

MONTANA

BOARD OF INVESTMENTS

REGULAR BOARD MEETING
May 22-23, 2024

COMMITTEE MEETINGS

A. Audit Committee – Mark Barry, Chair

Committee Members – Peterson, Bennett, Trost, Iverson

9:30 AM

1. Public Comment – *Public Comment on issues with Committee Jurisdiction*
2. Approval of April 10, 2024, Committee Minutes
3. Executive Director Comments
4. Audit Checklist

B. Loan Committee – Jeff Meredith, Chair

Committee Members – Barry, Kober, Bennett, Younkin

10:00 AM

1. Public Comment – *Public Comment on issues with Committee Jurisdiction*
2. Approval of April 10, 2024, Committee Meeting Minutes
3. Executive Director Comments
4. Loan Committee Charter – **Decision**
5. INTERCAP Loan Request – **Decision**

C. Human Resource Committee – Maggie Peterson, Chair

Committee Members – Meredith, Kober, Trost, Younkin

10:30 AM

1. Public Comment – *Public Comment on issues with Committee Jurisdiction*
2. Approval of April 10, 2024, Committee Meeting Minutes
3. Executive Director Comments
4. Exempt Staff Recommendations – **Decision**

BREAK

10:45 AM

Tab 1 CALL TO ORDER – Jack Prothero, Chairman

11:00 AM

- A. Notice of Video Recording of Meeting
- B. Roll Call
- C. Public Comment – *Public Comment on issues with Board Jurisdiction*
- D. Approval of the April 10, 2024, Meeting Minutes
- E. Administrative Business
 1. Audit Committee Report
 2. Loan Committee Report – **Decision**
 3. Human Resources Committee Report - **Decision**
- F. Comments from TRS and PERS Board Members
- G. Comments from Board Legislative Liaisons

Tab 2 EXECUTIVE DIRECTOR REPORTS – Dan Villa

11:15 AM

- A. Member Requests from Prior Meeting
- B. Monthly Snapshot
- C. Renewal of Investment Services Contract - **Decision**
- D. HB819 Workforce Housing - **Decision**
- E. Montana Buildings (Board as Landlord/Tenant Holdings)
- F. Budget Status Fiscal Year to Date
- G. Draft 2025 Board Meeting Calendar and Workplan

Tab 3 MONTANA LOAN PROGRAM – Doug Hill, Director of In-State Loans	11:30 AM
A. Commercial and Residential Portfolios Report	
Tab 4 BOND PROGRAM – Louise Welsh, Senior Bond Program Officer	11:45 AM
A. INTERCAP	
1. Activity Report	
2. Staff Approved Loans Report	
LUNCH	12:00 PM
Tab 5 GOVERNANCE POLICY REVIEW - <i>Decisions</i>	1:00 PM
Tab 6 RVK FEE ANALYSIS – RVK, Inc.	1:30 PM
Tab 7 REAL ESTATE ASSET CLASS REVIEW – Ethan Hurley, CAIA, and Robert Samson, CFA	2:00 PM
ADJOURN	

AGENDA DAY 2

RECONVENE AND CALL TO ORDER – Jack Prothero, Chairman	9:30 AM
A. Roll Call	
B. Notice of Video Recording of Meeting	
C. Public Comment – <i>Public Comment on issues with Board Jurisdiction</i>	
Tab 8 RVK – RVK, Inc.	9:45 AM
Tab 9 INVESTMENT UPDATE	10:30 AM
RECAP OF STAFF TO DO LIST AND ADJOURNMENT – Jack Prothero, Chairman	

MONTANA

BOARD OF INVESTMENTS

REGULAR BOARD MEETING MINUTES

APRIL 10, 2024

Official meeting minutes are the recordings posted at <https://leg.mt.gov/lld/>
(timestamps may differ)

Call to Order

The Board of Investment's meeting was called to order by Board Chairman Jack Prothero at 10:59 a.m. on Wednesday, April 10, 2024.

Attendance

Board Members Present: Jack Prothero, Tim Kober, Mark Barry, Cindy Younkin, Maggie Peterson, Dwaine Iverson, Jeff Meredith

Board Members Absent: Porter Bennett

Legislative Liaisons Present: None

Legislative Liaisons Absent: Senator Jeremy Trebas

Board Staff Present: Brenda Thomas, Dan Villa, Doug Hill, Jason Brent, Jessilynn Salois, John Carpenter, John Romasko, Jon Putnam, Julie Feldman, Kirsten Haswell, Peggy MacEwen, Peggy Saarela, Roberta Diaz, Rob Samson, Sam Holman, Savannah Morgan, Sheli Jacoby, Steve Strong, Willie Gross

Interested Parties Present: Becky Gratsinger – RVK, Paige Blaser – RVK, John Kevin Balaod – With Intelligence

Tab 1 CALL TO ORDER (00:03)

A. Notice of Video Recording (00:07)

Chairman Prothero advised of audio and video recording of the meeting.

B. Roll Call (00:17)

The roll was taken. Eight Board members were present, forming a quorum.

C. Public Comment (01:03)

Chairman Prothero asked for public comment. None was given.

D. Approval of Minutes (01:22)

February 28, 2024, Regular Board Meeting Minutes

Member Younkin motioned to approve. Member Iverson seconded the motion, which passed unanimously.

E. Administrative Business

1. Audit Committee Report (02:00)

Committee Chair Barry briefed the Board.

2. Loan Committee Report (04:43)

Committee Chair Jeff Meredith briefed the Board.

Chair Meredith motioned for full Board approval of the INTERCAP loan request from the Montana Department of Transportation (MDT) for \$4,000,000 to finance vehicle purchases for the State Motor Pool (SMP). Member Barry seconded the motion, which passed unanimously.

3. Human Resources Committee (07:16)

Chair Peterson briefed the Board.

Chair Peterson motioned for full Board approval of the Exempt Staffing and Compensation Recommendations for FY25. Member Iverson seconded the motion, which passed unanimously.

F. Comments from Pension Board Members

Member Peterson and Member Trost briefed the Board. (10:30)

G. Comments from Board Legislative Liaisons

Senator Jeremy Trebas was absent.

Tab 2 EXECUTIVE DIRECTOR REPORTS (12:24)

A. Member Requests from Prior Meeting

Executive Director briefed the Board.

B. Monthly Snapshot

Executive Director Villa briefed the Board.

C. Benchmarks Used by the Board

Executive Director Villa briefed the Board.

Tab 3 CAPITAL MARKET ASSUMPTIONS – RVK, INC. (35:35)

Becky Grasinger with RVK, Inc. briefed the Board and answered questions.

Tab 4 INVESTMENT POLICY STATEMENT (01:26:48)

Willie Gross briefed the Board and answered questions.

Chairman Prothero called for a motion to adopt the new policy 40.953 – Old Fund Liability Defeasance Fund. Member Iverson motioned to approve. Member Trost seconded the motion, which passed unanimously.

Tab 5 DOMESTIC EQUITY ASSET CLASS REVIEW (01:39:57)

Jason Brent and Steve Strong briefed the Board and answered questions.

RECAP OF STAFF TO-DO LIST AND ADJOURNMENT (02:18:37)

Chairman Prothero adjourned the meeting at 2:25 p.m.

MONTANA BOARD OF INVESTMENTS

APPROVE: _____

Jack Prothero, Chair

ATTEST: _____

Dan Villa, Executive Director

DATE: _____

MONTANA

BOARD OF INVESTMENTS

To: Members of the Board
From: Dan Villa, Executive Director
Date: May 22, 2024
Re: Executive Director Report

- A. Member Requests from Prior Meeting
- B. Monthly Snapshot – *Attached*
- C. Renewal of Investment Services Contract – ***Decision***
- D. HB819 Workforce Housing - ***Decision***
- E. Montana Buildings (Board as Landlord/Tenant Holdings) – *Attached*
- F. Budget Status Fiscal Year to Date – *Attached*
- G. DRAFT 2025 Board Meeting Calendar and Workplan - *Attached*

MBOI Snapshot
Asset Management View
3/31/2024 Unaudited



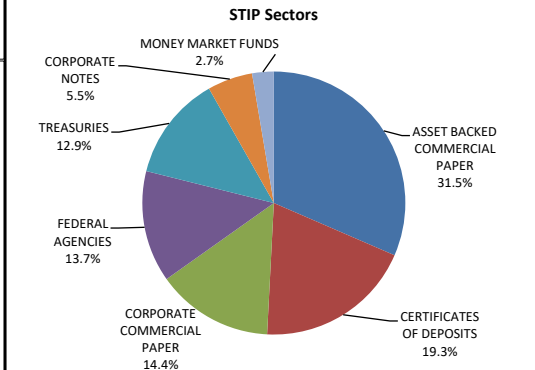
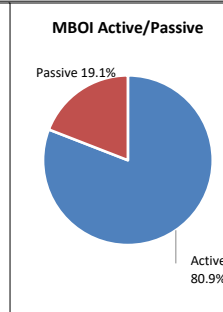
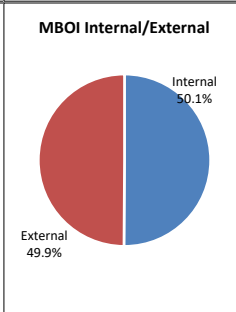
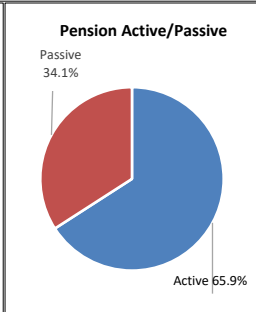
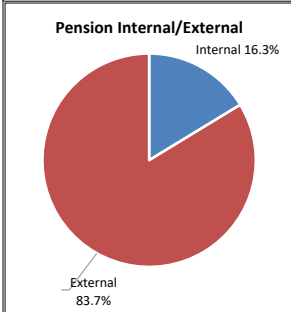
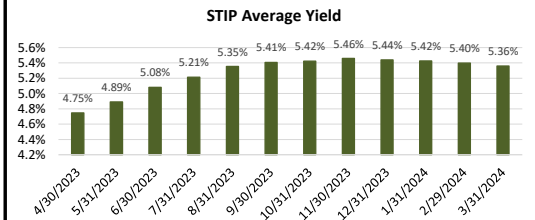
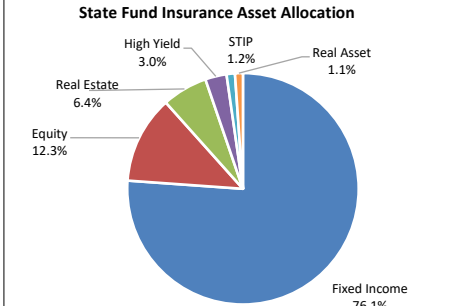
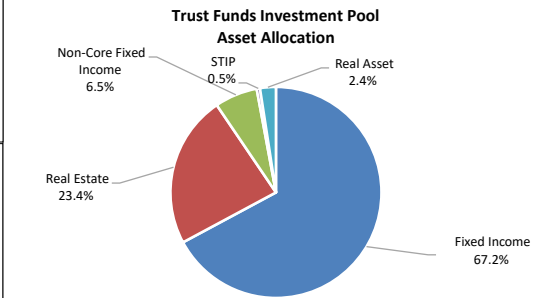
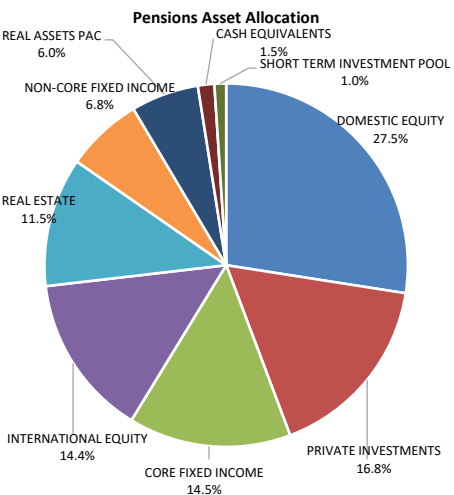
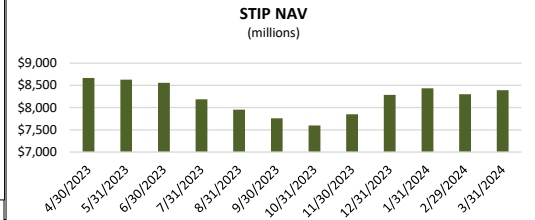
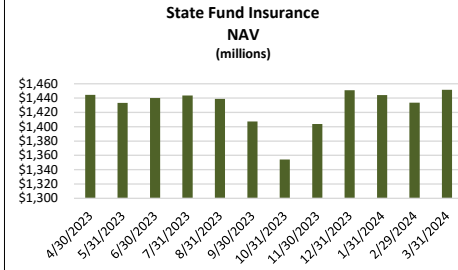
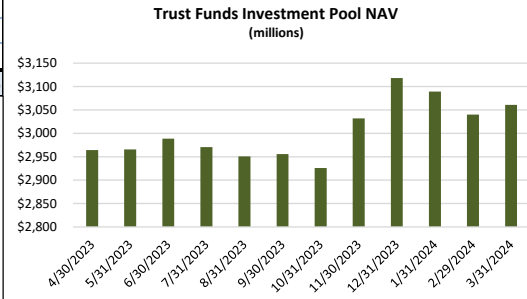
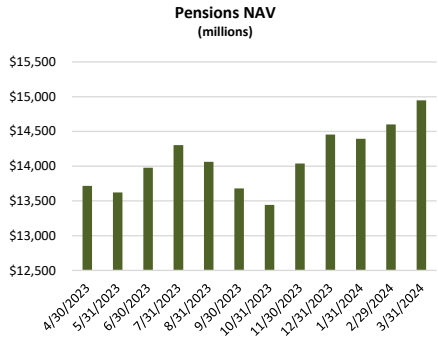
Assets Under Management \$27,895,529,617

Pensions	NAV	%
DOMESTIC EQUITY	\$ 4,106,021,384	27.5%
PRIVATE INVESTMENTS	\$ 2,511,859,821	16.8%
CORE FIXED INCOME	\$ 2,161,500,650	14.5%
INTERNATIONAL EQUITY	\$ 2,155,516,865	14.4%
REAL ESTATE	\$ 1,719,284,824	11.5%
NON-CORE FIXED INCOME	\$ 1,019,055,641	6.8%
REAL ASSETS PAC	\$ 900,879,271	6.0%
CASH EQUIVALENTS	\$ 218,052,104	1.5%
SHORT TERM INVESTMENT POOL	\$ 155,417,900	1.0%
Pensions Total	\$ 14,947,588,461	100.0%

TFIP	NAV	%
Fixed Income	\$ 2,055,489,572	67.16%
Real Estate	\$ 714,985,026	23.36%
Non-Core Fixed Income	\$ 200,412,621	6.55%
Real Asset	\$ 74,324,122	2.43%
STIP	\$ 15,437,685	0.50%
Total	\$ 3,060,649,026	100.00%

State Fund	NAV	%
Fixed Income	\$ 1,117,555,330	76.13%
Equity	\$ 179,894,635	12.25%
Real Estate	\$ 93,261,623	6.35%
High Yield	\$ 43,838,212	2.99%
STIP	\$ 17,161,064	1.17%
Real Asset	\$ 16,222,958	1.11%
State Fund Total	\$ 1,467,933,822	100.00%

Other Fixed Income & Pending	\$	(36,916,809)
STIP*	NAV	%
ASSET BACKED COMMERCIAL PAPER	\$2,663,854,682	31.50%
CERTIFICATES OF DEPOSITS	\$1,633,478,394	19.32%
CORPORATE COMMERCIAL PAPER	\$1,214,960,732	14.37%
FEDERAL AGENCIES	\$1,160,394,664	13.72%
TREASURIES	\$1,089,558,602	12.88%
CORPORATE NOTES	\$469,018,872	5.55%
MONEY MARKET FUNDS	\$225,009,171	2.66%
STIP Total	\$8,456,275,117	100.00%



Definition of NAV: Net Asset Value is the total value of the account including assets held, adjusted for payables, receivables and liabilities

(1) Other Holdings column on page two represents the value of securities, receivables, payables and liabilities that comprise the Net Asset Value for the asset owner.

*Difference of \$226,440,029 is attributable the portion of STIP held within CAPP (\$216,478,152) and TFIP (\$15,356,367) as a cash investment and distributions held over month end (-\$5,394,490). Such value is represented in the NAV for the CAPP and STIP columns.

MBOI Snapshot Asset Ownership View 3/31/2024 Unaudited									
									Total Net
	CAPP Holdings	CAPP %	STIP Holdings*	STIP %	TFIP Holdings	TFIP%	Other Holdings ¹	Other %	Asset Value
Total Funds \$(000)	\$14,792,171	53.03%	\$8,229,835	29.50%	\$3,060,646	10.97%	\$1,812,878	6.50%	\$27,895,530
Pensions	CAPP	%	STIP	%	TFIP	%	Other	%	Total
FIREFIGHTERS RETIREMENT	\$ 674,440	98.98%	\$ 6,934	1.02%	\$ -	0.00%	\$ -	0.00%	\$ 681,374
GAME WARDENS RETIREMENT	\$ 343,484	99.01%	\$ 3,437	0.99%	\$ -	0.00%	\$ -	0.00%	\$ 346,921
HIGHWAY PATROL RETIREMENT	\$ 221,497	99.01%	\$ 2,226	0.99%	\$ -	0.00%	\$ -	0.00%	\$ 223,723
JUDGES RETIREMENT	\$ 136,450	99.01%	\$ 1,371	0.99%	\$ -	0.00%	\$ -	0.00%	\$ 137,821
POLICE OFFICERS RETIREMENT	\$ 606,462	98.98%	\$ 6,222	1.02%	\$ -	0.00%	\$ -	0.00%	\$ 612,684
PUBLIC EMPLOYEES RETIREMENT	\$ 7,153,758	98.98%	\$ 73,574	1.02%	\$ -	0.00%	\$ -	0.00%	\$ 7,227,332
SHERIFFS RETIREMENT	\$ 552,032	98.96%	\$ 5,778	1.04%	\$ -	0.00%	\$ -	0.00%	\$ 557,810
TEACHERS RETIREMENT	\$ 5,052,656	98.92%	\$ 55,359	1.08%	\$ -	0.00%	\$ -	0.00%	\$ 5,108,015
VOL FIREFIGHTERS RETIREMENT	\$ 51,391	99.01%	\$ 516	0.99%	\$ -	0.00%	\$ -	0.00%	\$ 51,908
Total	\$ 14,792,171	98.96%	\$ 155,418	1.04%	\$ -	0.00%	\$ -	0.00%	\$ 14,947,588
Trust Funds	CAPP	%	STIP	%	TFIP	%	Other	%	Total
ABANDONED MINE RECLAMATION	\$ -	0.00%	\$ 7,748	99.55%	\$ -	0.00%	\$ 35	0.45%	\$ 7,783
BARKER HUGHESVILLE ST RESPONSE	\$ -	0.00%	\$ 1,507	16.36%	\$ 7,679	83.33%	\$ 28	0.31%	\$ 9,214
BELT WATER TREATMENT PLANT	\$ -	0.00%	\$ 4,914	18.12%	\$ 22,118	81.57%	\$ 84	0.31%	\$ 27,116
BUTTE AREA ONE REST	\$ -	0.00%	\$ 845	14.45%	\$ 4,983	85.24%	\$ 18	0.30%	\$ 5,845
BUTTE AREA REDEVELOP AUTHORITY	\$ -	0.00%	\$ 1,477	11.26%	\$ 11,597	88.44%	\$ 39	0.30%	\$ 13,112
CLARK FORK REST	\$ -	0.00%	\$ 4,095	16.03%	\$ 21,370	83.66%	\$ 78	0.31%	\$ 25,543
CLARK FORK SITE RESP ACTION	\$ -	0.00%	\$ 3,468	6.98%	\$ 46,095	92.73%	\$ 144	0.29%	\$ 49,707
COAL TAX PARK TRUST FUND	\$ -	0.00%	\$ 2,122	6.95%	\$ 28,327	92.76%	\$ 88	0.29%	\$ 30,538
CULTURAL TRUST FUND	\$ -	0.00%	\$ 580	3.51%	\$ 15,907	96.21%	\$ 47	0.28%	\$ 16,535
DEBT AND LIABILITY FREE ACCOUNT	\$ -	0.00%	\$ 202,770	99.55%	\$ -	0.00%	\$ 915	0.45%	\$ 203,685
E HELENA GREENWAY TRAIL MAINT	\$ -	0.00%	\$ 294	30.10%	\$ 680	69.57%	\$ 3	0.33%	\$ 978
EAST HELENA COMPENSATION FUND	\$ -	0.00%	\$ 1,151	61.81%	\$ 704	37.81%	\$ 7	0.39%	\$ 1,862
ENDOWMENT FOR CHILDREN	\$ -	0.00%	\$ 91	6.38%	\$ 1,332	93.33%	\$ 4	0.29%	\$ 1,427
FLYING J CECRA FACILITIES FUND	\$ -	0.00%	\$ 447	16.70%	\$ 2,220	83.00%	\$ 8	0.31%	\$ 2,674
FWP MITIGATION TRUST	\$ -	0.00%	\$ 3,363	31.45%	\$ 6,818	63.76%	\$ 513	4.80%	\$ 10,694
HAROLD HAMM ENDOWMENT	\$ -	0.00%	\$ 8	15.22%	\$ 43	84.48%	\$ 0	0.30%	\$ 51
INVASIVE SPECIES TRUST FUND	\$ -	0.00%	\$ 407	12.47%	\$ 2,847	87.24%	\$ 10	0.30%	\$ 3,263
LIBBY ASBESTOS SITE STATE COST	\$ -	0.00%	\$ 981	19.47%	\$ 4,042	80.22%	\$ 16	0.31%	\$ 5,038
LUTTRELL PIT - OPER & MAINT	\$ -	0.00%	\$ 274	13.94%	\$ 1,689	85.76%	\$ 6	0.30%	\$ 1,969
MONTANA HIST AND CIVICS ENDOW	\$ -	0.00%	\$ 1,419	99.55%	\$ -	0.00%	\$ 6	0.45%	\$ 1,425
MONTANA HISTORICAL SOCIETY	\$ -	0.00%	\$ 989	23.87%	\$ 3,141	75.81%	\$ 13	0.32%	\$ 4,143
MONTANA STATE LIBRARY TRUST	\$ -	0.00%	\$ 139	10.17%	\$ 1,227	89.53%	\$ 4	0.29%	\$ 1,371
MT HOUSING INFRASTRUCTURE	\$ -	0.00%	\$ 84,100	78.94%	\$ -	0.00%	\$ 22,433	21.06%	\$ 106,533
MT POLE SUPERFUND SETTLEMENT	\$ -	0.00%	\$ 3,838	20.28%	\$ 15,028	79.41%	\$ 59	0.31%	\$ 18,925
NOXIOUS WEED MGMT TRUST FUND	\$ -	0.00%	\$ -	0.00%	\$ 10,217	99.72%	\$ 28	0.28%	\$ 10,245
OLDER MONTANANS TRUST FUND	\$ -	0.00%	\$ 16	4.94%	\$ 307	94.77%	\$ 1	0.29%	\$ 324
POTTER TRUST FUND	\$ -	0.00%	\$ 38	15.00%	\$ 213	84.69%	\$ 1	0.30%	\$ 252
PUBLIC SCHOOL TRUST	\$ -	0.00%	\$ 17,614	1.94%	\$ 886,814	97.78%	\$ 2,529	0.28%	\$ 906,957
REAL PROPERTY TRUST FUND	\$ -	0.00%	\$ 381	5.32%	\$ 6,755	94.39%	\$ 20	0.29%	\$ 7,156
RESOURCE INDEMNITY TRUST FUND	\$ -	0.00%	\$ 23	0.02%	\$ 104,878	99.70%	\$ 292	0.28%	\$ 105,193
SMEELTER HILL UPLANDS REST FUND	\$ -	0.00%	\$ 1,271	14.98%	\$ 7,187	84.71%	\$ 26	0.30%	\$ 8,484
STREAMSIDE TAILINGS OU FUND	\$ -	0.00%	\$ 2,068	12.56%	\$ 14,354	87.14%	\$ 49	0.30%	\$ 16,471
TOBACCO TRUST FUND	\$ -	0.00%	\$ 1,062	0.36%	\$ 292,709	99.36%	\$ 818	0.28%	\$ 294,588
UPPER BLACKFT RESP ACT & REST	\$ -	0.00%	\$ 879	90.93%	\$ 83	8.60%	\$ 4	0.46%	\$ 967
UPPER CLRK FK RIVER BASIN RES	\$ -	0.00%	\$ 430	1.96%	\$ 21,486	97.76%	\$ 62	0.28%	\$ 21,977
UPPER CLRK FK RIVER BASIN REST	\$ -	0.00%	\$ 3,784	5.64%	\$ 63,106	94.07%	\$ 192	0.29%	\$ 67,082
WILDLIFE HABITAT TRUST FUND	\$ -	0.00%	\$ 1,186	7.30%	\$ 15,008	92.41%	\$ 47	0.29%	\$ 16,241
WORK FORCE HOUSING	\$ -	0.00%	\$ 11,753	99.00%	\$ -	0.00%	\$ 119	1.00%	\$ 11,872
YELLOWSTONE PIPELINE CLEANUPFD	\$ -	0.00%	\$ 1,933	32.25%	\$ 4,042	67.42%	\$ 20	0.33%	\$ 5,995
ZORTMAN/LANDUSKY LT WATER	\$ -	0.00%	\$ 16,871	99.55%	\$ -	0.00%	\$ 77	0.45%	\$ 16,948
ZORTMANLANDUSKY LT WATER TRUST	\$ -	0.00%	\$ 21,942	99.55%	\$ -	0.00%	\$ 100	0.45%	\$ 22,042
Total	\$ -	0.00%	\$ 408,279	19.80%	\$ 1,625,003	78.80%	\$ 28,944	1.40%	\$ 2,062,226
Coal Severance	CAPP	%	STIP	%	TFIP	%	Other	%	Total
BIG SKY ECONOMIC DEV FUND	\$ -	0.00%	\$ 2,532	1.78%	\$ 139,689	97.94%	\$ 400	0.28%	\$ 142,620
COAL SEVERANCE TAX PERM FUND	\$ -	0.00%	\$ 23,693	4.31%	\$ 309,921	56.31%	\$ 216,745	39.38%	\$ 550,359
CONSERVATION DISTRICT FUND	\$ -	0.00%	\$ 2,988	22.26%	\$ 10,394	77.43%	\$ 42	0.32%	\$ 13,424
MONTANA COAL ENDOWMENT FUND	\$ -	0.00%	\$ 3,069	1.14%	\$ 265,202	98.58%	\$ 751	0.28%	\$ 269,022
MT COAL ENDOWMENT REGIONAL WAT	\$ -	0.00%	\$ 1,192	1.28%	\$ 91,788	98.44%	\$ 261	0.28%	\$ 93,240
SCHOOL FACILITIES FUND	\$ -	0.00%	\$ 3,722	1.79%	\$ 203,716	97.93%	\$ 583	0.28%	\$ 208,021
Total	\$ -	0.00%	\$ 37,196	2.91%	\$ 1,020,710	79.95%	\$ 218,782	17.14%	\$ 1,276,687
Operating Funds	CAPP	%	STIP	%	TFIP	%	Other	%	Total
FWP GENERAL LICENSE ACCOUNT	\$ -	0.00%	\$ 55,064	62.53%	\$ 29,549	33.55%	\$ 3,450	3.92%	\$ 88,064
MONTANA LOCAL GOVERNMENTS	\$ -	0.00%	\$ 1,717,998	99.54%	\$ -	0.00%	\$ 7,880	0.46%	\$ 1,725,878
MONTANA STATE AGENCIES	\$ -	0.00%	\$ 2,761,625	99.55%	\$ -	0.00%	\$ 12,539	0.45%	\$ 2,774,164
MONTANA STATE UNIVERSITY	\$ -	0.00%	\$ 294,260	83.53%	\$ 56,544	16.05%	\$ 1,488	0.42%	\$ 352,292
MONTANA TECH	\$ -	0.00%	\$ 8,492	94.59%	\$ 446	4.96%	\$ 40	0.44%	\$ 8,978
STATE TREASURER'S FUND	\$ -	0.00%	\$ 2,428,534	88.07%	\$ 244,019	8.85%	\$ 84,984	3.08%	\$ 2,757,537
UNIVERSITY OF MONTANA	\$ -	0.00%	\$ 101,550	74.83%	\$ 28,785	21.21%	\$ 5,380	3.96%	\$ 135,715
Total	\$ -	0.00%	\$ 7,367,524	93.94%	\$ 359,343	4.58%	\$ 115,760	1.48%	\$ 7,842,627
Insurance Reserves	CAPP	%	STIP	%	TFIP	%	Other	%	Total
HAIL INSURANCE INVESTMENTS	\$ -	0.00%	\$ 3,154	51.85%	\$ 2,906	47.78%	\$ 22	0.37%	\$ 6,083
MONTANA STATE FUND	\$ -	0.00%	\$ 17,091	1.18%	\$ -	0.00%	\$ 1,434,620	98.82%	\$ 1,451,711
MUS GROUP INSURANCE	\$ -	0.00%	\$ 88,290	85.64%	\$ 12,495	12.12%	\$ 2,310	2.24%	\$ 103,095
MUS WORKERS COMPENSATION	\$ -	0.00%	\$ 9,347	70.20%	\$ 3,913	29.39%	\$ 55	0.41%	\$ 13,314
PERS-DCRP LT DISABILITY PLAN	\$ -	0.00%	\$ 803	7.96%	\$ -	0.00%	\$ 9,284	92.04%	\$ 10,087
STATE EMPLOYEE GROUP BENEFITS	\$ -	0.00%	\$ 141,353	78.21%	\$ 36,276	20.07%	\$ 3,095	1.71%	\$ 180,724
SUBSEQUENT INJURY TRUST FUND	\$ -	0.00%	\$ 1,381	99.53%	\$ -	0.00%	\$ 6	0.47%	\$ 1,387
Total	\$ -	0.00%	\$ 261,418	14.80%	\$ 55,591	3.15%	\$ 1,449,392	82.05%	\$ 1,766,401

Short Term Investment Pool			
Account	# Accounts	Total Market Value	%
Total State	369	6,736,818,842	79.7%
Total Local	195	1,719,456,275	20.3%
Total STIP	564	\$ 8,456,275,117	100.0%
STIP Reserve		\$ 81,813,259	
Prior month average STIP Yield		5.3600%	

Intercap Statistics	
Loans Outstanding	\$ 69,902,168
Bonds Outstanding	\$ 70,706,869
Number of Borrowers	122
Loan Rate	5.75%

MONTANA

BOARD OF INVESTMENTS

TO: Members of the Board
FROM: Dan Villa, Executive Director
DATE: May 22, 2024
RE: Renewal of Investment Consulting Services

Attached is a proposed contract renewal for investment consulting services with RVK, Inc. RVK has been on contract with the Board since 2005. The proposal before you extends the engagement through 2029 and includes a 3% per year escalator. In my opinion, this is a fair increase and maintains the Board's experienced and independent oversight of staff as related to investment activities. I recommend renewal and am happy to answer any questions.

MONTANA

BOARD OF INVESTMENTS

TO: Members of the Board
FROM: Dan Villa, Executive Director
DATE: May 22, 2024
RE: HB 819 Workforce Housing

On December 21, 2023, the Board authorized staff to contract with Corner Post Enterprises, LLC to develop 28 workforce housing units in Deer Lodge, Montana to fulfill Section 15 of House Bill 819 from the 2023 Legislative Session. We could not come to terms with Corner Post for construction services but have procured services to complete the necessary mechanical, electrical, structural, civil, and other engineering, as well as architectural design.

Now that the subdivision has been approved by the City of Deer Lodge, we are prepared to proceed with construction. The current property management contract used for maintenance and construction of the Montana Properties within the Trust Fund Investment Pool is with D&M Development, LLC, and further contemplates construction services with a cost plus 5% provision (Section 9, paragraph 3). Given the Board's long and successful history with D&M, and their extensive experience across the state, I am confident they will be able to achieve our goals.

I request the Board make a motion to approve D&M Development, LLC as the general contractor to build workforce housing in Deer Lodge with a condition to not exceed the cost of \$8,234,000 (\$8,846,000 as originally approved less \$612,000 paid to Corner Post for services described above).

I'm happy to answer any questions.

MONTANA

BOARD OF INVESTMENTS

TO: Dan Villa, Executive Director
FROM: Peggy MacEwen, Deputy Director
DATE: May 22, 2024
RE: Board Montana Direct Real Estate Report

Please allow this memo to serve as the biannual report to the Board on the status of the Board's Direct Real Estate holdings.

Performance

I re-calculate the long-term Internal Rate of Return (IRR) on each holding each year based on the fiscal year distributions to the Trust Fund Investment Pool and the adjusted market values.

We appraise the holdings every four years, and the appraisal value is adjusted yearly between appraisals using the market value determined by the Department of Revenue. The appraisals completed this spring resulted in significant changes in market value for all but two of the holdings, the 6th Street and Boot Hill locations.

The Fiscal Year-End 2023 and **estimated** Fiscal Year-End 2024 IRRs are:

	FYE 23 IRR	Estimated FYE 24 IRR
1712 9th Avenue, Helena	29.86%	29.96%
1500 East 6th Avenue, Helena	20.23%	16.41%
2401 Colonial Drive, Helena	9.94%	10.11%
100 North Park Avenue, Helena	8.92%	9.36%
2273 Boot Hill Court, Bozeman	7.22%	7.22%

Holdings

Historical information on each holding is provided below.

2401 Colonial Drive

- The Board purchased the land in August 1997 after the Board authorized the construction of an office building as a real estate investment.
- The three-story building was occupied in November 1999.
- The purchase price was \$6,481,741.
- The current market value is \$13,460,000 (a 34% increase from FY23).

100 North Park Avenue

- The building was built in 1982.
- The Board purchased the property in January 1986.
- The purchase price was \$4,864,326.

- The current market value is \$9,850,000 (a 53% increase from FY23).

2273 Boot Hill Court

- In August 1999, the Board authorized the construction and purchase of the office building.
- The one-story building was occupied in April 2004.
- The building is on land leased from DNRC. The lease expires in 2040.
- The purchase price was \$2,051,032.
- The current market value is \$2,655,000 (a 5% increase from FY23).

1712 9th Avenue

- The building was built in 1968.
- MPERA purchased the property as an investment in 1969.
- Title to the property was restricted to the State of Montana for the use of MPERA.
- A corrective deed was issued in November 2000 naming the Board of Investments as owner.
- The current market value is \$955,000 (a 95% increase from FY23).

1500 East 6th Avenue

- House Joint Resolution 25, enacted in the 1969 Legislative session, authorized TRS to build the building as an investment of the retirement system.
- The Board purchased the property on November 1, 2020.
- The purchase price was \$1,410,000.
- The current value is \$1,380,000 (a 6% decrease from FY23).

MONTANA

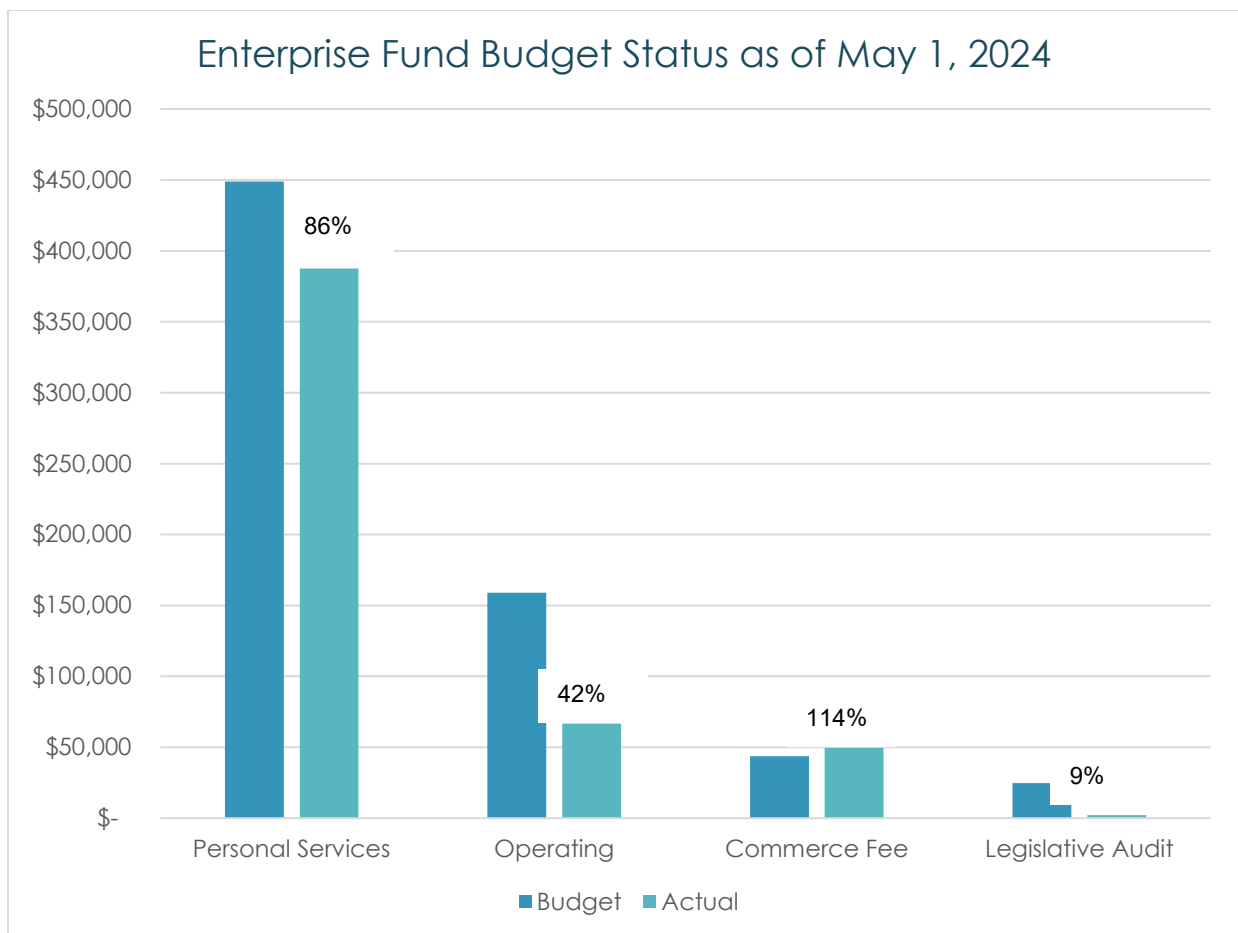
BOARD OF INVESTMENTS

TO: Dan Villa, Executive Director
FROM: Peggy MacEwen, Deputy Director
DATE: May 22, 2024
RE: Budget Status Report, Fiscal Year to Date

Below are the budget status reports for the Enterprise and Proprietary Funds. Both reports include the actual year-to-date information in SABHRS as of today.

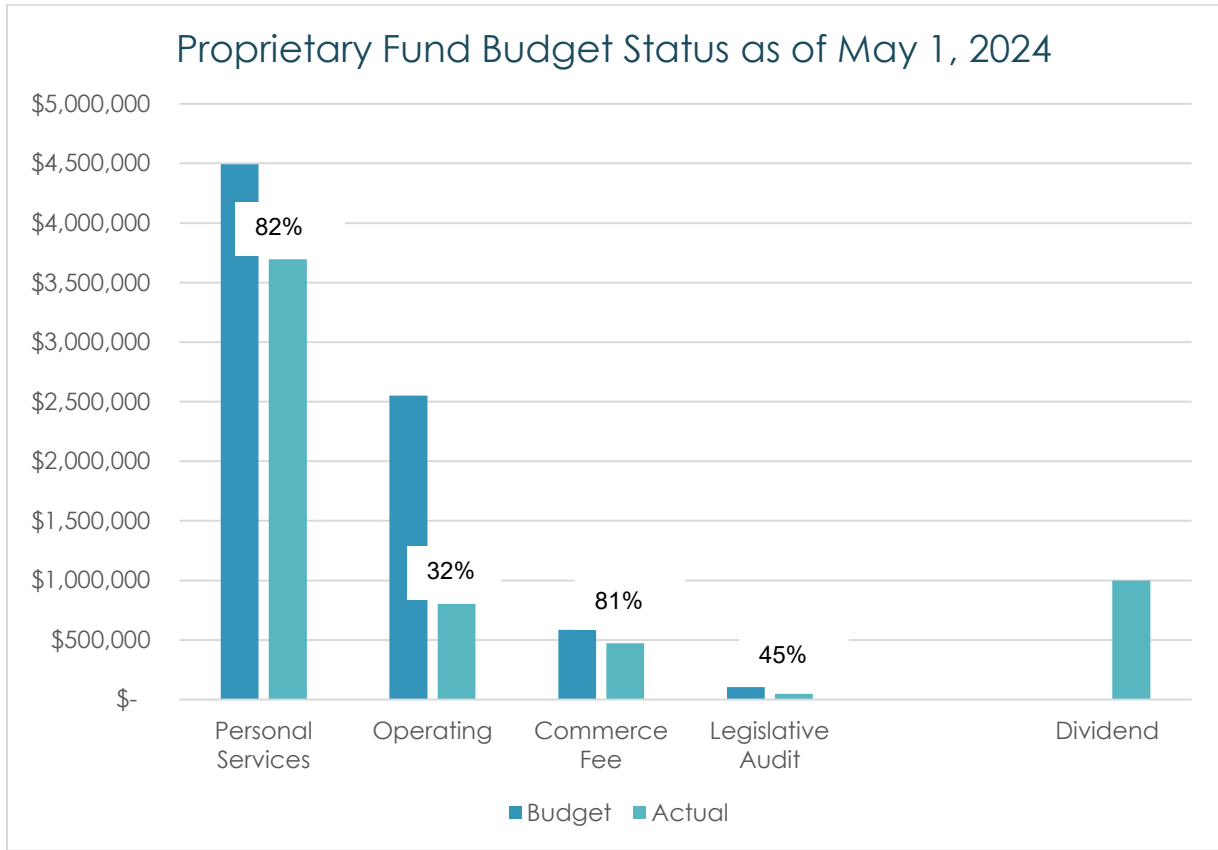
Enterprise Fund

The Enterprise Fund is 75% spent, while we are approximately 83% through the year. The percentage numbers on the chart represent the percentage of the budget spent.



Proprietary Fund

The Proprietary Fund is 65% spent, while we are approximately 83% through the year. The percentage numbers on the chart represent the percentage of the budget spent.



BOI will issue \$1,000,000 in dividends this month to maintain the 60-day working capital balance, a necessary step to ensure compliance with statutory requirements.

2025 Board of Investments Calendar

JANUARY

S	M	T	W	T	F	S
		1	2	3	4	
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	26
27	28	29	30	31		

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER

S	M	T	W	T	F	S
		1	2	3	4	
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

DECEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Board Materials Due
Board Packet Mailing
Board Meeting Dates

BOI WORK AND EDUCATION PLAN

2024

February 28-29

Education:

Outreach Efforts for the Board - In-State Loan and INTERCAP Programs
Short Term Investment Pool

Reports:

Ethics Policy
Disaster Recovery and Emergency Preparedness
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Financial Audit Report

April 10

Education:

Domestic Equity Asset Class Review
RVK Annual Capital Market Assumptions

Reports:

Benchmarks Used by the Board

May 22-23

Education:

MT Buildings (Board as Landlord/Tenant Holdings)
Investment Policy Statement Review
Real Estate Asset Class Review

Reports:

Budget Status FYTD
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

HR: Staffing Level Review
HR: Exempt Staff Compensation Review

August 28-29

Education:

Core Fixed Income Asset Class Review
Budget Proposal for FY24-25

Reports:

Proxy Voting
Budget Status Prior FY
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

October 9

Education:

Separate Accounts Investment Review
First Reading - Asset Allocation Range Recommendation

Reports:

CEM, Inc Cost Reporting Analysis

Committee Meetings:

HR: Exempt Staff Performance Review
Audit: SOC I, Type 2 Report

November 20-21

Education:

2025 Legislative Session
Adoption - Asset Allocation Range Approval

Reports:

Policy 217
LPAC
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Annual Report and Financial Statements

2025

February 26-27

Education:

Cash Management of State Monies
Custodial Banking Relationship and Continuity

Reports:

Ethics Policy
Disaster Recovery and Emergency Preparedness
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Financial Compliance Audit Report

April 23

Education:

International Equities Asset Class Review
RVK Annual Capital Market Assumptions

Reports:

Benchmarks Used by the Board

May 28-29

Education:

State Government Customer Relationships
Investment Policy Statement Review
Real Assets Asset Class Review

Reports:

Budget Status FYTD
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

HR: Staffing Level Review
HR: Exempt Staff Performance and Compensation Review

August 20-21

Education:

Trust Funds Investment Review
Non-Core Fixed Income Asset Class Review

Reports:

Budget Status Prior FY
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

October 15

Education:

Private Investments Asset Class Review
First Reading - Asset Allocation Range Recommendation

Reports:

Securities Lending

Committee Meetings:

HR: Exempt Staff Performance Review
Audit: SOC I, Type 2 Report

December 10-11

Education:

MPERA and TRS Relationship
Adoption - Asset Allocation Range Approval

Reports:

Policy 217
LPAC
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Annual Report and Financial Statements

MONTANA

BOARD OF INVESTMENTS

TO: Members of the Board
FROM: Doug Hill, Director of In-State Loan Programs
DATE: May 22, 2024
RE: Commercial and Residential Loan Portfolios

The Participation Loan Program reflected an outstanding balance, as of March 31, 2024, of \$108,802,580 and represents 48 loans with a yield of 2.79%. There are three loan reservations that total \$19,127,463 and one loan committed for 1,576,000. There are no past due loans.

The Infrastructure Loan Program reflected an outstanding balance, as of March 31, 2024, of \$8,218,292 and represents 7 loans with a yield of 4.05%. There is one loan reservation for \$2,733,224. There are no past due loans.

The Intermediary Relending Program reflected an outstanding balance, as of March 31, 2024, of \$5,486,899 and represents 39 loans with a yield of 2.00%. There is one loan committed that totals \$250,000. There are no past due loans.

The Science and Tech portfolio reflected an outstanding balance, as of March 31, 2024, of \$7,588,052 and represents 2 loans with a yield of 2.72%. There are no past due loans.

The Montana Facility Finance Authority portfolio reflected an outstanding balance, as of March 31, 2024, of \$10,546,785 and represents 15 loans with a yield of 3.09%. There is one loan reservation for \$1,500,000. There are no past due loans.

The Veterans Home Loan Mortgage portfolio reflected an outstanding balance, as of March 24, 2024, of \$48,371,415 and represents 274 loans with a yield of 2.02%. There are three loan reservations that total \$1,040,010. There are four loans over 90 days past due totaling \$991,385 or 2.05% of the portfolio.

The Multifamily Coal Trust Homes Program reflected an outstanding balance, as of March 24, 2024, of \$24,620,349. There are 6 funded pre-HB819 loans that total \$12,032,075 with a yield of 2.21%. There is one loan reservation for \$1,932,000 with an interest rate of 2.00%. There are three loans funded post-HB819 that total \$12,588,274 with a yield of 3.65%. There are nine loan reservations totaling \$32,582,688 with a yield of 3.57%. The April minimum rate is 3.52% and the average coal trust investment performance is 4.02%. There are no past due loans.

The Residential loan portfolio reflected an outstanding balance, as of March 24, 2024, of \$1,148,826 and represents 34 loans with a yield of 6.29%. There are no outstanding reservations. There are two loans over 90 days past due totaling \$99,285 or 8.64% of the portfolio. The past due loans have FHA guarantees.

The Montana Down Payment Assistance Program reflected an outstanding balance, as of March 31, 2024, of \$48,578,958 and represents 92 loans. Repayment of these loans begins in January 2027.

The Impact Fee Loan Program, as of March 31, 2024, has three loan reservations for \$9,000,000.

MONTANA

BOARD OF INVESTMENTS

INTERCAP

Q3

Activity Summary

\$120M Bond Series 2022:

Current Bond Rate	5.049%
Outstanding	70,706,869
Available for Drawdown	49,293,131

Total Committed	732,591,642
Total Funded	696,246,978

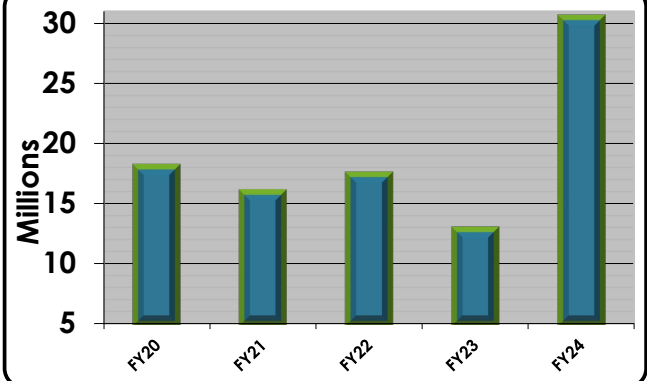
Loans:

Current Loan Rate	5.75% auto
Outstanding	69,902,168
Pending Commitments	36,344,663

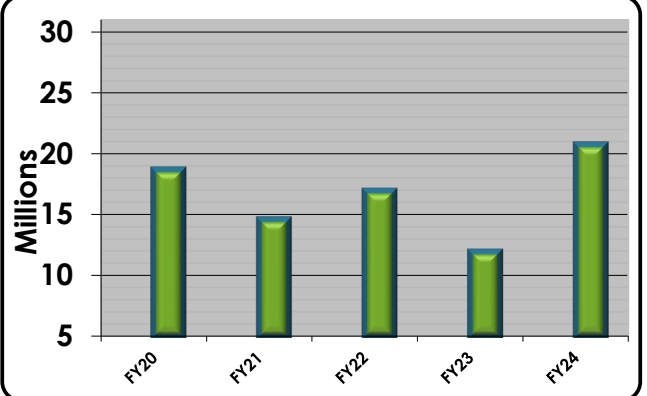
Borrowers	122
Debt Service Schedules	225
Autopay	85%

FY2024		
Month	Commitments	Fundings
July-23	916,059	1,489,398
August	325,000	2,580,543
September	1,079,530	1,400,673
October	2,330,000	2,764,775
November	-	6,184,054
December	1,875,807	3,304,654
January	1,319,000	110,596
February	22,060,000	537,516
March	596,062	2,347,870
April		
May		
June-24		
To Date	30,501,458	20,720,078

Commitments FY Q3 Comparison



Fundings FY Q3 Comparison



Note: Commitments include withdrawn and expired loans.

Variable Loan Rate History February 16, 2017 - February 15, 2025

February 16, 2017 - February 15, 2018	<u>2.50%</u>	February 16, 2021 - February 15, 2022	<u>1.65%</u>
February 16, 2018 - February 15, 2019	<u>3.15%</u>	February 16, 2022 - February 15, 2023	<u>1.50%**</u>
February 16, 2019 - February 15, 2020	<u>3.37%</u>	February 16, 2023 - February 15, 2024	<u>5.75%**</u>
February 16, 2020 - February 15, 2021	<u>2.50%*</u>	February 16, 2024 - February 15, 2025	<u>5.75%**</u>

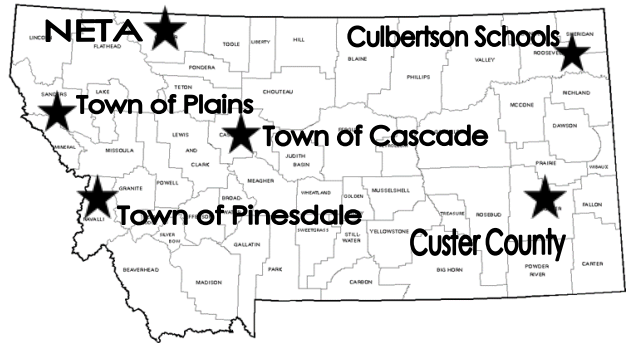
*BOI decreased interest rates for INTERCAP loans to 1.00% until August 15, 2020 in response to the COVID-19 pandemic.

**Autopay rates began in 2022. Existing borrower loans not set up for autopay in these years were charged 1.55%, 6.00% & 6.25% respectively for processing.

MONTANA

BOARD OF INVESTMENTS

I N T E R C A P



TO: Members of the Board

FROM: Louise Welsh,
Sr. Bond Program Officer

DATE: May 22, 2024

RE: INTERCAP Staff Approved Loans Committed – Staff approved the following loans from January 1, 2024, to March 31, 2024.

Borrower:	Northern Express Transportation Authority (NETA)
Purpose:	Operating storage track expansion
Staff Approval Date:	January 19, 2024
Board Loan Amount:	\$ 900,000
Other Funding Sources:	\$2,350,000
Total Project Cost:	\$3,250,000
Term:	10

Borrower:	Culbertson Elementary School District
Purpose:	Plumbing building repairs
Staff Approval Date:	January 29, 2024
Board Loan Amount:	\$314,250
Other Funding Sources:	\$ 15,500
Total Project Cost:	\$329,750
Term:	10

Borrower:	Culbertson High School District
Purpose:	Plumbing building repairs
Staff Approval Date:	January 29, 2024
Board Loan Amount:	\$104,750
Other Funding Sources:	\$ 15,500
Total Project Cost:	\$120,250
Term:	10

Borrower:	Town of Pinesdale
Purpose:	Fire truck
Staff Approval Date:	February 26, 2024
Board Loan Amount:	\$100,000
Other Funding Sources:	\$ 0
Total Project Cost:	\$100,000
Term:	7

Borrower:	Town of Plains
Purpose:	Ambulance
Staff Approval Date:	March 12, 2024
Board Loan Amount:	\$185,062
Other Funding Sources:	\$ 0
Total Project Cost:	\$185,062
Term:	7

Borrower:	Town of Cascade
Purpose:	Curb, gutter, and sidewalk project
Staff Approval Date:	March 25, 2024
Board Loan Amount:	\$111,000
Other Funding Sources:	\$137,000
Total Project Cost:	\$248,000
Term:	10

Borrower:	Custer County
Purpose:	Motor grader
Staff Approval Date:	March 27, 2024
Board Loan Amount:	\$300,000
Other Funding Sources:	\$146,820
Total Project Cost:	\$446,820
Term:	7

MONTANA

BOARD OF INVESTMENTS

TO: Members of the Board
FROM: Jon Putnam, Chief Investment Officer
Dan Villa, Executive Director
DATE: May 22, 2024
RE: Proposed Changes to Investment Policy Statements

A summary of the proposed changes to each of the Investment Policy Statements is below. Redline changes of the affected sections are included with this memo.

Consolidated Asset Pension Pool (CAPP)

Proposed changes

International Equities, Policy Number 40.203

- The percentage invested in passive/index strategies shall be greater than 35%.

Research indicates active management is more likely to outperform the index in International Equities. The portfolio is close to the current constraint of 42% and this will give staff increased flexibility.

Private Investments, Policy Number 40.204

- No more than 35% of Private Investments shall be invested in direct co-investments.

Staff are in the final stages of hiring a manager to assist with co-investments. Co-investments allow BOI to invest alongside existing private equity managers at a reduced fee. Staff will target co-investment exposure of approximately 20% of the private investment portfolio over time.

Real Assets, Policy Number 40.205

- Performance will be measured against the weighted average of the MSCI Commodities Index, US TIPS Index, and the MSCI ACWI Infrastructure Index.

A weighted average benchmark is a better representation of the risk in the Real Assets portfolio versus the current equal split between the three sub-asset class indices.

Trust Funds Investment Pool (TFIP)

Proposed changes

Real Estate, Policy Number 40.502

- No single Real Estate investment shall be more than 5% of Trust Funds Investment Pool.
- Core and Core Plus strategy range is combined consistent with the CAPP Real Estate policy.
- Leverage levels for each strategy have been modified to be consistent with the CAPP Real Estate policy.

The proposed changes align the TFIP policy with the CAPP policy. The change prevents confusion across portfolios and makes it easier to monitor compliance. There is no change to the TFIP investment strategy.

Separately Managed Accounts

Proposed changes

MT Public Employees Retirement Systems DC Disability Plan, Policy Number 40.300

- Change the benchmark to the S&P Total Market Index from the S&P 1500.

The plan is invested in a passive, total stock market index. The S&P Total Market Index is a better representation of our investment and will result in lower tracking error.

Montana Specific Investments

Proposed changes

State Agency INTERCAP Loans Staff Approval Limit, Policy Number 70.120

- Provide that the DNRC has an aggregate revolving line of credit for up to \$15 million for the Drinking Water State Revolving Fund, Water Pollution Control State Revolving Fund, and Renewable Resource Grant and Loan Programs.
- Provide that the Department of Transportation has a line of credit for up to \$15 million for the State Motor Pool.

Both State Agencies are long-time customers of the Board in good standing. This policy will allow staff to expedite approval of their regular loan requests.

Commercial Loan Program, Policy Number 70.720

- Eliminate duplicative language.
- Add that individuals convicted of or who have pending felony charges or have declared bankruptcy are ineligible for commercial loans.

Explicitly state in policy that the Board will not consider loans from the aforementioned.

Infrastructure Loan Program, Policy Number 70.730

- Clarify the definition of “Basic Sector.”

Many potential clients have expressed confusion over part two of the definition of “Basic Sector.” This is staff’s attempt to make it more readable.

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 40.203

EFFECTIVE DATE: ~~TBD November 30, 2021~~

TITLE: International Equities Asset Class
Investment Policy Statement

SUPERSEDES: ~~November 30, 2021~~
~~November 19, 2020~~

BOARD ADOPTION: November 30, 2021

REVIEWED: May 22, 2024

I. Introduction

- A. The purpose of this policy is to provide a framework for the International Equities Asset Class under the guidance of the Board.

II. Purpose

- A. The purpose of this policy is to:
1. Establish the investment objectives and performance standards of the Asset Class; and
 2. Provide diversified exposure to the Private Investments markets in a prudent and cost-effective manner.

III. Investment Objective

- A. Strategic - The objective of the International Equities Asset Class is to attain the highest possible return within the parameters of the Investment Policy Statement set forth below.
- B. Performance - Success in achieving this objective will be measured by comparing the risk and after-fee return of the International Equities Asset Class to the MSCI All Country World ex-US Investable Market Index (the Benchmark). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a three (3) year, five (5) year, and ten (10) year annualized basis.

C. Investment Guidelines

1. Staff will have full discretion to manage the International Equities Asset Class consistent with this policy. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.
2. Most of the International Equities Asset Class investments will be managed by external investment managers.
3. The International Equities Asset Class may utilize public long-only and long/short strategies.
4. It is expected that the International Equities Asset Class shall invest in public market investments that provide liquidity and meaningful transparency to portfolio characteristics and risk exposures.

D. Permitted Investments

1. The International Equities Asset Class may invest only in the following:

Adopted: November 30, 2021

Revised ~~TBD~~Reviewed May 22, 2024

- a) International equity securities and derivatives held in separate accounts, commingled funds, limited partnerships, or limited liability companies managed by external investment managers and governed by their respective investment management contracts and investment guidelines;
- b) ETFs based on an international equity index that is approved by the CIO and purchased and monitored by Staff; and
- c) Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a “US Treasury” or “US Government” money market fund per the SEC regulations.

E. Other Restrictions

1. The International Equities Asset Class percentage of Net Asset Value invested in “small-cap” equities shall not exceed ten percent (10%) above the Benchmark weight in “small cap”.
2. The International Equities Asset Class percentage of Net Asset Value invested in passive/index strategies shall be greater than ~~forty two percent (42%)~~ **thirty five percent (35%)**.
3. The International Equities Asset Class percentage of Net Asset Value invested in Emerging Market securities shall not exceed + or – ten percent (10%) above the Benchmark weight in Emerging Market securities.

- F. If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, considering current market conditions and the associated costs of rebalancing. At the Board’s next regularly scheduled quarterly meeting, the CIO shall inform the Board of any situations where the International Equities Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the International Equities Asset Class back within guidelines or a plan to do so.

Authority: Montana Constitution, Article VIII, Section 13
 Section 2-15-1808, MCA
 Sections 17-6-201, MCA
 Sections 17-6-204 and -205, MCA
 Section 19-2-504, MCA

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 40.204

EFFECTIVE DATE: ~~TBD~~ May 26, 2022

TITLE: Private Investments Asset Class
Investment Policy Statement

SUPERSEDES: May 26, 2022 ~~November 30, 2021~~

BOARD ADOPTION: November 30, 2021

REVIEWED: May 22, 2024 ~~May 26, 2022~~

I. Introduction

- A. The purpose of this policy is to provide a framework for the Private Investment Asset Class under the guidance of the Board.

II. Purpose

- A. The purpose of this policy is to:
1. Establish the investment objectives and performance standards of the Asset Class; and
 2. Provide diversified exposure to the Private Investments markets in a prudent and cost-effective manner.

III. Investment Objective

- A. Strategic - The objective of the Private Investments Asset Class is to attain the highest possible return within the parameters of the Investment Objective and Guidelines set forth below.

B. Performance

1. There is no generally accepted benchmark index for private investment performance comparisons. Characteristically, private partnership investments are impacted by the “J-curve” effect, in which fees and transaction costs create negative returns during the initial investment years before distributions are realized. Private investments require a long-time horizon to realize the value provided by the creation or restructuring of private companies.
2. The performance objective for the Private Investments Asset Class is the achievement of long-term net returns (after management fees and general partner’s carried interest) above a benchmark reflecting public equity market returns.
3. Success in achieving this objective will be measured by comparing the net return of the Private Investments Asset Class to the weighted average of the MSCI USA Small Cap Index (Private Equity) and the S&P Leveraged Loan Index (Private Credit) (the Benchmark) on an annualized basis. Performance results will be monitored quarterly. However, the success in achieving the objective will be measured on a five (5) year and ten (10) year annualized basis.

C. Investment Guidelines

1. Staff will have full discretion to manage the Private Investments Asset Class consistent with this policy. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.
2. Most of the Private Investments Asset Class investments will be managed by external investment managers via a partnership structure in which the Board will have a limited partnership interest.

Adopted: November 30, 2021

Revised: ~~TBD~~ May 26, 2022

Reviewed: May 22, 2024 ~~May 26, 2022~~

D. Permitted Investments

1. The Private Investments Asset Class may invest only in the following:
 - a) Private Investment partnership interests. These private partnerships may be direct limited partnerships, limited liability companies, or vehicles that primarily invest in partnerships, including Fund-of-Funds and Secondary Funds;
 - b) Investments held in separate accounts or commingled funds managed by external investment managers and governed by their respective investment management contracts and investment guidelines;
 - c) The Private Investments Asset Class may co-invest with private investment managers in transactions that are suitable for inclusion into a private investment partnership;
 - d) Individual public or private securities received as distributions from funds;
 - e) Exchange-Traded Funds (ETFs) based on a public equity index that is approved by the CIO and purchased and monitored by Staff; and
 - f) Cash – either an investment in the STIP, a vehicle available through the Custodian, or an SEC registered money market fund that is considered a “US Treasury” or “US Government” money market fund per the SEC regulations.

E. Other Restrictions

1. The Montana Public Retirement Plan assets as a percentage of Net Asset Value invested in a single Direct Limited Partnership shall be no greater than two percent (2%).
2. No more than forty percent (40%) of the aggregate of the Private Investments Asset Class net asset value should be considered “Non-U.S.” exposure based on the primary objective of the Fund, Partnership, Separate Account, or Index.
3. No more than ~~ten percent (10%)~~ thirty five percent (35%) of the aggregate of the Private Investments Asset Class net asset value shall be invested in direct co-investments.
4. Individual public securities received as distributions will be liquidated over a reasonable time-period dependent on market conditions.

- F. The following table provides a guideline range with respect to Private Investments strategy diversification. These ranges reference the Private Investments Asset Class net asset value.

<u>Strategy</u>	<u>Policy Range</u>
Buyout and all other private equity related strategies not related to Venture Capital or Private Credit	50% - 100%
Venture Capital	0% - 25%
Private Credit	0% - 50%

1. For the purpose of the ranges provided above, funds will be classified in the category that is most reflective of the underlying investments in the funds.
- G. If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board’s next regularly scheduled quarterly meeting, the CIO shall inform the Board of any situations where the Private Investments Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Private Investments Asset Class back within guidelines or a plan to do so.

Authority: Montana Constitution, Article VIII, Section 13
Section 2-15-1808, MCA
Section 17-6-201, MCA
Sections 17-6-204 and -205, MCA
Section 19-2-504, MCA

Adopted: November 30, 2021

Revised: ~~TBD May 26, 2022~~

Reviewed: ~~May 22, 2024 May 26, 2022~~

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 40.205

EFFECTIVE DATE: ~~May 24, 2023~~TBDTITLE: Real Assets Asset Class
~~30, 2021~~SUPERSEDES: ~~May 24, 2023~~November

Investment Policy Statement

BOARD ADOPTION: November 30, 2021

REVIEWED: ~~May 24, 2023~~May 22, 2024

I. Introduction

- A. The purpose of this policy is to provide a framework for the Real Assets Asset Class under the guidance of the Board.

II. Purpose

- A. The purpose of this policy is to:
1. Establish the investment objectives and performance standards of the Real Assets Asset Class; and
 2. Provide diversified exposure to the Real Assets markets in a prudent and cost-effective manner.

III. Investment Objective

A. Strategic

1. The objective of the Real Assets Asset Class is to attain the highest possible return within the parameters established in this policy.

B. Performance

1. There is no generally accepted performance comparisons benchmark index for private partnership investments in Real Assets. Characteristically, private partnership investments are impacted by the "j-curve" effect, in which fees and transaction costs create negative returns during the initial investment years before distributions are realized. Private partnership investments usually require a long-time horizon to realize the value provided by the creation or enhancement of private companies.
2. The long-term performance objective for the Real Assets Asset Class is the achievement of net returns (after management fees and general partner's carried interest) above a benchmark reflecting public equity Real Assets market returns.
3. Success in achieving this objective will be measured by comparing the long-term net return of the Real Assets Asset Class to the weighted average of the 4/3-MSCI ACWI Commodity Producers Index, 4/3-US TIPS Index, 4/3-and MSCI ACWI Infrastructure Index (the Benchmark) on an annualized basis. Performance results will be monitored quarterly, however, the success in achieving the objective will be measured on a five (5) year and ten (10) year annualized basis.

C. Investment Guidelines

1. Staff will have full discretion to manage the Real Assets Asset Class consistent with this policy. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Adopted: November 30, 2021

Revised: ~~TBD~~May 24, 2023Reviewed: ~~May 22, 2024~~May 24, 2023

2. Most of the Real Assets Asset Class investments will be managed by external investment managers via private investment partnerships in which the Board will have a limited partnership interest; however, the Real Assets Asset Class may also utilize public long-only and long/short strategies.

D. Permitted Investments

1. The Real Assets Asset Class (for the purpose of these guidelines, “Real Assets” includes investments in inflation linked bonds, infrastructure, timber, energy, agriculture, and other commodities) may invest only in the following:
 - a) Private investment partnership interests in Real Assets. These private investment partnerships may be direct limited partnerships, limited liability companies, or vehicles that primarily invest in partnerships, including fund-of-funds and secondary funds;
 - b) The Real Assets Asset Class may co-invest with private investment managers in transactions that are suitable for inclusion into a Real Assets private investment partnership;
 - c) Individual public or private securities received as distributions from funds;
 - d) Separately managed accounts, open-ended funds, closed-ended funds, or exchange-traded funds (ETFs), managing publicly traded Real Assets related investments, where the investments are approved by the CIO and purchased and monitored by Staff;
 - e) Inflation Linked Bonds; and
 - f) Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the custodian, or an SEC registered money market fund that is considered a “US Treasury” or “US Government” money market fund per the SEC regulations.

E. Other Restrictions

1. The Montana Public Retirement Plan assets as a percentage of Net Asset Value invested in a single investment within Real Assets Asset Class shall be no greater than two percent (2%).
2. No more than forty percent (40%) of the aggregate of the Real Assets Asset Class Net Asset Value should be considered “Non-U.S.” exposure based on the primary objective of the fund, partnership, separately managed account, or index.
3. No more than ten percent (10%) of the aggregate of the Real Assets Asset Class Net Asset Value shall be invested in direct co-investments.
4. Individual public securities received as distributions will be liquidated over a reasonable time-period dependent on market conditions.

- F. The following table provides a guideline range with respect to the Real Assets Asset Class strategy diversification. These ranges reference the Real Assets Asset Class Net Asset Value.

<u>Strategy</u>	<u>Policy Range</u>
Commodities Related	25% - 75%
Infrastructure Related	25% - 75%
Inflation Linked Bonds	0% - 50%

1. For funds with exposure across categories, the fund will be classified in the category that is most reflective of the underlying investments in the funds.

G. Timber Fund Leverage

1. Leverage is a significant risk factor. On an individual fund basis, the leverage level can range up to thirty percent (30%). Individual fund leverage may occasionally exceed thirty percent (30%) and will be monitored by staff to determine the cause and whether it is a temporary or

persistent issue. Leverage shall be monitored on an individual fund level and new investments shall be made with the intention that the total timber fund investment leverage shall not exceed thirty percent (30%).

Strategy

Timber

Leverage Policy Range

0% - 30%

- H. If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any situations where the Real Assets allocations were outside of the limits and either inform the Board of the actions that were taken to return the Real Assets Asset Class back within guidelines or a plan to do so.

Authority: Montana Constitution, Article VIII, Section 13
 Section 2-15-1808, MCA
 Section 17-6-201, MCA
 Sections 17-6-204 and -205, MCA
 Section 19-2-504, MCA

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 40.502

EFFECTIVE DATE: ~~TBD~~ May 26, 2022TITLE: Real Estate Asset Class
~~2021~~SUPERSEDES: ~~May 26, 2022~~ November 30,

Investment Policy Statement

BOARD ADOPTION: November 30, 2021

REVIEWED: ~~May 22, 2024~~ May 26, 2022

I. Introduction

- A. The purpose of this policy is to provide a framework for the Real Estate Asset Class under the guidance of the Board.

II. Purpose

- A. The purpose of this policy is to:
1. Establish the investment objectives and performance standards of the Real Estate Asset Class; and
 2. Provide diversified exposure to Real Estate in a prudent and cost-effective manner.

III. Investment Objective

- A. Strategic - The objective of the Real Estate Asset Class is to attain the highest possible return within the parameters established in this policy.
- B. Performance - Success in achieving this objective will be measured by comparing the risk and after-fee return of the Real Estate Asset Class to the NCREIF ODCE Index (the Benchmark). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a five (5) year, and ten (10) year annualized basis.

C. Investment Guidelines

1. Staff will have full discretion to manage the Real Estate Asset Class consistent with this policy. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.
2. Most of the Real Estate Asset Class investments will be managed by external investment managers.

D. Permitted Investments

1. The Real Estate Asset Class may invest only in the following:
 - a) Separate Accounts, Open-Ended Funds, Closed-Ended Funds, Exchange-Traded Funds (ETFs), Real Estate Investment Trusts or Master Limited Partnerships (MLPs) managing publicly traded Real Estate, where the investments are approved by the CIO and purchased and monitored by Staff;

- b) Private Investment partnership interests. These private partnerships may be direct limited partnerships, limited liability companies, or vehicles that primarily invest in partnerships, including Fund-of-Funds and Secondary Funds;
- c) The Real Estate Asset Class may co-invest with private investment managers in transactions that are suitable for inclusion into a private Real Estate investment partnership;
- d) Individual public or private securities received as distributions from funds are also permitted to be held in the Real Estate Asset Class; and
- e) Cash – either an investment in STIP, a vehicle available through the Custodian, or an SEC registered money market fund that is considered a “US Treasury” or “US Government” money market fund per the SEC regulations.

E. Other Restrictions

1. No less than seventy-five percent (75%) of the aggregate of the Real Estate Asset Class net asset value capital shall be invested in “Core and Core-Plus” Real Estate.
2. No more than forty percent (40%) of the aggregate of the Real Estate Asset Class Net Asset Value should be considered “Non-U.S.” exposure based on the dominant geographic exposure of the Fund, Partnership, Separate Account, or Index.
3. No more than ten percent (10%) of the aggregate of the Real Estate Asset Class Net Asset Value shall be invested in direct co-investments.
4. ~~No more than thirty-five percent (35%) of the aggregate of the Real Estate Asset Class net asset value should be in a single Fund, Partnership, or Separate Account.~~ No more than five percent (5%) of the Trust Funds Investment Pool assets as a percentage of Net Asset Value shall be invested in a single Fund, Partnership or Separate Account in the Real Estate Asset Class.
5. Individual public securities received as distributions will be liquidated over a reasonable time period dependent on market conditions.

- F. The following table provides a guideline range with respect to the Real Estate Asset Class strategy diversification. These ranges reference the Real Estate Asset Class Net Asset Value.

<u>Strategy</u>	<u>Policy Range</u>
Core and Core Plus Real Estate	75 50% - 100%
Core-plus	0% - 25%
Real Estate Debt	0% - 25%

1. For funds with exposure across these categories, the fund will be classified in the category that is most reflective of the underlying investments in the funds.

G. Leverage

1. Leverage is a significant risk factor. On an individual fund basis, the leverage level can range up to ~~fifty-seventy-five~~ percent (~~75~~50%). Leverage for Core and Core-plus Funds consists of the combined borrowing at the property level and the fund level. Leverage for Real Estate Debt is only measured at the fund level. On a select basis, the leverage may exceed ~~sixty-seventy-five~~ percent (~~65~~75%) for a given investment if it is determined to be reasonable to do so. Leverage shall be monitored on an individual fund level and new investments shall be made with the intention that the total Real Estate Asset Class leverage shall not exceed ~~fifty-sixty~~ percent (~~60~~50%).

Strategy

Core Real Estate Investments

Core-plus

Real Estate Debt

Leverage Policy

0% - 50%

0% - ~~65~~75%0% - ~~50~~75%

2. If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any situations where the Real Estate Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Real Estate Asset Class back within guidelines or a plan to do so.
3. While no formal diversification ranges are set forth for property type diversification or regional diversification within the United States, it is expected that the Real Estate Asset Class shall remain diversified across these factors. These and other factors shall be monitored and reported to the Board at least annually.

Authority: Montana Constitution, Article VIII, Section 13
 Section 2-15-1808, MCA
 Section 17-6-201, MCA
 Sections 17-6-204 and -205, MCA

Adopted: November 30, 2021

Revised: ~~TBD~~May 26, 2022

Reviewed: ~~May 22, 2024~~May 26, 2022

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 40.300

EFFECTIVE DATE: ~~TBD~~May 26, 2022

TITLE: Montana Public Employees Retirement Systems Defined Contribution Disability Plan Investment Policy Statement
 SUPERSEDES: ~~May 22, 2024~~November 30, 2021

BOARD ADOPTION: November 30, 2021

REVIEWED: ~~May 22, 2024~~May 26, 2022

I. Introduction

- A. The purpose of this policy statement is to provide a broad strategic framework for the plan's investments under the guidance of the Board.
- B. Implemented July 1, 2002, the Defined Contribution Retirement Plan (DCRP) Disability Fund, as governed by Section 19-3-2117, MCA, provides disability benefits to eligible members who elect the Public Employees Retirement System (PERS) – DCRP.
- C. The DCRP Disability Fund receives three-tenths percent (0.3%) of the employers' contribution.
- D. Section 19-3-2141(7), MCA, states the PERS Board shall establish a long-term disability plan trust fund from which disability benefit costs pursuant to this section must be paid.
- E. The trust fund must be entirely separate and distinct from the defined benefit plan trust fund.

II. Investment Objective

- A. The Board's overall objective is to achieve the highest level of investment performance that is compatible with its risk tolerance and prudent investment practices. Because of the long-term nature of the disability liabilities, the Board maintains a long-term perspective in formulating and implementing its investment policies, and in evaluating its investment performance.
- B. To meet the objective the investments will consist of the traditional long-term asset classes of stocks and bonds, as further described in the asset allocation section below. The vehicles used to obtain these exposures will consist of passive funds designed to track the following broad market indices:
 1. ~~S&P Total Market Index Standard and Poor's 1500 Index~~
 2. MSCI All Country World ex U.S. Index
 3. Barclay's U.S. Aggregate Bond Index
- C. The Short-Term Investment Pool (STIP) will be used at the cash alternative.
- D. The Board expects to meet or exceed these objectives over a long-term investment horizon. The expectation for return is reflective of the passive vehicles used in the allocation mix. The allocation mix is described below.

III. Performance Measurement

- A. Success in achieving the investment objective will be measured by comparing the risk and return of the account to the return on the:
 1. ~~S&P Total Market Index Standard and Poor's 1500 Index~~
 2. MSCI All Country World ex-U.S. Index

Adopted: November 30, 2021

Revised: ~~TBD~~May 26, 2022Reviewed: ~~May 22, 2024~~May 26, 2022

- 3. Barclay's U.S. Aggregate Bond Index
- B. Each weighted proportionately to the portfolio's holdings.
- C. Performance will be monitored and evaluated quarterly.
- D. Success in achieving the objective will be measured on a three (3) year, five (5) year, and ten (10) year annualized basis.

IV. Asset Allocation

- A. The Board, as the investment fiduciary of the plan, is responsible for establishing the investment parameters for the plan. The Board has the authority to allocate portfolios to any previously Board-approved asset class in the proportions it considers prudent, under the prudent expert rule. There are currently no statutory or constitutional restrictions on the investment of the plan. The target asset allocation is shown in the following table:

PERS-DC Disability Plan Asset Allocation	
Stocks	50-70%
Domestic	30-50%
International	10-30%
Bonds	20-40%
Cash	5-10%

V. Liquidity Needs

- A. At this time, the plan is relatively young and there are few claimants receiving benefits under the plan. The plan is expected to grow as new participants are added and assets accumulate with additional contributions. Given the uncertainty of future claims, however, and given the relatively small size of the plan at this time, the cash allocation is targeted at five – ten percent (5-10%) of the account. Liquidity needs will be met with a combination of cash on hand, and potentially sales of investments.

VI. Rebalancing

The actual asset allocation mix may deviate on rare occasion from the approved asset allocation ranges due to unusual financial market volatility, cash flows, and rebalancing activity. Also, during the initial purchase of the long-term asset classes the allocation may deviate from the target range as cash is deployed, depending on market conditions. Any necessary rebalancing will be made in a timely manner and will take into consideration associated costs and current market conditions. The plan's asset allocation mix will be monitored on a regular basis and adjusted to stay within allocation guidelines, taking into consideration the deviation from the target allocation mix and current market conditions.

Authority: Montana Constitution, Article VIII, Section 13
 Section 2-15-1808, MCA
 Section 17-6-201, MCA
 Section 19-2-504, MCA
 Section 19-3-2102, MCA
 Section 19-3-2117, MCA
 Section 19-3-2141, MCA

Adopted: November 30, 2021

Revised: ~~TBD May 26, 2022~~

Reviewed: ~~May 22, 2024~~ May 26, 2022

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 70.120

EFFECTIVE DATE: TBD

TITLE: State Agency INTERCAP Loans
Staff Approval Limit

SUPERSEDES: NEW

BOARD ADOPTION: TBD

REVIEWED: May 22, 2024

I. State Agency INTERCAP Loans – Staff Approval Limit

A. Purpose

1. The purpose of this policy is to improve Board efficiency in the approval process of certain state agency INTERCAP loans due to the repetitive nature of the loans.

B. Procedures

1. Board staff may approve the state agency INTERCAP loans within the limits hereinafter prescribed without requiring further approval by the Board.
2. Loan requests approved by Board staff under this authorization are to be reported to the Board on a quarterly basis.

C. Loans Authorized

1. Department of Natural Resources and Conservation (DNRC)

- a) Section 17-5-805, Montana Code Annotated (MCA). Interim financing in anticipation of issuing general obligation bonds or in receipt of other revenue including, but not limited to, loan repayments.
- b) Sections 17-5-803 and 75-6-227, MCA. General obligation bond issuance within the statutory limit for the Drinking Water State Revolving Fund (DWSRF). The DWSRF is a loan program the DNRC co-administers with the Department of Environmental Quality used to finance community water systems projects.
- c) Sections 17-5-803 and 75-5-1122, MCA. General obligation bond issuance within the statutory limit for the Water Pollution Control State Revolving Fund (WPCSRF). The WPCSRF is a loan program the DNRC co-administers with the Department of Environmental Quality used to finance community water pollution control systems projects.
- d) Section 85-1-624, MCA. General obligation bond issuance within the statutory limit for the Renewable Resource Grant and Loan (RRGL) Program. The RRGL Program is a grant and loan program used to finance community water, sewer, and irrigation projects.
- e) The aggregate outstanding principal amount of all INTERCAP loans (Loan) made by the Board to the DNRC, when added to the maximum principal amount of such proposed Loan, may not exceed \$15 million without Board approval.

2. Montana Department of Transportation (MDT)

- a) Section 17-5-2001, MCA. Internal service fund loans used to finance replacement vehicles/equipment primarily for the state motor pool fleet.

Adopted: TBD

Revised: NEW

Reviewed: May 22, 2024

- b) The aggregate outstanding principal amount of all Loans made by the Board to the MDT under Section 17-5-2001, MCA, when added to the maximum principal amount of such proposed Loan, may not exceed \$15 million without Board approval.
 - c) This authorization supersedes the \$10.5 million limitation on the amount of MDT INTERCAP loans under Section 17-5-2001, MCA, outstanding at any one time that the Board authorized in January 2001.
3. To make the foregoing calculations, a Loan to the DNRC or MDT is deemed to be outstanding in the maximum principal amount of the committed amount of the Loan less prepayments or amounts paid on the Loan to date, even if only a portion or none of such committed amount is advanced as of the date of calculation.
4. The unadvanced commitment of a Loan will be disregarded for the purpose of determining the outstanding principal amount if at the time of making the calculation:
- a) The Board has received written notice from the borrowing agency that no further advances on the Loan are contemplated and the Board is directed by the borrowing agency to release the unadvanced principal from the loan commitment; or
 - b) The loan commitment has expired by its terms.
- D. In the event of a conflict between the delegated authority in BOI Policy 10.163 Loan Committee Charter and this BOI Policy 70.120, the authorization provided in this BOI Policy 70.120 shall take precedence.

Authority: Montana Code Annotated, Art. VIII, Section 13
Section 2-15-1808, MCA
Title 17, chapter 5, part 16, MCA
Sections 17-5-803, 17-5-805, 75-6-227, 75-5-1122, 85-1-624, and 17-5-2001, MCA
Section 17-6-201, MCA
ARM 8.97.715 through 8.97.724

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 70.720

EFFECTIVE DATE: ~~TBD~~September 23, 2022TITLE: Commercial Loan Program
~~November 30, 2021~~SUPERSEDES: ~~September 23, 2022-~~

BOARD ADOPTION: November 30, 2021

REVIEWED: ~~May 22, 2024~~July 20, 2022

I. Commercial Loan Program

A. General Parameters for Commercial and Multi-Tenant Housing Loans:

1. The Board does not lend directly to businesses and participates only with Approved Lenders in making loans to Montana businesses.
2. Approved Lenders originate all loans and submit loan applications and loan reservation forms.
3. The term Borrower means the Borrower applying for a loan from the Lender.
4. Borrowers must give preference to Montana labor when constructing projects.
5. Project construction contractors are subject to prevailing wages.
6. Small Business Loan Incentives are only available for Commercial Coal Tax Trust loans.
7. Job Credit Interest Rate Reductions are only available for Commercial Coal Tax Trust loans.
8. Commercial Coal Tax Trust loans maximum size is limited to ten percent (10%) of the Trust.
9. Commercial Coal Tax Trust loans exceeding six percent (6%) of the Trust require thirty percent (30%) Lender Participation.
10. The submission of a fee with the Loan Reservation Form locks an interest rate and reserves funding.

B. Interest Rates

1. Interest rates are effective for a one (1) week period and are posted on the Commercial Loan Rate Sheet.
2. The Commercial Loan Rate Sheet is posted on the Board's website each Thursday.
3. The interest rates reflect net yield to the Board and are exclusive of any Lender fees.
4. Initial interest rate is determined by the interest rate posted on the Commercial Loan Rate Sheet on the date the loan reservation form is received.

C. Loan Reservations

1. Reservations with an Identifiable Borrower
 - a) Lenders with an identifiable Borrower(s) at the time of the reservation may reserve funds for one year (365 days) with a fee of one-quarter percent (0.25%) of the reserved amount.
 - b) Lenders may lock interest rates at any time during the one-year (365 days) period at the rate last set.
 - c) If the loan has **not** been committed and the Board's interest rates decline after a Lender has locked interest rates during the one-year (365 days) period, a reservation at the lower rate for an additional one-year (365 days) may be obtained via payment of another one-

Adopted: November 30, 2021

Revised: ~~TBD~~September 23, 2022Reviewed: ~~May 22, 2024~~July 20, 2022

quarter percent (0.25%) fee.

- d) If the loan has been committed and the Board's interest rates decline after a Lender has locked interest rates during the one-year (365 days) period, the lower rate may be obtained via payment of another one-quarter percent (0.25%) fee, but the original commitment letter expiration date will remain the same.
- e) Lenders must offer, underwrite, accept, and close the loan during the one-year (365 days) period.
- f) All applicable checklist items must be received within ninety (90) days after expiration of the one-year (365 days) period.
- g) The reservation may be extended as outlined in Section C.2. of this Policy.
- h) Blended interest rates may be applied for increases in the reserved amount of an existing reservation.
- i) The last fee paid is refundable if the loan is funded or the application is rejected.

2. Reservation Extensions

- a) If the project for which the loan proceeds will be utilized is not completed within the initial one-year (365 days) reservation period, up to two (2) additional one-year (365 days) increments may be granted upon written request and payment of an additional one-quarter percent (0.25%) fee for each extension.
- b) Additional one-year (365 days) extensions will not be granted if the project has been completed within the existing reservation/commitment period.
- c) Extension fees must be received via ACH within fifteen (15) working days after the expiration date of the current one-year (365 days) period in order to keep the reservation in force.

D. Financial Institution Incentive for Small Business Loans

- 1. The Board's interest rates may be reduced by one-half percent (0.50%) for loans of less than five-hundredths percent (0.05%) of the Montana Permanent Coal Tax Trust balance at the most recent fiscal year-end. ~~The amount is posted weekly with the interest rates.~~
- 2. ~~This reduction is available for loans made to small businesses, which the Board defines as businesses with gross annual payroll of less than \$10.0 million (Section 17-6-319, MCA).~~

E. Job Creation Interest Rate Reduction

- 1. With the exception of Link Deposit and Value-Added loans, Borrowers who create jobs as a result of a Commercial Coal Tax Trust Loan are entitled to an interest rate reduction of five-hundredths percent (0.05%) for each qualifying job created up to a maximum of two and a half percent (2.50%).
- 2. One job is equal to the Private Annual Wage shown on the weekly posted Commercial Loan Rate Sheet.
- 3. For jobs paying more than the Private Annual Wage, job credits will be increased proportionately for each twenty-five percent (25%) increment above the Private Annual Wage to a maximum of two jobs.
- 4. For jobs paying less than the Private Annual wage, job credits will be reduced proportionately for each twenty-five percent (25%) increment below the Private Annual Wage.
- 5. Job credits are not available unless one whole job is created.
- 6. Nonprofit corporations may qualify for the job credit interest rate reductions if the interest rate reduction passes through to a for-profit business creating the jobs.
- 7. The Board may increase the interest rate commensurate with the number of jobs eliminated if

the Borrower eliminates qualifying jobs. Lenders must notify the Board if the Borrower eliminates qualifying jobs.

8. The beginning date for counting jobs created is the date of the first written contact from the Lender or the Borrower pertaining to the project.
9. Applications for interest rate reductions may be delivered with the loan funding documents or at least ten (10) working days before the end of each calendar quarter.
10. The Borrower seeking an interest rate reduction must provide payroll records as evidence of the creation of jobs.
11. The Board shall notify the Lender within fifteen (15) business days of the action has been taken on an interest rate reduction request.
12. Investors owning business properties may receive an interest rate reduction if the lease passes the reduction to the lessee for the full term of the loan.
13. Interest rate reductions provided in this part will be effective on the next scheduled payment date.
14. The posted Private Annual Wage and State of Montana minimum wage will be used in calculating a job creation interest rate reduction request. Job credit interest rate reductions are not available for jobs paying less than the state minimum wage.

F. Interest Rate Buy Down on Existing Commercial Loans

1. The Board's portion of an outstanding loan interest rate may be reduced to the Board's current rate at the time the Loan Reservation Form and fee are received.
2. The interest rate will be calculated by rounding the remaining term up to the nearest year and applying the buy down interest rate for that specific year. The fee is:
 - a) One percent (1%) of outstanding Board loan balance, for sixty (60) months or less,
 - b) One and a half percent (1.5%) of outstanding Board loan balance for sixty-one to one hundred and twenty (61 to 120) months, or
 - c) Two percent (2%) of outstanding Board loan balance for one hundred and twenty-one (121) months or more.
3. Interest rate reductions are effective on the next payment due date after the fee is received and the reduction is approved by the Board.
4. Job creation interest rate reduction can be applied to the buy down interest rate for all new jobs created after the date of the rate buy down.
 - a) If a rate reduction resulting from the creation of jobs was applied to the loan prior to the interest rate buy down the previously applied rate reduction and any new job-related rate reduction after the interest rate buy down cannot exceed a total of two and a half percent (2.50%).
 - b) The previously used job credit rate reduction cannot be applied to the buy down interest rate.

G. Collateral Requirements

1. Collateral requirements include:
 - a) A first mortgage/lien position shared proportionately with Lender,
 - b) Sufficient economic life to support the term of the loan,
 - c) Personal guarantees as required by Lender or the Board,

- d) An attorney opinion on authority of Borrower to borrow and all collateral documents if required by Lender, and
- e) Other collateral as required by Lender or the Board.

H. Appraisals Requirements

1. Licensed Montana commercial appraisers are preferred unless a specialized property collateral requires an out-of-state appraiser.
2. Requirements apply to all appraisals irrespective of the Lender's appraisal or loan policy appraisal requirements and are based on the total loan amount shown below:
 - a) Up To \$500,000 - As required by Lender to provide basis for value.
 - b) Over \$500,000 - Appraisal Report, as defined by the Uniform Standards of Professional Appraisal Practice.
3. Appraisal requirements are based on the total loan amount.

I. Pricing Adjustment for Participation Loans Based on Loan-To-Value

1. Loan-To-Value (LTV) is based on the lesser of reasonable project costs or market value appraisal. Reasonable project costs do not include any form of payout to an owner, developer, or shareholder.
2. The following risk adjustments for Loan-To-Value on collateral will be made to the posted interest rate:

<u>Loan-To-Collateral Value</u>	<u>Board Participation</u>	<u>Net Yield To Board</u>
1-75% LTV	80%	Posted Rate
76% - 80% LTV	70%	Posted Rate
81% - 85% LTV	60%	Posted Rate
86% - 90% LTV	50%	Posted Rate
<u>OR:</u>		
76% - 80% LTV	75%	Posted Rate + .25%
81% - 85% LTV	70%	Posted Rate + .50%
86% - 90% LTV	65%	Posted Rate + .75%

J. Fundings

1. The loan in which the Board is to participate must be closed prior to the commitment letter expiration date.
2. Funding documents required in the commitment letter must be received within ninety (90) days following the first principal and interest payment due date of the project term note or the commitment date expiration, whichever comes first.
3. Fundings should occur on or around the tenth (10) day of the month.
4. At least thirty (30) days' notice must be provided to be eligible for fundings.

K. Ineligible Loans

1. Ineligible loans are:
 - a) Loans classified as substandard, doubtful, loss or similar category in Lender's most recent examination report,
 - b) Loans to businesses with classified loans at the Lender, other than the loan offered to the Board,
 - c) Loans to trusts,
 - d) Loans for land development or speculative ventures,

~~e)~~ Loans to individuals convicted of or with pending felony charges.

~~d)f)~~ Loans to individuals who have filed for bankruptcy.

~~e)g)~~ Revolving lines of credit, working capital or operating money, or

~~f)h)~~ Loans to pay delinquent taxes.

L. Project Specific Requirements

1. Any contract to construct a project financed by loan proceeds must require all contractors to give preference to the employment of bona fide Montana residents, as defined in Section 18-2-401, MCA, in the performance of the work on the projects, if their qualifications are substantially equal to those of non-residents.
2. Substantially equal qualifications mean the qualifications of two (2) or more persons among whom the employer cannot make a reasonable determination that the qualifications held by one person are significantly better suited for the position than the qualifications held by the other persons.
3. If the Board participates in construction financing and its share of the loan equals or exceeds \$1.5 million, the general contractor and all subcontractors shall be subject to Montana's prevailing wage law specified in Section 18-2-4, MCA.

M. Other Commercial Loan Policy Considerations

1. A loan that includes refinancing of existing debt, other than construction financing, will be considered if, at a minimum, the refinanced amount is retained by the Lender.
2. The Board participation will not exceed eighty percent (80%) of the total loan.
3. If the Borrower already has a loan participated with the Board and the Borrower wants to acquire additional debt, which would consolidate the existing participated loan and a new construction/equipment loan, using the same or a different Lender, the Board will not consider its portion of the existing participated loan as a refinance. The additional debt should create new jobs and/or create economic development.
4. Investor properties must cash flow with coverage at one and a quarter times (1.25X) on a twenty (20) year amortization or other financial consideration. The Board may establish a higher coverage ratio depending on economic conditions and/or industry.
5. Balloon payment loans are eligible provided Loan-To-Value at maturity is acceptable to the Board.
6. The Board will proportionately participate in any prepayment penalty required by the Lender.
7. Loans for projects on leased land will be considered if the lease does not expire prior to loan maturity.
8. Loan assumptions are permitted upon Board approval with a loan assumption fee of \$500.00.
9. Escrow impounds may be required for taxes and hazard insurance when Loan-To-Value exceeds fifty percent (50%).
10. Maximum loan amount to any Borrower is limited to ten percent (10%) of the book value of the Permanent Coal Tax Trust as of the month-end prior to a loan commitment.
11. If a Borrower has received or will receive a Value-Added Loan from the Board or is a business for which a local government has provided infrastructure funded by an infrastructure loan made by the Board, the outstanding principal of the value-added and/or infrastructure loan will be applied against the ten percent (10%) maximum loan size.
12. Any loan exceeding six percent (6%) of the Trust requires thirty percent (30%) Lender participation.

13. The Board may apply different criteria to loan requests from nonprofit Borrowers.
14. Maximum loan terms are:
 - a) Participation with Federal Guarantee, thirty (30) years,
 - b) Participation, twenty-five (25) years, or
 - c) Link Deposit, twenty (20) years.
15. All loans submitted for participation to the Board from Board members or Board staff shall first be approved by the Board before the loan is committed and funded.
16. Any time an approved Lender downgrades a commercial loan participated with the Board; the approved Lender must notify the Board of the downgrade within thirty (30) days. Notification must include the most recent Lender credit review and an explanation of why the credit was downgraded.
17. If the approved Lender applies a default interest rate to a participated loan, the Board interest rate will also be increased to that default interest rate and remain effective for the same period of time as for the approved Lender.
18. Thirty percent (30%) cash equity is required for hotel/motel facilities. The Loan-To-Value will consider the lower of hard costs or appraised value.
19. The Board may require additional due diligence and research on loans at its sole discretion.
20. Loans must cash flow with coverage at a one and a quarter times (1.25X) debt service.

Authority: Montana Code Annotated, Art. VIII, Section 13
Section 2-15-1808, MCA
Section 17-6-201, MCA
Title 17, chapter 6, part 3, MCA
ARM 8.97.1301, and 8.97.1308 through 8.97.1310

MONTANA

BOARD OF INVESTMENTS

BOARD ADOPTED POLICY

POLICY NUMBER: 70.730

EFFECTIVE DATE: ~~IBD~~September 23, 2022TITLE: Infrastructure Loan Program
~~2022~~November 30, 2021SUPERSEDES: ~~September 23,~~

BOARD ADOPTION: November 30, 2021

REVIEWED: ~~May 22, 2024~~July 20, 2022

I. Infrastructure Loan Program

A. General Parameters for Infrastructure Loans

1. The program is funded by an \$80.0 million allocation from the Permanent Coal Tax Trust.
2. The term Borrower means the public entity applying for the loan from the Board.
3. Applications must be submitted by eligible local governments.
4. The user of the infrastructure must meet one of the following Basic Sector definitions and is referred to as the Business:
 - a) Business activity conducted in-state that produces goods and services for which fifty percent (50%) or more of the gross revenues are derived from out-of-state sources; or
 - b) Business activity conducted in-state that produces goods and services for which, fifty percent (50%) or more ~~of which~~ will be purchased by in-state residents in lieu of ~~like or~~ similar goods and services which would otherwise be purchased from out-of-state sources.
5. The Loans will fund infrastructure projects that provide facilities/services to Businesses.
6. The Business pays a user fee to the local government that is pledged to the Board for loan repayment.
7. Businesses may reduce their Montana state income tax liability by the amount of the fee under Section 15-31-301, MCA.
8. The Business must create at least fifteen (15) full-time jobs to be eligible for the program. Created jobs are based on Job Creation Interest Rate Reduction criteria.
9. The maximum loan size is \$16,666 times the number of full-time jobs created.
10. The minimum loan size is \$250,000.
11. The maximum loan term is twenty-five (25) years.
12. The loan amount will not exceed seventy-five percent (75%) of the loan-to-value. The loan-to-value is based on the lesser of the reasonable project cost or market value appraisal. Reasonable project costs do not include any form of payment to an owner, developer, or shareholder.

B. Interest Rates

1. Interest rates are posted weekly on the Commercial Loan Rate Sheet and are effective for a one (1) week period.
2. The Commercial Loan Rate Sheet is posted on the Board's website each Thursday.
3. Initial interest rate is determined by the interest rate posted on the Commercial Loan Rate Sheet on the date the Infrastructure Loan application is received.

Adopted: November 30, 2021

Revised: ~~IBD~~September 23, 2022Reviewed: ~~May 22, 2024~~July 20, 2022

C. Job Creation Interest Rate Reduction

1. A Business creating jobs as a result of an Infrastructure Loan is entitled to an interest rate reduction of five-hundredths percent (0.05%) for each job created up to a maximum of two and a half percent (2.50%). The reduction will be reflected in the user fee rate charged to the Business.
2. One job is equal to the Private Annual Wage shown on the weekly posted Commercial Loan Rate Sheet.
3. For jobs paying more than the Private Annual Wage, job credits will be increased proportionately for each twenty-five percent (25%) increment above the Private Annual Wage to a maximum of two jobs.
4. For jobs paying less than the Private Annual Wage, job credits will be reduced proportionately for each twenty-five percent (25%) increment below the Private Annual Wage.
5. Job credits are not available unless one whole job is created.
6. Job credit interest rate reductions are not available for jobs paying less than the State of Montana minimum wage.
7. The Business must provide evidence of the creation of jobs prior to any reduction and annually thereafter.
8. Interest rate reductions will be effective on the next scheduled payment date.
9. The Board may increase the interest rate commensurate with the number of jobs eliminated if the Business eliminates qualifying jobs. The Business must notify the Board if it eliminates qualifying jobs.
10. The beginning date for counting jobs created is the date of the first written contact from the Borrower or the Business pertaining to the project.

D. Collateral Requirements

1. Collateral requirements include:
 - a) A note or other evidence of indebtedness,
 - b) A loan agreement,
 - c) First mortgage/lien position, when appropriate,
 - d) A pledge from the local government of infrastructure fees for repayment of the loan,
 - e) The loan resolution adopted by the local government,
 - f) All necessary state, federal, and local government permits must be obtained before loan closing,
 - g) Sufficient economic life to support the term of the loan,
 - h) Personal or corporate guaranty as determined by the Board,
 - i) Attorney opinion on authority of local government to borrow and the validity of all collateral documents,
 - j) Attorney opinion to the local government on the legal and binding nature of obligations on the local government and the Business for which the infrastructure is provide, and
 - k) Other collateral or loan documents as required by the Board.

E. Appraisal Requirements

1. Licensed Montana commercial appraisers are preferred unless a specialized property collateral requires an out-of-state appraiser.

2. Requirements apply to all appraisals irrespective of the Lender's appraisal or loan policy and appraisal requirements and are based on the total loan amount shown below:
 - a) Up To \$500,000 - As required by Board to provide basis for value.
 - b) Over \$500,000 - Appraisal Report, as defined by the Uniform Standards of Professional Appraisal Practice.

F. Ineligible Loans

1. Ineligible loans include:
 - a) Loans to any local government in default on any obligation,
 - b) Loans to local governments for infrastructure to Businesses in default on any obligation, and
 - c) Loans providing infrastructure to Businesses creating fewer than fifteen (15) jobs in a four (4) year period.

G. Project Specific Requirements

1. Any contract to construct a project financed by loan proceeds must require all contractors to give preference to the employment of bona fide Montana residents, as defined in Section 18-2-401, MCA, in the performance of the work on the projects, if their qualifications are substantially equal to those of non-residents.
2. Substantially equal qualifications mean the qualifications of two (2) or more persons among whom the employer cannot make a reasonable determination that the qualifications held by one person are significantly better suited for the position than the qualifications held by the other persons.
3. If the Board participates in construction financing and its share of the loan equals or exceeds \$1.5 million, the general contractor and all subcontractors shall be subject to Montana's prevailing wage law specified in Section 18-2-401, MCA.

H. Other Infrastructure Loan Policy Considerations

1. Loans for infrastructure on leased land will be considered if the lease does not expire prior to loan maturity.
2. Consultant fees may be financed as part of the larger project but may not be financed on a stand-alone basis.
3. Commercial Loan Program Policy underwriting criteria will be considered.
4. If there are not a sufficient number of jobs created within the first four (4) years of the infrastructure loan, the Business:
 - a) Will have ninety (90) additional days to create those jobs, or
 - b) Will have to pay down the infrastructure loan to a level to which the current number of jobs supports.
5. The Business will reimburse the Board for all legal fees and closing costs associated with the preparation of the loan documents.
6. Investor loans are not eligible.
7. The Board may require additional due diligence and research on loans at its sole discretion.

Authority: Montana Code Annotated, Art. VIII, Section 13
Section 2-15-1808, MCA
Section 17-6-201, MCA
Title 17, chapter 6, part 3, MCA
Title 18, chapter 2, part 4, MCA
ARM 8.97.1301 and 8.97.1308 through 8.97.1310

Adopted: November 30, 2021
Revised: ~~TBD~~September 23, 2022
Reviewed: May 22, 2024~~July 20, 2022~~



Memorandum

To	Montana Board of Investments
From	RVK, Inc.
Subject	Traditional Asset Manager Fee Peer Ranking
Date	May 2, 2024

RVK has completed a study to examine the fees of MBOI's traditional asset class manager vehicles relative to peer managers. Periodic evaluation of fees is prudent, and we are happy to offer a refresh of this study on an ongoing basis as helpful to MBOI.

We conclude our evaluation noting that MBOI has been successful in fee negotiations and selection of cost effective traditional asset class vehicles, as evidenced by the eVestment percentile rank. The universe data is derived from the system we used to analyze and monitor traditional asset class managers. It is a third-party database where a broad group of managers are able to provide data at no charge leading to well populated comparison peer groups for fee information. The database includes information on over 30,000 investment strategies and is used by more than 1,000 institutional investors and consultants.

All observations show that the percentile ranks fall into the least expensive quartile of peer managers—defined here as top quartile (1 indicates least expensive percentile).

iShares Products, Market Values as of 12/31/2023

Asset	eVestment Universe	12/31 Market Value	eVestment Percentile Rank
iShares S&P Total ITOT	Passive US All Cap Equity	\$124,345,871	1
iShares Core S&P 500	Passive US Large Cap Equity	\$19,343,537	1
iShares Core Mid Cap	Passive US Mid Cap Equity	\$20,136,333	1
iShares S&P Small Cap	Passive US Small Cap Equity	\$53,464,675	4
iShares MSCI EAFE	Passive EAFE Equity	\$101,976,968	1
iShares MSCI EM	Global Emerging Mkts Passive Equity	\$69,309,167	2



All Other Externally Managed Traditional Asset Class Products, Market Values as of 12/31/2023*

Asset	eVestment Universe	12/31 Market Value	eVestment Percentile Rank
BlackRock MSCI US Equity Index (SA)	Passive US Large Cap Equity	\$1,547,231,959	1
BlackRock MSCI USA Small Cap Index (SA)	Passive US Small Cap Equity	\$513,489,157	1
BlackRock ACW Ex US SuperFund A (CF)	Passive ACWI ex US Equity	\$641,611,432	9
BlackRock ACW Ex US Sm Cap Index (CF)	Passive ACWI ex US Equity	\$108,954,116	11
Acadian Asset Non-US Equity (SA)	ACWI ex US Equity	\$299,486,018	9
Acadian Ex US Small Cap (SA)	ACWI ex US Small Cap Equity	\$187,148,021	3
Baillie Gifford (SA)	ACWI ex US Equity	\$161,888,839	13
Northern Trust MSCI US Index (SA)	Passive US Large Cap Equity	\$1,708,041,745	1
Invesco (SA)	ACWI ex US Equity	\$269,907,088	12
Lazard Asset Managements (SA)	ACWI ex US Equity	\$243,992,707	8
Cohen & Steers Preferred Securities (SA)	Preferred Securities	\$176,310,066	1
Shenkman High Yield Fixed Income (SA)	US High Yield Fixed Income	\$197,389,540	21
Oaktree US High Yield (SA)	US High Yield Fixed Income	\$224,927,561	18
Neuberger Berman High Yield (SA)*	US High Yield Fixed Income	\$160,559,716	1
Payden & Rygel EMD (SA)	Emerging Markets Debt	\$187,312,093	7
Zazove Convertible Bonds (SA)	US Convertibles	\$83,576,724	6

**Additional performance-based fees are not reflected in the calculated management fees used for ranking purposes.*

For reference, the number of observations within each peer group are listed below.

Passive US All Cap: 21 strategies
 Passive US Large Cap: 69 strategies
 Passive US Mid Cap: 10 strategies
 Passive US Small Cap: 24 strategies
 Passive EAFE Equity: 21 strategies
 Passive ACWI ex US Equity: 15 strategies
 Global Emerging Mkts Passive Equity: 17 strategies
 Active ACWI ex US Equity: 305 strategies
 Active ACWI ex US Equity Small Cap: 62 strategies
 US High Yield Fixed Income: 195 strategies
 Emerging Markets Debt: 72 strategies
 Preferred Securities: 12 strategies
 US Convertibles: 34 strategies

REAL ESTATE ASSET CLASS REVIEW

Presented by:

Ethan Hurley, CAIA – Director of Real Estate/Real Assets

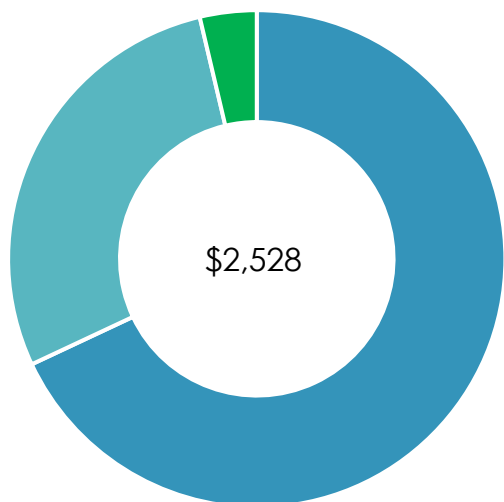
Rob Samson, CFA – Investment Analyst

Date: May 22, 2024

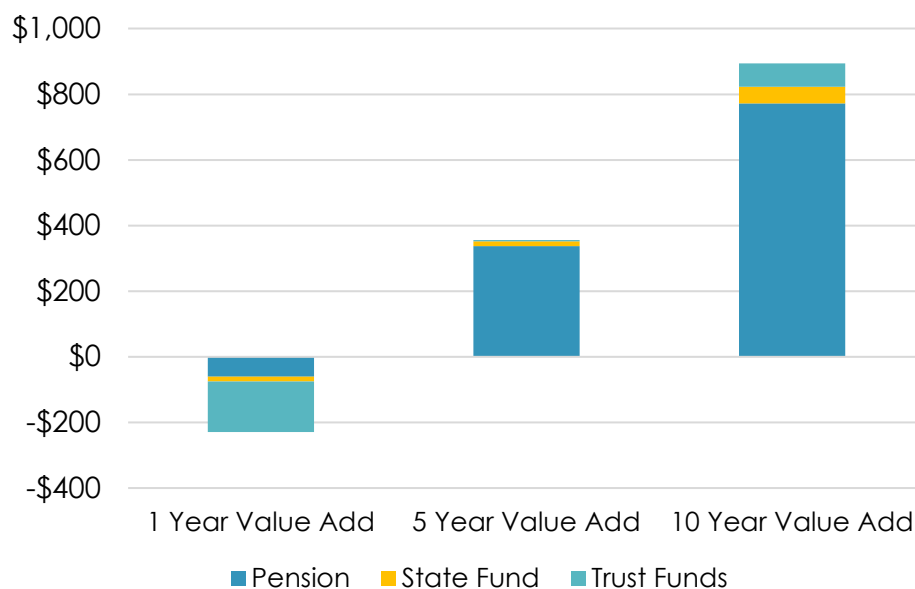
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Ownership & Performance



■ Pension ■ Trust Funds ■ State Fund



Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	-5.15%	-12.73%	5.33%	-0.22%	7.92%	4.57%
State Fund	-13.51%	-12.73%	2.70%	3.34%	5.58%	6.33%
Trust Fund	-7.53%	-12.73%	4.63%	3.34%	6.54%	6.33%

* Dollar values are in \$1,000,000

March 31, 2024

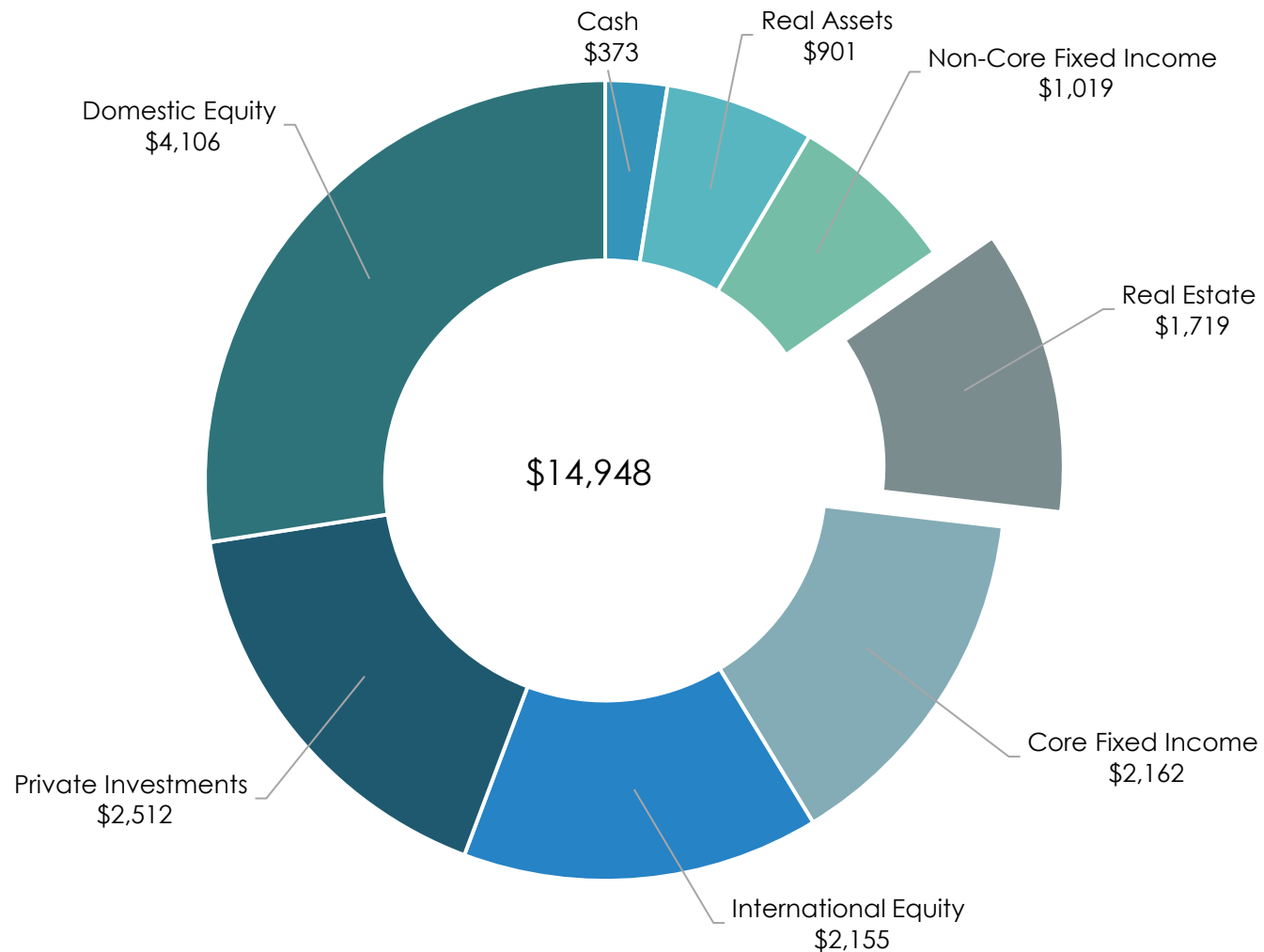
Real Estate Asset Class – Role, Allocation and Constraints

- Provide the Consolidated Asset Pension Pool (CAPP), Trust Funds Investment Pool (TFIP), and Montana State Fund (MSF) with exposure to diversified real estate opportunities, while achieving the highest possible return within the parameters of each respective set of investment guidelines.
- Diversify across types of real estate investment strategies, vintage years, real estate types, and geographies for long-term capital gains and current income.
- Inception Dates
 - CAPP: 6/1/2006
 - TFIP: 11/1/2009
 - MSF: 4/1/2013
- Benchmark: NCREIF Fund Index – Open-End Diversified Core Equity
- Approved Allocation Ranges
 - CAPP: 7% to 15% (**11.50% as of 3/31/2024**)
 - TFIP: 0% to 30% (**23.36% as of 3/31/2024**)
 - MSF: 0 to 8% (**6.42% as of 3/31/2024**)

Real Estate Asset Class – Role, Allocation and Constraints (cont'd)

- Investment Policy Statement Constraints (CAPP)
 - No more than 2% of CAPP in any single real estate investment
 - No more than 30% of the asset class in international real estate
 - No more than 10% of the asset class in direct co-investments
 - Strategic Constraints
 - Core/Core Plus: 20% - 50%
 - Non-Core: 25% - 65%
 - Real Estate Debt: 10% - 40%
 - Public Real Estate Securities: 0% - 40%
 - Leverage limits
 - Individual fund basis up to 75%
 - Total Real Estate Asset Class up to 60%
 - Leverage policy range per strategy
 - Core: 0% - 50%
 - Core-Plus/Non-Core: 0% - 75%
 - Real Estate Debt: 0% - 75%

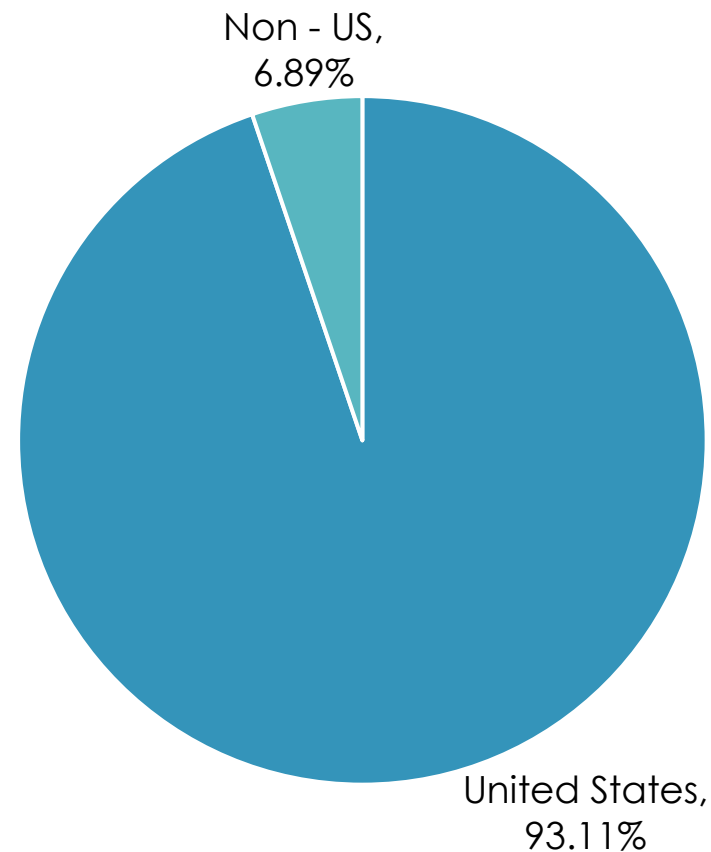
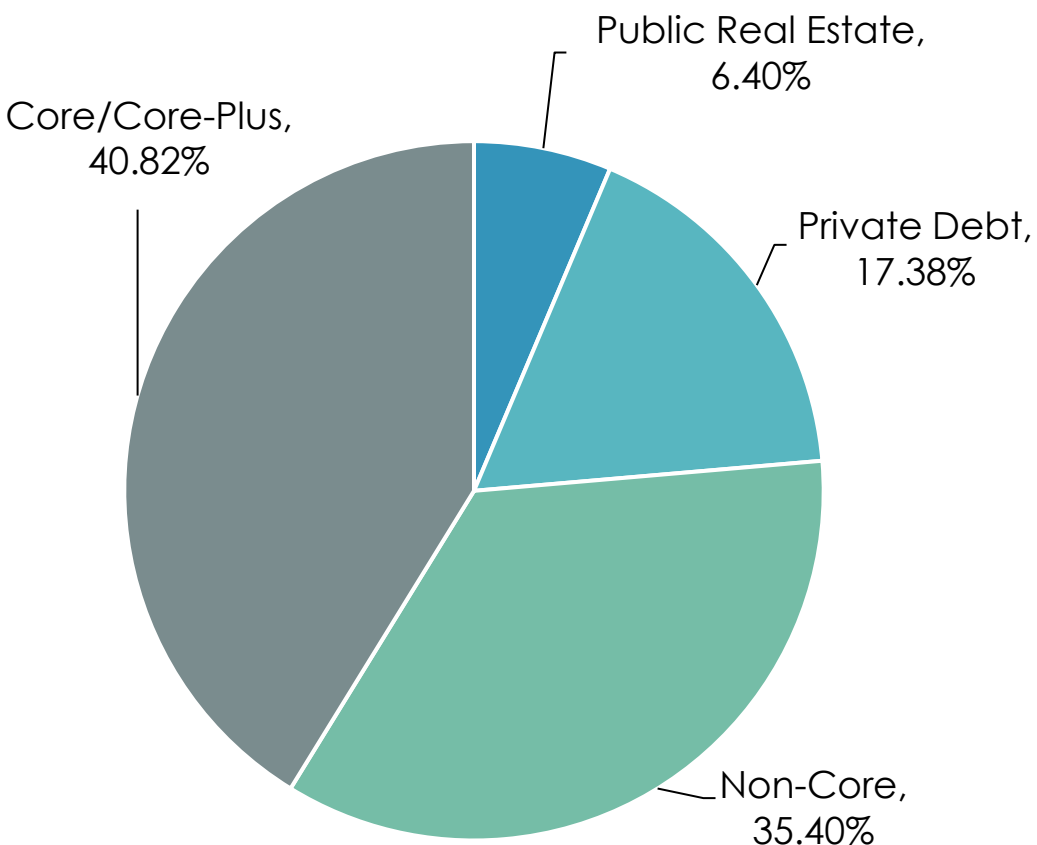
AUM by Asset Class - Pension



* Dollar values are in \$1,000,000

March 31, 2024

Composition by Type & Geography



As of 3/31/24. Based on prior quarter's fair market value adjusted for cash flows during the most recent quarterly period.

Styles of Private Real Estate Investing

Equity & Debt

Core	Core-Plus	Non-Core Value-Add	Non-Core Opportunistic
<ul style="list-style-type: none"> ✓ Investors own equity or debt ✓ Highest occupancy ✓ Least leveraged (0 – 35%) ✓ Best locations (Main & Main) ✓ Good tenant credit ✓ Most liquid ✓ Numerous buyers and sellers ✓ Lowest expected return, mostly from rental income 	<ul style="list-style-type: none"> ✓ Investors own equity or debt ✓ High occupancy ✓ Generally higher leverage than Core (35 – 65%) ✓ Good tenant credit ✓ Very liquid ✓ Numerous buyers and sellers ✓ Higher expected return than Core, but mostly from rental income, limited ground-up development 	<ul style="list-style-type: none"> ✓ Investors own equity or debt ✓ Mid-range occupancy ✓ Higher leverage (65 – 75%) ✓ Needs operating improvements ✓ Needs minor renovations ✓ Expected return a combination of appreciation, income and leverage 	<ul style="list-style-type: none"> ✓ Investors own equity or debt ✓ Generally lower occupancy ✓ Higher leverage (70 – 85%) ✓ Needs major operating improvements, i.e., change of use, rezoning, variances ✓ Needs major renovations ✓ Investment return nearly all from appreciation and leverage

Types of Real Estate Investment Vehicles

Separately-Managed Accounts (SMAs)

- Lower cost than closed-end commingled funds and similar costs to open-end commingled funds in the long-term
- Offers the highest level of customization
- One-on-one relationship with our partner

Closed-End Commingled Funds

- Cost-effective means to access benefits of scale
- Typically, offers an increased amount of diversification relative to SMAs
- Higher asset turnover than SMAs
- Investing alongside others

Open-End Commingled Funds

- Lower cost than closed-end commingled funds and similar costs to SMAs in the long-term
- Offers an increased amount of diversification relative to SMAs
- Investing alongside others

Types of Real Estate Managers

Private Equity Allocators (ex. Angelo Gordon)

- Create joint venture partnerships with local real estate operators, who:
 - Have local market expertise and networks, source new acquisitions
 - Charged with day-to-day operations of fund properties
 - Local operators typically invest equity alongside the fund manager and receive incentive compensation

Private Equity Operators (ex. Equus Capital Partners)

- Vertically integrated across all real estate investment activities, including acquisitions to dispositions, leasing, property and asset management, construction and development

Private Debt Managers (ex. Walton Street Capital)

- Range from those that strictly originate and extend loans to buyers of commercial real estate to those that do this in addition to buying real estate-backed bonds/loans

Public REIT Managers (ex. CenterSquare Investment Management)

- Manage separate accounts and buy and sell public equity securities in real estate investment trusts

Public Debt Managers (ex. Fidelity Real Estate High Income)

- Manage an Investment Act of 1940 registered mutual fund that buys and sells publicly traded bonds backed by real estate

Real Estate Returns – Sources and Drivers

Sources

Appreciation/Depreciation

- Increases or decreases in the market value of an asset

Income

- Rents received less capital expenditures and operating expenses
- Ancillary income (ex. rooftop cell tower rent, parking income, etc.)

Drivers

- Location
- Physical condition
- Supply/demand
- Credit quality of tenants
- Cap rate compression/expansion
- Employment
- Amenities
- Occupancy
- Square footage of property
- Rent roll – renewing rents at higher or lower rates
- Capital expenditures
- Market comparable sales
- Capital markets liquidity
- Interest rates

Real Estate – Benefits and Risks

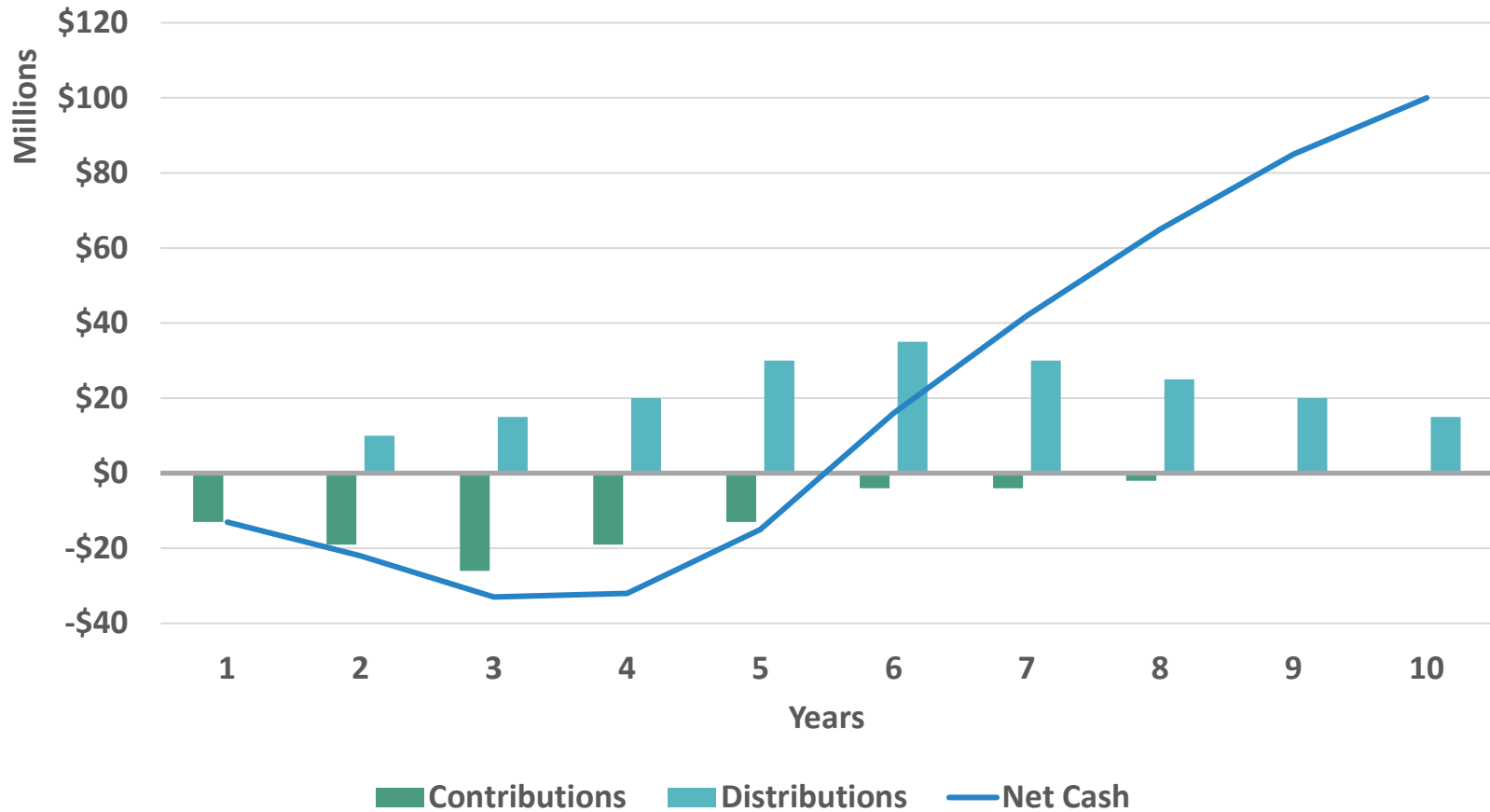
Benefits

- Return enhancement
- Diversification
- Hard asset downside protection
- Inflation hedge
- Contractual income
- Ability to influence performance

Risks

- Business risk
- Financial risk
- Liquidity risk
- Inflation risk
- Operational risk
- Legal risk
- Counterparty risk

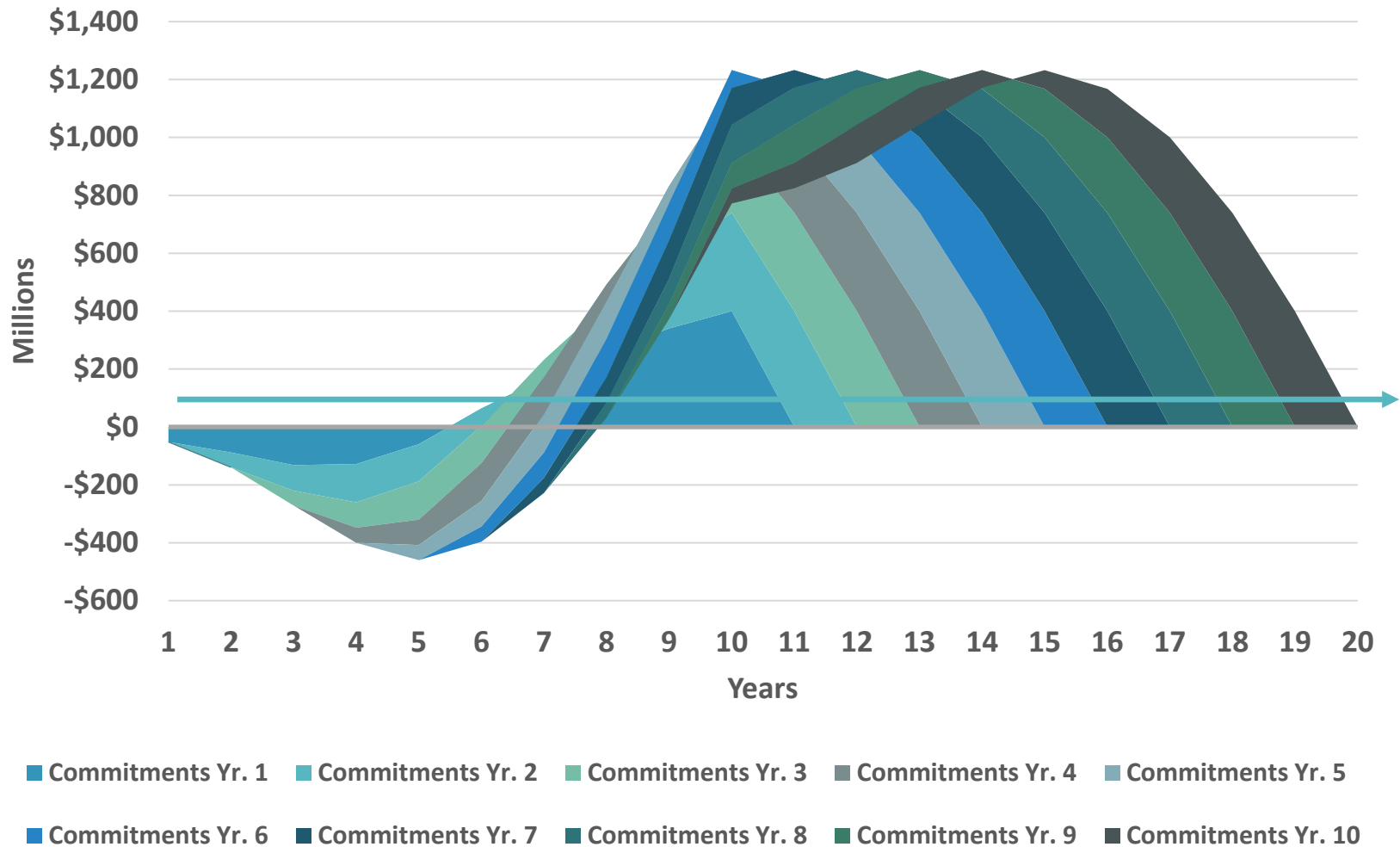
Life Cycle of a Private Equity Fund



Pacing

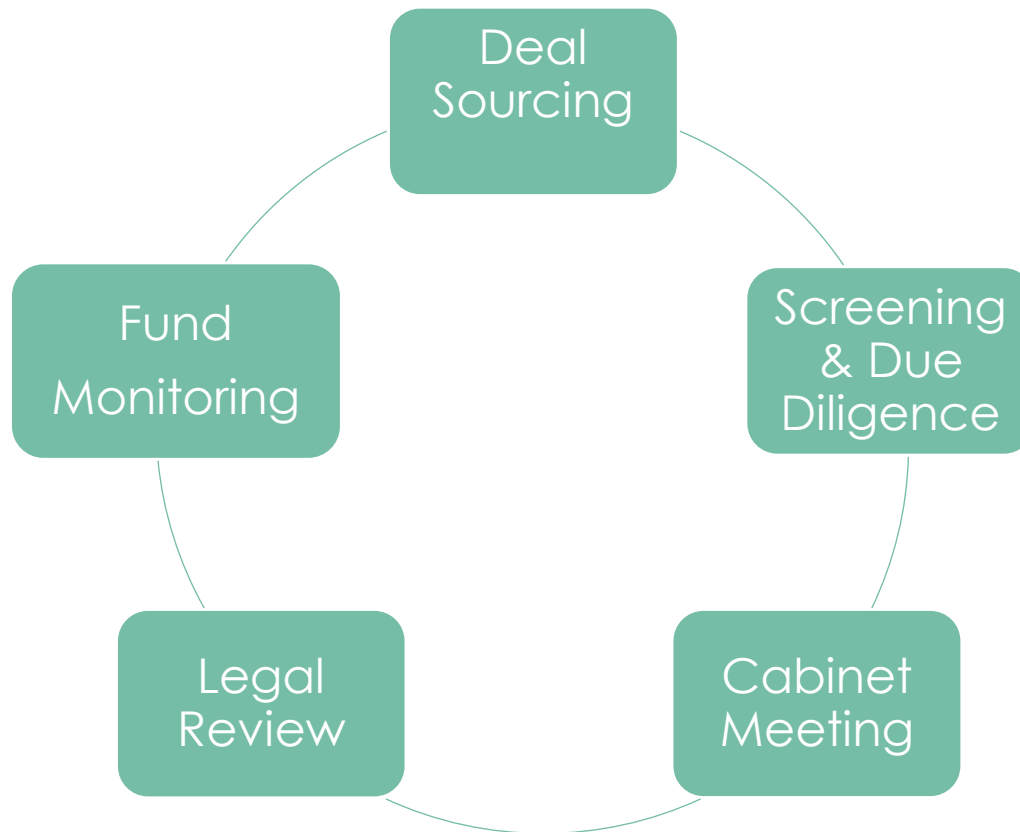
- Evaluates the current private real estate exposure and commitment plan relative to total plan assets
- Considers the following factors:
 - Current portfolio valuation
 - Paid in Capital (Contributed Funds/Cash In)
 - Distributed Capital (Distributed Funds/Cash Out)
 - Allocation within the approved ranges
- Considers annualized growth rate of the total plan assets (CAPP)
- Provides flexibility to explore different scenarios
- How future commitments, capital calls and distributions contribute to maintaining the allocation within approved range through time
- This is an inexact exercise in forecasting. The only controllable input is how much we commit, or don't, in any given year
- RVK assists with periodic studies
- Expected long-term average annual allocation of ~\$200 million per year

Life Cycle of Private Equity Portfolio

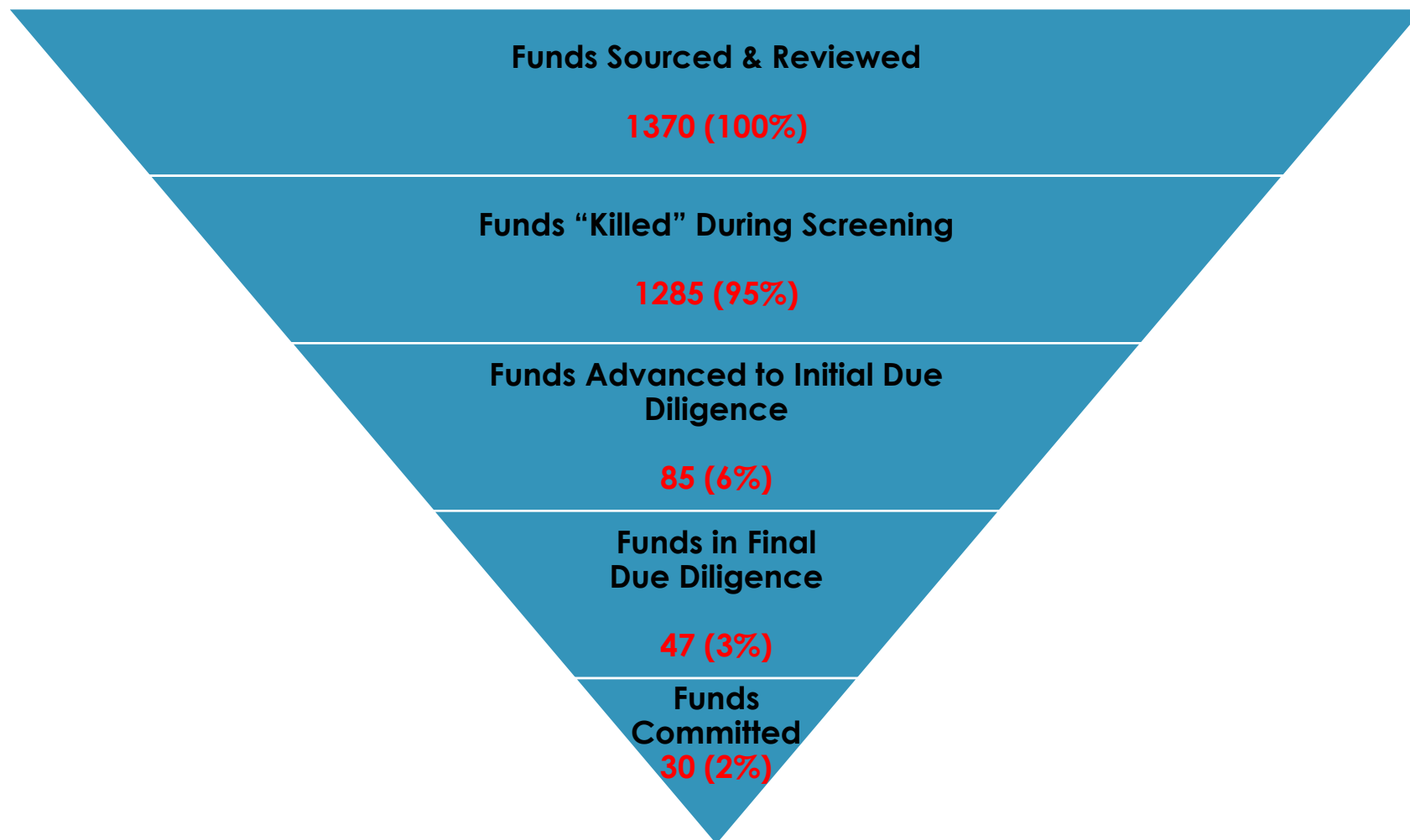


Source: Montana BOI

Investment Process



Real Estate Deal Flow (2018 - FYTD 2024)



Deal Sourcing

- Network of Contacts
 - Limited Partners
 - Plan Sponsors
 - General Partners
 - Placement Agents
 - Consultants
 - Service Providers
- Periodicals
- Green Street, Preqin, Pitchbook (external online database providers)

Screening & Due Diligence

Initial Review

- Determine portfolio fit
- Hold initial call with GP
- Submit MBOI Part A DDQ for completion by GP and ascertain critical due diligence points/deal killers
- Introductory meeting with GP in Helena
- Decision point to proceed to further diligence

Continuing Diligence

- Submit much more comprehensive MBOI Part B DDQ for completion by GP (*modeled after ILPA DDQ/best practices*)
 - Analysis of firm, strategy, investment process, philosophy, ESG, risk, compliance
- Review of historical record, net cash flows, performance, other data points
- Interviews and reference calls
- Build out GP/Fund Profiles
- Onsite due diligence at GP offices
- Background checks on select personnel

Cabinet Meeting

- Meeting with Cabinet – Executive Director, Chief Investment Officer, Investment Directors, Director of Operations
- Final commitment decision
 - Yes/No
 - How much to commit, adherence to IPS, other risk parameters
 - Chief Investment Officer in consultation with the Executive Director gives final approval for all commitments

Legal Review

- Staff conducts initial review of Private Placement Memorandum (PPM) and Limited Partnership Agreement (LPA) and communicates any pre-identified and pre-negotiated terms with GP to external counsel
- External counsel reviews legal documents and presents comments to staff for review
 - Focuses on compliance with ILPA Principles/best practices
 - Collaborative/iterative process with staff
- Comments/changes negotiated with GP
- Upon final negotiation/consensus and settlement on terms, legal counsel submits final copies of closing legal documents for execution by MBOI staff
- Legal counsel will later review any Most Favored Nations provisions MBOI is eligible to elect for approval

Investment Monitoring

- Set up fund internally with BOI accounting and externally with third-party administrator, State Street
- Review Quarterly/Annual Reports & Financials
 - Formal review of private real estate investment managers done annually
 - Participate in quarterly calls with managers
- In-person fund update meetings, typically annually
- Attend Annual General Meetings (AGMs)
- Limited Partnership Advisory Committee (LPAC) membership participation as applicable
- Visit private real estate properties and GP offices as travel plans allow

Current Strategy and Rationale

What

- Focus on US, but consider all opportunities
- Preference for pure-play, vertically integrated real estate operators
- Continued focus on growing existing real estate debt exposure
- Reduce open-end core real estate exposure
- Continued focus on existing high conviction GPs
- Separate Accounts
- Continued focused on needs-based real estate supported by long-term, structural tailwinds

Why

- • Well understood, resource constraints, deepest, most liquid, “rules of the game”
- • More nimble and responsive to shifts in the market, closer to the asset, own their data, removes extra layer of fees
- • Diversify away from equity exposure, greater downside protection, current income
- • Generate liquidity to fund other real estate strategies
- • Good portfolio fit, known quantities, partnership orientation, more depth less breadth
- • Long duration holds, income streams
- • Durable cash flows, increasing and consistent end-user demand in good times and bad



Quarterly Investment Performance Analysis

Montana Board of Investments

Period Ended: March 31, 2024



Montana Board of Investments
Comparative Performance
Retirement Plans

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Public Employees' Retirement - Net	3.38	7.82	11.13	6.05	8.60	8.24	7.69	7.13	11.46	-8.48	17.61	11.94	16.77	7.78	07/01/1994
Public Employees' Benchmark	3.70	9.17	12.54	4.51	7.75	7.63	7.44	N/A	12.75	-10.81	13.79	12.22	20.26	N/A	
Difference	-0.32	-1.35	-1.41	1.54	0.85	0.61	0.25	N/A	-1.29	2.33	3.82	-0.28	-3.49	N/A	
Public Employees' Retirement - Gross	3.54	8.32	11.88	6.76	9.27	8.88	8.28	7.65	12.21	-7.89	18.32	12.53	17.44	8.14	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	67	53	25	23	19	10	23	38	32	31	43	43	51	
Teachers' Retirement - Net	3.38	7.80	11.11	6.03	8.59	8.23	7.68	7.13	11.44	-8.52	17.61	11.93	16.78	7.79	07/01/1994
Teachers' Benchmark	3.70	9.15	12.52	4.48	7.73	7.61	7.43	N/A	12.71	-10.86	13.78	12.21	20.27	N/A	
Difference	-0.32	-1.35	-1.41	1.55	0.86	0.62	0.25	N/A	-1.27	2.34	3.83	-0.28	-3.49	N/A	
Teachers' Retirement - Gross	3.54	8.31	11.86	6.74	9.25	8.87	8.28	7.65	12.19	-7.93	18.32	12.52	17.45	8.15	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	68	54	26	24	20	10	24	38	33	31	43	43	48	
Police Retirement - Net	3.39	7.85	11.16	6.05	8.61	8.24	7.69	7.10	11.49	-8.48	17.58	11.95	16.80	7.67	07/01/1994
Police Benchmark	3.71	9.21	12.59	4.51	7.76	7.63	7.45	N/A	12.77	-10.80	13.73	12.23	20.30	N/A	
Difference	-0.32	-1.36	-1.43	1.54	0.85	0.61	0.24	N/A	-1.28	2.32	3.85	-0.28	-3.50	N/A	
Police Retirement - Gross	3.54	8.35	11.91	6.76	9.27	8.89	8.29	7.62	12.24	-7.89	18.28	12.54	17.47	8.03	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	66	51	25	23	19	10	27	38	32	31	43	43	63	

Net performance shown is net of all manager fees and expenses (Net-All). All Public Plans > \$5B Total Fund Median is reported gross of fees.
 Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

**Montana Board of Investments
Comparative Performance
Retirement Plans**

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Firefighters' Retirement - Net	3.38	7.84	11.16	6.05	8.61	8.24	7.69	7.11	11.49	-8.47	17.58	11.95	16.79	7.66	07/01/1994
Firefighters' Benchmark	3.70	9.20	12.58	4.51	7.75	7.63	7.45	N/A	12.77	-10.80	13.73	12.23	20.29	N/A	
Difference	-0.32	-1.36	-1.42	1.54	0.86	0.61	0.24	N/A	-1.28	2.33	3.85	-0.28	-3.50	N/A	
Firefighters' Retirement - Gross	3.54	8.35	11.91	6.76	9.27	8.89	8.29	7.63	12.24	-7.88	18.28	12.53	17.46	8.02	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	66	52	25	23	19	10	26	38	32	31	43	43	63	
Sheriffs' Retirement - Net	3.38	7.80	11.11	6.05	8.60	8.24	7.69	7.12	11.45	-8.47	17.61	11.94	16.75	7.69	07/01/1994
Sheriffs' Benchmark	3.70	9.11	12.48	4.49	7.73	7.62	7.44	N/A	12.67	-10.81	13.79	12.22	20.23	N/A	
Difference	-0.32	-1.31	-1.37	1.56	0.87	0.62	0.25	N/A	-1.22	2.34	3.82	-0.28	-3.48	N/A	
Sheriffs' Retirement - Gross	3.54	8.31	11.87	6.76	9.26	8.88	8.28	7.63	12.20	-7.87	18.32	12.53	17.42	8.05	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	68	54	25	23	19	10	26	38	32	31	43	44	62	
Highway Patrol Retirement - Net	3.38	7.78	11.09	6.05	8.60	8.24	7.69	7.13	11.42	-8.46	17.62	11.94	16.78	7.69	07/01/1994
Highway Patrol Benchmark	3.70	9.03	12.40	4.48	7.73	7.62	7.44	N/A	12.59	-10.79	13.80	12.24	20.26	N/A	
Difference	-0.32	-1.25	-1.31	1.57	0.87	0.62	0.25	N/A	-1.17	2.33	3.82	-0.30	-3.48	N/A	
Highway Patrol Retirement - Gross	3.54	8.28	11.84	6.75	9.26	8.88	8.29	7.65	12.17	-7.87	18.33	12.53	17.45	8.04	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	69	55	26	23	19	10	24	38	32	31	43	43	62	

Net performance shown is net of all manager fees and expenses (Net-All). All Public Plans > \$5B Total Fund Median is reported gross of fees. Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Retirement Plans

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Game Wardens' Retirement - Net	3.38	7.79	11.10	6.05	8.59	8.23	7.69	7.08	11.43	-8.48	17.62	11.91	16.77	7.70	07/01/1994
Game Wardens' Benchmark	3.70	9.04	12.41	4.47	7.71	7.60	7.43	N/A	12.60	-10.82	13.79	12.18	20.25	N/A	
Difference	-0.32	-1.25	-1.31	1.58	0.88	0.63	0.26	N/A	-1.17	2.34	3.83	-0.27	-3.48	N/A	
Game Wardens' Retirement - Gross	3.54	8.29	11.85	6.75	9.26	8.88	8.28	7.60	12.18	-7.88	18.32	12.50	17.44	8.06	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	68	55	26	24	19	10	27	38	32	31	45	43	62	
Judges' Retirement - Net	3.39	7.82	11.13	6.05	8.60	8.24	7.69	7.12	11.46	-8.50	17.63	11.94	16.78	7.70	07/01/1994
Judges' Benchmark	3.71	9.17	12.55	4.50	7.74	7.62	7.44	N/A	12.73	-10.84	13.80	12.22	20.27	N/A	
Difference	-0.32	-1.35	-1.42	1.55	0.86	0.62	0.25	N/A	-1.27	2.34	3.83	-0.28	-3.49	N/A	
Judges' Retirement - Gross	3.54	8.33	11.88	6.76	9.27	8.88	8.29	7.64	12.21	-7.91	18.34	12.53	17.45	8.05	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	67	53	25	23	19	10	26	38	33	31	43	43	62	
Volunteer Firefighters' Retirement - Net	3.39	7.81	11.12	6.04	8.60	8.24	7.68	7.10	11.44	-8.50	17.61	11.94	16.79	7.52	07/01/1994
Volunteer Firefighters' Benchmark	3.71	9.10	12.48	4.49	7.73	7.62	7.44	N/A	12.66	-10.86	13.85	12.18	20.31	N/A	
Difference	-0.32	-1.29	-1.36	1.55	0.87	0.62	0.24	N/A	-1.22	2.36	3.76	-0.24	-3.52	N/A	
Volunteer Firefighters' Retirement - Gross	3.55	8.31	11.87	6.75	9.26	8.88	8.27	7.62	12.19	-7.91	18.31	12.53	17.46	7.88	07/01/1994
All Public Plans (>\$5B) Total Fund Median	3.85	8.86	11.93	5.07	8.70	8.44	7.55	7.40	11.49	-10.31	16.84	12.26	17.28	8.14	
Rank	78	68	54	26	23	19	11	26	38	33	31	43	43	73	

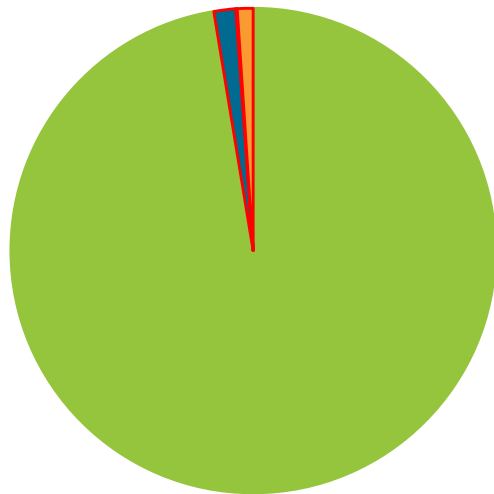
Net performance shown is net of all manager fees and expenses (Net-All). All Public Plans > \$5B Total Fund Median is reported gross of fees. Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Asset Allocation by Segment
Retirement Plans

As of March 31, 2024

	Consolidated Asset Pension Pool (CAPP)		Short Term Investment Pool (STIP)		Total Fund	
	(\$)	%	(\$)	%	(\$)	%
Public Employees' Retirement	7,153,757,994	48.36	73,573,933	47.34	7,227,331,926	48.35
Teachers' Retirement	5,052,656,062	34.16	55,358,967	35.62	5,108,015,030	34.17
Firefighters' Retirement	674,440,377	4.56	6,933,804	4.46	681,374,182	4.56
Police Retirement	606,462,099	4.10	6,222,102	4.00	612,684,201	4.10
Sheriffs' Retirement	552,031,952	3.73	5,778,483	3.72	557,810,436	3.73
Game Wardens' Retirement	343,484,125	2.32	3,436,972	2.21	346,921,096	2.32
Highway Patrol Retirement	221,497,023	1.50	2,225,935	1.43	223,722,958	1.50
Judges' Retirement	136,449,520	0.92	1,371,252	0.88	137,820,772	0.92
Volunteer Firefighters' Retirement	51,391,373	0.35	516,454	0.33	51,907,827	0.35
Retirement Plans Total Fund Composite	14,792,170,526	98.96	155,417,900	1.04	14,947,588,426	100.00

March 31, 2024 : \$14,947,588,426

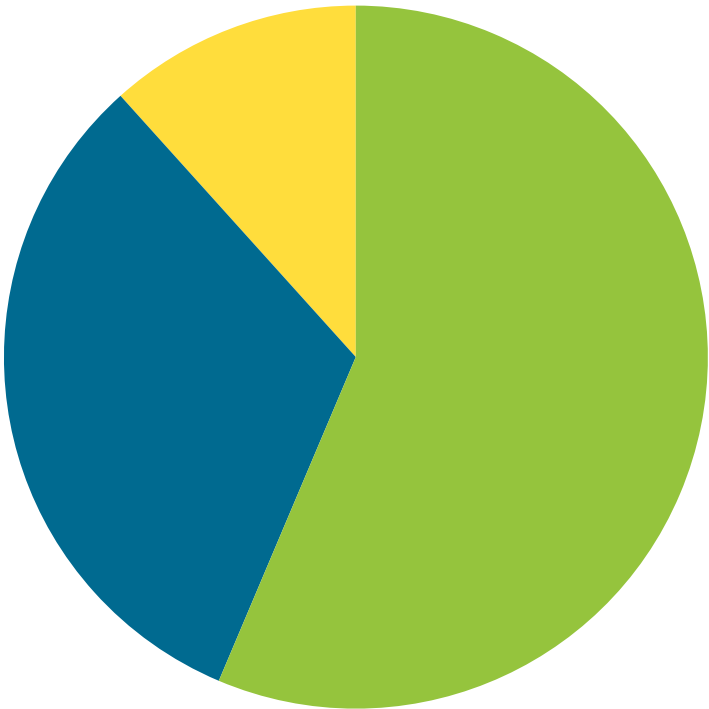


Segments

	Market Value (\$)	Allocation (%)
CAPP Ex Cash	14,561,256,458	97.42
CAPP Cash Pension	218,052,104	1.46
CAPP Asset Class Cash	12,861,964	0.09
Short Term Investment Pool (STIP)	155,417,900	1.04
Total Cash	386,331,968	2.58

Allocations shown may not sum up to 100% exactly due to rounding. Retirement Plan market values may differ from State Street due to uninvested amounts not included in segment totals.

March 31, 2024 : \$26,243,463,517



	Market Value (\$)	Allocation (%)
Consolidated Asset Pension Pool (CAPP)	14,792,170,562	56.37
Short Term Investment Pool	8,390,647,000	31.97
Trust Funds Investment Pool	3,060,645,956	11.66

Allocations shown may not sum up to 100% exactly due to rounding. Market values do not include pending transactions.

Montana Board of Investments
Comparative Performance
Investment Pools

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Consolidated Asset Pension Pool (CAPP)	3.41	7.87	11.19	6.09	8.70	8.35	N/A	11.53	-8.60	17.83	12.10	17.12	8.35	04/01/2017
CAPP Custom Benchmark	3.73	9.22	12.61	4.51	7.82	7.72	N/A	12.80	-10.99	13.95	12.38	20.70	7.72	
Difference	-0.32	-1.35	-1.42	1.58	0.88	0.63	N/A	-1.27	2.39	3.88	-0.28	-3.58	0.63	
Trust Funds Investment Pool	-1.19	0.78	0.02	-0.45	1.78	2.22	2.70	2.59	-6.26	1.49	7.23	8.98	5.29	10/01/1995
Trust Fund Custom Benchmark	-1.43	0.23	-1.05	-0.41	1.62	1.96	2.18	1.24	-5.04	0.71	7.51	8.72	4.49	
Difference	0.24	0.55	1.07	-0.04	0.16	0.26	0.52	1.35	-1.22	0.78	-0.28	0.26	0.80	
Short Term Investment Pool	1.35	4.13	5.41	2.73	2.12	2.01	1.52	5.13	1.67	0.11	0.73	2.28	2.40	04/01/1997
Short Term Custom Index	1.38	4.24	5.55	2.78	2.04	1.96	1.47	5.28	1.69	0.04	0.36	2.14	2.33	
Difference	-0.03	-0.11	-0.14	-0.05	0.08	0.05	0.05	-0.15	-0.02	0.07	0.37	0.14	0.07	
iMoney.net Money Fund (Gross) Median	1.35	4.24	5.59	2.88	2.23	2.13	1.61	5.38	1.83	0.15	0.73	2.45	2.41	
Difference	0.00	-0.11	-0.18	-0.15	-0.11	-0.12	-0.09	-0.25	-0.16	-0.04	0.00	-0.17	-0.01	

Performance shown is net of all manager fees and expenses (Net-All). Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. See the Addendum for custom index specification. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Asset Allocation
Consolidated Asset Pension Pool (CAPP)

As of March 31, 2024

March 31, 2024 : \$14,792,170,694



	Market Value (\$)	Allocation (%)
Domestic Equity	4,106,021,379	27.76
Private Investments	2,511,859,820	16.98
Core Fixed Income	2,161,500,648	14.61
International Equity	2,155,516,864	14.57
Real Estate	1,719,284,970	11.62
Non-Core Fixed Income	1,019,055,642	6.89
Real Assets	900,879,268	6.09
Cash Pension	218,052,104	1.47

Allocations shown may not sum up to 100% due to rounding.



Montana Board of Investments
Comparative Performance
Consolidated Asset Pension Pool (CAPP)

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Domestic Equity	9.67	19.00	28.71	9.74	14.27	13.08	11.98	25.70	-18.98	27.17	20.09	30.75	10.24	05/01/2003
Domestic Equity Custom Index	9.96	19.31	29.31	9.99	14.49	13.57	12.56	26.25	-19.22	26.12	21.10	31.14	10.91	
Difference	-0.29	-0.31	-0.60	-0.25	-0.22	-0.49	-0.58	-0.55	0.24	1.05	-1.01	-0.39	-0.67	
International Equity	4.63	9.94	12.38	1.02	6.03	5.99	4.51	14.91	-17.62	7.83	13.35	22.86	4.87	04/01/1997
International Equity Custom Index	4.33	10.56	13.20	1.72	6.00	5.85	4.32	15.62	-16.58	8.53	11.12	21.63	5.13	
Difference	0.30	-0.62	-0.82	-0.70	0.03	0.14	0.19	-0.71	-1.04	-0.70	2.23	1.23	-0.26	
Core Fixed Income	-0.55	2.62	1.91	-2.02	0.54	1.11	1.67	5.43	-11.91	-1.54	8.23	6.90	5.01	04/01/1995
Core Fixed Income Custom Index	-0.78	2.56	1.70	-2.46	0.06	0.71	1.30	5.53	-13.01	-1.54	7.51	6.39	4.38	
Difference	0.23	0.06	0.21	0.44	0.48	0.40	0.37	-0.10	1.10	0.00	0.72	0.51	0.63	
Non-Core Fixed Income	1.83	8.37	10.52	1.32	3.31	3.50	3.62	11.05	-11.27	3.21	6.37	13.98	6.58	06/01/2009
Bloomberg US HY 2% Issuer Cap Index	1.47	9.24	11.15	2.19	4.19	4.38	4.44	13.44	-11.18	5.26	7.05	14.32	7.64	
Difference	0.36	-0.87	-0.63	-0.87	-0.88	-0.88	-0.82	-2.39	-0.09	-2.05	-0.68	-0.34	-1.06	
Real Assets	2.89	5.58	9.01	13.93	5.72	5.83	N/A	8.48	15.88	21.24	-13.43	-2.18	5.83	04/01/2017
Real Assets Custom Index	2.52	6.50	5.48	5.38	1.48	3.15	0.23	4.39	1.36	13.32	-12.32	13.06	3.15	
Difference	0.37	-0.92	3.53	8.55	4.24	2.68	N/A	4.09	14.52	7.92	-1.11	-15.24	2.68	
Real Estate	-1.70	-3.26	-5.15	6.45	5.33	6.18	7.92	-5.76	12.00	20.00	-0.35	6.97	4.39	06/01/2006
Real Estate Custom Index	-5.00	-9.68	-12.73	4.01	-0.22	1.91	4.57	-12.88	20.96	13.64	-19.66	25.84	4.28	
Difference	3.30	6.42	7.58	2.44	5.55	4.27	3.35	7.12	-8.96	6.36	19.31	-18.87	0.11	
Cash Pension	1.54	4.23	6.51	3.21	2.41	N/A	N/A	6.01	2.06	0.13	0.84	2.28	2.23	05/01/2017
Short Term Custom Index	1.38	4.24	5.55	2.78	2.04	1.96	1.47	5.28	1.69	0.04	0.36	2.14	1.97	
Difference	0.16	-0.01	0.96	0.43	0.37	N/A	N/A	0.73	0.37	0.09	0.48	0.14	0.26	
Private Investments*	0.65	2.84	5.55	13.76	14.29	13.89	12.46	6.08	5.94	39.81	10.91	12.95	12.62	05/01/2002
Private Investments Custom Index	4.88	13.25	18.74	3.82	10.06	9.85	10.86	17.46	-13.86	16.54	18.90	27.38	10.96	
Difference	-4.23	-10.41	-13.19	9.94	4.23	4.04	1.60	-11.38	19.80	23.27	-7.99	-14.43	1.66	

*Performance is based on the prior quarter's fair market value adjusted for cash flows during the most recent quarterly period.

Performance shown is net of all manager fees and expenses (Net-All). Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. Please see Addendum for custom index specification. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

**Montana Board of Investments
Comparative Performance
Investment Pools**

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Domestic Equity	9.68	19.03	28.78	9.85	14.44	13.31	12.24	25.77	-18.95	27.47	20.37	31.13	10.51	05/01/2003
All Public Plans-US Equity Segment Median	9.24	17.68	25.83	8.31	12.79	12.37	11.19	23.18	-18.06	24.57	18.92	30.07	10.32	
Rank	34	27	21	25	22	28	22	23	63	30	32	29	30	
Population	61	61	57	56	49	46	44	61	65	70	67	65	10	
International Equity	4.65	10.01	12.52	1.22	6.30	6.27	4.82	15.06	-17.46	8.18	13.71	23.28	5.26	04/01/1997
All Public Plans-Intl. Equity Segment Median	5.34	11.27	14.48	2.66	7.45	7.32	5.65	17.04	-16.99	9.51	12.76	23.71	N/A	
Rank	68	71	77	68	77	79	85	77	56	74	45	62	N/A	
Population	61	61	58	57	52	52	48	60	65	69	68	65	N/A	
Core Fixed Income	-0.63	2.55	1.86	-2.01	0.57	1.15	1.71	5.47	-11.87	-1.48	8.31	6.94	5.13	04/01/1995
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.47	2.98	2.25	-2.11	0.91	1.56	2.01	5.99	-12.95	-1.24	8.36	9.17	4.95	
Rank	70	78	69	43	78	85	81	86	14	63	52	98	24	
Population	130	128	128	128	126	124	119	137	146	152	160	162	55	
Non-Core Fixed Income	1.94	8.71	11.17	1.71	3.78	4.00	4.13	11.61	-11.05	3.63	6.94	14.65	7.11	06/01/2009
IM U.S. High Yield Bonds (SA+CF) Median	1.63	8.95	10.66	2.67	4.38	4.47	4.44	12.62	-9.32	5.34	6.58	14.25	7.60	
Rank	24	60	34	85	82	81	72	72	83	91	44	41	78	
Population	120	120	120	118	117	114	104	148	165	167	181	193	80	
Trust Funds Investment Pool	-1.13	0.93	0.28	-0.24	1.94	2.36	2.83	2.84	-6.02	1.59	7.30	9.06	5.37	10/01/1995
All Public Plans-US Fixed Income Segment Median	-0.40	3.10	2.53	-1.36	1.38	1.89	2.21	5.79	-11.80	-0.11	8.62	9.25	N/A	
Rank	96	87	79	19	27	28	21	87	14	12	78	53	N/A	
Population	65	64	61	60	54	52	50	63	70	73	74	68	N/A	
Real Estate	-1.48	-2.57	-3.96	7.66	6.68	7.62	9.37	-4.54	13.02	21.37	1.11	8.65	5.80	06/01/2006
All Public Plans-Real Estate Segment Median	-1.85	-5.21	-7.21	7.59	6.38	7.01	8.71	-6.02	13.88	20.84	1.66	7.65	N/A	
Rank	35	27	30	43	44	44	27	41	56	47	72	39	N/A	
Population	42	41	40	36	28	23	15	40	42	41	38	35	N/A	

Performance shown is gross of fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Equity Composites

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Domestic Large Cap Equity - Net	10.44	19.86	30.36	10.92	15.33	14.16	13.02	27.18	-19.30	28.39	21.44	31.06	10.01	12/01/2006
S&P 500 Index (Cap Wtd)	10.56	19.44	29.88	11.49	15.05	14.09	12.96	26.29	-18.11	28.71	18.40	31.49	10.09	
Difference	-0.12	0.42	0.48	-0.57	0.28	0.07	0.06	0.89	-1.19	-0.32	3.04	-0.43	-0.08	
Domestic Large Cap Equity - Gross	10.44	19.87	30.37	10.98	15.44	14.30	13.17	27.19	-19.29	28.61	21.66	31.29	10.20	12/01/2006
IM U.S. Large Cap Equity (SA+CF) Median	10.55	19.79	29.67	10.69	14.61	13.74	12.57	25.15	-17.11	27.38	18.31	30.47	10.18	
Rank	54	50	42	45	33	37	35	34	67	37	34	43	48	
Domestic Mid Cap Equity - Net	9.70	17.31	22.98	6.95	11.76	10.72	9.25	16.39	-13.07	25.15	13.53	28.03	9.22	01/01/2005
Russell Mid Cap Index	8.60	16.79	22.35	6.07	11.10	10.58	9.95	17.23	-17.32	22.58	17.10	30.54	9.64	
Difference	1.10	0.52	0.63	0.88	0.66	0.14	-0.70	-0.84	4.25	2.57	-3.57	-2.51	-0.42	
Domestic Mid Cap Equity - Gross	9.70	17.31	22.98	6.95	11.74	10.88	9.55	16.39	-13.07	25.15	13.53	28.11	9.61	01/01/2005
IM U.S. Mid Cap Equity (SA+CF) Median	9.05	17.31	23.16	7.00	11.89	11.45	10.44	18.44	-13.95	24.74	14.23	30.27	10.39	
Rank	40	51	55	54	55	57	74	68	43	44	58	65	81	
Domestic Small Cap Equity - Net	5.31	14.29	19.95	4.79	10.24	9.52	9.04	18.15	-16.81	27.56	13.07	25.76	11.36	03/01/2003
Russell 2000 Index	5.18	13.79	19.71	-0.10	8.10	7.73	7.58	16.93	-20.44	14.82	19.96	25.53	10.24	
Difference	0.13	0.50	0.24	4.89	2.14	1.79	1.46	1.22	3.63	12.74	-6.89	0.23	1.12	
Domestic Small Cap Equity - Gross	5.32	14.31	19.98	4.89	10.47	9.83	9.47	18.18	-16.79	28.00	13.50	26.25	11.84	03/01/2003
IM U.S. Small Cap Equity (SA+CF) Median	6.01	14.45	20.08	3.92	10.58	9.97	9.35	17.42	-16.48	23.80	17.43	25.80	12.09	
Rank	61	52	51	44	53	53	46	44	52	33	59	47	58	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all composites. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Equity Composites

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
International Large Cap Passive - Net	4.53	10.21	13.04	1.91	6.01	5.97	4.51	15.68	-15.86	7.76	10.81	21.59	6.31	06/01/2009
MSCI ACW Ex US Index (USD) (Net)	4.69	10.56	13.26	1.94	5.97	5.88	4.25	15.62	-16.00	7.82	10.65	21.51	6.13	
Difference	-0.16	-0.35	-0.22	-0.03	0.04	0.09	0.26	0.06	0.14	-0.06	0.16	0.08	0.18	
International Large Cap Passive - Gross	4.54	10.24	13.07	1.95	6.06	6.03	4.57	15.71	-15.82	7.82	10.87	21.66	6.38	06/01/2009
International Equity Active - Net	4.96	9.74	11.63	0.13	6.24	6.29	4.99	13.90	-19.26	7.77	15.91	25.83	3.95	04/01/1997
MSCI ACW Ex US Index (USD) (Net)	4.69	10.56	13.26	1.94	5.97	5.88	4.25	15.62	-16.00	7.82	10.65	21.51	5.21	
Difference	0.27	-0.82	-1.63	-1.81	0.27	0.41	0.74	-1.72	-3.26	-0.05	5.26	4.32	-1.26	
International Equity Active - Gross	5.09	10.13	12.17	0.64	6.79	6.84	5.53	14.48	-18.82	8.30	16.50	26.48	4.48	04/01/1997
IM International Large Cap Core Equity (SA+CF) Median	6.02	11.80	15.48	4.07	7.78	7.36	5.69	18.09	-15.93	11.97	11.76	23.61	7.16	
Rank	70	67	79	90	76	67	57	89	75	79	29	31	100	
International Value - Net	5.66	11.64	14.44	3.28	6.68	6.84	5.07	14.97	-13.14	9.32	9.31	20.76	3.30	11/01/2006
MSCI ACW Ex US Val Index (USD) (Net)	3.40	12.04	15.34	4.58	5.36	4.83	3.20	17.30	-8.59	10.46	-0.77	15.72	2.90	
Difference	2.26	-0.40	-0.90	-1.30	1.32	2.01	1.87	-2.33	-4.55	-1.14	10.08	5.04	0.40	
International Value - Gross	5.77	12.00	14.94	3.76	7.19	7.37	5.61	15.49	-12.73	9.85	9.87	21.37	3.86	11/01/2006
IM International Large Cap Value Equity (SA+CF) Median	3.90	10.67	14.29	5.22	7.41	6.83	5.25	18.97	-9.17	12.20	4.45	21.15	4.86	
Rank	24	39	47	68	54	33	37	82	70	67	26	46	84	
International Growth - Net	3.71	6.01	7.40	-2.99	5.71	5.81	4.69	13.80	-23.99	3.79	23.08	31.39	3.63	11/01/2006
MSCI ACW Ex US Grth Index (USD) (Net)	5.91	9.09	11.22	-0.76	6.24	6.69	5.12	14.03	-23.05	5.09	22.20	27.34	4.43	
Difference	-2.20	-3.08	-3.82	-2.23	-0.53	-0.88	-0.43	-0.23	-0.94	-1.30	0.88	4.05	-0.80	
International Growth - Gross	3.84	6.39	7.94	-2.49	6.26	6.38	5.25	14.39	-23.58	4.33	23.74	32.10	4.17	11/01/2006
IM International Large Cap Growth Equity (SA+CF) Median	5.33	8.92	12.35	1.92	8.45	8.52	6.64	17.01	-23.02	10.72	23.21	29.59	5.95	
Rank	79	81	83	83	80	88	87	82	52	84	48	25	100	
International Small Cap - Net	4.40	12.19	13.74	-0.24	5.82	5.57	4.63	14.01	-21.69	11.57	14.63	23.91	4.68	09/01/2006
MSCI ACWI Ex US Sm Cap Index IMI (USD) (Net)	2.11	10.54	12.80	0.38	6.24	5.74	4.74	15.66	-19.97	12.93	14.24	22.42	5.22	
Difference	2.29	1.65	0.94	-0.62	-0.42	-0.17	-0.11	-1.65	-1.72	-1.36	0.39	1.49	-0.54	

Gross of fees performance is not available (N/A) for the International Small Cap composite which currently consists of Acadian Ex US Small Cap (SA) and BlackRock ACW Ex US Sm Cap Index (CF).

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all composites. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Domestic Equity Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Domestic Large Cap Equity														
BlackRock MSCI US Equity Index (SA) - Net	10.40	19.83	30.27	10.80	15.00	N/A	N/A	27.11	-19.46	26.95	21.33	N/A	15.00	04/01/2019
MSCI US Index (USD) (Gross)	10.41	19.81	30.26	10.81	15.02	14.07	12.88	27.10	-19.46	26.97	21.37	31.64	15.02	
Difference	-0.01	0.02	0.01	-0.01	-0.02	N/A	N/A	0.01	0.00	-0.02	-0.04	N/A	-0.02	
BlackRock MSCI US Equity Index (SA) - Gross	10.41	19.84	30.29	10.81	15.01	N/A	N/A	27.12	-19.45	26.96	21.34	N/A	15.01	04/01/2019
IM U.S. Large Cap Core Equity (SA+CF) Median	10.82	20.19	30.01	11.04	14.75	13.76	12.74	24.68	-16.54	27.74	17.65	30.06	14.75	
Rank	57	55	49	57	42	N/A	N/A	28	78	56	28	N/A	42	
Northern Trust MSCI US Index (SA) - Net	10.41	19.83	30.28	10.81	15.02	N/A	N/A	27.12	-19.46	26.97	21.34	31.70	14.95	11/01/2018
MSCI US Index (USD) (Gross)	10.41	19.81	30.26	10.81	15.02	14.07	12.88	27.10	-19.46	26.97	21.37	31.64	14.95	
Difference	0.00	0.02	0.02	0.00	0.00	N/A	N/A	0.02	0.00	0.00	-0.03	0.06	0.00	
Northern Trust MSCI US Index (SA) - Gross	10.41	19.84	30.30	10.82	15.03	N/A	N/A	27.13	-19.45	26.98	21.36	31.71	14.96	11/01/2018
IM U.S. Large Cap Core Equity (SA+CF) Median	10.82	20.19	30.01	11.04	14.75	13.76	12.74	24.68	-16.54	27.74	17.65	30.06	14.70	
Rank	57	55	49	57	41	N/A	N/A	28	78	56	28	31	42	
iShares:Core S&P Tot USM (ITOT) - Net	9.78	19.14	29.11	N/A	N/A	N/A	N/A	26.41	-19.46	N/A	N/A	N/A	6.57	12/01/2021
S&P Tot Mkt Index	10.05	19.34	29.35	9.63	14.23	13.36	12.25	26.06	-19.53	25.66	20.79	30.90	6.52	
Difference	-0.27	-0.20	-0.24	N/A	N/A	N/A	N/A	0.35	0.07	N/A	N/A	N/A	0.05	
iShares:Core S&P 500 (IVV) - Net	10.38	18.86	29.19	N/A	N/A	N/A	N/A	25.74	-17.03	N/A	N/A	N/A	8.29	12/01/2021
S&P 500 Index (Cap Wtd)	10.56	19.44	29.88	11.49	15.05	14.09	12.96	26.29	-18.11	28.71	18.40	31.49	7.92	
Difference	-0.18	-0.58	-0.69	N/A	N/A	N/A	N/A	-0.55	1.08	N/A	N/A	N/A	0.37	
Domestic Mid Cap Equity														
iShares:Core S&P Md-Cp (IJH) - Net	9.70	17.31	22.98	6.95	11.68	N/A	N/A	16.39	-13.07	25.15	13.53	26.24	9.81	07/01/2017
S&P Mid Cap 400 Index (Cap Wtd)	9.95	17.63	23.33	6.96	11.71	10.26	9.99	16.44	-13.06	24.76	13.66	26.20	10.34	
Difference	-0.25	-0.32	-0.35	-0.01	-0.03	N/A	N/A	-0.05	-0.01	0.39	-0.13	0.04	-0.53	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Domestic Equity Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Domestic Small Cap Equity														
BlackRock MSCI USA Small Cap Index (SA) - Net	5.67	14.41	20.40	N/A	N/A	N/A	N/A	18.40	N/A	N/A	N/A	N/A	13.58	09/01/2022
MSCI US Sm Cap Index (USD) (Net)	5.56	14.05	19.89	2.71	9.60	9.19	8.64	17.86	-17.55	19.11	18.32	26.74	13.06	
Difference	0.11	0.36	0.51	N/A	N/A	N/A	N/A	0.54	N/A	N/A	N/A	N/A	0.52	
BlackRock MSCI USA Small Cap Index (SA) - Gross	5.68	14.44	20.43	N/A	N/A	N/A	N/A	18.43	N/A	N/A	N/A	N/A	13.61	09/01/2022
IM U.S. Small Cap Core Equity (SA+CF) Median	6.13	14.47	20.00	4.40	10.89	9.88	9.47	17.18	-16.11	24.24	18.71	25.82	13.93	
Rank	62	51	44	N/A	N/A	N/A	N/A	37	N/A	N/A	N/A	N/A	55	
iShares:Core S&P Sm-Cp (IJR) - Net	2.24	11.86	15.52	N/A	N/A	N/A	N/A	15.85	N/A	N/A	N/A	N/A	10.35	11/01/2022
S&P Sm Cap 600 Index (Cap Wtd)	2.46	12.14	15.93	2.28	9.15	8.52	8.80	16.05	-16.10	26.82	11.29	22.78	10.74	
Difference	-0.22	-0.28	-0.41	N/A	N/A	N/A	N/A	-0.20	N/A	N/A	N/A	N/A	-0.39	

Gross of fees performance is not available (N/A) for the following funds: iShares:Core S&P Tot USM (ITOT), iShares:Core S&P 500 (IVV), iShares:Core S&P Md-Cp (IJH), and iShares:Core S&P Sm-Cp (IJR).

The current annual expense ratios for the iShares:Core S&P Tot USM (ITOT), iShares:Core S&P 500 (IVV), iShares:Core S&P Md-Cp (IJH), and iShares:Core S&P Sm-Cp (IJR) are 0.03%, 0.03%, 0.05%, and 0.06%, respectively.

See the Addendum for custom index specification.

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
International Equity Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
International Developed Large Cap Equity														
Acadian Asset Non-US Equity (SA) - Net	6.17	14.97	17.15	4.00	7.59	7.88	6.45	13.66	-13.02	16.67	8.89	19.38	4.37	11/01/2006
MSCI ACW Ex US Val Index (USD) (Net)	3.40	12.04	15.34	4.58	5.36	4.83	3.20	17.30	-8.59	10.46	-0.77	15.72	2.90	
Difference	2.77	2.93	1.81	-0.58	2.23	3.05	3.25	-3.64	-4.43	6.21	9.66	3.66	1.47	
Acadian Asset Non-US Equity (SA) - Gross	6.28	15.34	17.68	4.48	8.11	8.41	6.98	14.18	-12.61	17.23	9.45	19.98	4.93	11/01/2006
IM ACWI Ex US Value (SA+CF) Median	4.74	11.00	14.58	4.14	7.45	7.19	5.30	20.35	-11.10	11.05	6.52	21.34	4.82	
Rank	17	11	24	47	42	23	18	91	64	7	43	57	43	
Lazard Asset Management (SA) - Net	5.03	7.78	11.47	2.73	6.02	6.04	N/A	16.54	-13.28	4.11	9.59	21.70	4.41	06/01/2015
Lazard Custom Index	4.69	10.56	13.26	1.94	5.97	5.26	3.49	15.62	-16.00	7.82	10.65	21.51	4.00	
Difference	0.34	-2.78	-1.79	0.79	0.05	0.78	N/A	0.92	2.72	-3.71	-1.06	0.19	0.41	
Lazard Asset Management (SA) - Gross	5.14	8.11	11.95	3.22	6.53	6.56	N/A	17.06	-12.84	4.62	10.14	22.31	4.93	06/01/2015
IM ACWI Ex US Value (SA+CF) Median	4.74	11.00	14.58	4.14	7.45	7.19	5.30	20.35	-11.10	11.05	6.52	21.34	5.84	
Rank	46	97	85	68	70	62	N/A	66	65	94	39	42	73	
BlackRock ACW Ex US SuperFund A (CF) - Net	4.65	10.40	13.25	2.09	6.14	6.07	4.45	15.74	-15.77	8.00	10.80	21.77	6.33	06/01/2009
MSCI ACW Ex US Index (USD) (Net)	4.69	10.56	13.26	1.94	5.97	5.88	4.25	15.62	-16.00	7.82	10.65	21.51	6.13	
Difference	-0.04	-0.16	-0.01	0.15	0.17	0.19	0.20	0.12	0.23	0.18	0.15	0.26	0.20	
BlackRock ACW Ex US SuperFund A (CF) - Gross	4.66	10.43	13.28	2.14	6.20	6.13	4.52	15.77	-15.72	8.07	10.88	21.85	6.41	06/01/2009
IM All ACWI Ex US (SA+CF) Median	5.41	10.51	14.06	2.95	7.59	7.30	5.70	17.12	-17.00	9.43	14.71	25.05	7.82	
Rank	65	51	58	59	79	77	82	67	44	64	60	68	90	
iShares:Core MSCI EAFE (IEFA) - Net	5.45	11.41	14.62	N/A	N/A	N/A	N/A	18.26	N/A	N/A	N/A	N/A	25.99	11/01/2022
MSCI EAFE IM Index (USD) (Net)	5.32	11.71	14.63	3.86	6.97	6.47	4.77	17.51	-15.53	11.08	8.47	22.44	25.37	
Difference	0.13	-0.30	-0.01	N/A	N/A	N/A	N/A	0.75	N/A	N/A	N/A	N/A	0.62	
Baillie Gifford (SA) - Net	3.56	2.96	2.94	-7.80	4.63	5.08	N/A	9.48	-31.43	1.69	34.22	34.34	4.33	06/01/2015
MSCI ACW Ex US Grth Index (USD) (Net)	5.91	9.09	11.22	-0.76	6.24	6.69	5.12	14.03	-23.05	5.09	22.20	27.34	5.23	
Difference	-2.35	-6.13	-8.28	-7.04	-1.61	-1.61	N/A	-4.55	-8.38	-3.40	12.02	7.00	-0.90	
Baillie Gifford (SA) - Gross	3.68	3.31	3.42	-7.37	5.13	5.59	N/A	10.01	-31.11	2.16	34.86	34.99	4.85	06/01/2015
IM ACWI Ex US Growth (SA+CF) Median	5.40	9.12	12.89	1.66	7.93	8.46	6.42	16.72	-23.43	9.20	22.06	29.53	6.46	
Rank	87	97	100	96	97	99	N/A	97	92	91	13	9	98	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. See the Addendum for custom index specification.

Montana Board of Investments
Comparative Performance
International Equity Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Invesco (SA) - Net	3.81	7.92	10.49	0.73	6.44	6.28	N/A	16.78	-17.80	5.60	14.84	29.29	4.86	06/01/2015
MSCI ACW Ex US Grth Index (USD) (Net)	5.91	9.09	11.22	-0.76	6.24	6.69	5.12	14.03	-23.05	5.09	22.20	27.34	5.23	
Difference	-2.10	-1.17	-0.73	1.49	0.20	-0.41	N/A	2.75	5.25	0.51	-7.36	1.95	-0.37	
Invesco (SA) - Gross	3.94	8.32	11.06	1.29	7.04	6.90	N/A	17.41	-17.32	6.20	15.51	30.05	5.49	06/01/2015
IM ACWI Ex US Growth (SA+CF) Median	5.40	9.12	12.89	1.66	7.93	8.46	6.42	16.72	-23.43	9.20	22.06	29.53	6.46	
Rank	82	58	67	55	80	89	N/A	40	22	78	83	44	89	
International Developed Small Cap Equity														
BlackRock ACW Ex US Sm Cap Index (CF) - Net	1.96	10.09	12.42	0.35	6.28	5.87	4.92	15.26	-19.65	12.84	14.45	22.68	6.64	02/01/2012
MSCI ACWI Ex US Sm Cap Index (USD) (Net)	2.11	10.54	12.80	0.38	6.24	5.74	4.74	15.66	-19.97	12.93	14.24	22.42	6.47	
Difference	-0.15	-0.45	-0.38	-0.03	0.04	0.13	0.18	-0.40	0.32	-0.09	0.21	0.26	0.17	
BlackRock ACW Ex US Sm Cap Index (CF) - Gross	1.97	10.14	12.49	0.44	6.39	5.98	5.06	15.32	-19.57	12.98	14.50	22.90	6.78	02/01/2012
IM International Small Cap Equity (SA+CF) Median	3.84	9.92	11.50	0.20	7.20	6.82	6.10	15.03	-21.52	13.74	13.95	24.61	8.92	
Rank	61	50	46	50	58	65	77	47	40	57	49	61	94	
Acadian Ex US Small Cap (SA) - Net	5.84	13.45	14.25	N/A	N/A	N/A	N/A	12.23	N/A	N/A	N/A	N/A	2.14	03/01/2022
MSCI ACW Ex US Sm Cap Index (USD) (Net)	2.11	10.54	12.80	0.38	6.24	5.74	4.74	15.66	-19.97	12.93	14.24	22.42	1.02	
Difference	3.73	2.91	1.45	N/A	N/A	N/A	N/A	-3.43	N/A	N/A	N/A	N/A	1.12	
Acadian Ex US Small Cap (SA) - Gross	5.99	13.96	14.96	N/A	N/A	N/A	N/A	12.94	N/A	N/A	N/A	N/A	2.80	03/01/2022
IM International Small Cap Equity (SA+CF) Median	3.84	9.92	11.50	0.20	7.20	6.82	6.10	15.03	-21.52	13.74	13.95	24.61	1.99	
Rank	27	34	35	N/A	N/A	N/A	N/A	75	N/A	N/A	N/A	N/A	43	
International Emerging Equity														
iShares:Core MSCI EmMkts (IEMG) - Net	2.01	6.72	8.90	N/A	N/A	N/A	N/A	11.68	-21.88	N/A	N/A	N/A	-5.04	01/01/2022
MSCI Emg Mkts IM Index (USD) (Net)	2.17	8.02	9.76	-3.93	2.98	4.08	3.21	11.67	-19.83	-0.28	18.39	17.65	-3.89	
Difference	-0.16	-1.30	-0.86	N/A	N/A	N/A	N/A	0.01	-2.05	N/A	N/A	N/A	-1.15	

Gross of fees performance is not available (N/A) for the following funds: iShares:Core MSCI EAFE (IEFA), International Equity Pool STIF, and iShares:Core MSCI EmMkts (IEMG). The current annual expense ratios for the iShares:Core MSCI EAFE (IEFA), and iShares:Core MSCI EmMkts (IEMG): are 0.07%, and 0.09%, respectively.

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. See the Addendum for custom index specification.

Montana Board of Investments
Comparative Performance
Core Fixed Income Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
US Fixed Income Aggregate - Net	-0.63	2.54	1.79	-2.05	N/A	N/A	N/A	5.40	-11.87	-1.52	7.65	N/A	-0.52	12/01/2019
Bloomberg US Agg Bond Index	-0.78	2.56	1.70	-2.46	0.36	1.06	1.54	5.53	-13.01	-1.55	7.51	8.72	-0.86	
Difference	0.15	-0.02	0.09	0.41	N/A	N/A	N/A	-0.13	1.14	0.03	0.14	N/A	0.34	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Non-Core Fixed Income Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Neuberger Berman High Yield (SA) - Net	1.29	8.38	9.81	1.51	3.58	3.69	3.72	11.90	-11.34	4.76	6.30	13.75	5.81	01/01/2010
Bloomberg US HY 2% Issuer Cap Index	1.47	9.24	11.15	2.19	4.19	4.38	4.44	13.44	-11.18	5.26	7.05	14.32	6.29	
Difference	-0.18	-0.86	-1.34	-0.68	-0.61	-0.69	-0.72	-1.54	-0.16	-0.50	-0.75	-0.57	-0.48	
Neuberger Berman High Yield (SA) - Gross	1.34	8.54	10.03	1.70	3.87	4.03	4.09	12.12	-11.16	4.96	6.75	14.26	6.23	01/01/2010
IM U.S. High Yield Bonds (SA+CF) Median	1.63	8.94	10.66	2.66	4.38	4.46	4.40	12.62	-9.32	5.34	6.57	14.25	6.42	
Rank	77	70	67	84	77	79	74	62	84	61	46	50	63	
Oaktree US High Yield (SA) (CAPP) - Net	1.31	8.84	10.76	2.42	4.31	N/A	N/A	12.68	-9.92	4.91	6.56	15.44	3.95	01/01/2018
Bloomberg US HY 2% Issuer Cap Index	1.47	9.24	11.15	2.19	4.19	4.38	4.44	13.44	-11.18	5.26	7.05	14.32	4.15	
Difference	-0.16	-0.40	-0.39	0.23	0.12	N/A	N/A	-0.76	1.26	-0.35	-0.49	1.12	-0.20	
Oaktree US High Yield (SA) (CAPP) - Gross	1.41	9.14	11.17	2.79	4.74	N/A	N/A	13.10	-9.60	5.34	7.07	16.02	4.41	01/01/2018
IM U.S. High Yield Bonds (SA+CF) Median	1.63	8.95	10.66	2.67	4.38	4.47	4.44	12.62	-9.32	5.34	6.58	14.25	4.28	
Rank	70	40	34	43	32	N/A	N/A	39	53	50	42	17	43	
Shenkman High Yield Fixed Income (SA) (CAPP) - Net	1.34	7.85	9.71	2.43	4.15	N/A	N/A	12.06	-8.87	4.24	6.32	13.65	3.88	12/01/2017
Bloomberg US HY 2% Issuer Cap Index	1.47	9.24	11.15	2.19	4.19	4.38	4.44	13.44	-11.18	5.26	7.05	14.32	4.15	
Difference	-0.13	-1.39	-1.44	0.24	-0.04	N/A	N/A	-1.38	2.31	-1.02	-0.73	-0.67	-0.27	
Shenkman High Yield Fixed Income (SA) (CAPP) - Gross	1.43	8.16	10.13	2.83	4.59	N/A	N/A	12.50	-8.52	4.68	6.82	14.18	4.34	12/01/2017
IM U.S. High Yield Bonds (SA+CF) Median	1.63	8.95	10.66	2.67	4.38	4.47	4.44	12.62	-9.32	5.34	6.58	14.25	4.25	
Rank	67	81	63	41	40	N/A	N/A	53	38	71	46	51	46	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. No peer group is shown for Cohen & Steers Preferred Securities (SA) due to the lack of suitable Preferred Securities peer groups.

Montana Board of Investments
Comparative Performance
Non-Core Fixed Income Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Cohen & Steers Preferred Securities (SA) - Net	4.09	12.19	14.48	0.90	N/A	N/A	N/A	7.28	-11.53	3.70	N/A	N/A	2.05	11/01/2020
Cohen & Steers Preferred Securities Custom Benchmark	3.76	10.76	13.09	0.77	N/A	N/A	N/A	8.57	-12.02	2.72	N/A	N/A	1.71	
Difference	0.33	1.43	1.39	0.13	N/A	N/A	N/A	-1.29	0.49	0.98	N/A	N/A	0.34	
Cohen & Steers Preferred Securities (SA) - Gross	4.17	12.45	14.85	1.24	N/A	N/A	N/A	7.64	-11.23	4.06	N/A	N/A	2.40	11/01/2020
Payden & Rygel EMD (SA) - Net	0.92	6.81	9.75	-0.97	N/A	N/A	N/A	11.73	-15.45	-3.49	N/A	N/A	-2.53	01/01/2021
Payden & Rygel EMD Custom Benchmark	0.78	6.90	9.34	-1.43	N/A	N/A	N/A	11.59	-15.97	-3.92	N/A	N/A	-2.93	
Difference	0.14	-0.09	0.41	0.46	N/A	N/A	N/A	0.14	0.52	0.43	N/A	N/A	0.40	
Payden & Rygel EMD (SA) - Gross	1.01	7.07	10.13	-0.62	N/A	N/A	N/A	12.12	-15.15	-3.14	N/A	N/A	-2.19	01/01/2021
IM Emerging Markets Debt (SA+CF) Median	1.97	8.29	10.41	0.21	2.09	2.55	3.18	12.61	-12.08	-2.13	6.71	14.30	-1.21	
Rank	63	60	55	74	N/A	N/A	N/A	58	69	58	N/A	N/A	73	
Zazove Convertible Bonds (SA) - Net	2.60	4.28	7.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.89	04/01/2023
Bloomberg US Convert's Liquid Bond Index	1.50	6.10	11.24	-1.87	10.15	10.21	9.10	14.64	-20.06	3.07	54.45	22.79	11.24	
Difference	1.10	-1.82	-3.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3.35	
Zazove Convertible Bonds (SA) - Gross	2.72	4.70	8.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.45	04/01/2023
IM U.S. Convertible Bonds (SA+CF) Median	2.78	6.29	9.72	-0.18	7.34	7.35	6.87	8.13	-11.70	6.22	18.71	18.70	9.72	
Rank	52	79	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	68	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. No peer group is shown for Cohen & Steers Preferred Securities (SA) due to the lack of suitable Preferred Securities peer groups.

Montana Board of Investments
Comparative Performance
TFIP Fixed Income Managers

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Trust Funds Investment Pool Fixed Income	-0.36	3.60	3.28	-1.00	1.63	2.07	2.45	7.03	-11.24	-0.47	8.84	9.12	5.15	10/01/1995
Bloomberg US Agg Bond Index	-0.78	2.56	1.70	-2.46	0.36	1.06	1.54	5.53	-13.01	-1.55	7.51	8.72	4.26	
Difference	0.42	1.04	1.58	1.46	1.27	1.01	0.91	1.50	1.77	1.08	1.33	0.40	0.89	
Trust Funds Investment Pool Fixed Income	-0.36	3.60	3.28	-1.00	1.63	2.07	2.45	7.03	-11.24	-0.47	8.84	9.12	5.15	10/01/1995
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.47	2.98	2.25	-2.11	0.91	1.56	2.01	5.99	-12.95	-1.24	8.36	9.17	4.76	
Rank	38	24	18	9	10	11	12	13	8	21	36	54	6	
Shenkman High Yield Fixed Income (SA) (TFIP) - Net	1.34	7.78	9.69	2.38	N/A	N/A	N/A	12.02	-9.04	4.31	6.05	N/A	3.69	07/01/2019
Bloomberg US HY 2% Issuer Cap Index	1.47	9.24	11.15	2.19	4.19	4.38	4.44	13.44	-11.18	5.26	7.05	14.32	3.88	
Difference	-0.13	-1.46	-1.46	0.19	N/A	N/A	N/A	-1.42	2.14	-0.95	-1.00	N/A	-0.19	
Shenkman High Yield Fixed Income (SA) (TFIP) - Gross	1.43	8.09	10.11	2.78	N/A	N/A	N/A	12.46	-8.68	4.74	6.54	N/A	4.12	07/01/2019
IM U.S. High Yield Bonds (SA+CF) Median	1.63	8.95	10.66	2.67	4.38	4.47	4.44	12.62	-9.32	5.34	6.58	14.25	4.07	
Rank	67	81	63	44	N/A	N/A	N/A	54	39	68	53	N/A	49	
Oaktree US High Yield (SA) (TFIP) - Net	1.37	8.91	10.85	2.55	N/A	N/A	N/A	12.72	-9.51	4.93	6.72	N/A	4.10	08/01/2019
Bloomberg US HY 2% Issuer Cap Index	1.47	9.24	11.15	2.19	4.19	4.38	4.44	13.44	-11.18	5.26	7.05	14.32	3.82	
Difference	-0.10	-0.33	-0.30	0.36	N/A	N/A	N/A	-0.72	1.67	-0.33	-0.33	N/A	0.28	
Oaktree US High Yield (SA) (TFIP) - Gross	1.46	9.21	11.26	2.93	N/A	N/A	N/A	13.14	-9.20	5.36	7.25	N/A	4.52	08/01/2019
IM U.S. High Yield Bonds (SA+CF) Median	1.63	8.95	10.66	2.67	4.38	4.47	4.44	12.62	-9.32	5.34	6.58	14.25	4.08	
Rank	63	36	30	36	N/A	N/A	N/A	39	49	50	38	N/A	22	
Neuberger Berman High Yield (SA) (TFIP) - Net	1.27	8.37	9.77	1.42	N/A	N/A	N/A	11.83	-11.43	4.62	N/A	N/A	5.93	04/01/2020
Bloomberg US HY 2% Issuer Cap Index	1.47	9.24	11.15	2.19	4.19	4.38	4.44	13.44	-11.18	5.26	7.05	14.32	7.18	
Difference	-0.20	-0.87	-1.38	-0.77	N/A	N/A	N/A	-1.61	-0.25	-0.64	N/A	N/A	-1.25	
Neuberger Berman High Yield (SA) (TFIP) - Gross	1.32	8.53	9.99	1.60	N/A	N/A	N/A	12.05	-11.25	4.81	N/A	N/A	6.18	04/01/2020
IM U.S. High Yield Bonds (SA+CF) Median	1.63	8.95	10.66	2.67	4.38	4.47	4.44	12.62	-9.32	5.34	6.58	14.25	7.01	
Rank	78	72	69	86	N/A	N/A	N/A	66	84	65	N/A	N/A	79	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.



Montana Board of Investments
Comparative Performance
Trust Accounts

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Abandoned Mine Trust	1.35	4.13	5.41	2.73	2.14	2.00	1.74	5.13	1.68	0.13	0.73	2.41	3.73	12/01/1993
Barker Hughesville St Response	-0.79	1.26	0.77	0.53	N/A	N/A	N/A	2.90	-3.87	1.36	N/A	N/A	0.48	05/01/2020
Belt Water Treatment Plant Fund	-0.74	1.33	0.89	0.60	2.33	N/A	N/A	2.96	-3.71	1.34	6.80	8.56	2.76	03/01/2018
Big Sky Economic Development Fund	-1.13	0.79	0.06	0.22	2.14	2.47	2.86	2.53	-4.27	1.45	7.12	8.67	4.11	07/01/2005
Butte Area One Restoration	-0.84	1.24	0.92	0.66	2.07	2.31	2.31	3.08	-3.26	1.26	6.07	6.76	2.84	11/01/2008
Clark Fork River Restoration	-0.80	1.26	0.94	0.65	2.05	2.25	2.34	3.06	-3.17	1.19	5.65	7.04	3.07	11/01/2008
Coal Tax Cultural Trust Fund	-1.11	0.93	0.26	0.29	2.17	2.48	2.87	2.73	-4.20	1.43	6.99	8.64	5.38	12/01/1993
Coal Tax Park Acquisition	-1.03	0.96	0.34	0.34	2.18	2.49	2.86	2.72	-4.02	1.37	6.86	8.63	5.35	12/01/1993
Conservation District Fund	-2.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.90	12/01/2023
Debt and Liability Fee Account	1.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.26	11/01/2023
East Helena Compensation Fund	0.22	2.76	3.58	1.98	2.36	2.41	2.26	4.53	0.48	0.42	2.65	5.52	2.08	01/01/2013
East Helena Greenway Trail Maintenance	-0.44	1.72	1.58	0.87	N/A	N/A	N/A	3.32	-2.81	N/A	N/A	N/A	0.85	03/01/2021
Endowment for Children	-1.04	1.02	0.40	0.35	2.19	2.49	2.82	2.80	-4.18	1.41	7.01	8.54	4.06	08/01/2007
Flying J CECRA Facilities Fund	-0.78	1.27	0.78	0.54	N/A	N/A	N/A	2.91	-3.85	1.36	N/A	N/A	0.50	05/01/2020
FWP License Account	0.46	2.82	3.36	1.52	1.52	1.56	1.31	4.04	-1.41	0.46	1.85	3.33	2.70	11/01/1997
FWP Mitigation Trust Fund	-0.32	1.94	1.80	0.92	1.70	1.76	1.52	3.41	-2.79	0.98	3.84	5.46	3.54	12/01/1993
FWP Real Property Trust	-1.07	0.97	0.35	0.30	2.15	2.46	2.81	2.77	-4.13	1.38	6.83	8.62	4.82	12/01/1993
Group Benefits	0.80	3.14	3.78	1.85	1.98	1.95	1.70	4.16	-0.33	0.63	2.05	4.01	3.61	12/01/1993
Hail Insurance Investments	0.11	2.43	3.16	N/A	N/A	N/A	N/A	4.26	N/A	N/A	N/A	N/A	3.70	11/01/2022
Harold Hamm Endowment	-0.82	1.22	0.71	0.49	2.23	2.23	N/A	2.87	-3.94	1.43	6.71	8.45	2.09	07/01/2016
History and Civics Endowment	1.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.34	01/01/2024
Invasive Species Trust Fund	-0.89	0.90	0.42	0.30	N/A	N/A	N/A	2.65	-3.88	1.19	N/A	N/A	-0.09	10/01/2020
Libby Asbestos Site State Cost	-0.71	1.36	0.95	0.64	N/A	N/A	N/A	2.98	-3.60	1.25	N/A	N/A	0.57	05/01/2020
Luttrell Pit - Operational & Maintenance	-0.84	1.36	0.91	0.78	N/A	N/A	N/A	3.07	-3.27	1.36	N/A	N/A	0.66	05/01/2020
Montana Pole	-0.65	1.51	1.15	0.75	2.16	2.39	2.60	3.12	-2.92	1.14	5.61	7.48	4.57	09/01/1996
Montana State University	0.86	3.24	4.44	2.20	1.96	1.94	1.58	4.77	0.58	0.30	1.30	2.87	2.01	08/01/2004
Montana State Library Trust	-0.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.52	10/01/2023
Montana Tech-UM Agency Funds	1.22	3.95	5.12	2.60	2.11	2.02	1.56	4.99	1.36	0.20	1.01	2.56	1.89	03/01/2003
MT BOI - Clark Fork Site	-1.00	1.09	0.50	0.43	2.12	2.41	2.66	2.81	-3.95	1.44	6.65	8.00	3.52	11/01/2008
MT BOI UOFM Other	0.65	2.96	3.44	1.92	2.32	2.30	2.19	3.94	-0.16	0.73	3.47	4.54	2.81	08/01/2002
MT Housing Infrastructure Trust	1.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.42	08/01/2023
MUS Group Insurance	1.01	3.72	4.61	2.28	2.11	2.06	1.82	4.74	0.57	0.26	1.70	3.39	1.63	10/01/2011
MUS Workers Compensation	0.62	3.17	3.88	2.05	2.21	2.22	N/A	4.44	0.10	0.46	2.55	4.43	2.02	04/01/2016

Performance shown is gross of fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Trust Accounts

As of March 31, 2024

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2023	2022	2021	2020	2019	Since Incep.	Inception Date
Older Montanans Trust	-1.08	1.01	0.34	0.31	2.21	2.50	2.85	2.78	-4.23	1.41	7.19	8.62	3.93	08/01/2007
Permanent Coal Trust Excl Crp	-0.45	1.14	1.02	1.02	2.34	2.57	2.90	2.57	-2.02	1.82	5.57	6.81	5.18	12/01/1993
PERS Defined Cont Disability	5.21	11.73	16.50	4.53	8.21	7.88	N/A	17.09	-15.55	13.16	14.06	20.77	7.29	09/01/2015
Potter Trust Fund	-0.83	1.21	0.69	0.49	2.24	2.52	N/A	2.86	-3.96	1.41	6.78	8.47	2.39	06/01/2016
Resource Indemnity Trust	-1.18	0.79	0.05	0.19	2.16	2.49	2.89	2.60	-4.44	1.48	7.23	8.88	5.44	12/01/1993
School Facilities Fund	-1.15	0.70	-0.04	0.16	2.01	N/A	N/A	2.42	-4.24	1.39	6.97	7.88	2.02	01/01/2018
Smelter Hill Up Restorative	-0.82	1.25	0.85	0.58	1.79	1.98	1.87	3.00	-3.54	1.29	5.62	5.64	2.02	11/01/2008
State Fund Insurance	0.48	4.03	4.48	0.77	2.99	3.22	3.33	6.49	-7.68	3.04	7.62	9.65	5.13	12/01/1993
Streamside Tailings Operable Unit	-0.87	1.21	0.69	0.46	2.15	2.41	2.72	2.90	-3.70	1.27	6.47	7.92	4.68	02/01/1999
Subsequent Injury Fund	1.29	3.95	5.15	2.79	2.16	2.04	1.54	5.37	1.66	0.13	0.73	2.28	2.95	12/01/1993
Tobacco Trust Fund	-1.17	0.81	0.09	0.20	2.13	2.46	2.86	2.63	-4.40	1.51	7.10	8.67	4.83	01/01/2001
Treasurers	1.07	3.94	5.06	2.50	1.96	1.89	1.46	5.08	1.34	0.10	0.63	2.28	2.77	12/01/1993
Montana Coal Endowment Fund	-1.16	0.83	0.10	0.22	2.16	2.49	2.88	2.63	-4.37	1.47	7.15	8.81	5.32	12/01/1993
MT Coal Endowment Regional Water	-1.15	0.83	0.11	0.22	2.16	2.49	2.87	2.63	-4.37	1.47	7.15	8.80	4.98	06/01/2000
Trust and Legacy Account	-1.18	0.81	0.08	0.22	2.16	2.49	2.89	2.62	-4.37	1.47	7.19	8.84	6.00	07/01/1991
UCFRB Assess/Litig Cost Rec	-1.16	0.80	0.09	0.21	2.04	2.37	2.73	2.61	-4.37	1.53	6.68	8.50	4.93	07/01/1999
UCFRB Restoration Fund	-1.04	0.94	0.31	0.28	2.14	2.45	2.75	2.71	-4.22	1.36	6.90	8.52	4.87	06/01/1999
Upper Blackfoot Response	1.17	3.89	5.01	2.61	2.40	2.33	2.05	4.94	1.22	0.32	1.55	4.24	1.83	09/01/2010
Weed Control Trust	-1.18	0.79	0.04	0.19	2.16	2.49	2.89	2.60	-4.44	1.48	7.23	8.88	4.70	12/01/1993
Wildlife Habitat Trust	-1.02	0.97	0.34	0.30	2.14	2.45	2.79	2.72	-4.10	1.38	6.75	8.54	4.83	12/01/1993
Work Force Housing	1.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.27	11/01/2023
Yellowstone Pipeline Cleanup Fund	-0.39	1.82	1.77	0.94	N/A	N/A	N/A	3.16	-1.42	N/A	N/A	N/A	0.94	04/01/2021
Zortman/Landusky LT H2O	1.35	4.13	5.41	2.73	2.12	2.01	1.74	5.13	1.68	0.13	0.73	2.28	5.78	09/01/1999
Z/L Long Term H2O Trust Fund	1.35	4.13	5.41	2.73	2.12	2.01	1.80	5.13	1.68	0.13	0.73	2.28	3.87	09/01/2005

Performance shown is gross of fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Performance Notes

- All gross and net performance data is provided by State Street Analytics (SSA). Reported gross returns for the retirement plans prior to 07/01/2002 are net of all fees.
- Fiscal year ends on 06/30.
- Gross performance for the retirement plans is calculated with fee accruals provided by Montana's Accounting department.
- Gross of fees performance is not available (N/A) for the following funds: iShares:Core S&P Tot USM (ITOT), iShares:Core S&P 500 (IVV), iShares:Core S&P Md-Cp (IJH), iShares:Core S&P Sm-Cp (IJR), iShares:Core MSCI EAFE (IEFA), and iShares:Core MSCI EmMkts (IEMG).
- Non-Core Fixed Income currently consists of High Yield, Preferred Securities, EMD and Convertible Bonds.
- Private Investments currently consist of Private Equity, Private Credit, Venture Capital, and Passive ETFs.

Index Notes

- Retirement plan custom benchmarks are provided by State Street Bank and are calculated daily using actual allocations.
- The CAPP Custom Benchmark consists of the portfolio weighted average of the primary benchmark for each CAPP asset class.
- The Short Term Custom Benchmark consists of 100% ICE 1 Mo LIBOR Index (USD) through 4/30/2018, and 100% Federal Reserve US Treasury 1 Mo Constant Maturity Index thereafter.
- The Domestic Equity Custom Index consists of 100% S&P 1500 Comp Index through 04/30/2017 and 100% MSCI USA IM Index (USD) (Gross) thereafter.
- The International Equity Custom Index consists of 100% MSCI EAFE Index (USD) (Net) through 10/31/2006, 100% MSCI ACW Ex US Index (USD) (Net) through 06/30/2007, 92.5% MSCI ACW Ex US Index (USD) (Net) and 7.5% MSCI ACW Ex US SC IM Index (USD) (Net) through 02/28/2014, and 100% MSCI ACW Ex-US IM Index thereafter.
- The Real Estate Custom Index consists of 100% NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag) through 03/31/2017, 100% MSCI US REIT Index (USD) (Gross) through 06/30/2020, and 100% NCREIF ODCE (AWA) (1 Qtr Lag) Index thereafter.
- The Private Investments Custom Index consists of 100% S&P 1500 Comp Index+4% (1 Qtr Lag) through 03/31/2017, 100% MSCI US Small Cap Index (USD) (Gross) through 12/31/2020, and the portfolio weighted MSCI US SC / S&P LSTA US Leverage Loan 100 Index for PE / PC thereafter.
- The Lazard Custom Index consists of 100% MSCI ACW Ex US Value Index (USD) (Net) through 6/30/2018 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- The Templeton Custom Index consists of 100% MSCI ACW Ex US Small Cap Value Index (USD) (Net) through 5/31/2018, and 100% MSCI ACW Ex US Small Cap Index (USD) (Net) thereafter.
- The Reams Custom Index consists of 100% Bloomberg US Unv Bond Index through 03/31/2017, 100% Bloomberg US Agg Bond Index through 12/31/2019, and 100% Bloomberg US Unv Bond Index thereafter.
- The Cohen & Steers Custom Index consists of 60% ICE BofAML US IG Institutional Capital Securities Index, 20% ICE BofAML Core Fixed Rate Preferred Securities Index, and 20% Bloomberg Barclays Developed Market USD Contingent Capital Index.
- The Payden & Rygel Custom Index consists of 70% JP Morgan EMBI Global Diversified Index, 30% JP Morgan GBI-EM Global Diversified Index.
- The JPM US Equity Custom Benchmark consists of 100% S&P 500 Index (Cap Weighted) through 06/30/2019 and 100% MSCI US Index (USD) (Gross) thereafter.
- The Real Assets Custom Index consists of 100% MSCI All Country World Commodity Producers Index (USD) (Net) through 12/31/2020 and 33.33% MSCI All Country World Commodity Producers Index (USD) (Net), 33.33% MSCI All Country World Infrastructure Index, 33.33% Bloomberg Barclays Global Inflation Linked US TIPS Index thereafter.
- The Core Fixed Income Custom Index consists of 100% Bloomberg US Agg Bond Index through 03/31/2017, the portfolio weighted average of Broad Fixed Income - PAC Custom Blend, Bloomberg US Corp Inv Grade Index, Bloomberg US MBS Index, Bloomberg US Int TIPS Index, Bloomberg US Trsy Int Trm Index through 11/30/2019, and 100% Bloomberg US Agg Bond Index thereafter.
- As of 07/01/2021, the Trust Fund Custom Index Benchmark is the portfolio weighted averaged of the primary benchmark, consisting of NCREIF ODCE Index (1Q lag), Bloomberg US High Yield - 2% Issuer Cap Index, and Bloomberg US Aggregate Bond Index.

Trust Accounts Comments

- History and Civics Endowment and Conservation District Fund were added in 12/2023.
- Debt and Liability Fee Account and Work Force Housing were added in 10/2023.

Addendum

Manager Transition Comments

- BlackRock MSCI Emg Mkts Index NL (CF) was terminated in 04/2023.
- Zazove Convertible Bonds (SA) was funded in 03/2023.
- American Century Investment Mgmt (SA) was terminated in 03/2023.
- Templeton Investment Counsel (SA) was terminated in 03/2023.
- Reams Asset Core Plus (SA) was terminated in 03/2023.
- iShares:Russ 2000 ETF (IWM) and iShares:MSCI EAFE ETF (EFA) were liquidated in Q4 2022 to fund iShares:Core S&P Small Cap ETF (IJR) and iShares:Core MSCI EAFE ETF (IEFA), respectively.
- BlackRock MSCI USA Small Cap Index was transitioned from a commingled fund to a separate account structure during Q3 2022 to obtain a lower fee structure.
- Acadian Ex US Small Cap (SA) was funded in 02/2022.
- DFA Emg Mkts Sm Cap;I (DEMSX) was liquidated in 02/2022.
- DFA Intl Sm Co;I (DFISX) was liquidated in 02/2022.
- iShares:MSCI Em Mkts (EEM) was liquidated in 01/2022.
- iShares:Core MSCI EmMkts (IEMG) was funded in 12/2021.
- SPDR S&P 500 ETF (SPY) was liquidated in 12/2021.
- iShares:Core S&P 500 (IVV) was funded in 11/2021.
- Vaughan Nelson Management (SA), T. Rowe U.S. Structured Research (SA), J.P. Morgan 130/30 (SA), Jacobs Levy 130/30 Large Cap (SA), and DFA US Sm Cap TR (CF) were liquidated in 11/2021.
- iShares:Core S&P Tot USM (ITOT) was funded in 11/2021.
- The Natural Resources PAC was renamed to the Real Assets PAC during Q1 2021.
- Payden & Rygel EMD (SA) was funded in 12/2020.
- Cohen & Steers Preferred Securities (SA) was funded in 10/2020.
- Neuberger Berman High Yield (SA) and TFIP Private Real Estate were funded in the Trust Fund Investment Pool during Q1 2020.
- Diversifying Strategies investments were liquidated and Investment Grade Credit, US Treasury & Agency, and TIPS were consolidated into the Core Fixed Income composite during Q4 2019.
- Post High Yield Plus (SA), GMO:Bchmk-Fr All;III (GBMFX), and PIMCO:All Asset;Inst (PAAIX) were liquidated during Q3 2019.
- Oaktree US High Yield Fixed Income (SA) and Shenkman High Yield Fixed Income (SA) were funded in the Trust Fund Investment Pool during Q3 2019.
- Artisan Partners (SA), Iridian Asset Management (SA), Congress Mid Cap Growth (SA), TimeSquare Capital Management (SA), and Alliance Bernstein (SA) were liquidated in Q2 2019.
- BlackRock MSCI US Equity Index (CF) was transitioned into a separately managed account during Q1 2019.
- Northern Trust MSCI US Equity Index (SA), GMO:Bchmk-Fr All;III (GBMFX), and PIMCO:All Asset;Inst (PAAIX) were funded during Q4 2018.
- Voya Investment Management (SA) was liquidated in 07/2018.
- iShares:Russ 2000 ETF (IWM) was funded in 04/2018.
- Jacobs Levy 130/30 Large Cap (SA) was funded in 03/2018.
- Congress Mid Cap Growth (SA) was funded in 02/2018.
- Oaktree US High Yield (SA) and Shenkman High Yield Fixed Income (SA) were funded in 12/2017.
- Analytic Investors 130/30 (SA) was liquidated in 09/2017.
- Effective 07/2016, the Metropolitan West Capital Management legal entity merged into the Wells Capital Management Incorporated legal entity. The Metropolitan West Capital Mgmt (SA) has been updated to Wells Capital Management (SA) to reflect the change.
- Residual assets from the liquidation of AllianceBernstein Int'l Value (SA), Martin Currie (SA), Hansberger Global Investors (SA), and Aberdeen Total Return Bond Strategy (SA) were distributed in 06/2017.
- INTECH Enhanced Plus was liquidated in 06/2017.
- BlackRock MSCI US Equity Index (CF), BlackRock MSCI US Sm Cap Equity Index (CF), and iShares:Core S&P Md-Cp (IJH) were funded in 06/2017.
- SPDR S&P 500 ETF (SPY) and iShares:MSCI EAFE ETF (EFA) were re-funded in 06/2017.
- BlackRock Equity Index Fund A (CF) and BlackRock Mid Cap Equity Index A (CF) were liquidated in 05/2017.
- Nicholas Investment Partners was liquidated in 07/2016. Residual assets from liquidation were distributed in 03/2017.
- Wells Capital Management (SA), Domestic Equity Pool SPIF, and International Equity Pool SPIF were liquidated in 10/2016. Wells Capital Management (SA) residual assets from liquidation were distributed in 03/2017.
- DFA Emg Mkts Sm Cap;I (DEMSX) was funded in 02/2017.
- SPDR S&P 500 ETF (SPY) was liquidated in 01/2017.
- iShares:MSCI Em Mkts (EEM) was funded in 12/2016.
- SPDR S&P 500 ETF (SPY) was initially funded in 09/2015, was then liquidated in 12/2015, and was re-funded in 10/2016.
- iShares S&P SmallCap 600 Index ETF (IJR) was liquidated in 01/2016.
- Effective 05/2014, ING rebranded to Voya. The ING Investment Management (SA) has been updated to Voya Investment Management (SA) to reflect the change.

**Montana Board of Investments
Fee Schedule**

As of March 31, 2024

	Fee Schedule	Market Value As of 03/31/2024 (\$)
iShares:Core S&P Tot USM (ITOT)	0.03 % of Assets	83,553,067
iShares:Core S&P 500 (IVV)	0.03 % of Assets	111,717,099
iShares:Core S&P Md-Cp (IJH)	0.05 % of Assets	52,435,324
iShares:Core S&P Sm-Cp (IJR)	0.06 % of Assets	84,978,828
iShares:Core MSCI EAFE (IEFA)	0.07 % of Assets	88,935,303
iShares:Core MSCI EmMkts (IEMG)	0.09 % of Assets	62,904,941

ETF fees are sourced from Morningstar and/or the investment manager.

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Investment Update

Board Meeting: May 22-23, 2024

Information as of: March 31, 2024

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CIO Update

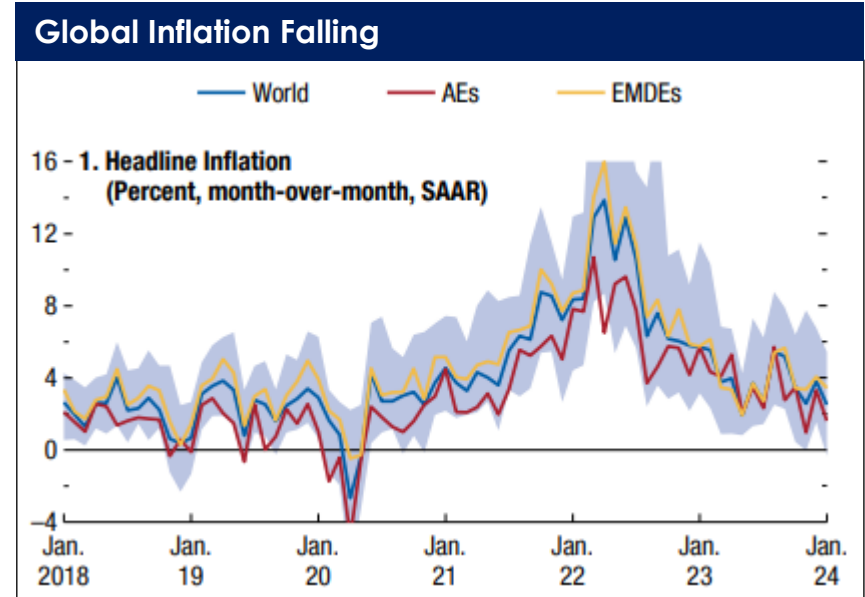
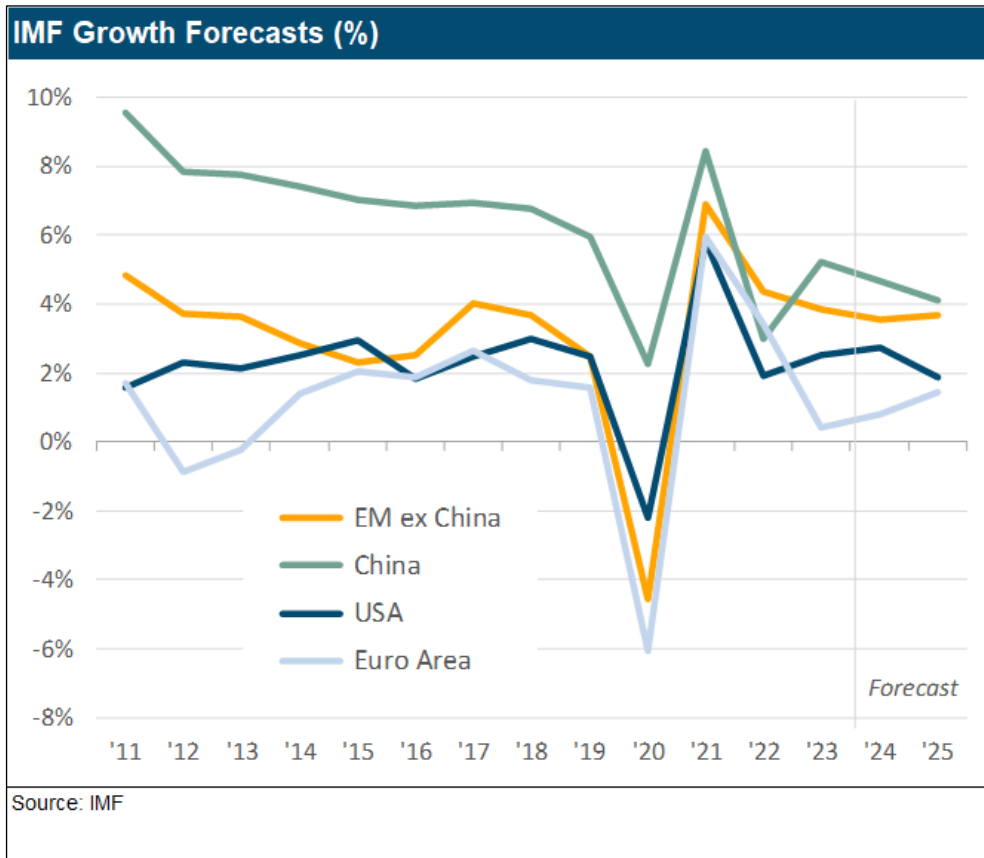
Economic Environment

- **GDP** – The Bloomberg Economics Survey in April forecast U.S. GDP to grow 2.4% in 2024 and 1.7% in 2025.
- **Job Growth** – Employment gains have defied expectations in the 1st quarter with average non-farm payroll growth of 276K.
- **Retail Sales** – Retail sales have been strong in the 1st quarter. Income growth continues to support consumption.
- **Inflation** – Annual CPI increased from 3.1% in January to 3.5% in March. Core PCE was 2.8% in March down from 2.9% in January.
- **Housing** – New home sales were up 8.8% in March and existing home sales were down 4.4%.
- **ISM Indices** – In March, the ISM Manufacturers Index edged above 50 to 50.3 while the ISM Services Index was 51.4 indicating modest expansion in both segments.

CIO Update

Economic Environment

Global growth slowing but positive. Inflation falling back toward long-term levels.

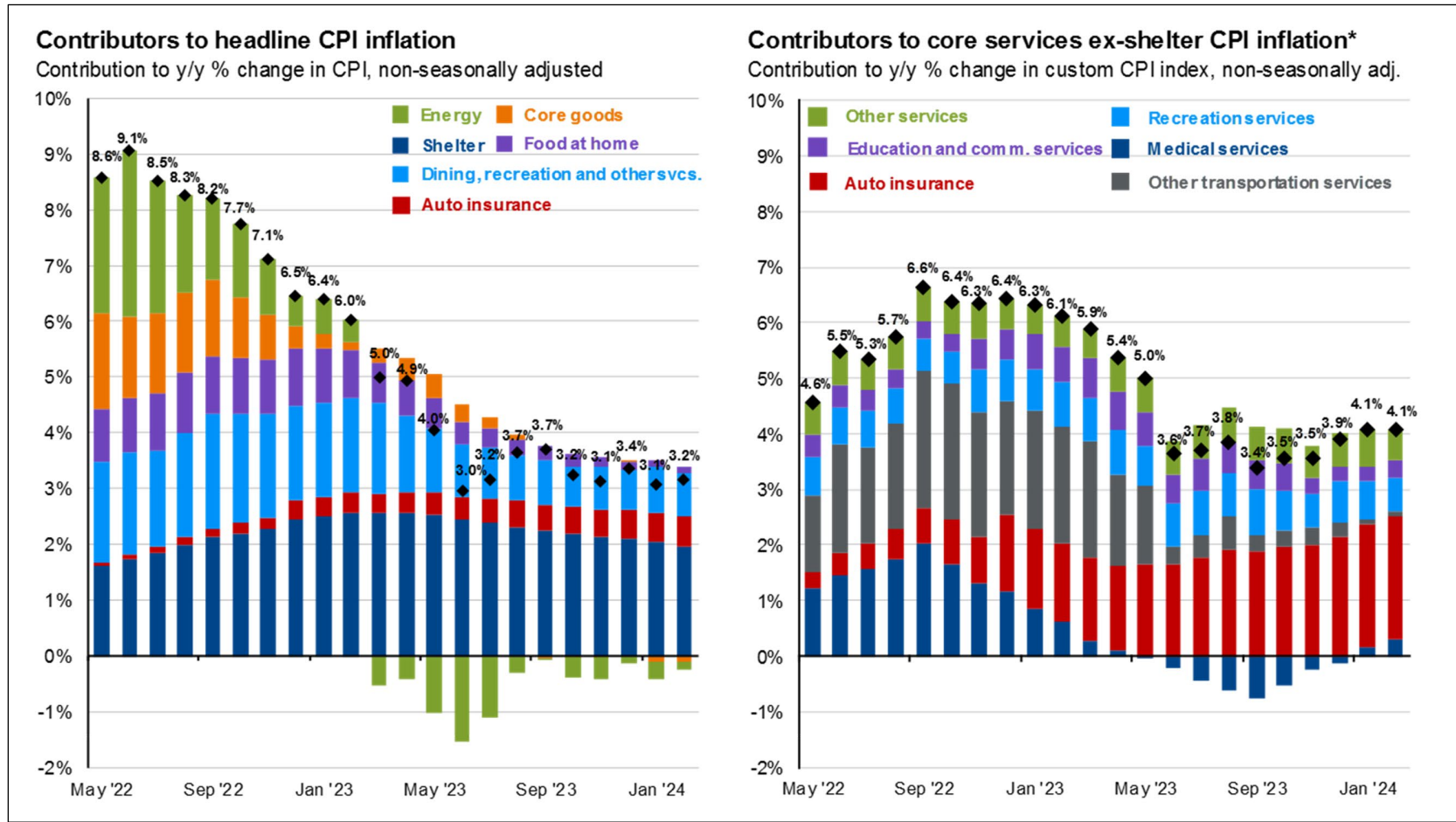


The bands depict the 25th to 75th percentiles of data across economies.
AEs = advanced economies; EMDEs = emerging market and developing economies; SAAR = seasonally adjusted annual rate.
Source: IMF

CIO Update

Economic Environment

Shelter, auto insurance, and services driving recent inflation in the U.S.

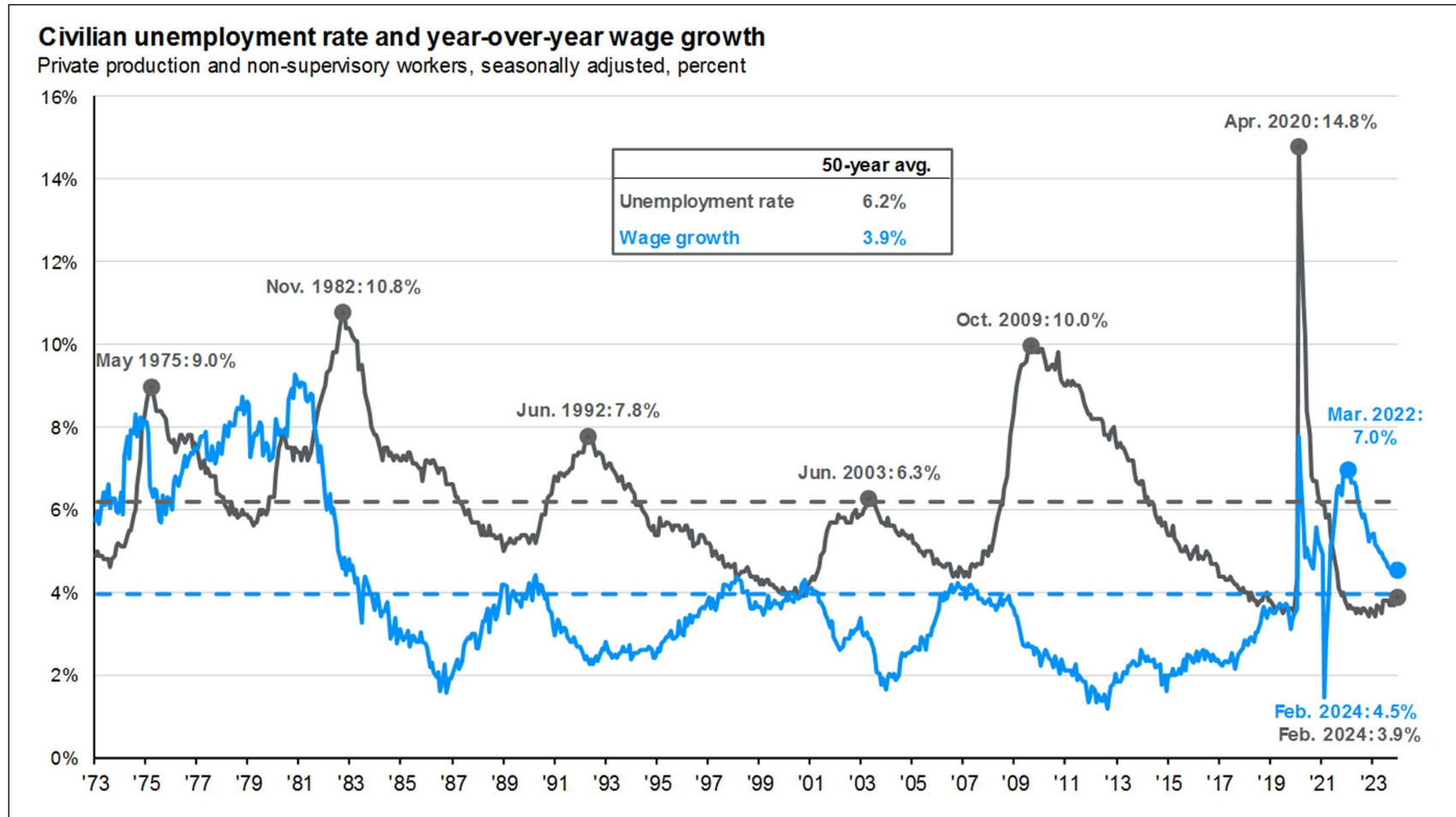


JP Morgan 2Q2024 Guide to the Markets

CIO Update

Economic Environment

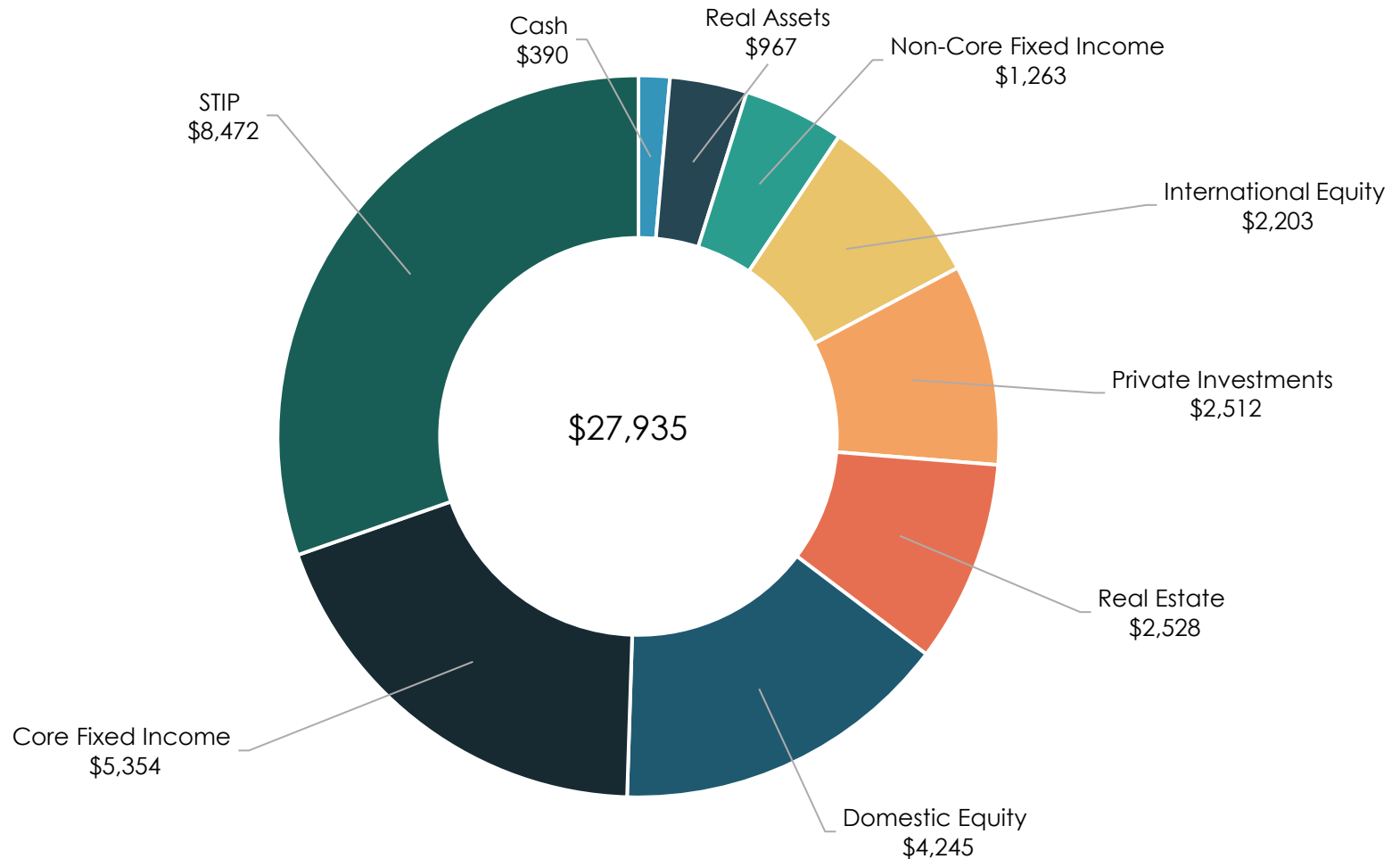
Unemployment remains low and wage growth has moderated.



JP Morgan 2Q2024 Guide to the Markets

CIO Update

AUM by Asset Class

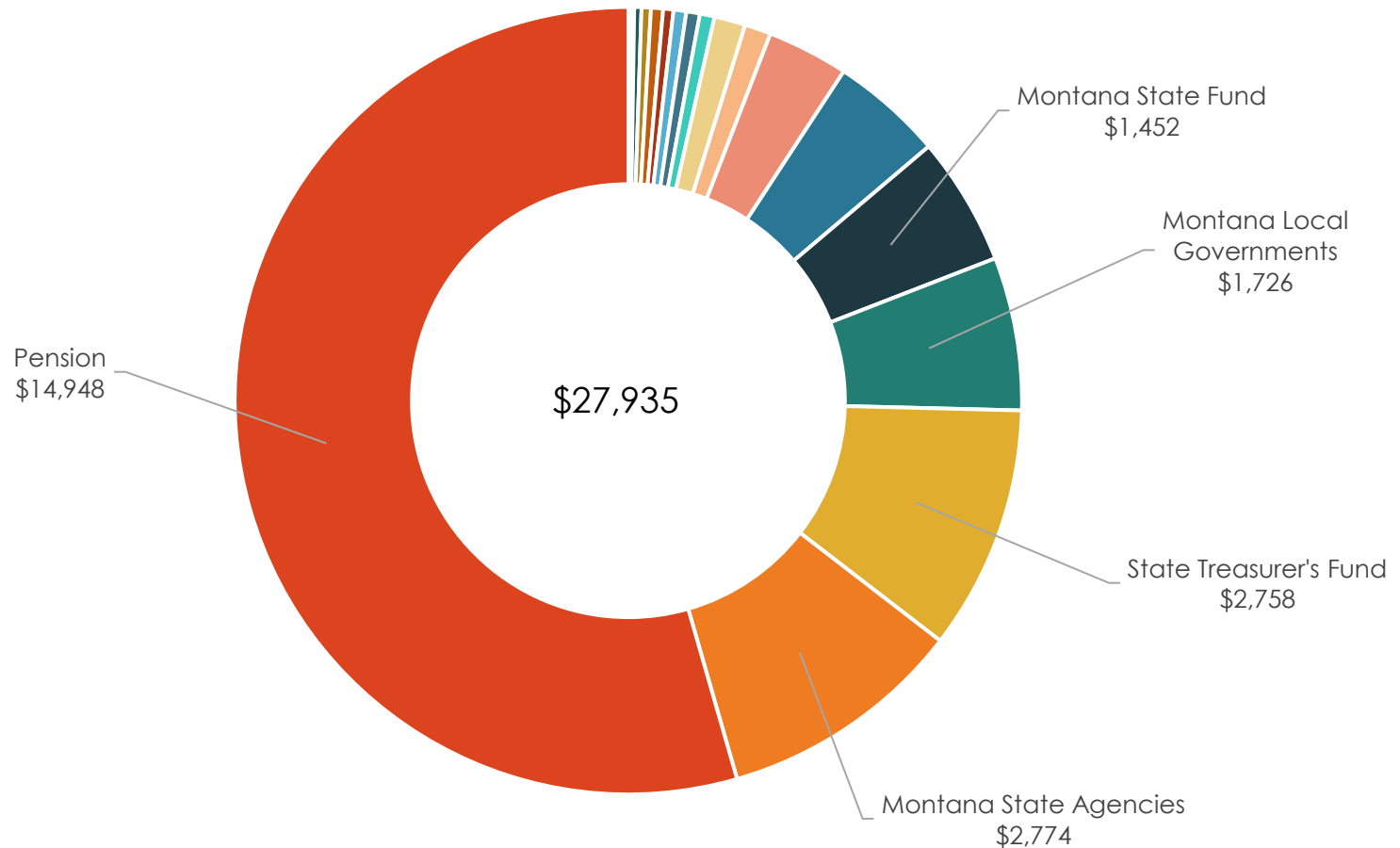


* Dollar values are in \$1,000,000

March 31, 2024

CIO Update

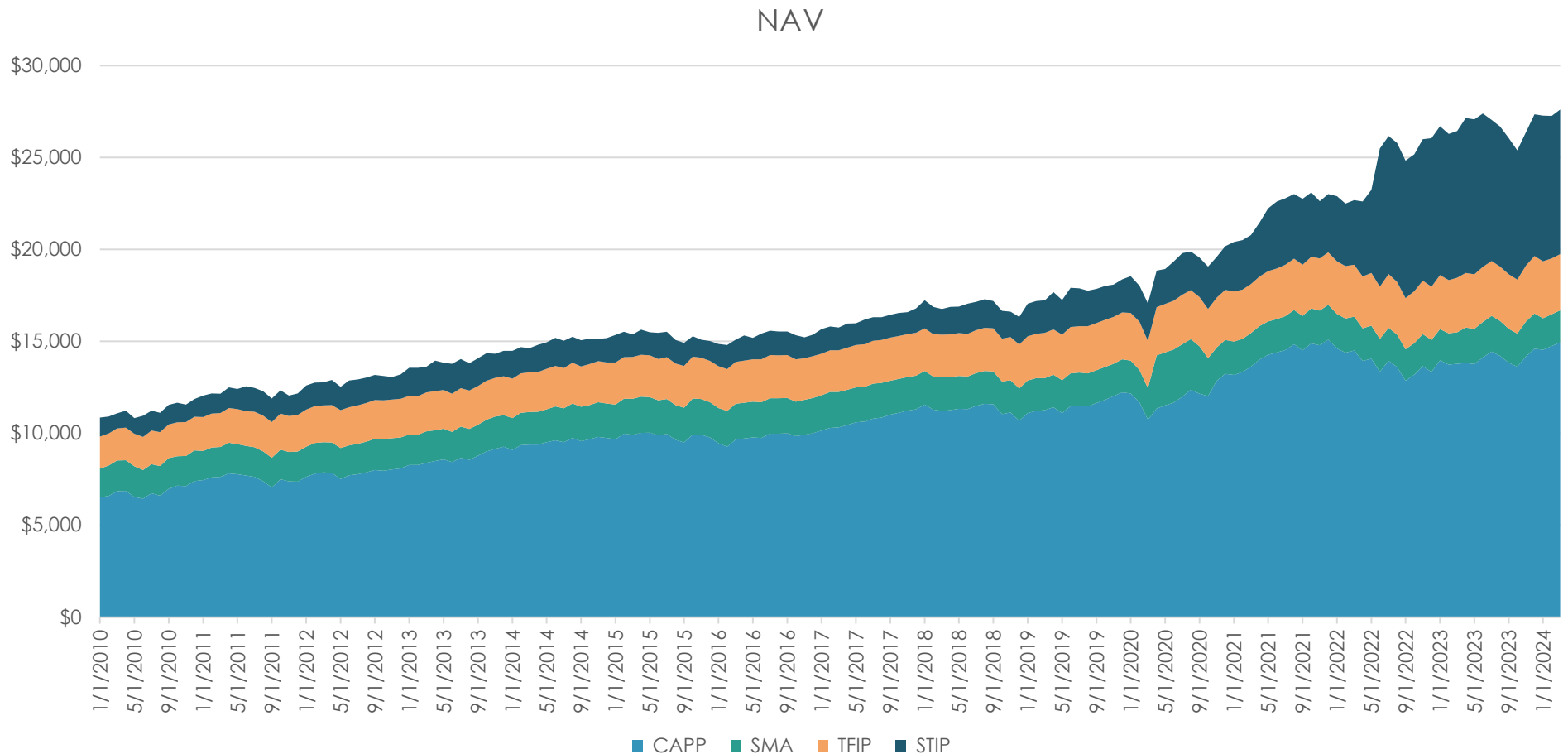
AUM by Participant Type



* Dollar values are in \$1,000,000
March 31, 2024

CIO Update

AUM by Pool

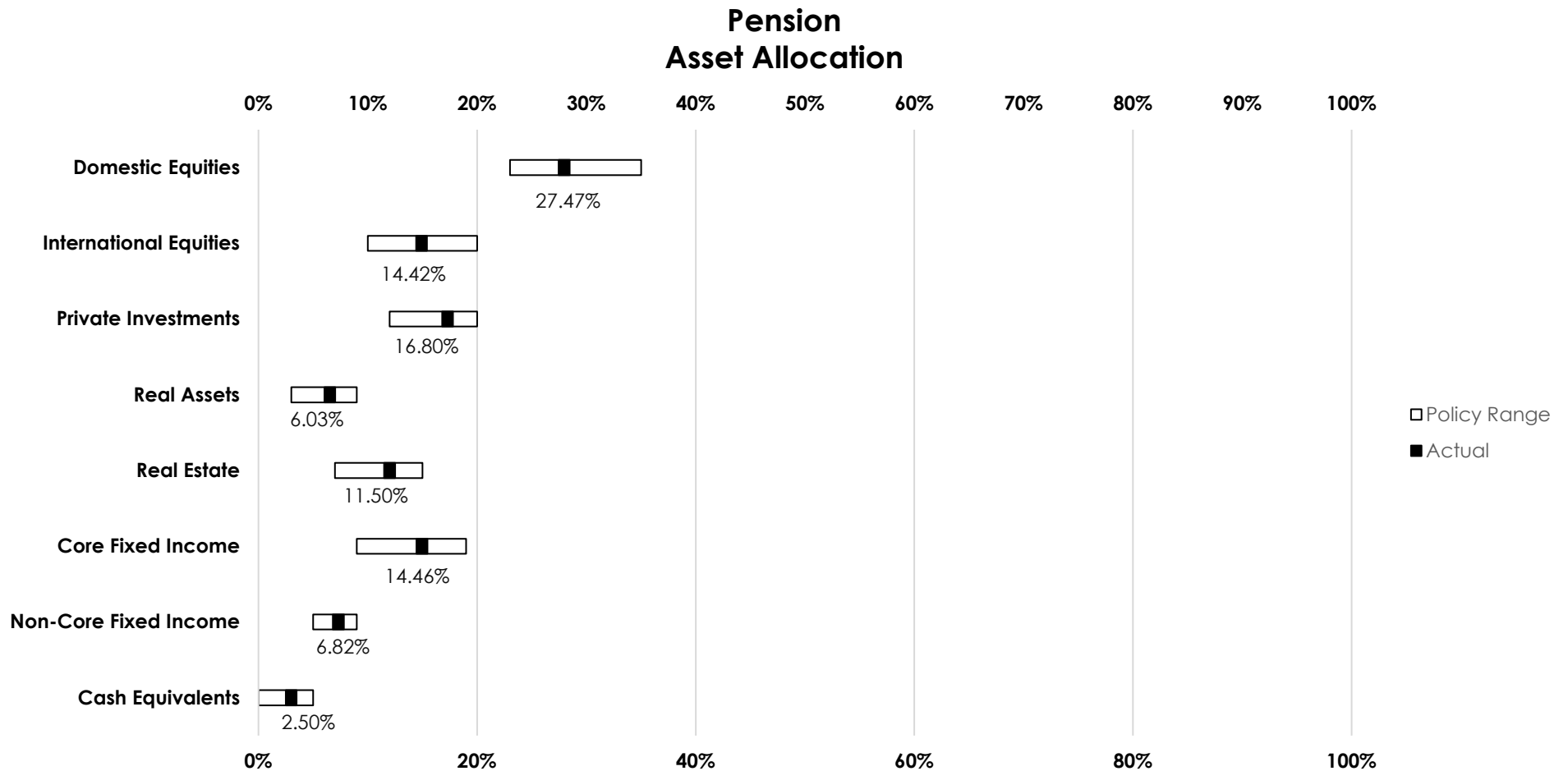


* Dollar values are in \$1,000,000

March 31, 2024

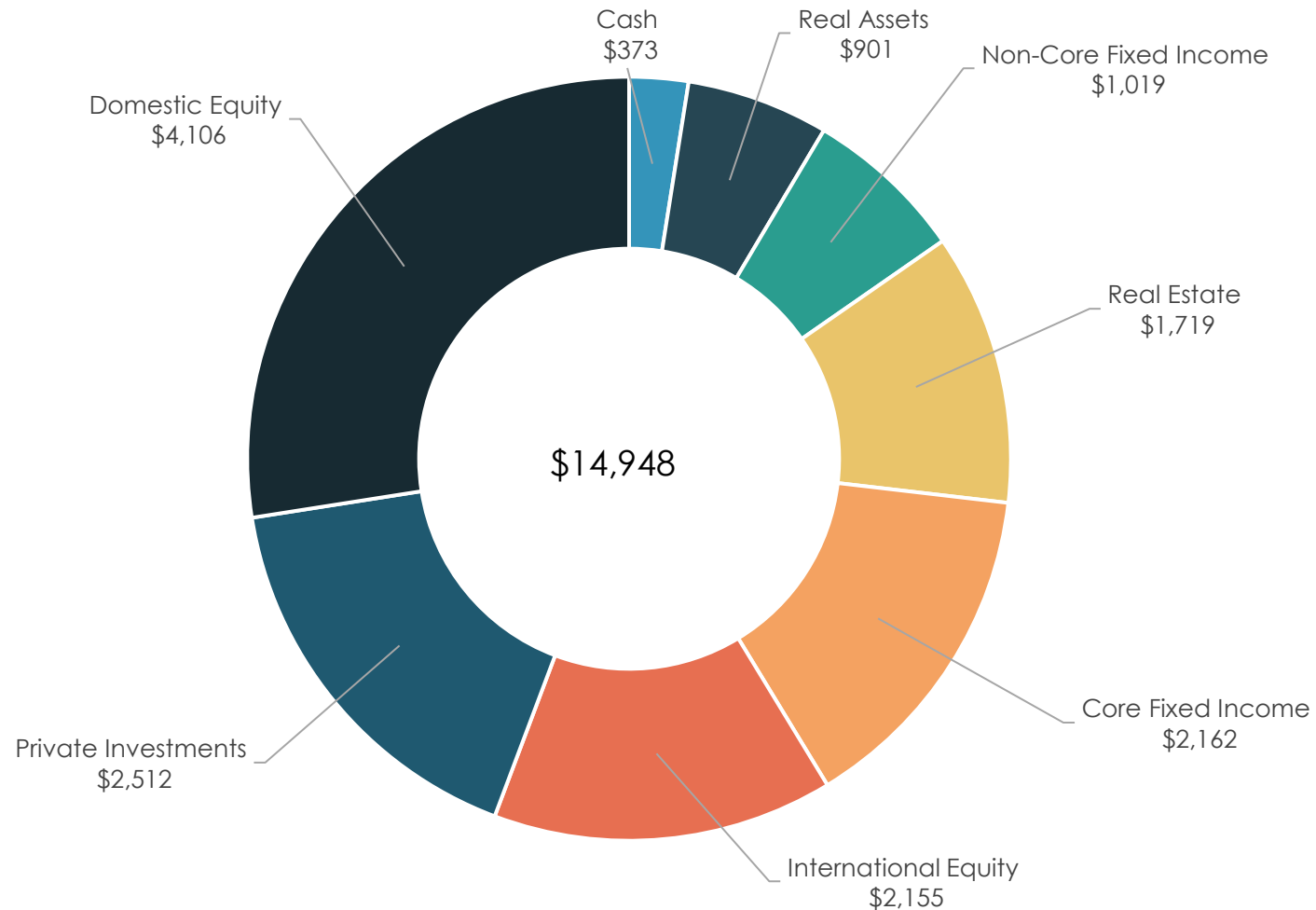
CIO Update

Pension Asset Allocation



CIO Update

Pension Asset Allocation



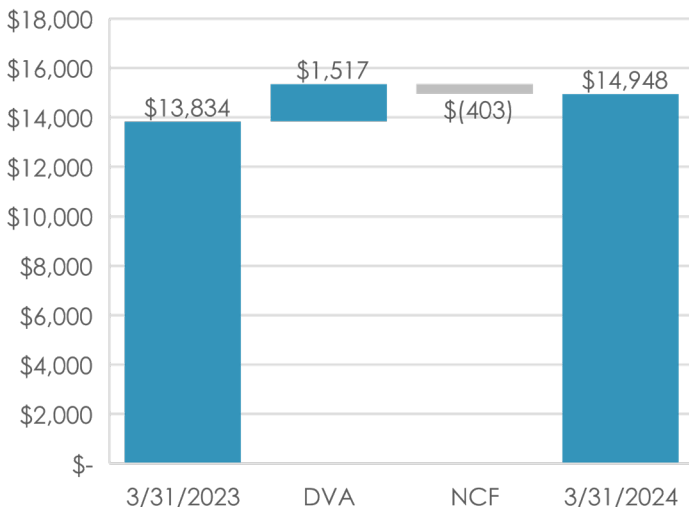
* Dollar values are in \$1,000,000

March 31, 2024

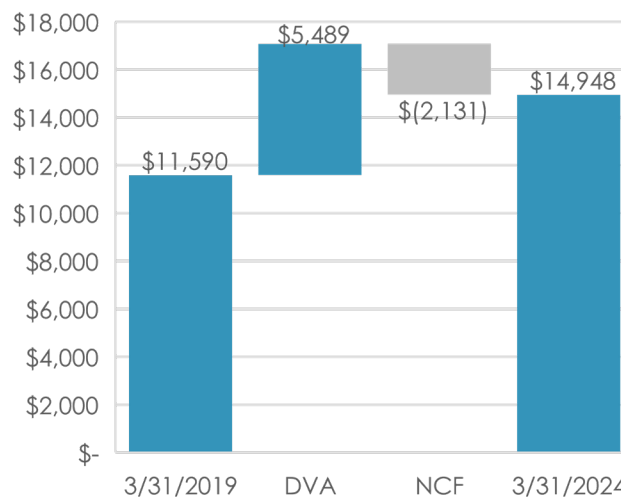
CIO Update

Pension Net Performance

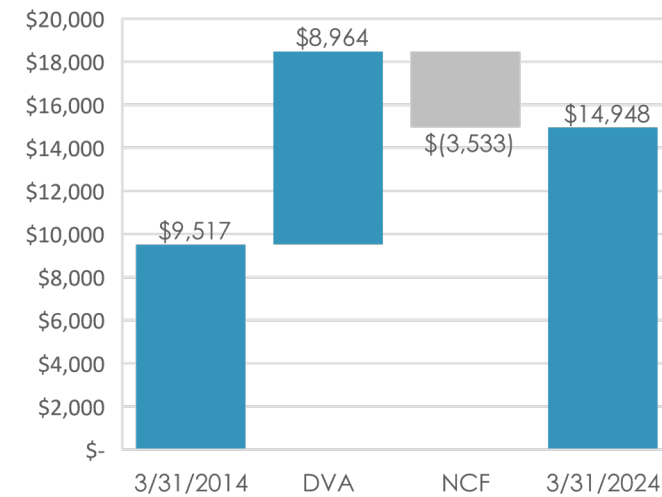
Asset Changes
1 Year



Asset Changes
5 Year



Asset Changes
10 Year



- Dollar Value Added – The total dollar return of the portfolio including income and capital gains.
- Net Cash Flow - The total dollar amount distributed from portfolio assets to meet the deficit of contributions minus distributions.
 - A grey bar indicates an aggregate net outflow by all plans even though some plans may have experienced net inflows.
 - Though aggregates are shown, each plan is independent and not able to rely on other plans to meet their respective liabilities.

* Dollar values are in \$1,000,000

March 31, 2024

CIO Update

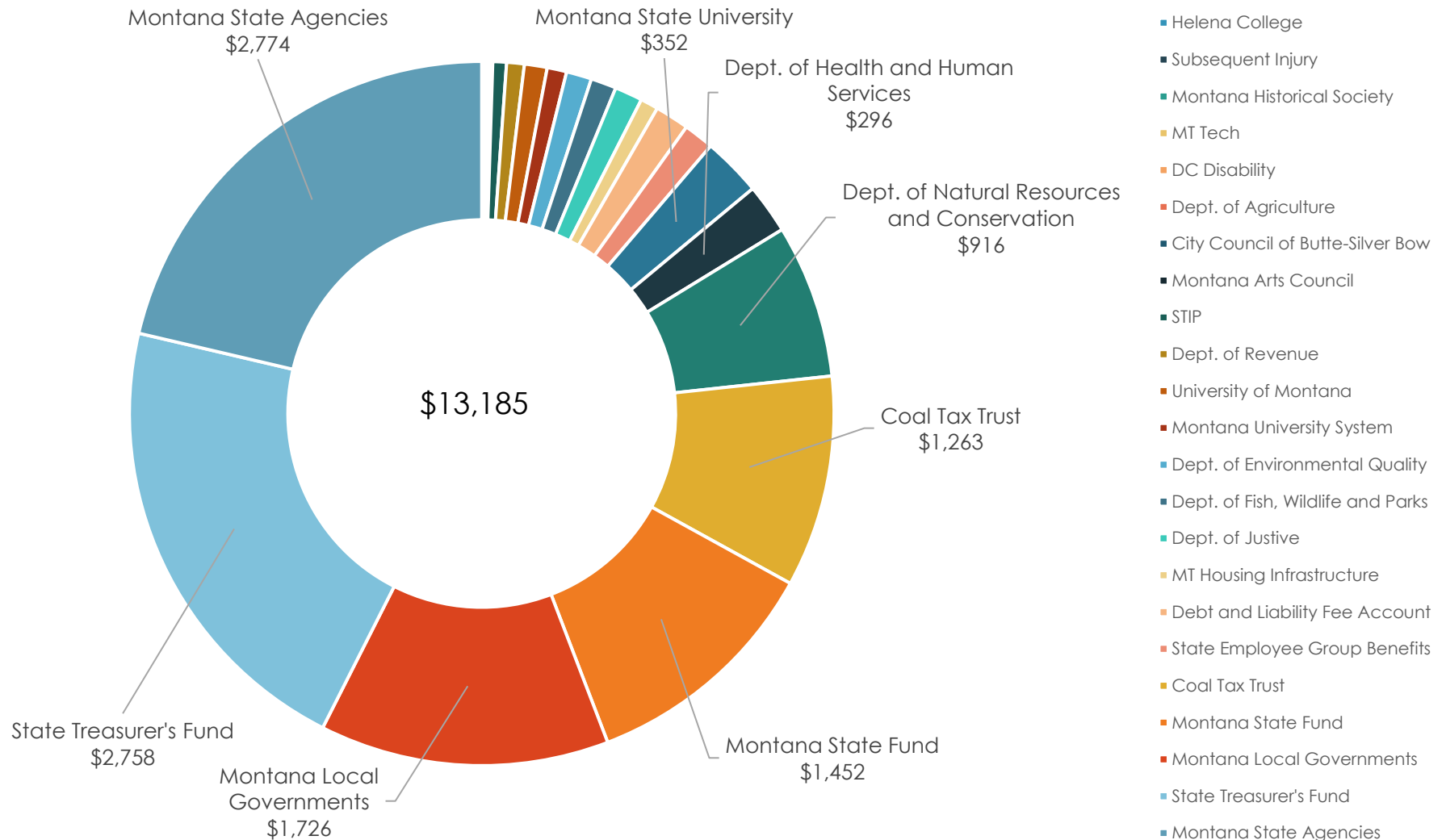
Pension Net Performance

Performance	FYTD	1 Year	3 Year	5 Year	10 Year	20 Year	Since Inception
Public Employees' Retirement	7.82%	11.13%	6.06%	8.61%	7.69%	7.13%	7.78%
Police Officers' Retirement	7.85%	11.16%	6.05%	8.61%	7.69%	7.10%	7.67%
Game Wardens' Retirement	7.79%	11.10%	6.05%	8.59%	7.69%	7.09%	7.70%
Sheriffs' Retirement	7.80%	11.11%	6.05%	8.60%	7.69%	7.12%	7.69%
Judges' Retirement	7.82%	11.13%	6.05%	8.60%	7.69%	7.13%	7.70%
Highway Patrol Retirement	7.78%	11.09%	6.05%	8.60%	7.69%	7.13%	7.69%
Teachers' Retirement	7.80%	11.11%	6.03%	8.59%	7.68%	7.13%	7.79%
Vol Firefighters' Retirement	7.81%	11.12%	6.04%	8.60%	7.68%	7.10%	7.52%
Firefighters' Retirement	7.84%	11.16%	6.05%	8.61%	7.69%	7.11%	7.66%

Inception 7/1/1994

CIO Update

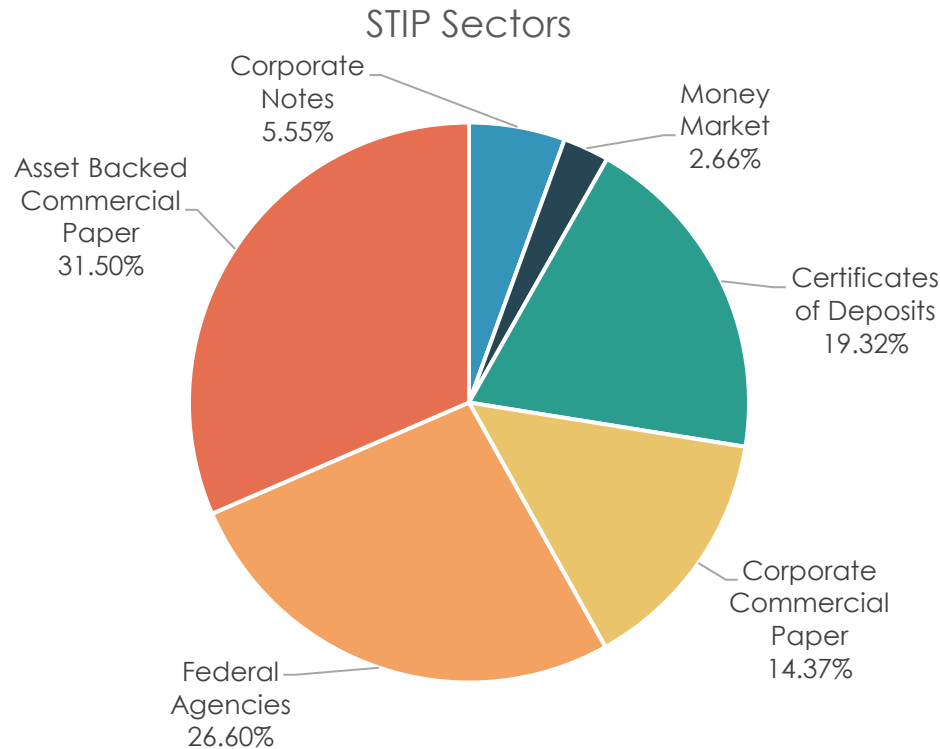
AUM ex. CAPP



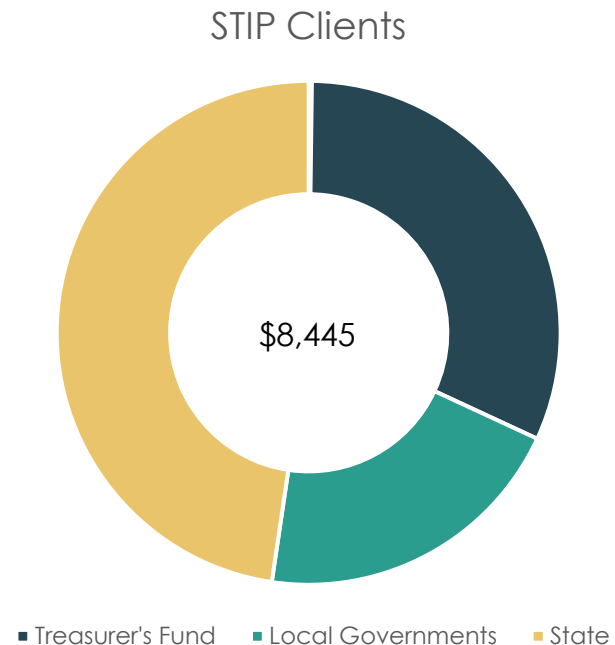
* Dollar values are in \$1,000,000
March 31, 2024

CIO Update

Short Term Investment Pool



- The weighted average maturity of the portfolio was 54 days at quarter end.
- The STIP Reserve was \$81.8M at quarter end.



* Dollar values are in \$1,000,000

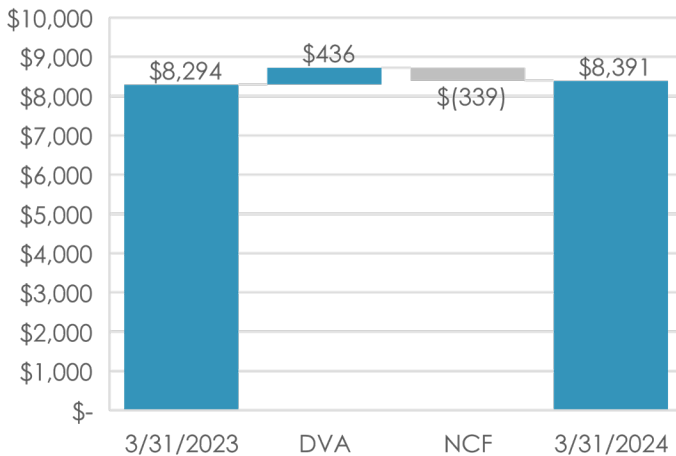
March 31, 2024

CIO Update

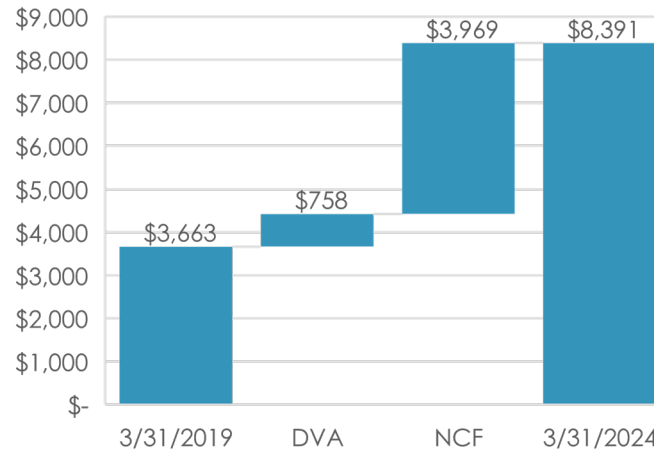
Short Term Investment Pool

STIP Net Performance

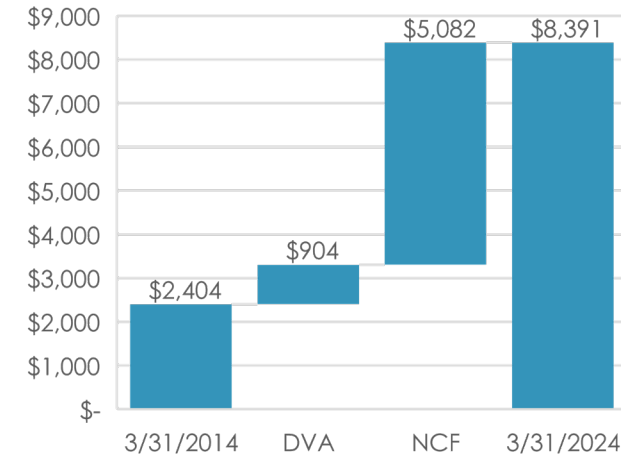
Asset Changes
1 Year



Asset Changes
5 Year



Asset Changes
10 Year



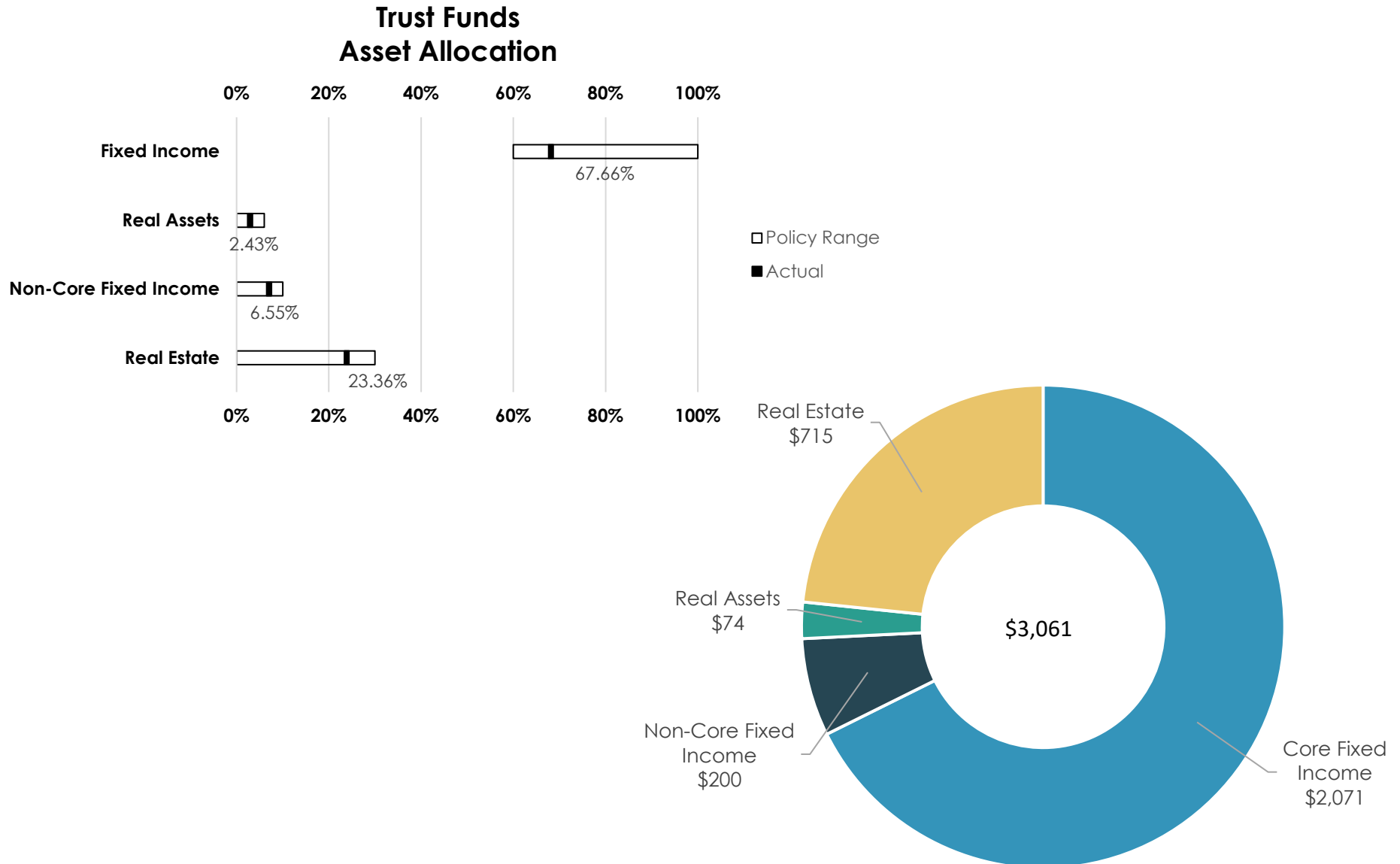
Performance	FYTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Short Term Investment Pool (STIP)	4.13%	5.41%	2.73%	2.12%	1.52%	2.40%
Short Term Investment Pool Benchmark	4.24%	5.55%	2.78%	2.04%	1.47%	2.33%

* Dollar values are in \$1,000,000

March 31, 2024

CIO Update

Trust Funds Investment Pool



* Dollar values are in \$1,000,000

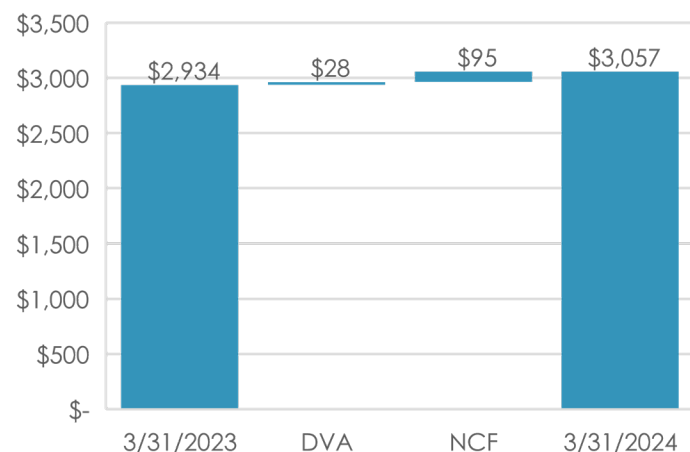
March 31, 2024

CIO Update

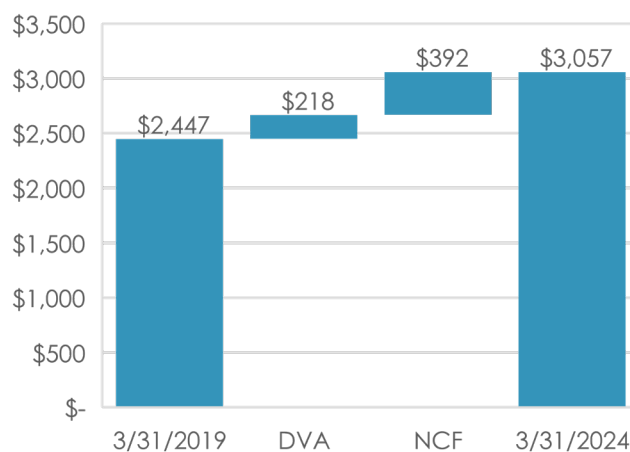
Trust Funds Investment Pool

TFIP Net Performance

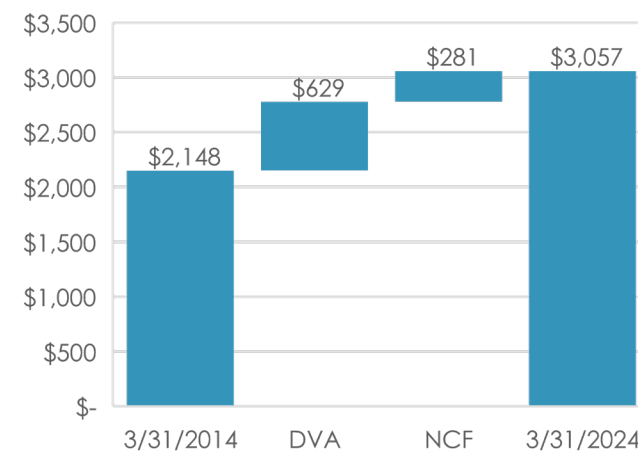
Asset Changes
1 Year



Asset Changes
5 Year



Asset Changes
10 Year



Performance	FYTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Trust Funds Investment Pool (TFIP)	0.78%	0.02%	-0.45%	1.78%	2.70%	5.29%
Trust Funds Investment Pool Benchmark	0.24%	-1.04%	-0.38%	1.64%	2.19%	4.49%

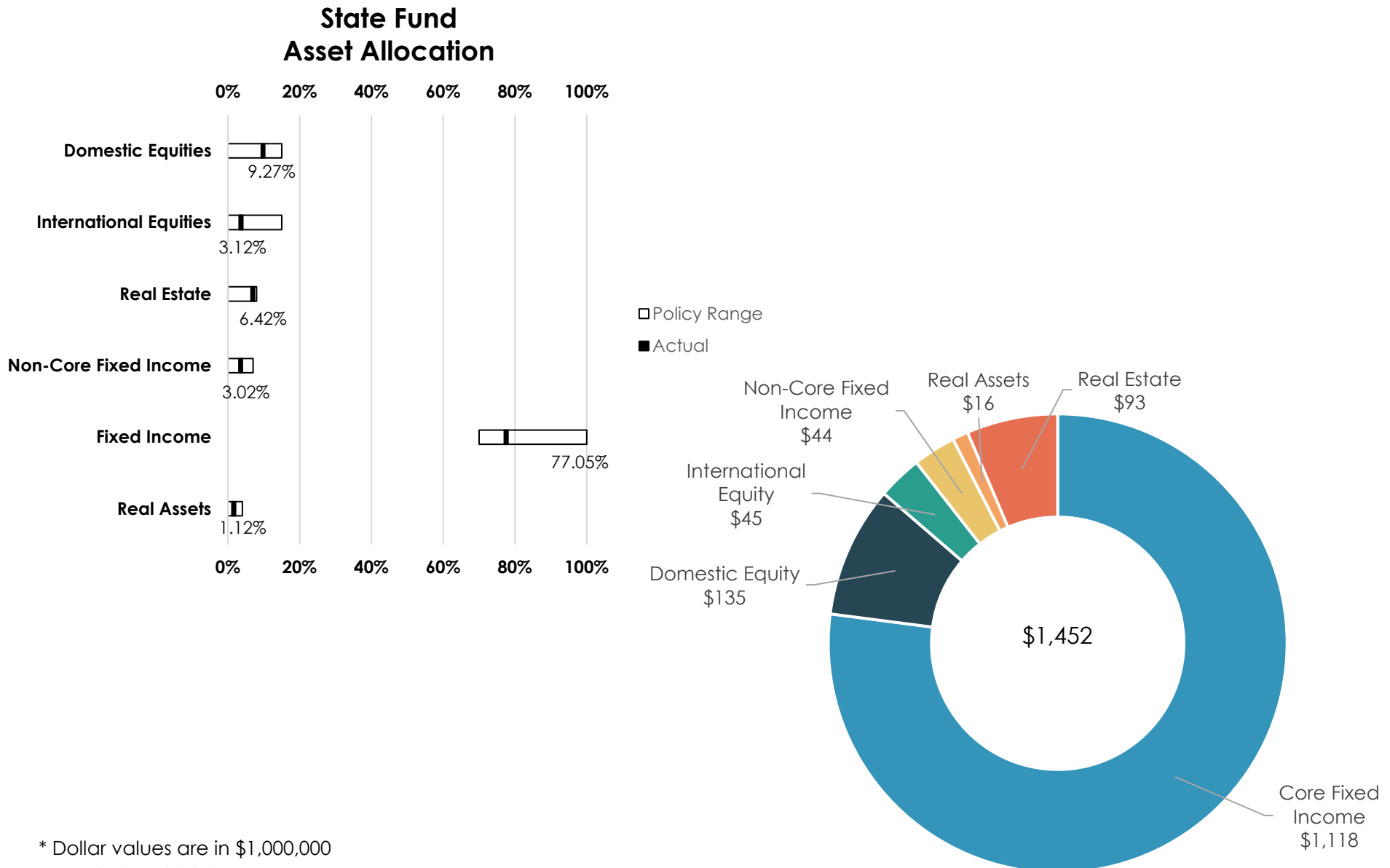
Yield	1 Year	3 Year	5 Year	10 Year
Trust Funds Investment Pool (TFIP)	3.88%	3.43%	3.31%	3.38%

* Dollar values are in \$1,000,000

March 31, 2024

CIO Update

State Fund Investment Pool



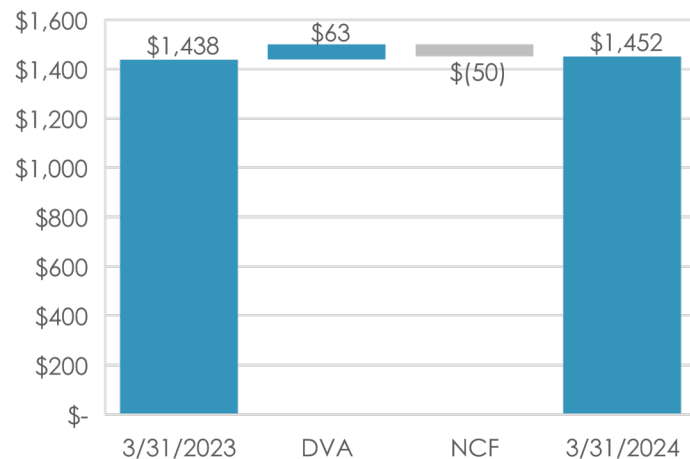
March 31, 2024

CIO Update

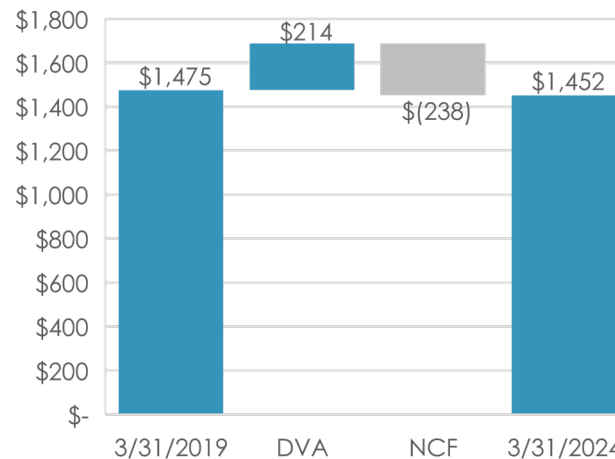
State Fund Investment Pool

SFIP Net Performance

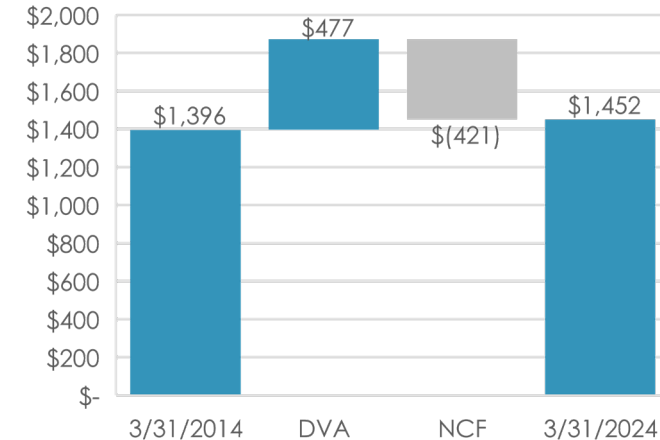
Asset Changes
1 Year



Asset Changes
5 Year



Asset Changes
10 Year



Performance	FYTD	1 Year	3 Year	5 Year	10 Year	Since Inception
State Fund	4.11%	4.61%	0.65%	2.89%	3.27%	5.11%
State Fund Benchmark	3.70%	3.73%	0.11%	2.46%	2.94%	4.58%

* Dollar values are in \$1,000,000

March 31, 2024

CIO Update

- Inflation data has been stronger than expected. This has deflated confidence in near-term interest rate cuts.
- More balanced outlook. Generally, corporate balance sheets and profitability remain strong with continued CAPEX spending.
- Operations has absorbed the Compliance/Risk duties. Working on regulatory reports/processes for ETF trades and T+1 trade settlement.
- On April 24th, BOI staff successfully completed a test of our continuity of operations in the event the building lost power and internet.
- The asset allocation review process has begun. Senior staff meet with RVK in August. The asset allocation recommendation is in October.
- We are excited to welcome our new interns for the summer.

Macro Attribution

Key Takeaways – 3 Year

Strategic Asset Allocation - *What was the performance of our midpoint weighted benchmark portfolio?*

- All benchmarks except for Core Fixed Income made positive contributions to the pension, policy-neutral, 4.6% return.

Tactical Asset Allocation - *Did the actual asset class weights add additional return over the midpoint weighted benchmark portfolio?*

- About \$773M of equity asset classes were sold and \$370M of fixed income/cash asset classes were bought during the last year. The pension net cash need was \$-403M for the year.
- In aggregate, the overweighting/underweighting of the asset classes relative to their benchmarks increased the pension portfolio's return by 8 bps.

Style Selection - *Did the portfolio benchmarks add additional return over their asset class benchmarks?*

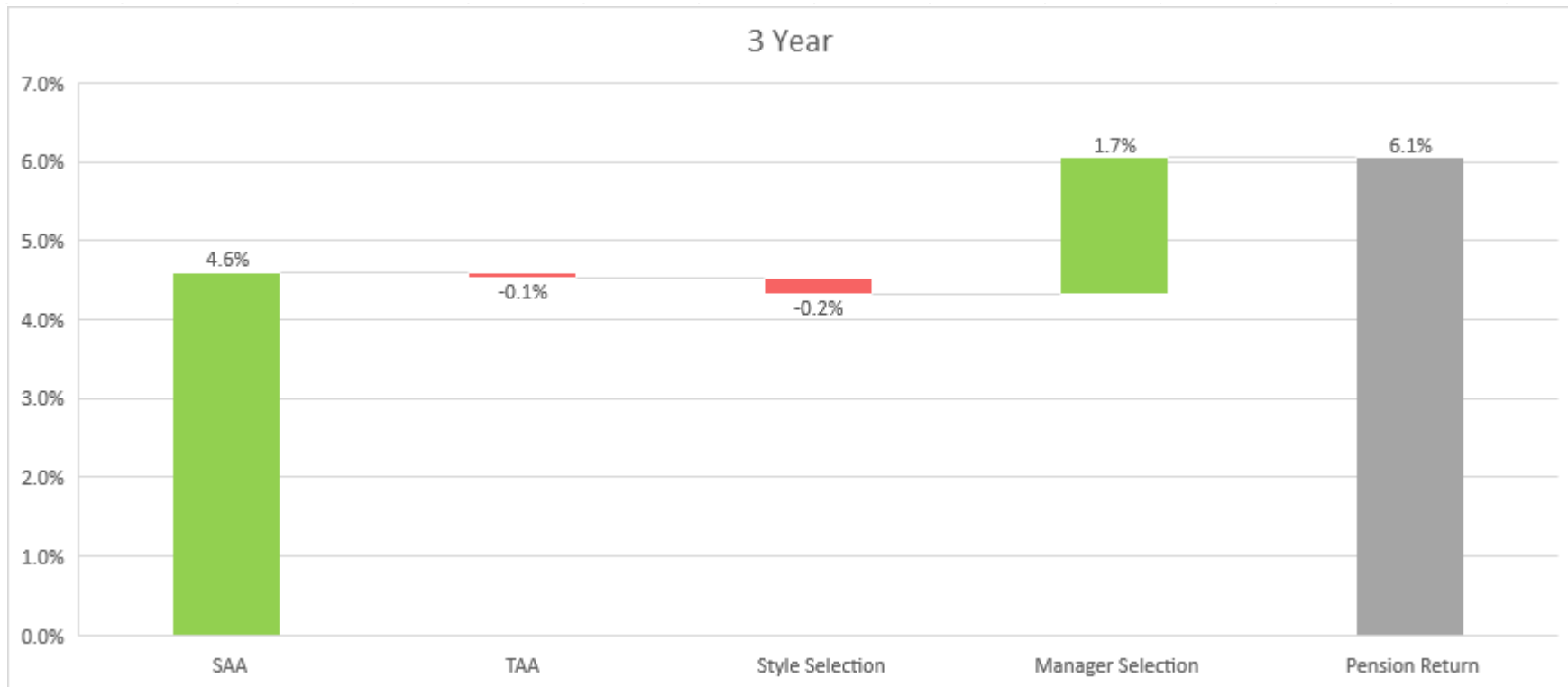
- The International Equity manager benchmarks had higher exposure to growth benchmarks than the asset class benchmark leading to total style underperformance of 8 bps.
- The Real Assets portfolio has about 51% exposure to commodities versus 33% in the custom benchmark. The strong outperformance of the Commodity Producers Index relative to Infrastructure and TIPS resulted in style outperformance of about 18 bps.
- In Real Estate, exposure to a CMBS index and a REIT index were the primary contributor to style underperformance of 15 bps.
- Within Non-Core Fixed Income, exposure to preferred & EMD indexes led to style underperformance of 7 bps.

Manager Selection - *Did the portfolio managers add additional return over their portfolio benchmarks?*

- In International Equity, a growth manager was the primary contributor of manager selection underperformance of 8 bps.
- Private Investments was the main contributor to manager selection outperformance with Private Equity rather than Private Credit being the main contributor. Much of this can be attributed to the lag in pricing of private investments.
- Real Assets had manager selection effects of 21 bps, with Infrastructure providing almost all of the positive contribution.
- The Private Real Estate Portfolio, CMBS Manager, and REIT Manager all added positive Manager Selection effects totaling 40 bps.

Note: The publicly traded benchmarks for private asset classes are an imperfect proxy for actual holdings due to the pricing of private assets lagging their publicly traded benchmarks.

Macro Attribution



Strategic Asset Allocation (SAA) - The return that would have been achieved if we had invested in our asset class benchmarks at the midpoint weights.

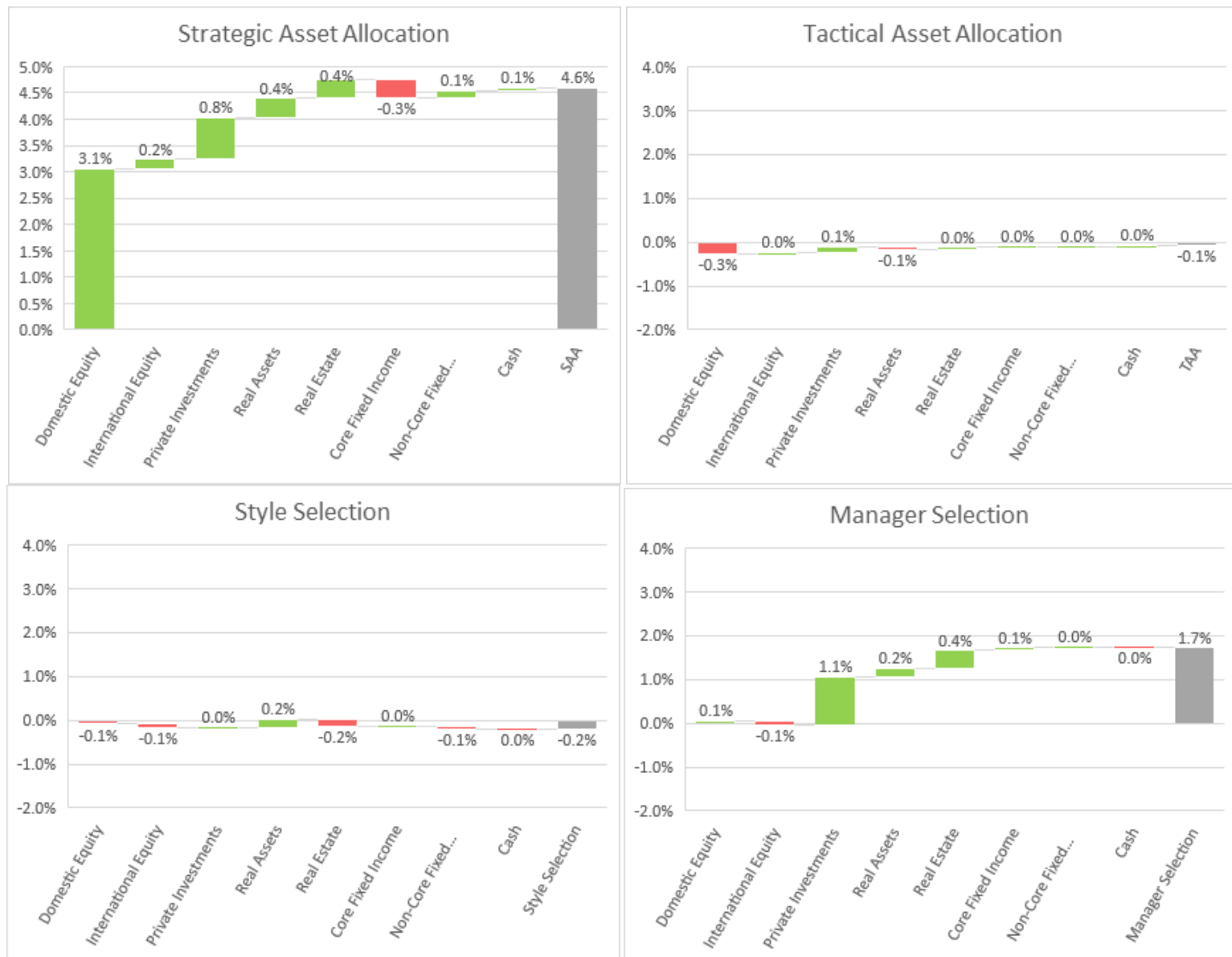
Tactical Asset Allocation (TAA) - The *additional* return earned by investing in the asset class benchmarks at our actual rather than midpoint weights.

Style Selection (SS) - The *additional* return earned by investing in the underlying manager benchmarks rather than the asset class benchmarks.

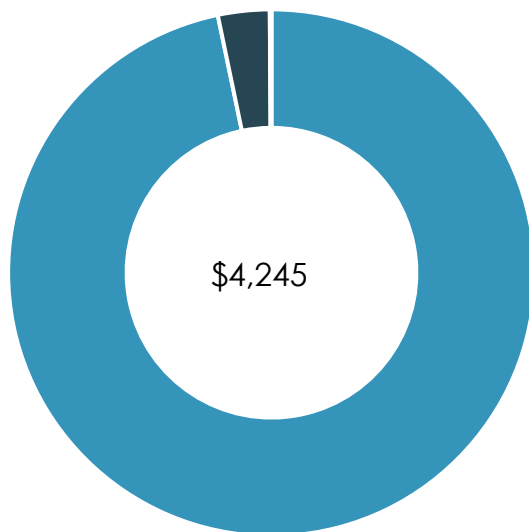
Manager Selection - The *additional* return earned by investing in the underlying managers rather than the underlying manager benchmarks.

* The valuation lag observed in Private Equity, Real Estate, and Natural Resources are likely to lead to large differences in returns between these asset classes and their benchmarks in short-mid term time periods. The manager selection component is therefore likely to be large for these asset class in the short and medium term.

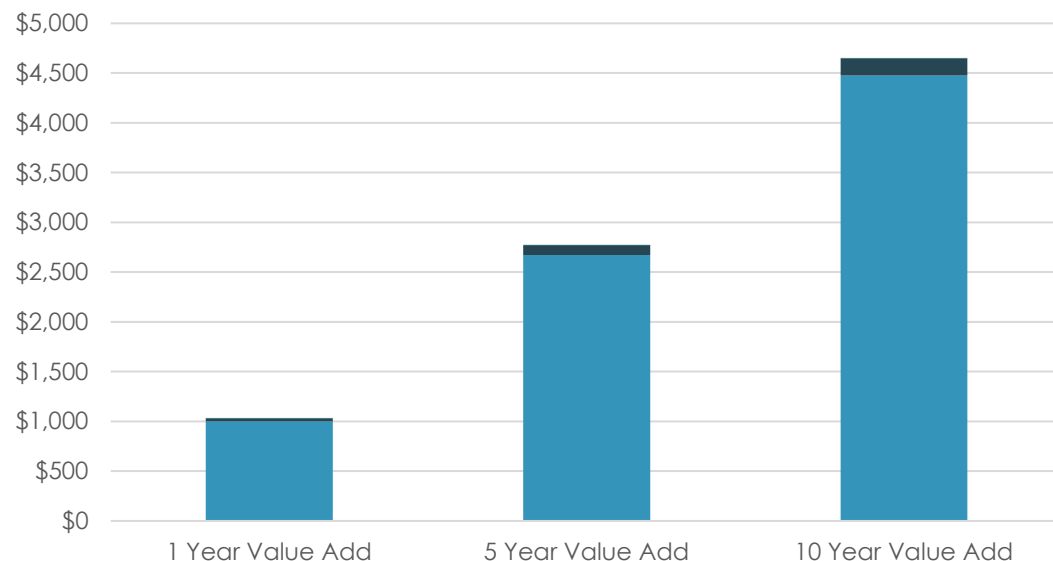
Macro Attribution



Domestic Equity Ownership Breakdown



■ Pension ■ State Fund ■ DC Disability



■ Pension ■ State Fund ■ DC Disability

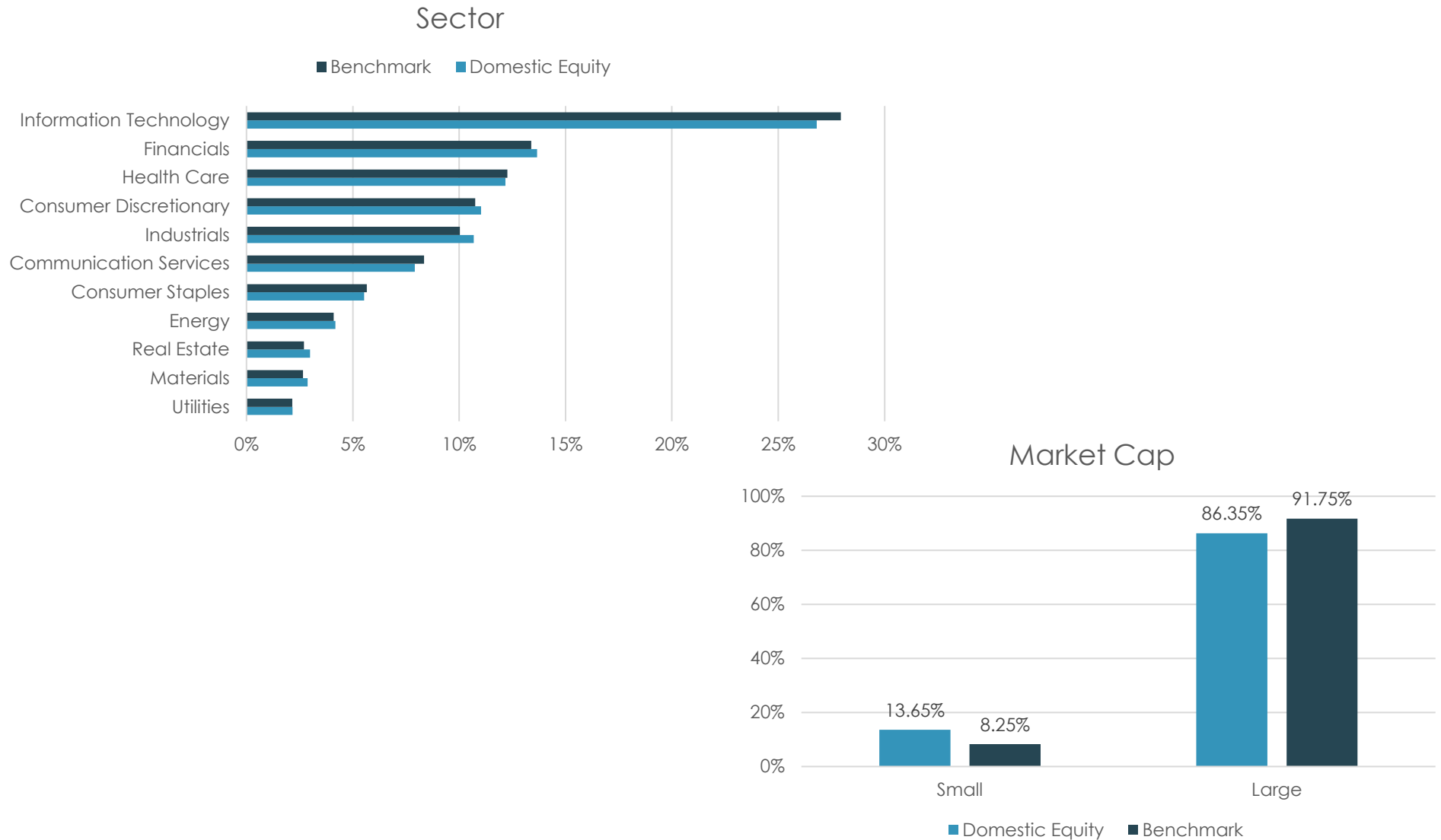
Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	28.71%	29.31%	14.27%	14.49%	11.98%	12.56%
State Fund	29.87%	29.88%	15.02%	15.05%	12.95%	12.96%
DC Disability	29.43%	29.35%	14.28%	14.23%	NA	NA

- US Equities continued to rally in 1 Q24, with broad-market US equity indices posting double-digit returns in the quarter. While Large Cap Growth stocks continued to outperform, there was some return dispersion among the “Magnificent 7” stocks.
- Growth outperformed Value, but not to the degree it had for much of 2023.
- Small Caps underperformed Large Caps for 1 Q24 and the trailing year.

* Dollar values are in \$1,000,000

March 31, 2024

Domestic Equity Characteristics - Pension



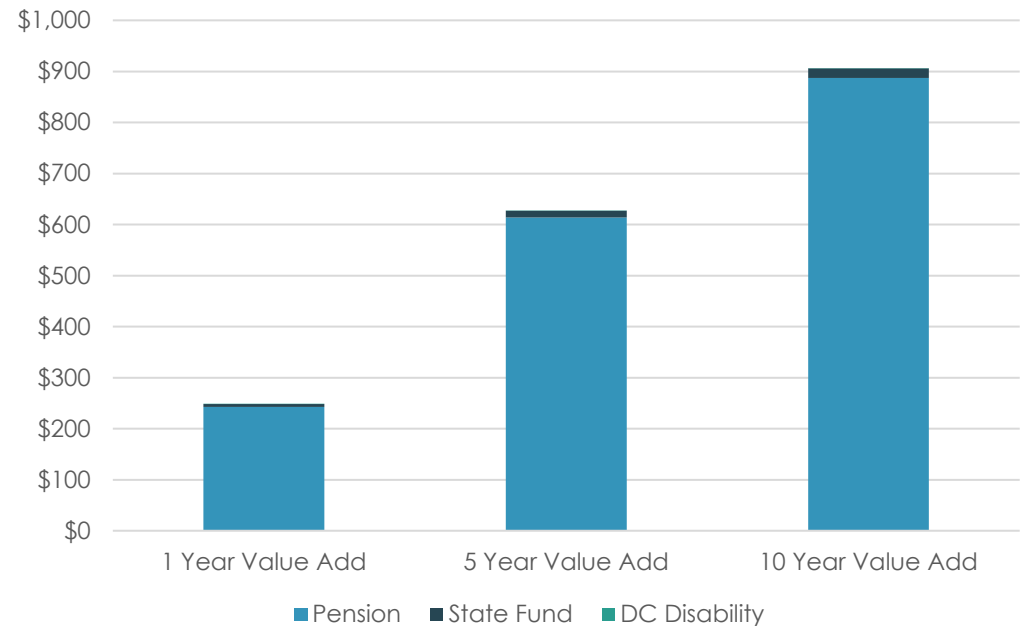
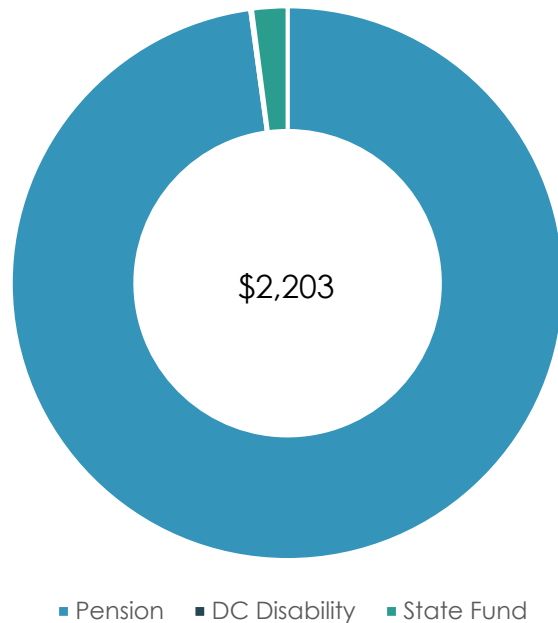
Domestic Equity Valuation

S&P 500 Index - Price/Earnings Ratio
(April 17, 2014 to April 17, 2024)



- P/E multiples continued to rise in 1Q24, with the S&P 500 forward P/E ratio ending the quarter at 21.0x, up from 19.5x at the end of 2023 and above its 30-year average of 16.6x.
- The Top 10 stocks in the S&P 500 trade at 28.4x vs. 18.3x for the remaining stocks in the index. The concentration in the US stock market continued to increase, with the top 10 stocks in the S&P 500 comprising 33.5% of the index at the end of 1Q24.

International Equity Ownership Breakdown



Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	12.38%	13.20%	6.03%	6.00%	4.51%	4.32%
State Fund	13.03%	13.26%	5.96%	5.97%	4.27%	4.25%
DC Disability	13.30%	13.26%	6.21%	5.97%	NA	NA

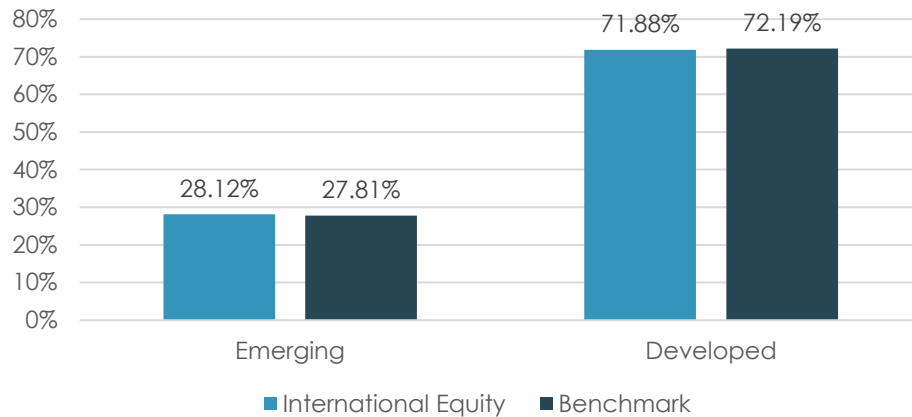
- International Equities had positive absolute returns in 1Q24 and over the trailing year but continued to lag US stocks. A stronger US Dollar was a headwind in 1Q24.
- Developed Markets outperformed Emerging Markets in the quarter as well as for the trailing year.
- Although International Growth stocks outperformed in 1Q24, Value outperformed over the last twelve months. Large Caps outperformed Small Caps by a modest margin over the last year.

* Dollar values are in \$1,000,000

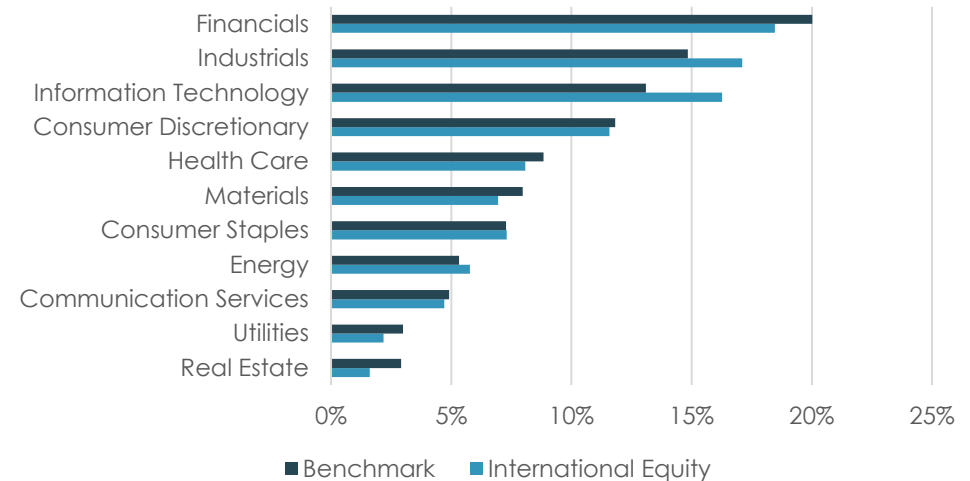
March 31, 2024

International Equity Characteristics - Pension

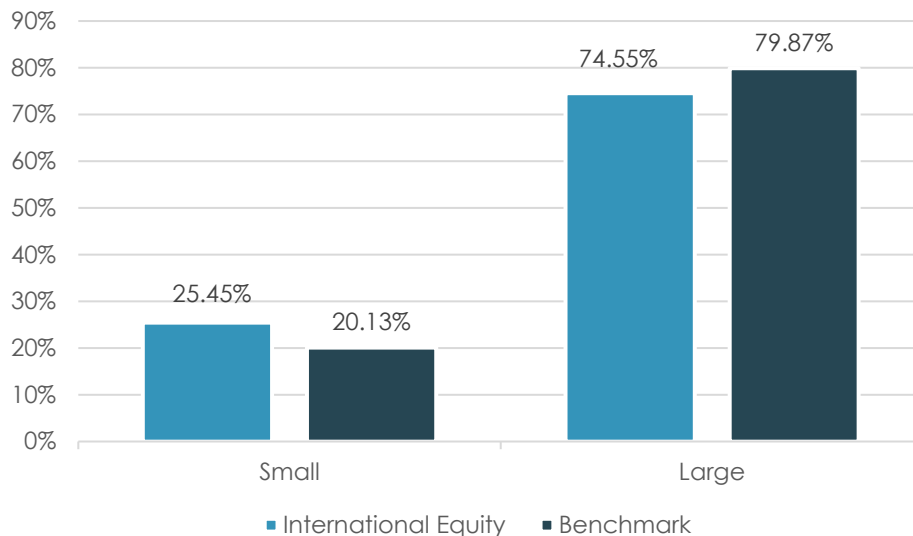
Developed vs. Emerging Markets



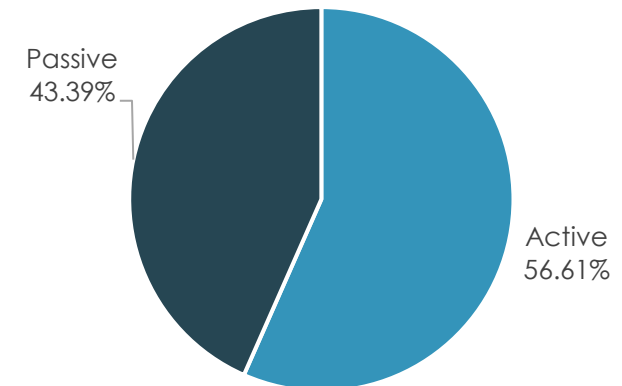
Sector



Market Cap



Active vs. Passive



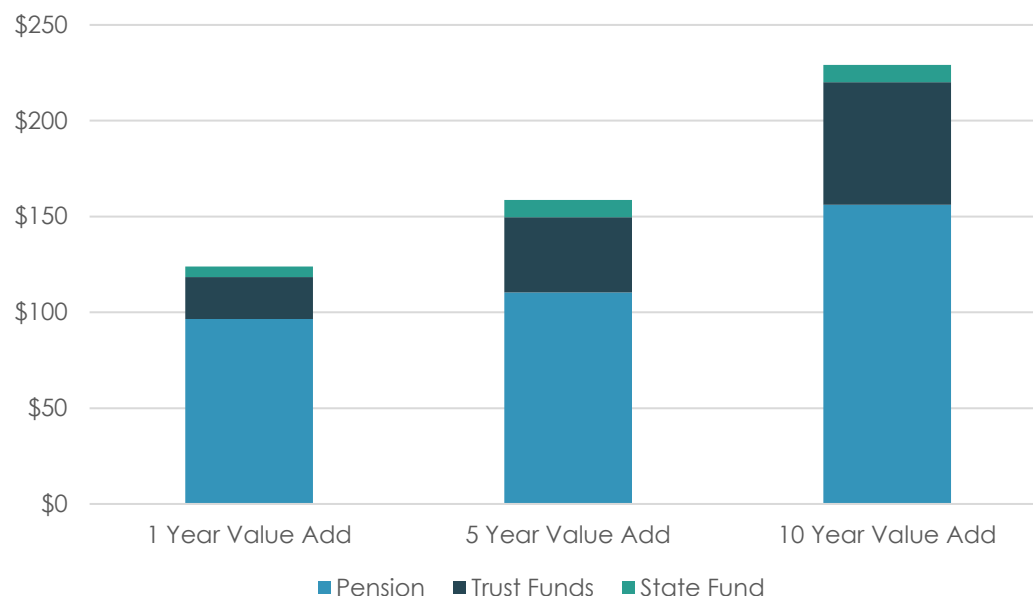
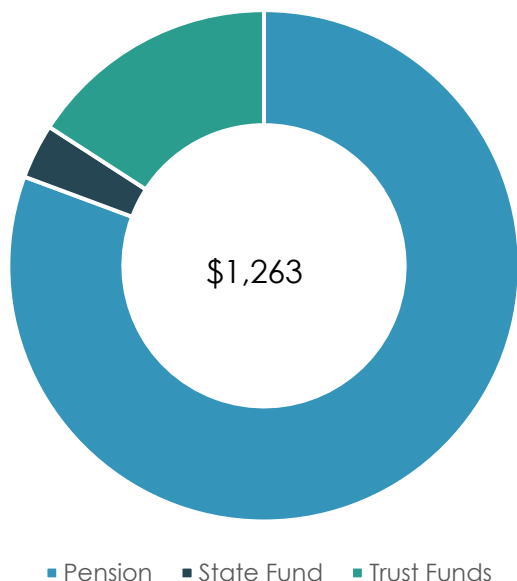
International Equity Valuation

ACWI ex. U.S. Index - Price/Earnings Ratio
(April 8, 2014 to April 8, 2024)



- The forward P/E for the MSCI ACWI ex-US Index was 13.7x at the end of 1Q24, up from 12.9x at the end of 4Q23 and 12.6x at the end of 1Q23.
- Although P/E multiples for International Equities rose in 1Q24 and are above their 20-year averages, the discount to US stocks continues to grow, reaching -34.5% at the end of March 2024.

Non-Core Fixed Income Ownership Breakdown



Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	10.52%	11.15%	3.31%	4.19%	3.62%	4.44%
State Fund	9.80%	11.15%	NA	NA	NA	NA
Trust Funds	10.21%	11.15%	3.07%	4.19%	3.97%	4.44%

- Although US Treasury yields rose in 1Q24, absolute returns were positive across the board for the strategies within the Non-Core Fixed Income Asset Class.
- Preferred Securities continued to rebound and was the strongest performer over the last year. Lower-quality high yield credits continued to outperform and have outpaced higher-quality issues by a large margin over the last twelve months.

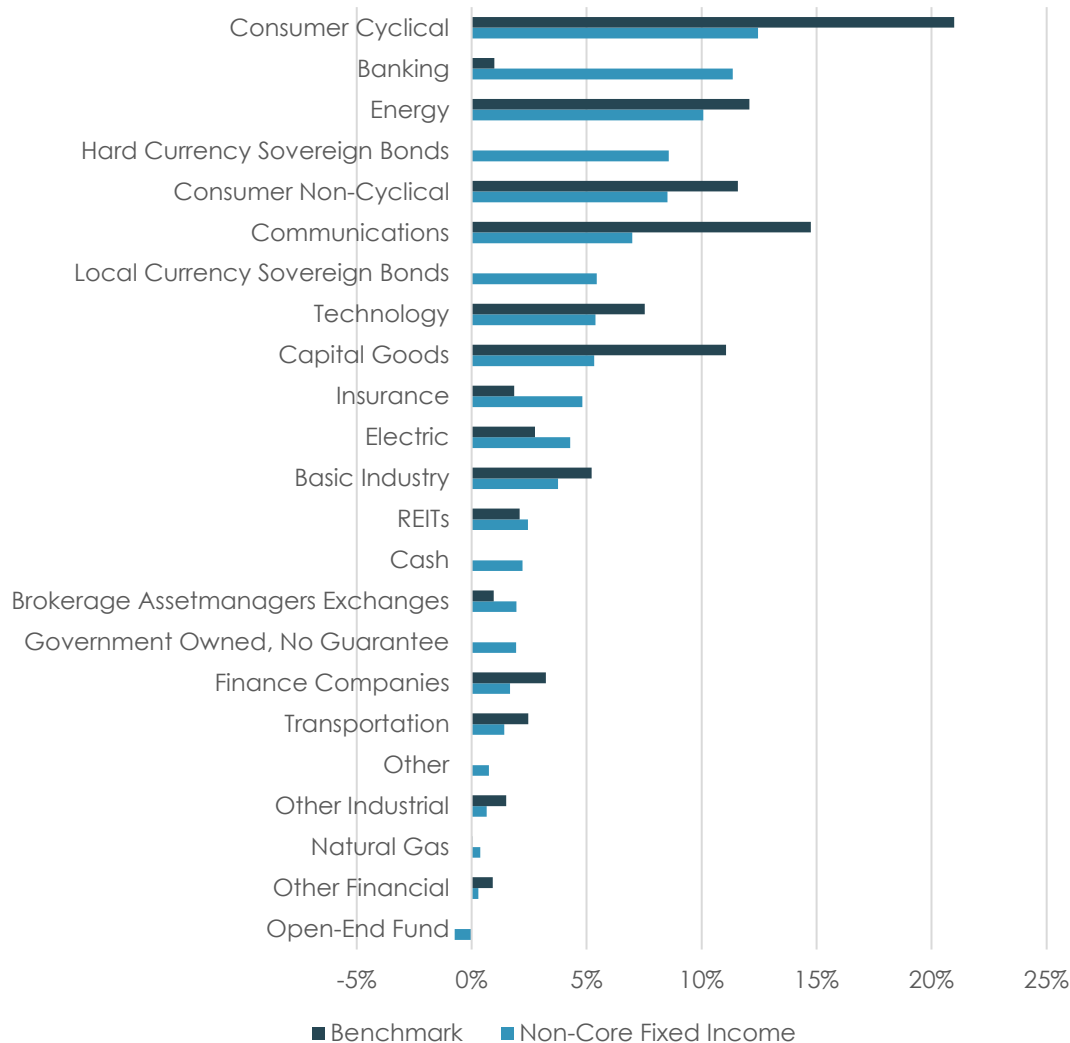
* Dollar values are in \$1,000,000

March 31, 2024

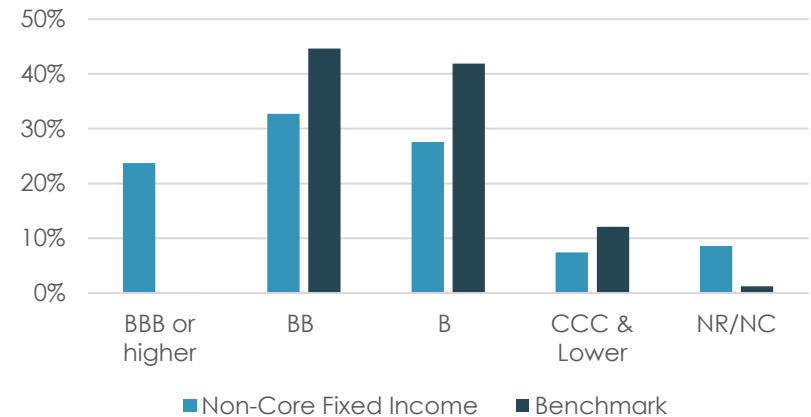
Non-Core Fixed Income

Characteristics - Pension

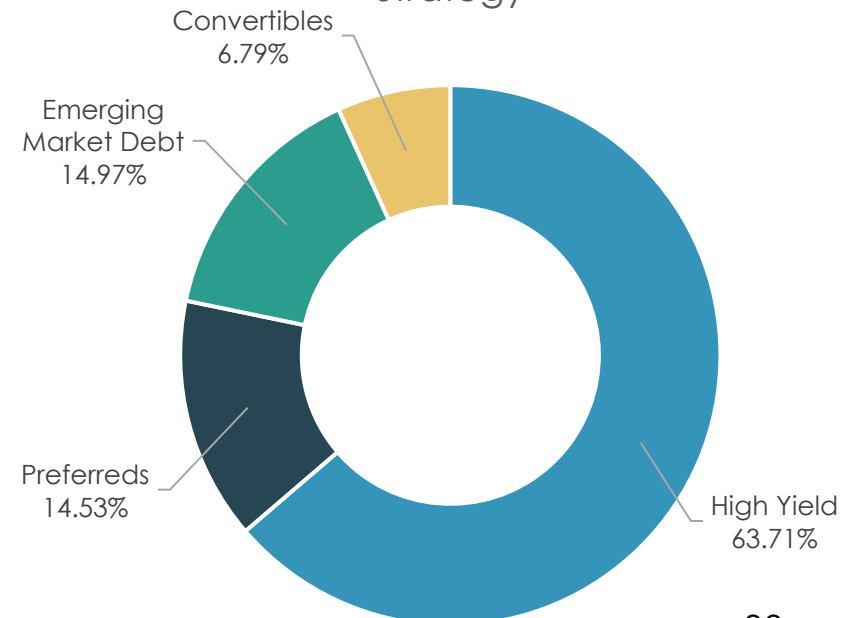
Sector



Credit Rating

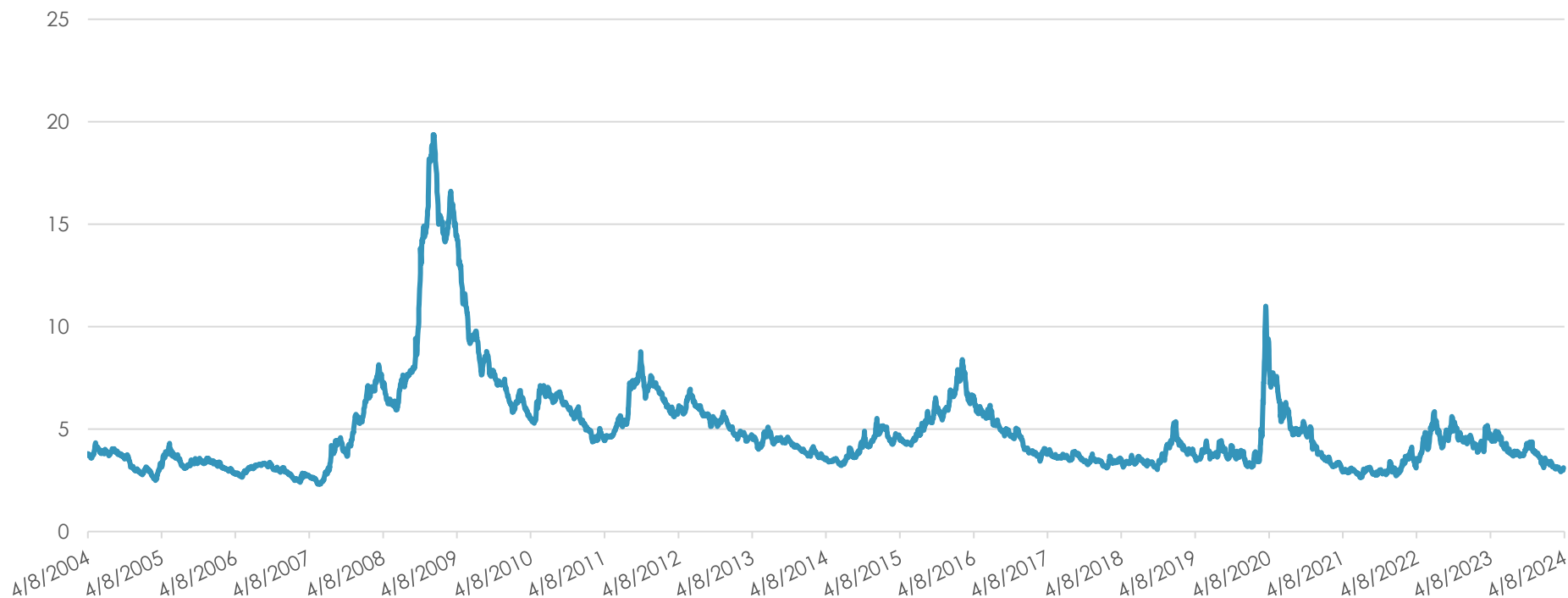


Strategy



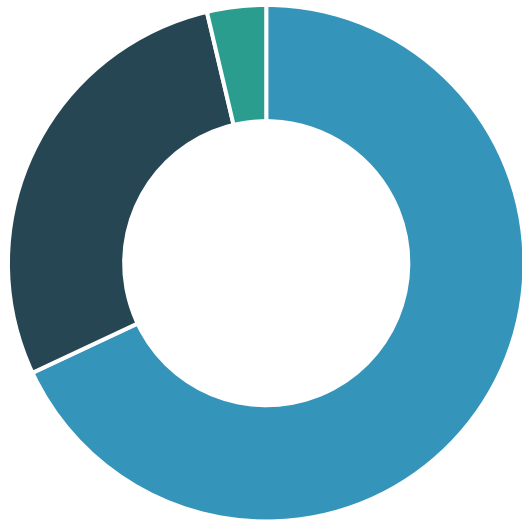
Non-Core Fixed Income Valuation

Bloomberg High Yield Index – Option Adjusted Spread
(April 8, 2004 to April 8, 2024)

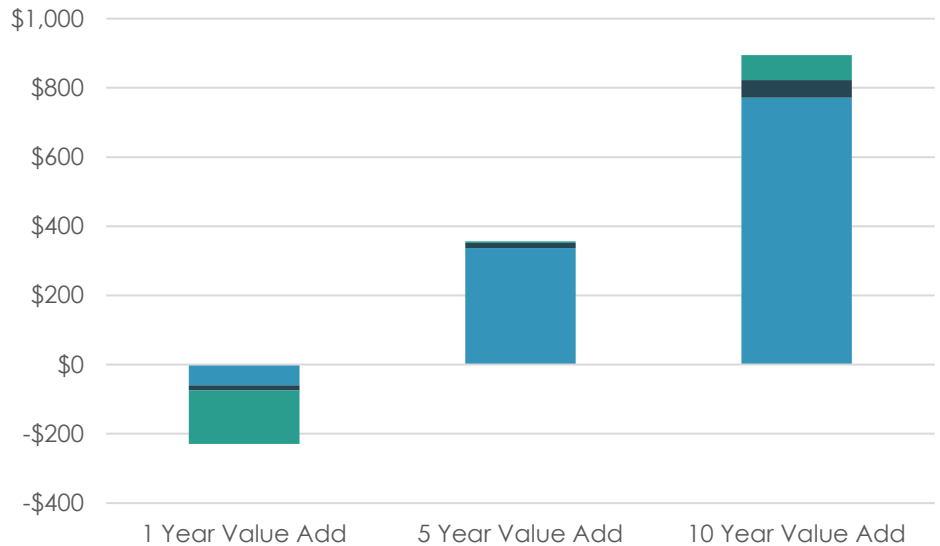


- High yield spreads tightened in 1Q24 and ended the quarter about 260 bps lower than at the end of 1Q23. While high yield spreads are tighter than their long-term averages, absolute yields of approximately 7.5% are slightly above their post-GFC average.

Real Estate Ownership Breakdown



■ Pension ■ Trust Funds ■ State Fund



■ Pension ■ State Fund ■ Trust Funds

Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	-5.15%	-12.73%	5.33%	-0.22%	7.92%	4.57%
State Fund	-13.51%	-12.73%	2.70%	3.34%	5.58%	6.33%
Trust Funds	-7.53%	-12.73%	4.63%	3.34%	6.54%	6.33%

- Pricing dislocation remains, transaction volumes remain depressed, but deal momentum is picking up.
- Fundamentals steady to declining depending on the market and property type.
- Debt markets remain liquid, but higher financing costs and capitalization rates continue to weigh on valuations.

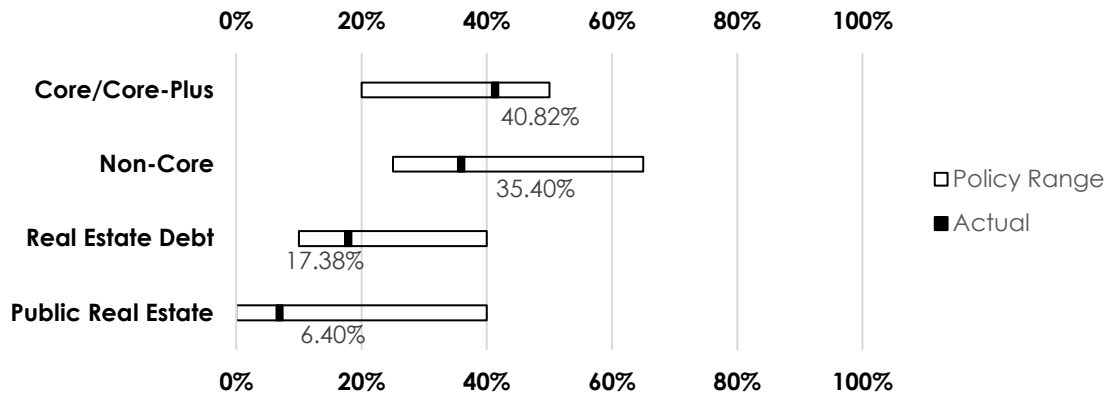
* Dollar values are in \$1,000,000

March 31, 2024

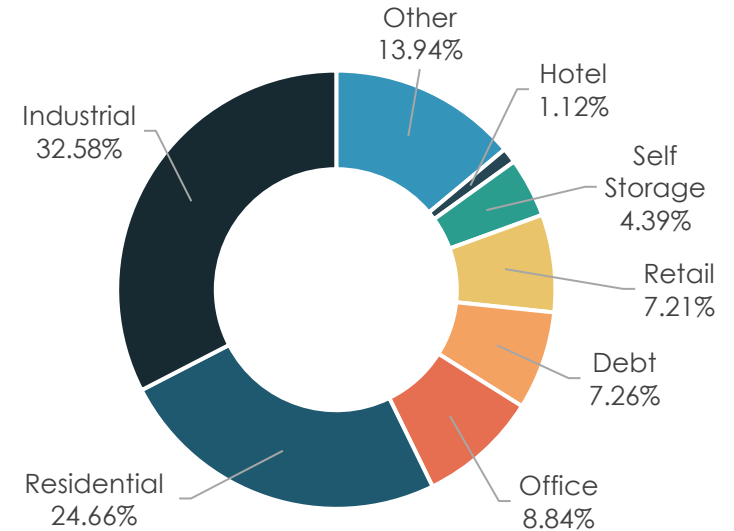
Real Estate

Characteristics - Pension

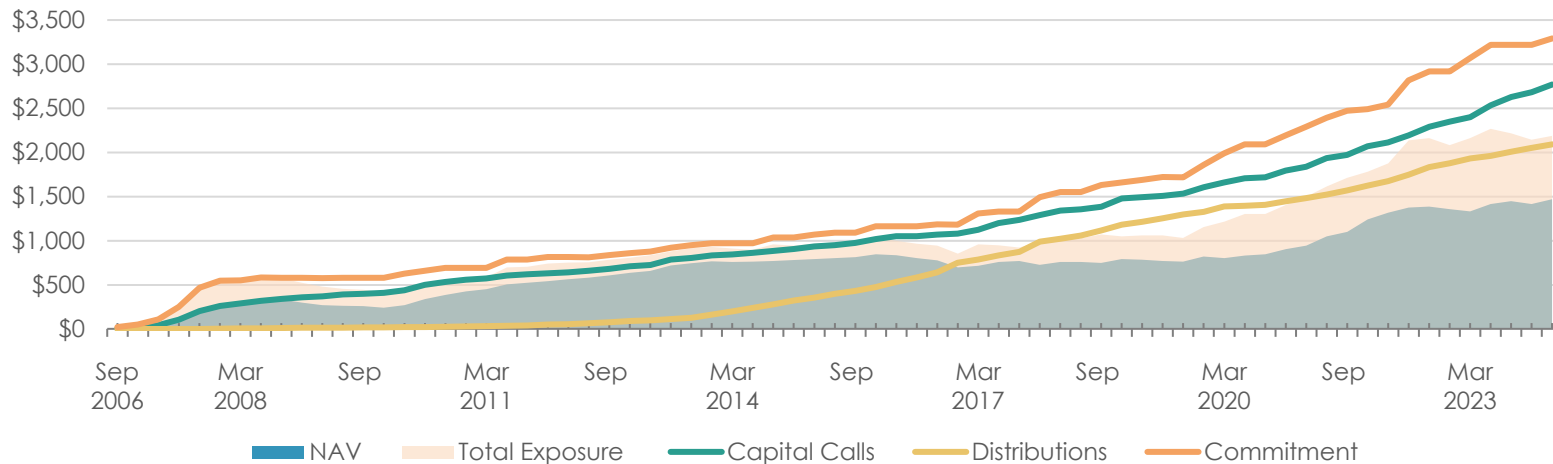
Real Estate Asset Allocation



Property Type



Private Real Estate Over Time
2006-2024



* Dollar values are in \$1,000,000

March 31, 2024

Real Estate Valuation

	Index	Change in Commercial Property Values		
	Value	Past Month	Past 12 Mos	Recent Peak
All Property	121.8	0.0%	-7%	-21%
Core Sector	120.9	-0.1%	-7%	-24%
Apartment	138.2	1.0%	-8%	-28%
Industrial	213.6	0.0%	-3%	-16%
Mall	80.0	2.5%	1%	-18%
Office	71.2	-3.0%	-16%	-37%
Strip Retail	109.4	0.6%	-3%	-17%
Health Care	120.8	0.2%	-10%	-20%
Lodging	106.2	0.8%	-3%	-6%
Manufactured Home Park	269.4	-2.0%	-4%	-17%
Net Lease	94.2	0.1%	-4%	-19%
Self-Storage	248.6	0.2%	-12%	-21%

¹ Green Street Commercial Property Price Index® - April 4, 2024

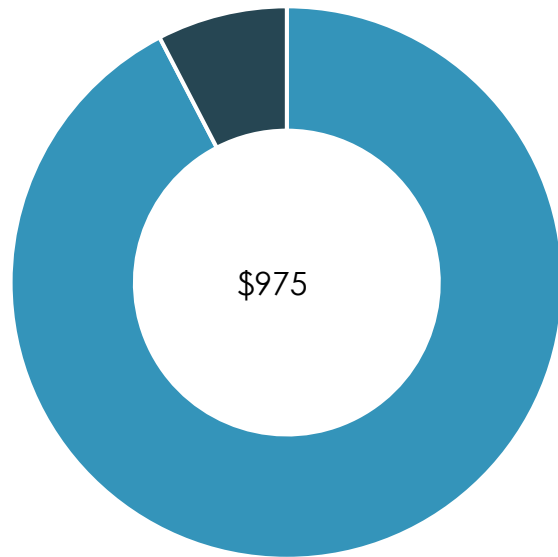
- Green shoots sprouting here and there, recent prices may be indicating we are close to the bottom.

Real Estate

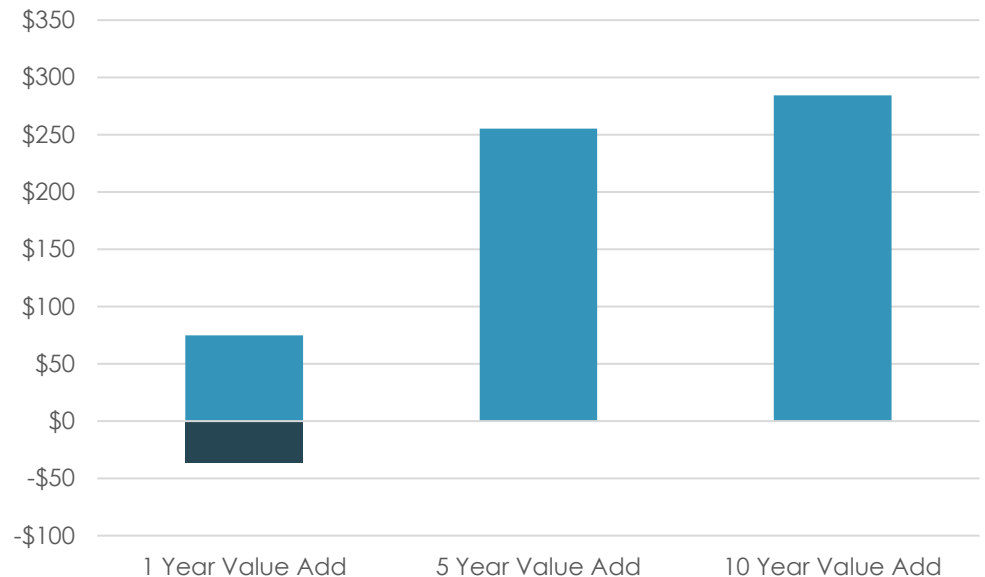
New Commitments FYTD

- Oak Street Real Estate Capital Fund VI, LP - \$50M (CAPP)
- **AW – Fergus Ventures, LLC - \$75M (CAPP), \$50M (TFIP)**
- **Westport – Stillwater Venture, LLC - \$75M (CAPP)**

Real Assets Ownership Breakdown



■ Pension ■ Trust Funds



■ Pension ■ Trust Funds

Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	9.01%	5.48%	5.72%	1.48%	NA	NA
Trust Funds	1.10%	7.86%	NA	NA	NA	NA
State Fund	NA	NA	NA	NA	NA	NA

- US oil production elevated and near all-time highs. OPEC+ extends production cuts through Q2 '24.
- US housing starts were down 14.7% in March '24.
- Southern timber prices flat through Q1 '24, PNW pricing had a modest decline.
- '24 sand and gravel aggregate volumes expected to see flat to low single digit growth, prices were up in '23, but expecting more subdued growth in '24.

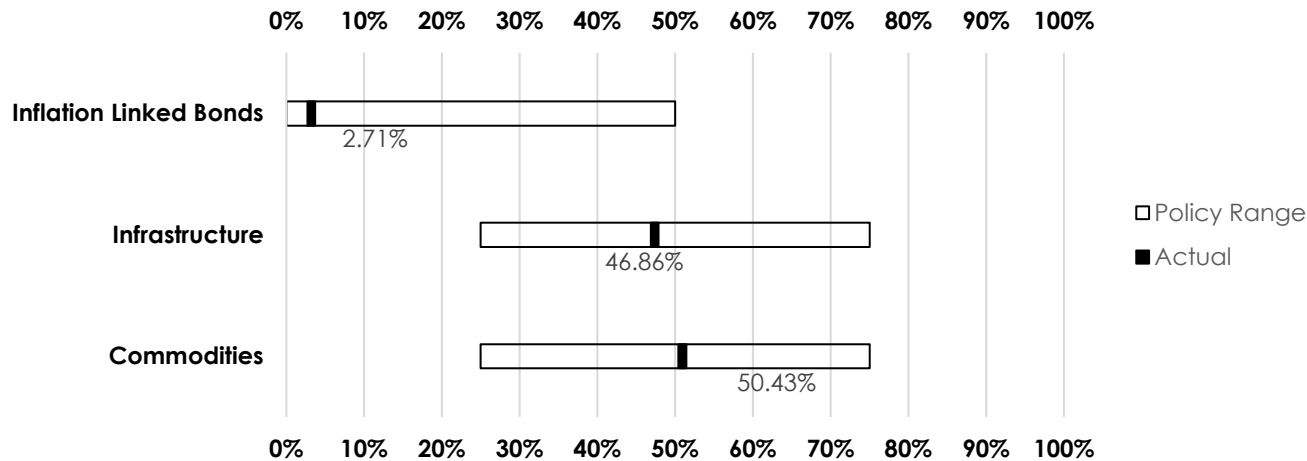
* Dollar values are in \$1,000,000

March 31, 2024

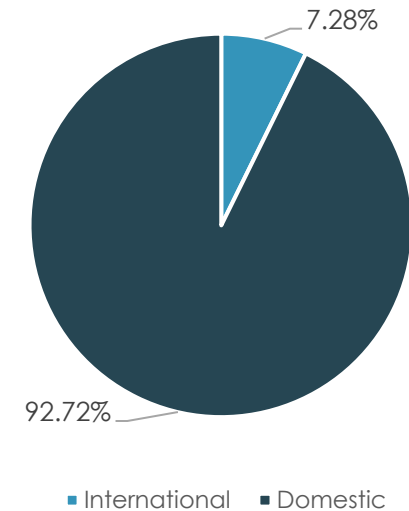
Real Assets

Characteristics - Pension

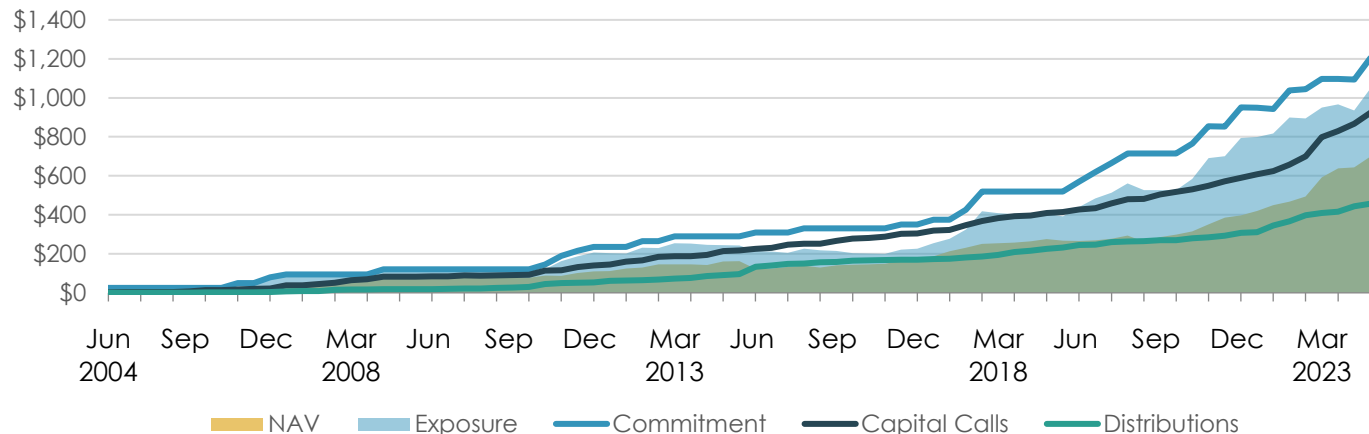
**Real Assets
Asset Allocation**



Domestic vs. International



Private Real Assets Over Time
2004-2024



* Dollar values are in \$1,000,000

March 31, 2024

Real Assets Valuation

Crude Oil (WTI) – Price per barrel
(February 7, 2019 to April 17, 2024)



Lumber – Price per 1000 board feet
(February 7, 2019 to April 17, 2024)



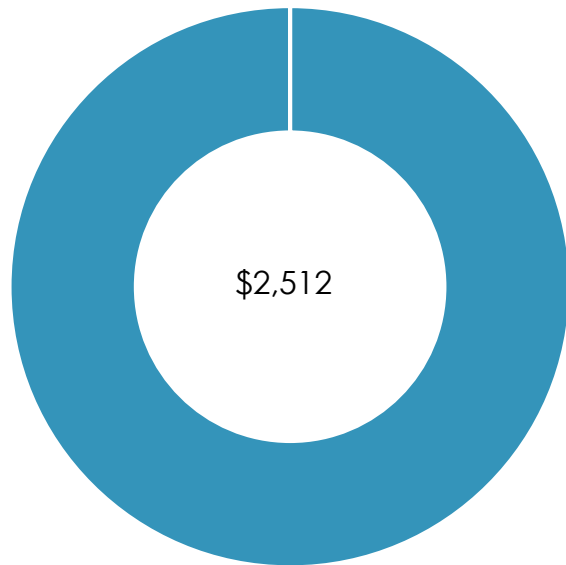
- Lower production from OPEC+, tensions in the Middle East from the Israel-Hamas conflict and signs of stronger demand have all contributed to oil's recent rally from the low 70's.
- Lumber pricing continues to stabilize and has firmly settled back to pre-pandemic levels.

Real Assets

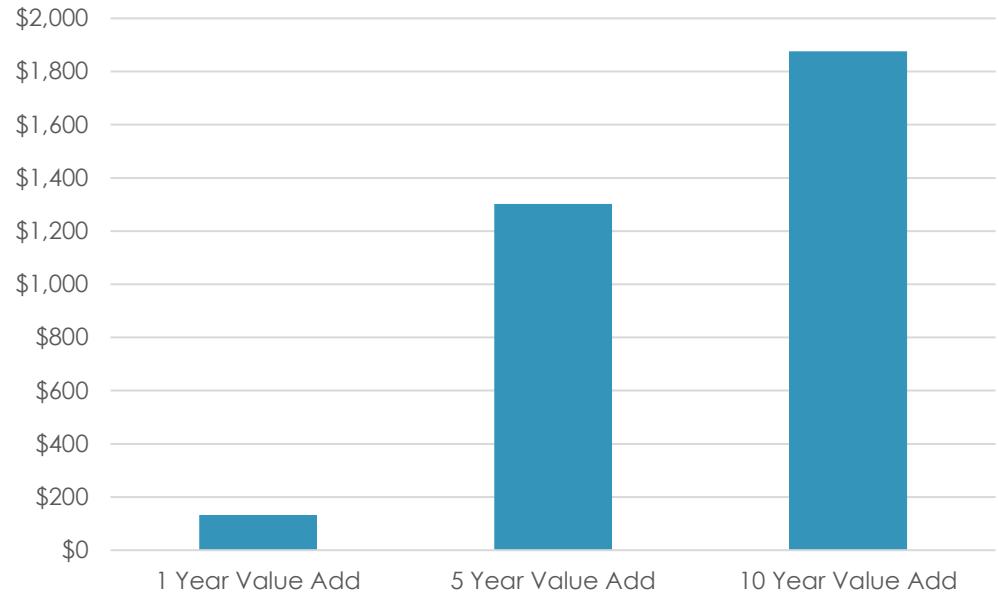
New Commitments FYTD

- EQT Infrastructure VI, LP - \$50M (CAPP)
- EQT Active Core Infrastructure, LP - €50M (~\$55M) CAPP / €35M (~\$38M) TFIP / €15M (~\$16M) MSF

Private Investments Ownership Breakdown



■ Pension



■ Pension

Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	5.55%	18.74%	14.29%	10.06%	12.46%	10.86%

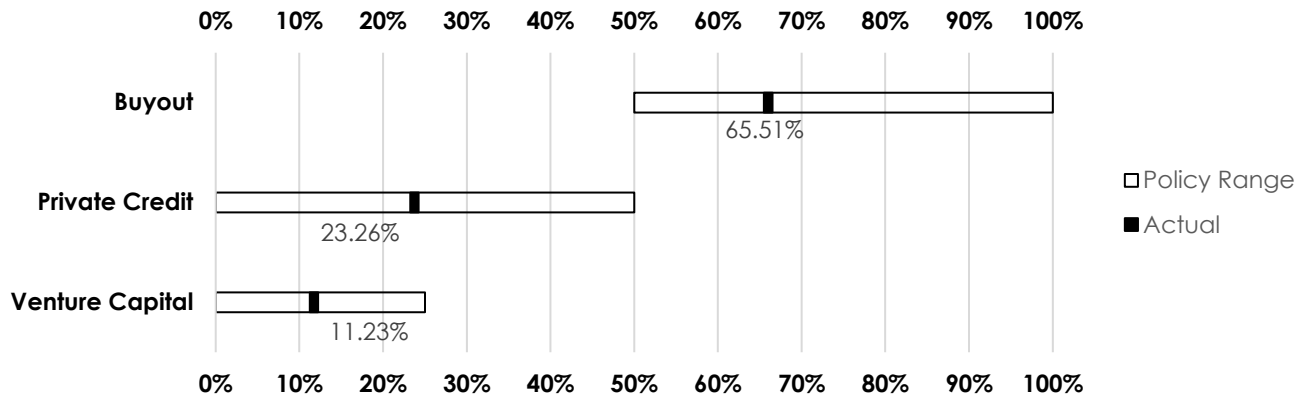
- Long-term performance is holding steady and outperforming the benchmark.
- Recent markdowns are working their way through the system and will continue to impact short-term performance for several quarters to come.
- Relative performance over 1 year has been within expectations.

* Dollar values are in \$1,000,000

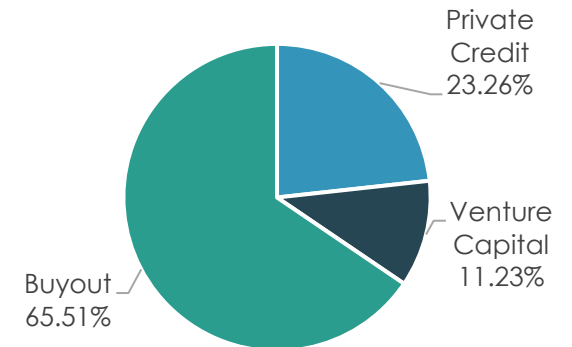
March 31, 2024

Private Investments Characteristics

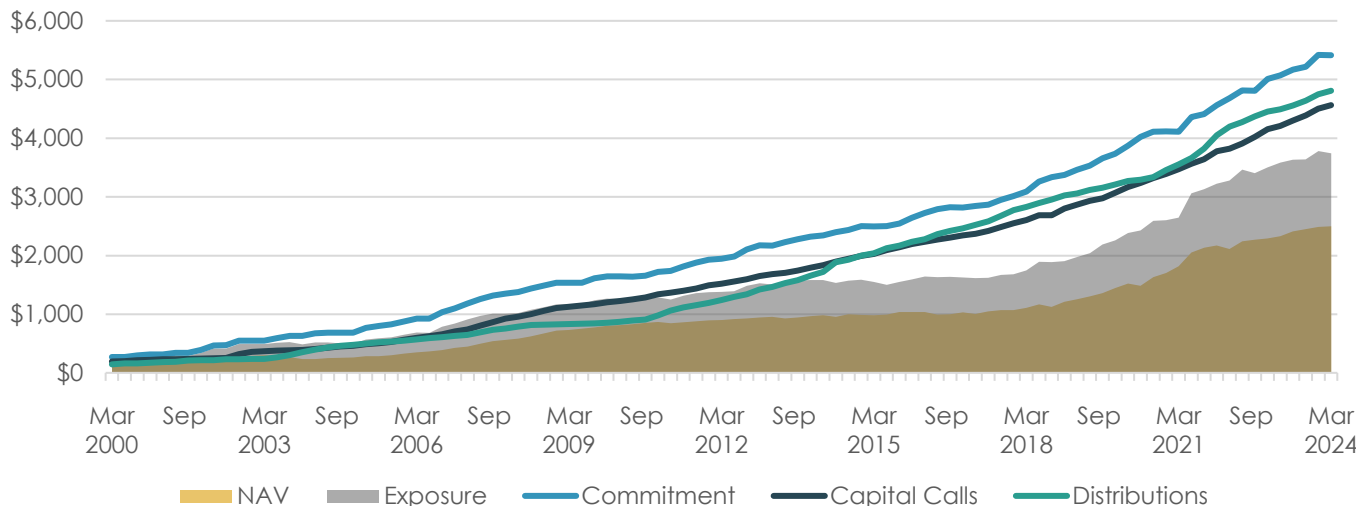
Private Investments
Asset Allocation



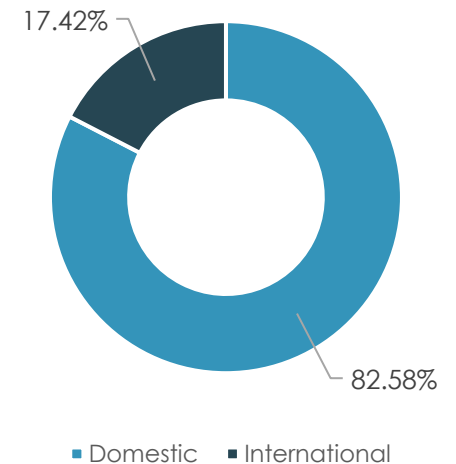
Strategy



Private Investments Over Time
2000 - 2024



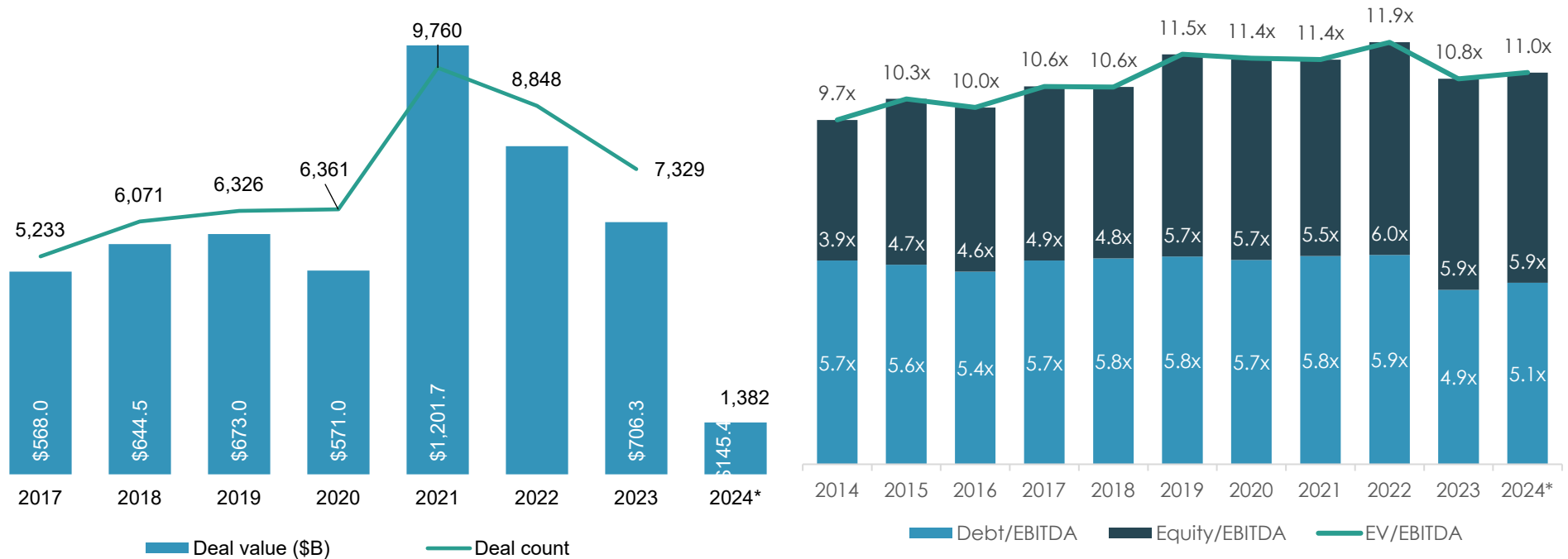
Domestic vs.
International



* Dollar values are in \$1,000,000

March 31, 2024

Private Investments Valuation



- 2023 deal activity surpassed pre-pandemic levels and Private Equity volumes are set to rebound in 2024 with a snapback in exit activity.
- Valuations and leverage peaked on deals announced in 2021/2022 and appear to have found a bottom, leveling out in the first quarter.
- Leverage ratios continue to reflect tight conditions, hindering the ability to close on larger platform deals requiring more debt.

Source: PitchBook. *as of 3/31/2024

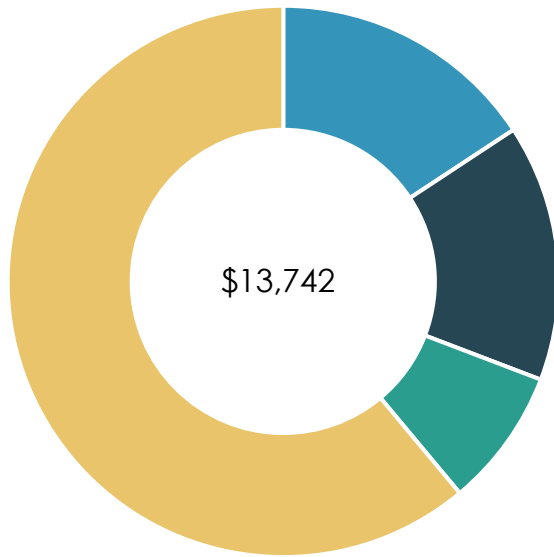
March 31, 2024

Private Investments

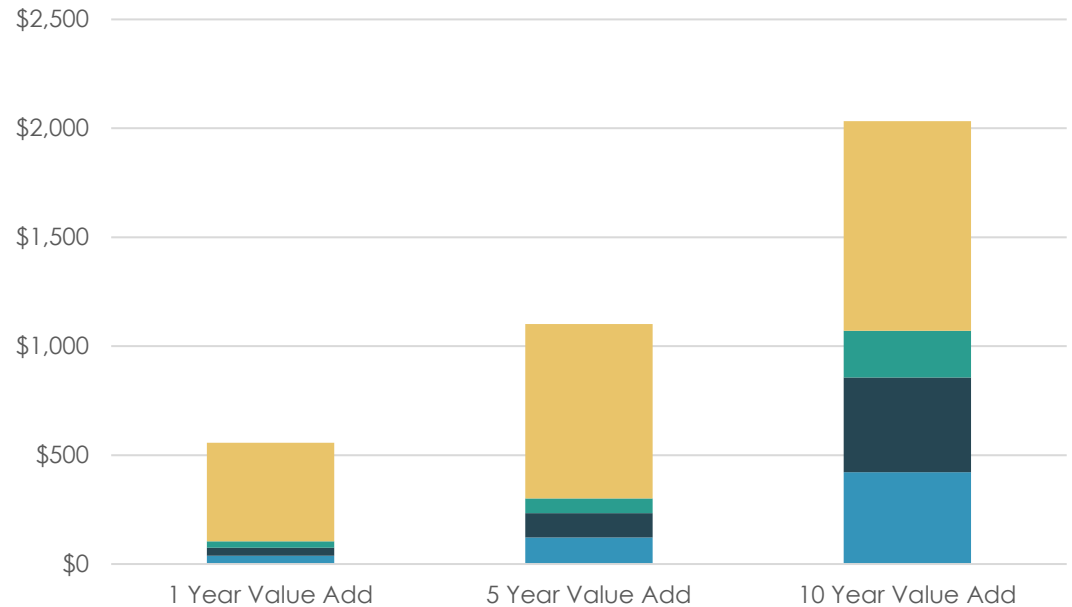
New Commitments FYTD

- NB Strategic Co-Investment Partners Fund V, LP - \$75M
- Kester Capital Fund III, LP - £40M (~\$50M)
- McCarthy Capital Fund VIII, LP - \$70M
- Apiary Capital Partners Fund II, LP - £40M (~\$50M)
- Blue Sage Capital Fund IV, LP - \$60M
- **Tree Line Direct Lending Fund IV, LP - \$75M**

Core Fixed Income Ownership Breakdown



■ Trust Funds ■ State Fund ■ STIP



■ Pension ■ Trust Funds ■ State Fund ■ STIP

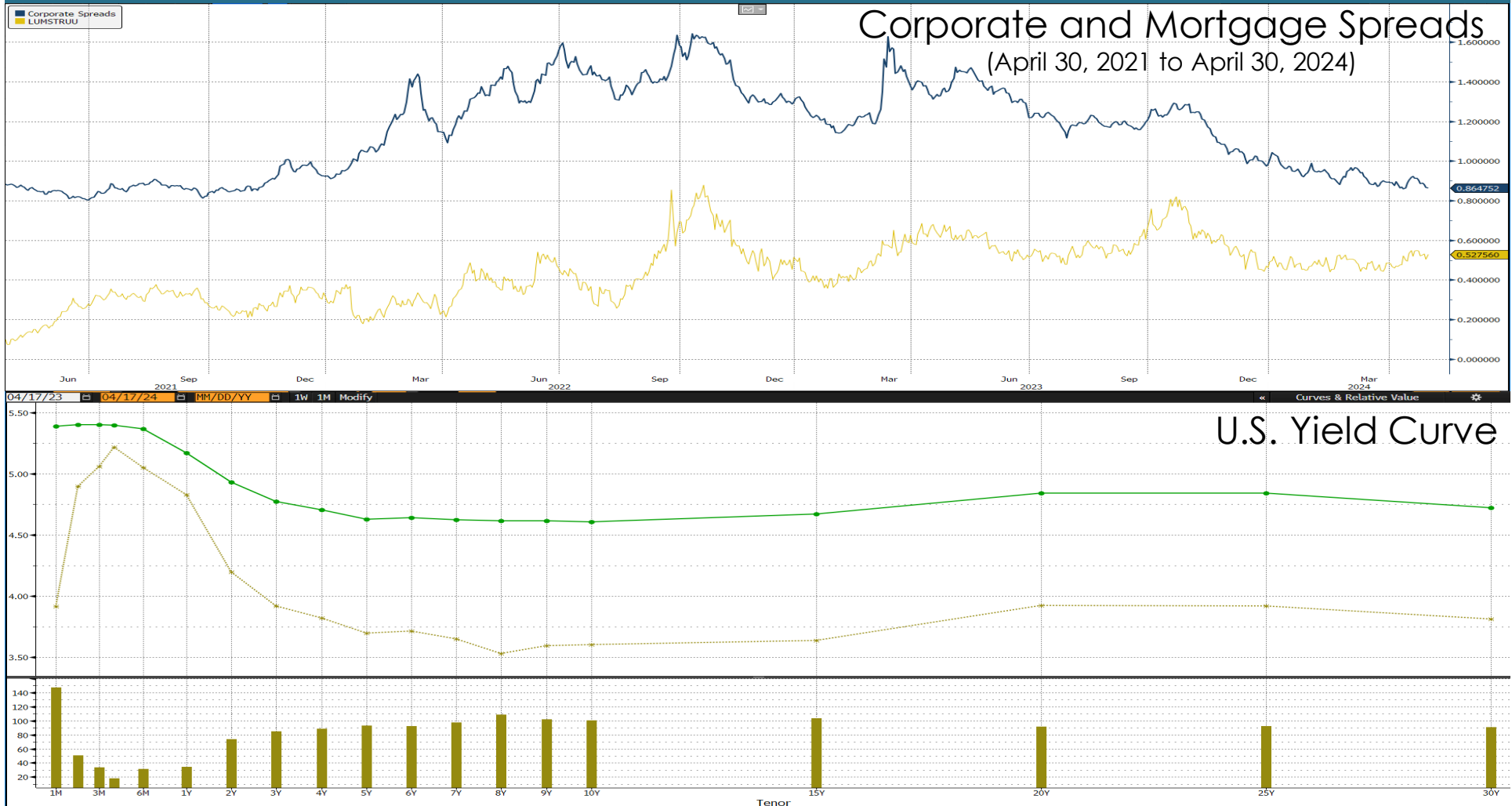
Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	1.91%	1.70%	0.54%	0.06%	1.67%	1.30%
Trust Funds	1.69%	1.70%	0.74%	0.36%	1.99%	1.54%
State Fund	2.78%	1.70%	1.12%	0.54%	1.80%	1.33%
STIP	5.41%	5.55%	2.12%	2.04%	1.52%	1.47%

- Interest rates increased significantly over the last year.
- The market is pricing in a modest decline in rates over the next year.
- Significant uncertainty exists on future rates of inflation and Federal Reserve actions.

* Dollar values are in \$1,000,000

March 31, 2024

Core Fixed Income Valuation



- Risk premiums have declined below historical averages.
- The front end of the yield curve remains inverted. However, yields in the middle of the curve have come down in anticipation of the Federal Reserve cutting short-term interest rates.

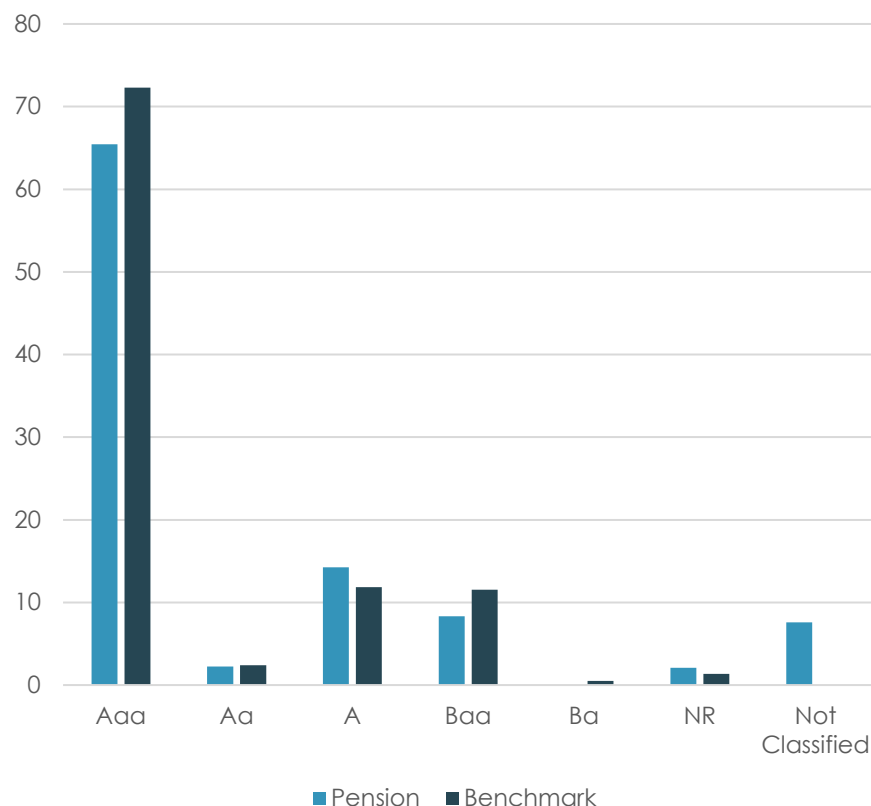
Core Fixed Income

Characteristics - Pension

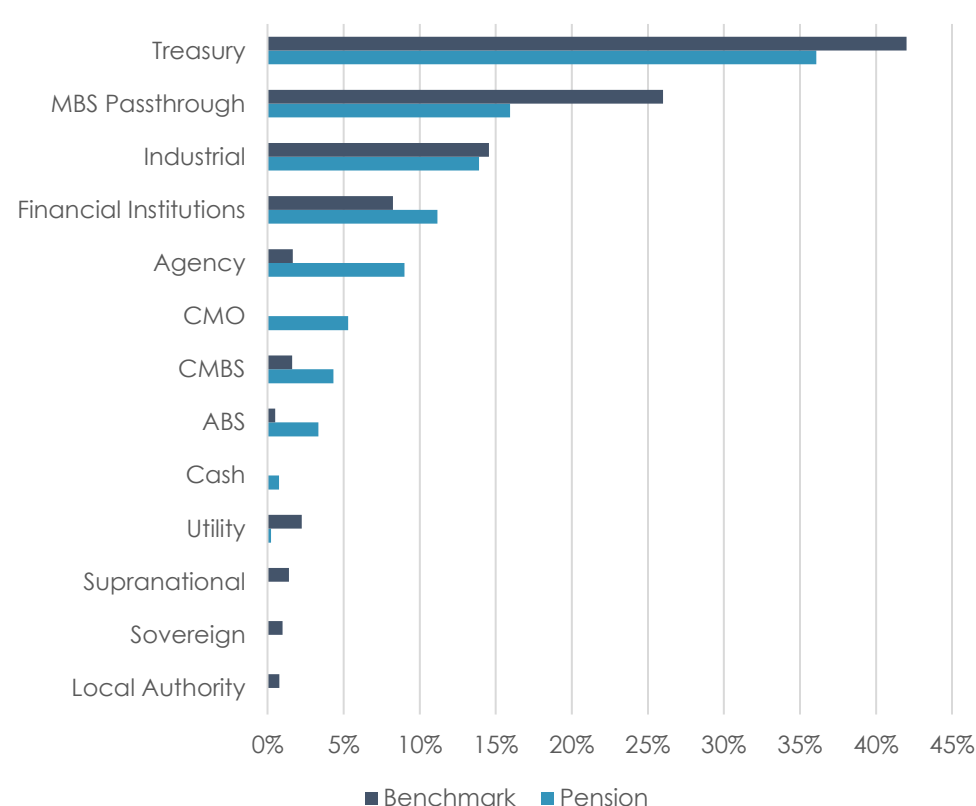
Core Fixed Income

	Portfolio	Index	Difference	% of Index
Duration (Yrs)	6.99	6.14	0.85	113.84%
Yield to Worst	4.93%	4.85%	0.08%	101.65%
CTD from Corporate	1.24	1.73	-0.49	71.68%

Credit Rating



Sector



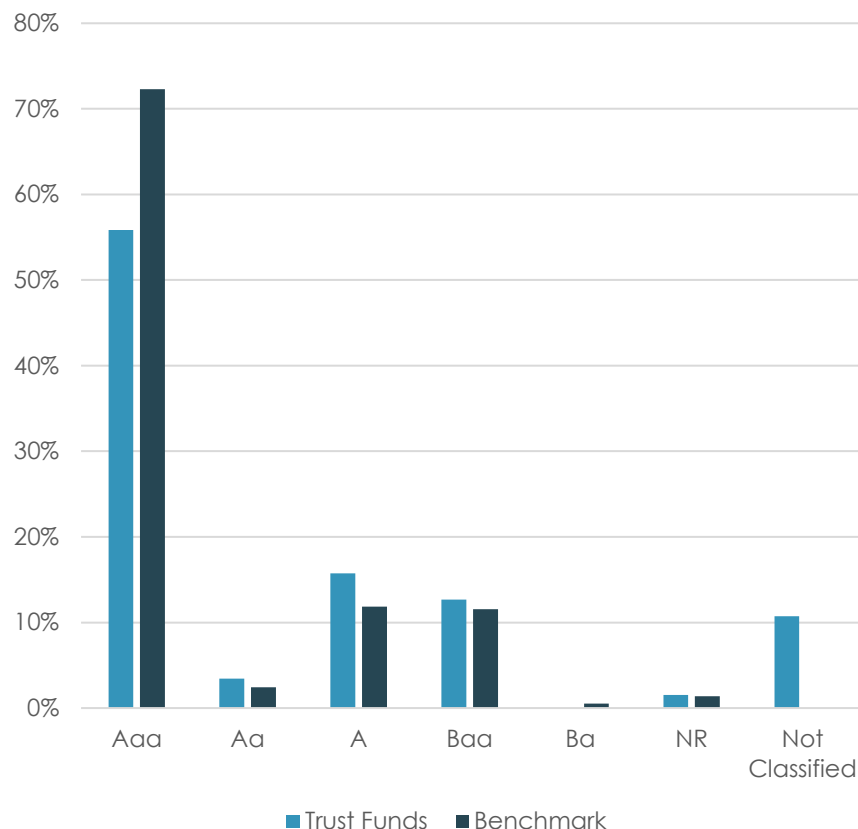
Core Fixed Income

Characteristics – Trust Funds

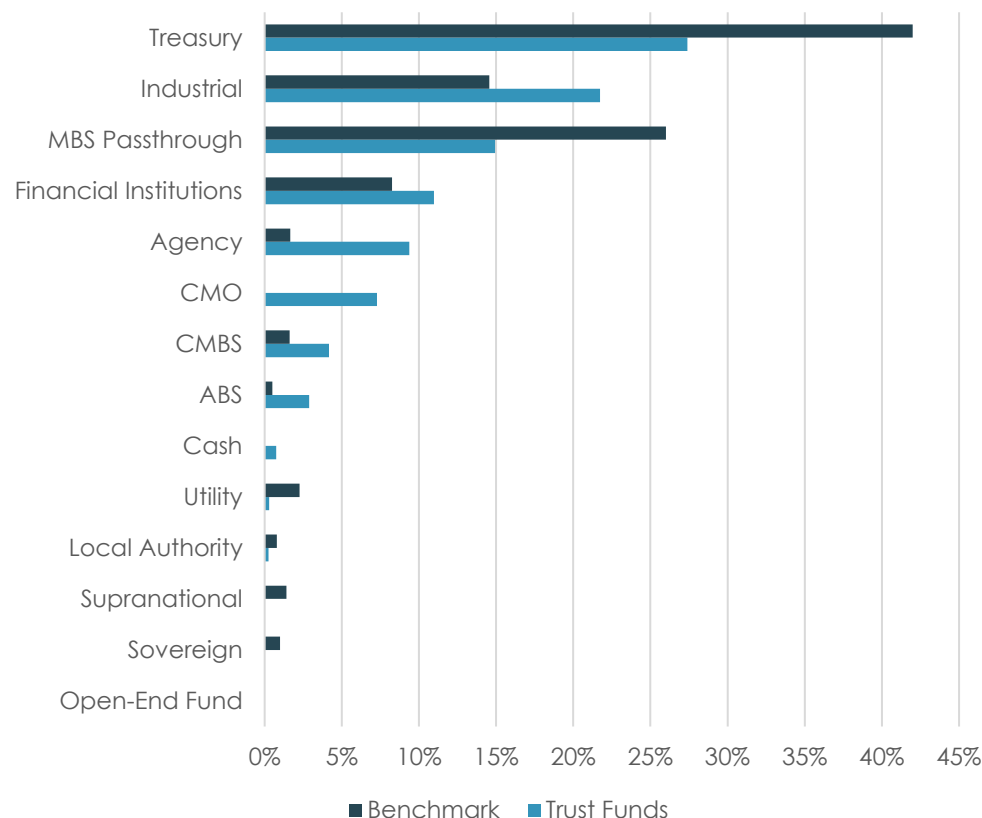
Trust Funds Investment Pool

	Portfolio	Index	Difference	% of Index
Duration	6.8	6.14	0.66	110.75%
Yield to Worst	5.02%	4.85%	0.17%	103.51%
CTD from Corporate	1.63	1.73	-0.1	94.22%

Credit Rating



Sector



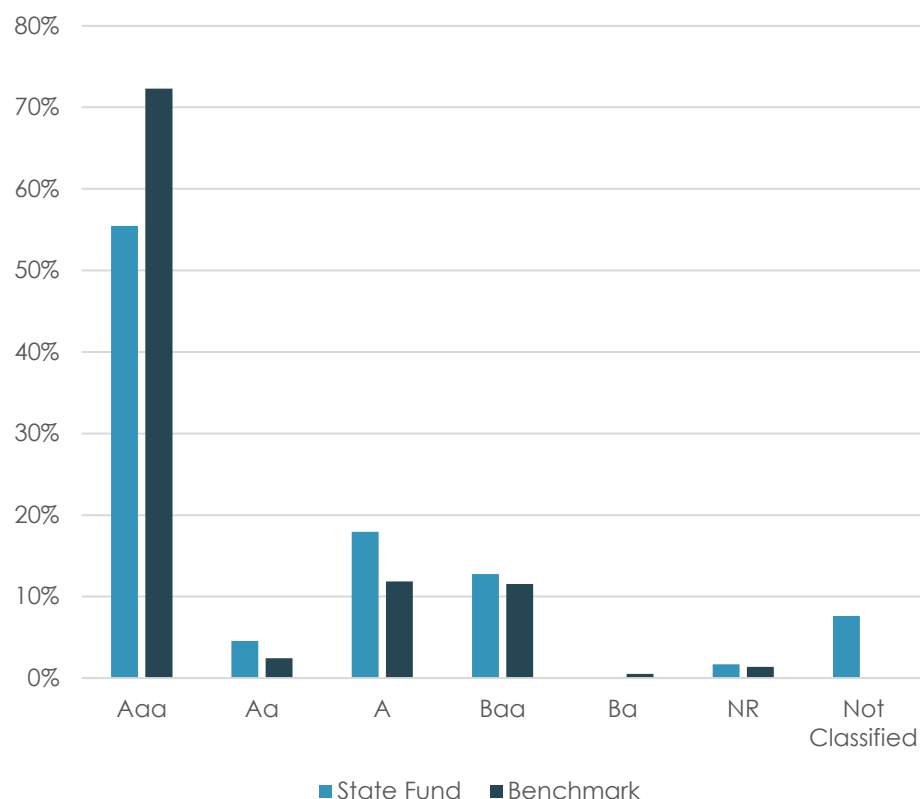
Core Fixed Income

Characteristics – State Fund

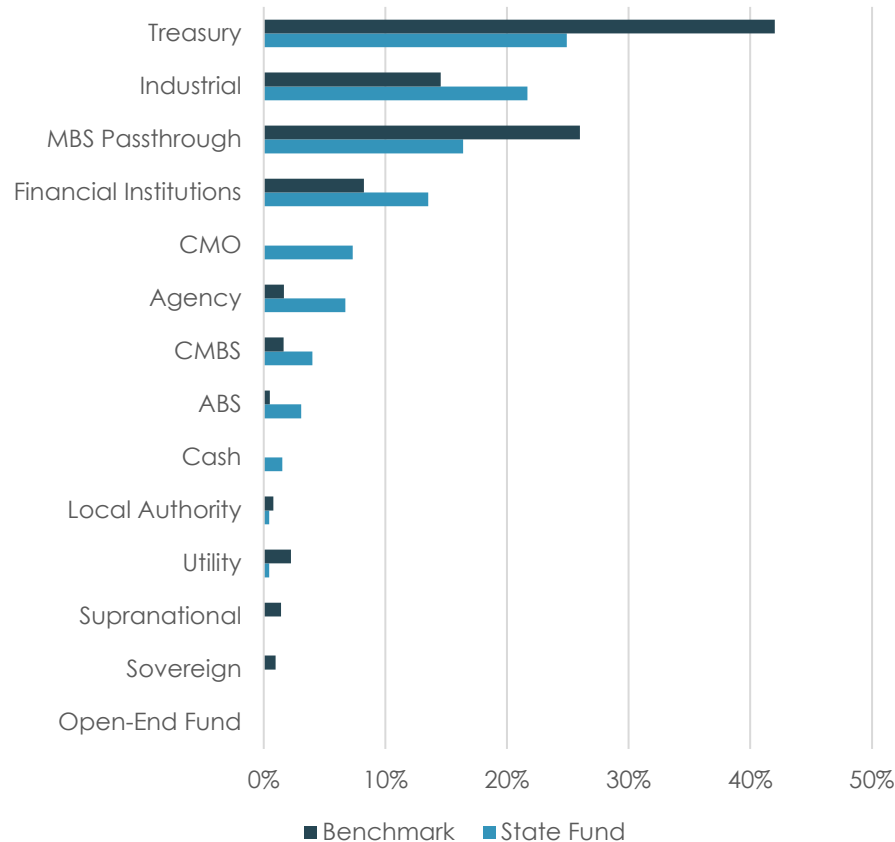
State Fund Investment Pool

	Portfolio	Index	Difference	% of Index
Duration	5.89	6.14	-0.25	95.93%
Yield to Worst	4.98%	4.85%	0.13%	102.68%
CTD from Corporate	1.44	1.73	-0.29	83.24%

Credit Rating



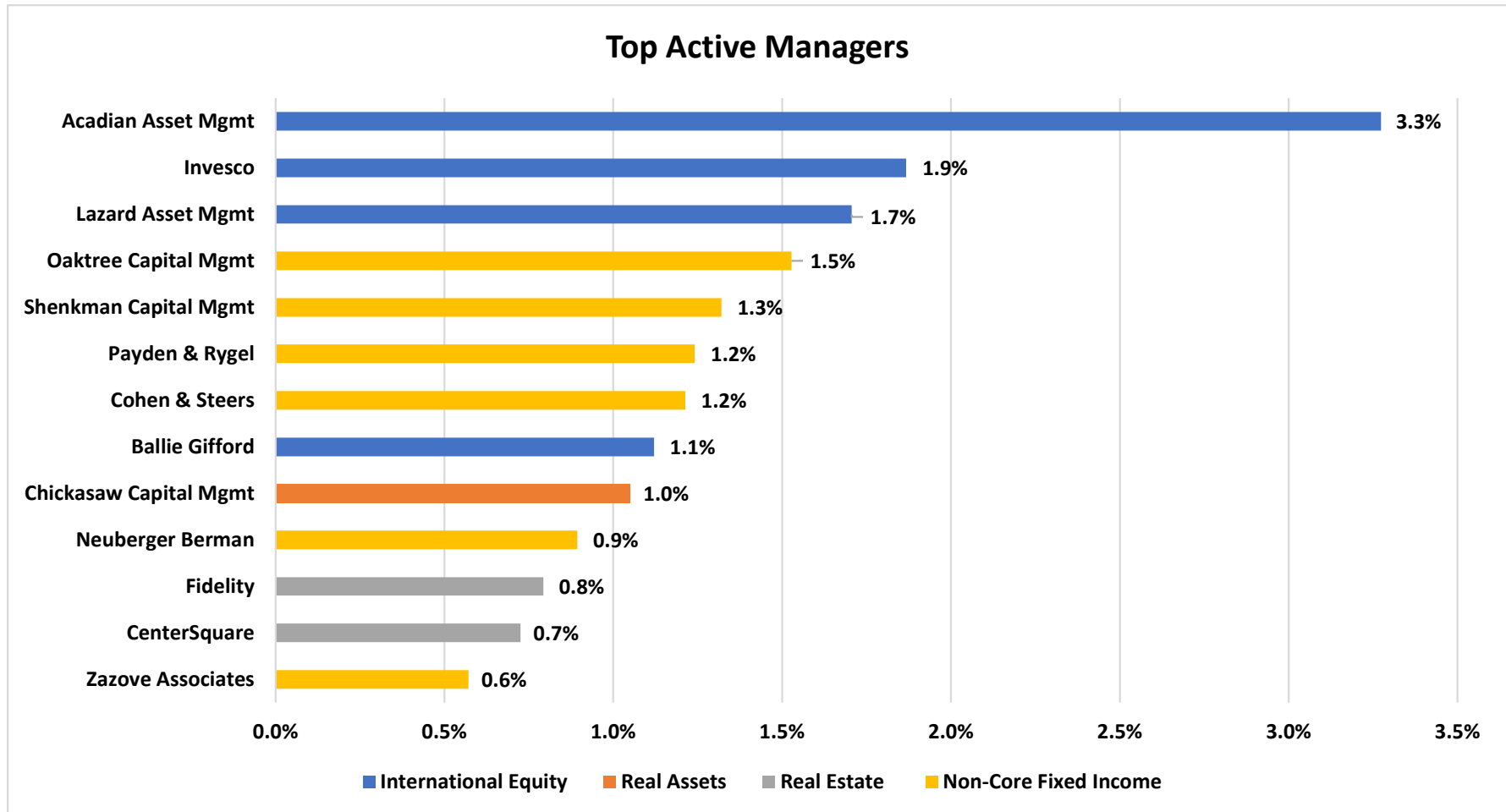
Sector



APPENDIX

Risk Management

Pension Holdings

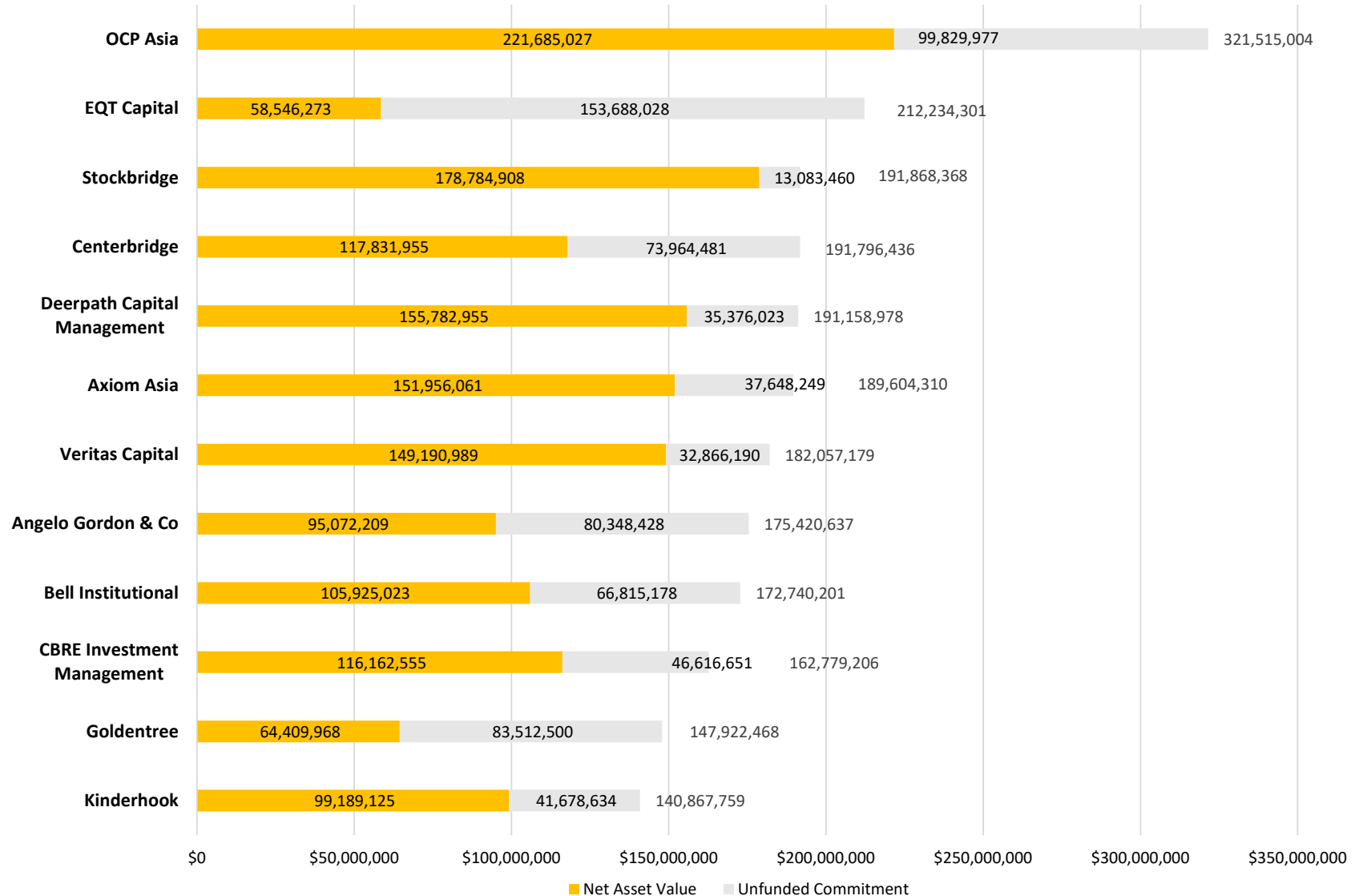


*Montana Public Retirement Plans shall have no greater than 5% of its Net Asset Value managed by any one external manager using an active investment strategy

Risk Management

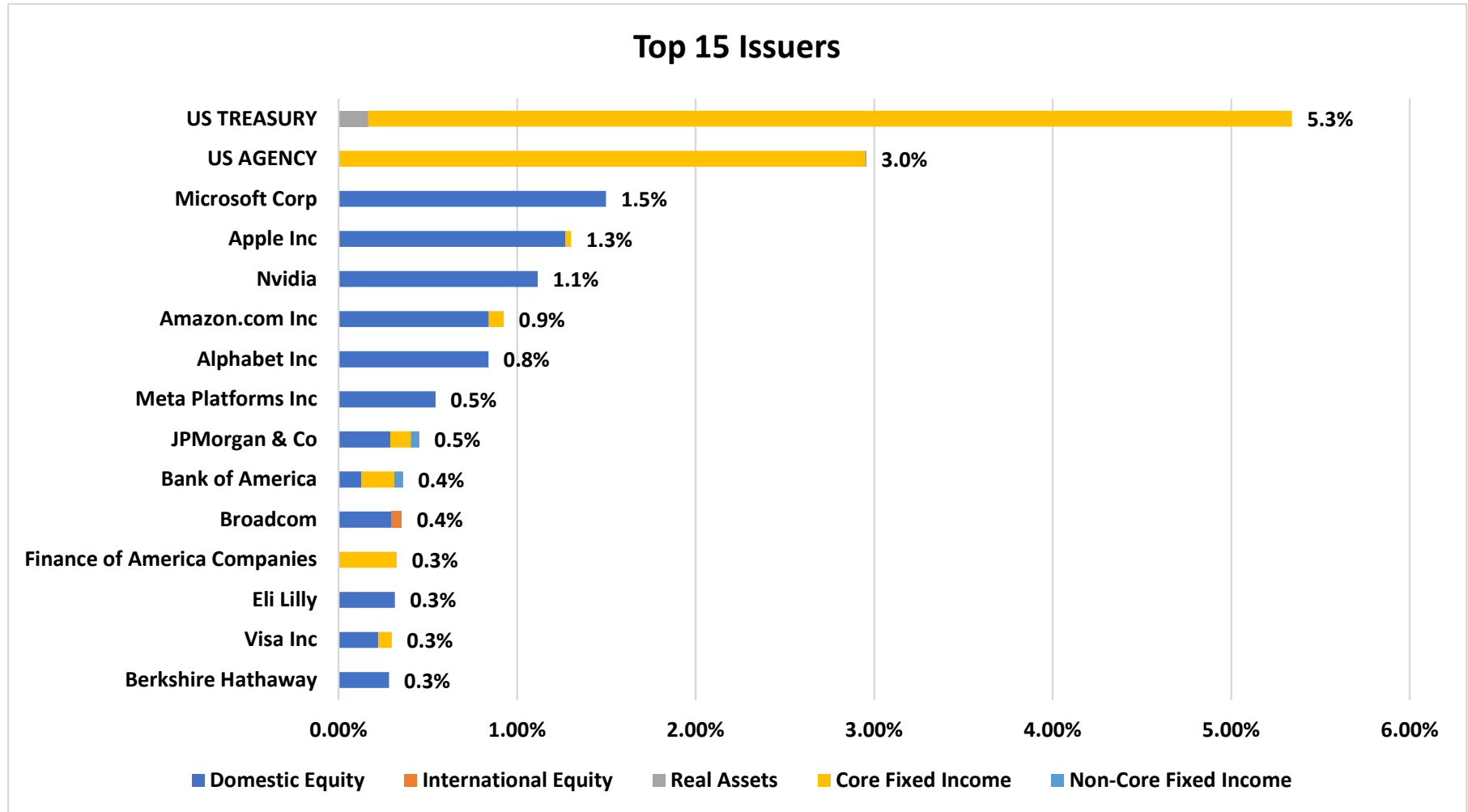
Pension Holdings

Top 12 Private Managers



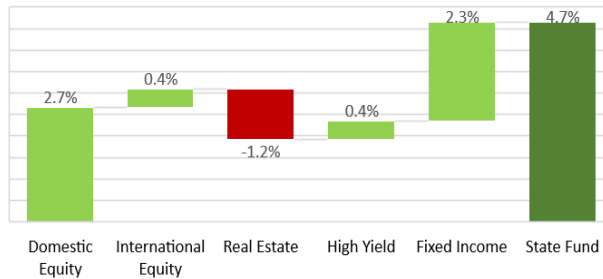
Risk Management

Pension Holdings

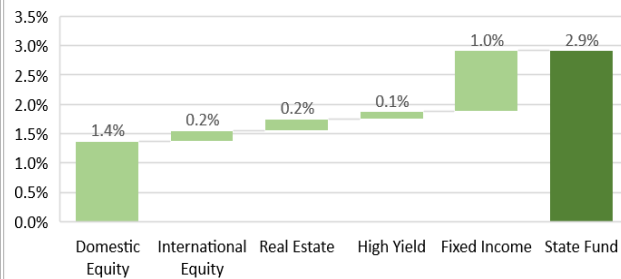


State Fund Performance

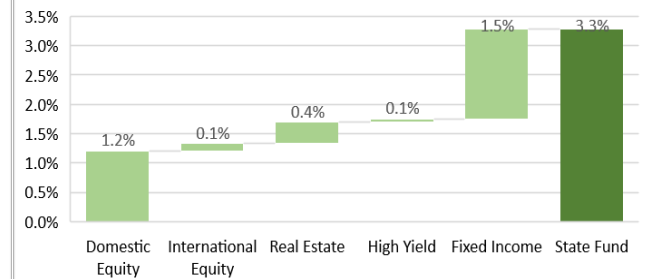
1 Year
Contribution to Total Return



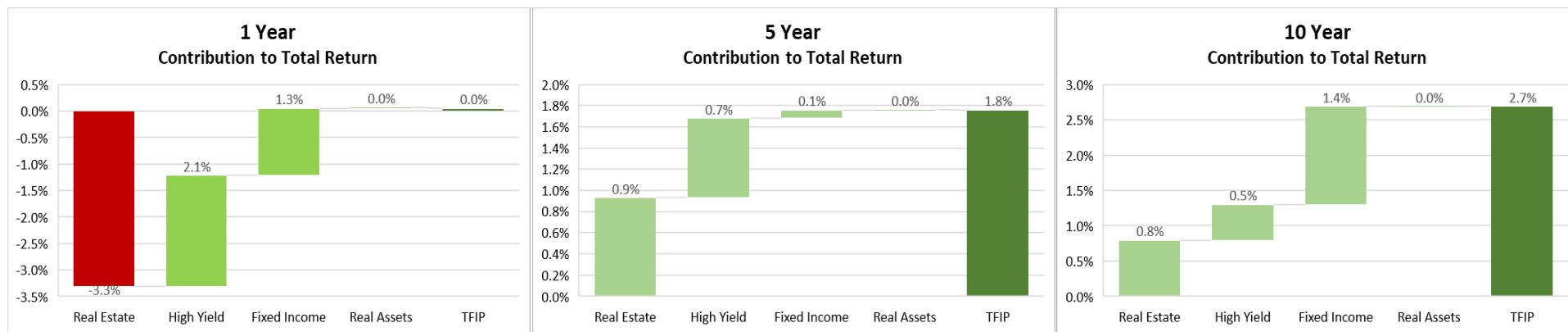
5 Year
Contribution to Total Return



10 Year
Contribution to Total Return



Trust Funds Investment Pool Performance



2024 Board of Investments Calendar

JANUARY						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

MARCH						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

APRIL						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

MAY						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JUNE						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

JULY						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

AUGUST						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Board Materials Due
Board Packet Mailing
Board Meeting Dates

BOI WORK AND EDUCATION PLAN

2024

February 28-29

Education:

Outreach Efforts for the Board - In-State Loan and INTERCAP Programs
Short Term Investment Pool

Reports:

Ethics Policy
Disaster Recovery and Emergency Preparedness
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Financial Audit Report

April 10

Education:

Domestic Equity Asset Class Review
RVK Annual Capital Market Assumptions

Reports:

Benchmarks Used by the Board

May 22-23

Education:

MT Buildings (Board as Landlord/Tenant Holdings)
Investment Policy Statement Review
Real Estate Asset Class Review

Reports:

Budget Status FYTD
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

HR: Staffing Level Review
HR: Exempt Staff Compensation Review

August 28-29

Education:

Core Fixed Income Asset Class Review
Budget Proposal for FY24-25

Reports:

Proxy Voting
Budget Status Prior FY
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

October 9

Education:

Separate Accounts Investment Review
First Reading - Asset Allocation Range Recommendation

Reports:

CEM, Inc Cost Reporting Analysis

Committee Meetings:

HR: Exempt Staff Performance Review
Audit: SOC I, Type 2 Report

November 20-21

Education:

2025 Legislative Session
Adoption - Asset Allocation Range Approval

Reports:

Policy 217
LPAC
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Annual Report and Financial Statements

2025 (dates TBD)

February

Education:

Cash Management of State Monies
Custodial Banking Relationship and Continuity

Reports:

Ethics Policy
Disaster Recovery and Emergency Preparedness
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Financial Compliance Audit Report

April

Education:

International Equities Asset Class Review
RVK Annual Capital Market Assumptions

Reports:

Benchmarks Used by the Board

May

Education:

State Government Customer Relationships
Investment Policy Statement Review
Real Assets Asset Class Review

Reports:

Budget Status FYTD
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

HR: Staffing Level Review
HR: Exempt Staff Performance and Compensation Review

August

Education:

Trust Funds Investment Review
Non-Core Fixed Income Asset Class Review

Reports:

Budget Status Prior FY
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

October

Education:

Private Investments Asset Class Review
First Reading - Asset Allocation Range Recommendation

Reports:

Securities Lending

Committee Meetings:

HR: Exempt Staff Performance Review
Audit: SOC I, Type 2 Report

November

Education:

MPERA and TRS Relationship
Adoption - Asset Allocation Range Approval

Reports:

Policy 217
LPAC
Quarterly Reports
In-State Loan Reports
INTERCAP Reports

Committee Meetings:

Audit: Annual Report and Financial Statements

BOI TERMINOLOGY

ACTIVE MANAGEMENT (typically with respect to stocks)

Investment method which involves hiring a manager to research securities and actively make investment decisions to buy and sell securities in an effort to outperform an assigned index, rather than purchasing a portfolio of securities that would simply replicate the index holdings (*'passive'* investing).

ACTUARIAL ASSUMED RATE (pension concept)

The investment return rate used by actuaries that enables them to project the investment growth of retirement system assets into the future (typically perpetual).

ACTUARIAL FUNDING STATUS (pension concept)

A measurement made by actuaries to measure a pension system's financial soundness (ratio of actuarial liabilities to the actuarial value of the assets available to pay the liabilities).

ALPHA (investment term)

Return on an investment portfolio in excess of the market return or benchmark return; generally used in the context of *'active'* management (as passive management, by definition, does not seek excess returns, or *'alpha'*).

ALTERNATIVE INVESTMENTS

A wide range of investments, other than traditional assets such as publicly traded stocks and bonds. The most common nontraditional or alternative investments are private equity, real estate, commodities, and hedge funds.

ARBITRAGE (bond program)

A structural or systematic difference between investment types which may allow profiting from the *'difference,'* i.e., arbitrage. The most common context for the use of *'arbitrage'* at the BOI is the federal law that prevents *'arbitrage,'* i.e., the profiting of investing tax-exempt securities (e.g., INTERCAP) into taxable yields investments (such as U.S. Treasuries).

ASSET ALLOCATION AND ASSET ALLOCATION RANGE (general investment principle)

The Board's invested assets are divided or allocated into various asset classes such as stocks and bonds, each with its own characteristics, with the objective of attaining an optimal mix of risk and return. The total expected return of a portfolio is primarily determined by the mix or allocation to its underlying assets classes. Given the importance of *'asset allocation,'* the BOI Board sets the asset allocation *'range'* for each broad investment type or asset class.

ASSET-BACKED SECURITY

Bonds or notes backed by loan paper or accounts receivable originated by banks, credit card companies, or other providers of credit. Not mortgages.

AVERAGE LIFE (fixed income, particularly bonds)

The average time period the debt is expected to be outstanding. This is typically the maturity date for a traditional bond structure; however, it will be shorter for bonds having a sinking fund or amortizing payment structure.

BANKER'S ACCEPTANCE

A short-term credit investment which is created by a non-financial firm and whose payment is guaranteed by a bank. Often used in importing and exporting, and as a discount money market fund investment.

BARCLAY'S AGGREGATE INDEX (fixed income)

A composite of outstanding bond issues, including corporate, structured, and government bonds whose overall investment features such as return and investment type are tracked over many years. This is the most common benchmark used for comparing the performance of a portfolio that invests in U.S. investment grade fixed income securities. Formerly known as the Lehman Aggregate bond index.

BASIS POINTS (investment jargon)

A basis point is 1/100th of a percentage. Ten basis points is one tenth of a percent, typically written as 10 bps.

BENCHMARK (standard investment concept)

The concept of employing a particular independent or market investment return as a measurement to judge an investment portfolio's return; typically chosen investment benchmarks have the following attributes: they are investible, quantifiable, chosen in advance, easily understandable, and have a long history; common examples are the S & P 500 Index and the Barclay's Aggregate Index.

BETA (investment jargon)

A measure of the risk (or volatility) of a security or a portfolio in comparison to the market as a whole. If the stock or portfolio moves identically to that market, its beta value is 1; if its price volatility (or movement) is greater than that market's price volatility, it is said to have beta greater than 1.

CAP, AS IN LARGE 'CAP' (generally for stocks, e.g., public equities)

'Cap' is short for capitalization, as a reference to the market value of a publicly-traded company. The current stock price times the total shares outstanding of the company equals its market capitalization or market 'cap'; often used contextually such as 'large-cap,' 'mid-cap,' and 'small-cap' for different sized public companies.

CERTIFICATE OF DEPOSIT (CD):

A short-or medium-term, interest-bearing deposit obligation offered by banks and savings and loans. These may include "Yankee CDs" which are CDs issued by foreign banks or their U.S. affiliates in the U.S. which are denominated in U.S. dollars

CLAWBACK (private equity)

A clause in the agreement between the general partner and the limited partners of a private equity fund. The clawback gives limited partners the right to reclaim a portion of distributions to a general partner for profitable investments based on significant losses from later investments in a portfolio which ultimately resulted in the general partner receiving more distributions than it was legally entitled to.

COMMERCIAL PAPER

An unsecured obligation issued by a corporation or bank to finance its short-term credit needs, such as accounts receivable and inventory. Maturities typically range from two (2) to two hundred seventy (270) days. Commercial paper is available in a wide range of denominations, can be either discounted or interest-bearing, and usually a limited or nonexistent secondary market. Commercial paper is usually issued by companies with high credit ratings, meaning that the investment is almost always relatively low risk.

CORE (context varies for equity, fixed income, real estate)

In equity and fixed income, 'core' refers to investments that are generally always found in the portfolio and normally expect to hold for a very long time e.g. 'core' holdings of the largest U.S. companies, or U.S. treasuries; in real estate, 'core' generally refers to the best quality of real estate holdings such as prime commercial property in major metropolitan cities that have low leverage and low levels of vacancy.

CORPORATE NOTE

A type of unsecured debt issued by a corporation that may be longer-term than Commercial Paper, but shorter-term than a typical Corporate Bond.

CORRELATION (common statistical concept)

A measure of how two or more investment values or two asset classes move relative to each other during the same time period. A central concept in portfolio construction is to seek investments whose values do not move *together* at the same time, i.e., are uncorrelated. A correlation of 1 means that two or more investments 'move' precisely together.

CREDIT ENHANCEMENT (bond program)

At BOI, the term generally refers to credit support or a bond or loan guarantee. For example, the Board's INTERCAP bonds are 'enhanced' by the BOI's performance guarantee bringing down the yearly interest rate.

CUSTOM BENCHMARK (or sometimes custom index)

A way to measure investment performance using a tailor-made measurement versus a generic industry-standard benchmark. At the BOI, total pension performance is measured against the Board's 'custom index' or 'custom benchmark' which is a weighted blend of all the underlying asset class benchmarks used to measure the asset class returns.

DERIVATIVES (investment jargon)

Investment securities whose performance itself depends (or is 'derived') from another underlying investment return. Examples include stock options, puts/calls, and forward currency contracts whose returns are based on the underlying stock or currency.

DEVELOPED MARKETS (equity)

Countries having a long period of stable industrialization; or are the most economically developed.

DISCOUNT (fixed income, generally)

Used most often with respect to bonds, the price paid that is less than face (or 'par') value. A \$1 million face-value of a bond purchased for less than a million is bought at a 'discount.' Described as the difference between a bond's current market price and its face or redemption value.

DIVERSIFICATION (standard investment concept)

The concept of spreading risk by putting assets in several investment categories, each having different attributes with respect to type, expected return, risk, and correlation, to best protect against the risk of loss.

DURATION (bonds)

Almost exclusively used when discussing fixed income bonds, a measurement of how sensitive a bonds' change in price is to a change in general market interest rates, expressed in years (specifically calculated as a weighted average term to maturity of the bond's cash flows). The greater the duration of a bond, the greater the volatility of price for changes in market interest rates.

EFFICIENCY (usually when discussing various stock markets)

Used to describe markets where it is very difficult to achieve return in excess of that of the overall market from individual stock selection. When information is widely available on a company and its securities are traded regularly the market is considered 'efficient.'

EMERGING MARKETS (most often for public equities)

Certain international securities markets that are typically small, new, have low turnover, and are located in countries where below-average income prevails and is developing in response to the spread of capitalism.

ENHANCED (pertaining to stocks)

Generally linked with 'index' as in enhanced index, an indexed investment management style that has been modified to include the portfolio manager's idea of how to outperform the index by omitting some stocks in the index and overweighting others in a limited manner designed to enhance returns but at minimal risk.

EXCESS RETURNS (standard investment concept)

Returns are 'excess' if they are more than the market or more than the benchmark they are measured against.

EXEMPT STAFF VS. CLASSIFIED STAFF (specific to Montana state government)

"Exempt" refers to the Board's eleven employees who, under state law, do not fall under the state's standard employment rules (the 'classified' staff).

FIDUCIARY (from the Latin verb, fidere, to trust)

The concept of trust and watchfulness; a fiduciary is charged with the responsibility of investing the money wisely for the beneficiary's benefit. Board members are the ultimate 'fiduciaries' for the Board's assets and are obligated to be a good agent.

FTE (state government jargon)

An acronym in state government: "full time equivalent" as in full time employee. The concept is a slot or position, not the actual individuals. The BOI is currently authorized for 32 FTE's.

FUND OF FUNDS (private equity)

A concept used in alternative investments referring to using an investment manager to invest in **other** managers or funds, as opposed to making direct investments in funds.

GAAP/GASB (accounting terminology)

GAAP...Generally Accepted Accounting Principles; Montana state law uses GAAP accounting principles unless specifically allowed otherwise. GASB...Government Accounting Standards Board, the board that sets GAAP standards for U.S. governments (FASB...Financial Accounting Standards Board, the entity for commercial and business accounting standards).

GENERAL OBLIGATION (municipal finance term)

Used to describe the promise that a government makes to bond holders, backed by taxing and further borrowing power, it is generally considered the highest level of commitment to bondholders. At the local government level, general obligation bonds typically require a vote of the residents.

GENERAL PARTNER VS. LIMITED PARTNER (private equity)

In private equity, the general partner is responsible for the operations of the partnership and makes the actual underlying investment decisions; the limited partner is the investor, and therefore has limited liability for investment decisions; the BOI is the 'limited' partner in its private equity fund investments (and real estate funds as well).

GROWTH (as to style public equities)

An investment style that more heavily invests in companies whose earnings are expected to grow at an above average rate to the market. A growth stock usually does not pay a dividend, as the company would prefer to reinvest retained earnings in capital projects to grow the company (vs. 'value,' which considers buying established companies they feel are trading at bargain prices to the fundamental analysis of the company's financial statements and internal competitive factors).

INDENTURE (bond and loan programs)

The central document describing the contract between investors and the borrower or user of the proceeds. The Board's INTERCAP program is structured around a bond indenture.

HEDGE FUND (as defined by Investopedia)

An aggressively managed portfolio of investments that uses advanced investment strategies such as *leverage*, long, short and *derivative* positions in both domestic and international markets with the goal of generating high returns (either in an absolute sense or over a specified market *benchmark*).

HURDLE RATE (private equity)

a minimum return per annum that must be generated for limited partners of a private equity fund before the general partner can begin receiving a percentage of profits from investments.

INDEX (investment concept)

Typically, a single measure of a broadly-based group of investments that can be used to judge or be compared to the return performance of an individual investment or manager.

INDEXING (investment concept)

Typically refers to investing in a portfolio to match a broad range of investments that are set within a pre-determined grouping, such as the S&P 500, so as to match its performance; such investing is generally labeled 'passive' or indexed investing; or buying shares in an Index Fund.

IN-STATE LOAN PROGRAM (Montana-specific)

Programs that are funded by the state's coal severance tax monies.

INTERNAL SERVICE VS. ENTERPRISE FUND (state accounting concept)

Within Montana state government: a program whose funding is dependent on **mandatory participation** by another state government program is labeled an 'internal' service fund; a program whose funding is dependent on voluntary participation is labeled an enterprise fund. At BOI, the investment program is an internal service fund because participation is not voluntary; the Board's bond and loan programs, because their use is voluntary, are accounted for as an enterprise.

INVESTMENT GRADE (bonds)

Bond ratings from Moody's, Standard and Poor's, and Fitch high enough to be considered secure enough for most investors (bonds rated AAA – BBB). Below investment-grade bonds (below BBB) are generally considered to have a more speculative outlook and carry more risk of default.

IRR (private equity)

A measure of investment performance, short for 'internal rate of return,' expressed as a percentage (the 'internal rate of return' number, or discount rate) that mathematically will equalize the total future cash flows of an investment to the initial cash outflow of the investment, the concept accounts for the time value of money.

LEVERAGE (investment concept)

As an investment concept, a way to increase a return on an investment through a combination of one's own money and by borrowing additional money to enhance such an investment; high 'leverage' is also associated with high risk.

LINK DEPOSIT

The Link Deposit program can provide a financial institution a long-term fixed rate funding source "linked" to a specific loan. The State of Montana provides the financial institution funding in the form of a deposit through the Montana Board of Investments using coal tax funds.

MASTER LIMITED PARTNERSHIP

An investment structure that combines the tax benefits of a limited partnership with the liquidity of a common stock. While an MLP has a partnership structure, it issues shares that trade on an exchange like common stock. MLPs are often broadly associated with energy companies operating in midstream services.

MEAN VARIANCE OPTIMIZATION MODEL ('Modern Portfolio Theory')

A theory that it is possible to construct a portfolio to maximize the return for the least amount of risk or volatility. This theory is based on various asset types and their level of expected return, risk (volatility) and their correlation with each other or how the asset values move with each other. The central idea of the model is to blend investments so that in total, they provide both the best expected return and optimal amount of diversification to minimize deep performance swings (volatility); a central tenant is that long term historical returns are indicative of future returns.

MEZZANINE FINANCE (private equity)

Subordinated debt with an equity 'kicker' or ability to share in the equity value of the company. It is typically lower quality because it is generally subordinated to debt provided by senior lenders such as banks, thus is considered higher risk.

MULTIPLE (as in "multiple" of invested capital, private equity)

The ratio of total cash returned over the life of the investment plus the investment's residual value over the total cash expended in making the investment. A multiple of 2 means, regardless of the total investment time period, that total cash returned was twice the cash invested.

130/30 STRATEGY (public equities)

Also called 'partial long short,' this strategy involves the establishment of a short position in select stocks while taking the proceeds of those shorts and buying additional long positions in stocks. The net effect is an overall market position that is 100% long, but the active decisions on individual stock selections are amplified by this ability to short. If the stock selections are successful, the strategy enables the portfolio to profit more than if a stock had simply not been owned, as with traditional long-only portfolios.

OPPORTUNISTIC (real estate)

In real estate, a euphemism for the most risky real estate investments, typically distressed, raw land, newly developed buildings or other high risk investments in the real estate sector, (versus, 'core,' which are the best quality fully leased commercial properties).

OVERWEIGHT OR UNDERWEIGHT (investment concept)

Generally, the level of holdings of a certain type of investment that is above or below either a benchmark's weight (portion of total investment), or the percentage held of a particular asset class compared to the Board's asset allocation policy weight. Also used to describe an external investment manager's decision to have more (or less) of a particular investment than the percentage or weighting found in the benchmark.

P/E RATIO (equity)

The price of a publicly traded stock divided by its estimated or actual earnings is the price/earnings or P/E ratio. This can also be calculated for a stock index or portfolio of stocks. Over the last 100 years, the S&P 500 has had an overall P/E ratio of about 15, or a total index price of about 15 times the annual earnings of its underlying companies.

PACING STUDY (private equity)

An analysis of the likely timing and amount of the drawdown of committed but yet uninvested monies and the estimated distributions or returns from the funds held in an alternative investment portfolio, generally used to judge the future size of the portfolio and its potential liquidity needs, i.e., cash funding demands.

PAR (fixed income)

The initial principal amount designated by the issuer of the bond, or face value of a bond.

PASSIVE

For investments, generally not materially participating in an investment decision, meaning an investment portfolio whose returns follows that of a broad market index, such as an investable stock index, i.e. the S & P 500.

PASSIVE MANAGEMENT OR PASSIVE INVESTMENT (most often in public equities, but not exclusively)

An investment style where a fund's portfolio mirrors a market index, such as the S&P 500, with limited selection decisions by the manager, resulting in market returns. Passive management is the opposite of active management in which a fund's manager attempts to beat the market with various investment strategies and buy/sell decisions of a portfolio of securities to enhance returns.

PASSIVE WEIGHT (generally equities)

The percentage of a stock held in a particular index portfolio, or percentage of an overall asset class that is held in passive portfolios.

POLICY PORTFOLIO

A fixed-target asset allocation, as opposed to asset allocation ranges, which theoretically allows gauging whether deviations from the target portfolio had a positive or negative impact on overall performance.

PORTABLE ALPHA (public equities)

An investment strategy which involves the active selection of securities while neutralizing overall beta or market risk. This often involves the use of derivative investments such as futures to replicate the market return, either taking a short or long position, while then selecting securities which are expected to add return in an absolute sense or in addition to the market return. As an example, this strategy can be found with certain hedge funds where a market exposure is shorted while individual securities such as specific stocks are purchased that are expected to outperform the general market. The concept of portable applies when the ability to generate positive alpha can be overlaid or ported onto a portfolio. This is not a strategy employed by any of MBOI's existing managers.

PREMIUM (fixed income)

Most often the amount paid over the stated face amount (often called 'par') of a bond, but also used in other contexts, typically paying more (the premium) than a market price (as in a take-over bid for a company).

PRIVATE ANNUAL WAGE

The private annual wage is determined annually by the Montana Department of Labor & Industry using the average annual employment divided by the total wages.

PROXY (publicly traded companies)

An agent legally authorized to act on behalf of another party. Shareholders not attending a company's annual meeting may choose to vote their shares by proxy by allowing someone else to cast votes on their behalf, but the word 'proxy' is used more frequently colloquially as a 'close approximation.'

PRUDENT EXPERT, PRUDENT PERSON (a central fiduciary concept)

These legal terms have long histories of court-determined standards of care, deriving originally under English common law. The BOI is empowered to operate under the 'prudent expert rule,' which states that the Board shall manage a portfolio:

- a) with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims;*
- b) diversify the holdings of each fund within the unified investment program to minimize the risk of loss and to maximize the rate of return unless, under the circumstances, it is clearly prudent not to do so; and*
- (c) discharge the duties solely in the interest of and for the benefit of the funds forming the unified investment program.*

At an 'expert' level; there is more room for accepting risk under the prudent expert rule than the prudent person rule.

REBALANCING (general investment term)

The process of realigning the weightings of the portfolio of assets. Rebalancing involves periodically buying or selling assets in the portfolio to maintain the original desired level of asset allocation and/or to stay within predetermined asset category range; it is part of a disciplined investment approach within modern portfolio theory.

REPURCHASE AGREEMENT

A contract in which the seller of securities, such as Treasury Bills, agrees to buy them back at a specified time and price. May also be called "Repo" or "Buyback." Typically used as a short-term form of collateralized borrowing by a bank or securities dealer.

RESOLUTION (government term)

Generally, a formal and written action by a governmental (or corporate) body that has long term significance and requiring a vote of the governing body. BOI uses 'resolutions' generally only for its most significant and long term actions and/or policies.

REVERSE REPURCHASE AGREEMENT

A purchase of securities with an agreement to resell them at a higher price at a specific future date. The investor essentially borrows money and allows its securities to be held as collateral. Reverse Repurchase Agreements occur most often in government securities or other securities that are highly valued and thus considered a good form of collateral.

SECURITIES LENDING (general investment)

Investments that are temporally borrowed by other investors for a fee; the BOI allows most of its publicly traded investments to be loaned for additional marginal income.

STANDARD DEVIATION (common statistical concept)

A specific statistic that measures the dispersion of returns from the mean over a specific time period to determine the "historical volatility" of returns for a stock, or portfolio, or asset class; more specifically a single unit (i.e., one standard deviation) of dispersion that accounts for approximately 66% of all data around a mean using a 'normal' (or 'uniform' or 'bell-shaped' curve; as opposed to a skewed or asymmetrical) distribution. The standard deviation is used as a gauge for the amount of expected future volatility.

SABHRS (accounting jargon)

Montana state government's State Accounting, Budgeting and Human Resource System; the State's central information management system. BOI investment and other financial data must tie and be reported on this system, which is the official book of record and includes the state's financial statements.

STYLE DRIFT (often in reference to public equity managers, but applicable to other managers, too)

As the name implies, a divergence from an investor's professed investment bias or style or objective.

TRANCHE

A division or portion of a pool or whole; specifically: an issue of bonds derived from a pooling of like obligations (such as securitized mortgage debt) that is differentiated from other issues especially by maturity or rate of return.

TRACKING ERROR (statistical concept in investments)

A measurement of the standard deviation of a portfolio's return versus the return of the benchmark it was attempting to outperform. The concept is often used when discussing investment managers. For example, some styles are expected to have high 'tracking errors,' (e.g., deep 'value' investors who buy companies that may be dogs for years), versus passive managers, whose stock volatility is expected to be very close to their benchmark. Tracking error can either be intentional or unintentional; it can also be regarded as an accepted deviation or contrary to the management agreement. High *unexpected* tracking error is generally a serious concern to be examined and understood.

UNDERWRITER (bond program)

In investments, the agent who buys investments to be resold to the public; at BOI, the investment firms that buy the Board's bonds to be resold to the public.

UNIFIED INVESTMENT PROGRAM (Montana Constitution)

The Program in the State's constitution requiring a central investment program which the legislature has assigned to the BOI.

VALUE (as to style when discussing public equities)

An investment style that focuses on buying established companies that investors believe are undervalued and trading at bargain prices to the fundamental analysis of the company's financial statements and internal competitive factors.

VENTURE CAPITAL (private equity)

A higher-risk/high-return type of investing in startup firms and small businesses with perceived long-term growth potential. Sometimes these are already existing business ventures with limited operating history that need additional management expertise and access to capital. (For start-ups, 'seed capital,' or 'angel investor' are terms differentiating this even higher risk type of investment.)

VOLATILITY (investment jargon)

A statistical measure of the dispersion of returns for a given security or market index. Volatility is typically measured by using the standard deviation of returns from the security or market index. Commonly, the higher the volatility, the riskier the security.

YIELD (general investment, but most often within fixed income)

The amount returned to the investor above the original investment generally expressed as a percentage. Yield can be thought of as the expected return from the combination of interest and price accrual or amortization to maturity (in the case of a bond trading at a discount or premium to par).

YIELD CURVE (fixed income)

A line that plots the prevailing interest rates at a given time for bonds ranging in maturity from as short as three months out to 30 years. When plotted across these various maturities (typically 2, 5, 7, 10 and 30 years), the resultant line is shaped like a curve with generally low interest rates (the yield) for shorter maturities and gradually higher interest rates for longer maturities, because generally investors demand higher interest rates for longer term investments. The yield curve for U.S. Treasury debt is the most common when referring to the prevailing level of interest rates.

MONTANA BOARD OF INVESTMENTS

ACRONYM INDEX

ACH.....	Automated Clearing House
ADV.....	Uniform Application for Investment Adviser Registration and Report by Exempt Reporting Advisor
AUM.....	Assets Under Management
ADR.....	American Depository Receipts
AOF	All Other Funds
ARC	Actuarially Required Contribution
BOI	Board of Investments
CAPP	Consolidated Asset Pension Pool
CFA	Chartered Financial Analyst
EM	Emerging Market
FOIA	Freedom of Information Act
FWP.....	Fish Wildlife and Parks
FX.....	Foreign Exchange
IPS.....	Investment Policy Statement
IRP.....	Intermediary Relending Program
LDI.....	Liability-Driven Investing
MBOH.....	Montana Board of Housing
MBOI	Montana Board of Investments
MDEP	Montana Domestic Equity Pool
MLP	Master Limited Partnership
MFFA.....	Montana Facility Finance Authority
MPEP	Montana Private Equity Pool
MPT	Modern Portfolio Theory
MSTA.....	Montana Science and Technology Alliance
MTIP	Montana International Pool

MTRP Montana Real Estate Pool

MTSBA Montana School Boards Association

MVO Mean-Variance Optimization

NAV Net Asset Value

PERS Public Employees' Retirement System

PFL Partnership Focus List

QZAB Qualified Zone Academy Bonds

QSCB Qualified School Construction Bonds

RFBP Retirement Funds Bond Pool

RFP Request for Proposal

SABHRS Statewide Accounting Budgeting and Human Resource System

SLQT Securities Lending Quality Trust

SOC1 Service Organization Controls 1 (Audit)

SSBCI State Small Business Credit Initiative

STIP Short Term Investment Pool

TFBP Trust Funds Bond Pool

TFIP Trust Funds Investment Pool

TIF Tax Increment Financing

TIFD Tax Increment Financing District

TRS Teachers' Retirement System

TUCS Trust Universe Comparison Service

UIP Unified Investment Program

VIX Volatility Index

ASSET CLASS ACRONYMS

DEPAC	Domestic Equity Pension Asset Class
IEPAC	International Equity Pension Asset Class
PEPAC	Private Equity Pension Asset Class
NRPAC	National Resources Pension Asset Class
REPAC	Real Estate Pension Asset Class
TIPAC	TIPS Pension Asset Class
BFPAC.....	Broad Fixed Income Pension Asset Class
USPAC	UST/AGY Pension Asset Class
IGPAC	Investment Grade Corp Pension Asset Class
MBPAC.....	MBS Pension Asset Class
HYPAC	High Yield Pension Asset Class
DSPAC	Diversified Strategies Pension Asset Class
CPAC.....	Cash Pension Asset Class