





PERIOD ENDING: June 30, 2025

Investment Performance Summary for

North Dakota State Investment Board

Legacy Fund

Table of contents



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Cover Page	TAB I
Table of Contents	TAB II
Investment Landscape	TAB III
Legacy Fund	TAB IV
Appendix	TAB V

U.S. economics summary

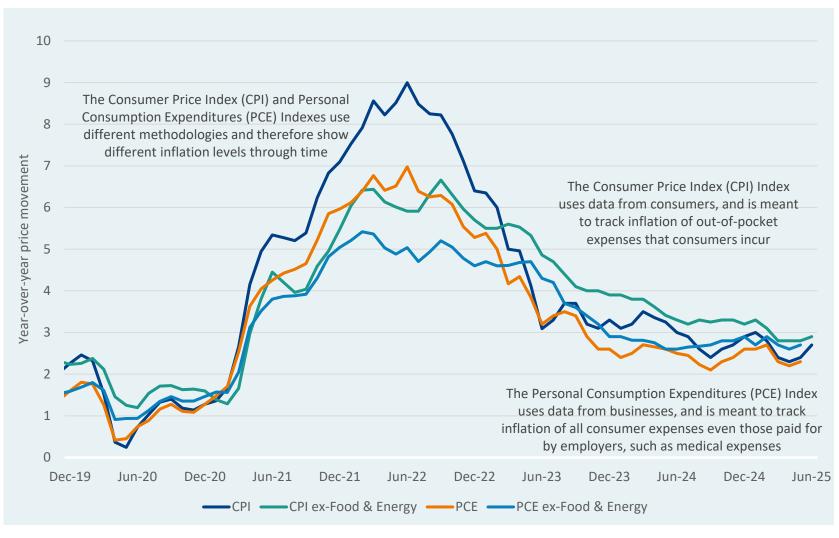
- Real GDP growth beat expectations in Q2, coming in at 3.0% QoQ annualized (2.0% YoY) relative to expectations for a growth number in the mid-2s. This report was welcome news to investors and served as further evidence that the economy is moving along at a moderate pace, rather than slowing abruptly. Calendar year 2025 growth will likely be much milder than the surprising strength shown during 2024.
- There has been growing evidence that many worst case scenarios regarding tariffs and trade are unlikely to materialize. U.S. GDP growth rebounded strongly, the job market remains resilient, consumer spending growth is positive, and both business and household sentiment is improving. Inflation levels have fallen rather than risen, although uncertainty exists around how tariffs will impact everyday prices.
- The rate of unemployment fell to 4.1% in June, alongside a jobs report that beat expectations by a wide margin (147,000 vs. 117,500 expected). Weekly jobless claims activity has been very low (the number of individuals who newly filed for unemployment benefits).

- The Federal Reserve kept rates steady again in June at a target range of 4.25%-4.50%, expressing concerns about possible inflationary impacts of tariffs.
 Chair Jerome Powell at the meeting said that policymakers are "well positioned to wait" and that there are few signs of economic weakening.
- Inflation was sticky and above the Fed's target during Q2, rising from 2.4% to 2.7%. Excluding food and energy prices, inflation held steady at 2.9% in June relative to 2.8% in March. So far, there is some evidence of tariff-driven inflation but not enough to lift the overall inflation rate.
- Poor consumer sentiment has been a key story of 2025, as households became concerned about inflation, slowing growth, and worse job prospects due to tariffs and shifting U.S. trade policy. However, sentiment improved in June according to the U of Michigan survey. One-year inflation expectations dropped significantly, from 6.6% in May to 5.0% in June, as Americans see that tariffs are not yet leading to broad-based price rises.

	Most Recent	12 Months Prior
Real GDP (YoY)	2.0% 6/30/2025	3.0% 6/30/2024
Inflation (CPI YoY, Core)	2.9% 6/30/2025	3.3% 6/30/2024
Expected Inflation (5yr-5yr forward)	2.3% 6/30/2025	2.3 % <i>6/30/2024</i>
Fed Funds Target Range	4.25% - 4.50% 6/30/2025	5.25% - 5.50% 6/30/2024
10-Year Rate	4.2% 6/30/2025	4.4% 6/30/2024
U-3 Unemployment	4.1% 6/30/2025	4.1% 6/30/2024
U-6 Unemployment	7.7% 6/30/2025	7.4% 6/30/2024



U.S. inflation remains above the Fed target



Inflation remained sticky, above the Fed's 2% target

So far, there is little evidence of broad tarifffueled price rises

Source: FRED, Verus, as of 6/30/25 – or most recent release



GDP growth

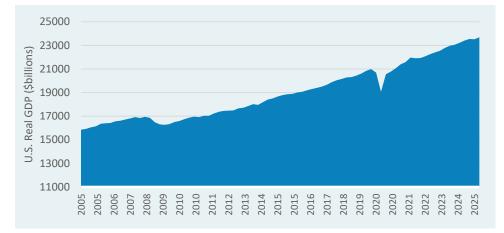
Real GDP growth beat expectations in Q2, coming in at 3.0% quarter-over-quarter annualized (2.0% year-over-year) relative to expectations for a growth number in the mid-2s. This report was welcome news to investors and served as further evidence that the economy is moving along at a moderate pace, rather than slowing abruptly. Calendar year 2025 growth will likely be much milder than the surprising strength shown during 2024.

Consumer spending, which is the largest component of the economy, once again showed a slow growth rate of 1.4% annualized, but growth was positive despite very poor sentiment since April. Business investment was also positive at a 1.9% annualized growth rate as businesses continued to spend and invest despite the shift in U.S. trade policy.

An interesting dynamic in the U.S. economy has been occurring across inventory purchases and import activity (see bottom right chart). The first and second quarters were nearly mirror opposite images of one another in this respect. In Q1, businesses dramatically increased their foreign purchases (imports) in an effort to avoid incoming tariffs. Imports often occur to the detriment of domestic purchases, which means imports dragged growth significantly lower in Q1. In Q2, this reversed as fewer imports were needed after such large Q1 purchases, meaning fewer imports greatly boosted growth in Q2. Inventories showed a similar effect but in opposite order—big inventory purchases occurred in Q1 as businesses avoided tariffs which boosted the economy and then in Q2 fewer inventories were needed which created a drag on the economy.

U.S. real GDP growth of 3% beat expectations and provided further evidence that economic activity remains stable

U.S. GDP GROWTH



Source: FRED, as of 6/30/25

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 6/30/25



Labor market

Most aspects of the labor market continue to suggest good to strong conditions. The rate of unemployment fell to 4.1% in June, alongside a jobs report that beat expectations by a wide margin (147,000 vs. 117,500 expected). Additionally, weekly jobless claims activity has been very low (the number of individuals who newly filed for unemployment benefits). In fact, job openings defied expectations in April and May, rising during both months. However, not all aspects of the job market have shown strength. Hiring activity has been muted and job seekers report having more difficulty finding work. Uncertainty exists around government layoffs and the ability of those workers to find new positions—this may be playing a part in jobs data (a large portion of job gains in June were for

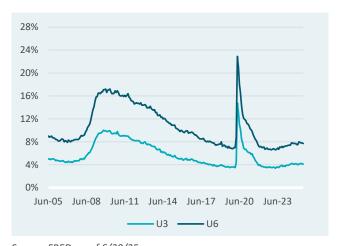
state & local government positions). The labor market tends to be a key indicator of the health of the economy, which suggests recession risk is low.

Less U.S. immigration will likely impact the economy throughout the year—as fewer workers are available in certain occupations and regions, perhaps pushing wages upwards due to less supply of cheap labor. In June it was reported that the Trump administration was considering exempting farms, hotels, and restaurants from immigration crackdowns. As certain businesses face pressure, we would not be surprised to see the executive branch ease immigration enforcement in some targeted ways.

The job market remains relatively strong

Immigration enforcement may impact business activity & wages in 2025

U.S. UNEMPLOYMENT



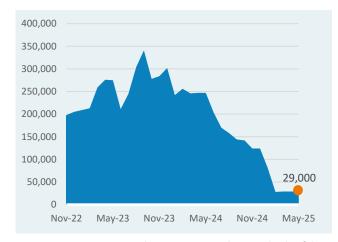
Source: FRED, as of 6/30/25

U.S. JOB CUT ANNOUNCEMENTS



Source: FRED, Nonfarm Job Openings, as of 5/31/25

U.S. BORDER ENCOUNTERS (MONTHLY)



Source: U.S. Customs & Border Protection total national unlawful encounters, as of 5/31/25



The consumer

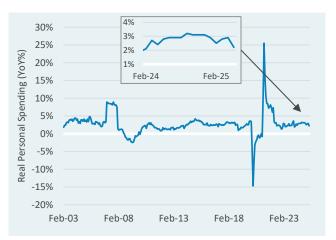
Inflation-adjusted personal spending growth was 2.2% year-over-year in May, materially weaker than the latter-half of 2024 (above 3%) but still at a level that implies a moderate U.S. economic growth rate. Spending has been somewhat volatile month-to-month and there is much uncertainty around the degree to which households are pulling back on purchases.

So far, data suggests a low chance of near-term recession. Consumer spending growth has been positive and, given the recent upturn in consumer sentiment, it would be surprising to see a sharp slowdown many months after the initial shock to confidence amidst tariff fears. Here we show automobile

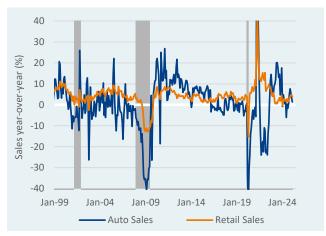
and overall retail sales as possible barometers of discretionary spending. Auto sales saw large gains in spring but have since fallen back towards early 2025 levels, while retail sales overall have been steady.

The average household savings rate was relatively stable at 4.5% during the quarter, after rising notably through the first quarter. As always, it is difficult to pin down specific reasons for higher household savings. Elevated savings could be a product of more conservative spending habits if households are more concerned about the future, it could be a natural result of lower U.S. inflation as price rises slow and more income is left over to save, or it could be due to other factors.

REAL PERSONAL SPENDING

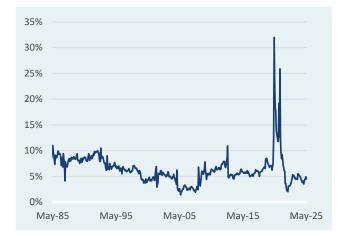


AUTO & RETAIL SALES



Source: FRED, as of 5/31/25

PERSONAL SAVINGS RATE



Source: FRED, as of 5/31/25

Source: FRED, as of 5/31/25

International economics summary

- Economic growth for developed economies during 2025 is expected be weak, ranging from 0.2% real GDP growth in Germany, to 0.8% in Japan, 1.0% in the Eurozone, and 1.5% in the U.S. These estimates moved lower alongside trade conflicts and barriers that will crimp economic activity.
- The ECB cut rates in June by 25bps, likely raising tensions between President Trump and Fed Chair Powell regarding U.S. rate policy. President Trump has been placing pressure on Powell very publicly, as he sees lower interest rates as stimulative to the economy and an approach to mitigate high national debt service costs.
- Escalating tensions between Iran and Israel led to fears of broader conflict. A ceasefire between the two nations was achieved after the U.S. executed a direct attack on Iranian nuclear facilities which was followed by a muted military response. This ceasefire agreement has held, although uncertainty remains high as

- Iran's leadership ramped up anti-U.S. rhetoric in late-June.
- Following the German election win by the conservative Christian Democratic Union and its alliance the Christian Social Union, Friedrich Merz was elected Chancellor and a grand coalition with the Social Democratic Party was formed. The coalition's main priorities include economic growth, border security, a more pragmatic approach to energy, and further European integration.
- On May 8th, the BOE decided to cut interest rates by 25bps to 4.25%. This marked the fourth rate cut of 25bps since August, when the policy rate was 5.25%. The BOE cited cooling inflation, slowing growth, and a weaker job market as contributing factors.
- As the U.S. administration appears to be focusing maximum pressure on China regarding trade and business practices, the intense market volatility experienced in early April could be setting the stage for the rest of 2025.

	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.0%	2.7%	4.1%
Officed States	6/30/2025	6/30/2025	6/30/2025
Eurozone	1.4%	2.0%	6.2%
Eurozone	6/30/2025	6/30/2025	6/30/2025
lanan	1.7%	3.3%	2.6%
Japan	3/31/2025	6/30/2025	5/31/2025
Canada	1.2%	1.9%	6.9%
Canada	5/31/2025	6/30/2025	6/30/2025
BRICS Nations	5.1%	1.6%	4.9%
DRICS INALIONS	3/31/2025	6/30/2025	6/30/2025
Brazil	2.9%	5.4%	5.8%
DIazii	3/31/2025	6/30/2025	6/30/2025
Russia	1.4%	9.4%	2.2%
Kussia	3/31/2025	6/30/2025	6/30/2025
India	7.4%	2.1%	8.5%
IIIuid	3/31/2025	6/30/2025	12/31/2017
China	5.2%	0.1%	5.0%
Cillia	6/30/2025	6/30/2025	6/30/2025

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



Equity environment

- Regional equity markets delivered nearly identical returns during Q2. Year-to-date the U.S. market has lagged by a wide margin, although most of this was caused by foreign currency movements (a substantial fall in U.S. dollar value recently created a performance tailwind for U.S. investors with unhedged foreign currency exposure).
- Following the rebound from April's selloff, U.S. equity forward P/E multiples climbed back to very high levels. This recovery to new index highs surprised many investors who point to weaker earnings forecasts, slower economic growth, and a variety of new risks on the horizon.
- Value stocks trailed growth significantly during Q2 (Russell 1000 Value +3.8% vs. Russell 1000 Growth +17.8%). Index concentration in mega-cap growth stocks seems to be contributing to style factor volatility lately. The extreme drawdown of the

- "Magnificent 7" stocks during 2022 led to the best value stock performance in decades, and then after those seven stocks rebounded led to exceptionally poor value stock performance.
- While Chinese equities rallied strongly during Q1, leading the overall index, this market stalled in Q2, and other regional markets roared back to life (MSCI China +2.1% vs. MSCI EM ex-China +16.5%). Chinese equities remain a laggard over the medium term.
- Market-priced volatility spiked to extreme levels on trade "Liberation Day" as fears of a trade slowdown and global recession circulated. In some places, bilateral de-escalation of tariffs and punitive trade proposals has eased volatility. In other places, the U.S. reached new trade agreements with its partners. This progress has helped bring market volatility back closer to the longerterm average.

	QTD TOTA	L RETURN	1 YEAR TOT	AL RETURN
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	10.	9%	14.	9%
U.S. Small Cap (Russell 2000)	8.5	5%	8.6	5%
U.S. Equity (Russell 3000)	11.	0%	15.	1%
U.S. Large Value (Russell 1000 Value)	3.8	3%	14.	4%
U.S. Large Growth	17.8%		16.1%	
(Russell 1000 Growth)		0,0		_,,
Global Equity (MSCI ACWI)	11.5%	9.5%	15.9%	13.9%
International Large (MSCI EAFE)	11.8%	5.3%	17.5%	10.1%
Eurozone (EURO STOXX 50)	11.6%	3.1%	20.5%	12.0%
U.K. (FTSE 100)	9.5%	3.2%	20.5%	11.3%
Japan (TOPIX)	11.1%	8.7%	10.8%	8.0%
Canada (S&P/TSX)	13.3%	8.0%	25.4%	26.7%
Emerging Markets (MSCI Emerging Markets)	12.0%	8.0%	15.1%	12.8%

Source: Standard & Poor's, FTSE, MSCI, STOXX, JPX, as of 6/30/25 – performance quoted from perspective of U.S. dollar investor



Fixed income environment

- The 10-year U.S. Treasury yield was unchanged at 4.23% during the quarter, although yields moved in a very wide range from slightly below 4.0% following trade "Liberation Day" to 4.6% after Moody's downgraded the U.S. credit rating and fears circulated of a debt crisis. With notable upside and also downside risks to yields, investors may be justified in avoiding large bond duration bets.
- The Federal Reserve kept rates steady again in June at a target range of 4.25%-4.50%, expressing concerns about possible inflationary impacts of tariffs. Chair Jerome Powell at the meeting said that policymakers are "well positioned to wait" and that there were few signs of economic weakening. President Trump continued to place pressure on Jerome Powell to cut rates.
- The U.S. yield curve has returned to an upward sloping shape—the steepest since early 2022 when the Federal Reserve began quickly hiking interest

- rates. The 10-year U.S. Treasury yield was 0.6% higher than the 2-year yield as of June 30th.
- Longer duration credit lagged shorter duration. The yield curve experienced some steepening due primarily to a selloff in the longer end of the curve during April. Long duration corporate bonds lost -1.9% while Bank loans added +2.3% and high yield returned +3.5%.
- Credit spreads widened due to risk off movements, and lower quality spreads experienced the largest shifts. High yield bond spreads tightened by 56bps to 2.96%, while investment grade spreads fell to 0.88%. Leveraged loan spreads likewise tightened 25 basis points to 4.47%. Despite recent widening events, BB- and B- rated credit spreads remain below long-term historical averages while CCC-rated credit remains closer to the long-term average.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	1.2%	6.7%
Core Plus Fixed Income (Bloomberg U.S. Universal)	1.4%	7.1%
U.S. Treasuries (Bloomberg U.S. Treasury)	0.8%	5.9%
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	-1.9%	2.1%
U.S. High Yield (Bloomberg U.S. Corporate HY)	3.5%	10.4%
Bank Loans (S&P/LSTA Leveraged Loan)	2.3%	7.3%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	7.6%	14.0%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	3.3%	10.7%
Mortgage-Backed Securities (Bloomberg MBS)	1.1%	7.2%

Source: Standard & Poor's, J.P. Morgan, Bloomberg, as of 6/30/25



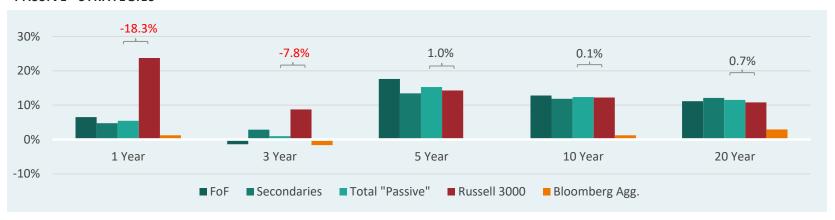
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments vs. public equites has been mixed.

"PASSIVE" STRATEGIES



"Passive" strategies vs public equities has been mixed.

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



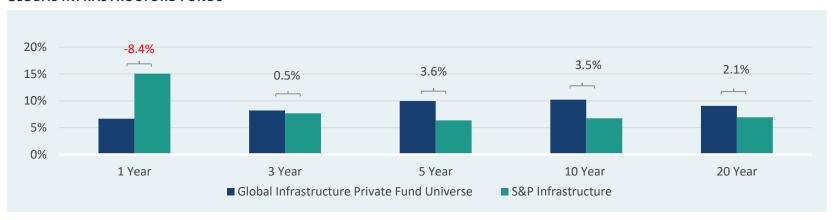
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds vs. the MSCI World Natural Resources benchmark has been mixed.

GLOBAL INFRASTRUCTURE FUNDS



Infra. funds outperformed S&P Infra. over most periods.

Sources: FTSE PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of December 31, 2024. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.



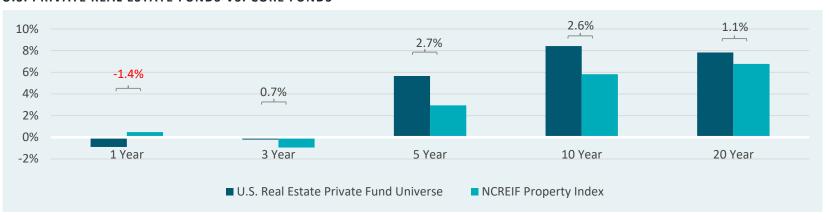
Private vs. liquid and core real estate performance

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



U.S. Private R.E. funds vs. the Wilshire U.S. REIT Index was mixed.

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



U.S. Private
R.E. Funds
outperformed
the NCREIF
Property Index
across most time
periods.

Sources: FTSE PME: U.S. Real Estate universes as of December 31, 2024. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.



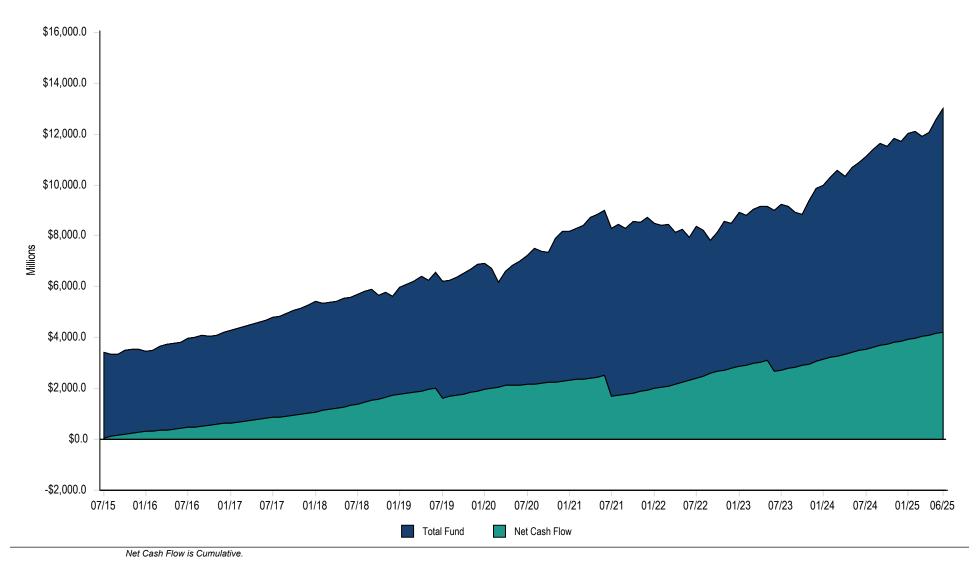
Legacy Fund

Investment Performance Review Period Ending: June 30, 2025

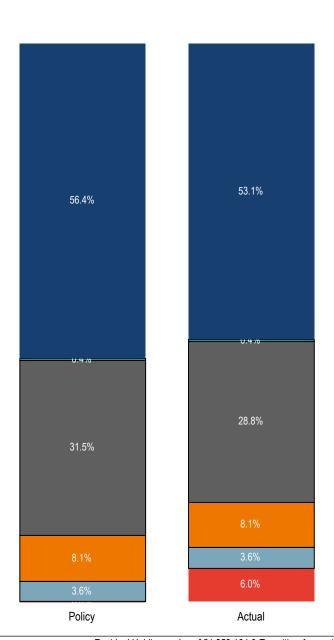


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NDSIB - Legacy Fund Period Ending: June 30, 2025

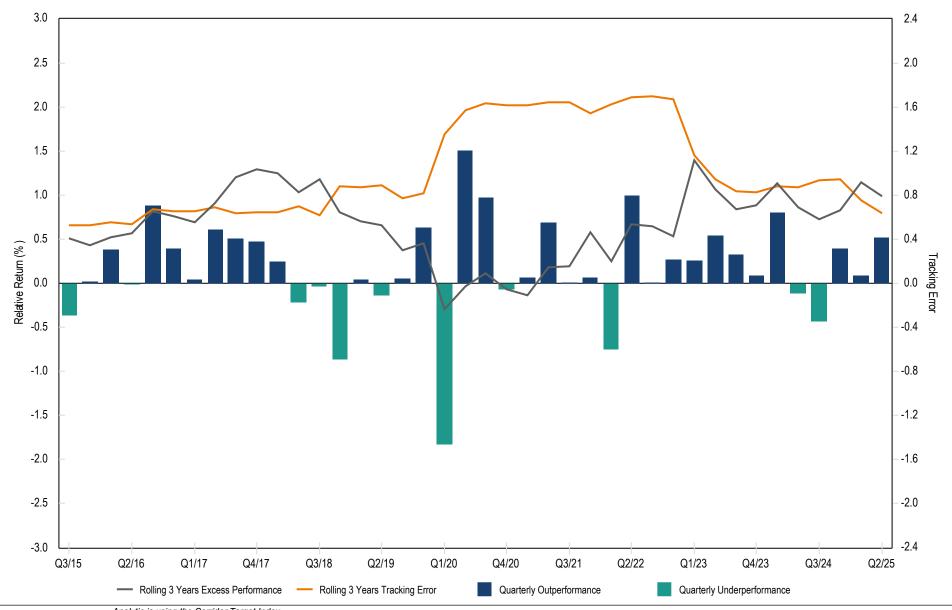


	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Differences (\$)
Global Public Equity	6,908,107,808	53.1	56.4	-432,062,847
Private Equity	52,140,045	0.4	0.4	64,554
Global Fixed Income	3,748,122,653	28.8	31.5	-349,307,173
Diversified Real Assets	1,059,297,623	8.1	8.1	82,135
In-State Investments	470,040,837	3.6	3.6	59,530
Cash and Equivalents	781,163,802	6.0	0.0	781,163,802
Total	13,018,872,768	100.0	100.0	

Residual Holdings value of \$1,352,164 & Transition Account value of \$48,298 included in Global Public Equity value for styling purposes.

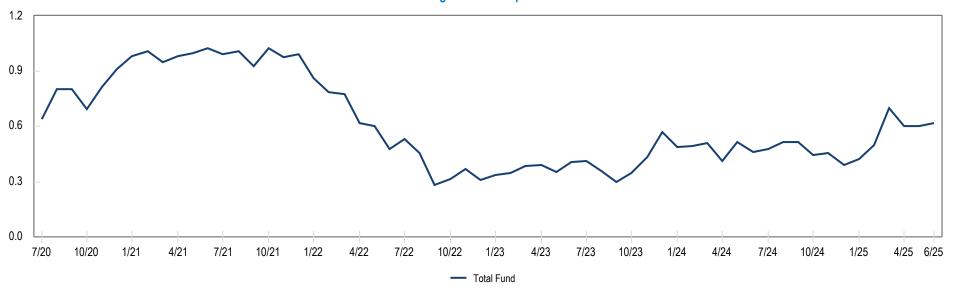


Rolling Annualized Excess Performance and Tracking Error







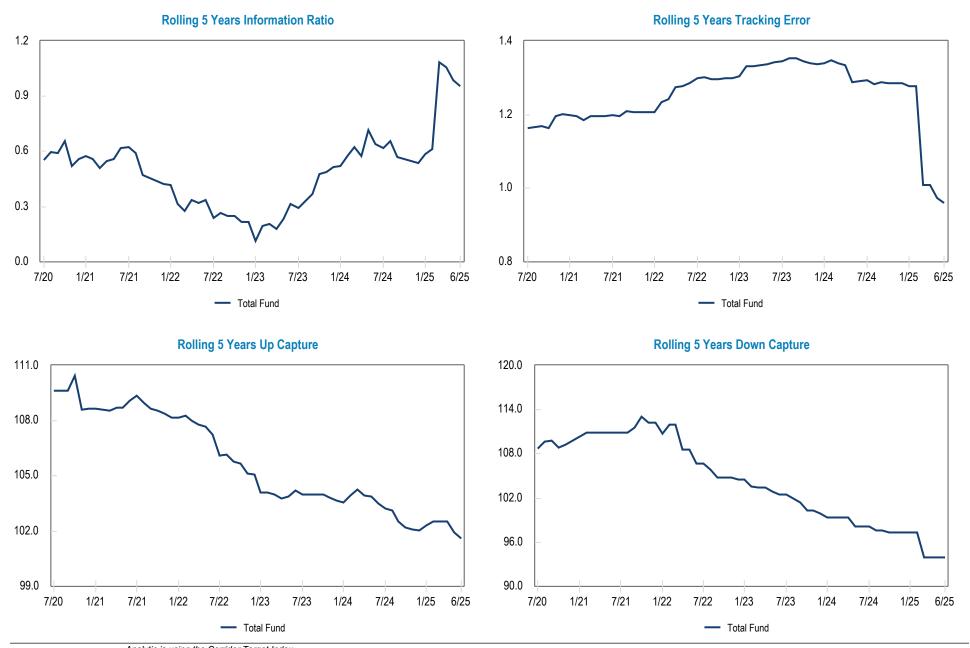


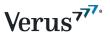




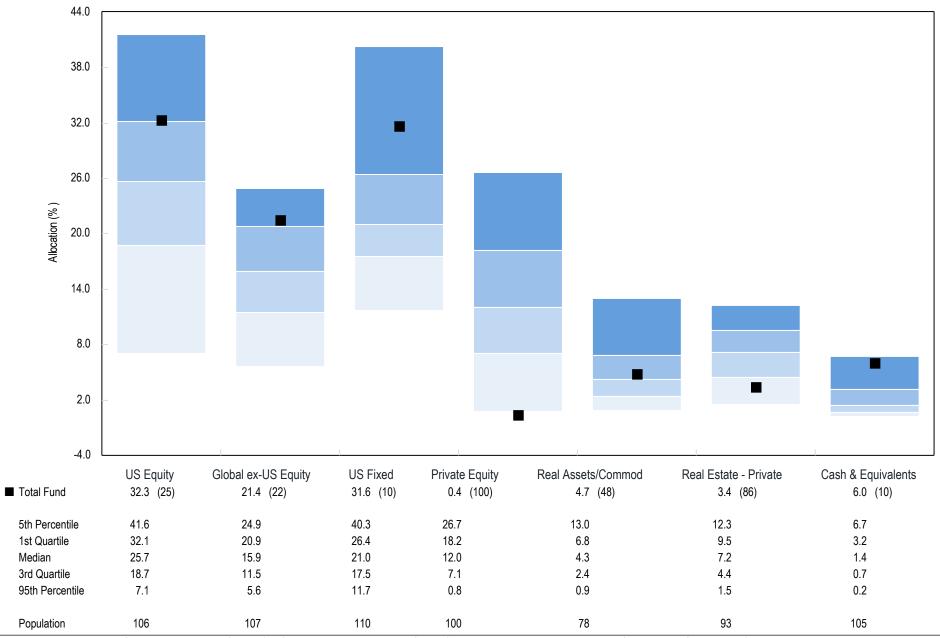


NDSIB - Legacy Fund Period Ending: June 30, 2025





NDSIB - Legacy Fund Period Ending: June 30, 2025



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

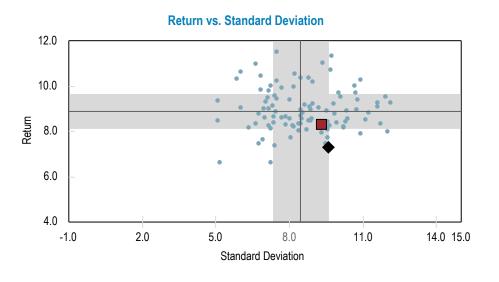


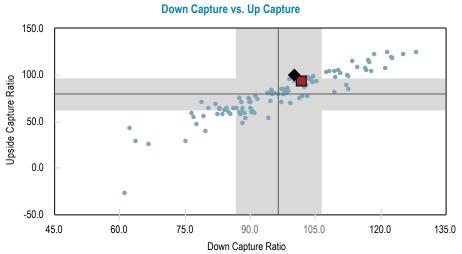
Total Fund vs. InvMetrics Public DB > \$1B 25.0 20.0 15.0 10.0 5.0 Return 0.0 -5.0 -10.0 -15.0 -20.0 3 Mo Fiscal YTD 3 Yrs 5 Yrs 10 Yrs 2024 2023 2022 2021 2020 7.9 (2) Total Fund 12.7 (5) 10.6 (16) 8.3 (78) 7.1 (53) 9.9 (27) 12.9 (19) -12.9 (81) 11.3 (96) 12.2 (39) ▲ Policy Index 6.6 (17) 11.6 (10) 9.1 (53) 7.0 (99) 6.3 (91) 8.8 (59) 11.1 (53) -13.5 (87) 10.4 (98) 12.1 (41) ◆ Corridor Target Index 7.4 (3) 7.3 (99) 6.4 (86) 9.2 (43) 11.6 (41) -13.4 (86) 10.4 (98) 12.0 (42) 12.1 (8) 9.6 (38) 5th Percentile 7.1 12.5 11.3 10.8 8.3 11.6 14.4 -4.8 20.7 15.6 1st Quartile 6.4 11.1 10.0 9.6 7.6 10.0 12.5 -8.0 17.2 13.1 Median 5.8 10.2 9.1 8.9 7.2 9.1 11.3 -10.3 15.7 11.3 9.5 3rd Quartile 5.1 8.1 8.4 6.7 8.1 9.7 -12.3 13.5 9.6 95th Percentile 3.3 7.7 6.6 7.6 6.1 7.9 -15.3 11.3 6.8 6.7 Population 108 108 104 99 94 180 192 184 213 223



NDSIB - Legacy Fund Period Ending: June 30, 2025

	Anlzd Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	8.31	9.29	1.19	0.96	0.99	101.61	93.97	0.95	0.96	0.62
Corridor Target Index	7.30	9.59	0.00	1.00	1.00	100.00	100.00	-	0.00	0.50





InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	8.31	9.29
 Corridor Target Index 	7.30	9.59
Median	8.90	8.46
Population	99	99

InvMetrics Public DB > \$1B

Down	Up
Capture	Capture
93.97	101.61
100.00	100.00
79.73	96.51
99	99
	93.97 100.00 79.73

Total Fund Asset Allocation & Performance (Net of Fees)

NDSIB - Legacy Fund Period Ending: June 30, 2025

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	13,018,872,768	100.0	7.9	8.3	12.7	12.7	10.6	8.3	7.2	7.1
Policy Index			6.6	7.2	11.6	11.6	9.1	7.0	6.5	6.3
Corridor Target Index			7.4	7.7	12.1	12.1	9.6	7.3	6.7	6.4
Total Equity	6,958,930,665	53.5	12.2	11.2	16.7	16.7	17.1	13.8	10.1	-
Total Equity Blend			11.7	10.7	16.6	16.6	16.8	13.6	10.2	-
Public Equity	6,906,790,621	53.1	12.3	11.2	16.7	16.7				-
MSCI AC World IMI Index (Net)			11.6	9.8	15.9	15.9	-	-	-	-
Domestic Equity	4,115,660,720	31.6	11.6	6.2	16.4	16.4	18.9	16.0	12.3	12.0
Russell 3000 Index			11.0	5.8	15.3	15.3	19.1	16.0	13.6	13.0
International Equity	2,791,081,603	21.4	13.2	18.7	16.8	16.8	14.6	10.5	6.8	6.8
MSCI AC World ex USA IMI (Net)			12.7	17.9	17.8	17.8	13.9	10.2	6.5	6.2
Private Equity	52,140,045	0.4	8.9	11.8	17.4	17.4	8.1			-
Private Equity Benchmark			2.7	7.0	14.0	14.0	-	-	-	-
Global Fixed Income	3,748,087,677	28.8	2.3	4.6	8.0	8.0	4.6	1.3	3.3	3.4
Global Fixed Income Blend			2.0	4.0	7.4	7.4	3.0	-0.5	2.0	1.9
Total Real Assets	1,059,297,623	8.1	2.7	3.9	6.2	6.2	0.4	3.8	4.3	-
Total Real Asset Blend			1.0	2.1	1.8	1.8	-	-	-	-
In-State Investments	470,040,837	3.6	3.8	4.5	6.7	6.7				-
In-State Investments			3.8	4.5	6.7	6.7	-	-	-	-
Cash and Equivalents	781,163,802	6.0	5.4	6.5	9.1	9.1	6.0	3.6	3.1	2.3
90 Day U.S. Treasury Bill			1.0	2.1	4.7	4.7	4.6	2.8	2.5	2.0

Appendix

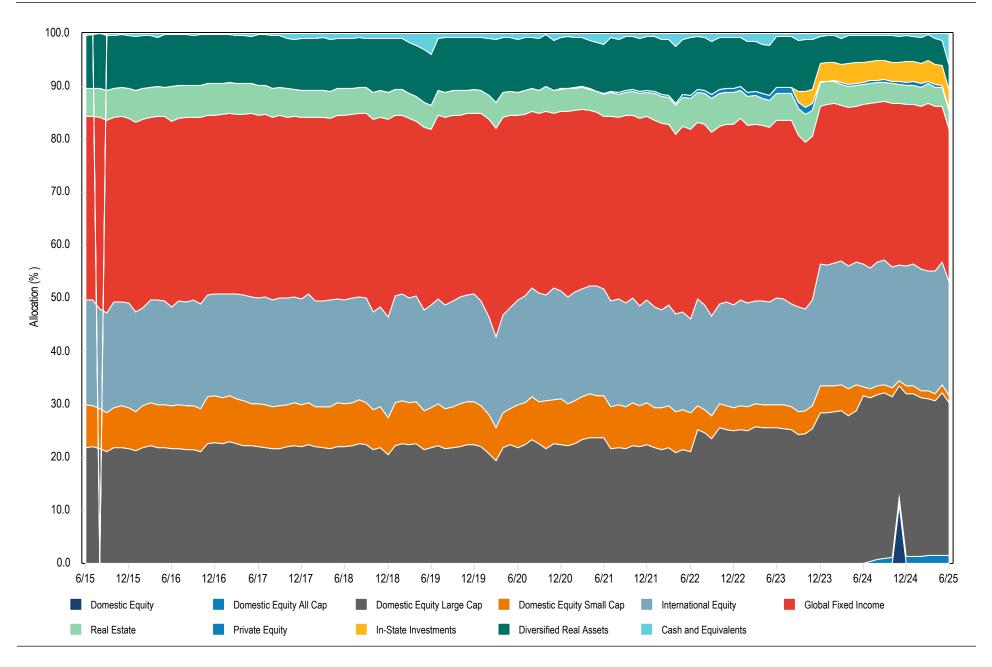
Investment Performance Review Period Ending: June 30, 2025



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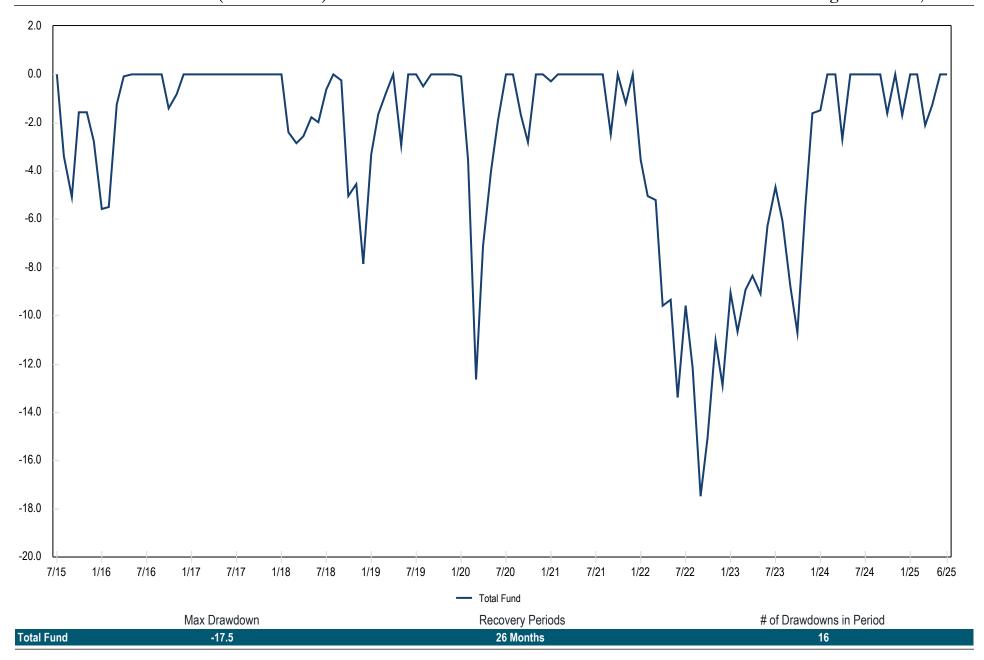
SEATTLE 206.622.3700 CHICAGO 312.815.5228 PITTSBURGH 412.784.6678 LOS ANGELES 310.297.1777 SAN FRANCISCO 415.362.3484

NDSIB - Legacy Fund Period Ending: June 30, 2025





NDSIB - Legacy Fund Period Ending: June 30, 2025





Total Fund Risk Statistics (Net of Fees)

NDSIB - Legacy Fund Period Ending: June 30, 2025

	1	1 Yr		Yrs	5	Yrs	10	Yrs
	Total Fund	Policy Index						
Return Summary Statistics								
Up Market Periods	9	9	23	23	38	38	81	81
Down Market Periods	3	3	13	13	22	22	39	39
Maximum Return	3.6	3.1	5.9	6.0	7.1	7.6	7.1	7.6
Minimum Return	-2.1	-1.4	-6.1	-6.3	-6.1	-6.3	-9.4	-7.8
Return	12.7	11.6	10.6	9.1	8.3	7.0	7.1	6.3
Cumulative Return	12.7	11.6	35.2	29.7	49.1	40.1	98.7	83.6
Active Return	1.1	0.0	1.4	0.0	1.2	0.0	0.8	0.0
Risk Summary Statistics								
Beta	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Upside Risk	1.9	1.6	8.1	7.9	7.9	7.6	7.1	6.8
Downside Risk	3.1	2.2	5.3	5.4	5.5	5.7	5.7	5.5
Risk/Return Summary Statistic	:s							
Standard Deviation	6.4	5.2	9.2	9.1	9.3	9.3	8.9	8.5
Alpha	-1.5	0.0	1.4	0.0	1.3	0.0	0.6	0.0
Sharpe Ratio	1.2	1.3	0.7	0.5	0.6	0.5	0.6	0.5
Active Return/Risk	0.2	0.0	0.2	0.0	0.1	0.0	0.1	0.0
Tracking Error	1.4	0.0	1.4	0.0	1.3	0.0	1.2	0.0
Information Ratio	0.8	-	1.0	-	1.0	-	0.7	-
Correlation Statistics								
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consistency	66.7	100.0	66.7	100.0	65.0	100.0	64.2	100.0



Total Fund Risk Statistics (Net of Fees)

NDSIB - Legacy Fund Period Ending: June 30, 2025

		1 Yr		3 Yrs	5 Yrs		10 Yrs		
	Total Fund	Corridor Target Index							
Return Summary Statistics									
Up Market Periods	9	9	23	23	38	38	81	81	
Down Market Periods	3	3	13	13	22	22	39	39	
Maximum Return	3.6	3.5	5.9	6.1	7.1	7.6	7.1	7.6	
Minimum Return	-2.1	-2.0	-6.1	-6.3	-6.1	-6.3	-9.4	-7.8	
Return	12.7	12.1	10.6	9.6	8.3	7.3	7.1	6.4	
Cumulative Return	12.7	12.1	35.2	31.6	49.1	42.3	98.7	86.2	
Active Return	0.6	0.0	0.9	0.0	0.9	0.0	0.7	0.0	
Risk Summary Statistics									
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Upside Risk	1.9	1.9	8.1	8.2	7.9	7.9	7.1	6.9	
Downside Risk	3.1	3.2	5.3	5.7	5.5	5.9	5.7	5.6	
Risk/Return Summary Stati	stics								
Standard Deviation	6.4	6.3	9.2	9.6	9.3	9.6	8.9	8.7	
Alpha	0.5	0.0	1.3	0.0	1.2	0.0	0.6	0.0	
Sharpe Ratio	1.2	1.1	0.7	0.5	0.6	0.5	0.6	0.5	
Active Return/Risk	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	
Tracking Error	0.5	0.0	0.8	0.0	1.0	0.0	1.1	0.0	
Information Ratio	1.1	-	1.1	-	1.0	-	0.6	-	
Correlation Statistics									
R-Squared	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Actual Correlation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Consistency	66.7	100.0	63.9	100.0	63.3	100.0	63.3	100.0	



NDSIB - Legacy Fund Period Ending: June 30, 2025

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund	13,018,872,768	100.0	7.9	8.3	12.7	12.7	10.6	8.3	7.2	7.1
Policy Index			6.6	7.2	11.6	11.6	9.1	7.0	6.5	6.3
Corridor Target Index			7.4	7.7	12.1	12.1	9.6	7.3	6.7	6.4
Total Equity	6,958,930,665	53.5	12.2	11.2	16.7	16.7	17.1	13.8	10.1	
Total Equity Blend			11.7	10.7	16.6	16.6	16.8	13.6	10.2	-
Public Equity	6,906,790,621	53.1	12.3	11.2	16.7	16.7				
Public Equity Benchmark			11.7	10.6	16.5	16.5	-	-	-	-
Domestic Equity	4,115,660,720	31.6	11.6	6.2	16.4	16.4	18.9	16.0	12.3	12.0
Russell 3000 Index			11.0	5.8	15.3	15.3	19.1	16.0	13.6	13.0
Domestic All Cap Equity	201,510,597	1.5	13.2	9.3						
Russell 3000 Index			11.0	5.8	-	-	-	-	-	-
Two Sigma Active Extension U.S. All Cap Equity	201,510,597	1.5	13.2	9.3	-	-	-	-	-	-
Large Cap	3,746,856,314	28.8	11.6	6.3	16.2	16.2	20.4	17.4	14.4	13.5
Russell 1000 Index			11.1	6.1	15.7	15.7	19.6	16.3	14.1	13.4
NTAM R1000 Index	1,218,954,276	9.4	11.1	6.1	15.6	15.6	-	-	-	-
L.A. Capital Enhanced	939,781,870	7.2	13.0	7.1	17.8	17.8	20.9	17.6	15.1	13.9
T. Rowe Large Cap	1,334,576,934	10.3	10.9	5.6	-	-	-	-	-	-
Internal Equity	31,883,665	0.2	11.4	-	-	-	-	-	-	-
WorldQuant Mill	221,336,697	1.7	-	-	-	-	-	-	-	-
LA Capital Large Cap Growth	29,636	0.0								
NTAM Quant Enh R1000	123,255	0.0								
Parametric-Clifton Enh R1000	169,981	0.0								
Small Cap	167,290,802	1.3	8.5	0.0	6.6	6.6	8.0	8.0	3.7	5.9
Russell 2000 Index			8.5	-1.8	7.7	7.7	10.0	10.0	5.5	7.1
Atlanta Capital	13,951	0.0								
NTAM R2000 Index	38,009,030	0.3	8.5	-1.7	7.8	7.8	-	-	-	-
Wellington SM Cap	129,225,889	1.0	8.6	0.2	-	-	-	-	-	-
Riverbridge Small Cap Growth	6,955	0.0								
Sycamore Small Cap Value	34,976	0.0								
Domestic Equity Transition Account	3,008	0.0								
International Equity	2,791,081,603	21.4	13.2	18.7	16.8	16.8	14.6	10.5	6.8	6.8
MSCI AC World ex USA IMI (Net)			12.7	17.9	17.8	17.8	13.9	10.2	6.5	6.2
International Equity All Cap	901,729,173	6.9	14.7	20.0	15.1	15.1				
MSCI AC World ex USA IMI (Net)			12.7	17.9	17.8	17.8	-	-	-	-
William Blair Int'l Leaders	304,765,689	2.3	15.3	15.5	9.5	9.5	11.0	6.1	6.3	-
Arrowstreet ACWI ex US	596,963,484	4.6	14.2	23.9	20.1	20.1	19.6	-	-	-

Residual Holdings value of \$1,352,164 included in Total Fund value. Fiscal year 06/30.



NDSIB - Legacy Fund Period Ending: June 30, 2025

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Developed International Equity	1,328,881,129	10.2	12.6	19.6	19.6	19.6				•
MSCI World ex U.S. (Net)			12.0	19.0	18.7	18.7	-	-	-	
International Developed Large Cap	1,140,462,205	8.8	12.1	19.0	18.6	18.6				-
MSCI World ex U.S. (Net)			12.0	19.0	18.7	18.7	-	-	-	-
State St MSCI World exUS	1,140,462,205	8.8	12.1	19.0	18.7	18.7	-	-	-	-
International Developed Small Cap	188,418,924	1.4	16.4	23.8	25.6	25.6				•
MSCI World ex U.S. Small Cap Index (Net)			16.8	20.8	22.9	22.9	-	-	-	-
DFA Intl Small Cap Value	88,428,340	0.7	16.0	28.0	29.8	29.8	20.4	16.7	7.7	7.6
State St MSCI exUS Small	99,990,584	8.0	16.7	20.7	22.8	22.8	-	-	-	-
Emerging Markets	560,471,300	4.3	12.2	14.5	14.1	14.1				
MSCI Emerging Markets (Net)			12.0	15.3	15.3	15.3	-	-	-	-
DFA EM All Cap Core	274,129,125	2.1	12.7	13.9	13.1	13.1	-	-	-	-
State St MSCI EM China	82,756,427	0.6	2.1	17.5	34.0	34.0	-	-	-	-
State St MSCI EM ex China	203,585,748	1.6	16.1	14.2	8.8	8.8	-	-	-	-
Transition Account	48,298	0.0								
Private Equity	52,140,045	0.4	8.9	11.8	17.4	17.4	8.1			
Private Equity Benchmark			2.7	7.0	14.0	14.0	-	-	-	-
Altor Fund VI	11,280,927	0.1	30.3	34.1	76.9	76.9	-	-	-	-
Kelso	14,036,796	0.1	-0.2	2.2	6.6	6.6	-	-	-	-
Portfolio Advisors GP Solutions	17,809,118	0.1	2.3	2.3	-0.7	-0.7	-	-	-	-
HIG Capital	5,064,890	0.0	32.2	32.2	33.5	33.5	-	-	-	-
Horsley Bridge Growth	3,800,000	0.0	0.9	-	-	-	-	-	-	-
HIG Capital VII	148,314	0.0	-40.7	-	-	-	-	-	-	-
Total Income	3,748,087,677	28.8	2.3	4.6	8.0	8.0	4.6	1.3	3.3	3.4
Total Income Blend			2.0	4.0	7.4	7.4	3.0	-0.5	2.0	1.9
Core Fixed Income	2,233,235,859	17.2	1.5	4.5	6.8	6.8				
Blmbg. U.S. Aggregate Index			1.2	4.0	6.1	6.1	-	-	-	-
Allspring Med Quality Credit	190,133,755	1.5	1.8	3.9	7.3	7.3	5.7	1.8	4.1	4.0
PIMCO Core Plus Constrained	622,510,404	4.8	1.6	5.1	7.3	7.3	-	-	-	-
Prudential Core Plus	621,102,784	4.8	1.4	4.5	6.8	6.8	3.7	0.0	2.5	2.8
State Street Credit Index	119,653,987	0.9	1.9	4.2	7.0	7.0	-	-	-	-
State Street Gov Index	339,795,625	2.6	0.9	3.8	5.3	5.3	-	-	-	-
State Street Securitized Index	60,714,739	0.5	-	-	-	-	-	-	-	-
Western Asset Core Plus	235,653,441	1.8	1.9	4.9	7.2	7.2	3.2	-0.6	2.0	2.3
Internal Fixed Income Government	43,250,847	0.3	0.8	-	-	-	-	-	-	-
Fixed Income Transition Account	420,276	0.0								

Residual Holdings value of \$1,352,164 included in Total Fund value. Fiscal year 06/30.



NDSIB - Legacy Fund Period Ending: June 30, 2025

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Private Credit	773,760,410	5.9	3.0	4.8	9.6	9.6			-	
Morningstar LSTA Leveraged Loan Index + 100 bps			2.6	3.3	8.4	8.4	-	-	-	-
Ares ND Credit Strategies	207,386,248	1.6	2.6	4.3	9.1	9.1	8.8	9.7	8.3	-
Cerberus ND Private Credit	246,498,853	1.9	1.6	2.7	6.7	6.7	7.9	8.5	8.6	-
PIMCO DiSCO II	125,568,968	1.0	1.6	4.3	9.8	9.8	8.2	6.9	6.2	6.6
PIMCO Bravo II	1,398,801	0.0	-3.0	9.7	14.8	14.8	-7.4	0.3	-2.2	2.5
Sixth Street Partners - TAO	154,358,275	1.2	7.6	10.0	15.6	15.6	11.2	-	-	-
Cerberus Global II	16,788,899	0.1	1.5	-	-	-	-	-	-	-
Fortress	21,760,365	0.2	1.1	-	-	-	-	-	-	-
High Yield	741,091,408	5.7	3.9	4.7	10.0	10.0		-		
Blmbg. U.S. High Yield - 2% Issuer Cap			3.5	4.6	10.3	10.3	-	-	-	-
Nomura High Yield	369,823,402	2.8	3.8	4.9	10.0	10.0	-	-	-	-
PineBridge High Yield	371,268,006	2.9	4.1	4.6	9.9	9.9	-	-	-	-
Total Real Assets	1,059,297,623	8.1	2.7	3.9	6.2	6.2	0.4	3.8	4.3	-
Total Real Assets Blend			1.0	2.1	1.8	1.8	-	-	-	-
Real Estate	443,573,490	3.4	-0.8	-0.9	-2.0	-2.0	-8.2	1.1	1.6	3.6
NFI-ODCE (Net) (Smoothed Monthly Return) 1Q Lag			0.9	1.8	1.2	1.2	-5.1	2.0	2.9	4.7
Invesco Core Real Estate	185,756,059	1.4	-0.4	-0.4	-1.5	-1.5	-7.6	1.5	2.1	4.1
Invesco RE Fund VI	55,979,156	0.4	0.1	7.2	0.5	0.5	-	-	-	-
JP Morgan Income & Growth Fd	173,246,796	1.3	-1.9	-3.9	-3.7	-3.7	-9.7	0.3	8.0	2.9
Prisa III	28,591,479	0.2	1.5	1.5	-	-	-	-	-	-
Infrastructure	615,724,133	4.7	5.4	7.5	12.6	12.6	6.9	6.4	6.4	5.4
NFI-ODCE +1% (Net) (Smoothed Monthly Return) 1Q Lag			1.1	2.3	2.2	2.2	-4.1	3.0	3.9	5.8
ISQ Global Infrastructure II	92,183,043	0.7	0.0	4.1	13.0	13.0	9.9	12.5	10.2	-
ISQ Global Infrastructure III	77,724,160	0.6	6.7	9.6	17.2	17.2	9.4	-	-	-
JP Morgan IIF Infrastructure	117,239,466	0.9	10.6	9.4	16.2	16.2	11.8	9.3	8.3	7.8
Grosvenor CIS Fund II	37,429,503	0.3	-6.6	-7.7	-4.6	-4.6	3.7	9.1	9.5	8.4
Grosvenor CIS Fund III	71,174,796	0.5	7.8	8.0	12.5	12.5	8.7	-	-	-
Macquarie Infrastructure Fund IV	105,899,148	0.8	6.2	9.0	14.1	14.1	5.8	10.5	-	-
Macquarie Infrastructure Fund V	114,072,740	0.9	6.4	11.0	11.1	11.1	7.0	-	-	-
Western US TIPS	1,277	0.0								



Total Fund Performance Summary (Net of Fees)

NDSIB - Legacy Fund Period Ending: June 30, 2025

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
In-State Investments	470,040,837	3.6	3.8	4.5	6.7	6.7				-
In-State Investments			3.8	4.5	6.7	6.7	-	-	-	-
In-State Fixed Income	385,388,849	3.0	0.8	1.6	3.4	3.4				
In-State Fixed Income			0.8	1.6	3.4	3.4	-	-	-	-
BND Legacy Infrastructure Loan Fund	92,870,156	0.7	0.4	0.8	1.9	1.9	-	-	-	-
BND CDs	292,518,693	2.2	0.9	1.9	3.8	3.8	3.5	3.2	3.2	-
In-State Equity	84,651,988	0.7	21.0	21.0	26.0	26.0				-
In-State Equity			21.0	21.0	26.0	26.0	-	-	-	-
50 South Capital II	84,651,988	0.7	21.0	21.0	26.0	26.0	-	-	-	-
Cash and Equivalents	781,163,802	6.0	5.4	6.5	9.1	9.1	6.0	3.6	3.1	2.3
90 Day U.S. Treasury Bill			1.0	2.1	4.7	4.7	4.6	2.8	2.5	2.0
Northern Trust Cash Account	755,218,596	5.8	1.1	2.1	4.7	4.7	4.5	2.7	-	-
BND Cash	20,775,432	0.2	1.1	2.2	4.8	4.8	4.7	2.9	-	-
Cash Overlay Equities	3,052,344	0.0	8.5	-	-	-	-	-	-	-
Cash Overlay Fixed	2,117,430	0.0	0.1	-	-	-	-	-	-	-

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
MSCI World Index (Net)	11.4719	16.2582	16.2582	18.3093	14.5511	11.6067	10.6586
MSCI World Minimum Volatility Index (Net)	2.3627	16.9603	16.9603	10.6151	8.4430	7.7321	8.1014
MSCI USA Minimum Volatility Index	0.6255	13.8399	13.8399	12.1053	11.0118	10.5107	10.9864
MSCI AC World IMI Index (Net)	11.6169	15.8905	15.8905	16.8043	13.3950	10.2774	9.6921
Russell 1000 Growth Index	17.8386	17.2169	17.2169	25.7555	18.1455	17.8959	17.0122
Russell 1000 Value Index	3.7871	13.7020	13.7020	12.7625	13.9318	9.5874	9.1872
Russell 1000 Index	11.1059	15.6644	15.6644	19.5881	16.3035	14.0911	13.3513
S&P 500 Index	10.9425	15.1637	15.1637	19.7098	16.6399	14.3894	13.6457
S&P SmallCap 600 Index	4.8994	4.6018	4.6018	7.6481	11.6788	5.6160	8.0183
Russell 2000 Index	8.4996	7.6811	7.6811	9.9986	10.0353	5.5176	7.1227
Russell 2000 Growth Index	11.9657	9.7278	9.7278	12.3846	7.4190	5.6860	7.1376
Russell 2000 Value Index	4.9658	5.5352	5.5352	7.4525	12.4721	4.8451	6.7173
MSCI EAFE (Net)	11.7751	17.7269	17.7269	15.9674	11.1611	7.2065	6.5096
MSCI World ex U.S. (Net)	12.0452	18.7042	18.7042	15.7343	11.5086	7.4303	6.6542
MSCI AC World ex USA IMI (Net)	12.7071	17.8258	17.8258	13.9238	10.2043	6.4861	6.1770
MSCI AC World ex USA (Net)	12.0327	17.7219	17.7219	13.9897	10.1266	6.5772	6.1216
MSCI World ex U.S. Small Cap Index (Net)	16.8229	22.9215	22.9215	13.4004	9.8174	5.4579	6.6407
MSCI EAFE Small Cap (Net)	16.5926	22.4637	22.4637	13.2967	9.2828	5.0135	6.5118
MSCI Emerging Markets (Net)	11.9880	15.2861	15.2861	9.7022	6.8061	4.4797	4.8141
Blmbg. U.S. Aggregate Index	1.2068	6.0761	6.0761	2.5497	-0.7263	1.7740	1.7576
Blmbg. U.S. Government Index	0.8545	5.3053	5.3053	1.5689	-1.5315	1.3062	1.2190
Blmbg. U.S. Treasury: Long	-1.5271	1.5580	1.5580	-3.6947	-8.2181	-1.2265	0.1390
Bloomberg U.S. Government/Credit Index	1.2161	5.8875	5.8875	2.6066	-0.8286	1.9574	1.9193
Blmbg. U.S. Corp: BAA Bond	1.9982	7.3032	7.3032	5.1288	0.8332	3.3115	3.2943
Morningstar LSTA U.S. Leveraged Loan	2.3151	7.2895	7.2895	9.6898	7.4533	5.5516	5.1467
Morningstar LSTA U.S. B Ratings Loan	2.4564	7.7188	7.7188	10.3343	7.7928	5.9573	5.4793
Blmbg. U.S. High Yield - 2% Issuer Cap	3.5290	10.2851	10.2851	9.9278	5.9597	5.3000	5.3720
90 Day U.S. Treasury Bill	1.0400	4.6796	4.6796	4.5556	2.7630	2.5359	1.9645
Blmbg. U.S. Govt Infl. Linked All Maturities	0.3790	5.7053	5.7053	2.2464	1.4254	2.9303	2.6619
Bloomberg U.S. Government 1-3 Year Index	1.1949	5.7177	5.7177	3.4422	1.3389	2.1113	1.6012
Bloomberg U.S. Gov/Credit 1-3 Year Index	1.2697	5.9385	5.9385	3.7501	1.5837	2.3344	1.8448
Russell 3000 Index	10.9913	15.2959	15.2959	19.0819	15.9617	13.5534	12.9588
JPM EMBI Global Diversified	3.3246	9.9698	9.9698	8.8572	1.7899	3.0591	3.5289
JPM GBI-EM Global Diversified	7.6221	13.8135	13.8135	8.4686	1.8832	2.1769	2.1123
ICE BofA 1-3 Years U.S. Treasury Index	1.1763	5.6745	5.6745	3.4161	1.3691	2.1179	1.6066
Blmbg. U.S. Treasury: 9-12 Month Index	0.9719	5.0222	5.0222	4.2346	2.3463	2.4818	1.9530
ICE BofA US High Yield Master II Constrained Index	3.5713	10.2397	10.2397	9.8551	6.0035	5.1687	5.2849

Fiscal year 06/30.



Index Returns Performance Summary (Net of Fees)

North Dakota State Investment Board Period Ending: June 30, 2025

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
MSCI AC World ex USA (Net)	12.0327	17.7219	17.7219	13.9897	10.1266	6.5772	6.1216
NCREIF Timberland Index (Smoothed Monthly Return) 1Q Lag	0.8043	5.5970	5.5970	8.8904	7.9342	6.1562	5.3350
NFI-ODCE (Net) (Smoothed Monthly Return) 1Q Lag	0.8526	1.1725	1.1725	-5.0715	2.0104	2.9201	4.7079
NFI-ODCE +1% (Net) (Smoothed Monthly Return) 1Q Lag	1.1038	2.1842	2.1842	-4.1222	3.0306	3.9494	5.7550

Legacy Corridor Target Index	Weight (%)	Legacy Policy Index	Weight (%)
Jun-2025		Jul-2024	
Russell 3000 Index	33.31	Russell 3000 Index	27.50
Legacy - Total International Equity Benchmark	23.01	MSCI AC World ex USA IMI (Net)	19.00
Private Equity Benchmark	0.38	Private Equity Benchmark	7.00
Legacy - Corridor Global Flxed Income	31.22	Blmbg. U.S. Aggregate Index	13.50
Legacy - Corridor DRA Blend	4.81	Blmbg. U.S. High Yield - 2% Issuer Cap	5.00
NFI-ODCE (Net) (Smoothed Monthly Return) 1Q Lag	3.46	Morningstar LSTA Leveraged Loan Index + 100 bps	10.00
In-State Investments	3.81	NFI-ODCE (Net) (Smoothed Monthly Return) 1Q Lag	5.00
		Legacy - Corridor DRA Blend	5.00
		In-State Investments	8.00
Legacy Corridor Global Equity Blend	Weight (%)	Legacy Corridor Global Fixed Income	Weight (%)
Jun-2025		Jun-2025	
Russell 3000 Index	58.74	Blmbg. U.S. Aggregate Index	58.86
MSCI AC World ex USA IMI (Net)	40.59	Blmbg. U.S. High Yield - 2% Issuer Cap	21.80
Legacy - Corridor Private Equity Blend	0.67	Morningstar LSTA Leveraged Loan Index + 100 bps	19.34
Legacy Total Real Asset Blend	Weight (%)	Legacy Private Equity Benchmark	Weight (%)
Jun-2025		Apr-2025	
NFI-ODCE (Net) (Smoothed Monthly Return) 1Q Lag	41.87	Private Equity	0.00
NFI-ODCE +1% (Net) (Smoothed Monthly Return) 1Q Lag	58.13	Hamilton Lane Private Equity Benchmark	100.00



Glossary

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

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

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager. **Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios. Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

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

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

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

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

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

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

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

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

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

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

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

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

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



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