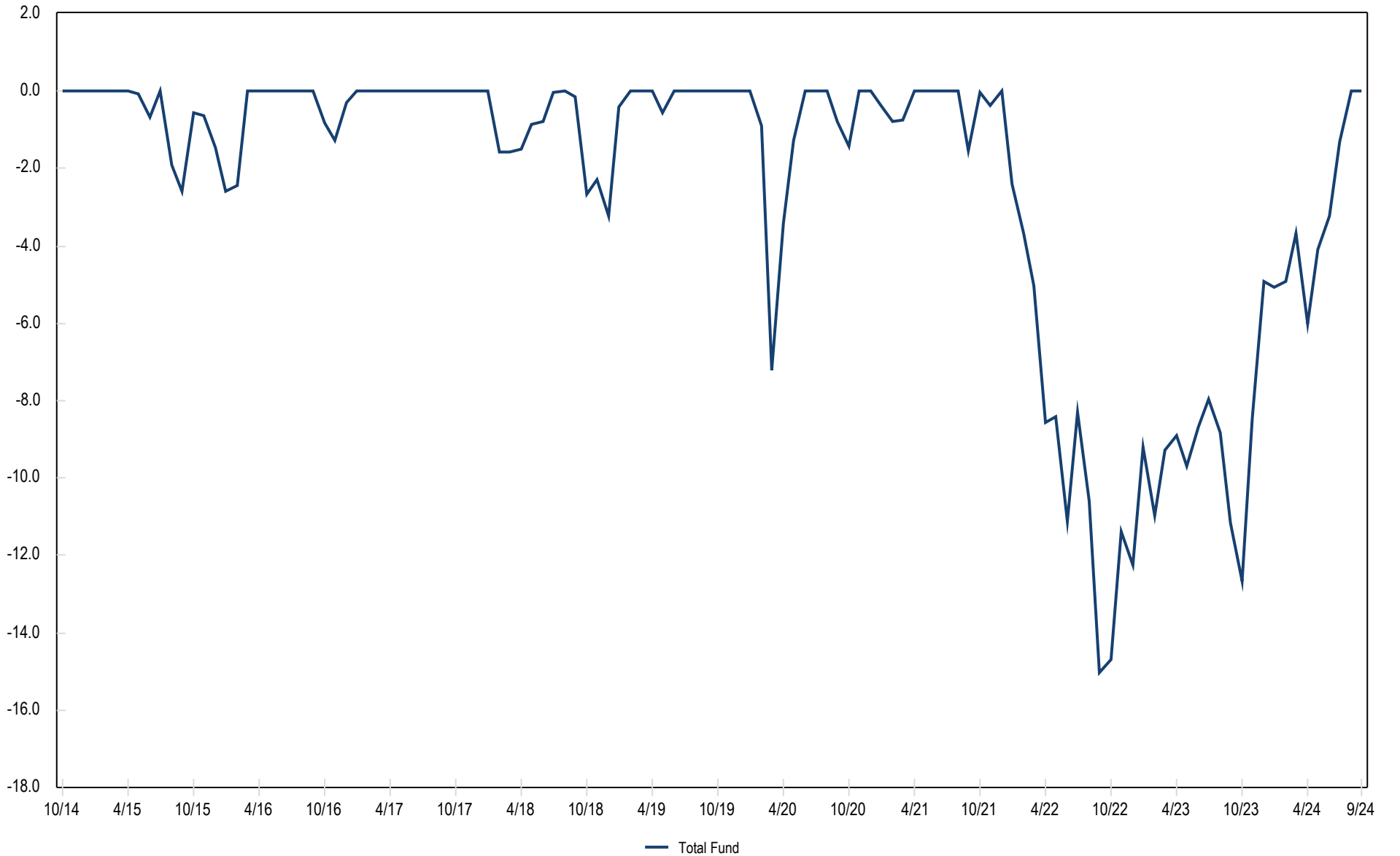
Rolling 3 Years Return



	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
Return	5.7	6.1	6.0	6.9	6.4	6.3	7.7	0.4	-0.5	1.2
Standard Deviation	3.5	3.5	3.3	3.0	3.4	5.9	6.4	7.8	7.1	7.8
vs. Policy Index										
Alpha	1.8	0.8	1.0	1.4	0.9	-1.2	-1.5	0.4	0.5	0.3
Beta	1.0	1.1	1.1	1.1	1.1	1.3	1.3	1.1	1.0	1.0
Consistency	66.7	61.1	66.7	77.8	75.0	69.4	69.4	66.7	61.1	58.3
Tracking Error	0.9	0.8	0.8	0.7	0.8	1.9	1.9	1.9	0.7	0.6
vs. Corridor Target Index										
Alpha	2.0	1.3	0.8	1.2	0.7	-2.0	-2.2	0.3	0.5	-0.3
Beta	1.2	1.2	1.2	1.3	1.1	1.5	1.5	1.4	1.2	1.2
Consistency	75.0	75.0	72.2	77.8	72.2	66.7	66.7	55.6	44.4	38.9
Tracking Error	1.4	1.3	1.2	1.1	1.0	2.6	2.7	2.8	1.6	1.7

Total Fund
Historical Drawdowns (Net of Fees)

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



	Max Drawdown	Recovery Periods	# of Drawdowns in Period
Total Fund	-15.0	32 Months	11

Total Fund
Risk Statistics (Net of Fees)

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

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index
Return Summary Statistics								
Up Market Periods	8	8	19	19	35	35	79	79
Down Market Periods	4	4	17	17	25	25	41	41
Maximum Return	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Minimum Return	-2.4	-2.4	-5.0	-5.0	-6.4	-5.0	-6.4	-5.0
Return	14.2	13.6	1.2	0.9	3.8	3.4	4.9	4.1
Cumulative Return	14.2	13.6	3.6	2.6	20.8	18.1	60.8	49.7
Active Return	0.6	0.0	0.3	0.0	0.5	0.0	0.7	0.0
Risk Summary Statistics								
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0
Upside Risk	2.1	2.1	5.7	5.8	5.7	5.4	4.7	4.4
Downside Risk	3.0	3.0	5.3	5.5	5.1	4.7	3.8	3.5
Risk/Return Summary Statistics								
Standard Deviation	6.8	6.8	7.8	8.0	7.5	7.1	5.9	5.5
Alpha	0.6	0.0	0.3	0.0	0.3	0.0	0.5	0.0
Sharpe Ratio	1.2	1.1	-0.3	-0.3	0.2	0.2	0.6	0.5
Active Return/Risk	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0
Tracking Error	0.3	0.0	0.6	0.0	1.5	0.0	1.2	0.0
Information Ratio	1.7	-	0.5	-	0.3	-	0.6	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	66.7	100.0	58.3	100.0	65.0	100.0	65.8	100.0

Total Fund
Risk Statistics (Net of Fees)

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

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index	Total Fund	Corridor Target Index
Return Summary Statistics								
Up Market Periods	8	8	19	19	35	35	78	78
Down Market Periods	4	4	17	17	25	25	42	42
Maximum Return	4.8	3.6	4.8	3.6	4.8	3.6	4.8	3.6
Minimum Return	-2.4	-1.7	-5.0	-3.9	-6.4	-3.9	-6.4	-3.9
Return	14.2	12.3	1.2	1.3	3.8	3.2	4.9	3.8
Cumulative Return	14.2	12.3	3.6	3.9	20.8	16.9	60.8	45.8
Active Return	1.8	0.0	0.0	0.0	0.8	0.0	1.1	0.0
Risk Summary Statistics								
Beta	1.3	1.0	1.2	1.0	1.3	1.0	1.3	1.0
Upside Risk	2.1	1.7	5.7	4.6	5.7	4.3	4.7	3.6
Downside Risk	3.0	2.1	5.3	4.3	5.1	3.6	3.8	2.8
Risk/Return Summary Statistics								
Standard Deviation	6.8	5.2	7.8	6.3	7.5	5.6	5.9	4.4
Alpha	-1.7	0.0	-0.3	0.0	-0.3	0.0	-0.1	0.0
Sharpe Ratio	1.2	1.3	-0.3	-0.3	0.2	0.2	0.6	0.5
Active Return/Risk	0.3	0.0	0.0	0.0	0.1	0.0	0.2	0.0
Tracking Error	1.8	0.0	1.7	0.0	2.4	0.0	1.9	0.0
Information Ratio	1.0	-	0.0	-	0.3	-	0.6	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	50.0	100.0	38.9	100.0	51.7	100.0	60.0	100.0

Total Fund Asset Allocation & Performance

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

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	2,215,867,220	100.0	4.9	4.9	6.7	14.2	1.2	3.8	4.9
Policy Index			4.9	4.9	6.4	13.6	0.9	3.4	4.1
Corridor Target Index			5.0	5.0	6.5	12.3	1.3	3.2	3.8
Total Equity	461,922,112	20.8	6.0	6.0	17.0	29.6	7.3	12.2	-
Total Equity Blend			7.0	7.0	-	-	-	-	-
Fixed Income	1,380,407,148	62.3	5.2	5.2	5.2	12.9	-0.9	1.1	3.0
Blmbg. U.S. Aggregate Index			5.2	5.2	4.4	11.6	-1.4	0.3	1.8
Total Real Assets	356,270,238	16.1	2.3	2.3	0.6	3.0	1.3	2.9	-
Total Real Assets Blend			1.7	1.7	-	-	-	-	-
Cash Equivalents	17,068,265	0.8	1.3	1.3	4.0	5.4	3.5	2.2	1.6
90 Day U.S. Treasury Bill			1.4	1.4	4.0	5.5	3.5	2.3	1.6

Residual Holdings value of \$199,456 included in Total Fund value. Fiscal year 06/30.

Budget Stabilization Fund

Investment Performance Review
Period Ending: September 30, 2024



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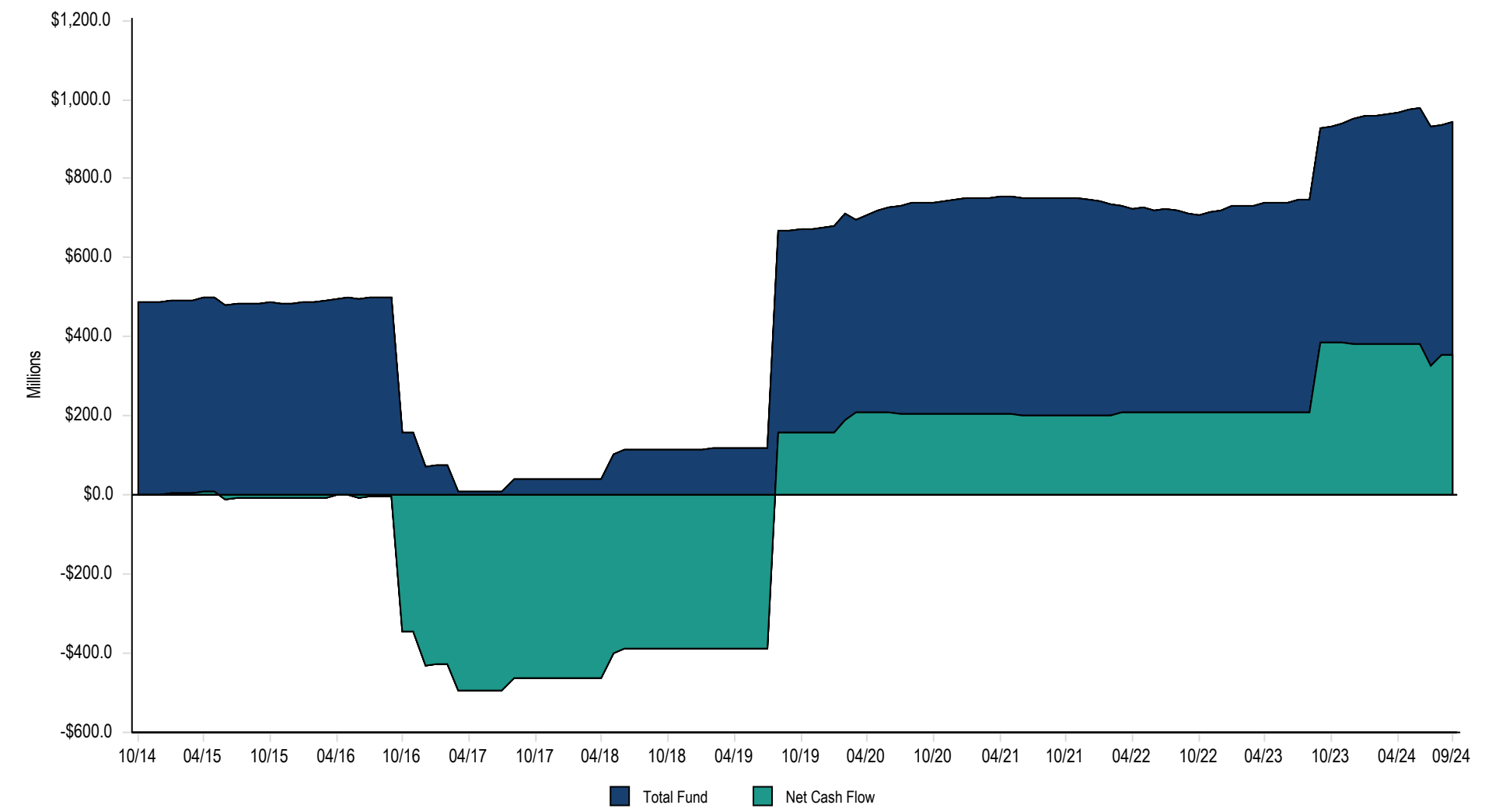
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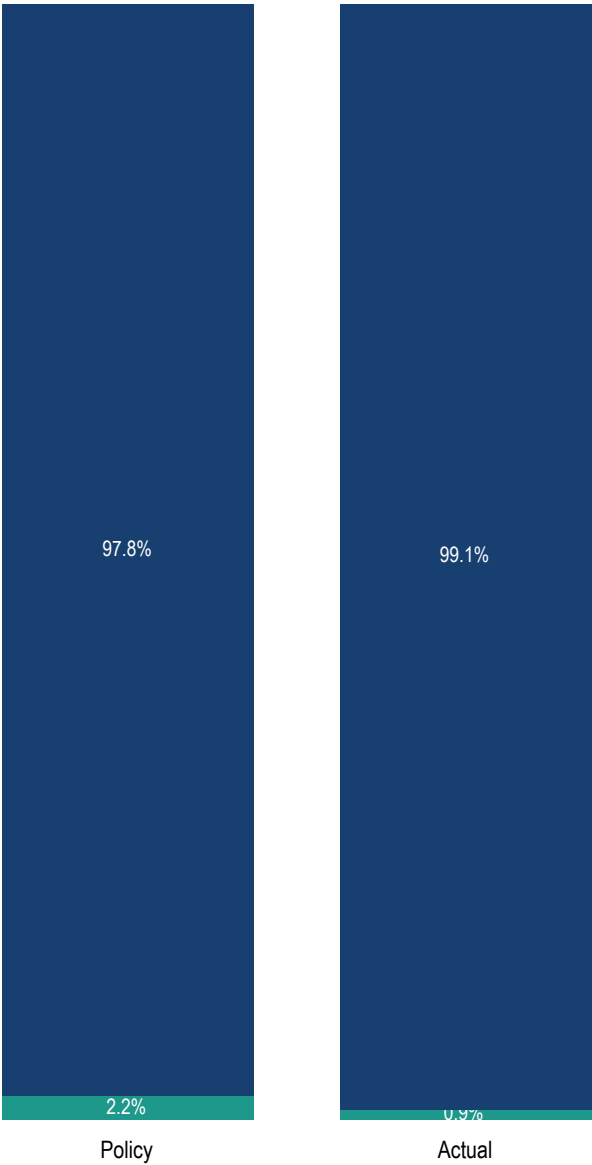
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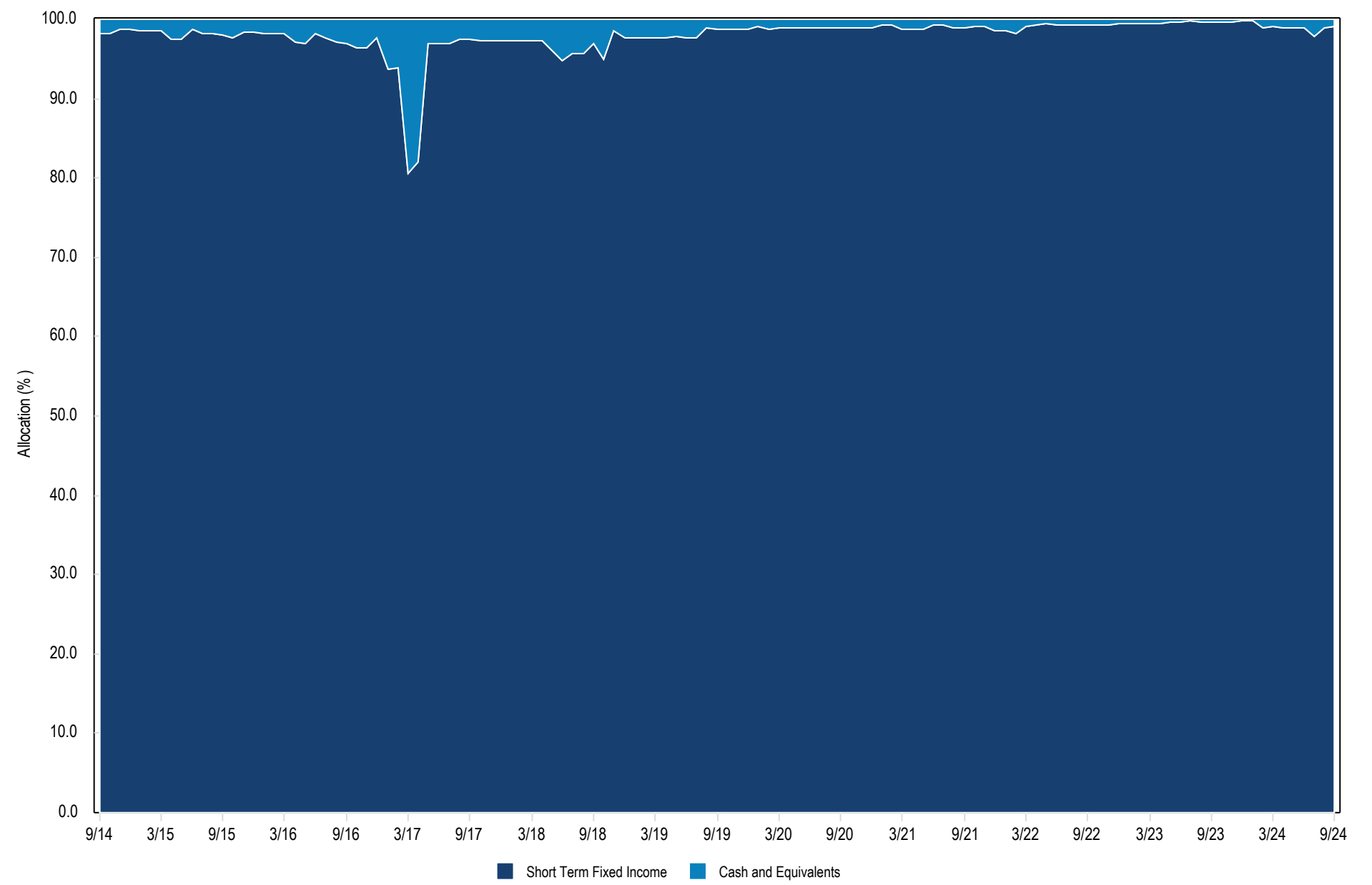
Net Cash Flow is Cumulative.

Total Fund
Asset Allocation vs Policy

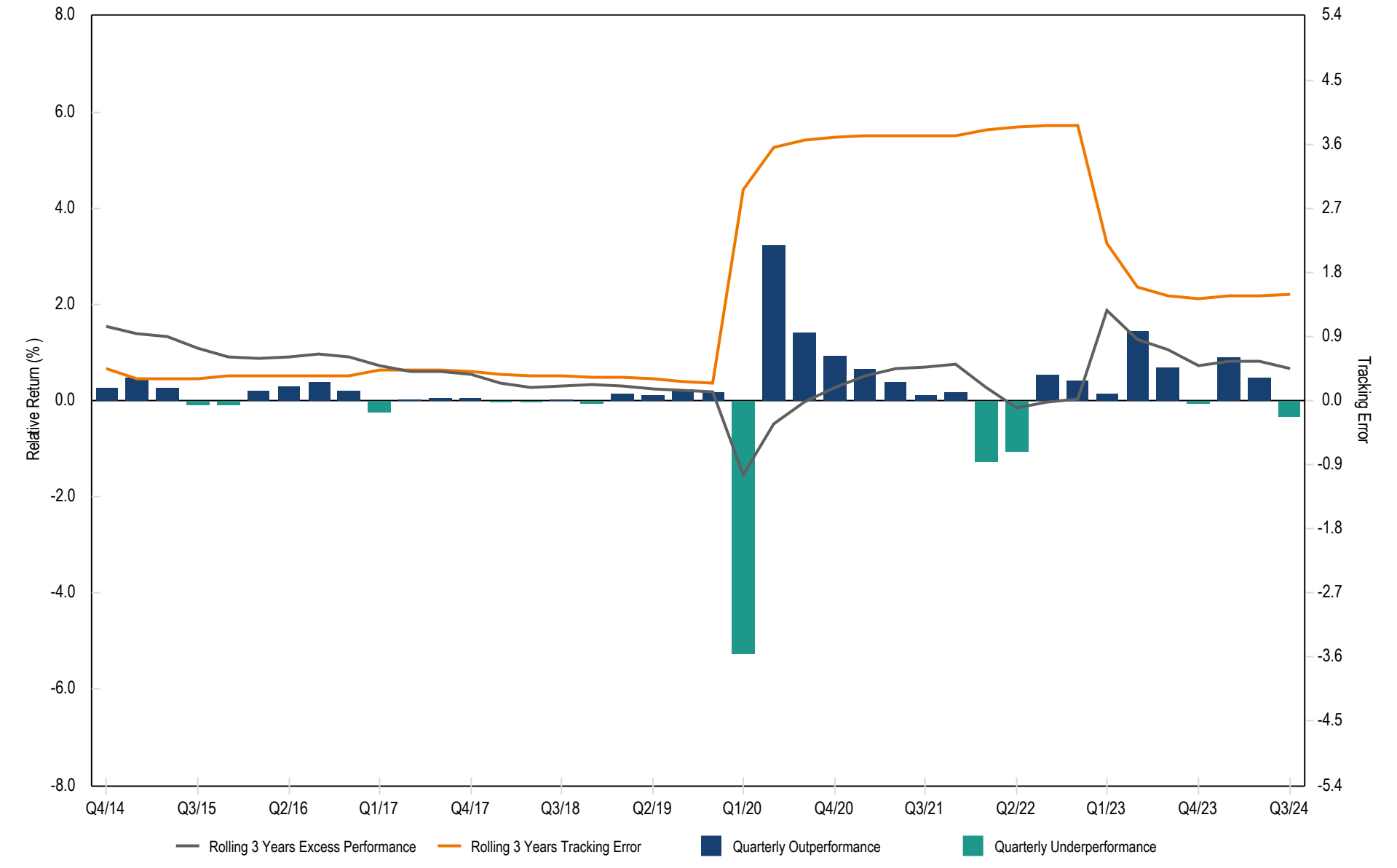
NDSIB - Budget Stabilization Fund
Period Ending: September 30, 2024



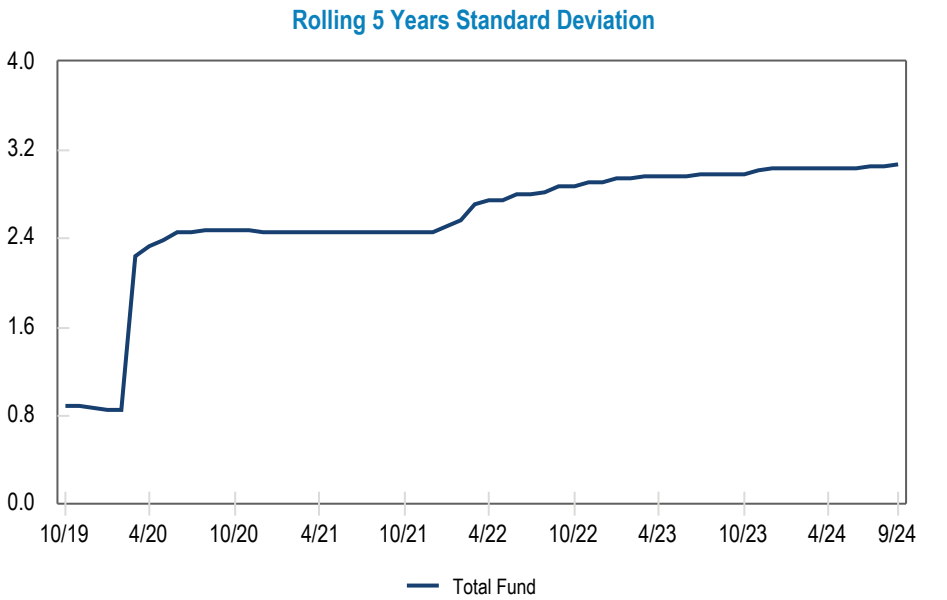
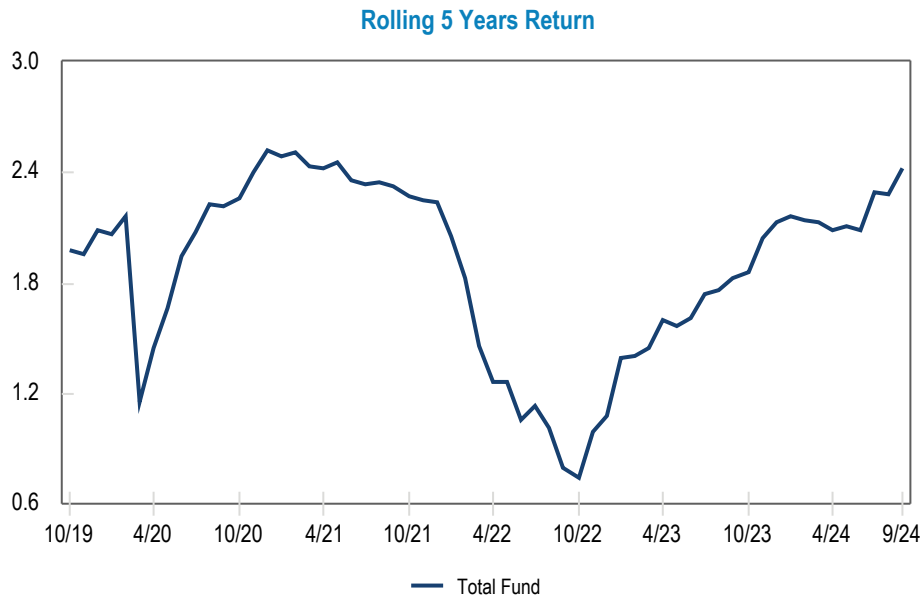
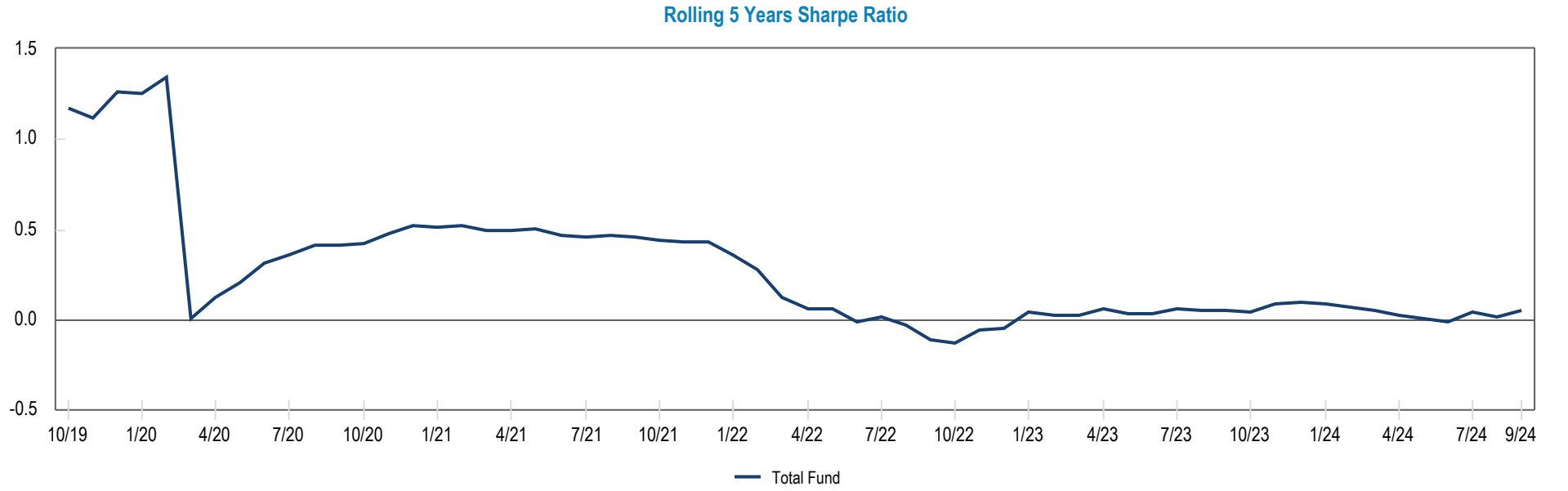
	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Short Term Fixed Income	935,170,770	99.1	97.8	12,205,231
Cash and Equivalents	8,884,975	0.9	2.2	-12,205,231
Total	944,055,745	100.0	100.0	



Rolling Annualized Excess Performance and Tracking Error

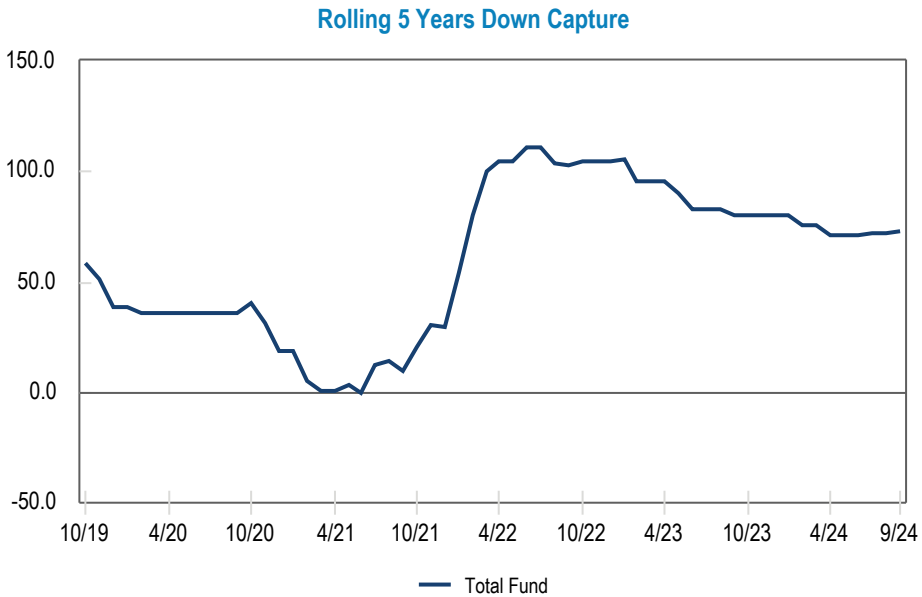
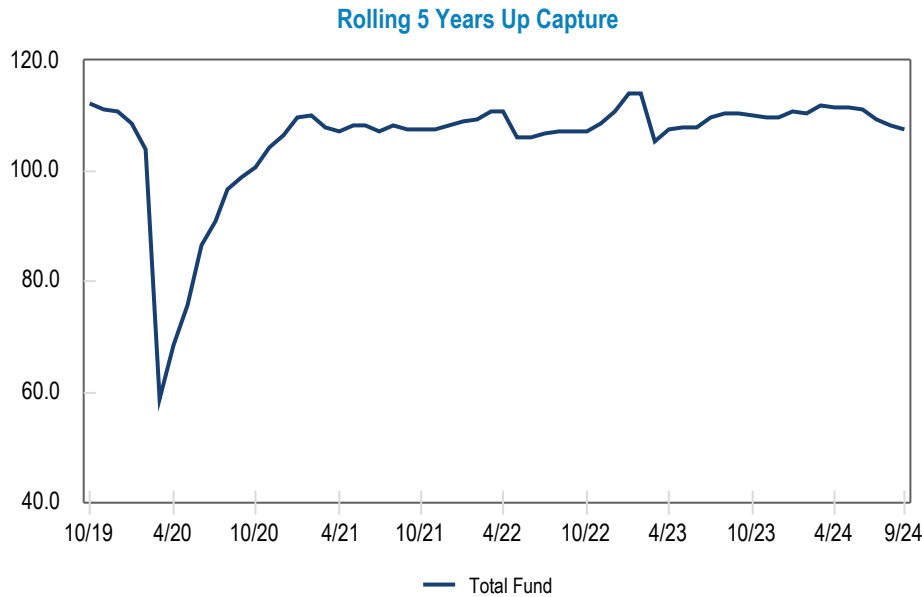
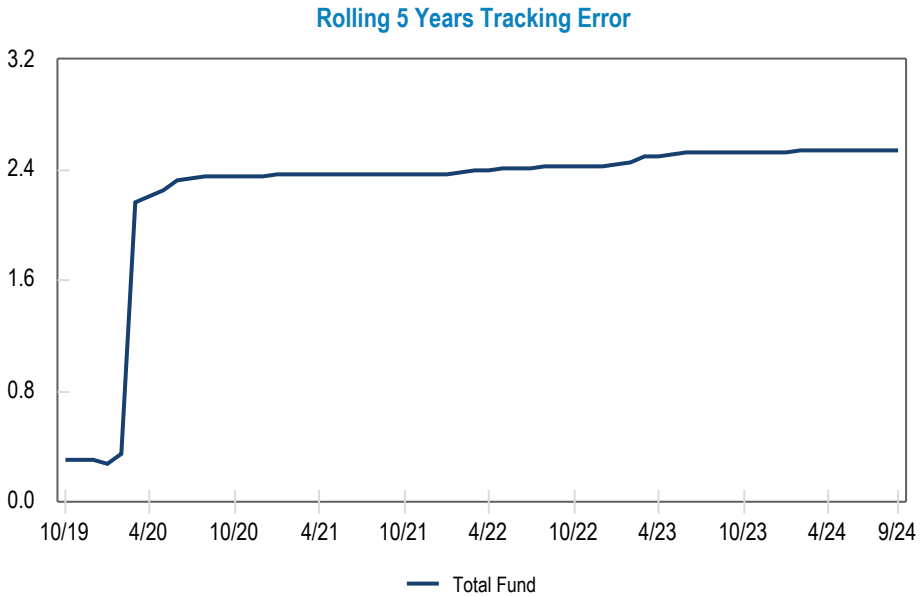
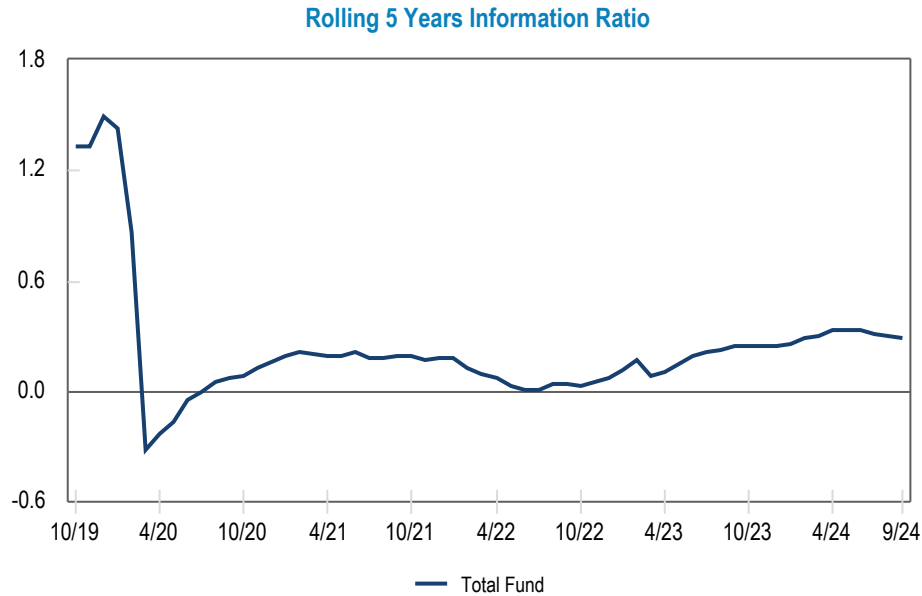


Analytic is using the Policy Index



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

NDSIB - Budget Stabilization Fund
Period Ending: September 30, 2024

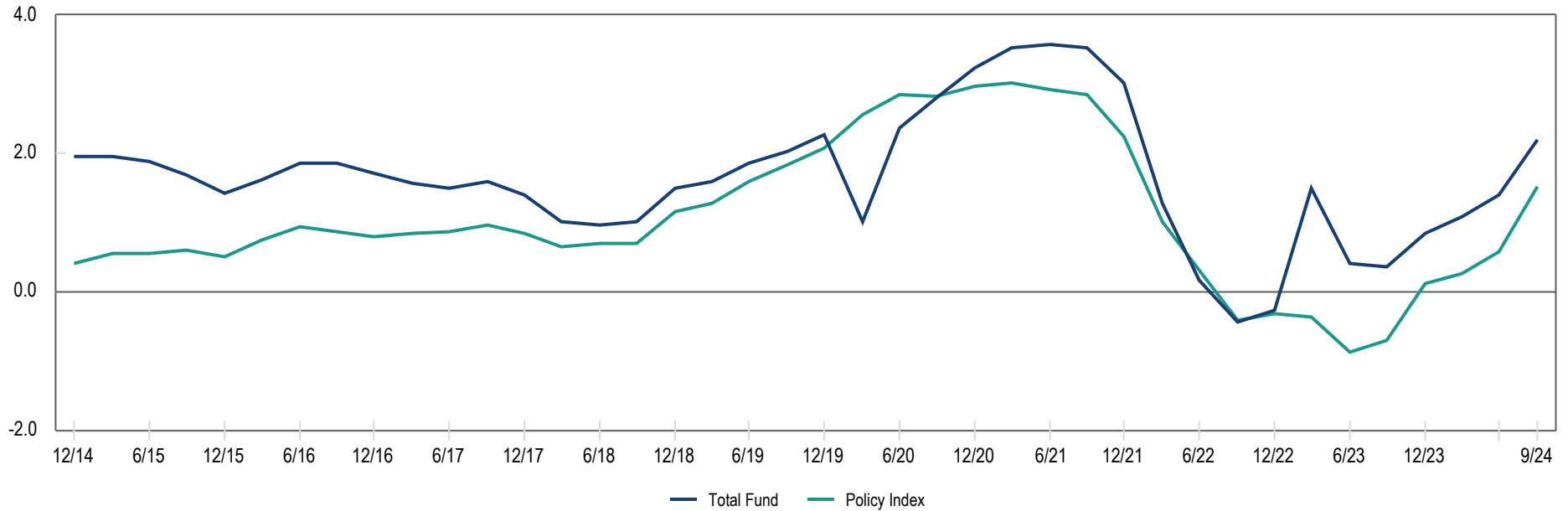


Analytic is using the Policy Index.

Total Fund Rolling Risk Statistics

NDSIB - Budget Stabilization Fund
Period Ending: September 30, 2024

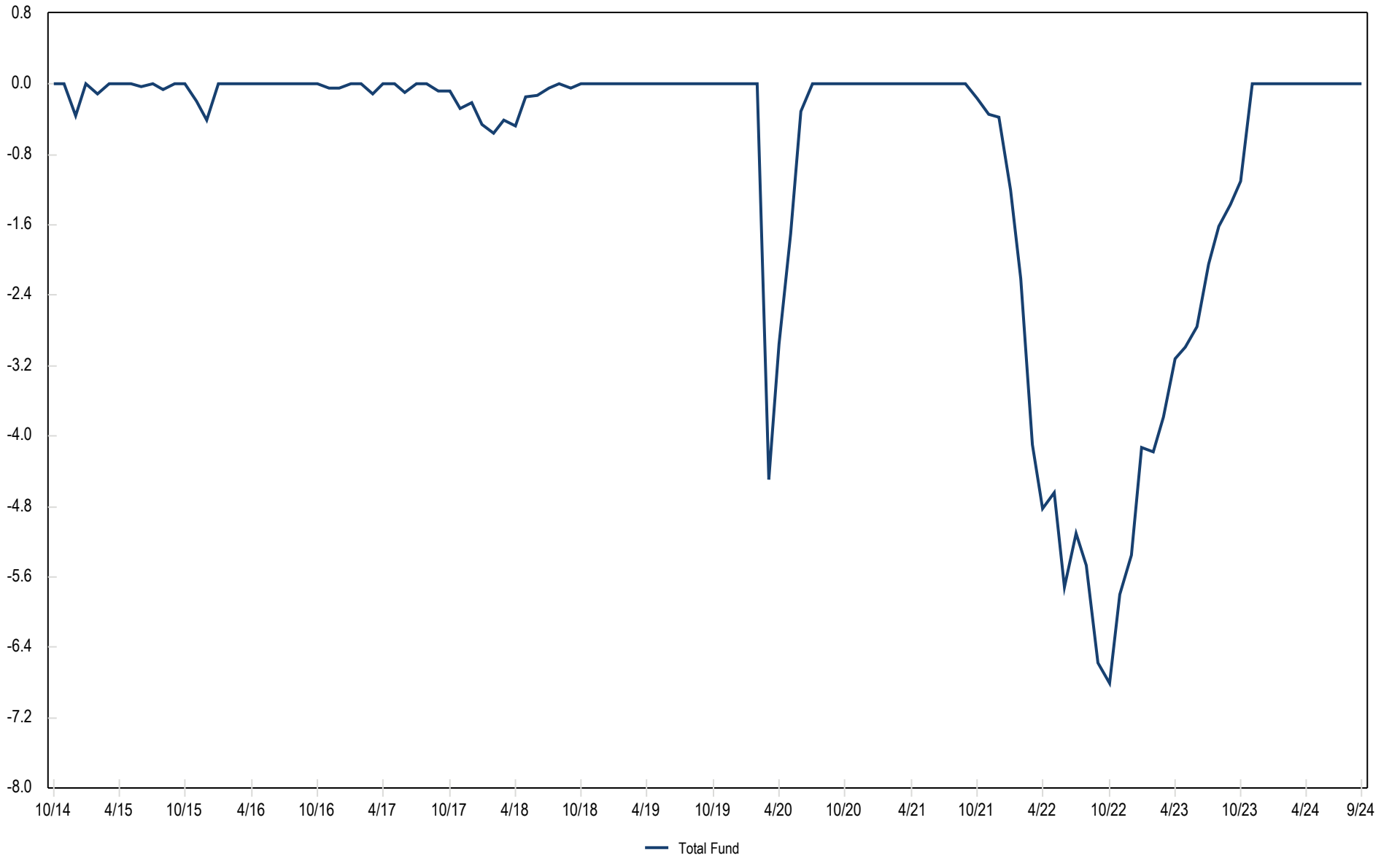
Rolling 3 Years Return



	Sep-2015	Sep-2016	Sep-2017	Sep-2018	Sep-2019	Sep-2020	Sep-2021	Sep-2022	Sep-2023	Sep-2024
Return	1.7	1.9	1.6	1.0	2.0	2.8	3.5	-0.4	0.4	2.2
Standard Deviation	0.7	0.8	0.8	0.7	0.9	3.1	3.1	3.6	2.2	2.5
vs. Policy Index										
Alpha	0.8	0.8	0.5	0.4	0.3	0.5	1.7	0.0	1.0	0.8
Beta	1.4	1.2	1.1	0.9	1.0	0.8	0.7	1.1	1.0	0.9
Consistency	80.6	75.0	61.1	61.1	63.9	75.0	83.3	72.2	72.2	58.3
Tracking Error	0.4	0.4	0.4	0.3	0.2	3.0	3.1	3.1	1.2	1.3

Total Fund
Historical Drawdowns (Net of Fees)

NDSIB - Budget Stabilization Fund
Period Ending: September 30, 2024



	Max Drawdown	Recovery Periods	# of Drawdowns in Period
Total Fund	-6.8	26 Months	12

Total Fund
Risk Statistics (Net of Fees)

NDSIB - Budget Stabilization Fund
Period Ending: September 30, 2024

	1 Yr		3 Yrs		5 Yrs		10 Yrs	
	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index	Total Fund	Policy Index
Return Summary Statistics								
Up Market Periods	10	10	19	19	38	38	78	78
Down Market Periods	2	2	17	17	22	22	42	42
Maximum Return	1.2	1.2	1.3	1.4	1.6	1.4	1.6	1.4
Minimum Return	0.1	-0.4	-1.9	-1.3	-4.5	-1.3	-4.5	-1.3
Return	8.2	7.2	2.2	1.5	2.4	1.7	2.2	1.6
Cumulative Return	8.2	7.2	6.7	4.6	12.7	8.8	24.6	17.5
Active Return	1.0	0.0	0.7	0.0	0.7	0.0	0.6	0.0
Risk Summary Statistics								
Beta	0.7	1.0	0.9	1.0	0.9	1.0	0.9	1.0
Upside Risk	2.6	0.8	2.0	2.0	2.0	1.6	1.6	1.3
Downside Risk	0.0	0.5	1.7	1.5	2.4	1.1	1.7	0.8
Risk/Return Summary Statistics								
Standard Deviation	1.2	1.8	2.5	2.4	3.1	1.9	2.3	1.5
Alpha	3.4	0.0	0.8	0.0	0.9	0.0	0.8	0.0
Sharpe Ratio	2.2	0.9	-0.6	-0.9	0.0	-0.3	0.3	0.0
Active Return/Risk	0.8	0.0	0.3	0.0	0.2	0.0	0.3	0.0
Tracking Error	0.7	0.0	1.3	0.0	2.6	0.0	1.8	0.0
Information Ratio	1.4	-	0.5	-	0.3	-	0.3	-
Correlation Statistics								
R-Squared	0.9	1.0	0.8	1.0	0.3	1.0	0.4	1.0
Actual Correlation	1.0	1.0	0.9	1.0	0.6	1.0	0.6	1.0
Consistency	50.0	100.0	58.3	100.0	70.0	100.0	67.5	100.0

Total Fund
Asset Allocation & Performance

NDSIB - Budget Stabilization Fund
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	944,055,745	100.0	2.6	2.6	5.5	8.2	2.2	2.4	2.2
<i>Policy Index</i>			2.9	2.9	4.4	7.2	1.5	1.7	1.6
Short Term Fixed Income	935,170,770	99.1	2.6	2.6	5.5	8.3	2.2	2.4	2.2
<i>Bloomberg U.S. Gov/Credit 1-3 Year Index</i>			3.0	3.0	4.4	7.2	1.5	1.7	1.6
Cash & Equivalents	8,884,975	0.9	1.3	1.3	4.0	5.3	3.5	2.2	1.6
<i>90 Day U.S. Treasury Bill</i>			1.4	1.4	4.0	5.5	3.5	2.3	1.6

Fiscal year 06/30.

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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PATHWAY TO STRATEGY

Scott M Anderson, CFA

November 22, 2024

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: Scott Anderson, Chief Investment Officer
DATE: November 21, 2024
RE: Legacy & Budget Stabilization Fund Advisory Board (Advisory Board)

The meeting was called to order by the Chairman, Senator Klein. A roll call was taken, and minutes of the November 12, 2024 meeting were approved. Mr. Anderson presented the asset allocation performance for both the Legacy Fund and the Budget Stabilization Fund including basis points charged by investment advisors, fund balance, investment returns and the status of the internal investment program. Mr. Zietlow followed by presenting the In-State investments, the status of a manager search, and the status of the implementation of the new asset allocation. Lastly, there was a Presentation by the Legislative Council staff regarding an overview of North Dakota Century Code Section 54-03-25 relating to a cost-benefit analysis for measures affecting the legacy fund.

Advisory Board information and materials may be found at: <https://ndlegis.gov/assembly/68-2023/committees/interim/legacy-and-budget-stabilization-fund-advisory-board>

BOARD ACTION REQUESTED: Information Only.

MEMORANDUM

TO: Investment Committee
FROM: Scott Anderson, Chief Investment Officer
DATE: November 22, 2024
RE: Investment Committee Update

November 8 of 2024, Investment Committee Meeting

The Investment Committee was held on November 8 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.

Mr. Anderson, Mr. Gandhi, and Mr. Moss presented a strategy review of the internal investment program. This presentation was followed by a manger update from Mr. Zietlow of an approved and negotiated L.P. \$100 million investment into Carlyle Realty Partners X (\$40 Million in the Pension Pool and \$60 million in the Legacy Fund). Mr. Anderson then provided an update that the investment consulting firm RVK would be retained to provide any cost benefit analyses associated with Legacy Fund legislation and discussed the progress of the performance consulting onboarding. There was a presentation by Ms. Murtha and an approval of making a SAAG request for external counsel to review the confidentiality provisions of RIO's investment manager agreements. Lastly, Mr. Anderson provided a list of contracts that the Chief Investment Officer executed.

<https://www.rio.nd.gov/sites/www/files/documents/PDFs/SIB%20Investment/Board/Materials/sibinvestmat20241108.pdf>

BOARD ACTION REQUESTED: Information Only.

MEMORANDUM

TO: SIB
FROM: Jan Murtha, Executive Director
DATE: November 21, 2024
RE: Governance and Policy Review Committee Update

The GPR Committee met on November 13, 2024. Please find following a summary of committee discussions and actions.

The committee received an update regarding discussions with State Procurement on the possibility of including a procurement amendment in an OMB bill and an update on working with other state agencies regarding investment data classification and potential legislation.

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

Board Action Requested: Information Only.

MEMORANDUM

TO: State Investment Board
FROM: Dottie Thorsen, Internal Auditor
DATE: November 22, 2024
RE: Audit Committee Update

The Audit Committee met on November 18, 2024. The Committee received a presentation from UHY and approved the Year End Financial Statement Audit for fiscal year 2024. The RFP for Internal Audit Co-Sourcing was reviewed and approved. Updates were received on 2024-25 First Quarter and Current Activities.

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/sibauditmat20241118.pdf>

BOARD ACTION REQUESTED: Information Only.

MEMORANDUM

TO: State Investment Board

FROM: Sarah Mudder, communications and outreach director

DATE: Nov. 22, 2024

RE: Strategic Communications Plan Update

The State Investment Board approved the Retirement and Investment Office's Strategic Communications Plan in November 2023 that focused on four main goals. The following is a report of progress to date.

Goal 1: Build Brand Awareness.

Increase stakeholder knowledge of RIO and the services it provides to its investment and pension fund customers.

Objective 1: Improved awareness of agency's role as the SIB and TFFR program coordinator.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Consistently identify the agency's role as the administrative office for the SIB and TFFR programs in agency communications (i.e., letters, brochures, reports, etc.).	High	Communications director and admin support	Officewide adoption and usage	Complete with ongoing monitoring by the communications director and admin support.
Establish communication standards to address inconsistent branding, i.e., standardize email signatures, PowerPoint templates, etc.	High	Communications director	Officewide adoption and usage	Complete with ongoing monitoring by the communications director and admin support.
Improve website content to better describe RIO and the programs coordinated (e.g., the about tab contains more information about boards than the agency).	High	Communications director and admin support	Google analytics, user feedback	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.
Increase board member and employee knowledge of agency happenings by including them in communications distributions (i.e., press releases, newsletters, program updates).	High	Communications director	Feedback and metrics	Complete.
Coordinate board education program, support the onboarding of new members.	Medium/high	Communications director	Feedback and metrics	Complete.

Educating lawmakers about the agency's role and its growth in preparation for the 2025 legislative session.	Medium/high	Executive director and communications director	Feedback	Ongoing activity.
Highlight employee accomplishments during board, committee, and staff meetings.	Medium	Executive director and communications director	Feedback	Complete, protocol adopted.

Objective 2: Increased member awareness of the TFFR program, how it works and who administers the program.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Relaunch member (active and retired) newsletters to provide regular communications about program activity and events.	High	Communications director and retirement services staff.	Feedback and metrics	Complete. Additional resources required for a consistent stream of communications.
Update RIO's website content to identify the agency's role, improve TFFR's program descriptions, and balance its presence (e.g., TFFR dominates the website with most of the links and graphics on the home page directed to the program.)	High	Communications director and retirement services staff.	Google analytics, user feedback	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.
Develop quick start guide directed to newer members. Include with enrollment letters and distributed during presentations and at tradeshows.	High	Communications director with support from retirement services staff	Feedback	Additional time/ resources required to achieve objective.
Redevelop introductory presentation for newer members. Name presentation to better define content. Identify speaking opportunities (i.e., regional and large district in-service events). Also offer a virtual that is recorded and share online and in member communications.	Medium/high	Communications director with support from retirement staff	Feedback	Additional time/ resources required to achieve objective.
Rework enrollment letter, breaking it down into a series of shorter communication that introduce the pension program to new members in more easily digestible manner.	Medium/high	Communications director with support from retirement staff	Feedback	Additional time/ resources required to achieve objective.

Develop a short video introducing the program that can be featured on the website and distributed to school districts for play at in-service events.	Medium	Communications director with support from retirement services staff	Feedback	Additional time/ resources required to achieve objective.
Initiate and foster relationships with education associations and the teachers' union to ensure their program messaging is consistent with the agency's.	Medium	Communications director with support from retirement services staff	Feedback	Ongoing activity.
Evaluate member handbook (i.e., review content and compare to peer publications) to improve the material provided to members	Medium/low	Communications director with support from retirement services staff	Feedback	Additional time/ resources required to achieve objective.

Objective 3: Improved employer awareness of TFFR program requirements.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Model 2 Partial – Whole Percentage Requirement	High	Communications director with support.	Adoption	See attached plan.
Update RIO's website content to identify the agency's role and better describe program requirements.	High	Communications director with support from retirement services staff	Google analytics, user feedback	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.
Update format and promotion of Info Mixers, educational webinar for TFFR employers.	Medium/High	Communications director with support from retirement services staff	Feedback and metrics	Complete, additional changes may be made after launch of PAS.
Update format and promotion of new business manager workshop, an educational webinar for new TFFR employer staff members.	Medium/High	Communications director with support from retirement services staff	Feedback and metrics	Complete, additional changes may be made after launch of PAS.
Develop a communication (i.e., a welcome letter) that introduces new business managers to the pension program.	Medium	Communications director with support from retirement services staff	Feedback	Additional time/ resources required to achieve objective.
Initiate and foster relationships with education associations to ensure messaging is consistent and garner their support in educating about the program.	Medium	Communications director with support from retirement services staff	Feedback	Ongoing activity.
Evaluate employer handbook (review content and compare to peer publications) to improve the materials provided to employers.	Medium/low	Communications director with support from retirement services program mgr.	Feedback	Additional time/ resources required to achieve objective.

Objective 4: Increased awareness of investment program operations, how it works and who administers the program.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Improve RIO's website content to identify the agency's role and better describe program activities (e.g., investment division lacks a landing page for the program that describes its work.)	High	Communications director and admin support	Google analytics, user feedback	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.
Relaunch investment newsletter to provide regular communications. Determine audience, distribution, and frequency of publication.	High	Communications director and investment division staff.	Feedback and metrics	Complete. Additional resources required for a consistent stream of communications.
Host an investment seminar to educate policy makers, instill confidence in client funds, and add new cliental.	Medium/high	Communications director and investment division staff	Feedback and metrics	Complete.
Develop a fact sheet about the program.	Medium/high	Communications director and investment division staff	Feedback	Additional time/resources required to achieve objective.
Seek out speaking opportunities for staff in order to raise the profile of the program.	Medium	Communications director and investment division staff	Ongoing	Ongoing activity.
Identify investment publications to target for news about division activities.	Medium	Communications director and investment division staff	Ongoing	Ongoing activity.

Goal 2: Evaluate and develop or improve the communications tools used to help stakeholders understand both RIO's day-to-day and strategic communications.

Objective 1: Understand and define opportunities for improvements in both day-to-day and strategic communications. Improve communication processes.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Send important, widespread communications via GovDelivery (i.e., an email service provider) to allow the office to track metrics that help to determine effectiveness.	High	Communications director and admin support	Feedback and metrics	Complete, additional resources required to track audiences accurately.
Update RIO's website structure and improve branding.	High	Communications director and admin support	Successful completion	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.

Develop an intranet site (SharePoint based) that can be used to inform staff of agency activities, host HR policies and other resources.	Medium/high	Executive team and comms director, will require input from NDIT	Feedback and metrics	In early stages of development.
Incorporate graphics and links into email signatures to promote events and communications.	Medium	Communications director and RIO staff.	Feedback	Complete.
Evaluate social media options, determine if the office should have a presence. Select appropriate platforms and implement social media plan.	Medium	Communications director	Metrics	Complete.

Objective 2: Evaluate and update current communications assets and bring them into alignment with the state of North Dakota's brand standard.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Update RIO's website structure and improve branding.	High	Communications director and admin support	Successful completion	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.
Update board materials and bring on brand.	Medium/high	Communications director and admin support	Successful completion	Complete.
Evaluate existing print assets (i.e., letterhead, business cards, etc.) and bring on brand.	Medium/high	Communications director and admin support	Successful completion	Complete.
Incorporate graphics and links into email signatures to promote events and communications.	Medium	Communications director and RIO staff.	Feedback	Complete.

Goal 3: Develop and coordinate the delivery of messages to project stakeholders regarding TFFR's new pension administration system, aka the Pioneer Project, set to launch in fall 2024.

Objective 1: Create awareness of the new pension administration system (PAS) and onboard employer partners.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
MyTFFR Launch	High	Communications director and retirement services staff.	Utilization of the new system.	See attached plan.
Plan and promote PAS project previews.	High	Communications director	Successful completion	Ongoing activity.
Plan and promote user education.	High	Communications director	Successful completion	Ongoing activity.

Develop message points to ensure staff are sharing the same information.	High	Communications director	Successful completion	Ongoing activity.
Incorporate into employer communications.	High	Communications director	Successful completion	Ongoing activity.
Encourage employers to sign up for ACH in preparation for launch of new system.	High	Communications director with support from retirement services staff	Successful completion	Complete.

Objective 2: Create awareness of the new pension administration system (PAS) and onboard members.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Encourage members to establish online accounts in preparation for the transition to the new PAS.	High	Communications director with support from retirement services staff	Successful completion	Ongoing.
Develop an onboarding plan for members that includes a MyTFFR quick start guide introducing the new PAS. Include with member enrollment letters, distribute at presentations and tradeshows.	High	Communications director with support from retirement services staff	Successful completion	Additional time/ resources required to achieve objective.
Plan and promote user education.	High	Communications director	Successful completion	Ongoing.
Develop message points to ensure that all staff are sharing the same message.	High	Communications director	Successful completion	Ongoing.
Incorporate into member communications.	High	Communications director	Successful completion	Ongoing.
Consider securing marketing/vanity URL, e.g., mytffr.nd.gov.	Medium	Communications director and NDIT	Successful completion	Complete.

Goal 4: Support the growth of the investment services division including the hiring and development of an in-state investment team in summer 2024.

Objective 1: Educate external stakeholders on the value of an internal investment team.

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Develop a communication and/or improve the agency's website to better describe the division's role (i.e., review content and compare to peer organizations).	High	Communications director and investment division staff	Feedback	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.
Host an investment seminar to educate policy makers, instill confidence in client funds, and add new cliental.	Medium/high	Communications director and investment division staff	Feedback and metrics	Complete.

Devise a method and structure for obtaining department news that can be shared with stakeholders.	Medium/low	Communications director and investment division staff	Feedback	Complete.
Research and contract for a media tracking service that can be used to monitor investment services news.	Medium/low	Communications director	Successful completion and metrics	Complete.

Objective 2: Support the growth and development of the team, particularly those who working in a hybrid or remote environment. (This objective also aligns with Goal #2, evaluate and develop or improve communications tools.)

Tactic	Priority	Assigned	Metrics and/or Notes	Progress to date
Develop a communication and/or improve the agency's website to better describe the division's role (review content and compare to peer organizations).	High	Communications director and investment division staff	Feedback and metrics	Navigation improvements and cosmetic changes made. Additional time/resources required to address content.
Develop an intranet that can be used to inform staff of agency activities, host HR publications and other resources.	Medium/high	Communications director and admin support	Feedback and metrics	In early stages of development.
Provide communications support for tracking and publishing/sharing program successes.	Medium	Communications director and admin support	Feedback and metrics	Complete.

BOARD ACTION REQUESTED: Board Acceptance

Agenda items VI. A & C to follow.

MEMORANDUM

TO: State Investment Board
FROM: Dotte Thorsen, Internal Auditor
DATE: November 22, 2024
RE: Quarterly Audit Activities Report

Audit activities during the first quarter of fiscal year 2025 included:

1. June 30, 2024 Fiscal Year Financial Statement Audit
 - a. 2024 Financial Statement Audit Results
 - i. Unmodified “clean” opinion
 - ii. No material weaknesses were identified.
 - iii. No significant deficiencies were identified.
2. Internal Audit Co-Sourcing Request for Proposal – The IA Division is soliciting proposals from qualified firms to establish a vendor who can perform internal audit services on behalf of RIO on an as-needed basis relating to the investment and fiscal divisions.
 - a. Reviewed and approved RFP to be issued.
 - i. A special Audit Committee meeting will be held in January/February 2025 for a presentation from finalists.
 - ii. Tentative start date is March 2025
3. TFFR Pioneer Project
 - a. Attended multiple meetings for UAT testing, PIR testing, and life cycle testing
 - b. Worked on the Employer Self-Service Committee on preparation for Go-live

BOARD ACTION REQUESTED: Board acceptance.

MEMORANDUM

TO: SIB
FROM: Ryan K. Skor, CFO/COO
DATE: November 15, 2024
RE: Quarterly Budget/Fiscal Conditions

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

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

Board Action Requested: Board acceptance.

BUDGET APPROPRIATION STATUS**AS OF SEPTEMBER 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	10,203,977.30 ^	\$ 5,685,690.83	\$ 4,518,286.47	44.28%	37.50%
OPERATING EXPENDITURES	2,869,937.00	4,277,560.00	1,803,760.99	2,473,799.01	57.83%	37.50%
CAPITAL ASSETS	0.00	4,150,213.50	1,895,122.50	2,255,091.00	54.34%	37.50%
CONTINGENCY	200,000.00	200,000.00	0.00	200,000.00	100.00%	37.50%
TOTAL	<u>\$ 11,979,984.00</u>	<u>18,831,750.80</u>	<u>\$ 9,384,574.32</u>	<u>9,447,176.48</u>	<u>50.17%</u>	<u>37.50%</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 SEPTEMBER 30, 2024**

	INVESTMENT	RETIREMENT	QUARTERLY TOTALS	FISCAL YEAR TO - DATE	BIENNIUM TO - DATE
<u>CONTINUING APPROPRIATIONS</u>					
INVESTMENT EXPENDITURES	\$ 7,033,754	\$ 0	\$ 7,033,754	\$ 7,033,754	92,234,235
MEMBER CLAIMS					
1. ANNUITY PAYMENTS	0	67,810,919	67,810,919	67,810,919	333,245,813
2. REFUND PAYMENTS	0	3,167,348	3,167,348	3,167,348	15,392,987
TOTAL MEMBER CLAIMS	0	70,978,267	70,978,267	70,978,267	348,638,800
OTHER CONTINUING APPROPRIATIONS	278,869	782	279,651	279,651	1,832,857
TOTAL CONTINUING APPROPRIATIONS	7,312,624	70,979,049	78,291,672	78,291,672	78,291,672
<u>BUDGETED EXPENDITURES</u>					
1. SALARIES & BENEFITS					
SALARIES	624,939	280,400	905,338	905,338	4,159,143
OVERTIME/TEMPORARY	3,850	21,090	24,940	24,940	87,771
TERMINATION SALARY & BENEFITS	0	0	0	0	0
FRINGE BENEFITS	194,331	106,715	301,046	301,046	1,438,777
TOTAL SALARY & BENEFITS	823,120	408,205	1,231,325	1,231,325	5,685,691
2. OPERATING EXPENDITURES					
DATA PROCESSING	16,012	72,110	88,122	88,122	638,394
TELECOMMUNICATIONS - ISD	1,272	1,008	2,280	2,280	16,559
TRAVEL	1,489	2,909	4,398	4,398	52,093
POSTAGE SERVICES	614	960	1,575	1,575	24,989
IT - CONTRACTUAL SERVICES	212	61,859	62,072	62,072	362,340
EQUIPMENT RENTS AND LEASES	0	0	0	0	0
BUILDING/LAND RENT & LEASES	15,999	12,712	28,711	28,711	133,861
DUES & PROF. DEVELOPMENT	2,090	5,671	7,761	7,761	57,494
OPERATING FEES & SERVICES	3,112	1,274	4,387	4,387	45,580
REPAIR SERVICE	0	0	0	0	0
PROFESSIONAL SERVICES	0	30,983	30,983	30,983	453,526
INSURANCE	907	630	1,536	1,536	3,004
OFFICE SUPPLIES	48	57	104	104	767
PRINTING	142	277	419	419	9,608
PROFESSIONAL SUPPLIES & MATERIALS	63	44	108	108	723
MISCELLANEOUS SUPPLIES	24	46	70	70	876
IT EQUIPMENT UNDER \$5000	0	0	0	0	470
OFFICE EQUIP. & FURNITURE UNDER \$5000	0	0	0	0	3,477
TOTAL OPERATING EXPENDITURES	41,985	190,540	232,525	232,525	1,803,761
3. CAPITAL ASSETS	0	324,720	324,720	324,720	1,895,123
4. CONTINGENCY	0	0	0	0	0
TOTAL BUDGETED EXPENDITURES	865,105	923,465	1,788,570	1,788,570	9,384,574
TOTAL EXPENDITURES	\$ 7,898,859	\$ 71,901,732	\$ 80,080,242	\$ 80,080,242	452,090,467

PAS MODERNIZATION PROJECT STATUS

AS OF SEPTEMBER 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	118,282	478,652
PROFESSIONAL SERVICES	1,875,000	810,690	714,237	96,453
CAPITAL ASSETS	6,300,000	4,150,214	1,895,123	2,255,091
TOTAL PAS PROJECT BUDGET	9,000,000	5,607,837	2,727,641 *	2,880,196

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

MEMORANDUM

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

Ms. Murtha will present the 2024 RIO agency Gallup Engagement Survey results. She will also provide a verbal update regarding open and pending FTE's and ongoing program activities.

Board Action Requested: Board acceptance.

Employee Engagement

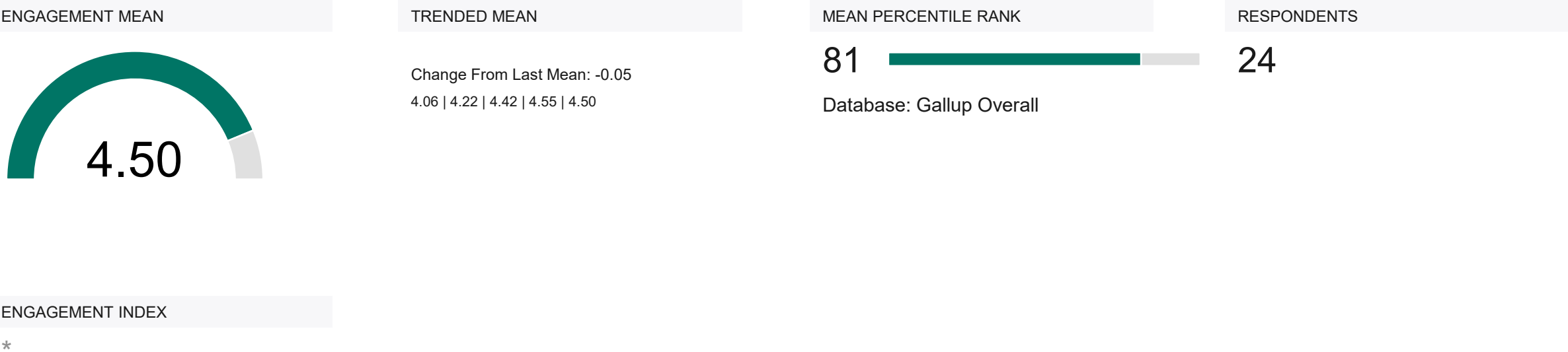
Q12+ Engagement Survey - trending - regular staff- October 2024

Oct 14, 2024 - Nov 04, 2024














Reporting Group: Direct | AGENCY - 19000

Q¹² Mean

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



Gallup Q¹² Items

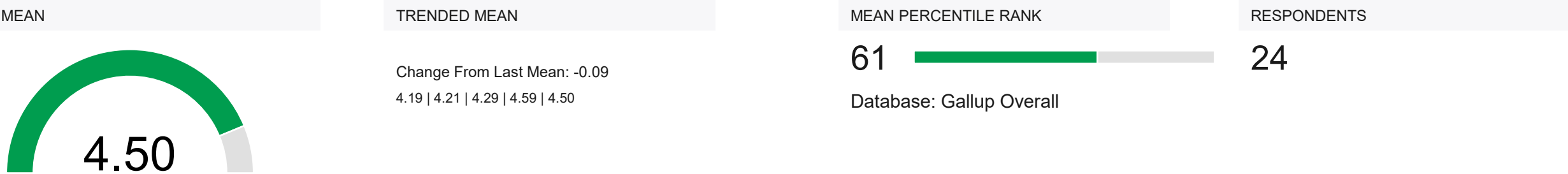
Questions	Respondents	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
Q00: On a five-point scale, where 5 means extremely satisfied and 1 means extremely dissatisfied, how satisfied are you with your agency as a place to work?	24	4.50	4.59	-0.09	79 	3.90
Q01: I know what is expected of me at work.	24	4.42	4.55	-0.13	43 	4.29
Q02: I have the materials and equipment I need to do my work right.	24	4.58	4.64	-0.06	75 	4.13
Q03: At work, I have the opportunity to do what I do best every day.	24	4.29	4.29	0.00	57 	4.05
Q04: In the last seven days, I have received recognition or praise for doing good work.	23	4.43	4.41	0.02	80 	3.53
Q05: My manager, or someone at work, seems to care about me as a person.	23	4.74	4.82	-0.08	77 	4.23
Q06: There is someone at work who encourages my development.	23	4.61	4.64	-0.03	82 	3.95
Q07: At work, my opinions seem to count.	24	4.50	4.48	0.02	81 	3.68
Q08: The mission or purpose of my agency makes me feel my job is important.	23	4.74	4.50	▲+0.24	86 	4.08
Q09: My coworkers are committed to doing quality work.	24	4.58	4.73	-0.15	76 	4.04
Q10: I have a best friend at work.	23	4.00	3.95	0.05	68 	3.36
Q11: In the last six months, someone at work has talked to me about my progress.	24	4.50	4.71	▼-0.21	74 	3.83
Q12: This last year, I have had opportunities at work to learn and grow.	24	4.58	4.95	▼-0.37	76 	4.05

Gallup Q¹² Items – Trended Details

Questions	Trended Mean	Past Report 4		Past Report 3		Past Report 2		Past Report 1		Current Report	
Q00: On a five-point scale, where 5 means extremely satisfied and 1 means extremely dissatisfied, how satisfied are you with your agency as a place to work?	3.69 4.00 4.17 4.59 4.50	3.69	16	4.00	12	4.17	12	4.59	22	4.50	24
Q01: I know what is expected of me at work.	4.06 4.08 4.25 4.55 4.42	4.06	16	4.08	12	4.25	12	4.55	22	4.42	24
Q02: I have the materials and equipment I need to do my work right.	4.31 4.33 4.33 4.64 4.58	4.31	16	4.33	12	4.33	12	4.64	22	4.58	24
Q03: At work, I have the opportunity to do what I do best every day.	4.00 3.92 4.17 4.29 4.29	4.00	16	3.92	12	4.17	12	4.29	21	4.29	24
Q04: In the last seven days, I have received recognition or praise for doing good work.	4.06 4.17 4.42 4.41 4.43	4.06	16	4.17	12	4.42	12	4.41	22	4.43	23
Q05: My manager, or someone at work, seems to care about me as a person.	4.19 4.58 4.92 4.82 4.74	4.19	16	4.58	12	4.92	12	4.82	22	4.74	23
Q06: There is someone at work who encourages my development.	4.00 4.17 4.42 4.64 4.61	4.00	16	4.17	12	4.42	12	4.64	22	4.61	23
Q07: At work, my opinions seem to count.	3.69 4.00 4.00 4.48 4.50	3.69	16	4.00	12	4.00	12	4.48	21	4.50	24
Q08: The mission or purpose of my agency makes me feel my job is important.	4.19 4.92 4.58 4.50 4.74	4.19	16	4.92	12	4.58	12	4.50	22	4.74	23
Q09: My coworkers are committed to doing quality work.	4.50 4.42 4.67 4.73 4.58	4.50	16	4.42	12	4.67	12	4.73	22	4.58	24
Q10: I have a best friend at work.	3.63 3.55 3.91 3.95 4.00	3.63	16	3.55	11	3.91	11	3.95	21	4.00	23
Q11: In the last six months, someone at work has talked to me about my progress.	3.94 4.08 4.58 4.71 4.50	3.94	16	4.08	12	4.58	12	4.71	21	4.50	24
Q12: This last year, I have had opportunities at work to learn and grow.	4.13 4.42 4.83 4.95 4.58	4.13	16	4.42	12	4.83	12	4.95	22	4.58	24

Basic Needs - What do I get?

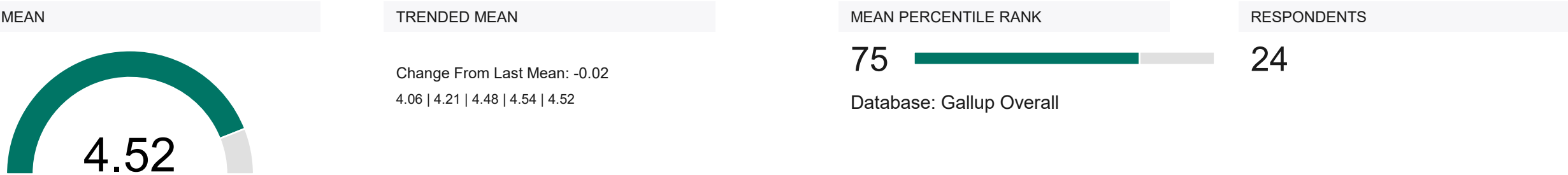
Employees need to have a clear understanding of what excellence in their role looks like so they can be successful. Groups with high scores on the first element are more productive, cost-effective, creative and adaptive.



Questions	Respondents	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
Q01: I know what is expected of me at work.	24	4.42	4.55	-0.13	43	4.29
Q02: I have the materials and equipment I need to do my work right.	24	4.58	4.64	-0.06	75	4.13

Individual - What do I give?

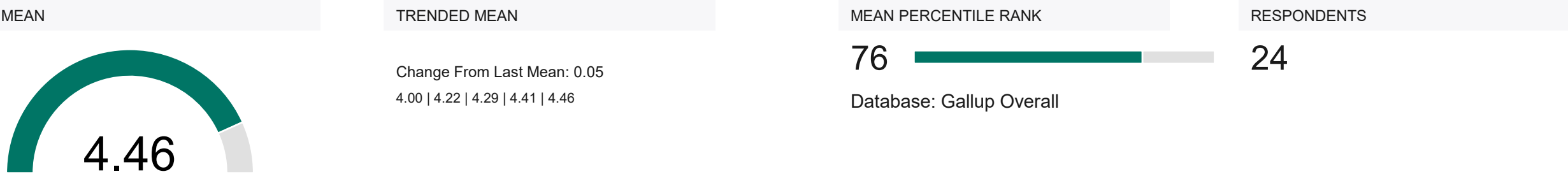
Employees want to know about their individual contributions and their worth to the organization. Manager support is especially important during this stage because managers typically define and reinforce value.



Questions	Respondents	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
Q03: At work, I have the opportunity to do what I do best every day.	24	4.29	4.29	0.00	57	4.05
Q04: In the last seven days, I have received recognition or praise for doing good work.	23	4.43	4.41	0.02	80	3.53
Q05: My manager, or someone at work, seems to care about me as a person.	23	4.74	4.82	-0.08	77	4.23
Q06: There is someone at work who encourages my development.	23	4.61	4.64	-0.03	82	3.95

Teamwork - Do I belong here?

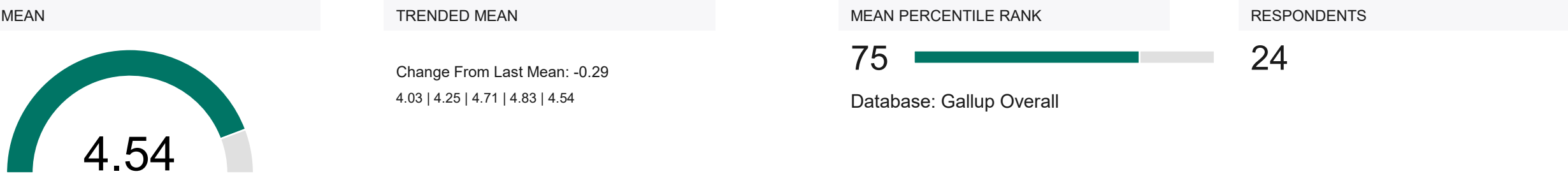
Employees need to feel like they belong and are a good fit with their team. They need to know they are part of something bigger than themselves. As a manager, encourage opportunities for teamwork and a sense of belonging.



Questions	Respondents	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
Q07: At work, my opinions seem to count.	24	4.50	4.48	0.02	81	3.68
Q08: The mission or purpose of my agency makes me feel my job is important.	23	4.74	4.50	▲+0.24	86	4.08
Q09: My coworkers are committed to doing quality work.	24	4.58	4.73	-0.15	76	4.04
Q10: I have a best friend at work.	23	4.00	3.95	0.05	68	3.36

Growth - How can I grow?

Employees need to be challenged to learn something new and find better ways to do their jobs. They need to feel a sense of movement and progress as they mature in their roles.



Questions	Respondents	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
Q11: In the last six months, someone at work has talked to me about my progress.	24	4.50	4.71	▼ -0.21	74	3.83
Q12: This last year, I have had opportunities at work to learn and grow.	24	4.58	4.95	▼ -0.37	76	4.05

Additional Questions

Questions	Respondents	Current Mean	Last Mean	Change	Mean Percentile Rank - Gallup Overall	Company Overall Current Mean
At work, I am treated with respect.	24	4.79	4.68	0.11	82	4.09
My agency cares about my overall wellbeing.	24	4.71	4.77	-0.06	86	3.82
I have received meaningful feedback in the last week.	22	4.32	4.32	0.00	71	3.51

*Sentiment Distribution is not available when n<50

Engagement Index

There is a powerful link between employees who are engaged in their jobs and the achievement of crucial business outcomes.

ENGAGEMENT INDEX RATIO

*

ENGAGEMENT INDEX

*

Engaged

Employees are highly involved in and enthusiastic about their work and workplace. They are psychological "owners", drive performance, innovation, and move the organization forward.

Not Engaged

Employees are essentially psychologically unattached to their work and company. Because their engagement needs are not being fully met, they're putting time – but not energy or passion – into their work.

Actively Disengaged

Employees aren't just unhappy at work – they are resentful that their needs are not being met and are busy acting out their unhappiness. Every day, these workers potentially undermine what their engaged coworkers accomplish.

Footnotes

Trended Report Details

	Report Name	Date
Current Report	Q12+ Engagement Survey - trending - regular staff- October 2024	Oct 14, 2024 - Nov 04, 2024
Past Report 1	Q12+ Engagement Survey - trending - Regular staff - October 2023	Oct 16, 2023 - Nov 06, 2023
Past Report 2	Q12 Engagement Survey - trending - Regular staff - October 2022	Oct 17, 2022 - Nov 07, 2022
Past Report 3	ND State EE Engagement Survey - trending - Oct. 2021	Oct 18, 2021 - Oct 31, 2021
Past Report 4	North Dakota State Employee Engagement Survey 2020	Nov 30, 2020 - Dec 15, 2020

* - Scores are not available due to data suppression.
Respondents can select multiple responses for multi-select questions.
Not shown if n < 4 for all Means, Top Box, and Verbatim Responses; n < 10 for Frequency; or data are unavailable.
Mean Percentile Rank is being calculated against other workgroup scores in the Gallup Overall database.
Meaningful change is represented by a green or red arrow if the score changes by 0.2 or more between survey periods.

Percentile Rank in Gallup Overall Database

< 25th Percentile 25-49th Percentile 50-74th Percentile 75-89th Percentile >= 90th Percentile

*All text analytics are machine generated. Because we use machine learning to generate sentiments, results may not be 100% accurate.

*Percent Engaged available when n ≥ 30. All categories available when n ≥ 100.
* - Scores are not available due to data suppression. Respondents can select multiple responses for multi-select questions.

Thank You

ND State Investment Board Resolution
In Appreciation of
Lt. Governor Tammy Miller

WHEREAS, Lt. Governor Miller has served as Chair of the State Investment Board since 2023; and

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

WHEREAS, Lt. Governor Miller has been a valued and dedicated member of the SIB in helping maintain the integrity and stability of the SIB Program.

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

DATED this 22nd day of November 2024

On Behalf of the SIB

Dr. Rob Lech, Vice Chair

Votes

Date

ND State Investment Board Resolution
In Appreciation of
Susan Sisk

WHEREAS, Director Sisk has served as a member of the State Investment Board since 2023; and

WHEREAS, Director Sisk has diligently carried out her duties and responsibilities as a member of the SIB and fiduciary of the SIB Program; and

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

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

DATED this 22nd day of November 2024

On Behalf of the SIB

Lt. Gov. Miller, Chair

Votes

Date

BOARD LEADERSHIP

November–December 2024 • No. 196

INNOVATIVE APPROACHES TO GOVERNANCE

EDITOR: NICHOLAS KING

Staying Too Late at the Table: Retiring CEOs Should *Not* Remain on the Board

By DR. JOSEPH C. SANTORA

Dr. Joseph C. Santora is the founder of TST, Inc., a management consulting company, editor of the International Leadership Journal, and an executive educator. In this article, he explores the rationale for former CEOs not to assume the board chair position.

A SpencerStuart (2023) survey of S&P 500 companies found that nearly half of retiring CEOs remain at their firms as board chairs, especially if an insider succeeds them. This governance model raises several important questions: (1) Is retaining CEOs post-retirement as board chairs the wisest or the most impolitic course of action to take? (2) Should retiring CEOs remain at their companies, or should they just retire? (3) What impact do retiring CEOs, now board chairs, have on internally appointed successors' ability to lead these firms?

Insider-outsider CEO successors

No discussion about retiring CEOs would be complete without a brief discussion of their successors. Are insiders (currently employees) or outsiders (non-company employees) selected as successors? SpencerStuart's (2024) annual survey data, culled from S&P 500 companies from 2011 to 2023, revealed that insiders overwhelmingly succeeded predecessors every year, with a low of 69% in 2017 to a high of 90% in 2016. Most recently, 80% of successors were insiders in 2021 (SpencerStuart,

2022); 72% were insiders in 2022 (SpencerStuart, 2023); and 74% were insiders in 2023, the most recent data available (SpencerStuart, 2024).

Retiring CEOs as board chairs: Pros and cons

There are compelling arguments for keeping retiring CEOs on as board chairs or having them retire and create a clean break (Hayes, 2024). Retiring CEOs, especially long-term ones like Disney's Robert Iger (2021), Snowflake's Frank Sloatman (2024), and AbbVie's Richard Gonzalez (2024), can add value to their companies as board chairs. They possess extensive knowledge (Fahlenbrach et al., 2011) of their institutions, their actors, and other stakeholders acquired during their tenure in the chief executive chair. Their intimate knowledge of top management team members and other key organizational players helps shape their recommendations for prospective inside successors, having worked with them in various situations, vetting them formally and informally, and assessing their strengths and weaknesses as possible successors. CEOs are most likely to be responsible for crafting the existing corporate culture. In essence, they understand the internal and external nuances of the firm and its sociopolitical forces. They often have developed very close linkages with their counterparts at other firms, high-ranking government officials, and leaders in other major sectors (including nonprofit organizations). Therefore, CEOs enjoy political clout inside and outside their firms.

While retaining former CEOs as board chairs brings many strengths to firms, retaining them as board chairs also brings

continued on page 2

Inside This Issue

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The Future of Governance

6 Evolving Risk Oversight Obligations for
Directors: Emerging Trends to Watch

RETIRING

continued from page 1

plenty of disadvantages. They often become “shadow CEOs,” casting very large shadows over inside successors. McGeehan (2003) offered an interesting account of “shadow emperor” Sanford I. Weill (Citigroup CEO, 1998–2003; board chair, 2003–2006) and the problems with the changing of the guard at Citigroup with the appointment of internal successor Charles Prince as CEO in 2003. Many newly appointed CEOs want to put their stamp on these firms through a change in strategic direction. With a retired CEO at the board helm, this oftentimes creates discord if he disagrees with the CEO’s new direction.

During a personal long-term organizational consultancy, I had firsthand experience with a “shadow CEO” Charlie, a CEO for more than 25 years, and his COO for more than 15 years, Theresa (both pseudonyms). When Charlie decided to retire, he pressed the board to elevate Theresa to CEO. Charlie, who had become board chair upon retirement, retained his office and enjoyed his many other executive perquisites. While he and Theresa had worked very closely for more than a decade, remaining at the company in his “CEO” office as chair created a serious amount of confusion for many employees. When problems arose, many employees would drop by Charlie’s office to discuss the problem and seek his advice, bypassing Theresa without consideration. Chairperson Charlie was still the *de facto* CEO and chief problem solver. After two years as CEO, Theresa left her position, and Charlie was reappointed as CEO and board chair. This anecdote highlights how a “shadow CEO” can overshadow and even undermine a hand-picked

successor and create confusion and mixed loyalties among rank-and-file employees. In some cases, it even fosters a boomerang CEO environment like that of Disney chair Robert Iger, who was reappointed as CEO when the inside successor Bob Chapek was forced out of office (Santora, 2023).

Retiring CEOs often handpick and strongly influence the selection of their successors. Their appointment of inside successors suggests they know them quite well and have faith in their ability to lead. Board members are usually very familiar with inside successor candidates, having interacted with them before their appointments. So, there is hardly a need for outgoing CEOs to serve as the board chair as a resource for the transitioning inside successor, even briefly. Inside successors are selected because of their readiness for the positions; institutional knowledge; and familiarity with key company players, constituents, and other stakeholders.

Some former CEOs who go on to serve as board chairs may possess a selfish gene. They may interfere with a successor’s leadership style and vision for a firm, as it may conflict with their views of the firm. They may resist any attempts to change or modify existing business strategy, seeing it as a personal affront, a disruption of the status quo and direction of the firm, or lessening their legacy in some way (Quigley & Hambrick, 2012). If an inside successor needs the prolonged advice of a predecessor-turned board chair, then perhaps the inside successor is not ready to lead, and the company should seek an outside successor with the requisite experience to lead the company.

Remaining at the company as a board chair may create unnecessary problems and tension. She may exert excessive

BOARD LEADERSHIP

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When We Say...

Board Leadership's mission is “to discover, explain and discuss innovative approaches to board governance with the goal of helping organizations achieve effective, meaningful and successful leadership to fulfill their missions.”

Board Leadership aims to fulfill this mission by engaging its readers in a lively and illuminating inquiry into how board governance can be made more effective. This inquiry is based on three key assumptions:

- Boards exist to lead organizations, not merely monitor them.
- Effective board governance is not about either systems, structures, processes, theories, practices, culture, or behaviors—it is about all of them.
- Significant improvements are likely to come only through challenging the status quo and trying out new ideas in theory and in practice.

Uniquely among regular publications on board governance, *Board Leadership* primarily focuses on the job of board leadership as a whole, rather than on individual elements of practice within the overall job.

Over time, *Board Leadership* will provide a repository of different approaches to governance created through its regular “One Way to Govern” feature.

Here’s what a few of the key terms we use mean to us:

- **Innovative:** Creating significant positive change
- **Approaches:** Principles, theories, ideas, methodologies and practices.
- **Board governance:** The job of governing whole organizations.

influence and pressure on board members to pursue organizational policies she instituted as CEO and create unnecessary and inimical fighting among board members. In essence, the former CEO is serving as both CEO and chair, making the successor impotent.

Life after the C-suite/board: The case of Bill George

Retiring CEOs have myriad leadership opportunities to make contributions to society and the nonprofit and for-profit business communities. For example, they can devote their second life as patrons of the arts and philanthropists, share their wealth of corporate knowledge as board members at other firms, or volunteer their time as advisers to nonprofits and corporate firms to inform them of best practices to bolster their organizational effectiveness (see Feigen & Williams [2018] for a good discussion about CEO retirement options). Other opportunities to transfer knowledge exist as an executive educator and mentor. For example, retiring CEOs can follow the lead of Bill George, the former Medtronic CEO (1991–2002) and chair (1996–2002). In 2004, George joined the Harvard Business School (HBS) as a professor of practice, where he continues to make major professional and leadership contributions. At HBS, he has distinguished himself as a superb educator and mentor, writing award-winning books such as *Authentic Leadership: Rediscovering the Secrets to Creating Lasting Value* (2003) and *True North: Discover Your Authentic Leadership* (2007). At 81, George remains active and makes professional contributions as an executive fellow at HBS (Harvard Business School, n.d.). Retiring CEOs can look to George's long and illustrious career journey for a vision of a rich and rewarding life after corporate retirement.

Conclusion

Several long-term CEO-chairs may be retiring soon (e.g., Jamie Dimon of JPMorgan and Darren Wood of ExxonMobil). It will be interesting to see whether their successors will be insiders or outsiders, and it will be even more interesting to see if these retiring CEOs will continue as board chairs. Many CEOs ought to know when it is time to leave their organizations, despite the personal and professional difficulties in saying goodbye.

Whether departing CEOs should stay or go continues to be an ongoing debate with very strong arguments on both sides. However, despite the potential benefits of retiring CEOs staying on in the board chair capacity, they should *not* be given a seat at the board of directors' table. In essence, it simply creates too many potential problems. When it is over, it is over. Retiring CEOs can find many personal and professional activities to generate excitement to enrich their lives after their C-suite/board chair departure (see Smith et al., 2024 for advice on post-retirement opportunities for CEOs). ■

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Food for Thought

“The foundation stones of honesty, character, faith, integrity, love, and loyalty are necessary for a balanced success that includes health, wealth, and happiness. As you go onward and upward in life, you will discover that if you compromise any of these principles you will end up with only a beggar's portion of what life has to offer.”

—Zig Ziglar

AI-Powered Boardrooms: The Future of Governance

By MEGHAN ANZELC, PH.D., AND CHRISTINA FERNANDES-D'SOUZA

Meghan Anzelc, Ph.D., is the founder and CEO of Three Arc Advisory. Christina Fernandes-D'Souza is the firm's vice president of Data Science. In this article they discuss what board directors should do to govern their own use of AI in the boardroom; the current state of AI offerings; areas of higher and lower risk use and how to know if AI is the wrong solution.

While we've all seen the unending headlines about how AI is transforming all parts of our work and lives, an area much less discussed is how AI is impacting the boardroom itself. Board directors are not immune from promises that AI can make their lives easier, too, and boards should be ready to address this head on. Board directors need to provide governance and oversight for how AI can and will be used in the boardroom, just as they must do for how their organizations employ AI outside the boardroom.

AI has been used for decades, especially in regulated industries, such as financial services — Visa¹ recently celebrated 30 years of using AI to fight fraud and improve payments. Generative AI is a lot newer and the areas in which we are seeing investments are primarily in customer-facing functions such as customer service, marketing, and sales, and in other areas such as information technology. The chart² below represents a survey of 2,000 U.S. respondents on how they are using Gen AI capabilities, with the majority using it to answer questions and brainstorming.

Pitches for AI solutions that will save board directors time can be compelling; however, boards must ensure that when AI is brought into the boardroom, it is done in ways that support the role of the board. Improving the quality of governance and oversight, for long-term value creation and risk management, must be top priority. Solutions that help boards better identify hidden risk, support compliance and reporting requirements, or help drive meaningful conversation in the boardroom are all potential positive outcomes depending on the approach taken with AI.

It may be difficult for board directors to keep this focus as

pressure increases and boards are asked to add more to their plates. It will be tempting to utilize AI to, for example, provide an AI-generated summary of a 600-page board packet. While this may be a use case that is value-add to the board's role, it's not hard to see how a poorly implemented solution could quickly undermine the board's duty to understand the activities and risks of the organization as part of its duty of care.

Boards must ensure they stay abreast of developments in AI capabilities. The rapidly changing landscape of AI³ as it develops and matures means that conclusions about how AI can be applied in the boardroom today may not hold tomorrow. Board directors will need to continue to learn and adapt their approaches to AI adoption as circumstances change.

Current State of AI in the Boardroom

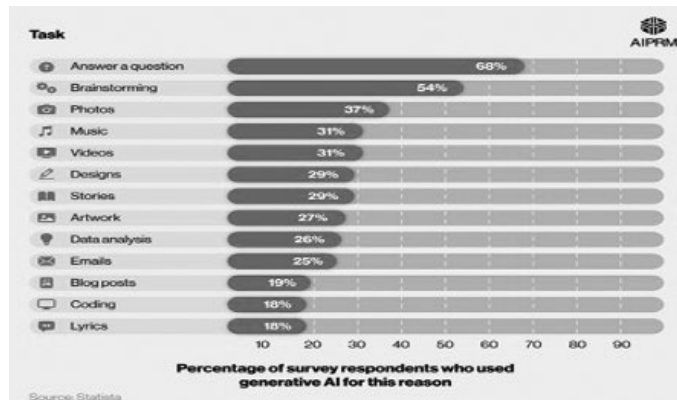
Many board portals, software platforms providing secure collaboration between board directors and access to board documents, have already begun embedding AI capabilities in their offerings. With 99% of governance professionals using board portal software,⁴ AI capabilities in these solutions will impact nearly every board director.

Well-known names, such as Nasdaq's Boardvantage^(TM)⁵ and Diligent Boards⁶ promote AI-enabled features of their platforms, such as generating summaries of board materials, providing AI assistants, and categorizing documents for easier searching. Frequently used collaboration tools, such as Zoom,⁷ are embedding AI-driven transcription and summarization services, as well as AI-generation of emails and chat messages.

Often, board portals integrate with other digital collaboration tools, so even if your board portal is not using AI today, any other collaboration tools used in the boardroom likely utilize AI in some way already. It is imperative that board members understand both the risks and opportunities and provide appropriate governance and oversight to the selection and use of AI-enabled tools in the boardroom.

Solving the Wrong Problem?

There is a temptation for those involved in board packet preparation to utilize AI to help generate reports and information for the board. This work is often time consuming and tedious, and in some organizations, dozens of iterations are



produced in the lead up to the board meeting. Using AI to generate an initial draft or provide suggestions on a near-final version makes sense on the surface.

The temptation is also great for a board director to use AI to summarize a board packet and direct their attention to the AI tool's suggestions for the most important or pertinent sections and themes. In our conversations with board members, many commented unprompted on the length of board packets and the amount of time needed to read through the hundreds of pages ahead of each board meeting.

You know where we're going. If management and their teams use AI to generate the board packet, and board directors use AI to summarize the board packet, how are the board materials serving the duties of the board, and by extension, the organization itself? While we don't want to dampen excitement around the possibilities of AI to support and improve the experiences of all roles in an organization, we recommend taking a step back to focus on what problem needs solving and what goals must be met.

A Cautionary Tale...

Bain & Company's 2024 Technology Report projects that today's AI market of \$185B could reach between \$780B and \$900B by 2027.⁸ With the thousands of AI solutions exploding onto the market, many organizations look to well-known and trusted brands to provide responsible and ethical AI solutions.

We know of one Fortune 100 organization that followed that path, deploying a blue-chip brand's generative AI solution across their organization. It was only after launch that the organization discovered material non-public information was being disclosed to colleagues who should not have had access to that information. The organization had to immediately rescind the deployment and determine a safer approach, losing out on their investment and eroding trust inside the company and with the critical vendor.

For boards who need to provide appropriate oversight and governance, there are practical guides on AI governance for board directors, such as the Athena Alliance AI Governance Playbook⁹ (disclosure: one of the authors was a co-author of that work). More technical frameworks for management and their teams, such as the NIST AI Risk Management Framework,¹⁰ are useful resources for those involved more deeply in the development and deployment of AI solutions.

Regardless of the resources board directors draw from, boards must ensure they have a foundational understanding of AI, including both its risks and opportunities, and know the critical questions to ask of their management teams. While the technology itself often takes center stage, questions around talent strategy and change management, compliance with regulation and ethical standards, and proactive planning for unintended consequences are equally essential areas for boards to probe with management and their board peers.

Real-World Experience with AI is Essential

To provide governance and oversight for AI inside and outside the boardroom, board directors need to have an understanding of what AI is and how it's used, and they need to continue to learn as AI capabilities evolve and mature.

We strongly suggest you experiment with AI yourself. Apply AI tools to create first drafts of emails or presentation decks. Try out different ways you can get an AI-powered technology to customize your voice, may it be engaging, friendly, or professional. How can you make the AI assistant work for you in crafting the most impactful story? Explore co-pilot tools to query a spreadsheet. Instruct co-pilots to perform actions on your behalf to free up time doing administrative work. For example, instruct it to schedule a meeting with required stakeholders when the status of a task is moved to completed. Upload an article and see how large-language models summarize the content and test how effective your prompting is. Are you able to provide some key criteria to assist in your prompting capabilities such as defining a persona, clearly stating the task, providing enough context, and being specific in the format you want the results delivered in. Try out more fun and mundane uses such as creating an image or song, using your web browser's "read aloud" feature to hear what's on the page, or hum into Google to see if it can recognize the song.

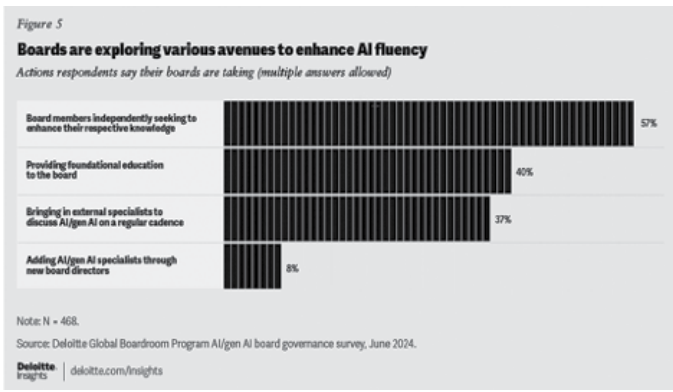
These are all tangible, concrete ways to interact with AI that can be more eye-opening than diving into the details of an algorithm or statistical model. Hands-on experience with AI can present itself with a deeper understanding of its capabilities and nuances.

AI in Your Boardroom: Where to Start

A recent survey conducted by Deloitte Global¹¹ on how board directors are bringing AI into their boardrooms aligned to the many conversations we've had with board directors.

As you can see in the figure, the majority of board directors are independently trying to increase their respective knowledge on AI, and of course, they need to understand both opportunity and risk; however, we don't want fellow board members

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Evolving Risk Oversight Obligations for Directors: Emerging Trends to Watch

BY ACHYUT PHADKE AND BRIAN RIVAS BOESSENECKER

Achyut Phadke is a partner at Munger, Tolles & Olson, and Brian Rivas Boessenecker is a litigation associate at the firm. In this article they explore how directors' duties are shifting in response to evolving business and legal risks, five years after the Delaware Supreme Court's Marchand v. Barnhill decision. The authors highlight important areas of oversight directors should prioritize, including compliance, cybersecurity, and AI.

Directors of Delaware corporations owe fiduciary duties of care and loyalty to their organizations, including diligent oversight of business operations. In *Marchand v. Barnhill*, the Delaware Supreme Court gave impetus to oversight litigation under *In re Caremark International Inc. Derivative Litigation*.¹ *Caremark* established that directors have a duty to monitor their organization and establish reporting systems intended to ensure compliance with the law and escalate any issues to the board and its committees. For a plaintiff to prove a “*Caremark*” oversight claim, a Delaware corporation’s directors must have either (1) “utterly failed to implement any reporting or information system” or (2) “consciously failed to monitor or oversee its operations” to breach their oversight duty, resulting in harm to the corporation. In *Marchand* (which involved a listeria outbreak at a Blue Bell Creameries’ ice cream production plants that caused fatalities and substantial financial losses) the Delaware Supreme Court held that allegations that Blue Bell’s board of directors failed to implement a reasonable system of monitoring and reporting because the directors had no committee or board-level process to address food safety issues, an “essential and mission critical” business risk for an ice cream company, stated a viable oversight claim. Since *Marchand*, derivative plaintiffs have brought a steady stream of *Caremark* oversight claims against companies in the aftermath of legal, regulatory, and business challenges or “corporate traumas.”²

As times change, directors’ oversight obligations evolve, consistent with the requirement that they remain focused on “essential and mission critical” business risks, wherever they present themselves. More than five years after *Marchand*, we highlight key oversight risks directors must stay abreast of as they lead their organizations through a broadening landscape of business, legal, and regulatory hazards. Derivative plaintiffs have increasingly highlighted appropriate oversight of such legal and regulatory issues in their litigation against boards of directors, making clear and consistent oversight a crucial part of the role of both directors and corporate counsel that advise them on their duties.³

1. Cybersecurity and Regulatory Frameworks: In the wake of *Marchand*, Delaware courts considered the possibility that data and cybersecurity risks could potentially form the basis for an oversight-based fiduciary violation lawsuit.⁴ More recently, key oversight decisions have confirmed that although

in general, outside actions by “malicious third parties” such as hackers cannot be attributed directly to director as the basis for an oversight claim, directors do have an obligation to ensure that their organizations remain in compliance with “positive law,” including potentially “regulatory mandates” or “frameworks” for cybersecurity, which may create potential oversight liability if disregarded.⁵

Boards of directors and their in-house counsel should therefore ensure that board committees are clearly designated with responsibility for cybersecurity issues. Once designated, those committees should ensure that their companies are keeping up with emerging standards or any regulatory requirements pertaining to cybersecurity issues, and ensure that they remained both informed and engaged on their organizations’ progress on those issues.

2. AI — Balancing Business Promise with Enhanced Scrutiny: AI-related initiatives continue to drive growth and economic activity across the business landscape. However, regulatory scrutiny of claims regarding AI use, particularly by the SEC, has also increased commensurately. In 2024, the SEC has announced multiple settlements related to false statements regarding active AI usage in business operations at the time the statements were made.⁶ Similarly, private litigation involving commercial use of large language models and generative AI (trained on enormous datasets presenting complex data privacy and intellectual property issues) creates the potential for an oversight claim against the board of directors.⁷

Directors and in-house counsel advising them should review these issues (as relevant) with both their disclosure committee responsible for SEC reporting and related disclosures. They should also ensure that executives and officers pursuing these initiatives regularly involve outside and inside counsel as necessary, and report regularly to the board on their work and attendant risks.

3. Anticipating the Scope of Section 220 Books and Records Requests: Oversight claims are typically litigated following a request for board minutes and materials pursuant to a Delaware stockholder’s statutory information rights under 8 *Del. C.* § 220 (“Section 220”). A Section 220 books and records production in the context of a *Caremark* oversight claim typically provides an overall picture of the board’s formal activity

with respect to business issues on which the oversight claim is based. Pertinent board documents are typically incorporated by reference into any derivative complaint later brought by the stockholder. Because the standard for successfully pleading a derivative claim in Delaware is high, a Section 220 production that shows a robust record of board-level oversight activity can often defuse a potential derivative complaint *before* it is filed, or support a successful motion to dismiss if the derivative suit is filed.⁸ Last year, Delaware courts extended oversight duties to officers of Delaware corporations as well as directors, broadening the scope of potential books and records requests seeking to investigate oversight claims.⁹

This development potentially creates challenges in responding to requests from potential derivative plaintiffs. The scope of production for Section 220 purposes is typically restricted to what is “necessary and essential” to investigate potential fiduciary duty claims, often primarily formal board minutes and related pre-read materials. Recent Delaware precedent, however, holds that where such formal materials are not available, discovery via Section 220 of even less formal materials (including potentially text messages and email communications) may be appropriate.¹⁰ This issue may well arise in the context of claims against officers: formal board materials may not fully detail issues related to officers’ oversight, because they typically reflect only activities reviewed in connection with board meetings.¹¹ While Delaware courts have not clarified how Section 220 operates in the context of books and records requests, directors and in-house counsel advising them should carefully consider the appropriate scope of production in these areas.

4. Monitoring Developing Law and Regulation Around ESG Issues: Publicly traded Delaware corporations (and their boards) must also navigate emerging regulatory and legal requirements related to issues such as climate and board diversity, which have been contentious and will require further monitoring. For example, the SEC announced new climate disclosures rules (currently stayed in favor of litigation) earlier this year, potentially creating further regulatory areas.¹² Similarly, California-based Delaware corporations may be subject to statutory board diversity requirements (also being litigated on appeal and not currently enforced) requiring them to meet minimum requirements for female directors and directors from underrepresented communities,¹³ and a similar Nasdaq requirement is also subject to litigation.¹⁴

Thus far, Delaware courts have not engaged closely with these issues from a fiduciary duty of oversight perspective, holding recently that alleged corporate speech and involvement in political and lobbying issues constitutes “critic[ism of] a business decision” rather than “potential wrongdoing” subject to an oversight claim, as asserted by that plaintiff.¹⁵ Nevertheless, directors and in-house counsel advising should continue to monitor developments in these areas, and ensure that they

understand and develop strategies to comply with any legal or regulatory obligations across different jurisdictions in which they operate as they become more settled. ■

¹ *In re Caremark Int’l Inc. Derivative Litig.*, 698 A.2d 959 (Del. Ch. 1996).

² *South v. Baker*, 62 A.3d 1, 14 (Del. Ch. 2012).

³ *In re Transunion Derivative S’holder Litig.*, __ A.3d __, 2024 WL 4355571 (Del. Ch. Oct. 1, 2024).

⁴ *Firemen’s Ret. Sys. of St. Louis on behalf of Marriott Int’l, Inc. v. Sorenson*, 2021 WL 4593777 (Del. Ch. Oct. 5, 2021).

⁵ *Constr. Indus. Laborers Pension Fund v. Bingle*, 2022 WL 4102492 (Del. Ch. Sept. 6, 2022), *aff’d*, 297 A.3d 1083 (Del. 2023).

⁶ <https://bit.ly/3YDHU9>; <https://bit.ly/3Aj4YTF>.

⁷ See, e.g., *Lebanon Cnty. Emps.’ Ret. Fund v. Collis*, 311 A.3d 773 (Del. 2023); *In re Caremark Int’l Inc. Derivative Litig.*, 698 A.2d 959 (Del. Ch. 1996).

⁸ See, e.g., *Petry ex rel. FedEx Corp. v. Smith*, 2021 WL 2644475 (“[t]he Board’s level of engagement during this time period does not support an inference of bad faith indifference”); *Firemen’s Ret. Sys. of St. Louis ex rel. Marriott Int’l, Inc. v. Sorenson*, 2021 WL 4593777 (Del. Ch. Oct. 5, 2021 (Section 220 production establishing that “management told the Board that it was addressing or would address the issues presented” was “not reflective of a board that has decided to turn a blind eye to potential corporate wrongdoing”).

⁹ *In re McDonald’s Corp. S’holder Derivative Litig.*, 289 A.3d 343 (Del. Ch. 2023) (finding that Caremark oversight duties apply to officers as well as directors).

¹⁰ *KT4 Partners LLC v. Palantir Techs. Inc.*, 203 A.3d 738 (Del. 2019).

¹¹ *In re Zendesk, Inc. Section 220 Litig.*, 2023 WL 5496485 (Del. Ch. Aug. 25, 2023).

¹² <https://bit.ly/3YjRAqq>.

¹³ <https://bit.ly/40triVz>.

¹⁴ <https://bit.ly/3YowaZk>.

¹⁵ *Simeone v. Walt Disney Co.*, 302 A.3d 956, 969 (Del. Ch. 2023).

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GOVERNANCE

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unintentionally creating more risk by using unapproved tools. We recommend working with your fellow board directors to (1) create a level playing field of foundational AI knowledge across the boardroom and (2) identifying high/low-risk use cases to use AI — low-risk use cases could perhaps be initial drafts of non-sensitive emails or meeting transcriptions that can be deleted after notes are created, testing real-time language translation in the boardroom or using tools to help quickly learn about complex topics and keep up with new developments (lower risk but still some risk if confidential information is unintentionally disclosed).

Board directors may be tempted to use AI tools to help summarize massive board packets, highlight personalized areas for deeper reading, or generate meeting notes (high risk if not governed appropriately). Having the right expertise to help you identify use cases and tools that can benefit the boardroom without creating additional risk is crucial. Just because a vendor is well known doesn't guarantee safe or responsible AI, or such as with the case of the Fortune 100 company, where the solution may not be implemented as intended.

Given that the Generative AI market share value has nearly doubled from 2022 to 2023, we stress that it is critical for boardrooms to add board members with deep AI strategy expertise for effective governance.

Continue the momentum

The AI landscape is dynamically changing at a rapid acceleration. It is crucial to continue to stay abreast on current developments as these capabilities mature and evolve. Board members should actively seek reputable sources of information to continue learning. There are several ways we suggest you can achieve this — following respected AI experts and subscribing to reputable newsletters are two. Additionally, it can be helpful to consult with experts who can provide continuing advice on aligning your use cases with an AI strategy and purpose-built tools, which have the necessary guardrails required to ensure effective governance while addressing any ethical and legal concerns.

The future of AI in the boardroom is promising. By staying ahead of the curve and embracing AI responsibly, organizations can unlock its full potential and secure a competitive advantage. By staying up to date on capabilities and applications, utilizing AI in safe and value-add ways, and continuing to question and explore uses for their roles, board directors can model the way for their organizations to seize the immense benefits of AI. ■

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Cultivate positive environment to lift board spirits

Nonprofit leaders can help to keep their boards energized by creating a positive environment for them to operate in, according to Aly Sterling, founder of Aly Sterling Philanthropy

In a blog post on the philanthropic resources site Non-profit Hub, Sterling explained that creating a positive work environment can help board members “feel empowered to put their best foot forward.”

To that end, she suggested the following tips for fostering a welcoming, positive environment:

- **Lead by example.** According to Sterling, when a nonprofit's leadership team exhibits a “professional yet enthusiastic spirit” and demonstrates a clear commitment to the organization's values, your board members are bound to follow suit.
- **Seek diverse perspectives.** “When assembling your board, you should look for a diverse group of people with different experiences and insights they can bring to the table,” Sterling said.
- **Make personal connections.** “Provide opportunities for board members to form personal connections through team-building activities, happy hours and volunteer outings that keep them engaged and encourage better collaboration,” she said.

For more information, visit <https://nonprofitHub.org>.