

Investment Committee
Friday, November 14, 2025, 9:00 a.m.

Virtual Only

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AGENDA

- I. CALL TO ORDER AND ACCEPTANCE OF AGENDA – (Committee Action)**
 - A. Roll Call & Conflict of Interest Disclosure
- II. ACCEPTANCE OF MINUTES (October 10, 2025) – (Committee Action)**
- III. ASSET ALLOCATION (85 minutes)**
 - A. Pension Asset Allocation Recommendations – (Committee Action) – *Mr. Goldthorpe, NEPC; Mr. Anderson, Mr. Chin, and Mr. Hambrick*
 - I. PERS, TFFR, Bismarck, Grand Forks, Grand Forks Park
 - B. Asset Allocation Recommendations – (Committee Action) – *Mr. Morgan, SEI; Mr. Chin*
 - I. Job Service
 - C. Benchmarking Calculations Update – (Information Only) – *Ms. Neill, Verus*
 - D. Performance and Benchmark Consultant Search – (Committee Action) – *Ms. Smith, Mr. Otteson*
- (Break)
- IV. MANAGER RECOMMENDATION¹ (30 minutes) – (Committee Action)**
 - A. Private Markets – *Mr. Collins, Mr. Zietlow*
- V. MANAGER UPDATE (5 minutes) – (Information Only)**
 - A. Private Markets – *Mr. Collins, Mr. Zietlow*
- VI. DISCUSSION**
- VII. ADJOURNMENT**

¹ Executive Session pursuant to N.D.C.C. 44-04-19.2, 44-04-18.4 (2)(a) and N.D.C.C. 44-04-18.4(2)(d) to review and discuss confidential commercial information and trade secrets.

**STATE INVESTMENT BOARD
INVESTMENT COMMITTEE
MEETING MINUTES OF THE
OCTOBER 10, 2025, MEETING**

MEMBERS PRESENT: Thomas Beadle, State Treasurer, Chair
Prodosh Simlai, External Representative, Vice Chair
Scott Anderson, Chief Investment Officer
Eric Chin, Deputy Chief Investment Officer
Todd Van Orman, External Representative

MEMBERS ABSENT: Pete Jahner, External Representative

STAFF PRESENT: Cory Cox, Investment Analyst
Derek Dukart, Senior Investment Analyst
Jennifer Ferderer, Fiscal Operations Admin
Timothy Forsythe, Deputy Chief Financial Officer
Chirag Gandhi, Portfolio Manager
Ross Hambrick, Portfolio Manager
Shiv Khare, Investment Intern
Robbie Morey, Investment Operations Analyst
George Moss, Portfolio Manager
Sarah Mudder, Communications & Outreach Director
Chuck Napp, Sr Investment Operations Manager
Adam Otteson, Chief Financial Officer
Daphne Pfeiger, Investment Accountant
Matt Posch, Portfolio Manager
Jodi Smith, Executive Director
Nitin Vaidya, Chief Risk Officer
Susan Walcker, Senior Financial Manager
Alexander Weissman, Investment Analyst
Lance Zietlow, Portfolio Manager

GUESTS: Marc Gesell, Verus
Members of the Public

CALL TO ORDER

Treasurer Beadle called the State Investment Board (SIB) Investment Committee (IC) meeting to order at 9:03 a.m. on Friday, October 10, 2025. The meeting was held virtually.

The following members were present representing a quorum: Mr. Anderson, Treasurer Beadle, Mr. Chin, Dr. Simlai, and Mr. Van Orman

MINUTES

The minutes were considered for the September 12, 2025, meeting.

IT WAS MOVED BY MR. ANDERSON AND SECONDED BY DR. SIMLAI AND CARRIED BY A VOICE VOTE TO APPROVE THE MINUTES FOR THE SEPTEMBER 12, 2025, MEETING AS DISTRIBUTED.

**AYES: MR. ANDERSON, MR. CHIN, DR. SIMLAI, MR. VAN ORMAN, AND
TREASURER BEADLE**

ABSENT: MR. JAHNER

NAYS: NONE

MOTION CARRIED

INTRODUCTION OF NEW STAFF

Mr. Anderson introduced Mr. Hambrick as the new Portfolio Manager of Quantitative Risk and Funds Management. Mr. Hambrick was appointed to succeed Mr. Vaidya, who is retiring from the Retirement Investment Office (RIO). Mr. Vaidya expressed his gratitude to his colleagues and the agency upon his departure.

Ms. Smith introduced three new members of the fiscal and operations teams: Adam Otteson, Chief Financial Officer; Timothy Forsythe, Deputy Financial Officer; and Chuck Napp, Senior Investment Operations Manager.

STRATEGY REVIEW

Mr. Vaidya presented the market risk monitor, reporting that overall market risk remains very low, with stable macroeconomic, systemic, and capital market conditions. Credit spreads have narrowed, volatility is near historic lows, and investor sentiment has strengthened, keeping the composite market risk index near its lowest level.

Mr. Hambrick presented the portfolio risk, noting portfolio risk is well controlled, with stable betas, low tracking errors, and reduced volatility. Asset correlations have risen slightly, but fixed income and high-yield portfolios remain aligned with benchmarks. Monitoring systems ensure ongoing oversight, and portfolios are well-positioned within acceptable risk parameters.

The Committee recessed at 9:55 a.m. and reconvened at 10:02 a.m.

INVESTMENT GUIDELINES

IT WAS MOVED BY DR. SIMLAI AND SECONDED BY MR. VAN ORMAN AND CARRIED BY A ROLL CALL VOTE TO ENTER INTO EXECUTIVE SESSION PURSUANT TO N.D.C.C. 44-04-19.2, 44-04-18.4 (2)(A) AND N.D.C.C. 44-04-18.4(2)(D) TO REVIEW AND DISCUSS CONFIDENTIAL COMMERCIAL INFORMATION AND TRADE SECRETS.

**AYES: DR. SIMLAI, MR. CHIN, MR. VAN ORMAN, MR. ANDERSON, AND
TREASURER BEADLE**

ABSENT: MR. JAHNER

NAYS: NONE

MOTION CARRIED

The executive session began at 10:05 a.m. and ended at 10:02 a.m. The session was attended by Committee members, Mr. Cox, Mr. Dukart, Ms. Ferderer, Mr. Forsythe, Mr. Gandhi, Mr. Hambrick, Mr. Khare, Mr. Moss, Ms. Mudder, Mr. Otteson, Mr. Posch, Ms. Smith, Mr. Vaidya, Mr. Weissman, and Mr. Zietlow.

IT WAS MOVED BY MR. VAN ORMAN AND SECONDED BY DR. SIMLAI AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE INVESTMENT GUIDELINES FOR THE RECENTLY ONBOARDED FUND MANAGER.

**AYES: MR. ANDERSON, MR. CHIN, MR. VAN ORMAN, DR. SIMLAI AND
TREASURER BEADLE**

ABSENT: MR. JAHNER

NAYS: NONE

MOTION CARRIED

INTERNAL ENHANCEMENT MODEL

IT WAS MOVED BY DR. SIMLAI AND SECONDED BY MR. VAN ORMAN AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE STAFF RECOMMENDATION TO PROCEED WITH THE INTERNAL INVESTMENT ENHANCEMENT PROPOSAL.

**AYES: MR. CHIN, MR. ANDERSON, DR. SIMLAI, MR. VAN ORMAN, AND
TREASURER BEADLE**

ABSENT: MR. JAHNER

NAYS: NONE

MOTION CARRIED

DISCUSSION

Treasurer Beadle and Ms. Smith reminded the committee of the upcoming investment seminar on October 23, 2025 at the North Dakota Gateway to Science museum.

ADJOURNMENT

With no further business to come before the committee, Treasurer Beadle adjourned the meeting at 11:02 a.m.

Prepared by:

Jennifer Ferderer, Assistant to the Board



ASSET-LIABILITY ANALYSIS AND ASSET ALLOCATION RECOMMENDATION

NORTH DAKOTA
INVESTMENT COMMITTEE

NOVEMBER 14, 2025



PROPRIETARY & CONFIDENTIAL

PLAN AND ASSET ALLOCATION PROFILES



PROPRIETARY & CONFIDENTIAL

OVERVIEW

- Today's discussion covers the Asset-Liability analysis for the six North Dakota State Pension Plans.
- The plans' liability structure, funded status and discount rate (i.e., long-term return assumption) vary and are reviewed later in the deck; these factors were considered in the final recommendation
- Return expectations across the plans range from 6.50% to 7.25%; based on the NEPC March 31, 2025 capital market assumptions, it seems reasonable to expect that the long-term (30-year) return expectations could meet or exceed the current assumptions
- In addition to the Current policy, we have presented the recommended policies for each of the six plans in this deck

WORK PLAN / ROADMAP

North Dakota State Investment Board 2025 Pension Asset/Liability Project Plan

Step/Milestone	Estimated Timing
Collect all data relative to plan liabilities and structure	December 2024
Review of NEPC capital market assumptions, current policy expectations and plan objectives (with NDRIO Staff)	January 2025
Review, discuss, and consider revisions to portfolio/plan objectives (with NDRIO Staff)	February 2025
Discuss and identify potential alternatives to the current policy	May 2025
Scenario modeling for Current and Alternative Policies	May 2025
Review modeling results (with NDRIO Staff)	June 2025
Detailed modeling for each of the six plans	July-August 2025
Numerous Discussions with Individual Plan Investment Committees	September-October 2025
Study Presented to Board and Decision Finalized	November Board Meeting

PENSION PLANS: CURRENT STATE

Plan	PERS	TFFR	Bismarck Police	Bismarck Employees	Grand Forks Employees	Grand Forks Parks
Plan Year	7/1 - 6/30	7/1 - 6/30	1/1 - 12/31	1/1 - 12/31	1/1 - 12/31	1/1 - 12/31
Actuary	GRS	GRS	VIA	VIA	Deloitte	Gallagher
Participants (Total)	<u>60,098</u>	<u>25,663</u>	<u>253</u>	<u>887</u>	<u>377</u>	<u>51</u>
Actives	25,799	11,945	135	497	28	15
Terminated Vesteds	18,667	4,025	24	90	21	7
Retirees & Beneficiaries	15,632	9,693	94	300	328	29
Payroll	1,544,827,229	879,276,401	9,780,723	32,259,505	1,856,650	618,445
Actuarial Accrued Liability	6,218,968,568	4,758,417,607	62,582,471	144,050,754	103,046,911	11,000,405
Market Value of Assets	4,265,287,349	3,351,007,841	52,210,532	124,700,636	80,547,761	8,670,232
Actuarial Value of Assets	4,247,191,213	3,408,483,045	52,210,532	124,700,636	82,913,131	8,670,232
Unfunded Actuarial Liability	1,971,777,355	1,349,934,562	10,371,939	19,350,118	20,133,780	2,330,173
Funded Status (AVA)	68.3%	71.6%	83.4%	86.6%	80.5%	78.8%
Discount Rate	6.50%	7.25%	7.25%	7.25%	7.00%	7.00%
Payroll Growth Rate	3.50%	3.25%	3.25%	3.25%	2.50%	2.00%
Normal Cost Rate	12.2%	12.3%	12.4%	11.4%	17.9%	6.3%
Remaining Amortization Period	30	19	15	15	11	7
Asset Valuation Method	5-Year Smoothing	5-Year Smoothing	None	None	5-Year Smoothing	None
COLA	None	Ad-hoc, but none assumed	Ad-hoc, but none assumed	Ad-hoc, but none assumed	None	None
Open/Closed	Partially Open	Open	Open	Open	Closed in 1996	Closed in 2010
Funding Policy	ER: Fixed Rate EE: Fixed Rate In 2026, Non-Public Safety funding policy changes to dynamic model of normal cost plus closed 30-yr amortization of unfunded liabilities ending 2056	ER: Fixed Rate EE: Fixed Rate Contribution sufficiency measured against normal cost plus closed 30-yr amortization of unfunded liabilities ending 2043 (19 yrs left as of '24)	ER: Fixed Rate EE: Fixed Rate Contribution sufficiency measured against normal cost plus closed 30-yr amortization of unfunded liabilities ending 2038 (15 yrs left as of '24)	ER: Fixed Rate EE: Fixed Rate Contribution sufficiency measured against normal cost plus closed 30-yr amortization of unfunded liabilities ending 2038 (15 yrs left as of '24)	ER: Normal cost plus amortization of unfunded liabilities based on closed 30-yr amortization of unfunded liabilities ending 2034 (11 yrs left as of '24) EE: Fixed Rate	ER: Normal cost plus amortization of unfunded liabilities based on closed 14-yr amortization of unfunded liabilities ending 2030 (7 yrs left as of '24) EE: Fixed Rate

CORE ASSET CLASS RETURN ASSUMPTIONS

	Asset Class	3/31/2025 10-Year Return	3/31/2024 10-Year Return	Delta
	Cash	3.9%	4.1%	-0.2%
	U.S. Inflation	2.6%	2.6%	-
Equity	U.S. Large-Cap Equity	6.4%	4.1%	+2.3%
	Non-U.S. Developed Equity	5.1%	4.3%	+0.8%
	Emerging Market Equity	7.7%	8.3%	-0.6%
	Global Equity*	6.5%	5.1%	+1.4%
	Private Equity*	8.8%	8.8%	-
Fixed Income	U.S. Treasury Bond	4.4%	4.4%	-
	U.S. Municipal Bond	4.0%	3.7%	+0.3%
	U.S. Aggregate Bond*	4.8%	4.8%	-
	U.S. TIPS	4.5%	4.7%	-0.2%
	U.S. High Yield Corporate Bond	6.5%	6.1%	+0.4%
	Private Debt*	8.3%	8.3%	-
Real Assets	Commodity Futures	4.4%	4.3%	+0.1%
	REIT	5.3%	6.1%	-0.8%
	Gold	4.5%	4.8%	-0.3%
	Real Estate - Core	5.6%	5.8%	-0.2%
	Private Real Assets - Infrastructure	5.8%	6.7%	-0.9%
Multi-Asset	60% S&P 500 & 40% U.S. Aggregate	6.1%	4.7%	+1.4%
	60% MSCI ACWI & 40% U.S. Agg.	6.1%	5.3%	+0.8%
	Hedge Fund*	6.5%	6.1%	+0.4%

*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time.

NDRIO ASSET ALLOCATION

LONG-TERM (30-YEAR) RETURN EXPECTATIONS ABOVE 7.25%

	Bismarck Employees	Bismarck Police	TFFR	PERS	Grand Forks Employees	Grand Forks Parks
Cash	0.0%	0.0%	1.0%	0.0%	1.0%	0.0%
Total Cash	0.0%	0.0%	1.0%	0.0%	1.0%	0.0%
Global Equity	42.0%	46.0%	45.0%	51.0%	55.0%	47.0%
Private Equity	4.0%	5.0%	10.0%	7.0%	5.0%	7.5%
Total Equity	46.0%	51.0%	55.0%	58.0%	60.0%	54.5%
US Aggregate Bond	27.0%	22.0%	18.0%	16.0%	17.0%	18.0%
US High Yield Corporate Bond	3.5%	3.5%	4.0%	3.5%	3.5%	3.8%
Private Debt - Direct Lending	3.5%	3.5%	4.0%	3.5%	3.5%	3.8%
Total Fixed Income	34.0%	29.0%	26.0%	23.0%	24.0%	25.5%
Real Estate - Core	8.6%	9.0%	6.8%	8.3%	5.3%	7.5%
Real Estate - Non-Core	3.4%	3.0%	2.3%	2.7%	1.8%	2.5%
Private Real Assets - Natural Resources	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Private Real Assets - Infrastructure	7.0%	7.0%	8.0%	7.0%	7.0%	9.0%
Total Real Assets	20.0%	20.0%	18.0%	19.0%	15.0%	20.0%

Expected Return 10 yrs (Geometric)	6.5%	6.6%	6.8%	6.7%	6.6%	6.7%
Expected Return 30 yrs (Geometric)	7.5%	7.5%	7.7%	7.7%	7.6%	7.7%
Standard Deviation	11.6%	12.4%	13.2%	13.6%	13.4%	13.1%
Sharpe Ratio (10 years)	0.22	0.21	0.22	0.20	0.20	0.21
Sharpe Ratio (30 years)	0.34	0.32	0.32	0.31	0.31	0.32

ASSET-LIABILITY ANALYSIS



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PURPOSE OF ASSET-LIABILITY STUDY

- **Review the current/projected financial status of the plan over long-term horizon**
- **Determine appropriateness of current asset allocation with consideration of:**
 - Expected progress of liabilities and cash flows/liquidity needs
 - Path of funded status
- **Test sensitivity of plan (Assets and Liabilities) to various range of outcomes**
 - Market performance across range of economic environments
 - Contribution volatility
 - Range of liquidity environments
- **Consider appropriate asset mixes and expected return on assets**
 - Assess return target against tradeoff of volatility/range of outcomes
 - Analyze inclusion/exclusion of various asset classes/strategies

FIRST PRINCIPLES

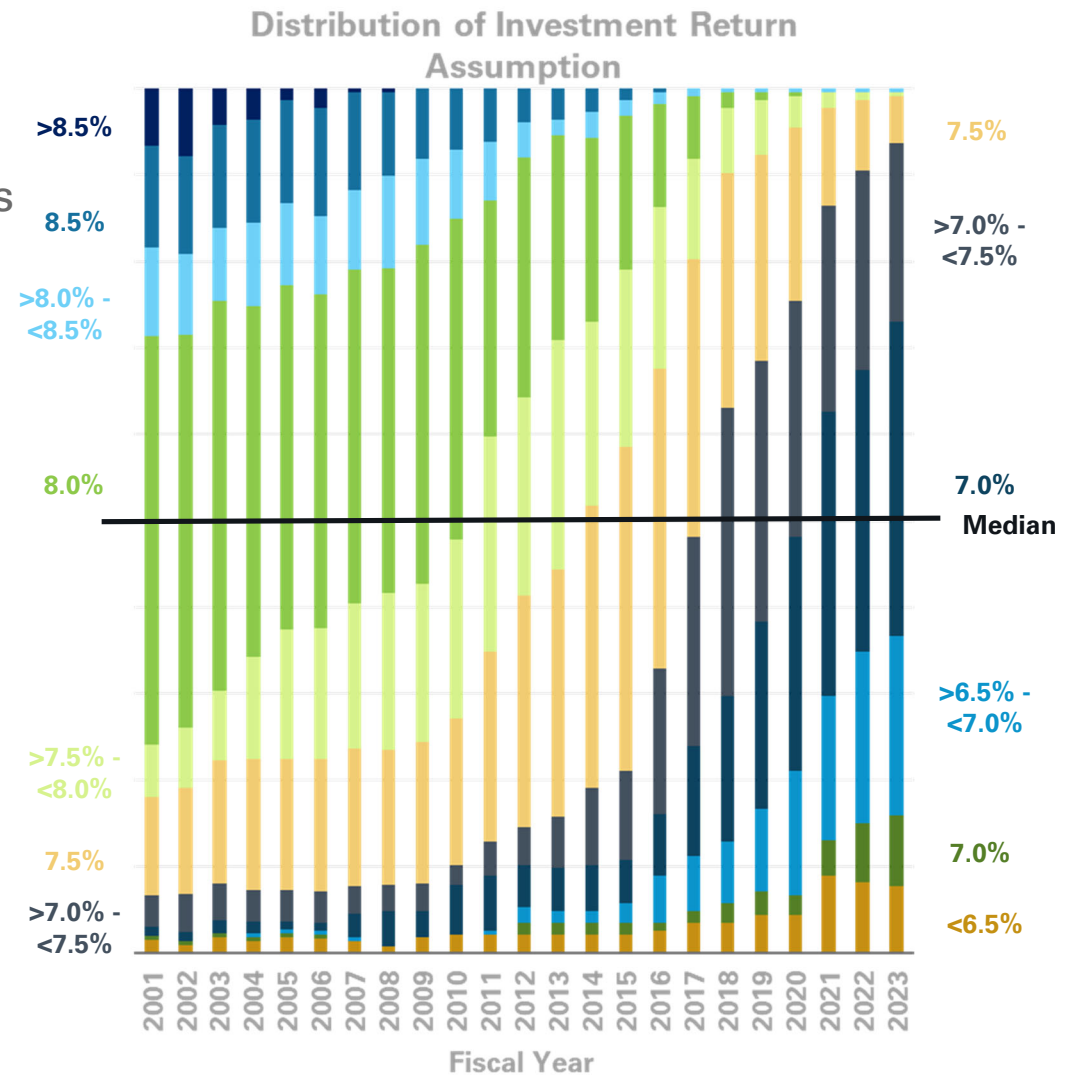
- All the complexities of pension plans boil down to the classic equation:

$$B + E = C + I$$

- Benefits (B), Expenses (E), Contributions (C), and Investment Earnings (I)
- The funding of pension benefits is made possible through the combination of member and employer contributions and returns on investment
- The long-term expected return on assets drives the selection of an appropriate discount rate for public pension liabilities
- Expected return on assets is based on assumptions – actual experience will likely depart from those assumptions
- Long-term nature of pension obligations positions well-funded pension plans to take advantage of long-term investment opportunities
- It is critical and healthy for pension trustees to regularly review fundamental characteristics of the pension plan:
 - Risk tolerance
 - Viability of long-term investment return
- Risk is multi-dimensional and should be considered from different perspectives – Risk is not just volatility!
 - Volatility, potential for drawdowns, illiquidity, exposure to economic factors, etc.
- Return expectations are generally lower than historical returns, forcing many investors to reconsider both return expectations and appropriate levels of risk

EXPECTED RETURN

- **Expected return and liability discount rate are closely linked for public pension plans**
 - Corporate DB: stringent regulations
 - Going-concern of government entities has historically provided comfort in public plans taking longer term approach
 - Expected returns are forward-looking
- **Historical market environment has led to downward trend in EROAs for public pensions**
 - Median 2023 EROA = 7.0%
- **Low expected returns put pressure on assumptions and outcomes but...**
 - Market re-pricing and higher inflation may push return expectations higher looking forward



Source: Public Plans Data, NEPC



CONCLUSION AND RECOMMENDATION



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CONCLUSIONS AND NEXT STEPS

RECOMMENDED POLICY FOR PERS

	Recommended Policy	PERS
Cash	0.0%	0.0%
Total Cash	0.0%	0.0%
Global Equity	40.0%	51.0%
Private Equity	15.0%	7.0%
Total Equity	55.0%	58.0%
US Aggregate Bond	16.0%	16.0%
US High Yield Corporate Bond	2.5%	3.5%
Private Debt - Direct Lending	7.5%	3.5%
Total Fixed Income	26.0%	23.0%
Real Estate - Core	8.3%	8.3%
Real Estate - Non-Core	2.7%	2.7%
Private Real Assets - Natural Resources	1.0%	1.0%
Private Real Assets - Infrastructure	7.0%	7.0%
Total Real Assets	19.0%	19.0%
10-Year Expected Return (Geo)	7.0%	6.7%
30-Year Expected Return (Geo)	8.0%	7.7%
Asset Volatility	13.8%	13.6%

- Recommended Policy offers meaningfully better long-term returns than the current policy
- Volatility for Recommended Policy is like the current policy for PERS
- Recommended Policy offers improved (combination of lower risk and higher return) plan financials over the long-term relative to the current policy

CONCLUSIONS AND NEXT STEPS

RECOMMENDED POLICY FOR TFFR

	Recommended Policy	TFFR
Cash	0.0%	1.0%
Total Cash	0.0%	1.0%
Global Equity	40%	45.0%
Private Equity	15%	10.0%
Total Equity	55%	55.0%
US Aggregate Bond	16.0%	18.0%
US High Yield Corporate Bond	2.5%	4.0%
Private Debt - Direct Lending	7.5%	4.0%
Total Fixed Income	26.0%	26.0%
Real Estate - Core	8.3%	6.8%
Real Estate - Non-Core	2.7%	2.3%
Private Real Assets - Natural Resources	1.0%	1.0%
Private Real Assets - Infrastructure	7.0%	8.0%
Total Real Assets	19.0%	18.0%
10-Year Expected Return (Geo)	7.0%	6.8%
30-Year Expected Return (Geo)	8.0%	7.7%
Asset Volatility	13.8%	13.2%

- Recommended Policy offers meaningfully better long-term returns than the current policy
- Volatility for Recommended Policy is like the current policy for TFFR
- Recommended Policy offers improved (combination of lower risk and higher return) plan financials over the long-term relative to the current policy

CONCLUSIONS AND NEXT STEPS

RECOMMENDED POLICY FOR BISMARCK EMPLOYEES AND BISMARCK POLICE

	Recommended Policy	Bismarck Employees	Bismarck Police
Cash	0.0%	0.0%	0.0%
Total Cash	0.0%	0.0%	0.0%
Global Equity	40.0%	42.0%	46.0%
Private Equity	15.0%	4.0%	5.0%
Total Equity	55.0%	46.0%	51.0%
US Aggregate Bond	16.0%	27.0%	22.0%
US High Yield Corporate Bond	2.5%	3.5%	3.5%
Private Debt - Direct Lending	7.5%	3.5%	3.5%
Total Fixed Income	26.0%	34.0%	29.0%
Real Estate - Core	8.3%	8.6%	9.0%
Real Estate - Non-Core	2.7%	3.4%	3.0%
Private Real Assets - Natural Resources	1.0%	1.0%	1.0%
Private Real Assets - Infrastructure	7.0%	7.0%	7.0%
Total Real Assets	19.0%	20.0%	20.0%
10-Year Expected Return (Geo)	7.0%	6.5%	6.6%
30-Year Expected Return (Geo)	8.0%	7.5%	7.5%
Asset Volatility	13.8%	11.6%	12.4%

- Recommended Policy offers meaningfully better long-term returns than the current policy
- Volatility for Recommended Policy is higher than the current policy for Bismarck Employees and Bismarck Police
- Recommended Policy offers improved (combination of lower risk and higher return) plan financials over the long-term relative to the current policy

CONCLUSIONS AND NEXT STEPS

RECOMMENDED MIX FOR GRAND FORKS EMPLOYEES

	Current Policy	Actual 6/30/25	Recommended Mix (Initial Allocation)
Cash	1.0%	0.3%	1.0%
Total Cash	1.0%	0.3%	1.0%
Global Equity	55.0%	53.5%	34.7%
Private Equity	5.0%	7.3%	5.0%
Total Equity	60.0%	60.8%	39.7%
US Aggregate Bond	17.0%	17.7%	0.0%
US High Yield Corporate Bond	3.5%	3.7%	0.0%
Intermediate Duration Fixed Income	0.0%	0.0%	0.0%
Long Duration Fixed Income	0.0%	0.0%	42.5%
Private Debt - Direct Lending	3.5%	3.5%	2.8%
Total Fixed Income	24.0%	24.9%	45.3%
Real Estate - Core	5.3%	3.2%	3.2%
Real Estate - Non-Core	1.7%	2.6%	2.6%
Private Real Assets - Natural Resources	1.0%	1.1%	1.1%
Private Real Assets - Infrastructure	7.0%	7.1%	7.1%
Total Real Assets	15.0%	14.0%	14.0%
10-Year Expected Return (Geo)	6.6%	6.7%	6.5%
30-Year Expected Return (Geo)	7.6%	7.7%	7.6%
Asset Volatility	13.4%	13.7%	11.5%

- The recommended mix offers a slightly higher long-term return than the current policy
- Volatility for the recommended mix is significantly less than that of the current policy
- The recommended mix offers reduced risk to support the liquidity needs, closed status and shorter time horizon of the plan
- NDRIO worked with NEPC to develop a glide path presented on the next slide which is designed to reduce the risk of the asset allocation as the plan matures and its funding level improves

GLIDE PATH ASSET ALLOCATION PROFILES

GRAND FORKS EMPLOYEES

	Current Policy	Actual June 30	70-79% Funding	80-84% Funding	85-89% Funding	90-94% Funding	95-99% Funding	100% or better Funding
Cash	1.0%	0.3%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Total Cash	1.0%	0.3%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Global Equity	55.0%	53.5%	34.7%	34.1%	29.1%	24.0%	16.5%	10.0%
Private Equity	5.0%	7.3%	5.0%	4.4%	2.9%	1.5%	0.7%	0.0%
Total Equity	60.0%	60.8%	39.7%	38.5%	32.0%	25.5%	17.3%	10.0%
US Aggregate Bond	17.0%	17.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
US High Yield Corporate Bond	3.5%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Intermediate Duration Fixed Income	0.0%	0.0%	0.0%	0.0%	10.0%	20.0%	30.0%	39.0%
Long Duration Fixed Income	0.0%	0.0%	42.5%	50.0%	50.0%	50.0%	50.0%	50.0%
Private Debt - Direct Lending	3.5%	3.5%	2.8%	2.1%	1.4%	0.7%	0.4%	0.0%
Total Fixed Income	24.0%	24.9%	45.3%	52.1%	61.4%	70.7%	80.4%	89.0%
Real Estate - Core	5.3%	3.2%	3.2%	1.9%	1.3%	0.6%	0.3%	0.0%
Real Estate - Non-Core	1.7%	2.6%	2.6%	1.6%	1.0%	0.5%	0.3%	0.0%
Private Real Assets - Natural Resources	1.0%	1.1%	1.1%	0.7%	0.4%	0.2%	0.1%	0.0%
Private Real Assets - Infrastructure	7.0%	7.1%	7.1%	4.3%	2.8%	1.4%	0.7%	0.0%
Total Real Assets	15.0%	14.0%	14.0%	8.4%	5.6%	2.8%	1.4%	0.0%

10-Year Expected Return (Geo)	6.6%	6.7%	6.5%	6.4%	6.2%	6.1%	5.9%	5.7%
30-Year Expected Return (Geo)	7.6%	7.7%	7.6%	7.4%	7.2%	7.0%	6.7%	6.5%
Asset Volatility	13.3%	13.7%	11.5%	11.2%	10.4%	9.8%	9.3%	9.0%
Sharpe Ratio (10 years)	0.20	0.20	0.22	0.22	0.22	0.22	0.21	0.20
Sharpe Ratio (30 years)	0.31	0.31	0.35	0.35	0.36	0.36	0.35	0.33
Interest Rate Hedge Ratio	8%	9%	46%	57%	66%	74%	84%	93%

Liquidity Profile

Tier 1 (Daily Liquidity)	56.0%	53.8%	38%	35%	30%	25%	18%	11%
Tier 2 (Semi-liquid)	20.5%	21.4%	43%	50%	60%	70%	80%	89%
Tier 3 (Illiquid)	23.5%	24.8%	20%	15%	10%	5%	2%	0%

Note: Funding level noted in top row above is determined on a "termination Basis" with a discount rate based on a high-quality investment-grade yield curve.

CONCLUSIONS AND NEXT STEPS

RECOMMENDED MIX FOR GRAND FORKS PARKS

	Current Policy	Actual 6/30/25	Recommended Mix (Initial Allocation)
Cash	0.0%	0.3%	1.0%
Total Cash	0.0%	0.3%	1.0%
Global Equity	47.0%	43.9%	24.3%
Private Equity	7.5%	11.0%	11.0%
Total Equity	54.5%	54.9%	35.3%
US Aggregate Bond	18.0%	18.5%	0.0%
US High Yield Corporate Bond	3.8%	7.6%	0.0%
Private Debt - Direct Lending	3.8%	0.1%	0.1%
Intermediate Duration Fixed Income	0.0%	0.0%	0.0%
Long Duration Fixed Income	0.0%	0.0%	45.0%
Total Fixed Income	25.5%	26.2%	45.1%
Real Estate - Core	7.6%	4.4%	4.4%
Real Estate - Non-Core	2.5%	3.7%	3.7%
Private Real Assets - Natural Resources	1.0%	0.8%	0.8%
Private Real Assets - Infrastructure	9.0%	9.7%	9.7%
Total Real Assets	20.0%	18.6%	18.6%
10-Year Expected Return (Geo)	6.7%	6.8%	6.6%
30-Year Expected Return (Geo)	7.7%	7.7%	7.6%
Asset Volatility	13.1%	13.5%	11.5%

- The recommended mix offers a slightly lower long-term return than the current policy
- Volatility for the recommended mix is significantly less than that of the current policy
- The recommended mix offers reduced risk to support the liquidity needs, closed status and shorter time horizon of the plan
- NDRIO worked with NEPC to develop a glide path presented on the next slide which is designed to reduce the risk of the asset allocation as the plan matures and its funding level improves

GLIDE PATH ASSET ALLOCATION PROFILES

GRAND FORKS PARKS

	Current Policy	Actual June 30	70-79% Funding	80-84% Funding	85-89% Funding	90-94% Funding	95-99% Funding	100% or Better Funding
Cash	0.0%	0.3%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Total Cash	0.0%	0.3%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Global Equity	47.0%	43.9%	24.3%	25.2%	21.2%	17.1%	13.1%	10.0%
Private Equity	7.5%	11.0%	11.0%	8.8%	6.6%	4.4%	2.2%	0.0%
Total Equity	54.5%	54.9%	35.3%	34.0%	27.8%	21.5%	15.3%	10.0%
US Aggregate Bond	18.0%	18.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
US High Yield Corporate Bond	3.8%	7.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Debt - Direct Lending	3.8%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Intermediate Duration Fixed Income	0.0%	0.0%	0.0%	0.0%	10.0%	20.0%	30.0%	39.0%
Long Duration Fixed Income	0.0%	0.0%	45.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Total Fixed Income	25.5%	26.2%	45.1%	50.1%	60.1%	70.0%	80.0%	89.0%
Real Estate - Core	7.6%	4.4%	4.4%	3.5%	2.6%	1.8%	0.9%	0.0%
Real Estate - Non-Core	2.5%	3.7%	3.7%	3.0%	2.2%	1.5%	0.7%	0.0%
Private Real Assets - Natural Resources	1.0%	0.8%	0.8%	0.6%	0.5%	0.3%	0.2%	0.0%
Private Real Assets - Infrastructure	9.0%	9.7%	9.7%	7.8%	5.8%	3.9%	1.9%	0.0%
Total Real Assets	20.0%	18.6%	18.6%	14.9%	11.2%	7.4%	3.7%	0.0%

10-Year Expected Return (Geo)	6.7%	6.8%	6.6%	6.5%	6.3%	6.1%	5.9%	5.7%
30-Year Expected Return (Geo)	7.7%	7.7%	7.6%	7.5%	7.3%	7.0%	6.8%	6.5%
Asset Volatility	13.1%	13.5%	11.5%	11.3%	10.4%	9.7%	9.3%	9.0%
Sharpe Ratio (10 years)	0.21	0.21	0.23	0.22	0.23	0.22	0.21	0.20
Sharpe Ratio (30 years)	0.32	0.31	0.36	0.35	0.36	0.36	0.35	0.33
Interest Rate Hedge Ratio	8%	9%	42%	50%	57%	65%	73%	81%

Liquidity Profile

Tier 1 (Daily Liquidity)	65.0%	62.7%	70%	76%	82%	88%	94%	97%
Tier 2 (Semi-liquid)	3.8%	7.6%	0%	0%	0%	0%	0%	0%
Tier 3 (Illiquid)	31.3%	29.7%	30%	24%	18%	12%	6%	3%



Note: Funding level noted in top row above is determined on a "termination Basis" with a discount rate based on a high-quality investment-grade yield curve.



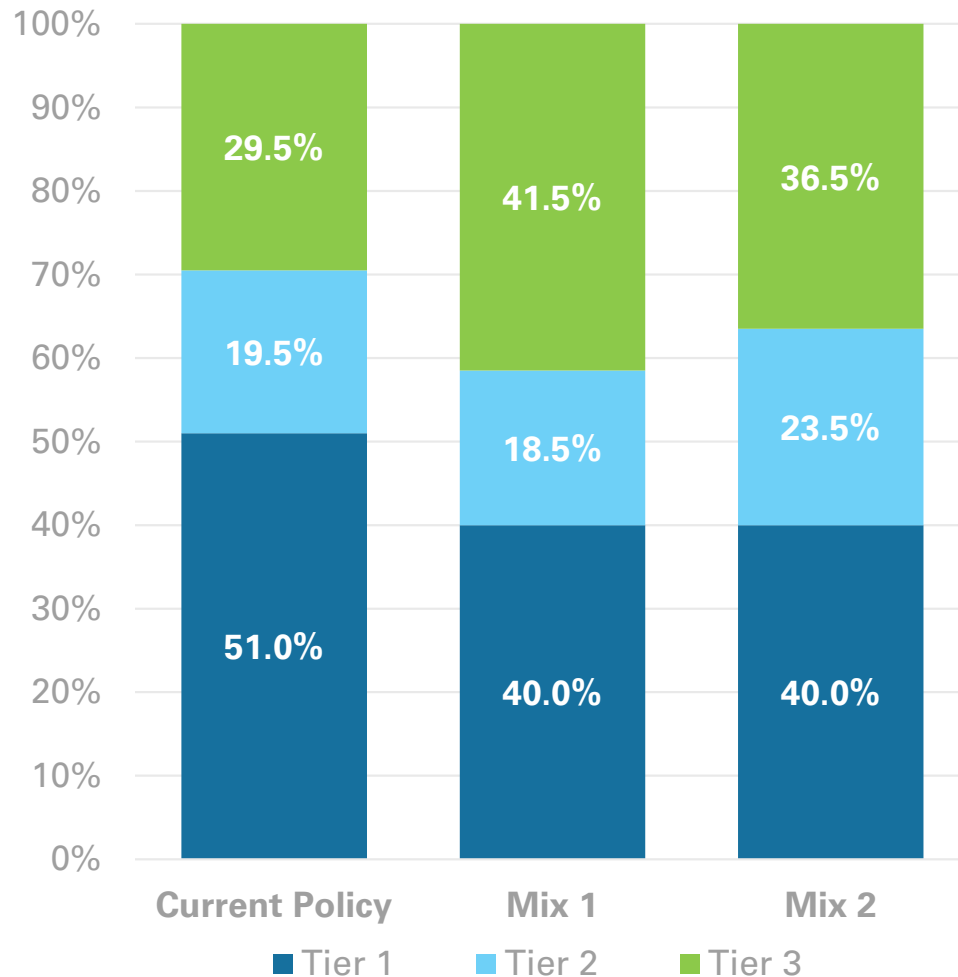
ASSET-LIABILITY ANALYSIS RESULTS



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LIQUIDITY PROFILE

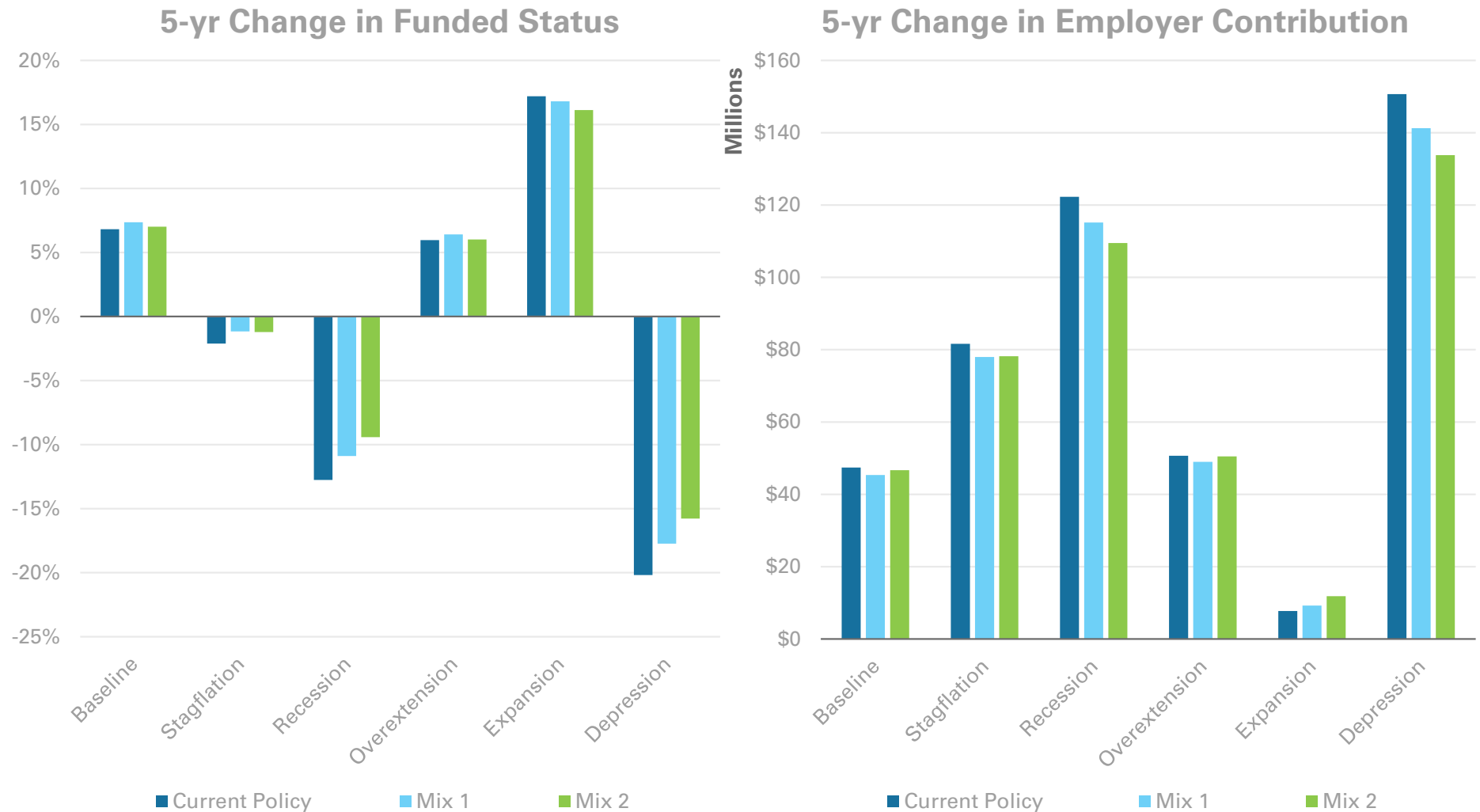
NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM



- **Net cash flow is expected to remain negative over next 10 years, averaging -1.3% outflow**
 - Public funds average between -2% and -4% net cash flow
- **Negative cash flow is typical for a mature pension plan**
- **Fixed contribution model provides consistent and predictable cash inflows**
- **NEPC believes the plan can take on the recommended increase in illiquids with no material impact in the plan's ability to meet its obligations**

ECONOMIC SCENARIO ANALYSIS

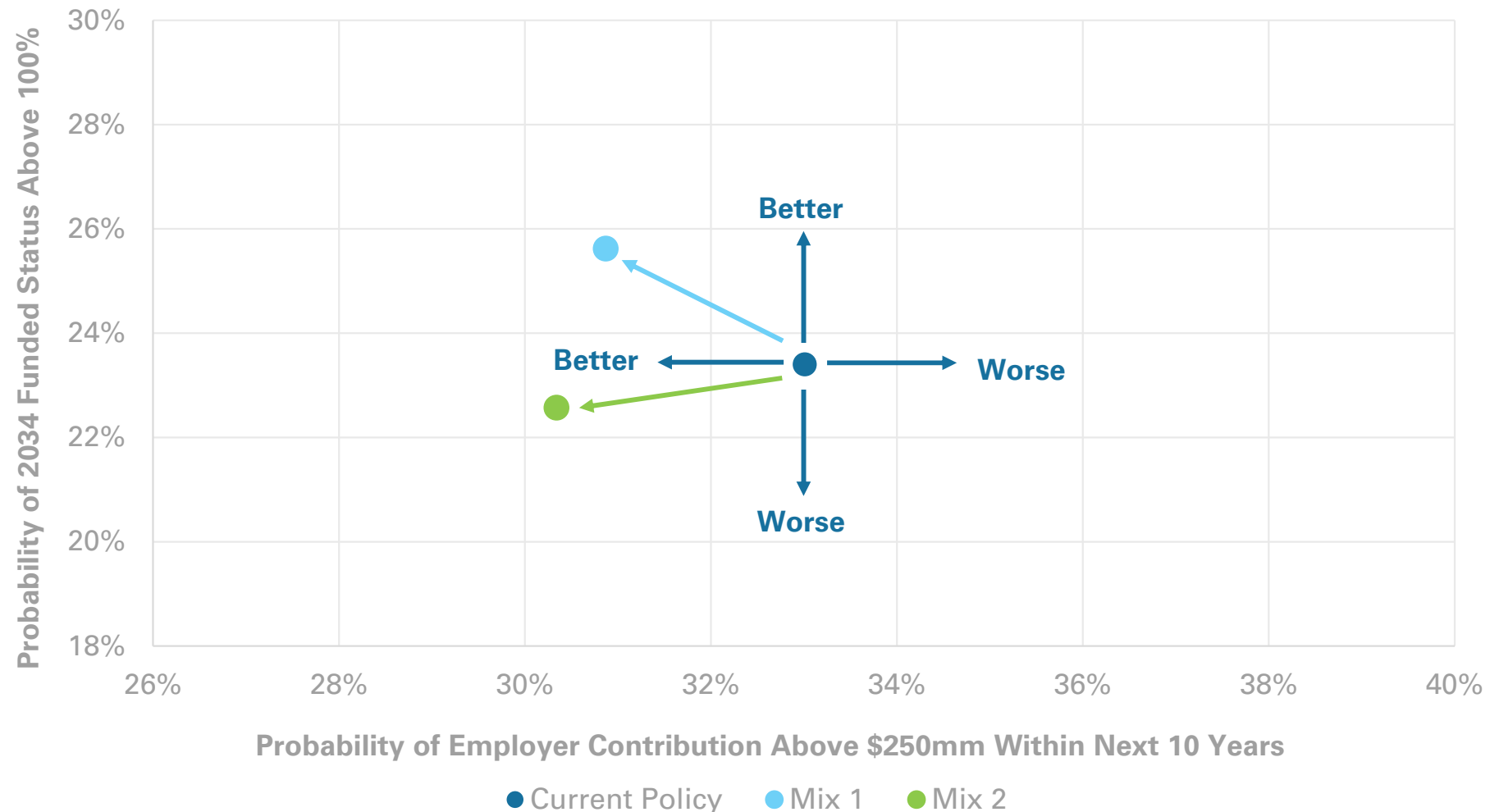
NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM



Notes: Scenarios reflect a 5-year market cycle. Change in funded ratio is relative to 68.3% as of July 1, 2024 and change in contribution is relative to \$137.4 million for FY2025

STOCHASTIC ANALYSIS

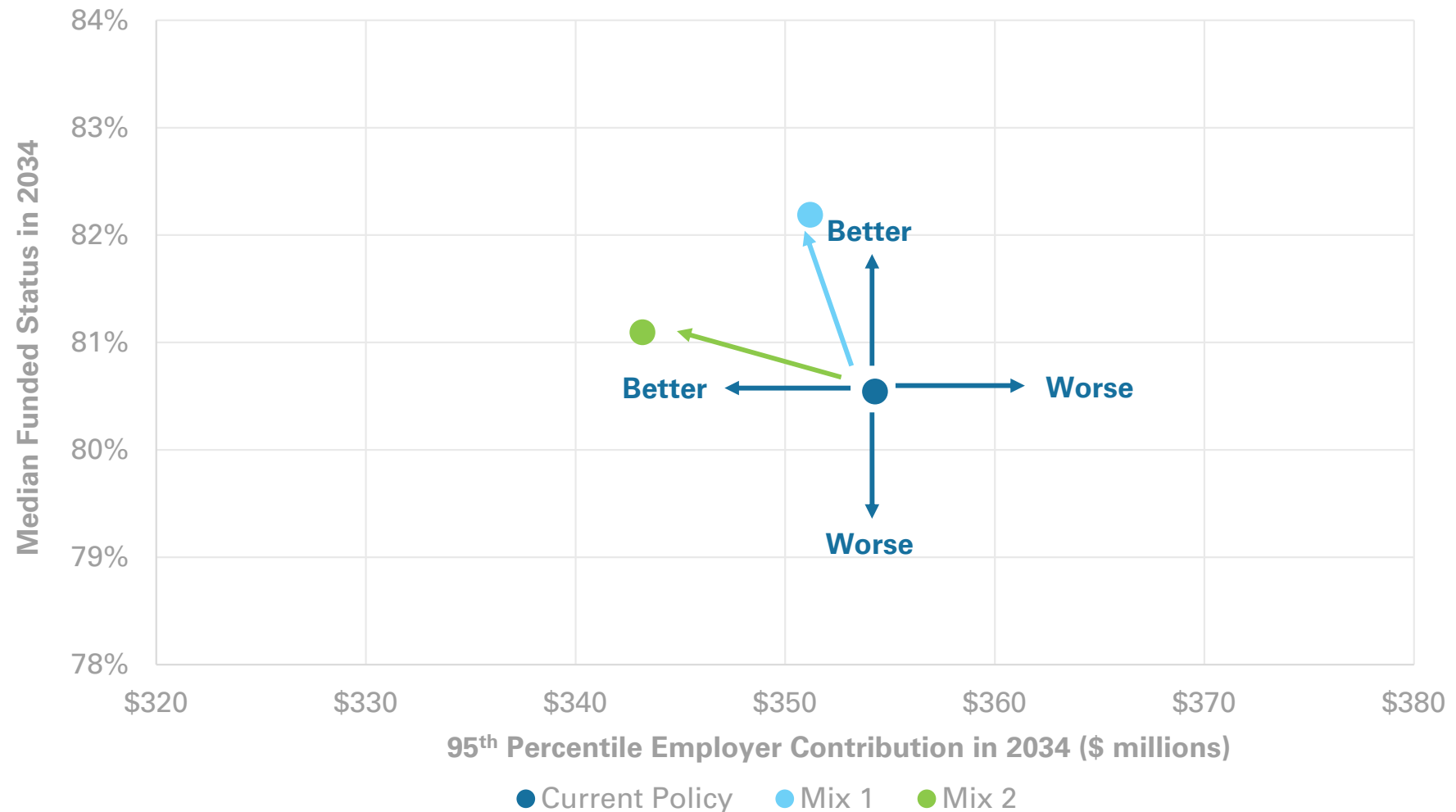
NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

STOCHASTIC ANALYSIS

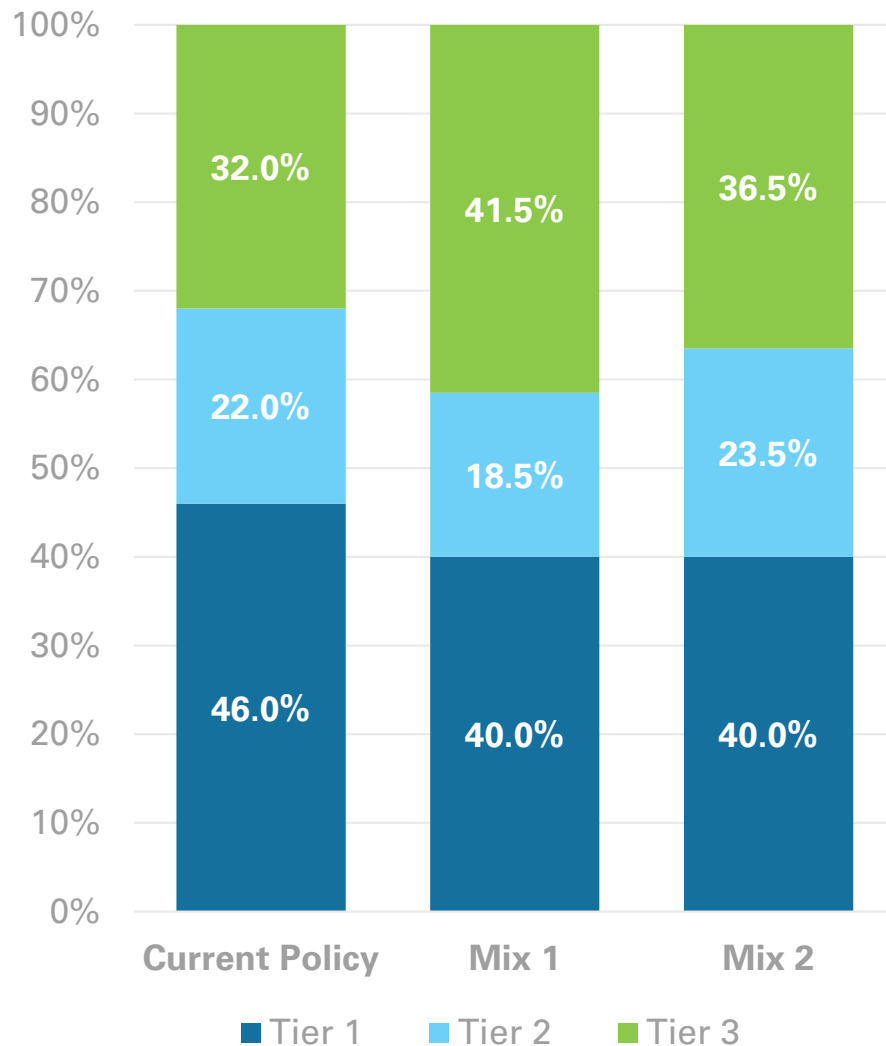
NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

LIQUIDITY PROFILE

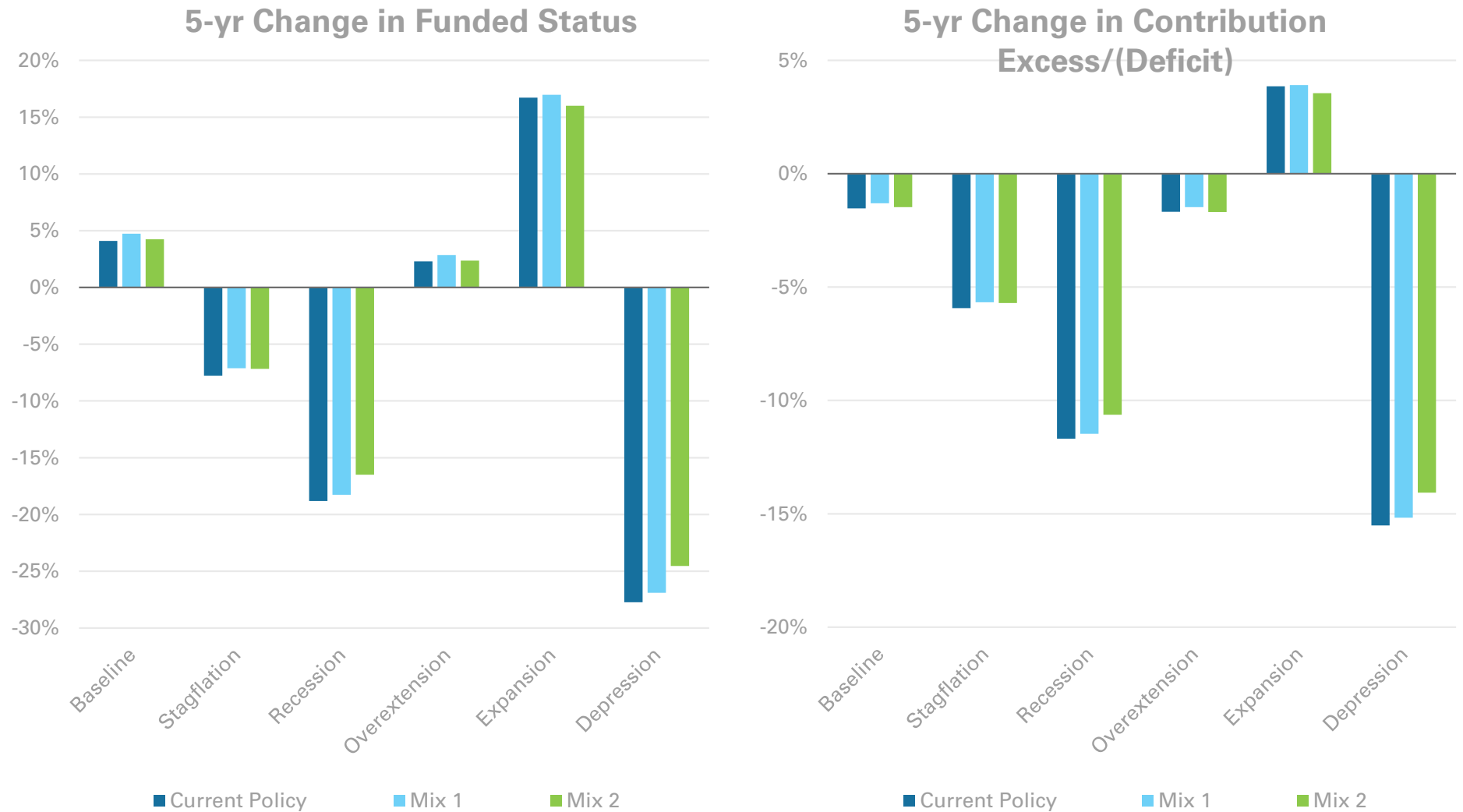
TEACHERS' FUND FOR RETIREMENT



- **Net cash flow is expected to remain negative over next 10 years, averaging -1.5% outflow**
 - Public funds average between -2% and -4% net cash flow
- **Negative cash flow is typical for a mature pension plan**
- **Fixed contribution model provides consistent and predictable cash inflows**
- **NEPC believes the plan can take on the recommended increase in illiquids with no material impact in the plan's ability to meet its obligations**

ECONOMIC SCENARIO ANALYSIS

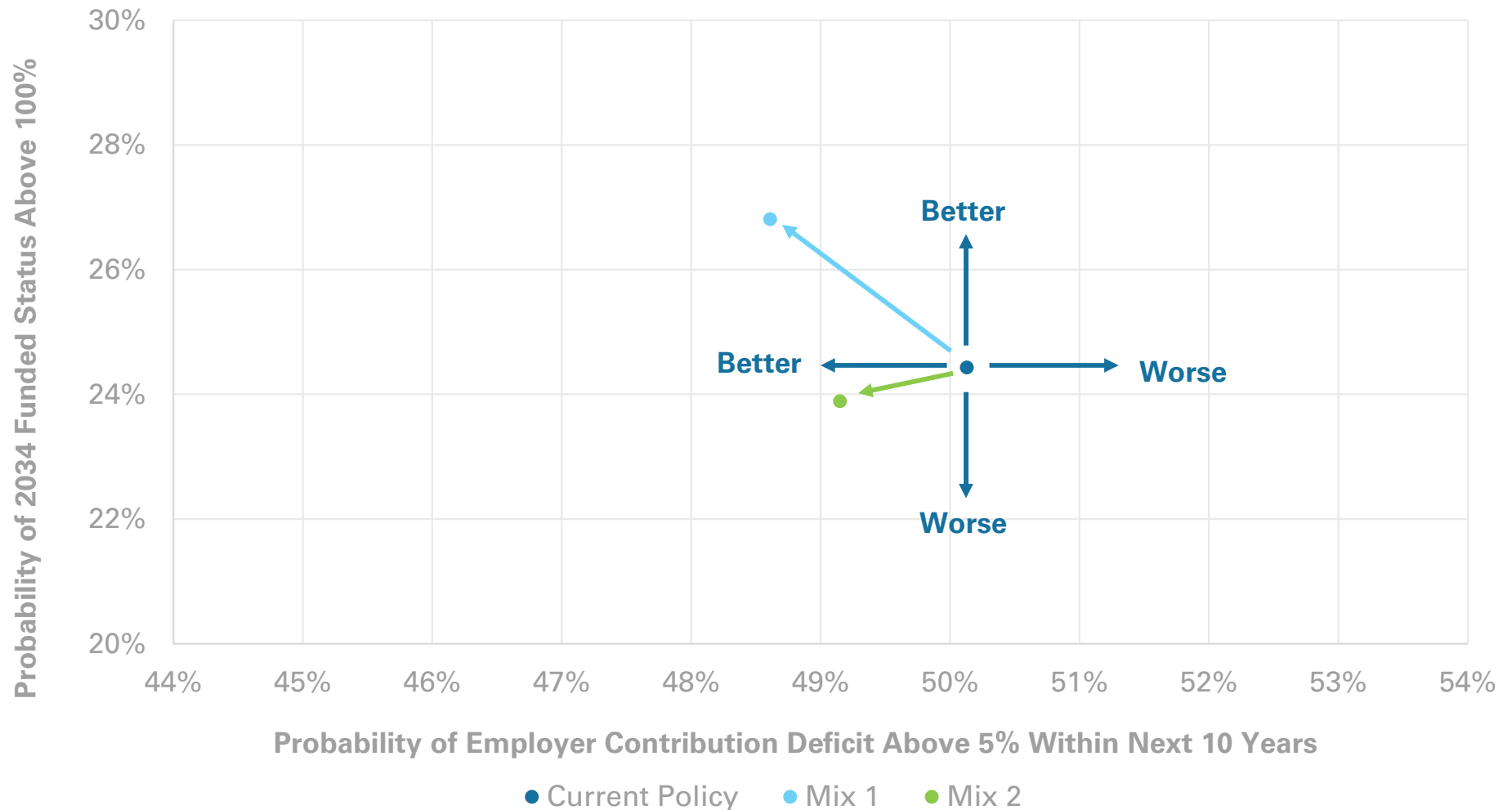
TEACHERS' FUND FOR RETIREMENT



Notes: Scenarios reflect a 5-year market cycle. Change in funded ratio is relative to 71.6% as of July 1, 2024 and change in contribution excess/(deficit) is relative to 0.3% for FY2025

STOCHASTIC ANALYSIS

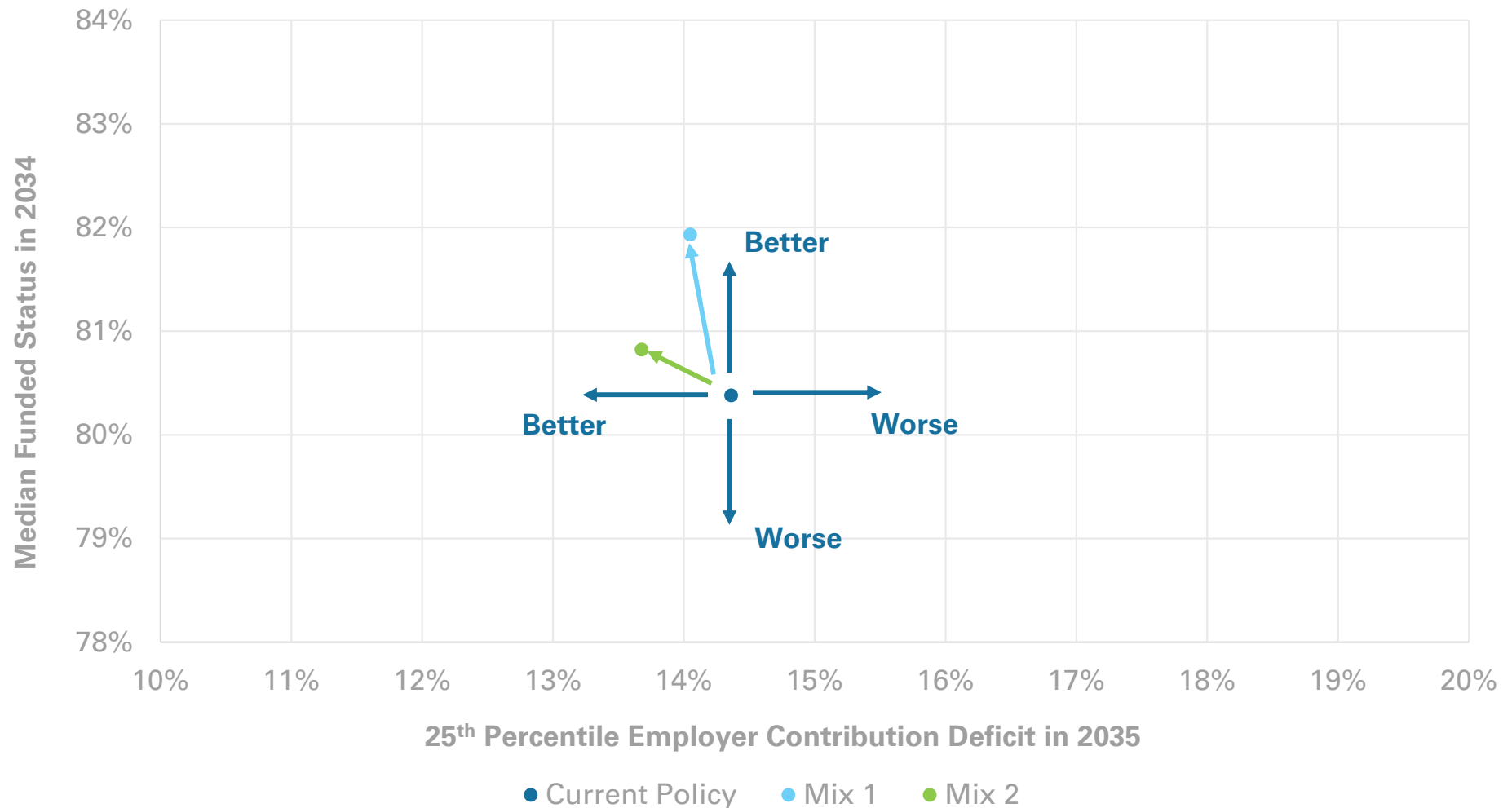
TEACHERS' FUND FOR RETIREMENT



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

STOCHASTIC ANALYSIS

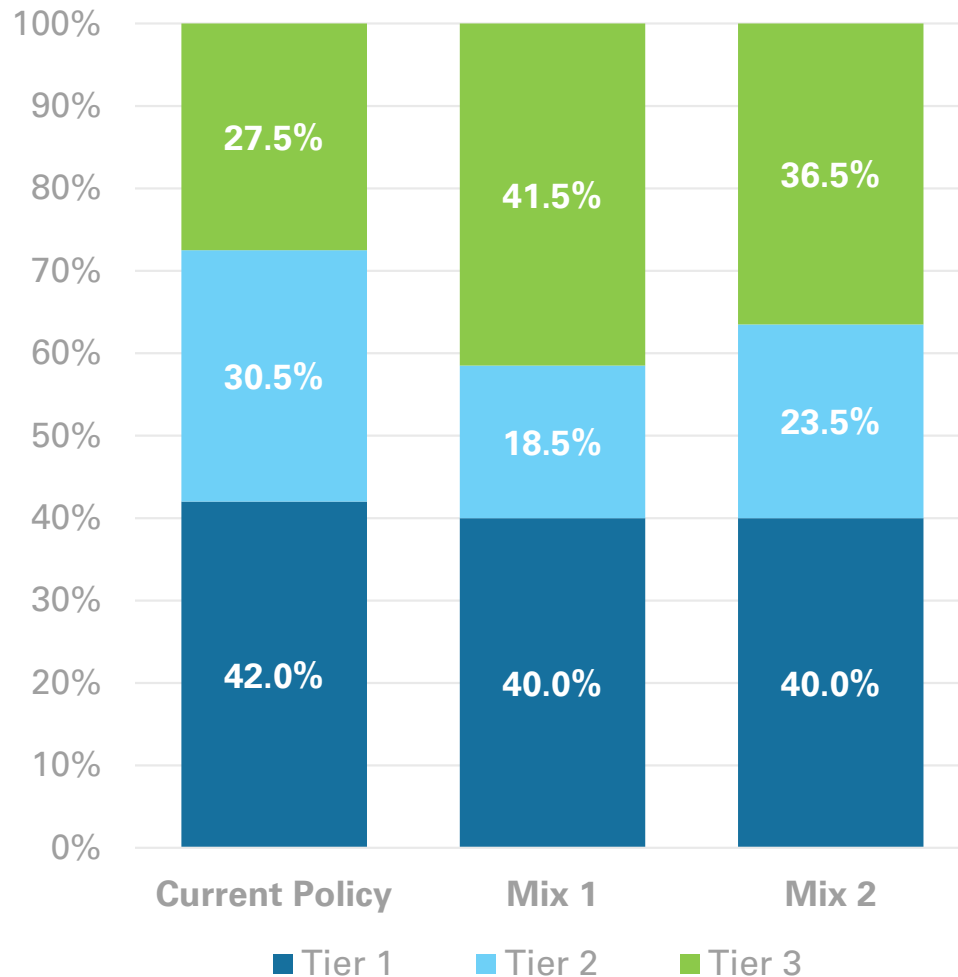
TEACHERS' FUND FOR RETIREMENT



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

LIQUIDITY PROFILE

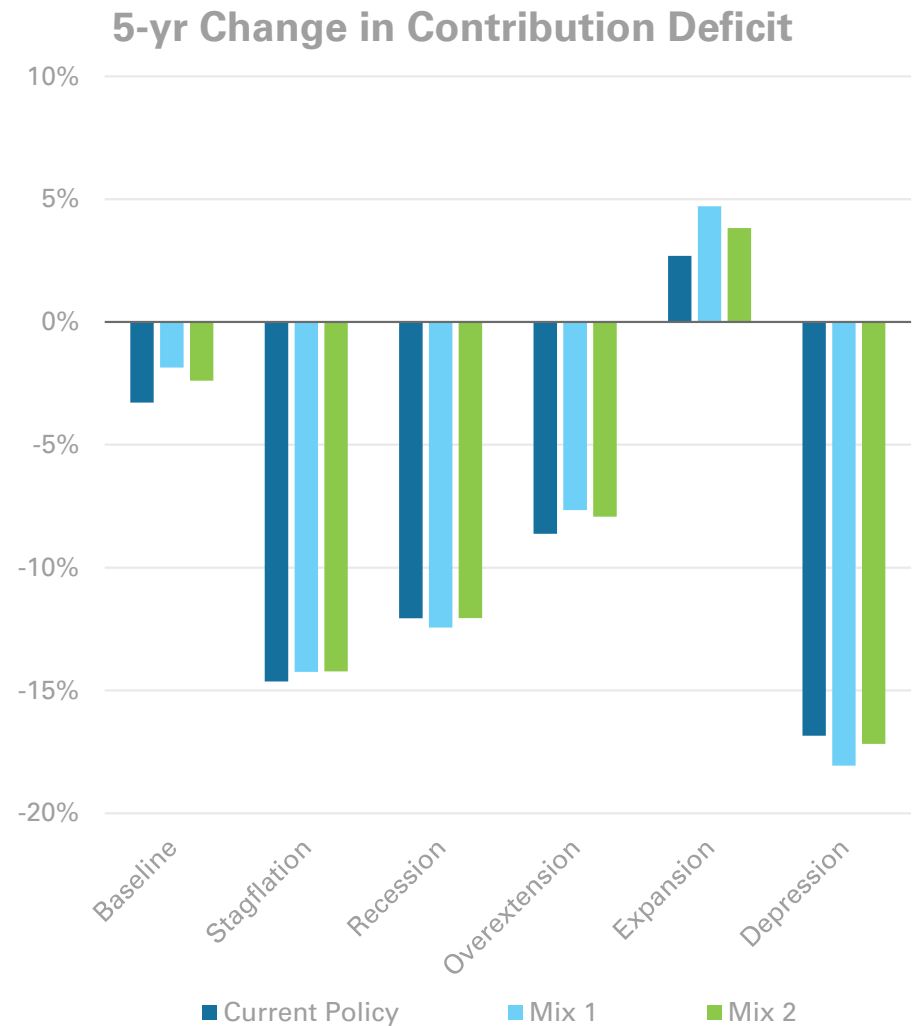
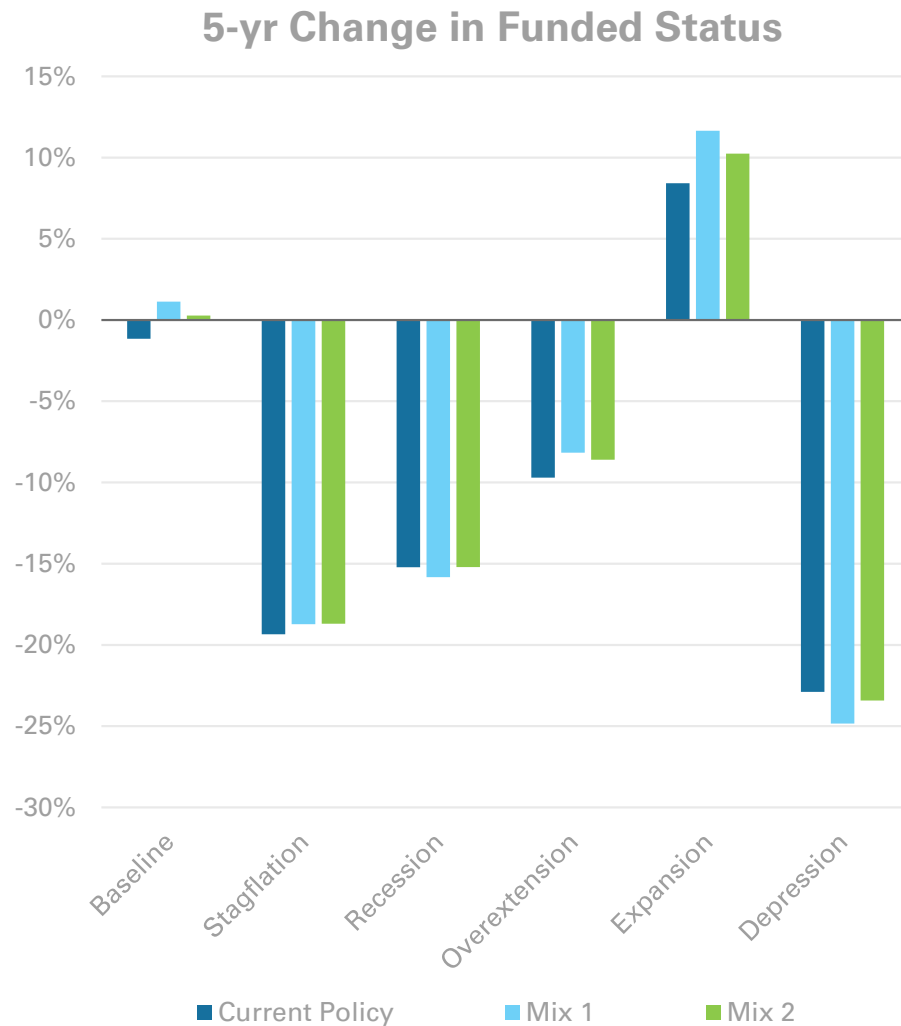
CITY OF BISMARCK EMPLOYEE PENSION FUND



- **Net cash flow is expected to remain negative over next 10 years, averaging -2.7% outflow**
 - Public funds average between -2% and -4% net cash flow
- **Negative cash flow is typical for a mature pension plan**
- **Fixed contribution model provides consistent and predictable cash inflows**
- **NEPC believes the plan can take on the recommended increase in illiquids with no material impact in the plan's ability to meet its obligations**

ECONOMIC SCENARIO ANALYSIS

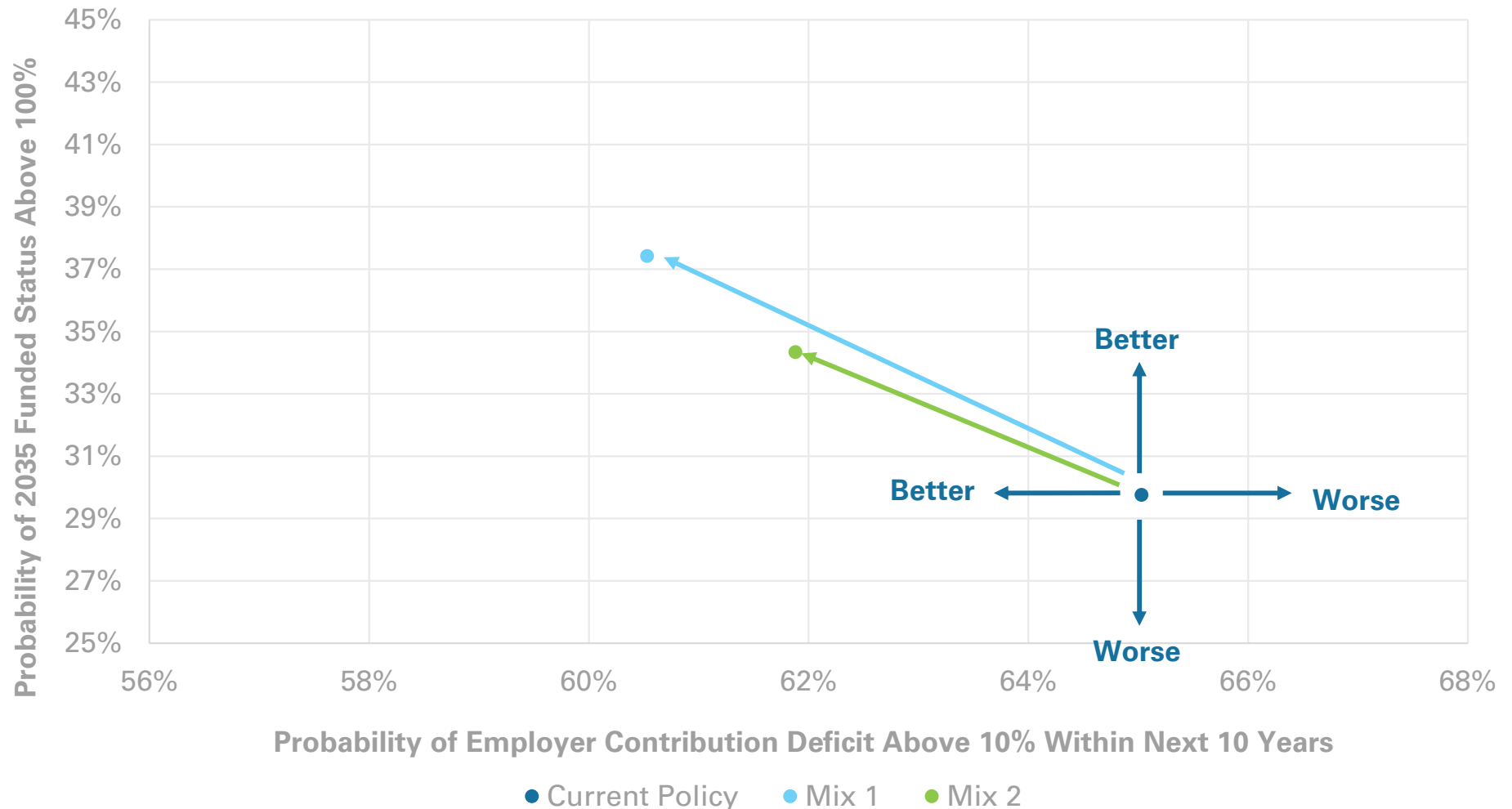
CITY OF BISMARCK EMPLOYEE PENSION FUND



Notes: Scenarios reflect a 5-year market cycle. Change in funded ratio is relative to 87.3% as of January 1, 2025 and change in contribution deficit is relative to -2.0% for 2025.

STOCHASTIC ANALYSIS

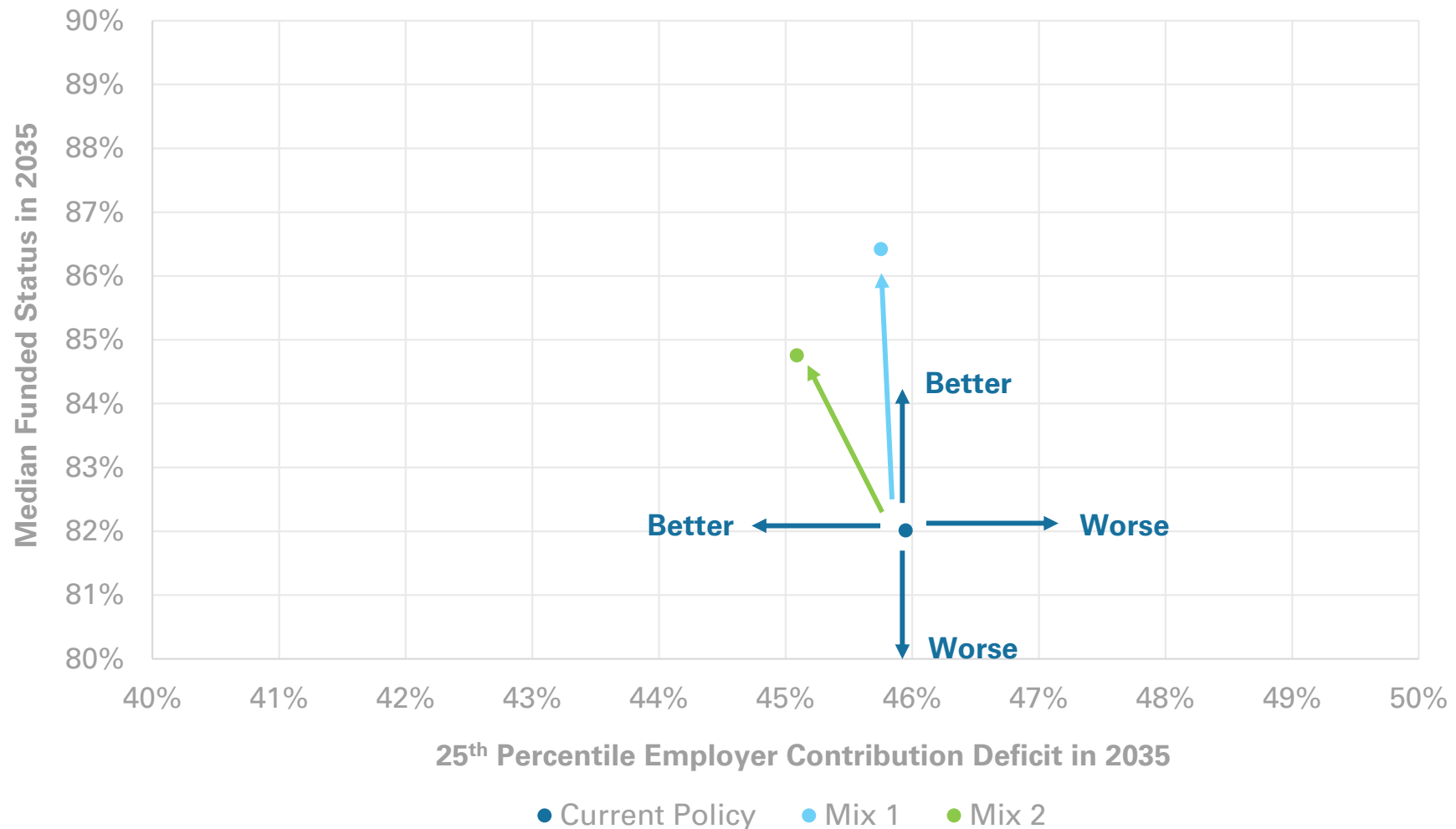
CITY OF BISMARCK EMPLOYEE PENSION FUND



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

STOCHASTIC ANALYSIS

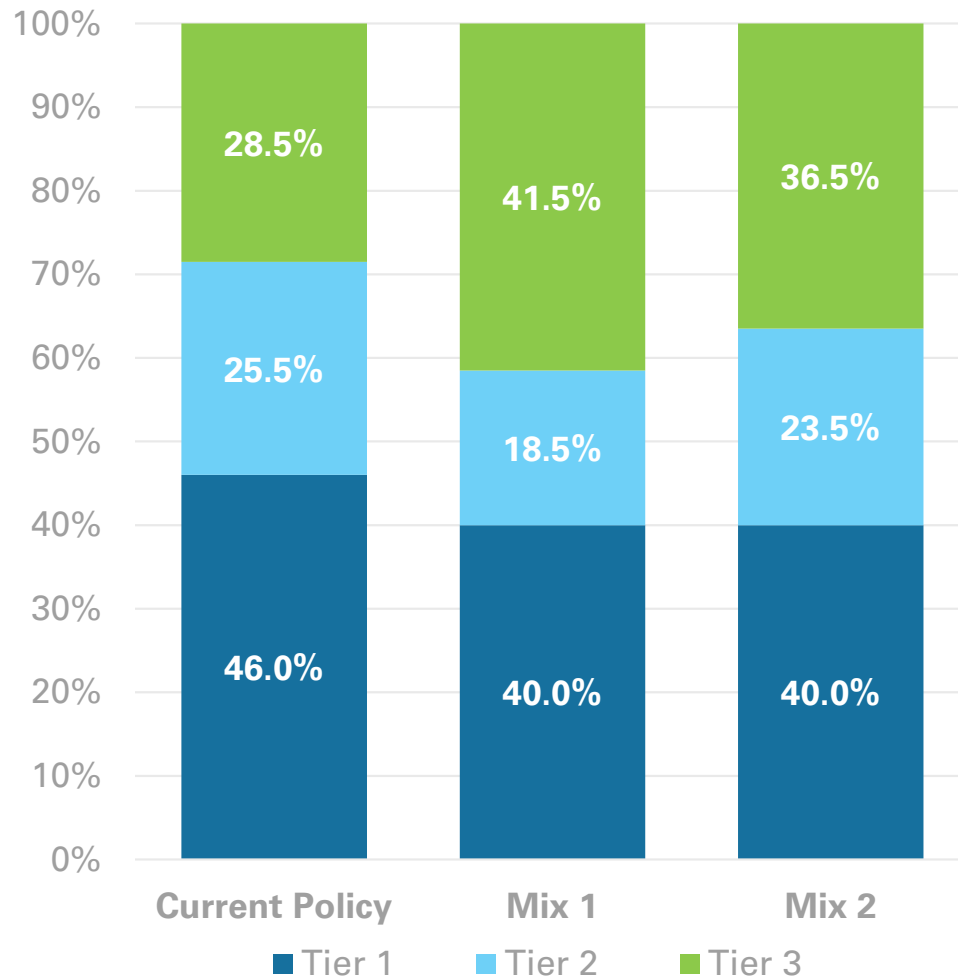
CITY OF BISMARCK EMPLOYEE PENSION FUND



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

LIQUIDITY PROFILE

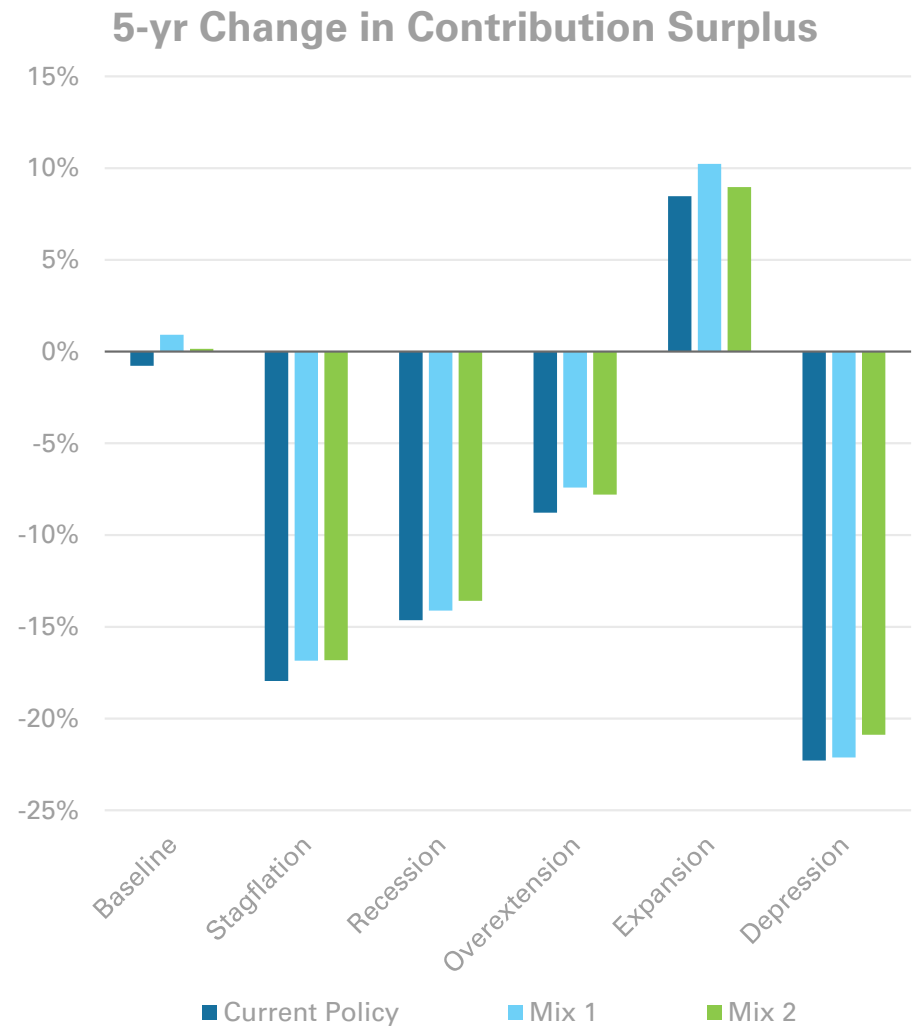
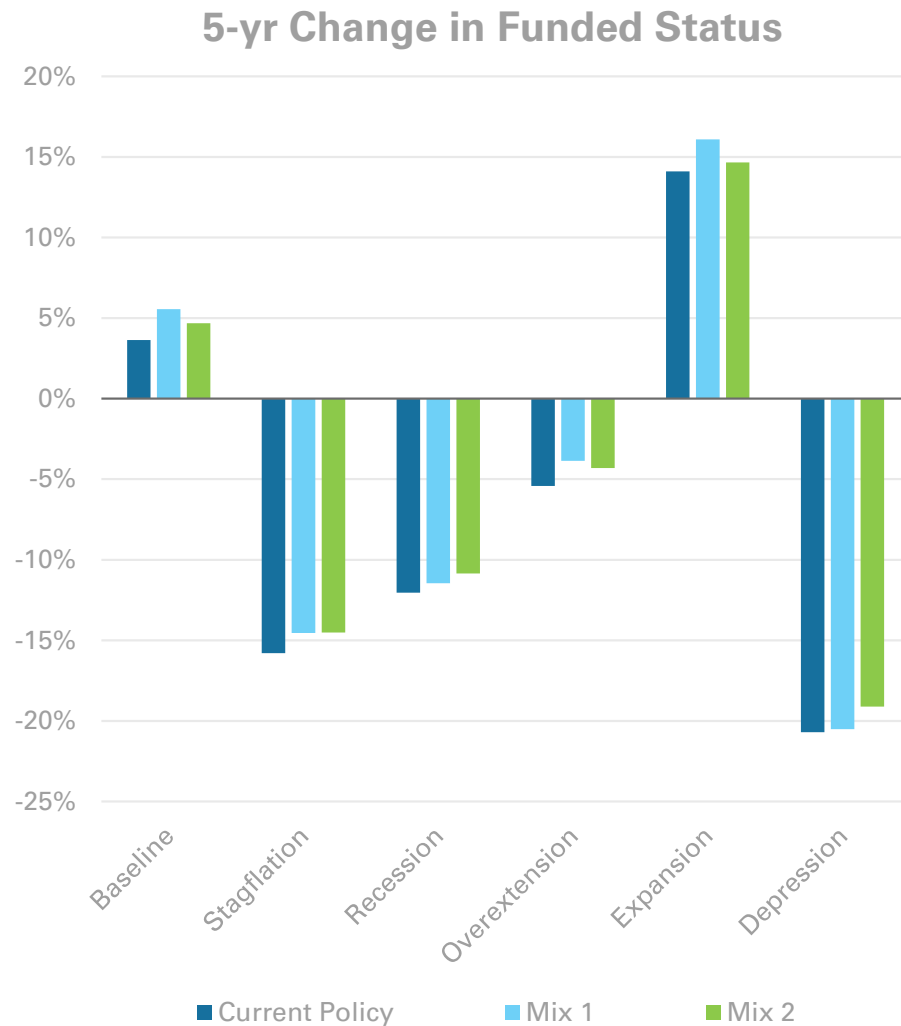
CITY OF BISMARCK POLICE PENSION FUND



- **Net cash flow is expected to remain negative over next 10 years, averaging -1.8% outflow**
 - Public funds average between -2% and -4% net cash flow
- **Negative cash flow is typical for a mature pension plan**
- **Fixed contribution model provides consistent and predictable cash inflows**
- **NEPC believes the plan can take on the recommended increase in illiquids with no material impact in the plan's ability to meet its obligations**

ECONOMIC SCENARIO ANALYSIS

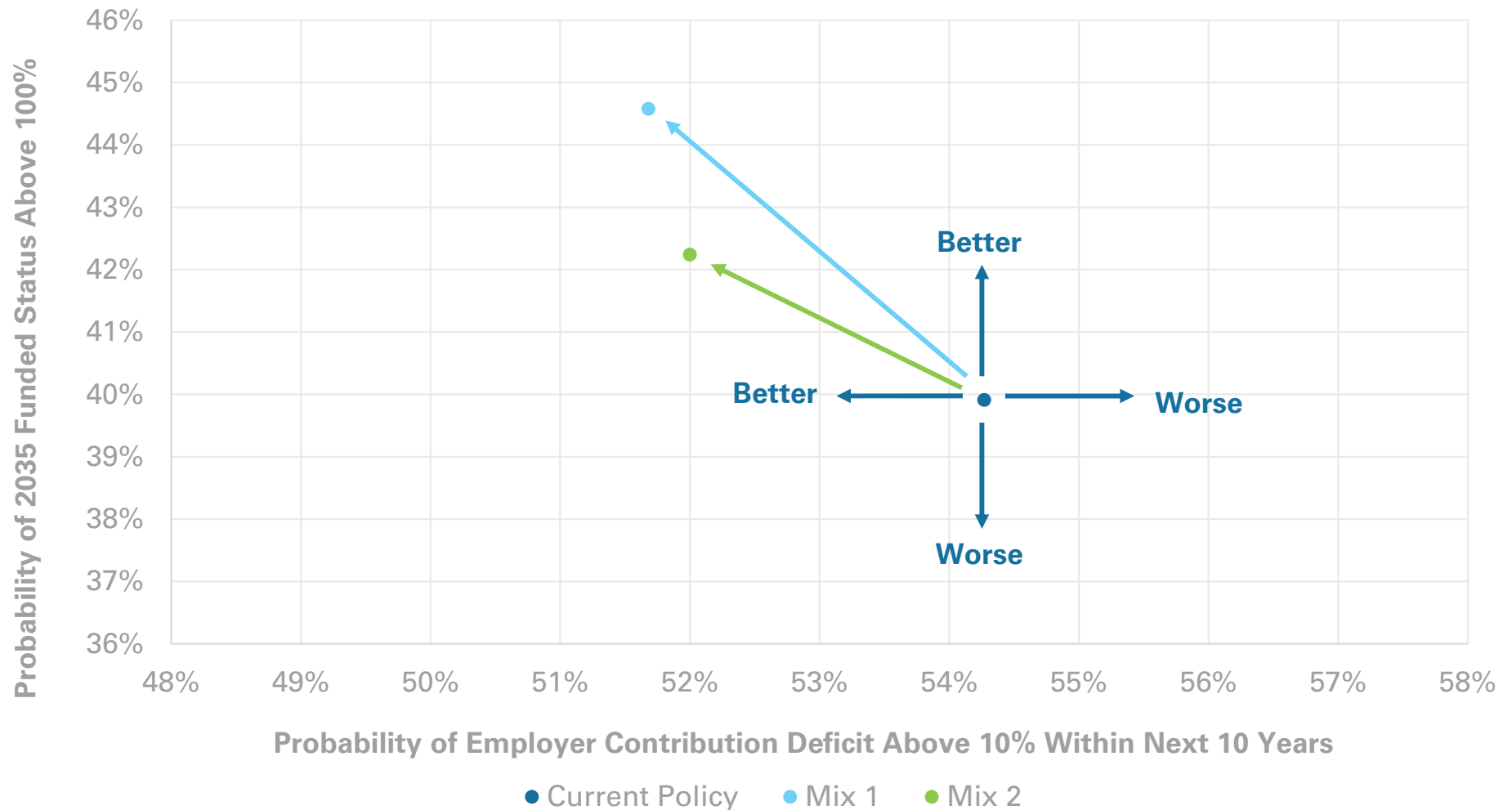
CITY OF BISMARCK POLICE PENSION FUND



Notes: Scenarios reflect a 5-year market cycle. Change in funded ratio is relative to 85.8% as of January 1, 2025 and change in contribution surplus is relative to 2.3% for 2025.

STOCHASTIC ANALYSIS

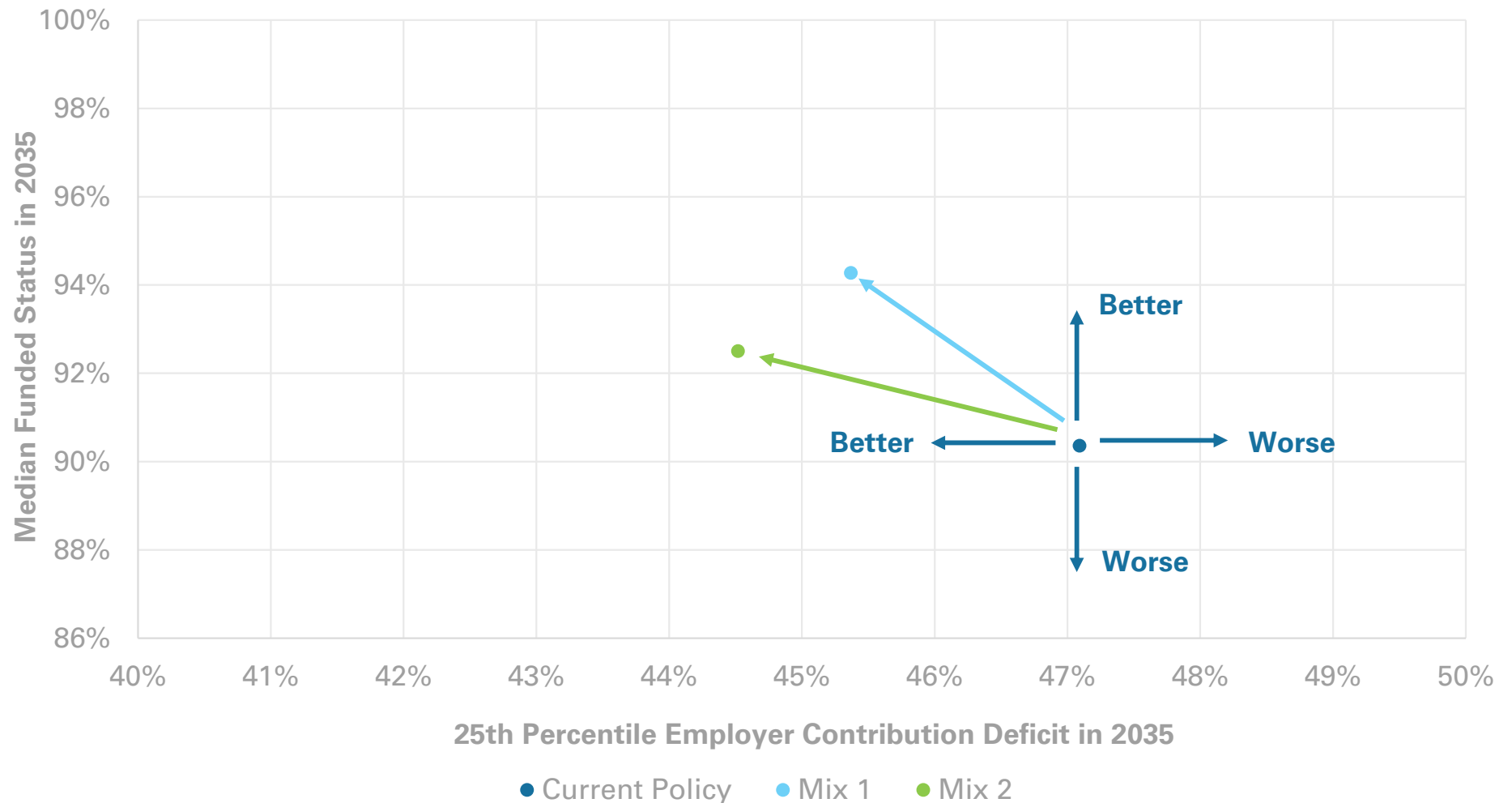
CITY OF BISMARCK POLICE PENSION FUND



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

STOCHASTIC ANALYSIS

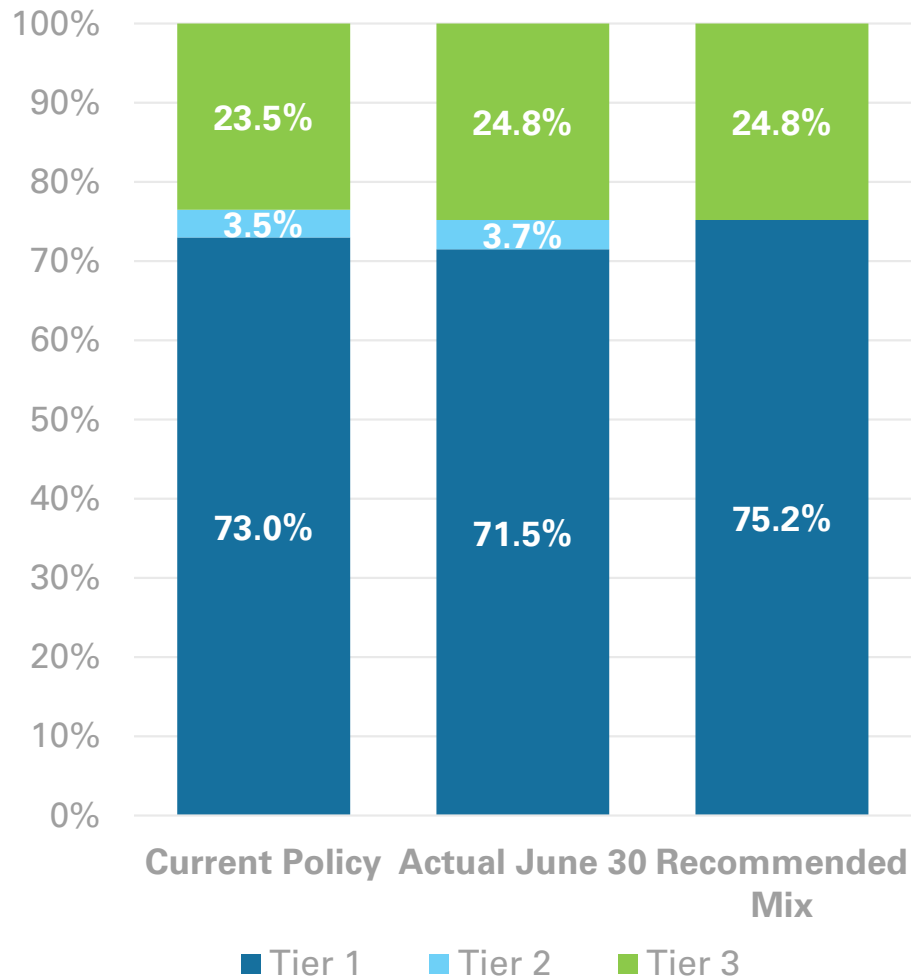
CITY OF BISMARCK POLICE PENSION FUND



Notes: Reflects 10,000 simulations based on mean expected return equal to each allocation's 10-year arithmetic return and with each allocation's annual volatility

LIQUIDITY PROFILE

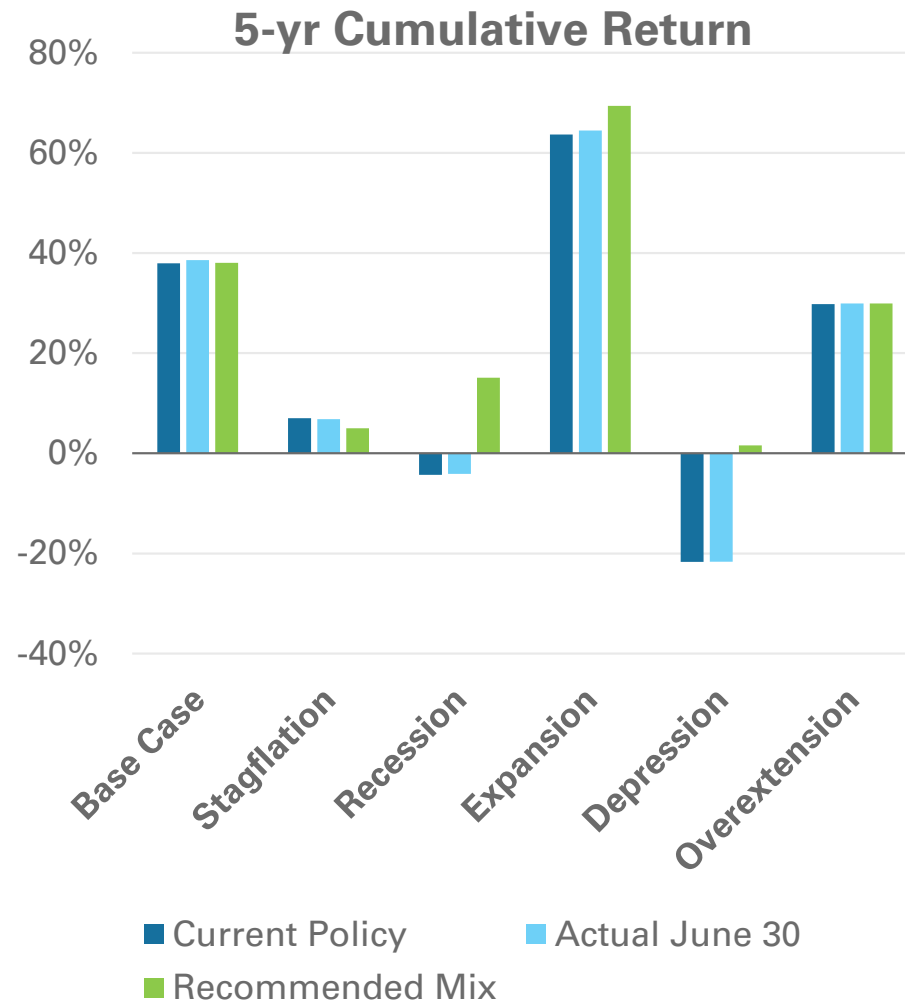
GRAND FORKS EMPLOYEE PENSION FUND



- **Net cash flow is expected to remain negative over next 10 years, averaging -11.9% outflow**
 - Healthy steady-state outflow typically ranges from -2.0% to -4.0% of assets
- **Deeply negative cash flow is typical for a closed pension plan in its wind down phase**
- **Liquidity and downside protection take precedent over growth potential when it comes to asset allocation**
- **Recommended Mix increases liquidity while recognizing actual value of illiquids as of June 30**

SCENARIO ANALYSIS

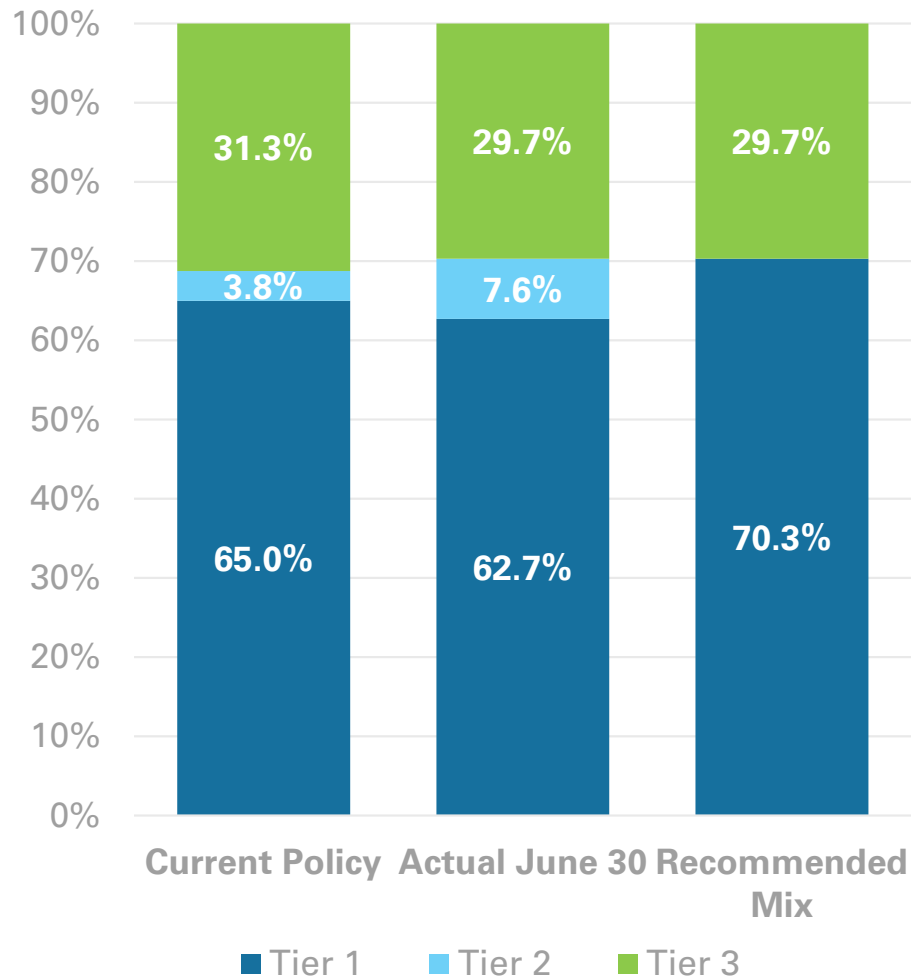
GRAND FORKS EMPLOYEE PENSION FUND



- **Scenario analysis illustrates the potential performance of different portfolios across changing macroeconomic environments**
 - High/low growth
 - High/low inflation
- **Recommended mix provides less downside risk in negative environments and similar or better performance in neutral and positive environments**

LIQUIDITY PROFILE

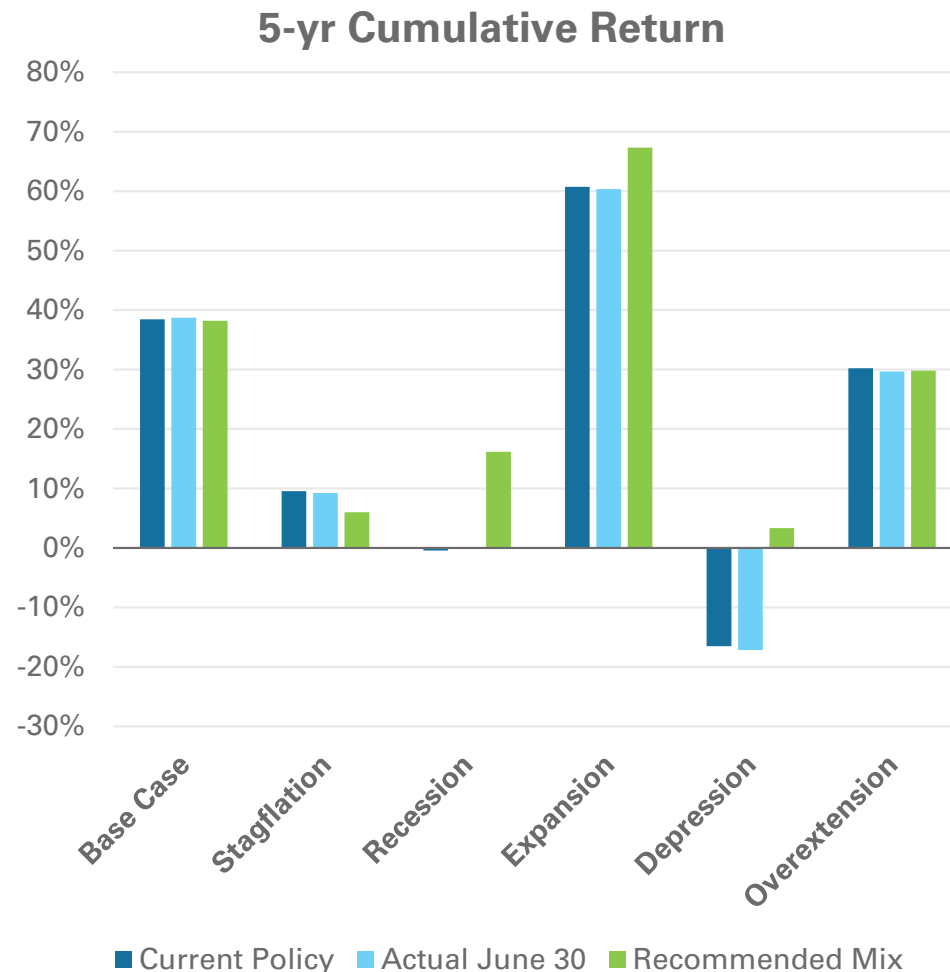
GRAND FORKS PARK DISTRICT PENSION FUND



- **Net cash flow is expected to worsen over the next 10 years, from -3.9 to -9.5 of assets**
 - Healthy steady-state outflow typically ranges from -2.0% to -4.0% of assets for an open and mature plan
- **Deeply negative cash flow is typical for a closed pension plan in its wind down phase**
- **Liquidity and downside protection take precedent over growth potential when it comes to asset allocation**
- **Recommended Mix increases liquidity while recognizing actual value of illiquids as of June 30**

SCENARIO ANALYSIS

GRAND FORKS PARK DISTRICT PENSION FUND



- **Scenario analysis illustrates the potential performance of different portfolios across changing macroeconomic environments**
 - High/low growth
 - High/low inflation
- **Recommended mix provides less downside risk in negative environments and similar or better performance in neutral and positive environments**



RATIONALE FOR PRIVATE MARKETS



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RELATIVELY ATTRACTIVE MARKET EXPOSURE

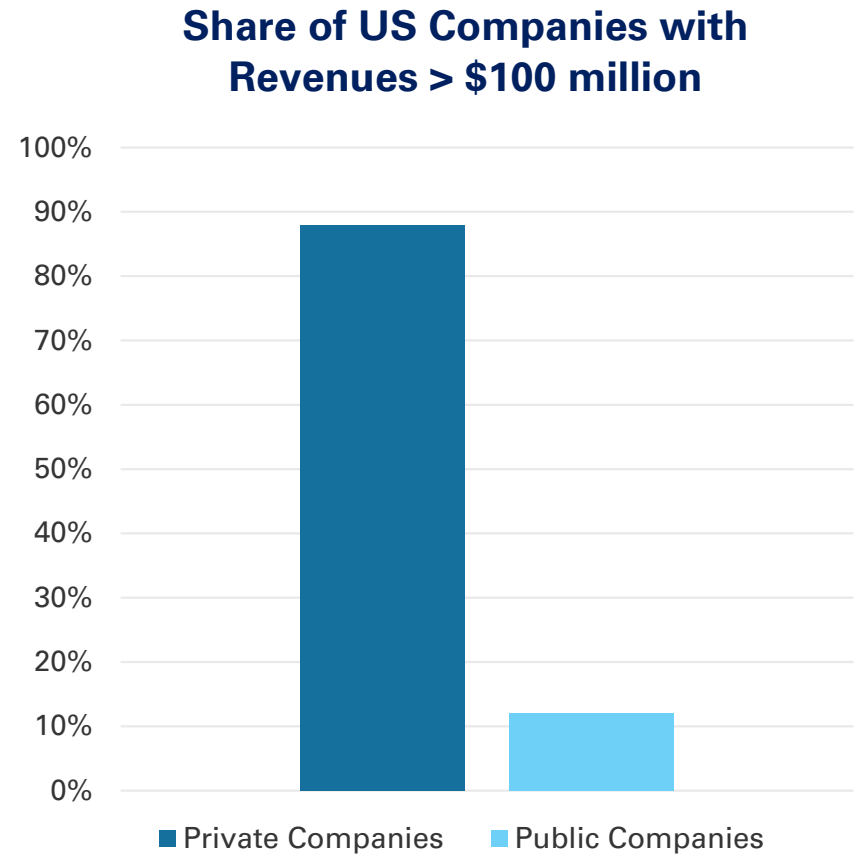
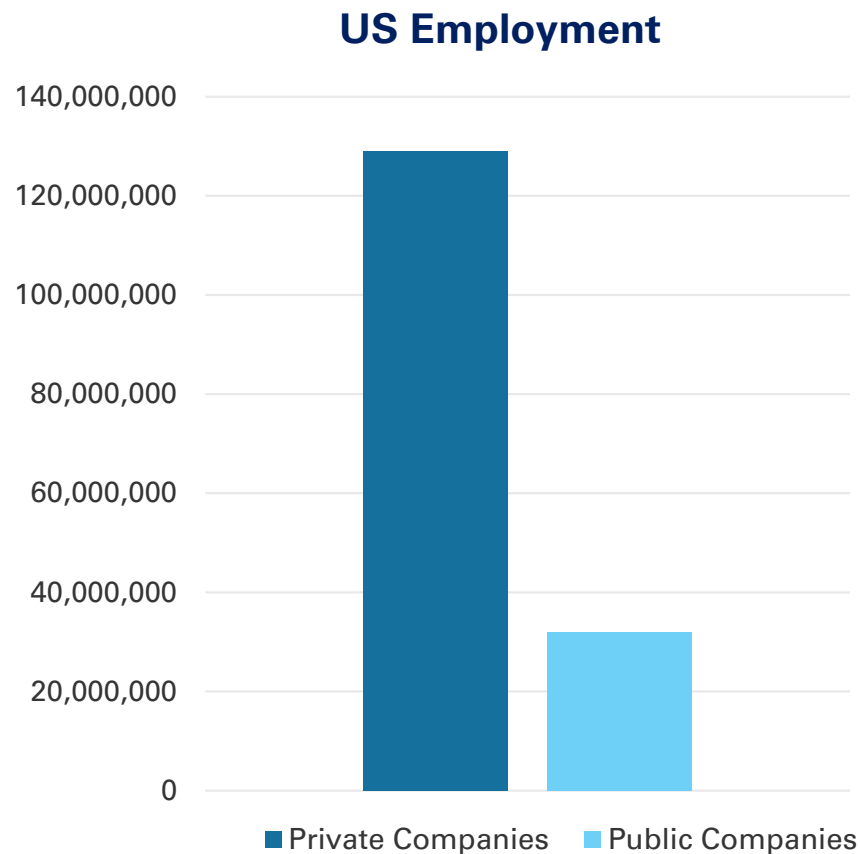
- **Private market investments offers differentiated market exposure and fundamental advantages to add value**
- **1. Differentiated market exposure with attractive expected returns**
- **Private markets combine systematic (beta) and active (alpha) returns**
 - Private assets offer relatively attractive expected returns vs comparable public markets (NEPC assumes 300-400bps of annual excess returns vs public equity)
 - In contrast to public markets, allocators cannot easily separate the beta and alpha components of private market returns
- **Private markets offer an “illiquidity premium” relative to public market assets**
 - Illiquidity premiums compensate investors for long-term capital commitments
- **Smoother private valuations and illiquidity are both an advantage and challenge**
 - Periodic updates in private asset valuations smooth accounting volatility, which is sometimes seen as an advantage by plan sponsors
 - However, smoother valuations complicate rebalancing of the total portfolio and evaluating risk and return relative to marked-to-market public market assets
 - Illiquidity also requires robust management of total fund liquidity

ADVANTAGES IN ADDING VALUE

- **2. Fundamental advantages in adding value (using Private Equity as an illustration)**
- **Governance benefits**
 - Closer integration reduces the principal/agent problem
 - Board control and more frequent CEO touchpoints lead to quicker decision-making and improved ability to see through strategies
- **Financial benefits**
 - Capital structures with higher debt create discipline and tax benefits
 - Incentives are aligned; management has significant equity
- **Operational benefits**
 - Less regulatory burden; focus less on legal compliance
 - Ability to command additional resources to improve operations
 - “Punch above weight” in ability to attract staff
 - Assistance in generating acquisitions, customer introductions, etc.

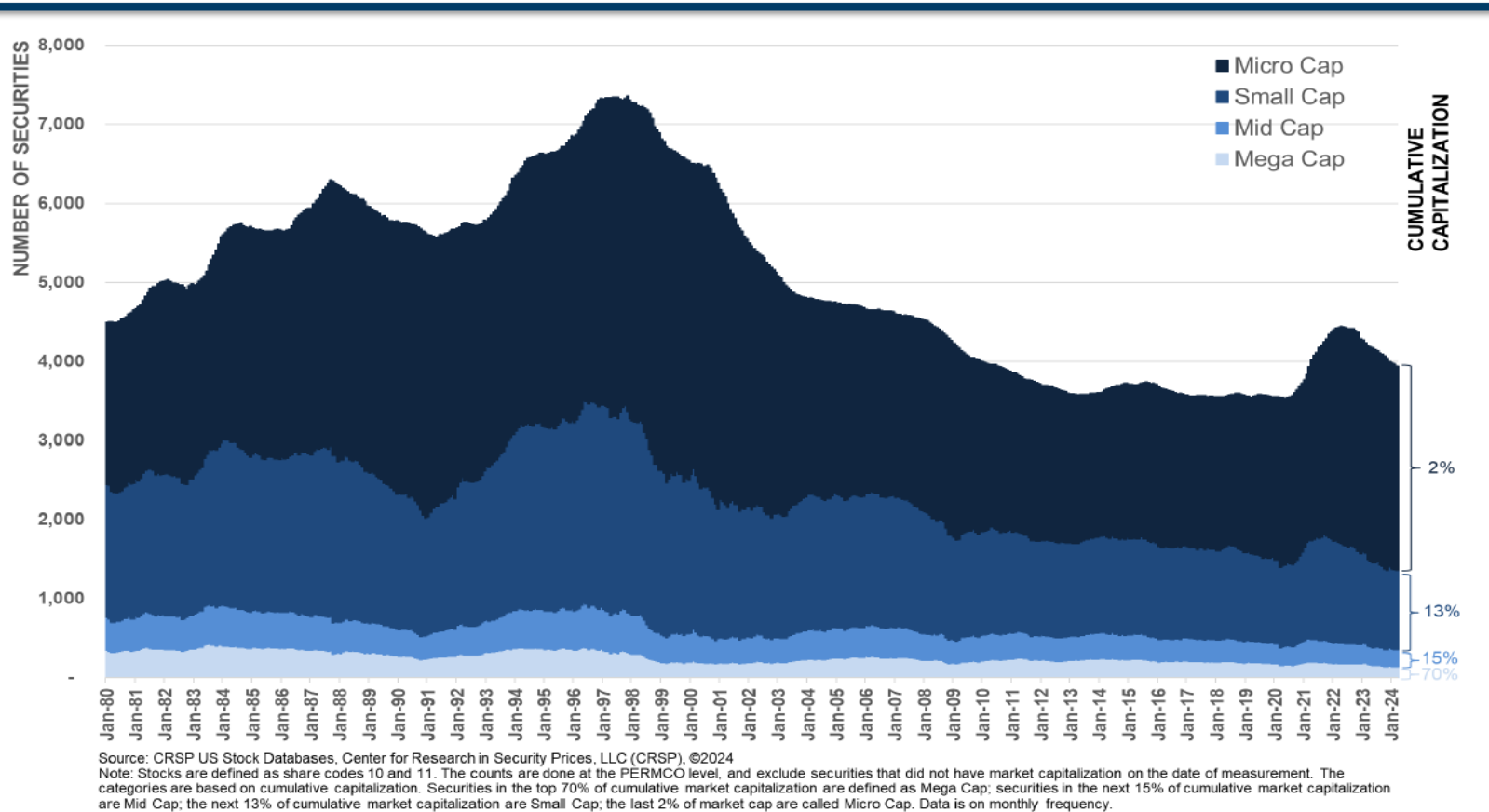
MAJORITY OF U.S. COMPANIES ARE PRIVATE

The universe is sizable as more than 85% of U.S. companies are privately held, representing a large share of employment and production not captured by listed stocks.



REDUCTION IN PUBLIC COMPANIES CONTINUES

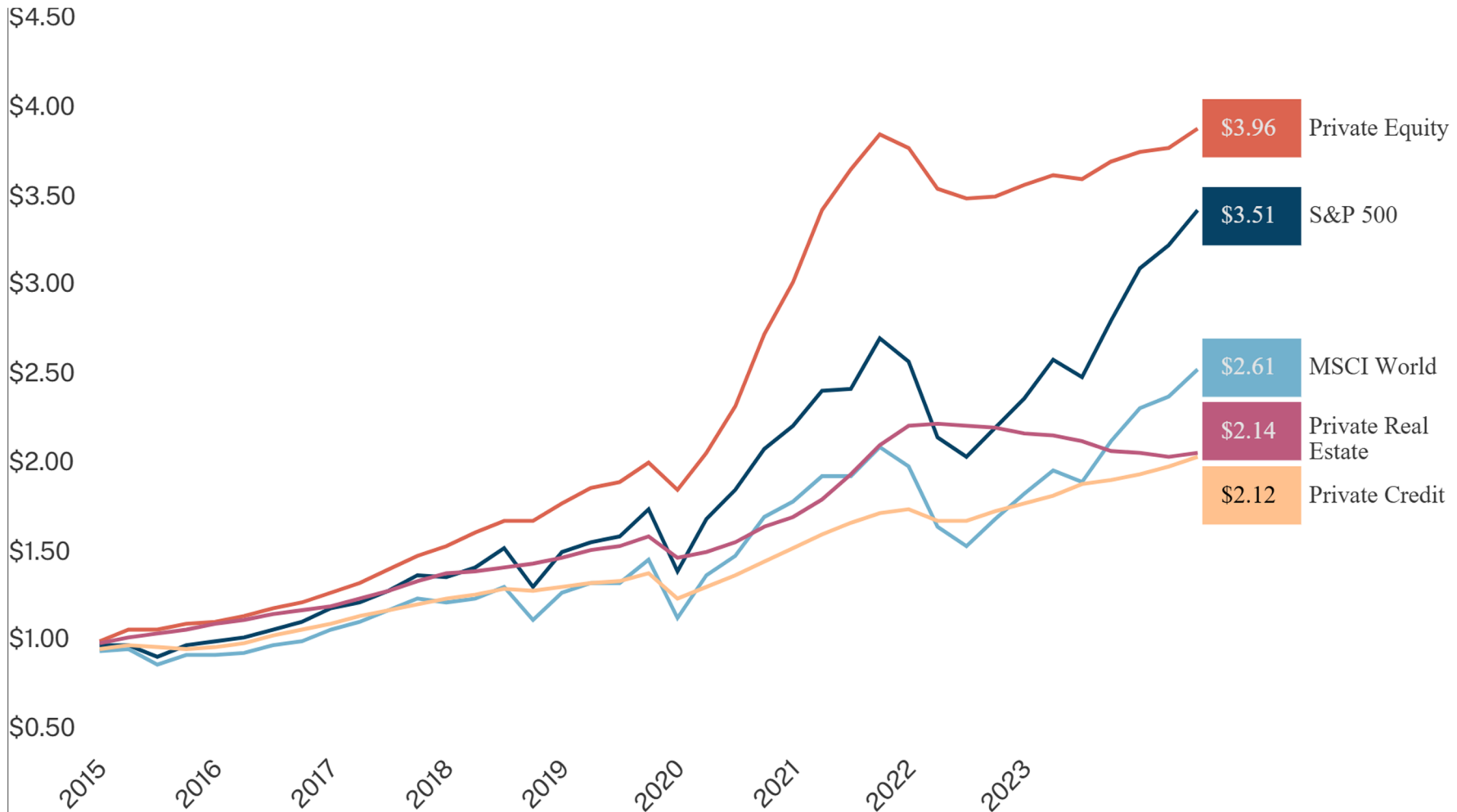
In 1996 there were over 8,000 public companies across all US exchanges. Today it's around 3,700.



CRSP CENTER FOR RESEARCH IN SECURITY PRICES
An Affiliate of the University of Chicago

Source: Center for Research in Security Prices (CRSP)

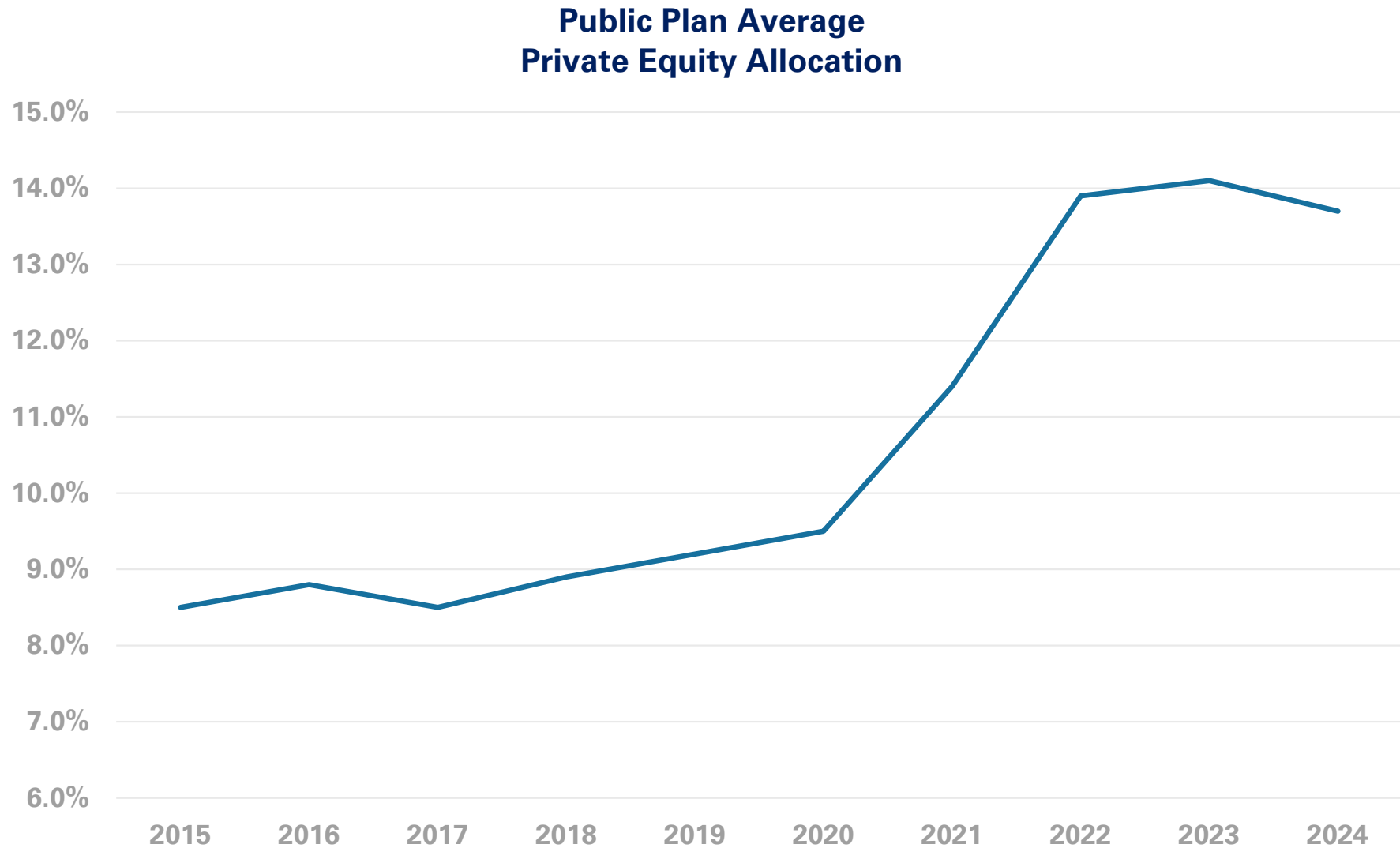
PRIVATE EQUITY HAS GENERATED SIGNIFICANT VALUE



Source: Hamilton Lane Data, Bloomberg (January 2025). Indexed at Q4 2014.

- **For the 10 years ending 12/31/24, Private Equity (Hamilton Lane Private Equity Universe) has generated annualized net-of-fee returns of 5.8% in excess of public equity markets (MSCI ACWI). Using the Cambridge Buyout Index, the spread is 4.5% annually.**

PUBLIC PLAN PRIVATE EQUITY ALLOCATIONS HAVE BEEN STEADILY INCREASING





APPENDIX

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ASSUMPTIONS AND METHODS

NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM

- **Deterministic and stochastic return projections are based on NEPC's 3/31/2025 capital market assumptions**
 - Reflects estimated return of 3.91% for the period 7/1/2024—12/31/2024 then NEPC's return expectations thereafter
- **Asset-liability projections follow a roll-forward methodology based on the July 1, 2024 Actuarial Valuation Report**
 - Benefit payment projection provided by GRS
 - Other than those described herein, all assumptions remain unchanged from the valuation
 - No gains or losses are assumed other than those attributed to investment experience
 - Asset-liability output reflects the roll-up of each plan within PERS modeled individually then aggregated
 - Main System, Judges, Public Safety w/ Prior Service, Public Safety w/o Prior Service
 - Main System liability projections reflect closing to new entrants effective 1/1/2025
 - Main System asset projections reflect \$65 million biennial cash infusion beginning in FY 2025
- **Employer contribution based on stated funded policy**
 - Main System:
 - For FY 2025 static contribution rate
 - Beginning FY 2026, employer contribution based on employer normal cost plus 30-year closed level percent of pay amortization
 - Judges and Public Safety plans:
 - Static contribution rate
- **Employee contribution rates assumed to remain level at current rates**

ASSUMPTIONS AND METHODS

TEACHERS' FUND FOR RETIREMENT

- **Deterministic and stochastic return projections are based on NEPC's 3/31/2025 capital market assumptions**
 - Reflects return of 4.12% for the period 7/1/2024—3/31/2025 then NEPC's return expectations thereafter
- **Asset-liability projections follow a roll-forward methodology based on the July 1, 2024 Actuarial Valuation Report**
 - Benefit payment projection provided by GRS
 - Other than those described herein, all assumptions remain unchanged from the valuation
 - No gains or losses are assumed other than those attributed to investment experience
- **Employer contribution based on statutory funding policy**
 - Statutory contribution rate of 12.75% until 100% funded, 7.75% thereafter
 - Actuarially Determined Contribution calculated in order to measure contribution excess/(deficit):
 - Normal cost plus amortization of unfunded liability plus administrative expenses
 - Level percent of payroll 30-year closed amortization of unfunded liability with 19 years remaining as of 7/1/2024 assumed to remain at 10 years once reached and remain open thereafter
- **Employee contribution base on statutory funding policy**
 - Statutory contribution rate of 11.75% until 100% funded, 7.75% thereafter

ASSUMPTIONS AND METHODS

CITY OF BISMARCK POLICE PENSION FUND

- **Deterministic and stochastic return projections are based on NEPC's 3/31/2025 capital market assumptions**
 - Reflects estimated return of 8.68% for the period 1/1/2024—12/31/2024 then NEPC's return expectations thereafter
- **Asset-liability projections follow a roll-forward methodology based on the January 1, 2024 Actuarial Valuation Report**
 - Benefit payment projection provided by VIA
 - Other than those described herein, all assumptions remain unchanged from the valuation
 - No gains or losses are assumed other than those attributed to investment experience
- **Employer contribution based on stated funded policy**
 - Fixed contribution rate: 14.5%
 - Actuarially Determined Contribution:
 - Level percent of payroll 30-year closed amortization of unfunded liability with 15 years remaining as of 1/1/2024
 - Used to estimate contribution sufficiency of fixed contribution
- **Employee contribution rates assumed to remain level at current rates**
 - Fixed contribution rate: 9.4%

ASSUMPTIONS AND METHODS

CITY OF BISMARCK EMPLOYEE PENSION FUND

- **Deterministic and stochastic return projections are based on NEPC's 3/31/2025 capital market assumptions**
 - Reflects estimated return of 7.65% for the period 1/1/2024—12/31/2024 then NEPC's return expectations thereafter
- **Asset-liability projections follow a roll-forward methodology based on the January 1, 2024 Actuarial Valuation Report**
 - Benefit payment projection provided by VIA
 - Other than those described herein, all assumptions remain unchanged from the valuation
 - No gains or losses are assumed other than those attributed to investment experience
- **Employer contribution based on stated funded policy**
 - Fixed contribution rate: 10.4%
 - Actuarially Determined Contribution:
 - Level percent of payroll 30-year closed amortization of unfunded liability with 15 years remaining as of 1/1/2024
 - Used to estimate contribution sufficiency of fixed contribution
- **Employee contribution rates assumed to remain level at current rates**
 - Fixed contribution rate: 5.0%

ASSUMPTIONS AND METHODS

CITY OF GRAND FORKS EMPLOYEE PENSION FUND

- **Deterministic and stochastic return projections are based on NEPC's 3/31/2025 capital market assumptions**
 - Reflects estimated return of 10.9% for the period 1/1/2024—12/31/2024 then NEPC's return expectations thereafter
- **Asset-liability projections follow a roll-forward methodology based on the January 1, 2024 Actuarial Valuation Report**
 - Benefit payment projection provided by Deloitte
 - Active population assumed to fully wind down within the remaining amortization period
 - Other than those described herein, all assumptions remain unchanged from the valuation
 - No gains or losses are assumed other than those attributed to investment experience
- **Employer contribution based on actuarially determined contribution**
 - Employer normal cost share
 - Level dollar 30-year closed amortization of unfunded liability with 10 years remaining as of 1/1/2025
- **Employee contribution rate assumed to remain level as a percent of payroll**

ASSUMPTIONS AND METHODS

CITY OF GRAND FORKS PARKS DISTRICT PENSION FUND

- **Deterministic and stochastic return projections are based on NEPC's 3/31/2025 capital market assumptions**
 - Reflects estimated return of 7.8% for the period 1/1/2024—12/31/2024 then NEPC's return expectations thereafter
- **Asset-liability projections follow a roll-forward methodology based on the January 1, 2024 Actuarial Valuation Report**
 - Benefit payment projection provided by Gallagher
 - Active population assumed to fully wind down within the remaining amortization period
 - Other than those described herein, all assumptions remain unchanged from the valuation
 - No gains or losses are assumed other than those attributed to investment experience
- **Employer contribution based on actuarially determined contribution**
 - Employer normal cost share
 - Level dollar 14-year closed amortization of unfunded liability with 6 years remaining as of 1/1/2025
- **Employee contribution rate assumed to remain level as a percent of payroll**

INFORMATION DISCLAIMER

Past performance is no guarantee of future results.

NEPC, LLC is an investment consulting firm. We provide asset-liability studies for certain clients but we do not provide actuarial services. Any projections of funded ratio or contributions contained in this report should not be used for budgeting purposes. We recommend contacting the plan's actuary to obtain budgeting estimates.

The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

The projection of liabilities in this report uses standard actuarial projection methods and does not rely on actual participant data. Asset and liability information was received from the plan's actuary, and other projection assumptions are stated in the report.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Memorandum

To: Members of the Board
North Dakota State Investment Board

From: Verus

Date: November 14, 2025

RE: Proposed Hamilton Lane Private Equity benchmark return restatement for Fiscal Year 2025

The purpose of this memorandum is to communicate to the SIB Verus' recommendation for restatement of the private equity benchmarks for fiscal year 2025 due to a couple of issues we have identified during this period related to treatment of both cash flows and valuations. Hamilton Lane is the vendor for the SIB's private equity benchmarks. As the SIB's independent performance measurement consultant, Verus independently calculates the Hamilton Lane benchmarks to verify the benchmark returns. The current private markets benchmarks were effective July 1, 2024. Verus has calculated the benchmark using valuations and cash flows provided by Hamilton Lane.

Over the course of the four quarters Verus has been calculating the Hamilton Lane benchmarks, we observed a mismatch in how cash flows are accounted for by the custodian bank, Northern Trust, and Hamilton Lane. Northern Trust includes current quarter cash flows in its private equity accounting process while Hamilton Lane lags these cash flows. Another issue we noted in the calculation of the fiscal year returns is that while the benchmark returns are consistently lagged one quarter per the benchmark methodology approved by the SIB, the actual portfolio returns calculated using Northern Trust data reflect unlagged returns for the quarter ended June 30th, which creates a further mismatch.

To address the first issue above, Verus proposed to both Hamilton Lane and RIO that the benchmark returns be calculated similar to the private market portfolio returns using current quarter, as opposed to lagged, cash flows to be consistent with the private equity composite return calculation methodology. Hamilton Lane agreed to adopt this methodology and to restate the last four quarterly benchmark returns to align with Verus' suggested calculation methodology. We believe this methodology is appropriate as it produces an apples-to-apples comparison of the benchmark and private equity composite returns, which is important considering the incentive compensation program.

To address the second issue above, we determined that we needed to revise the 3Q24 and 2Q25 PE benchmark returns to reflect the fact that for fiscal year end periods (i.e., June 30th), RIO holds the accounting books open to capture real time private markets valuation updates. The Board approved private markets benchmarks with a quarterly lag, but due to the practice of holding books open in June, both Verus and Hamilton Lane need to adjust the subsequent quarter PE benchmark return to reflect a zero valuation gain since the valuations are recognized real time in the second quarter. Thus, both those quarterly benchmark returns should be re-calculated to reflect unlagged, or real time valuations. The table below summarizes the current

Corridor benchmark returns to the proposed revised Corridor benchmark returns for both the Pension and the Legacy Funds.

Legacy	2Q24	3Q24	4Q24	1Q25	2Q25	FY25
Total Fund Performance		5.13%	-0.06%	2.66%	8.88%	17.44%
Current Corridor Policy BM		5.38%	-1.23%	0.25%	7.40%	12.06%
Revised Corridor Policy BM		5.37%	-1.23%	0.25%	7.42%	12.07%
Current PE BM		2.79%	3.64%	4.18%	2.72%	14.00%
Revised PE BM		0.00%	3.31%	3.85%	8.17%	16.06%
Pension	2Q24	3Q24	4Q24	1Q25	2Q25	FY25
Total Fund Performance		0.80%	2.22%	0.67%	6.34%	10.30%
Current Corridor Policy BM		4.64%	-0.80%	0.09%	6.22%	10.36%
Revised Corridor Policy BM		4.52%	-0.80%	0.09%	6.78%	10.81%
Current PE BM		1.04%	2.46%	0.18%	1.73%	5.52%
Revised PE BM		0.00%	2.46%	0.18%	6.68%	9.50%
PERS	2Q24	3Q24	4Q24	1Q25	2Q25	FY25
Total Fund Performance		4.25%	-0.31%	0.17%	7.59%	12.00%
Current Corridor Policy BM		4.73%	-0.88%	-0.06%	6.57%	10.57%
Revised Corridor Policy BM		4.63%	-0.88%	-0.06%	7.03%	10.94%
Current PE BM		1.04%	2.46%	0.18%	1.73%	5.52%
Revised PE BM		0.00%	2.46%	0.18%	6.68%	9.50%
TFFR	2Q24	3Q24	4Q24	1Q25	2Q25	FY25
Total Fund Performance		3.95%	-0.19%	0.35%	7.01%	11.42%
Current Corridor Policy BM		4.31%	-0.71%	0.16%	5.74%	9.68%
Revised Corridor Policy BM		4.16%	-0.71%	0.16%	6.44%	10.26%
Current PE BM		1.04%	2.46%	0.18%	1.73%	5.52%
Revised PE BM		0.00%	2.46%	0.18%	6.68%	9.50%

As shown in the table above, the recommended revisions are on the order of a few basis points except for the 3Q24 and 2Q25, which include the impact of holding the books open at fiscal year end. It does not appear these revisions would impact the incentive compensation calculation for fiscal year 2025 for either the Pension Consolidation or the Legacy portfolio.

MEMORANDUM

TO: Investment Committee
FROM: Eric Chin, Deputy Chief Investment Officer
DATE: November 14, 2025
RE: Updated Job Service Asset Allocation and IPS

Background:

Staff is bringing the updated Job Service asset allocation to the SIB Investment Committee for review and is asking the SIB Investment Committee to recommend approval to the SIB.

Staff is also presenting an updated Investment Policy Statement (IPS), which includes the proposed asset allocation changes, and is requesting a recommendation to approve the IPS as well—assuming the Investment Committee also recommends approval of the new asset allocation.

The PERS Board approved the updated asset allocation in May 2025 but has not yet approved the updated IPS.

If the SIB approves both items at its November 21, 2025, meeting, staff will then take the updated IPS to the PERS Investment Subcommittee and, if recommended, to the full PERS Board.

Because Job Service is directly managed by SEI rather than RIO, the approval sequence is a little different than usual, but it still fully meets the requirements of North Dakota Century Code 21-10-02.1, which requires both the client board and the SIB to approve the asset allocation and the final IPS.

Committee Action Requested:

- A. Recommend approving to the SIB the updated Job Service asset allocation.
- B. **If** the asset allocation is recommended for approval, then recommend approving to the SIB the updated Job Service IPS

North Dakota State Investment Board
Retirement & Investment

SEI Fiduciary Management

November 14, 2025

Mark Morgan, CFA
Client Portfolio Manager

James Pinto
Advisory Services

Astrid Rau
Client Service Director



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We help make institutions better investors.

A pioneer of OCIO

32 years managing institutional assets
through a variety of market cycles.

322

Global technical and investment
professionals focused on understanding
client needs.

Enhanced access

To a diverse range of investment managers
and vehicles as well as risk and portfolio
management technologies.

Boutique servicing

Enhanced by the scale and resources
of a large firm.

\$541.5 B

Assets under management.

407

OCIO clients with custom investment
solutions built to achieve specific goals.



All data as of September 30, 2025.

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SEI's discretionary investment management model for public plans

Advisory services

- Asset/liability studies
- Investment policy analysis and development
- Capital market assumptions
- Metric reporting
- Co-fiduciary

Investment management

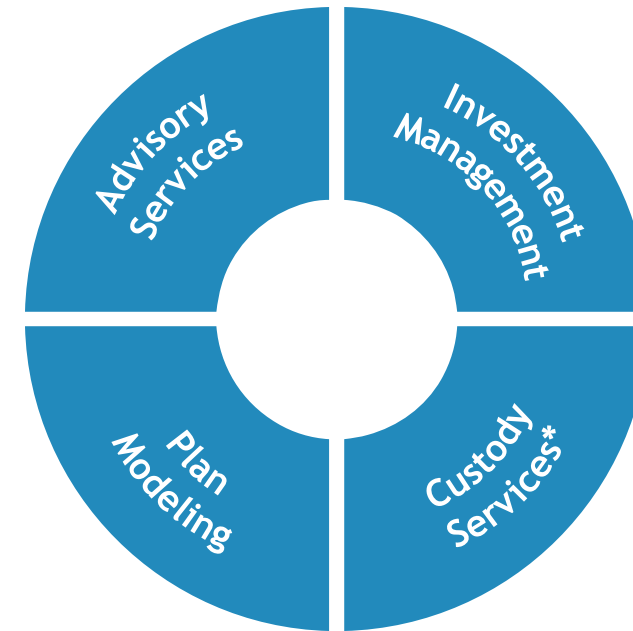
- Diversified portfolios
- New investment strategies
- Manager research and selection
- Manager oversight and replacement
- Dynamic asset management
- Risk management
- Transition management
- Exclusive fiduciary

Custody services

- Daily account access
- Rebalancing

Plan modeling

- Coordination with your actuary
- Customized planning tools



*Optional services. Services provided by SEI Private Trust Company, a limited purpose federal savings association and subsidiary of SEI Investments Company.

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Advice Update



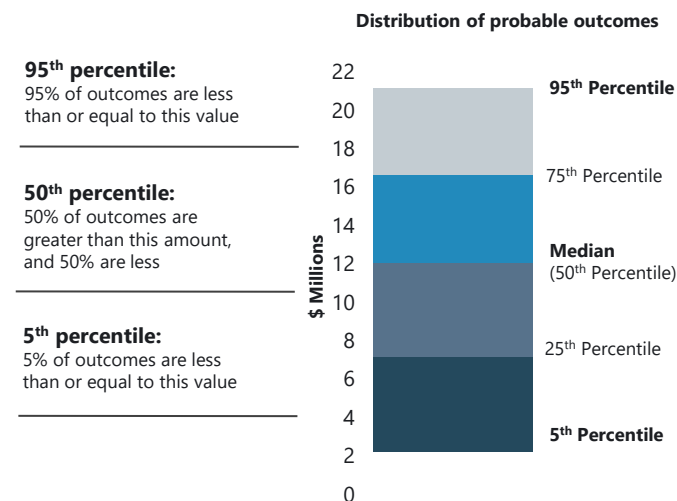
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How we create probability distributions and what they mean

- The probability distribution graphs and/or tables that follow are meant to provide an overview of the range of possible outcomes for a given variable (e.g. returns, expense) for a given asset allocation.
- The probability distributions are generated using SEI's proprietary modeling tool and simulated capital market behavior.
- Capital market behavior is simulated for 1,000 possible scenarios based on expected performance of each asset class and reflecting current economic conditions. Capital market assumptions such as return, standard deviation and covariances are inputs into this process, combining with model parameters to create market scenarios.
- We use these 1,000 capital market scenarios to create 1,000 output scenarios for each variable being considered.
- A 90% confidence interval should be interpreted as 90% of the projected output variables, falling between the 5% and 95% results, based on SEI Capital Market Assumptions.
- This projection is hypothetical in nature, does not reflect actual investment results and is not a guarantee of future results.

About capital market assumptions

- SEI Investments Management Corporation develops forward-looking, long-term capital market assumptions for risk, return and correlations for a variety of global asset classes, currencies, interest rates, and inflation.
- These assumptions are created using a combination of historical analysis, future market environment expectations and by applying our own judgment. In certain cases, alpha and tracking error estimates for a particular asset class are also factored into the assumptions.
- We believe this approach is less biased than using pure historical data, which may be affected by unsustainable trends or permanent material shifts in market conditions.



Retirement Plan of Employees of Job Service North Dakota:

Key characteristics

Plan Overview

- Active members: 1
- Status: Frozen to new entrants
- Demographic profile: Inactively Dominated
- Valuation rate: 3.0%

Liability Overview

- Liability Growth: (4.8%)
- Benefit Payments/Assets: 6.6%

Hurdle Rate: 1.8%

Pension Metrics:

Funded Status

Funded status changes driven by portfolio returns relative to liability returns.

Market Value of Assets:	\$82.8MM
Actuarial Value of Assets	\$84.3MM
AAL:	\$70.3MM

7/1/2024
AAL/MVA surplus/ratio: \$14.0M/119.9%

Actuarial Contribution

Scheduled contribution driven by funded ratio volatility. Contribution will be zero as long as the Plan’s actuarial value of assets exceeds the actuarial present value of projected benefits

Normal Cost: \$0

No Contribution Required



Job Service: Modeled Portfolios

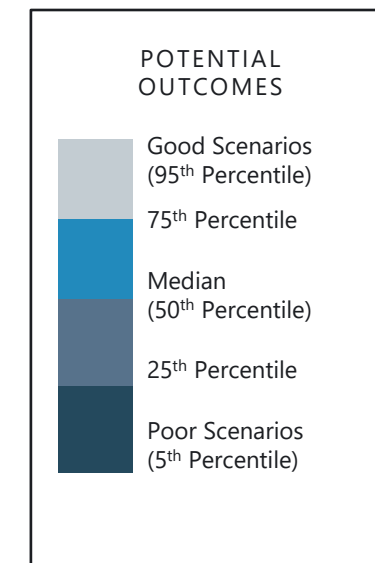
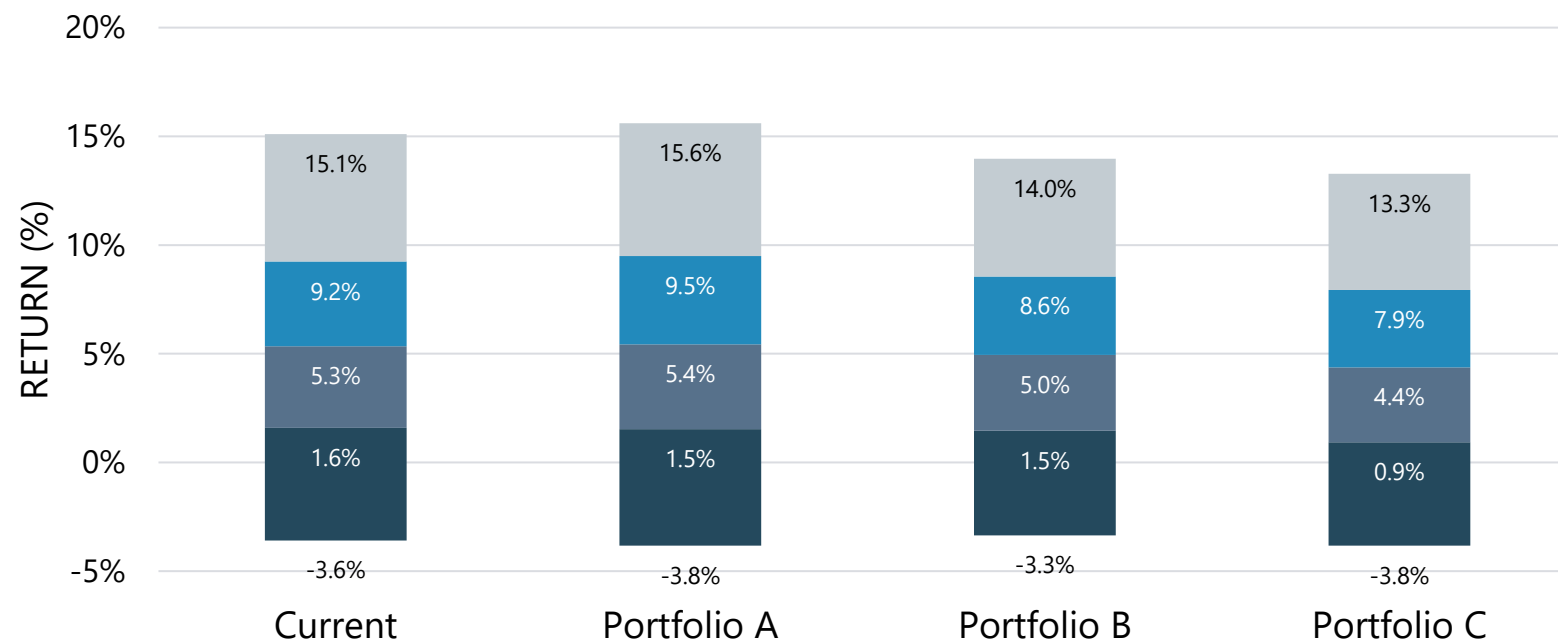
Asset Class	Current	Portfolio A	Portfolio B	Portfolio C
US Low Beta Equities	2.0	2.0	-	-
Global Low Beta Equities	18.0	18.0	13.0	-
U.S. High Yield	3.0	3.0	-	-
Emerging Markets Debt	3.0	3.0	-	-
Total Return Enhancement	26.0	26.0	13.0	-
Diversified Short Term Fixed Income	5.0	-	-	-
Short Term Corporate Fixed Income	15.0	10.0	12.0	14.0
Limited Duration Fixed Income	16.0	16.0	19.0	21.0
Core Fixed Income	38.0	48.0	56.0	65.0
Total Risk Management	74.0	74.0	87.0	100.0
Portfolio Metrics(%) - Net of Fees				
Expected Return (Short Term)	5.3	5.4	5.0	4.4
Expected Return (Equilibrium)	6.4	6.6	6.2	5.7
Standard Deviation	5.7	5.9	5.3	5.2
Poor Scenario (Short Term)	-3.6	-3.8	-3.3	-3.8
Poor Scenario (Equilibrium)	-2.5	-2.7	-2.1	-2.5

Source: SEI Capital Market Assumptions. Please see important disclosures at the beginning of this section and at the back of the presentation.



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Expected Return Distributions Short-Term



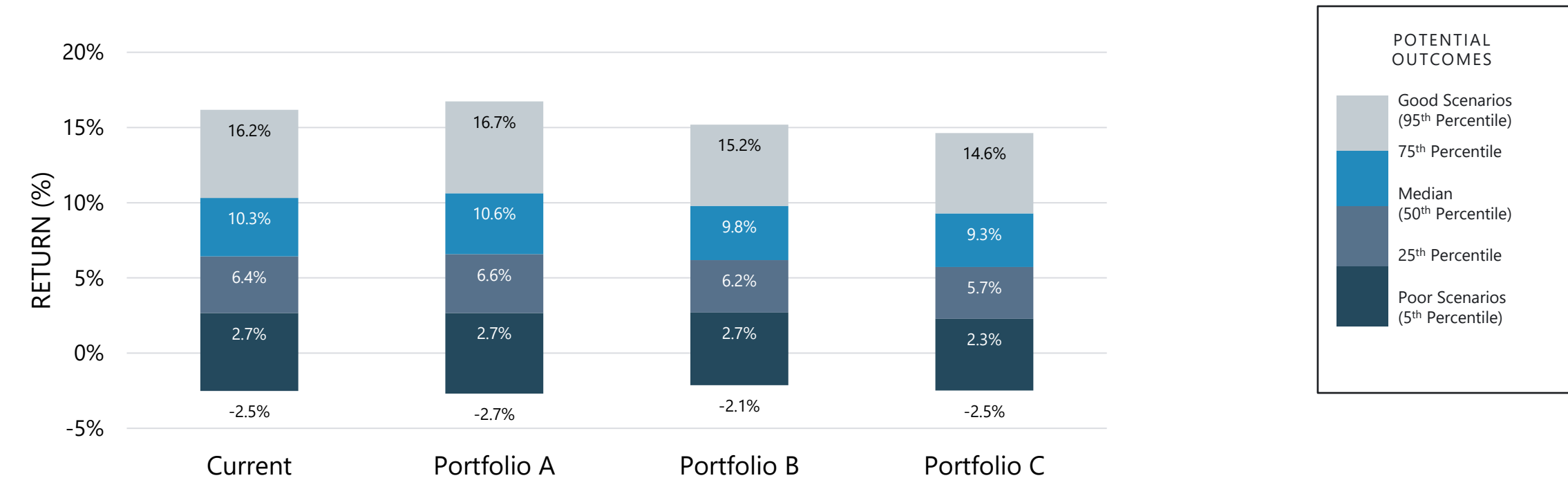
Net of fees.

Source: SEI Capital Market Assumptions. Please see important disclosures at the beginning of this section and at the back of the presentation.



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Expected Return Distributions Equilibrium

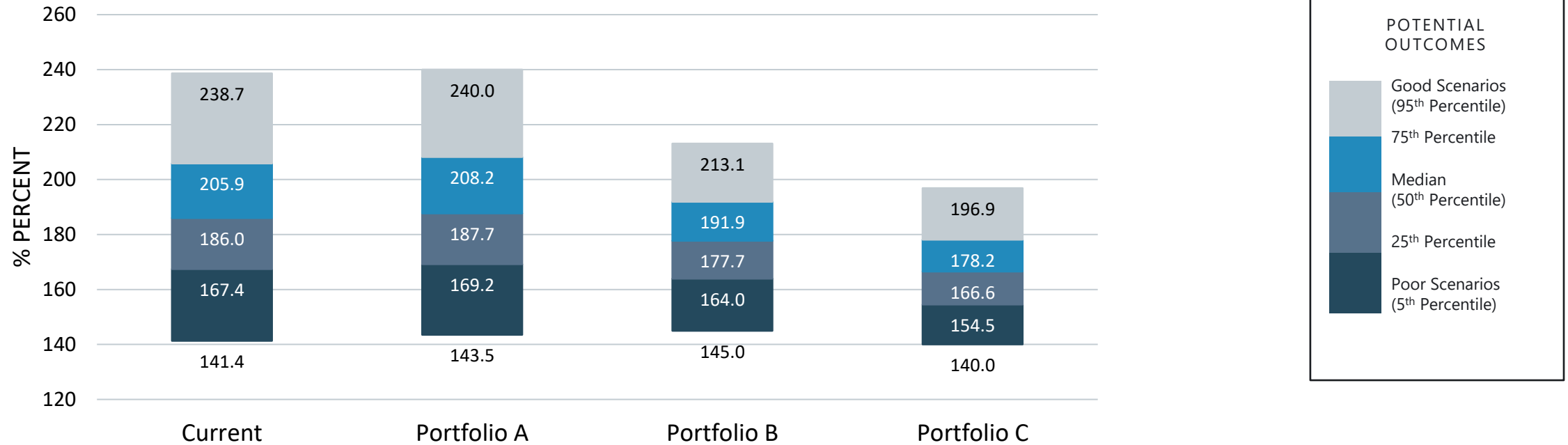


Net of fees.
Source: SEI Capital Market Assumptions. Please see important disclosures at the beginning of this section and at the back of the presentation.



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Funded Ratio Projections – 10 Years



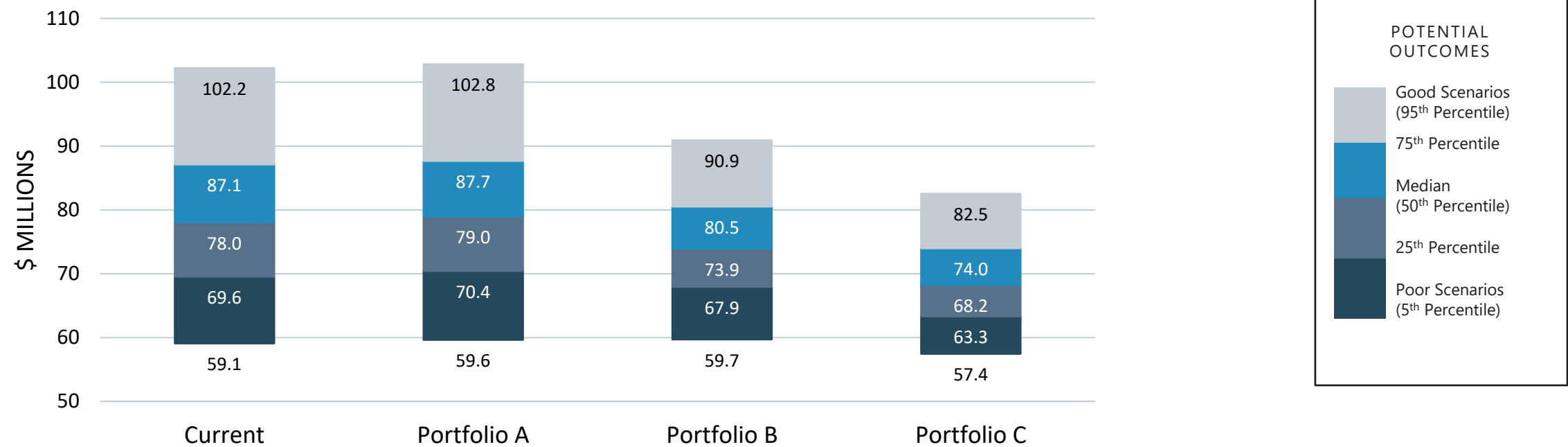
Net of fees.

Source: SEI Capital Market Assumptions. Please see important disclosures at the beginning of this section and at the back of the presentation.



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Market Value Projections – 10 Years



Net of fees.
Source: SEI Capital Market Assumptions. Please see important disclosures at the beginning of this section and at the back of the presentation.



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Portfolio Review



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Important information: asset valuation and portfolio returns

North Dakota St. Inv Bd - Job Service Pension

Inception date 12/31/2015. Historical Total Index can be provided upon request.

The Portfolio Return and fund performance numbers are calculated using Gross Fund Performance, using a true time-weighted performance method (prior to 6/30/2012, the Modified Dietz method of calculation was used). Gross Fund Performance reflects the effective performance of the underlying mutual funds that are selected or recommended by SIMC to implement an institutional client's investment strategy. Gross Fund Performance does not reflect the impact of fund level management fees, fund administration or shareholder servicing fees, all of which, if applicable, are used to offset the account level investment management fees the client pays to SIMC. Gross Fund Performance does reflect certain operational expenses charged by the funds and the reinvestment of dividends and other earnings. The inclusion of the fund level expenses that the client incurs but that are offset against the client's account level investment management fees would reduce the Gross Fund Performance of the mutual funds. For additional information about how performance is calculated, please see your monthly performance report.

Net Portfolio Returns since 6/30/12 reflect the deduction of SIMC's investment management fee and the impact that fee had on the client's portfolio performance. Prior to 6/30/12, Net Portfolio Returns deduct a proxy annual fee for all periods to demonstrate the impact that SIMC's investment management fee had on the portfolio performance. However, this is a hypothetical calculation, as it does not reflect the actual fees paid by the client during the period. Please see your client invoice for actual fees paid.

Total Portfolio Index Composition

The current composition of the "Total Portfolio Index" is as follows. This composition went into effect at the close of business on 2/15/2023.

38.00%	Bloomberg Barclays US Agg Bond Index
18.00%	MSCI World Minimum Volatility Index (Net)
16.00%	ICE BofA ML 1-3 Year Treasury Index
15.00%	Blmbrg Barcl 9-12 Month Short Treas Index
5.00%	ICE BofA 3Mo Deposit Offer Rt Const Mat IX
3.00%	Hist Blnd: Emerging Markets Debt Index
3.00%	Hist Blnd: High Yield Bond Index
2.00%	25% Russell 3000 Val / 75% MSCI US Min Vol



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ND – Job Service Pension

Annualized investment returns : September 30, 2025

	Total Assets (\$)	Actual Alloc (%)	1 Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Inception 12/31/2015
Total Portfolio Return	84,446,860	100.0	0.87	2.21	2.21	6.11	8.39	4.09	-	4.92
<i>Standard Deviation Portfolio</i>							4.73	4.98		
Total Portfolio Index			0.68	1.54	1.54	4.45	6.92	2.76	-	4.09
<i>Standard Deviation Index</i>							4.71	4.92		
Total Equity	16,959,788	20.1	0.85	3.25	3.25	12.40	17.21	12.47	-	9.94
US Equity	1,690,220	2.0	0.43	3.34	3.34	8.61	15.18	11.96	-	9.90
U.S. Managed Volatility Fund	1,690,220	2.0	0.43	3.34	3.34	8.61	15.18	11.96	-	9.90
Global Equity	15,269,568	18.1	0.90	3.24	3.24	12.82	17.43	12.35	-	9.59
Global Managed Volatility Fund	15,269,568	18.1	0.90	3.24	3.24	12.82	17.43	12.35	-	9.59
Total Fixed Income	67,487,071	79.9	0.88	1.95	1.95	4.56	6.26	2.03	-	3.07
Core Fixed Income Fund	32,066,499	37.9	1.14	2.12	2.12	3.16	5.54	-0.17	-	2.51
Bloomberg US Aggregate Bond Index			1.09	2.03	2.03	2.88	4.93	-0.45	-	1.95
Limited Duration Fund	13,502,331	16.0	0.46	1.43	1.43	4.82	5.40	2.40	-	2.55
ICE BofA ML 1-3 Year Treasury Index			0.32	1.12	1.12	3.87	4.35	1.57	-	1.78
Ultra Short Duration Fund	12,661,337	15.0	0.48	1.37	1.37	5.08	5.75	3.19	-	2.77
Blmbrg Barcl 9-12 Month Short Treas Index			0.42	1.20	1.20	4.22	4.72	2.57	-	2.13
Opportunistic Income Fund	4,204,683	5.0	0.64	1.65	1.65	6.68	8.35	5.43	-	4.58
ICE BofA 3Mo Deposit Offer Rt Const Mat IX			0.40	1.15	1.15	4.60	4.92	3.05	-	2.33
High Yield Bond Fund	2,535,025	3.0	0.79	2.82	2.82	8.58	11.30	7.45	-	7.44
Hist Blnd: High Yield Bond Index			0.78	2.40	2.40	7.23	10.98	5.53	-	6.46
Emerging Markets Debt Fund	2,517,197	3.0	2.11	4.94	4.94	10.72	14.57	4.30	-	5.14
Hist Blnd: Emerging Markets Debt Index			1.59	3.78	3.78	7.98	11.81	2.34	-	3.96

Return time periods less than 12 months are cumulative, over 12 months are annualized.



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ND – Job Service Pension

Calendar year investment returns : September 30, 2025

	Total Assets (\$)	Actual Alloc (%)	YTD	Year 2024	Year 2023	Year 2022	Year 2021	Year 2020	Year 2019	Year 2018
Total Portfolio Return	84,446,860	100.0	7.54	6.20	7.51	-6.75	3.98	4.31	9.69	0.88
Total Portfolio Index			6.40	4.76	6.16	-7.51	2.67	4.43	9.34	1.26
Total Equity	16,959,788	20.1	14.13	15.69	8.70	-2.91	19.79	-2.26	21.86	-3.29
US Equity	1,690,220	2.0	10.29	16.17	4.95	-0.26	20.58	-1.71	24.16	-3.46
U.S. Managed Volatility Fund	1,690,220	2.0	10.29	16.17	4.95	-0.26	20.58	-1.71	24.16	-3.46
Global Equity	15,269,568	18.1	14.56	15.62	9.11	-3.20	19.12	-2.51	20.86	-4.23
Global Managed Volatility Fund	15,269,568	18.1	14.56	15.62	9.11	-3.20	19.12	-2.51	20.86	-4.23
Total Fixed Income	67,487,071	79.9	5.94	3.90	7.19	-7.74	0.21	5.59	6.88	0.87
Core Fixed Income Fund	32,066,499	37.9	6.51	1.63	6.61	-14.04	-1.28	9.59	9.69	0.17
Bloomberg US Aggregate Bond Index			6.13	1.25	5.53	-13.01	-1.54	7.51	8.72	0.01
Limited Duration Fund	13,502,331	16.0	4.70	4.94	5.48	-3.42	0.15	4.15	4.00	1.93
ICE BofA ML 1-3 Year Treasury Index			3.93	4.10	4.25	-3.65	-0.55	3.10	3.55	1.58
Ultra Short Duration Fund	12,661,337	15.0	4.00	5.84	6.46	-0.81	0.34	2.14	3.55	1.91
Blmbrg Barcl 9-12 Month Short Treas Index			3.31	5.05	5.02	-0.40	0.00	1.69	2.88	1.91
Opportunistic Income Fund	4,204,683	5.0	4.93	8.59	10.10	-0.94	2.89	2.85	6.05	2.04
ICE BofA 3Mo Deposit Offer Rt Const Mat IX			3.34	5.50	5.10	1.20	0.17	1.08	2.60	2.08
High Yield Bond Fund	2,535,025	3.0	7.21	10.22	14.05	-11.16	10.46	6.28	14.28	-1.75
Hist Blnd: High Yield Bond Index			7.06	8.22	13.46	-11.21	5.35	6.07	14.41	-2.25
Emerging Markets Debt Fund	2,517,197	3.0	15.75	3.54	15.12	-14.21	-4.58	5.03	15.97	-7.74
Hist Blnd: Emerging Markets Debt Index			13.05	2.01	11.94	-14.74	-5.30	4.03	14.29	-5.15

Return time periods less than 12 months are cumulative, over 12 months are annualized.



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Institutional Investment Strategies

North Dakota St Inv Bd - Job Service Pension

For period ending: 09/30/2025

Total Equity
Global Managed Volatility Fund
<i>LSV Asset Management</i>
<i>Acadian Asset Management LLC</i>
U.S. Managed Volatility Fund
<i>Acadian Asset Management LLC</i>
<i>LSV Asset Management</i>
Total Fixed Income
Core Fixed Income Fund
<i>Metropolitan West Asset Management LLC</i>
<i>Allspring Global Investments</i>
<i>MetLife Investment Management, LLC</i>
<i>Jennison Associates LLC</i>
Emerging Markets Debt Fund
<i>Grantham Mayo van Otterloo</i>
<i>Marathon Asset Management, L.P.</i>
<i>Artisan Partners Limited Partnership</i>
<i>Invesco Advisers, Inc.</i>
<i>Colchester Global Investors Limited</i>
High Yield Bond Fund
<i>Brigade Capital Management, LP</i>
<i>Benefit Street Partners LLC</i>
<i>Ares Capital Management II LLC</i>
<i>J.P. Morgan Investment Management Inc.</i>
<i>SEI Investments Management Corporation</i>

Limited Duration Fund
<i>MetLife Investment Management, LLC</i>
<i>Metropolitan West Asset Management LLC</i>
Opportunistic Income Fund
<i>Manulife Investment Management (US) LLC</i>
<i>Ares Capital Management II LLC</i>
<i>Wellington Management Company LLP</i>
Ultra Short Duration Fund
<i>Wellington Management Company LLP</i>
<i>MetLife Investment Management, LLC</i>

Source: APX and SEI Data Warehouse. Manager and fund allocations are subject to change. Note that SEI Investments Company has a minority ownership interest in LSV Asset Management as of the date of this report.



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SEI's representative institutional investment strategies

Domestic equity

Large Cap Equity Strategy

Acadian Asset Management LLC
Copeland Capital Management, LLC
Cullen Capital Management LLC
Fred Alger Management
LSV Asset Management
PineStone Asset Management Inc.

U.S. Small Cap II Equity Strategy

Copeland Capital Management LLC
The Informed Momentum Company
Easterly Investment Partners LLC
Leeward Investments LLC
Los Angeles Capital Management LLC

SEI Extended Markets Index Strategy

SSGA Funds Management, Inc.

U.S. Equity Factor Allocation Strategy

SEI Investments Management Corporation

U.S. Large Cap Disciplined Equity Strategy

Acadian Asset Management LLC
Brandywine Global Investment Management LLC
Copeland Capital Management, LLC
Mackenzie Investments
PineStone Asset Management Inc.

U.S. Small Cap Equity Strategy

Axiom International Investors, LLC
The Informed Momentum Company
Los Angeles Capital Management
LSV Asset Management LP
Martingale Asset Management, LP

Large Cap Index Strategy

SSGA Funds Management, Inc.

S&P 500 Index Strategy

SSGA Funds Management, Inc.

U.S. Small/Mid Cap Equity Strategy

Axiom International Investors
Copeland Capital Management, LLC
Geneva Capital Management, LLC
Jackson Creek Investment Advisors LLC
LSV Asset Management*

Real Estate Strategy

CenterSquare Investment Management

U.S. Managed Volatility Strategy

Acadian Asset Management
LSV Asset Management*

Global equity

World Equity ex-U.S. Strategy

Acadian Asset Management
Brickwood Asset Management
Lazard Asset Management
Macquarie Investment Management
Pzena Investment Management

Global Managed Volatility Strategy

Acadian Asset Management
LSV Asset Management*

Emerging Markets Equity Strategy

Aikya Investment Management
JOHCM (USA) Inc.
Robeco Asset Management

Screened World Equity ex-U.S. Strategy

Acadian Asset Management
Brickwood Asset Management
Lazard Asset Management LLC

World Select Equity Strategy

Brickwood Asset Management
Lazard Asset Management LLC
LSV Asset Management
PineStone Asset Management Inc.
Poplar Forest Capital, LLC
Rhicon Currency Management Pte LTD
Towle & Co



Sub-Adviser Diversification as of July 2, 2025. The strategies above are not an exhaustive list, but represent those that are typically utilized by SEI Institutional clients. Certain strategies are currently available only in registered mutual fund products. References to specific SEI funds are designed to illustrate SEI's manager selection process, which is implemented by SEI Investments Management Corporation (SIMC). The managers may be offered exclusively through mutual funds. References to specific securities do not constitute an offer or recommendation to buy, sell or hold such securities. *As of December 31, 2023, SEI Investments Company has a 38.6% minority ownership interest in LSV Asset Management.

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SEI's representative institutional investment strategies (continued)

Fixed income

Cash Management Strategies

Money Market Funds
Custom Separate Accounts

Opportunistic Income Strategy

Ares Management
Manulife Investment Management
Wellington Management Company

Ultra Short Duration Bond Strategy

MetLife Investment Management, LLC
Wellington Management Company

Short Gov't Bond Strategy

Wellington Management Company

Limited Duration Bond Strategy

MetLife Investment Management, LLC
Metropolitan West Asset Management LLC

High Yield Bond Strategy

Ares Management
Benefit Street Partners
Brigade Capital Management
J.P. Morgan Asset Management
T. Rowe Price Associates

Emerging Markets Debt Strategy

Artisan Partners
Colchester Global Investors
Grantham Mayo van Otterloo
Invesco Advisers, Inc.
Marathon Asset Management, LP

Core Fixed Income Plus Strategy

U.S. Core Fixed Income Strategy
High Yield Strategy
Emerging Debt Strategy

U.S. Core Fixed Income Strategy

Allspring Global Investments
Jennison Associates
MetLife Investment Management, LLC
Metropolitan West Asset Management

Intermediate Duration Credit Strategy

Income Research & Management
Legal & General Inv. Mgmt. America
MetLife Investment Management, LLC

Long Duration Credit Strategy

Income Research & Management
Jennison Associates
Legal & General Inv. Mgmt. America
MetLife Investment Management, LLC
Metropolitan West Asset Management

Long Duration Bond Strategy

Income Research & Management
Jennison Associates
Legal & General Inv. Mgmt. America
Metropolitan West Asset Management

Alternative investments

Alternative Investments

Equity Long/Short Strategies
Event Driven Strategies
Global Macro Strategies
Relative Value Strategies
Venture Capital Strategies
Buyout Strategies
Private Debt Strategies
Private Real Assets Strategies
Private Real Estate Strategies
Structured Credit Strategies
Energy Debt Strategies

Other

Dynamic Asset Allocation Strategy

State Street Global Advisors

Multi-Asset Real Return Strategy

AllianceBernstein L.P.
Columbia Management Investments
Credit Suisse
Franklin Advisers, Inc.



Sub-Adviser Diversification as of July 2, 2025. The strategies above are not an exhaustive list, but represent those that are typically utilized by SEI Institutional clients. Certain strategies are currently available only in registered mutual fund products. References to specific SEI funds are designed to illustrate SEI's manager selection process, which is implemented by SEI Investments Management Corporation (SIMC). The managers may be offered exclusively through mutual funds. References to specific securities do not constitute an offer or recommendation to buy, sell or hold such securities.

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2025 Manager changes

Funds	Manager Addition and Rationale	Manager Termination and Rationale
Global Managed Volatility Fund		<u>Allspring Global Investments (May 2025)</u> Allspring announced its intention to discontinue its Alternative Equity strategies and close its Alternative Equity team. In advance of the closure of Allspring's Alternative Equity team, the SIIT Global Managed Volatility Fund will re-allocate assets previously managed by Allspring to the existing sub-advisors within the Fund.
U.S. Managed Volatility Fund	<u>Acadian Asset Management (May 2025)</u> Acadian believes that, over the long-term, a portfolio that is constructed to manage volatility while exploiting additional mis-pricings in the market, can provide superior risk adjusted returns. Acadian's investment philosophy is centered on the belief that financial assets are often mispriced due to investors incorrectly processing information, having incomplete information, or both. We believe Acadian's investment process and portfolio optimization has been tested across global markets and multiple market cycles. Acadian will take over assets previously managed by Allspring Global Investments (Allspring) as the company decided to discontinue its Alternative Equity strategies, which had been used in the SIIT U.S. Managed Volatility Fund.	<u>Allspring Global Investments (May 2025)</u> Allspring announced its intention to discontinue its Alternative Equity strategies and close its Alternative Equity team. The SIIT U.S. Managed Volatility Fund re-allocated the assets previously managed by Allspring to Acadian Asset Management LLC.



Global Markets Review & Outlook

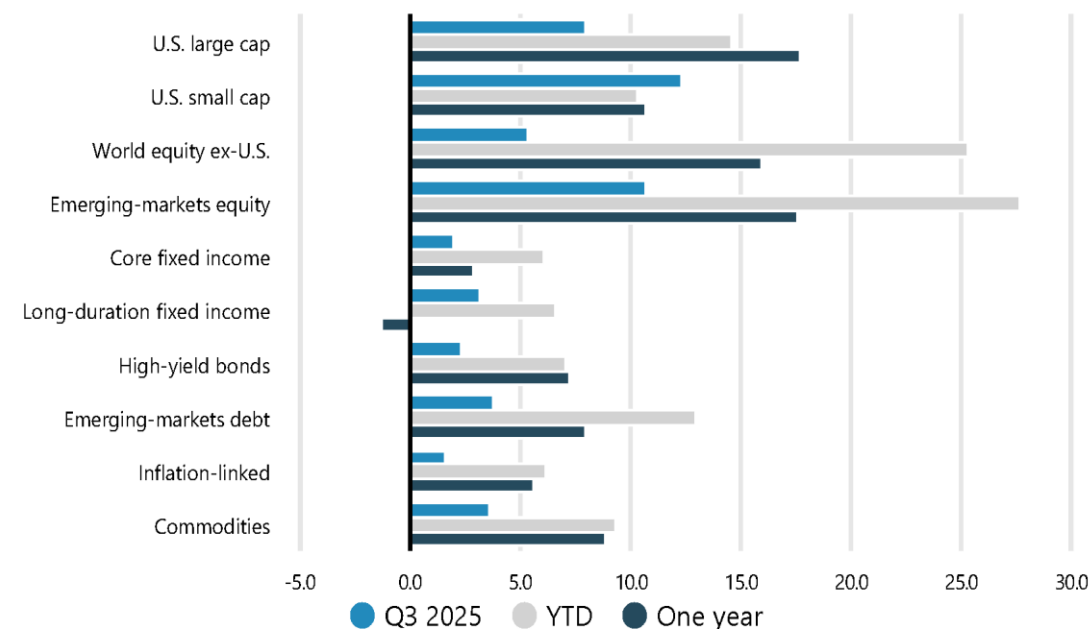


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Market performance overview

- After a plodding start in July and despite signs of softening labor markets in many regions, nearly all markets were up in the last two months of the quarter on hopes of additional central bank rate cuts and looser fiscal policies.
- Smaller companies and emerging markets assumed leadership within equity markets, although artificial intelligence remained a dominant theme, especially within US large caps.
- Bond markets were volatile to start the quarter but still managed to perform well overall, especially in September as yields fell (bond yields and prices tend to move inversely) on labor market concerns and expectations of further central bank easing.
- Credit markets turned in another strong quarter as expanding investor risk appetite pushed spreads down to historically low levels in many sectors.
- Commodities rebounded from a negative second quarter. Energy-related goods led at the start of the quarter before giving way to precious metals and certain industrial metals, as well as coffee and livestock.

Financial markets review



Commodities = Bloomberg Commodity Index (USD), Inflation-Linked = Bloomberg 1-5 Year US TIPS Index (USD), Emerging Markets Debt = 50/50 JPM EMBI Global Div & JPM GBI EM Global Div, High Yield Bonds = ICE BofA US High Yield Constrained Index (USD), Long Duration Fixed Income = Bloomberg Long US Government/Credit Index (USD), Core Fixed Income = Bloomberg US Aggregate Bond Index (USD), Emerging Markets Equity = MSCI EFM (Emerging+Frontier Markets) Index (Net) (USD), World Equity x US = MSCI World ex-USA Index (Net) (USD), U.S. Small Cap = Russell 2000 Index (USD), U.S. Large Cap = Russell 1000 Index (USD). Sources: SEI, index providers. Past performance is no guarantee of future results. As of 9/30/2025.

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Current market environment

Point of View

Summary

- Not surprisingly, diversification within equity markets remains our key call for the remainder of 2025. Diversification by geography, by our preferred factors, by sector, by single names, and by theme will help investors reduce their exposure to what we see as heightened market fragility. Active management also appears attractive here, particularly in U.S. large caps given the acute market concentration.
- Credit has reflected the elevated valuations in equity markets, as evidenced by low spread level. We remain interested in attractive risk-adjusted yields which can be found in securitized sectors, particularly collateralized loan obligations (CLOs). While yield curves have moved dramatically, we believe conditions remain in place for a further widening between short- and long-term yields. Overall interest-rate sensitivity is broadly neutral and focused on the belly (intermediate section) of the curve.
- Regarding the U.S. government shutdown to start the fourth quarter, the market impact will clearly be dependent on the length of this latest budget fight while the more immediate effects will include the suspension of government statistics releases, including the monthly employment report. The lack of data combined with the potential for a large number of furloughed federal workers could solidify two more rate cuts in 2025. While predicting politics is at times harder than predicting the market, our expectations are that this will be resolved in a reasonable amount of time with a relatively modest market and economic impact.

Macro/Cross-asset

- Inflation risks remain biased to the upside. Service prices are showing surprising strength, and tariffs are still making their way through the system.
- U.S. growth data points are surprising to the upside. While employment has been severely downgraded, there is still no global recession forecasted.

Equity

- Diversity in equity markets remains a focus, particularly among geographies and market capitalizations.
- Strategic exposures to value, quality, and momentum remain intact, with an emphasis on value.
- Active management should benefit/help investors avoid historically high concentration risk in the U.S.

Fixed Income

- We remain positioned for a continued steepening in the U.S. and European yield curves.
- Duration positioning remains broadly neutral.
- We remain defensively positioned in credit, favoring securitized versus corporate debt, and CLOs look particularly attractive on a risk-adjusted yield basis.



Source: SEI, Data as of 9/30/25.

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Capital Market Assumptions



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SEI Capital Market Assumptions - Short Term - June 2024

	Compound Return	Risk	Arithmetic Return
Core Fixed Income	5.20%	6.62%	5.42%
U.S. High Yield	7.03%	12.75%	7.84%
Emerging Markets Debt	7.56%	15.52%	8.77%
US Small Cap Equity	8.71%	23.44%	11.46%
Short Term Corporate Fixed Income	3.85%	4.07%	3.93%
Diversified Short Term Fixed Income	5.14%	5.72%	5.30%
US Low Beta Equities	7.99%	15.20%	9.15%
Global Low Beta Equities	8.45%	14.05%	9.44%
S&P 500 Index	6.81%	19.00%	8.61%
Limited Duration Fixed Income	4.07%	2.62%	4.10%

Inflation: 2.30%

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SEI Capital Market Assumptions - Short Term - June 2024

Correlations	Core Fixed Income	U.S. High Yield	Emerging Markets Debt	US Small Cap Equity	Short Term Corporate Fixed Income	Diversified Short Term Fixed Income	US Low Beta Equities	Global Low Beta Equities	S&P 500 Index	Limited Duration Fixed Income
Core Fixed Income	1.00									
U.S. High Yield	0.45	1.00								
Emerging Markets Debt	0.45	0.75	1.00							
US Small Cap Equity	0.15	0.65	0.60	1.00						
Short Term Corporate Fixed Income	0.65	0.60	0.40	0.25	1.00					
Diversified Short Term Fixed Income	0.35	0.80	0.50	0.45	0.89	1.00				
US Low Beta Equities	0.25	0.65	0.65	0.90	0.25	0.45	1.00			
Global Low Beta Equities	0.24	0.61	0.61	0.86	0.22	0.43	0.95	1.00		
S&P 500 Index	0.25	0.65	0.65	0.90	0.25	0.45	1.00	0.95	1.00	
Limited Duration Fixed Income	0.92	0.55	0.45	0.10	0.65	0.45	0.30	0.28	0.30	1.00

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SEI Capital Market Assumptions - Equilibrium - June 2024

	Compound Return	Risk	Arithmetic Return
Core Fixed Income	6.54%	6.62%	6.76%
U.S. High Yield	7.82%	12.75%	8.63%
Emerging Markets Debt	8.75%	15.52%	9.95%
US Small Cap Equity	10.15%	23.44%	12.90%
Short Term Corporate Fixed Income	4.90%	4.07%	4.98%
Diversified Short Term Fixed Income	5.52%	5.72%	5.68%
US Low Beta Equities	8.50%	15.20%	9.66%
Global Low Beta Equities	8.83%	14.05%	9.82%
S&P 500 Index	8.00%	19.00%	9.81%
Limited Duration Fixed Income	5.65%	2.62%	5.68%

Inflation: 2.50%

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SEI Capital Market Assumptions - Equilibrium - June 2024

Correlations	Core Fixed Income	U.S. High Yield	Emerging Markets Debt	US Small Cap Equity	Short Term Corporate Fixed Income	Diversified Short Term Fixed Income	US Low Beta Equities	Global Low Beta Equities	S&P 500 Index	Limited Duration Fixed Income
Core Fixed Income	1.00									
U.S. High Yield	0.45	1.00								
Emerging Markets Debt	0.45	0.75	1.00							
US Small Cap Equity	0.15	0.65	0.60	1.00						
Short Term Corporate Fixed Income	0.65	0.60	0.40	0.25	1.00					
Diversified Short Term Fixed Income	0.35	0.80	0.50	0.45	0.89	1.00				
US Low Beta Equities	0.25	0.65	0.65	0.90	0.25	0.45	1.00			
Global Low Beta Equities	0.24	0.61	0.61	0.86	0.22	0.43	0.95	1.00		
S&P 500 Index	0.25	0.65	0.65	0.90	0.25	0.45	1.00	0.95	1.00	
Limited Duration Fixed Income	0.92	0.55	0.45	0.10	0.65	0.45	0.30	0.28	0.30	1.00

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There are risks involved with investing including loss of principal. There is no assurance that the objectives of any strategy or fund will be achieved or will be successful. No investment strategy, including diversification, can protect against market risk or loss. Current and future portfolio holdings are subject to risk. Past performance does not guarantee future results.

For those SEI funds which employ a “manager of managers” structure, SIMC is responsible for overseeing the sub-advisers and recommending their hiring, termination, and replacement. References to specific securities, if any, are provided solely to illustrate SIMC’s investment advisory services and do not constitute an offer or recommendation to buy, sell or hold such securities.

Any presentation of gross mutual fund performance of underlying mutual fund investments or gross account level performance is only intended for one-on-one presentations with clients and may not be duplicated in any form by any means or redistributed without SIMC’s prior written consent.

Annual performance is calculated based on monthly return streams, geometrically linked as of the end of the specified month end.

Performance results do not reflect the effect of certain account level advisory fees. The inclusion of such fees would reduce account level performance, particularly when compounded over a period of years. The following hypothetical illustration shows the compound effect fees have on investment return: For an account charged 1% with a stated annual return of 10%, the net total return before taxes would be reduced from 10% to 9%. A ten year investment of \$100,000 at 10% would grow to \$259,374, and at 9%, to \$236,736 before taxes. For a complete description of all fees and expenses, please refer to SIMC’s Form ADV Part 2A, the investment management agreement between SIMC and each client, and quarterly client invoices.

Certain economic and market information contained herein has been obtained from published sources prepared by other parties, which in certain cases have not been updated through the date hereof. While such sources are believed to be reliable, neither SEI nor its affiliates assumes any responsibility for the accuracy or completeness of such information and such information has not been independently verified by SEI.

Index returns are for illustrative purposes only and do not represent actual fund performance. Index performance returns do not reflect any management fees, transaction costs, or expenses, which would reduce returns. Indexes are unmanaged and one cannot invest directly in an index. Any presentation of gross mutual fund performance of underlying mutual fund investments or gross account level performance is only intended for one-on-one presentations with clients and may not be duplicated in any form by any means or redistributed without SIMC’s prior written consent.



Important information

SIMC develops forward-looking, long-term capital market assumptions for risk, return, and correlations for a variety of global asset classes, interest rates, and inflation. These assumptions are created using a combination of historical analysis, current market environment assessment and by applying our own judgment. In certain cases, alpha and tracking error estimates for a particular asset class are also factored into the assumptions. We believe this approach is less biased than using pure historical data, which is often biased by a particular time period or event.

The asset class assumptions are aggregated into a diversified portfolio, so that each portfolio can then be simulated through time using a monte-carlo simulation approach. This approach enables us to develop scenarios across a wide variety of market environments so that we can educate our clients with regard to the potential impact of market variability over time. Ultimately, the value of these assumptions is not in their accuracy as point estimates, but in their ability to capture relevant relationships and changes in those relationships as a function of economic and market influences.

The projections or other scenarios in this presentation are purely hypothetical and do not represent all possible outcomes. They do not reflect actual investment results and are not guarantees of future results. All opinions and estimates provided herein, including forecast of returns, reflect our judgment on the date of this report and are subject to change without notice. These opinions and analyses involve a number of assumptions which may not prove valid. The performance numbers are not necessarily indicative of the results you would obtain as a client of SIMC.

We believe our approach enables our clients to make more informed decisions related to the selection of their investment strategies.

For more information on how SIMC develops capital market assumptions, please refer to the SEI paper entitled "Executive Summary: Developing Capital Market Assumptions for Asset Allocation Modeling." For more information on how SIMC develops capital market assumptions or the actual assumptions utilized, please contact your SEI representative.



Thank you.



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RETIREMENT PLAN FOR EMPLOYEES OF JOB SERVICE NORTH DAKOTA

INVESTMENT POLICY STATEMENT

1. PLAN CHARACTERISTICS AND FUND CONSTRAINTS

The Retirement Plan for the Employees of Job Service North Dakota (Plan) is a defined benefit retirement plan for the eligible employees hired before October 1, 1980. There have been no new entrants to the plan since October 1, 1980. The plan provides retirement benefits, disability benefits and survivor benefits consistent with the written Plan document. Until October 1, 1993, annuities were purchased from the Travelers for retirees, since that date retiree benefits are paid from Plan assets. Annual cost of living adjustments for all Plan pensioners including annuitants with the Travelers are paid from Plan assets. The NDPERS Board (the Board) is the Plan Administrator and administers the Plan in accord with Chapter 52-11 of the North Dakota Century Code.

Job Service North Dakota as the employer contributes 4% of the active participant's salary as a contribution 'on behalf of the employee' and the active participants pay 3% of their salary into Plan assets.

Each year the Plan has an actuarial valuation performed. The current actuarial assumed rate of return on assets is 3.0%.

2. RESPONSIBILITIES AND DISCRETION OF THE STATE INVESTMENT BOARD (SIB)

Aggregate plan contributions plus earnings, minus allowable expenses constitute the Fund. The Board is charged by NDCC chapters 54-52, 21-10-01, and 39-03.1 to establish policies for the investment goals and asset allocation of the Fund. The State Investment Board (SIB) is charged with implementing the asset allocation as promptly and prudently as possible in accordance with the Board's policies by investing the assets of the Fund in the manner provided in the prudent investor rule, which provides:

Fund fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The retirement funds belonging to the teachers' fund for retirement and the public employees retirement system must be invested exclusively for the benefit of their members and in accordance with the respective funds' investment goals and objectives. (NDCC 21-10-07)

The SIB may delegate investment responsibility of the Fund or any portion of the Fund to professional money managers. Where a money manager has been retained, the SIB's role in determining investment strategy is supervisory not advisory.

The SIB may at its discretion, pool the assets of the Fund with another fund or funds having similar investment objectives and time horizons in order to maximize returns and minimize costs. In pooling fund assets the SIB will establish asset class pools it deems necessary to achieve the specific quality, diversification, restrictions, and performance objectives subject to the prudent investor rule and the objectives of the funds participating in the pools.

The SIB is responsible for establishing the selection criteria, determining the performance measures, and retaining all fund money managers. SIB is also responsible for the selection and retention of any investment consultants that may be employed in the investment of the Fund assets.

3. DELEGATION OF AUTHORITY

Management responsibility for NDPERS funds not assigned to the North Dakota State Investment Board (SIB) in Chapter 21-10 of the North Dakota Century Code (NDCC) is hereby delegated to the SIB, which must establish written policies and procedures for the operation of the NDPERS funds, consistent with this investment policy.

Such procedures must provide for:

1. The definition and assignment of duties and responsibilities to advisory services and persons employed by the SIB pursuant to NDCC 21-10-02.1(1) (a).
2. Investment diversification, investment quality, qualification of money managers, and amounts to be invested by money managers pursuant to NDCC 21-10-02.1(1)(e). In developing these policies it is understood:
 - a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
 - b. The use of derivatives will be monitored to ensure that undue risks are not taken by the money managers.
 - c. All assets must be held in custody by the SIB's master custodian or such other custodians as are selected by the SIB.
3. Guidelines for the selection and redemption of investments will be in accordance with NDCC 21-10-02.1(1) (d).
4. The criteria for making decisions with respect to hiring, retention, and termination of money managers will be clearly defined. This also includes selecting performance measurement standards, consultants, report formats, and frequency of meetings with money managers.

All participants in the investment process must seek to act responsibly as custodians of the public trust.

4. INVESTMENT GOALS

The investment objectives of the Plan have been established by the Plan's Administrator upon consideration of its strategic objectives and a comprehensive review of current and projected financial requirements.

Objective #1: To maintain a level of surplus sufficient to eliminate the need for future contributions;

Objective #2: To achieve a rate of return which exceeds the rate of inflation, as measured by the Consumer Price index (CPI), by 2.0 or more percentage points per year (based on current actuarial assumptions of 3.0% return and 3.0% inflation), over a complete market cycle; and

Objective #3: As a secondary objective, to maximize the Plan's surplus to increase future benefit payments.

5. INVESTMENT PERFORMANCE OBJECTIVE

The NDPERS Board will seek to make investments that generate sufficient return to meet the goals outlined in this policy. The objectives established in this section are in accordance with the fiduciary requirement in federal and state law.

It is in the best interest of NDPERS and its beneficiaries that performance objectives be established for the total Fund. It is clearly understood these objectives are to be viewed over the long term and have been established after full consideration of all factors set forth in this Statement of Investment Goals, Objectives, and Policies.

- a) The annual standard deviation of total returns for the Fund should not materially exceed **5.3%**.
- b) Over 5-year and longer periods the fund should match or exceed the expected rate of return projected in the most recent asset/liability study and the standard deviation of returns should not materially exceed **5.3%**
- c) The standard deviation of portfolio returns compared to the policy benchmark or tracking error should not materially exceed **1.0%**.

6. ASSET ALLOCATION

The NDPERS Board as plan Administrator establishes the asset allocation of the Fund, with input from consultants and SIB staff. The current asset allocation is based upon the asset/liability study completed by SEI Consultants in 2025. That study provided an appraisal of current cash flow projections and estimates of the investment returns likely to be achieved by the various asset classes.

In recognition of the Plan's objectives, projected financial status, and capital market expectations, the following asset allocation options were deemed appropriate for the Fund:

Global Low Beta Equities - 13%
 Core Fixed Income - 56%
 Limited Duration Fixed Income - 19%
 Short Term Corporate Fixed Income - 12%

Rebalancing of the Fund to this target allocation will be done in accordance with the SIB's rebalancing policy, but not less than annually.

7. RESTRICTIONS

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the Fund's assets will be invested, it is understood that:

- a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
- b. Derivatives use will be monitored to ensure that undue risks are not taken by the money managers.
- c. All assets will be held in custody by the SIB's master custodian or such other custodians as are acceptable to the SIB.

Social Investing is defined as *"The investment or commitment of public pension fund money for the purpose of obtaining an effect other than a maximized return to the intended beneficiaries."*

- d. Social investing is prohibited unless it meets the Exclusive Benefit Rule and it can be substantiated that the investment must provide an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.

Economically targeted investment is defined as an investment designed to produce a competitive rate of return commensurate with risk involved, as well as to create collateral economic benefits for a targeted geographic area, group of people, or sector of the economy.

- e. Economically targeted investing is prohibited unless the investment meets the Exclusive Benefit Rule.

The Exclusive Benefit Rule is met if the following four conditions are satisfied:

- (1) The cost does not exceed the fair market value at the time of investment.
- (2) The investment provides the Fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
- (3) Sufficient liquidity is maintained in the Fund to permit distributions in accordance with the terms of the plan.
- (4) The safeguards and diversity that a prudent investor would adhere to are present.

8. INTERNAL CONTROLS

The SIB must have a system of internal controls to prevent losses of public funds arising from fraud or employee error. The controls deemed most important are the separation of responsibilities for investment purchases from the recording of investment activity, custodial safekeeping, written confirmation of investment transactions, and established criteria for broker relationships. The annual financial audit must include a comprehensive review of the portfolio, accounting procedures for security transactions and compliance with the investment policy.

9. EVALUATION

Investment management of the Fund will be evaluated against the Fund's investment objectives and investment performance standards.

An annual performance report must be provided to the Board by the State Investment Officer at a regularly scheduled NDPERS Board meeting. The annual performance report must include asset returns and allocation data as well as information regarding all significant or material matters and changes pertaining to the investment of the Fund, including:

- Changes in asset class portfolio structures, tactical approaches and market values;
- All pertinent legal or legislative proceedings affecting the SIB.
- Compliance with these investment goals, objectives and policies.
- A general market overview and market expectations.
- A review of fund progress and its asset allocation strategy.

In addition, the State Investment Officer shall review with the Board the procedures and policies established by the SIB relating to this statement of investment goals, objectives, and policies.

10. WITHDRAWALS

The Client may redeem capital with three (3) business days' (T+3) notice. Staff will make reasonable efforts to accommodate withdrawal requests on a shorter timeline when feasible; however, settlement is normally on a T+3 basis.

Rebecca Fricke
Plan Administrator and Trustee
Retirement Plan for Employees of
Job Service North Dakota

Scott Anderson
Chief Investment Officer
North Dakota Retirement and Investment Office

Date:_____

Date:_____

Approved by the PERS Board:

Approved by the SIB:

RETIREMENT PLAN FOR EMPLOYEES OF JOB SERVICE NORTH DAKOTA

INVESTMENT POLICY STATEMENT

1. PLAN CHARACTERISTICS AND FUND CONSTRAINTS

The Retirement Plan for the Employees of Job Service North Dakota (Plan) is a defined benefit retirement plan for the eligible employees hired before October 1, 1980. There have been no new entrants to the plan since October 1, 1980. The plan provides retirement benefits, disability benefits and survivor benefits consistent with the written Plan document. Until October 1, 1993, annuities were purchased from the Travelers for retirees, since that date retiree benefits are paid from Plan assets. Annual cost of living adjustments for all Plan pensioners including annuitants with the Travelers are paid from Plan assets. The NDPERS Board (the Board) is the Plan Administrator and administers the Plan in accord with Chapter 52-11 of the North Dakota Century Code.

Job Service North Dakota as the employer contributes 4% of the active participant's salary as a contribution 'on behalf of the employee' and the active participants pay 3% of their salary into Plan assets.

Each year the Plan has an actuarial valuation performed. The current actuarial assumed rate of return on assets is 3.75%.

2. RESPONSIBILITIES AND DISCRETION OF THE STATE INVESTMENT BOARD (SIB)

Aggregate plan contributions plus earnings, minus allowable expenses constitute the Fund. The Board is charged by NDCC chapters 54-52, 21-10-01, and 39-03.1 to establish policies for the investment goals and asset allocation of the Fund. The State Investment Board (SIB) is charged with implementing the asset allocation as promptly and prudently as possible in accordance with the Board's policies by investing the assets of the Fund in the manner provided in the prudent investor rule, which provides:

Fund fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The retirement funds belonging to the teachers' fund for retirement and the public employees retirement system must be invested exclusively for the benefit of their members and in accordance with the respective funds' investment goals and objectives. (NDCC 21-10-07)

The SIB may delegate investment responsibility of the Fund or any portion of the Fund to professional money managers. Where a money manager has been retained, the SIB's role in determining investment strategy is supervisory not advisory.

The SIB may at its discretion, pool the assets of the Fund with another fund or funds having similar investment objectives and time horizons in order to maximize returns and minimize costs. In pooling fund assets the SIB will establish asset class pools it deems necessary to achieve the specific quality, diversification, restrictions, and performance objectives subject to the prudent investor rule and the objectives of the funds participating in the pools.

The SIB is responsible for establishing the selection criteria, determining the performance measures, and retaining all fund money managers. SIB is also responsible for the selection and retention of any investment consultants that may be employed in the investment of the Fund assets.

3. DELEGATION OF AUTHORITY

Management responsibility for NDPERS funds not assigned to the North Dakota State Investment Board (SIB) in Chapter 21-10 of the North Dakota Century Code (NDCC) is hereby delegated to the SIB, which must establish written policies and procedures for the operation of the NDPERS funds, consistent with this investment policy.

Such procedures must provide for:

1. The definition and assignment of duties and responsibilities to advisory services and persons employed by the SIB pursuant to NDCC 21-10-02.1(1) (a).
2. Investment diversification, investment quality, qualification of money managers, and amounts to be invested by money managers pursuant to NDCC 21-10-02.1(1)(e). In developing these policies it is understood:
 - a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
 - b. The use of derivatives will be monitored to ensure that undue risks are not taken by the money managers.
 - c. All assets must be held in custody by the SIB's master custodian or such other custodians as are selected by the SIB.
3. Guidelines for the selection and redemption of investments will be in accordance with NDCC 21-10-02.1(1) (d).
4. The criteria for making decisions with respect to hiring, retention, and termination of money managers will be clearly defined. This also includes selecting performance measurement standards, consultants, report formats, and frequency of meetings with money managers.

All participants in the investment process must seek to act responsibly as custodians of the public trust.

4. INVESTMENT GOALS

The investment objectives of the Plan have been established by the Plan's Administrator upon consideration of its strategic objectives and a comprehensive review of current and projected financial requirements.

Objective #1: To maintain a level of surplus sufficient to eliminate the need for future contributions;

Objective #2: To achieve a rate of return which exceeds the rate of inflation, as measured by the Consumer Price index (CPI), by 3.0 or more percentage points per year (based on current actuarial assumptions of 3.75% return and 2.5% inflation), over a complete market cycle; and

Objective #3: As a secondary objective, to maximize the Plan's surplus to increase future benefit payments.

5. INVESTMENT PERFORMANCE OBJECTIVE

The NDPERS Board will seek to make investments that generate sufficient return to meet the goals outlined in this policy. The objectives established in this section are in accordance with the fiduciary requirement in federal and state law.

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- a) The annual standard deviation of total returns for the Fund should not materially exceed 5.7%.
- b) Over 5-year and longer periods the fund should match or exceed the expected rate of return projected in the most recent asset/liability study and the standard deviation of returns should not materially exceed 5.7%
- c) The standard deviation of portfolio returns compared to the policy benchmark or tracking error should not materially exceed 1.25%.

6. ASSET ALLOCATION

The NDPERS Board as plan Administrator establishes the asset allocation of the Fund, with input from consultants and SIB staff. The current asset allocation is based upon the asset/liability study completed by SEI Consultants in 2017. That study provided an appraisal of current cash flow projections and estimates of the investment returns likely to be achieved by the various asset classes.

In recognition of the Plan's objectives, projected financial status, and capital market expectations, the following asset allocation options were deemed appropriate for the Fund:

US Low Beta Equities - 2%
 Global Low Beta Equities 18%
 U.S. High Yield Bonds - 3%
 Emerging Markets Debt - 3%
 Core Fixed Income - 38%
 Limited Duration Fixed Income - 16% Diversified
 Short Term Fixed Income - 5% Short Term
 Corporate Fixed Income - 15%

Rebalancing of the Fund to this target allocation will be done in accordance with the SIB's rebalancing policy, but not less than annually.

7. RESTRICTIONS

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the Fund's assets will be invested, it is understood that:

- a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
- b. Derivatives use will be monitored to ensure that undue risks are not taken by the money managers.
- c. All assets will be held in custody by the SIB's master custodian or such other custodians as are acceptable to the SIB.

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- e. Economically targeted investing is prohibited unless the investment meets the Exclusive Benefit Rule.

The Exclusive Benefit Rule is met if the following four conditions are satisfied:

- (1) The cost does not exceed the fair market value at the time of investment.
- (2) The investment provides the Fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
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- Changes in asset class portfolio structures, tactical approaches and market values;
- All pertinent legal or legislative proceedings affecting the SIB.
- Compliance with these investment goals, objectives and policies.
- A general market overview and market expectations.
- A review of fund progress and its asset allocation strategy.

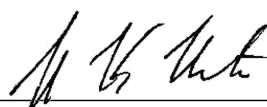
In addition, the State Investment Officer shall review with the Board the procedures and policies established by the SIB relating to this statement of investment goals, objectives, and policies.



Scott Miller
Plan Administrator and Trustee
Retirement Plan for Employees of
Job Service North Dakota

Date: 9/13/2022

Approved by the PERS Board: 9/13/2022



Janilyn Murtha
Executive Director
North Dakota Retirement and Investment Office

Date: 10/12/2022

Approved by the SIB: 9/23/2022

MEMORANDUM

TO: Investment Committee
FROM: Jodi Smith, Executive Director
DATE: November 14, 2025
RE: Performance and Benchmarking Procurement

Background

In August 2023, the Investment Committee discussed the need to modernize RIO's benchmarking and performance evaluation framework to align with legislative changes supporting an unclassified workforce and incentive compensation plan. These statutory updates required objective, independent benchmarks and industry-based performance hurdle rates to ensure compensation metrics are tied to transparent and defensible market standards.

RIO Staff developed and issued a Request for Proposal (RFP) for an Independent Benchmark and Hurdle Rate Consultant through State Procurement. The intent was to identify a qualified partner who could:

- Propose appropriate performance benchmarks for each investment mandate, and
- Define "best" and "median" industry performance standards for use in incentive compensation and performance attribution.

Despite clear need and alignment with best practices, no vendors responded to the RFP. Consequently, staff utilized the internal investment procurement process to identify two qualified firms active in this specialized area through NDCC 54-44.4-02(j) which allows for a noncompetitive procurement process. Following this process, the benchmarking consultant contract was awarded to Verus in September 2023. This decision established Verus as the independent benchmarking advisor responsible for setting and maintaining policy benchmarks for each investment mandate.

During the January 2024 Investment Committee meeting, members discussed the importance of establishing an independent performance consultant to ensure accurate, objective, and transparent measurement of fund and manager-level performance. The goal was to strengthen RIO's ability to evaluate value-added results, risk-adjusted returns, and compliance with benchmarks as the agency continued to expand internal investment management activities.

In March 2024, the Investment Committee approved an RFP for an Independent Performance Measurement Consultant. The RFP sought a provider with expertise in:

- Independent validation of total funds and mandate-level performance;
- Integration with Verus's benchmark data; and

- Transparent performance attribution and reporting to support incentive compensation and Board oversight.

After a competitive process, the State Investment Board approved the selection of a new performance consultant in May 2024. The contract was awarded to Verus in June 2024, completing a key step in RIO's modernization of its performance governance and reporting framework.

RIO currently engages:

- Verus – Benchmarking Consultant (awarded September 2023)
- Verus - Performance Consultant (awarded June 2024)

While these roles are distinct, they are interdependent. As RIO's internal management program expands, the question has arisen: Should these functions remain separate to preserve independence, or be combined to improve efficiency and consistency?

Consideration	Separate Consultants	Combined Consultant
Independence / Checks & Balances	Strong segregation of duties; performance is independently verified.	Reduced independence; potential or perceived conflict of interest.
Data Consistency	Possible timing gaps or reconciliation issues.	Fully integrated data and consistent application of benchmarks and performance attribution.
Operational Efficiency	Requires coordination between firms and additional staff time.	Streamlined reporting and reduced administrative burden.
Transparency & Accountability	Dual perspectives support cross-validation and an audit trail for oversight.	Single source of truth with clearer accountability.
Cost and Administration	Increased administrative effort and vendor management.	Potential cost savings and simplified contract management.
Governance & Oversight	Stronger fiduciary checks; easier to demonstrate independence.	Requires internal controls to ensure objectivity.

Best Practice Insight

Across the public fund and endowment community, both models are used:

- Separate models are favored by larger systems emphasizing independence and auditability.
- Combined models are increasingly adopted by systems emphasizing efficiency, technology integration, and clear ownership of results.

Recommendation for RIO

Given RIO's evolving internal investment structure, expanded in-house management, and goals for governance alignment and operational efficiency, staff recommend re-procuring a single, integrated

consultant for benchmarking and performance measurement. This recommendation is based on both operational realities and a reassessment of perceived independence risks.

While concerns about independence are valid in theory, they may be overstated in practice. Unless the benchmarks are constructed entirely by the consultant (which is unlikely), there is limited opportunity for manipulation. Benchmarks are typically derived from third-party data sources and codified in policy, leaving little room for subjective influence. Moreover, consultants are not incentivized to alter results, as compensation is fixed by contract and not tied to performance outcomes.

A more pressing concern is the operational complexity introduced by maintaining two separate consultants. This includes:

- Increased data validation and reconciliation efforts;
- Greater communication overhead and potential time lags;
- Additional internal coordination and oversight requirements;
- Higher administrative burden and vendor management costs.

In contrast, a combined consultant model offers potential benefits such as:

- Streamlined reporting and reduced handoffs;
- Improved data consistency and integration;
- Potential cost savings through consolidated fees and simplified contract management.

To ensure that efficiency gains do not come at the expense of fiduciary rigor, staff recommend that the RFP for a combined consultant include:

- Clear independence safeguards and validation procedures;
- Defined roles and deliverables that separate benchmark creation from performance verification;
- Annual third-party audit or validation of performance results.

This balanced approach supports RIO's modernization goals while maintaining the transparency, accountability, and governance standards expected by the Board and Investment Committee.

Committee Recommendation: The State Investment Board Investment Committee recommends approval by the State Investment Board to initiate a procurement for a combined Performance and Benchmark Consultant.

Confidential materials will be sent separately to
Committee members via secure link.

PRIVATE MARKETS MANAGER UPDATE

Private Equity Investment

- BVP Forge II, L.P.
- Targets growth buyout investments in the technology sector.
- Commitment: \$60 million total (Pension Pool: \$20 million/Legacy Fund: \$40 million).