

# MONTANA

## BOARD OF INVESTMENTS

REGULAR BOARD MEETING  
August 23-24, 2023

### 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 May 24, 2023, 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 May 24, 2023, and June 22, 2023, Committee Meeting Minutes
  3. Executive Director Comments
  4. In-State Loan Requests – **Decisions**
  5. Master Loan Agreement – Adam Gill, Executive Director, MFFA - **Decision**

**BREAK** **11:00 PM**

**Tab 1 CALL TO ORDER – Jack Prothero, Board Chair** **11:15 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 May 24-25, 2023, and June 22, 2023, Meeting Minutes
- E. Administrative Business
  1. Audit Committee Report
  2. Loan Committee Report – **Decisions**
- F. Comments from Pension Board Members
- G. Comments from Board Legislative Liaisons
- H. Introduction of New Staff
  1. Jessilynn Salois, Investment Accountant

**Tab 2 EXECUTIVE DIRECTOR REPORTS – Dan Villa** **11:30 AM**

- A. Member Requests from Prior Meeting
- B. Monthly Snapshot
- C. Budget Status Prior FY
- D. 2024/2025 Draft Work Plan & 2024 Draft Meeting Calendar

**Tab 3 MONTANA LOAN PROGRAM – Doug Hill** **11:45 AM**

- A. Commercial and Residential Portfolios Report

**Tab 4 BOND PROGRAM – Louise Welsh** **12:00 PM**  
A. INTERCAP  
1. Activity Report  
2. Staff Approved Loans Report  
3. Annual Detail Report

**BREAK FOR LUNCH** **12:15 PM**

**Tab 5 TRUST FUNDS INVESTMENT REVIEW** **1:15 PM**

**BREAK** **2:30 PM**

**Tab 6 NON-CORE FIXED INCOME ASSET CLASS REVIEW** **2:45 PM**

**ADJOURN**

## **AGENDA DAY 2**

**RECONVENE AND CALL TO ORDER – Jack Prothero, Board Chair** **9:30 AM**  
A. Roll Call  
B. Notice of Video Recording and Meeting  
C. Public Comment – *Public Comment on issues within Board Jurisdiction*

**Tab 7 RVK** **9:45 AM**

**Tab 8 INVESTMENT UPDATE** **10:15 AM**

**RECAP OF STAFF TO DO LIST AND ADJOURNMENT – Jack Prothero, Board Chair** **12:00 PM**

## **Appendix**

- A. Annual Board Meeting Schedule
- B. 2022/2023 Work Plan
- C. Acronym Index/Terminology List



# MONTANA

## BOARD OF INVESTMENTS

### REGULAR BOARD MEETING MINUTES

May 24-25, 2023

Meeting recordings are posted at: <https://leg.mt.gov/lspd/>  
(timestamps may differ)

#### Call to Order

The Board of Investment's meeting was called to order by Board Chairman Jack Prothero at 1:00 p.m. on Wednesday, May 24, 2023.

#### Attendance

Board Members Present: Jack Prothero, Jeff Meredith, Tim Kober, Mark Barry, Porter Bennett, Daniel Trost, Cindy Younkin, Maggie Peterson

Board Members Absent: None

Legislative Liaisons Present: None

Legislative Liaisons Absent: N/A

Board Staff Present: Brenda Thomas, Dan Villa, Dan Whyte, Dan Zarling, Doug Hill, Eron Krpan, Ethan Hurley, Jason Brent, John Carpenter, John Romasko, Jon Putnam, Julie Feldman, Ian Horwood, Kirsten Haswell, Louise Welsh, Matt Hoffman, Peggy MacEwen, Peggy Saarela, Polly Boutin, Roberta Diaz, Rob Samson, Sam Holman, Savannah Morgan, Sheli Jacoby, Steve Strong, Tammy Lindgren, Thomas Winkler, Tim House, Willie Gross

Interested Parties Present: Kevin Balaod – With Intelligence, Becky Gratsinger – RVK, Jim Voytko - RVK

#### **Tab 1 CALL TO ORDER (00:03)**

##### **A. Notice of Video Recording (00:15)**

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

##### **B. Roll Call (00:29)**

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

##### **C. Public Comment (01:06)**

Chairman Prothero asked for public comment. None was given.

##### **D. Approval of Minutes (01:28)**

April 12, 2023, Regular Board Meeting Minutes

Member Barry motioned to approve. Member Peterson seconded the motion, which passed unanimously.

##### **E. Administrative Business**

###### **1. Audit Committee Report (02:08)**

Committee Chair Barry briefed the Board.

###### **2. Loan Committee Report (05:58)**

Committee Chair Meredith briefed the Board.

### **3. HR Committee Report (06:05)**

Committee Chair Peterson briefed the Board.

Committee Chair Peterson motioned to approve the Exempt Staff Compensation Review as presented to the HR Committee. Member Meredith seconded the motion, which passed unanimously.

#### **F. Comments from Pension Board Members**

Member Peterson briefed the Board. (10:30)

Member Trost was absent.

#### **G. Comments from Board Legislative Liaisons**

No Legislative Liaisons have been appointed at this time.

#### **H. Introduction of New Staff**

Executive Director Villa introduced Willie Gross, Fixed Income Analyst.

### **Tab 2 EXECUTIVE DIRECTOR REPORTS (17:32)**

#### **A. Member Requests from Prior Meeting**

There were no Board member requests from the prior meeting.

#### **B. Monthly Snapshot**

Executive Director Villa briefed the Board.

#### **C. Budget Status FYTD**

Executive Director Villa briefed the Board.

#### **D. State Government Customer Relationships**

Executive Director Villa briefed the Board.

### **Tab 3 INVESTMENT POLICY STATEMENT REVIEW (30:02)**

Jon Putnam briefed the Board and answered questions.

Chairman Prothero asked for a motion to approve the changes to the following policies: 40.200, 40.205, 40.500, 40.600, 40.601, 40.700, 40.800, and 40.900. Member Barry motioned to approve. Member Younkin seconded the motion, which passed unanimously.

### **Tab 4 REAL ASSETS ASSET CLASS REVIEW (46:48)**

Ethan Hurley and Rob Samson briefed the Board and answered questions.

### **Tab 5 MONTANA LOAN PROGRAM (01:43:48)**

#### **A. Commercial and Residential Portfolios Report**

Doug Hill briefed the Board and answered questions.

### **Tab 6 BOND PROGRAM (01:53:13)**

#### **A. INTERCAP**

Louise Welsh briefed the Board and answered questions.

## **ADJOURN**

**May 25, 2023**

**CALL TO ORDER (00:09)**

**A. Roll Call (00:12)**

Roll was taken. All eight Board members were present, including Chair Jack Prothero, Mark Barry, Tim Kober, Jeff Meredith, Maggie Peterson, Cindy Younkin, Dan Trost, and Porter Bennett, forming a quorum.

**B. Notice of Video Recording and Meeting (00:46)**

Chair Prothero advised of audio and visual recording of the meeting.

**C. Public Comment (00:55)**

Chair Prothero asked for public comment on issues within Board Jurisdiction. None was given.

**Tab 7 RVK INVESTMENT UPDATE (01:26)**

Jim Voytko and Becky Gratsinger with RVK briefed the Board and answered questions.

**Tab 8 INVESTMENT UPDATE (01:09:56)**

**CIO Update (01:09:58)**

Jon Putnam briefed the Board.

**Macro Attribution (01:30:42)**

Eron Krpan briefed the Board.

**Non-Core Fixed Income, Domestic Equity, and International Equity (01:34:06)**

Jason Brent briefed the Board.

**Real Estate (01:49:40)**

Ethan Hurley and Rob Samson briefed the Board.

**Real Assets (02:09:45)**

Ethan Hurley and Rob Samson briefed the Board.

**Private Investments (02:14:28)**

Thomas Winkler and Ian Horwood briefed the Board.

**Core Fixed Income (02:37:30)**

John Romasko briefed the Board.

**RECAP OF STAFF TO DO LIST AND ADJOURNMENT (02:41:37)**

Chairman Prothero adjourned the meeting at 12:28 p.m.

**MONTANA BOARD OF INVESTMENTS**

APPROVE: \_\_\_\_\_

Jack Prothero, Chair

ATTEST: \_\_\_\_\_

Dan Villa, Executive Director

DATE: \_\_\_\_\_

# MONTANA

## BOARD OF INVESTMENTS

### SPECIAL BOARD MEETING MINUTES

JUNE 22, 2023

Meeting recordings are posted at: <https://leg.mt.gov/lspd/>  
(timestamps may differ)

#### Call to Order

The Board of Investment's meeting was called to order by Board Chair Jack Prothero at 10:18 a.m. on Wednesday, June 22, 2023.

#### Attendance

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

Board Members Absent: Dan Trost

Legislative Liaisons Present: Senator Jeremy Trebas

Legislative Liaisons Absent: N/A

Board Staff Present: Dan Villa, Dan Whyte, Doug Hill, John Carpenter, John Romasko, Jon Putnam, Jonathan Yen, Julie Feldman, Louise Welsh, Peggy MacEwen, Peggy Saarela, Polly Boutin, Roberta Diaz, Savannah Morgan, Tammy Lindgren, Tim House, Willie Gross

Interested Parties Present: None

#### **Tab 1 CALL TO ORDER (00:03)**

##### **A. Notice of Video Recording (01:15)**

Chair Prothero opened the meeting by welcoming Senator Jeremy Trebas, who will be serving as Legislative Liaison.

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

##### **B. Roll Call (01:22)**

Roll was taken during the Loan Committee prior to the full Board. Seven Board members were present, forming a quorum.

##### **C. Public Comment (01:30)**

Chair Prothero asked for public comment. None was given.

##### **D. Loan Committee Report (01:46)**

Committee Chair Meredith briefed the Board on the Special Loan Committee.

#### **Tab 2 POLICY REVIEW AND ADOPTION - Decisions (02:32)**

##### **A. Investment Policy Statements**

Director of Fixed-Income John Romasko briefed the Board and answered questions.

Chair Prothero called for a motion to approve the Investment Policies as presented, with minor grammatical edits to be included. Member Barry motioned to approve. Member Peterson seconded the motion, which passed unanimously.

**B. Housing Trust Policies**

Executive Director Dan Villa briefed the Board and answered questions.

Chair Prothero asked for a motion to approve the Housing Trust Policies as presented, with minor grammatical edits included. Member Barry motioned to approve. Member Younkin seconded the motion, which passed unanimously.

**ADJOURNMENT** (01:14:27)

Chair Prothero adjourned the meeting at 11:31 a.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:** August 23, 2023  
**Re:** Executive Director Report

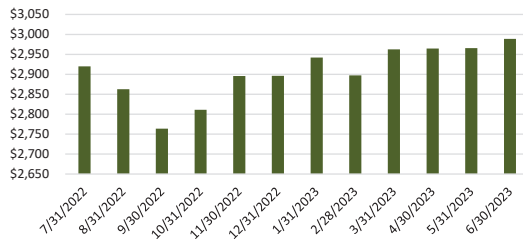
- A. Member Requests from Prior Meeting
- B. Monthly Snapshot – *attached*
- C. Budget Status Prior FY - *attached*
- D. 2024/2025 Draft Work Plan & 2024 Draft Meeting Calendar – *attached*

**MBOI Snapshot**  
**Asset Management View**  
**6/30/2023 Unaudited**  
**Assets Under Management \$27,104,294,109**

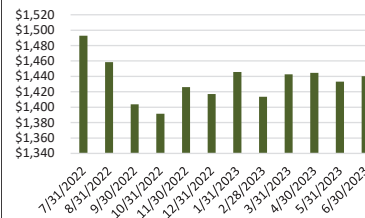


Pensions	NAV	%	TFIP	NAV	%	State Fund	NAV	%	Other Fixed Income & Pending	\$	(95,694,585)
DOMESTIC EQUITY	\$4,011,185,201	28.40%	Fixed Income	\$ 1,965,579,325	65.77%	Fixed Income	\$ 1,072,481,834	74.47%	STIP*		
INTERNATIONAL EQUITY	\$2,086,988,745	14.78%	Real Estate	\$ 734,453,553	24.58%	Equity	\$ 179,867,884	12.49%	ASSET BACKED COMMERCIAL PAPER	\$3,443,410,040	39.82%
PRIVATE INVESTMENTS	\$2,447,683,208	17.33%	Non-Core Fixed Income	\$ 226,997,834	7.60%	Real Estate	\$ 106,652,299	7.41%	CERTIFICATES OF DEPOSITS	\$1,780,871,187	20.60%
CORE FIXED INCOME	\$1,859,722,561	13.17%	STIP	\$ 61,531,497	2.06%	High Yield	\$ 59,166,748	4.11%	CORPORATE COMMERCIAL PAPER	\$1,137,524,577	13.16%
REAL ESTATE	\$1,697,163,019	12.02%				STIP	\$ 21,974,004	1.53%	FEDERAL AGENCIES	\$954,882,595	11.04%
NON-CORE FIXED INCOME	\$908,303,126	6.43%	<b>Total</b>	<b>\$ 2,988,562,210</b>	<b>100.00%</b>	<b>State Fund Total</b>	<b>\$ 1,440,142,770</b>	<b>100.00%</b>	TREASURIES	\$696,272,357	8.05%
REAL ASSETS PAC	\$867,532,256	6.14%						MONEY MARKET FUNDS	\$416,304,463	4.81%	
SHORT TERM INVESTMENT POOL	\$147,274,340	1.04%						CORPORATE NOTES	\$217,232,064	2.51%	
CASH EQUIVALENTS	\$98,933,975	0.70%						<b>STIP Total</b>	<b>\$8,646,497,283</b>	<b>100.00%</b>	
<b>Pensions Total</b>	<b>\$14,124,786,432</b>	<b>100.00%</b>									

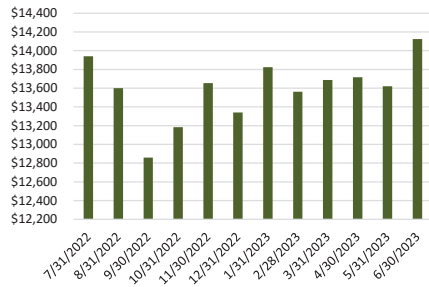
**Trust Funds Investment Pool NAV**  
(millions)



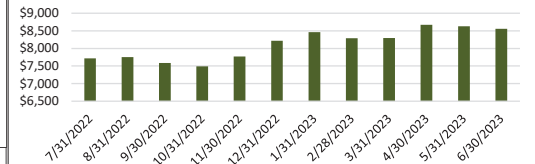
**State Fund Insurance NAV**  
(millions)



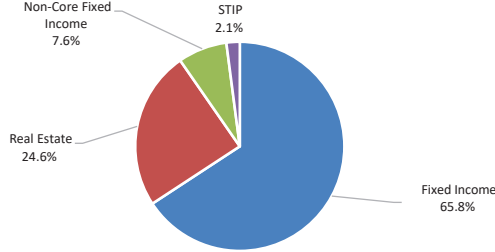
**Pensions NAV**  
(millions)



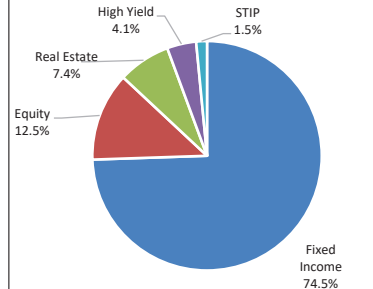
**STIP NAV**  
(millions)



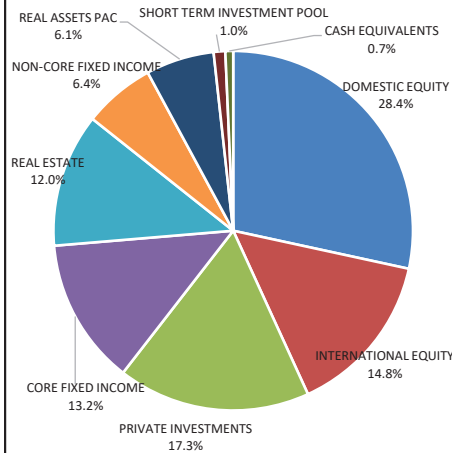
**Trust Funds Investment Pool Asset Allocation**



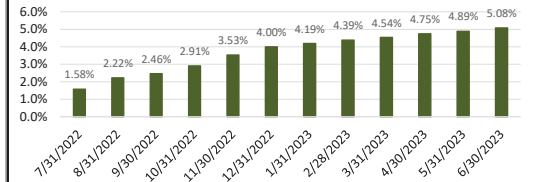
**State Fund Insurance Asset Allocation**



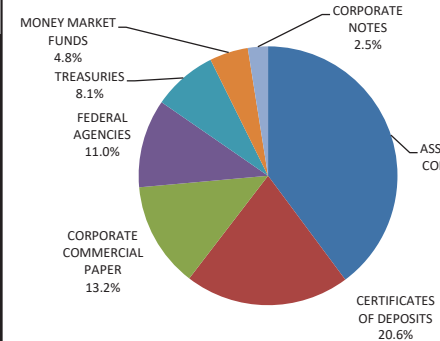
**Pensions Asset Allocation**



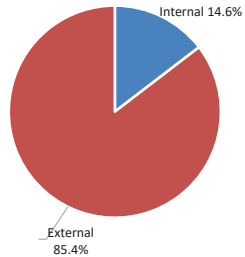
**STIP Average Yield**



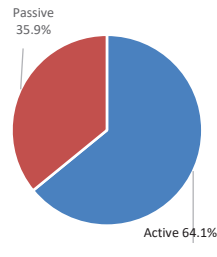
**STIP Sectors**



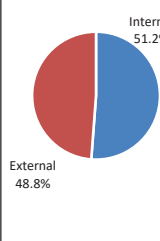
**Pension Internal/External**



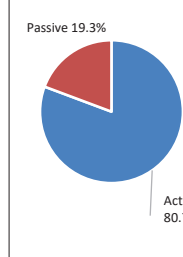
**Pension Active/Passive**



**MBOI Internal/External**



**MBOI Active/Passive**



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 \$246,679,483 is attributable the portion of STIP held within CAPP (\$96,764,845) and TFIP (\$61,286,604) as a cash investment and distributions held over month end (\$88,628,034). Such value is represented in the NAV for the CAPP and STIP columns.

MBOI Snapshot  
Asset Ownership View  
6/30/2023 Unaudited



	CAPP Holdings	CAPP %	STIP Holdings*	STIP %	TFIP Holdings	TFIP%	Other Holdings <sup>1</sup>	Other %	Total Net Asset Value
<b>Total Funds \$(000)</b>	<b>\$13,977,512</b>	<b>51.57%</b>	<b>\$8,399,818</b>	<b>30.99%</b>	<b>\$2,988,562</b>	<b>11.03%</b>	<b>\$1,738,402</b>	<b>6.41%</b>	<b>\$27,104,294</b>

Pensions	CAPP	%	STIP	%	TFIP	%	Other	%	Total
FIREFIGHTERS RETIREMENT	\$ 615,183	98.97%	\$ 6,374	1.03%	\$ -	0.00%	\$ 28	0.00%	\$ 621,585
GAME WARDENS RETIREMENT	\$ 277,708	99.01%	\$ 2,772	0.99%	\$ -	0.00%	\$ 15	0.00%	\$ 280,495
HIGHWAY PATROL RETIREMENT	\$ 184,117	99.00%	\$ 1,845	0.99%	\$ -	0.00%	\$ 9	0.00%	\$ 185,972
JUDGES RETIREMENT	\$ 129,328	99.00%	\$ 1,297	0.99%	\$ -	0.00%	\$ 6	0.00%	\$ 130,631
POLICE OFFICERS RETIREMENT	\$ 559,871	98.96%	\$ 5,842	1.03%	\$ -	0.00%	\$ 25	0.00%	\$ 565,739
PUBLIC EMPLOYEES RETIREMENT	\$ 6,840,498	99.00%	\$ 68,946	1.00%	\$ -	0.00%	\$ 335	0.00%	\$ 6,909,779
SHERIFFS RETIREMENT	\$ 488,680	98.93%	\$ 5,239	1.06%	\$ -	0.00%	\$ 26	0.00%	\$ 493,945
TEACHERS RETIREMENT	\$ 4,835,066	98.88%	\$ 54,499	1.11%	\$ -	0.00%	\$ 267	0.00%	\$ 4,889,832
VOL FIREFIGHTERS RETIREMENT	\$ 47,061	99.03%	\$ 460	0.97%	\$ -	0.00%	\$ 2	0.00%	\$ 47,522
<b>Total</b>	<b>\$ 13,977,512</b>	<b>98.95%</b>	<b>\$ 147,274</b>	<b>1.04%</b>	<b>\$ -</b>	<b>0.00%</b>	<b>\$ 712</b>	<b>0.00%</b>	<b>\$ 14,125,499</b>

Trust Funds	CAPP	%	STIP	%	TFIP	%	Other	%	Total
ABANDONED MINE RECLAMATION	\$ -	0.00%	\$ 6,929	99.58%	\$ -	0.00%	\$ 29	0.42%	\$ 6,958
BARKER HUGHESVILLE ST RESPONSE	\$ -	0.00%	\$ 1,229	13.51%	\$ 7,844	86.20%	\$ 27	0.29%	\$ 9,100
BELT WATER TREATMENT PLANT	\$ -	0.00%	\$ 4,267	15.84%	\$ 22,593	83.86%	\$ 80	0.30%	\$ 26,940
BUTTE AREA ONE REST	\$ -	0.00%	\$ 999	16.36%	\$ 5,090	83.31%	\$ 20	0.33%	\$ 6,109
BUTTE AREA REDEVELOP AUTHORITY	\$ -	0.00%	\$ 1,086	8.37%	\$ 11,846	91.32%	\$ 39	0.30%	\$ 12,971
CLARK FORK REST	\$ -	0.00%	\$ 3,471	13.67%	\$ 21,829	85.99%	\$ 86	0.34%	\$ 25,386
CLARK FORK SITE RESP ACTION	\$ -	0.00%	\$ 3,762	7.21%	\$ 48,271	92.50%	\$ 152	0.29%	\$ 52,184
COAL TAX PARK TRUST FUND	\$ -	0.00%	\$ 1,778	5.84%	\$ 28,583	93.88%	\$ 86	0.28%	\$ 30,448
CULTURAL TRUST FUND	\$ -	0.00%	\$ 707	4.31%	\$ 15,634	95.41%	\$ 46	0.28%	\$ 16,386
E HELENA GREENWAY TRAIL MAINT	\$ -	0.00%	\$ 263	27.38%	\$ 695	72.29%	\$ 3	0.33%	\$ 961
EAST HELENA COMPENSATION FUND	\$ -	0.00%	\$ 1,428	63.05%	\$ 822	36.29%	\$ 15	0.66%	\$ 2,264
ENDOWMENT FOR CHILDREN	\$ -	0.00%	\$ 99	7.04%	\$ 1,309	92.68%	\$ 4	0.29%	\$ 1,413
FLYING J CECRA FACILITIES FUND	\$ -	0.00%	\$ 366	13.85%	\$ 2,267	85.86%	\$ 8	0.29%	\$ 2,641
FWP MITIGATION TRUST	\$ -	0.00%	\$ 3,133	29.58%	\$ 6,965	65.76%	\$ 494	4.66%	\$ 10,592
HAROLD HAMM ENDOWMENT	\$ -	0.00%	\$ 6	12.36%	\$ 44	87.35%	\$ 0	0.29%	\$ 50
INVASIVE SPECIES TRUST FUND	\$ -	0.00%	\$ -	0.00%	\$ 2,933	99.67%	\$ 10	0.33%	\$ 2,943
LIBBY ASBESTOS SITE STATE COST	\$ -	0.00%	\$ 828	16.66%	\$ 4,128	83.04%	\$ 15	0.30%	\$ 4,972
LUTTRELL PIT - OPER & MAINT	\$ -	0.00%	\$ 312	15.29%	\$ 1,725	84.41%	\$ 6	0.30%	\$ 2,044
MONTANA HISTORICAL SOCIETY	\$ -	0.00%	\$ 865	21.18%	\$ 3,208	78.52%	\$ 12	0.31%	\$ 4,086
MT POLE SUPERFUND SETTLEMENT	\$ -	0.00%	\$ 3,984	20.43%	\$ 15,453	79.26%	\$ 60	0.31%	\$ 19,496
NOXIOUS WEED MGMT TRUST FUND	\$ -	0.00%	\$ -	0.00%	\$ 10,437	99.72%	\$ 29	0.28%	\$ 10,465
OLDER MONTANANS TRUST FUND	\$ -	0.00%	\$ 15	4.55%	\$ 305	95.17%	\$ 1	0.28%	\$ 320
POTTER TRUST FUND	\$ -	0.00%	\$ 30	12.14%	\$ 218	87.56%	\$ 1	0.29%	\$ 249
PUBLIC SCHOOL TRUST	\$ -	0.00%	\$ -	0.00%	\$ 876,520	99.72%	\$ 2,454	0.28%	\$ 878,974
REAL PROPERTY TRUST FUND	\$ -	0.00%	\$ 540	7.36%	\$ 6,780	92.36%	\$ 21	0.28%	\$ 7,341
RESOURCE INDEMNITY TRUST FUND	\$ -	0.00%	\$ 23	0.02%	\$ 107,132	99.70%	\$ 296	0.28%	\$ 107,451
SMEALTER HILL UPLANDS REST FUND	\$ -	0.00%	\$ 1,261	14.61%	\$ 7,341	85.07%	\$ 27	0.31%	\$ 8,630
STREAMSIDE TAILINGS OU FUND	\$ -	0.00%	\$ 2,007	12.01%	\$ 14,662	87.70%	\$ 49	0.30%	\$ 16,719
TOBACCO TRUST FUND	\$ -	0.00%	\$ 6,200	2.07%	\$ 292,936	97.65%	\$ 835	0.28%	\$ 299,972
UPPER BLACKFT RESP ACT & REST	\$ -	0.00%	\$ 977	91.62%	\$ 85	7.97%	\$ 4	0.40%	\$ 1,066
UPPER CLRK FK RIVER BASIN RES	\$ -	0.00%	\$ 536	2.46%	\$ 21,210	97.26%	\$ 61	0.28%	\$ 21,807
UPPER CLRK FK RIVER BASIN REST	\$ -	0.00%	\$ 1,646	2.40%	\$ 66,714	97.30%	\$ 204	0.30%	\$ 68,563
WILDLIFE HABITAT TRUST FUND	\$ -	0.00%	\$ 1,061	6.57%	\$ 15,028	93.14%	\$ 46	0.28%	\$ 16,134
YELLOWSTONE PIPELINE CLEANUPFD	\$ -	0.00%	\$ 1,815	30.43%	\$ 4,128	69.21%	\$ 21	0.35%	\$ 5,965
ZORTMAN/LANDUSKY LT WATER	\$ -	0.00%	\$ 16,208	99.58%	\$ -	0.00%	\$ 68	0.42%	\$ 16,276
ZORTMANLANDUSKY LT WATER TRUST	\$ -	0.00%	\$ 21,080	99.58%	\$ -	0.00%	\$ 88	0.42%	\$ 21,168
<b>Total</b>	<b>\$ -</b>	<b>0.00%</b>	<b>\$ 88,912</b>	<b>5.17%</b>	<b>\$ 1,624,736</b>	<b>94.51%</b>	<b>\$ 5,396</b>	<b>0.31%</b>	<b>\$ 1,719,045</b>

Coal Severance	CAPP	%	STIP	%	TFIP	%	Other	%	Total
BIG SKY ECONOMIC DEV FUND	\$ -	0.00%	\$ 2,837	2.06%	\$ 134,562	97.66%	\$ 384	0.28%	\$ 137,783
COAL SEVERANCE TAX PERM FUND	\$ -	0.00%	\$ 14,925	2.68%	\$ 355,475	63.88%	\$ 186,109	33.44%	\$ 556,508
MONTANA COAL ENDOWMENT FUND	\$ -	0.00%	\$ 3,069	1.12%	\$ 270,902	98.61%	\$ 762	0.28%	\$ 274,733
SCHOOL FACILITIES FUND	\$ -	0.00%	\$ 5,735	4.68%	\$ 116,375	95.03%	\$ 346	0.28%	\$ 122,456
MT COAL ENDOWMENT REGIONAL WAT	\$ -	0.00%	\$ 1,192	1.25%	\$ 93,761	98.47%	\$ 264	0.28%	\$ 95,217
<b>Total</b>	<b>\$ -</b>	<b>0.00%</b>	<b>\$ 27,759</b>	<b>2.34%</b>	<b>\$ 971,074</b>	<b>81.83%</b>	<b>\$ 187,864</b>	<b>15.83%</b>	<b>\$ 1,186,697</b>

Operating Funds	CAPP	%	STIP	%	TFIP	%	Other	%	Total
FWP GENERAL LICENSE ACCOUNT	\$ -	0.00%	\$ 42,128	55.71%	\$ 30,184	39.92%	\$ 3,303	4.37%	\$ 75,615
MONTANA LOCAL GOVERNMENTS	\$ -	0.00%	\$ 1,831,355	99.56%	\$ -	0.00%	\$ 8,055	0.44%	\$ 1,839,410
MONTANA STATE AGENCIES	\$ -	0.00%	\$ 1,588,970	99.54%	\$ -	0.00%	\$ 7,330	0.46%	\$ 1,596,299
MONTANA STATE UNIVERSITY	\$ -	0.00%	\$ 51,442	46.69%	\$ 57,760	52.42%	\$ 978	0.89%	\$ 110,180
MONTANA TECH	\$ -	0.00%	\$ 8,146	94.32%	\$ 455	5.27%	\$ 35	0.41%	\$ 8,636
STATE TREASURER'S FUND	\$ -	0.00%	\$ 4,348,439	93.41%	\$ 218,163	4.69%	\$ 88,559	1.90%	\$ 4,655,161
UNIVERSITY OF MONTANA	\$ -	0.00%	\$ 51,415	59.85%	\$ 29,403	34.23%	\$ 5,082	5.92%	\$ 85,901
<b>Total</b>	<b>\$ -</b>	<b>0.00%</b>	<b>\$ 7,921,895</b>	<b>94.63%</b>	<b>\$ 335,966</b>	<b>4.01%</b>	<b>\$ 113,342</b>	<b>1.35%</b>	<b>\$ 8,371,203</b>

Insurance Reserves	CAPP	%	STIP	%	TFIP	%	Other	%	Total
HAIL INSURANCE INVESTMENTS	\$ -	0.00%	\$ 2,673	47.15%	\$ 2,969	52.37%	\$ 27	0.48%	\$ 5,668
MONTANA STATE FUND	\$ -	0.00%	\$ 21,883	1.52%	\$ -	0.00%	\$ 1,418,260	98.48%	\$ 1,440,143
MUS GROUP INSURANCE	\$ -	0.00%	\$ 87,429	85.43%	\$ 12,764	12.47%	\$ 2,148	2.10%	\$ 102,341
MUS WORKERS COMPENSATION	\$ -	0.00%	\$ 9,939	71.04%	\$ 3,997	28.57%	\$ 54	0.38%	\$ 13,990
PERS-DCRP LT DISABILITY PLAN	\$ -	0.00%	\$ 700	8.17%	\$ -	0.00%	\$ 7,863	91.83%	\$ 8,563
STATE EMPLOYEE GROUP BENEFITS	\$ -	0.00%	\$ 90,515	69.47%	\$ 37,056	28.44%	\$ 2,732	2.10%	\$ 130,303
SUBSEQUENT INJURY TRUST FUND	\$ -	0.00%	\$ 839	99.56%	\$ -	0.00%	\$ 4	0.44%	\$ 842
<b>Total</b>	<b>\$ -</b>	<b>0.00%</b>	<b>\$ 213,978</b>	<b>12.57%</b>	<b>\$ 56,786</b>	<b>3.34%</b>	<b>\$ 1,431,087</b>	<b>84.09%</b>	<b>\$ 1,701,851</b>

Short Term Investment Pool			
Account	# Accounts	Total Market Value	%
Total State	346	6,701,257,835	79.0%
Total Local	185	1,783,132,283	21.0%
<b>Total STIP</b>	<b>531</b>	<b>\$ 8,484,390,117</b>	<b>100.0%</b>
STIP Reserve		\$ 68,634,343	
Prior month average STIP Yield			5.0792%

Intercomp Statistics	
Loans Outstanding	\$ 68,694,101
Bonds Outstanding	\$ 68,706,869
Number of Borrowers	133
Loan Rate	5.75%

# MONTANA

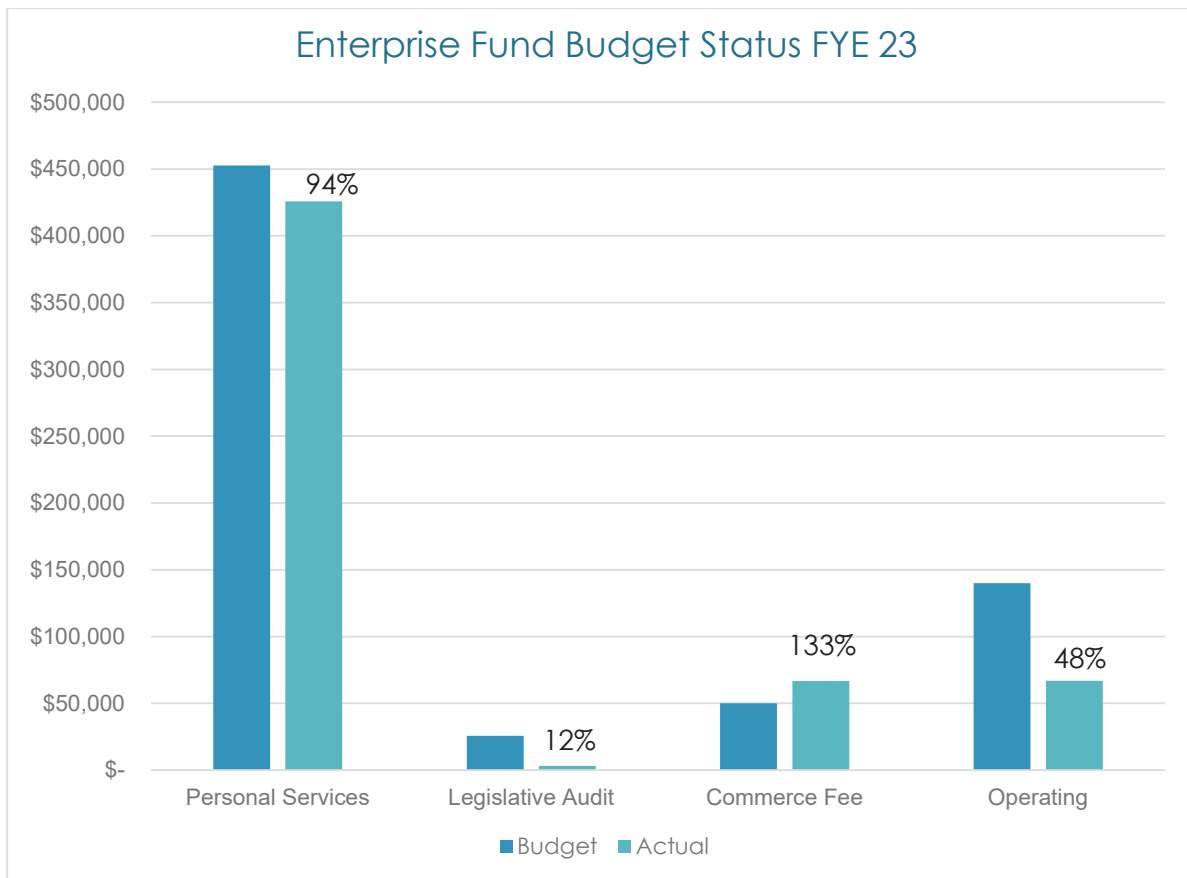
## BOARD OF INVESTMENTS

**TO:** Dan Villa, Executive Director  
**FROM:** Peggy MacEwen, Deputy Director  
**DATE:** July 27, 2023  
**RE:** Budget Status Report, Fiscal Year End

The Fiscal Year End (FYE) budget status report for the Enterprise and Proprietary Funds are below. Both reports include actual FYE information from SABHRS and the percentage of the budget spent.

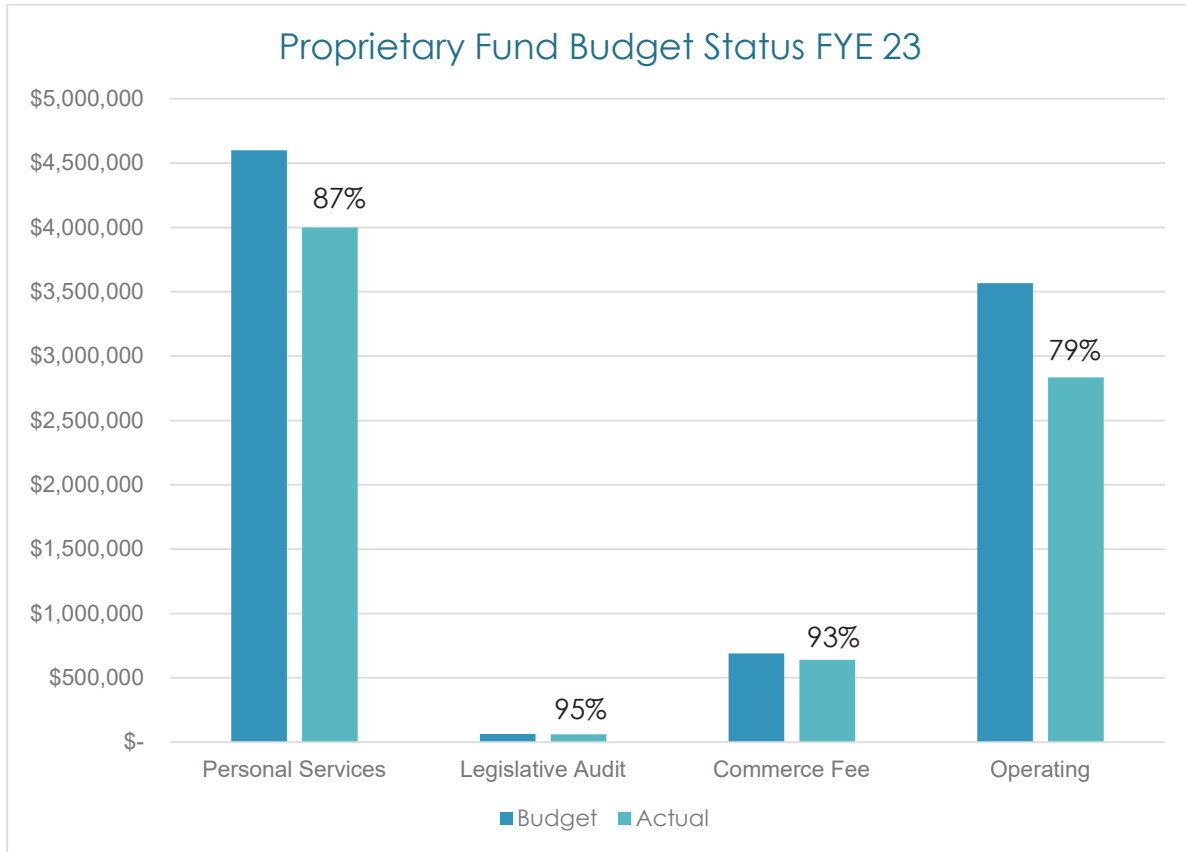
### Enterprise Fund

The Enterprise Fund spent 96% of the budget.



### Proprietary Fund

The Proprietary Fund spent 98% of the budget.



BOI issued \$1,550,000 in dividends to manage the 60-day statutory working capital balance.

## BOI WORK AND EDUCATION PLAN

2024	2025 (dates TBD)
February 28-29	February
<p><b>Education:</b> Outreach Efforts for the Board - In-State Loan and INTERCAP Programs Short Term Investment Pool</p> <p><b>Reports:</b> Ethics Policy Disaster Recovery and Emergency Preparedness Quarterly Reports In-State Loan Reports INTERCAP Reports</p> <p><b>Committee Meetings:</b> Audit: Financial Audit Report</p>	<p><b>Education:</b> Cash Management of State Monies Custodial Banking Relationship and Continuity</p> <p><b>Reports:</b> Ethics Policy Disaster Recovery and Emergency Preparedness Quarterly Reports In-State Loan Reports INTERCAP Reports</p> <p><b>Committee Meetings:</b> Audit: Financial Compliance Audit Report</p>
April 10	April
<p><b>Education:</b> Domestic Equity Asset Class Review RVK Annual Capital Market Assumptions</p> <p><b>Reports:</b> Benchmarks Used by the Board</p>	<p><b>Education:</b> International Equities Asset Class Review RVK Annual Capital Market Assumptions</p> <p><b>Reports:</b> Benchmarks Used by the Board</p>
May 22-23	May
<p><b>Education:</b> MT Buildings (Board as Landlord/Tenant Holdings) Investment Policy Statement Review Real Estate Asset Class Review</p> <p><b>Reports:</b> Budget Status FYTD Quarterly Reports In-State Loan Reports INTERCAP Reports</p> <p><b>Committee Meetings:</b> HR: Staffing Level Review HR: Exempt Staff Compensation Review</p>	<p><b>Education:</b> State Government Customer Relationships Investment Policy Statement Review Real Assets Asset Class Review</p> <p><b>Reports:</b> Budget Status FYTD Quarterly Reports In-State Loan Reports INTERCAP Reports</p> <p><b>Committee Meetings:</b> HR: Staffing Level Review HR: Exempt Staff Performance and Compensation Review</p>
August 28-29	August
<p><b>Education:</b> Core Fixed Income Asset Class Review Budget Proposal for FY24-25</p> <p><b>Reports:</b> Proxy Voting Budget Status Prior FY Quarterly Reports In-State Loan Reports INTERCAP Reports</p>	<p><b>Education:</b> Trust Funds Investment Review Non-Core Fixed Income Asset Class Review</p> <p><b>Reports:</b> Budget Status Prior FY Quarterly Reports In-State Loan Reports INTERCAP Reports</p>
October 9	October
<p><b>Education:</b> Separate Accounts Investment Review First Reading - Asset Allocation Range Recommendation</p> <p><b>Reports:</b> CEM, Inc Cost Reporting Analysis</p> <p><b>Committee Meetings:</b> HR: Exempt Staff Performance Review Audit: SOC I, Type 2 Report</p>	<p><b>Education:</b> Private Investments Asset Class Review First Reading - Asset Allocation Range Recommendation</p> <p><b>Reports:</b> Securities Lending</p> <p><b>Committee Meetings:</b> HR: Exempt Staff Performance Review Audit: SOC I, Type 2 Report</p>
November 20-21	November
<p><b>Education:</b> 2025 Legislative Session Policy 217 - Reauthorization of Investment Vendors Adoption - Asset Allocation Range Approval</p> <p><b>Reports:</b> Quarterly Reports In-State Loan Reports INTERCAP Reports</p> <p><b>Committee Meetings:</b> Audit: Annual Report and Financial Statements</p>	<p><b>Education:</b> MPERA and TRS Relationship Policy 217 - Reauthorization of Investment Vendors Adoption - Asset Allocation Range Approval</p> <p><b>Reports:</b> Quarterly Reports In-State Loan Reports INTERCAP Reports</p> <p><b>Committee Meetings:</b> Audit: Annual Report and Financial Statements</p>

# 2024 Board of Investments Meetings

## 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
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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
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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](#)





# MONTANA

## BOARD OF INVESTMENTS

**TO:** Members of the Board  
**FROM:** Doug Hill, Director of In-State Loan Programs  
**DATE:** August 23, 2023  
**RE:** Commercial and Residential Loan Portfolios

The Participation Loan Program reflected an outstanding balance, as of June 30, 2023, of \$91,931,922 and represents 42 loans with a yield of 2.56%. There are currently four loan reservations that total \$16,637,421 and seven committed for 16,332,534. There are no past due loans.

The Infrastructure Loan Program reflected an outstanding balance, as of June 30, 2023, of \$9,852,028 and represents 8 loans with a yield of 4.07%. 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 June 30, 2023, of \$5,178,401 and represents 38 loans with a yield of 2.00%. There are two loans committed that total \$487,630. There are no past due loans.

The Science and Tech portfolio reflected an outstanding balance, as of June 30, 2023, of \$7,248,979 and represents 2 loans with a yield of 2.89%. There are no past due loans.

The Montana Facility Finance Authority portfolio reflected an outstanding balance, as of June 30, 2023, of \$10,291,527 and represents 15 loans with a yield of 2.55%. 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 June 30, 2023, of \$49,060,969 and represents 278 loans with a yield of 1.88%. There are two reservations totaling \$538,036. There are two loans over 90 days past due totaling \$289,520, or 0.59% of the portfolio.

The Multifamily Coal Trust Homes Program reflected an outstanding balance, as of June 23, 2023, of \$11,001,752 and represents six loans with a yield of 2.32%. There are two reservations totaling \$3,092,379. There are no past due loans. The allocation for this program increased from \$15 million to \$65 million on July 1, 2023

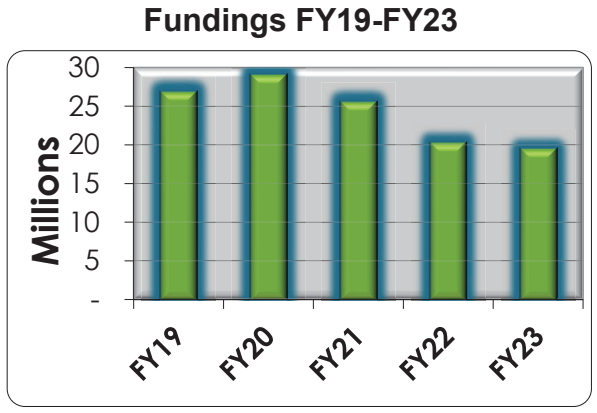
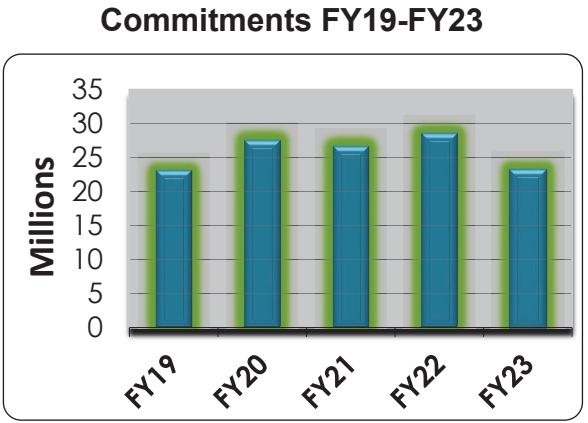
The Residential loan portfolio reflected an outstanding balance, as of June 23, 2023, of \$1,339,871 and represents 39 loans with a yield of 6.31%. There are no outstanding reservations. There are three loans over 90 days past due totaling \$118,309.85 or 8.83% of the portfolio. The loans have FHA guarantees.

The Montana Down Payment Assistance Program reflected an outstanding balance, as of June 30, 2023, of \$27,628,251 and represents 53 loans. There are 43 loans committed that total \$25,120,554.



<b>Bond Series 2022:</b>		<b>Loans:</b>	
Outstanding	68,706,869	Outstanding	68,694,101
Available for Drawdown	51,293,131	Pending Commitments	27,687,935
<b>Total Committed</b>		<b>703,214,835</b>	
<b>Total Funded</b>		<b>675,526,900</b>	

FY2023		
Month	Commitments	Fundings
July-22	800,000	646,447
August	2,938,536	131,707
September	22,085	1,448,082
October	4,260,000	2,190,158
November	190,586	1,749,320
December	570,898	1,486,808
January	500,000	1,462,606
February	2,421,841	1,413,404
March	1,146,290	1,437,572
April	5,997,985	3,209,868
May	2,250,000	1,976,883
June-23	2,349,678	2,446,465
<b>To Date</b>	<b>23,447,899</b>	<b>19,599,319</b>



Note: Commitments include withdrawn and expired loans.

**Variable Loan Rate History February 16, 2015 - February 15, 2023**

February 16, 2016 - February 15, 2017	<b>1.55%</b>	February 16, 2020 - February 15, 2021	<b>2.50%*</b>
February 16, 2017 - February 15, 2018	<b>2.50%</b>	February 16, 2021 - February 15, 2022	<b>1.65%</b>
February 16, 2018 - February 15, 2019	<b>3.15%</b>	February 16, 2022 - February 15, 2023	<b>1.55%**</b>
February 16, 2019 - February 15, 2020	<b>3.37%</b>	February 16, 2023 - February 15, 2024	<b>6.00%***</b>

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

\*\*1.50% for borrowers set up with Autopay.

\*\*\*5.75% for borrowers set up with Autopay.

# MONTANA

BOARD OF INVESTMENTS

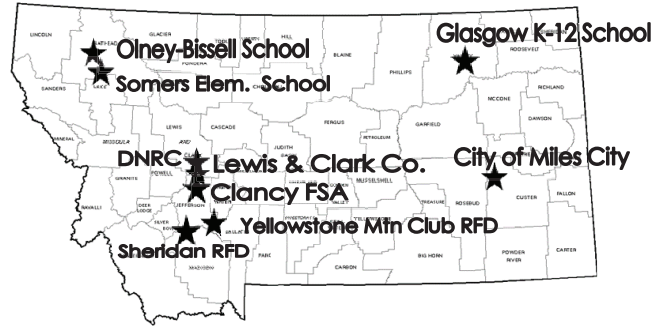
## INTERCAP

**TO:** Members of the Board

**FROM:** Louise Welsh,  
Sr. Bond Program Officer

**DATE:** August 23, 2023

**RE:** INTERCAP Staff Approved Loans Committed – Staff approved the following loans from April 1, 2023, to June 30, 2023.



Borrower:	Lewis and Clark County
Purpose:	Jeanne RID road improvements
Staff Approval Date:	April 6, 2023
Board Loan Amount:	\$47,985
Other Funding Sources:	\$ 0
Total Project Cost:	\$47,985
Term:	15 years

Borrower:	Department of Natural Resources and Conservation (DNRC)
Purpose:	Water Pollution Control State Revolving Fund Bond Anticipation Note
Staff Approval Date:	April 12, 2023
Board Loan Amount:	\$950,000
Other Funding Sources:	\$ 0
Total Project Cost:	\$950,000
Term:	2 years

Borrower:	Somers Elementary School District
Purpose:	Parking lot expansion
Staff Approval Date:	April 21, 2023
Board Loan Amount:	\$300,000
Other Funding Sources:	\$ 25,000
Total Project Cost:	\$325,000
Term:	10 years

Borrower:	Clancy Fire Service Area (FSA)
Purpose:	Purchase a fire truck
Staff Approval Date:	May 3, 2023
Board Loan Amount:	\$450,000
Other Funding Sources:	\$ 50,000
Total Project Cost:	\$500,000
Term:	7 years

Borrower:	Olney-Bissell School District
Purpose:	Building improvements
Staff Approval Date:	May 3, 2023
Board Loan Amount:	\$500,000
Other Funding Sources:	\$ 0
Total Project Cost:	\$500,000
Term:	15 years

Borrower:	DNRC
Purpose:	Coal Severance Tax Bond - Renewable Resource Grant and Loan Program
Staff Approval Date:	May 23, 2023
Board Loan Amount:	\$900,000
Other Funding Sources:	\$ 0
Total Project Cost:	\$900,000
Term:	5 years

Borrower:	Glasgow K-12 School District
Purpose:	Building improvements
Staff Approval Date:	May 26, 2023
Board Loan Amount:	\$400,000
Other Funding Sources:	\$339,040
Total Project Cost:	\$739,040
Term:	10 years

Borrower:	Sheridan Rural Fire District (RFD)
Purpose:	Building a new fire station
Staff Approval Date:	June 1, 2023
Board Loan Amount:	\$325,000
Other Funding Sources:	\$433,000
Total Project Cost:	\$758,000
Term:	15 years

Borrower:	City of Miles City
Purpose:	Airport hangar project
Staff Approval Date:	June 13, 2023
Board Loan Amount:	\$ 330,000
Other Funding Sources:	\$1,655,768
Total Project Cost:	\$1,985,768
Term:	3 years

Borrower:	Yellowstone Mountain Club Rural Fire District (RFD)
Purpose:	Purchase an ambulance
Staff Approval Date:	June 23, 2023
Board Loan Amount:	\$356,000
Other Funding Sources:	\$ 0
Total Project Cost:	\$356,000
Term:	7 years

# MONTANA

## BOARD OF INVESTMENTS

### I N T E R C A P

**TO:** Members of the Board

**FROM:** Louise Welsh, Senior Bond Program Officer

**DATE:** August 23, 2023

**RE:** INTERCAP Loans – Annual Detail Report

Attached is the annual INTERCAP Loan Detail Report as of fiscal year end June 30, 2023 (FY23). The report has three categories: Local Government (sorted by the county in which the borrower is located), State Agency, and University loans.

In addition to the attached report, staff provides for the Board’s information the concentration of \$68,694,101 INTERCAP loans outstanding as of FY23 compared to \$69,203,350 in FY22, as follows:

Borrower Type	FY23		FY22	
	Number of Borrowers	% of Total INTERCAP Loans Outstanding	Number of Borrowers	% of Total INTERCAP Loans Outstanding
City	37	18.63%	42	17.38%
School District	31	18.07%	33	19.59%
County	21	17.08%	21	16.63%
State Agency	4	16.22%	4	15.44%
Fire District/Service Area	27	15.01%	26	12.56%
University	1	10.84%	1	13.01%
Other	7	3.37%	9	4.11%
Community College	1	0.42%	2	0.82%
Solid Waste District	1	0.27%	1	0.35%
Water/Sewer District	3	0.09%	4	0.11%
<b>Total</b>	<b>133</b>	<b>100.00%</b>	<b>143</b>	<b>100.00%</b>

The entities with outstanding balances representing 5% or more of all INTERCAP loans outstanding in FY23 compared to FY22 are as follows:

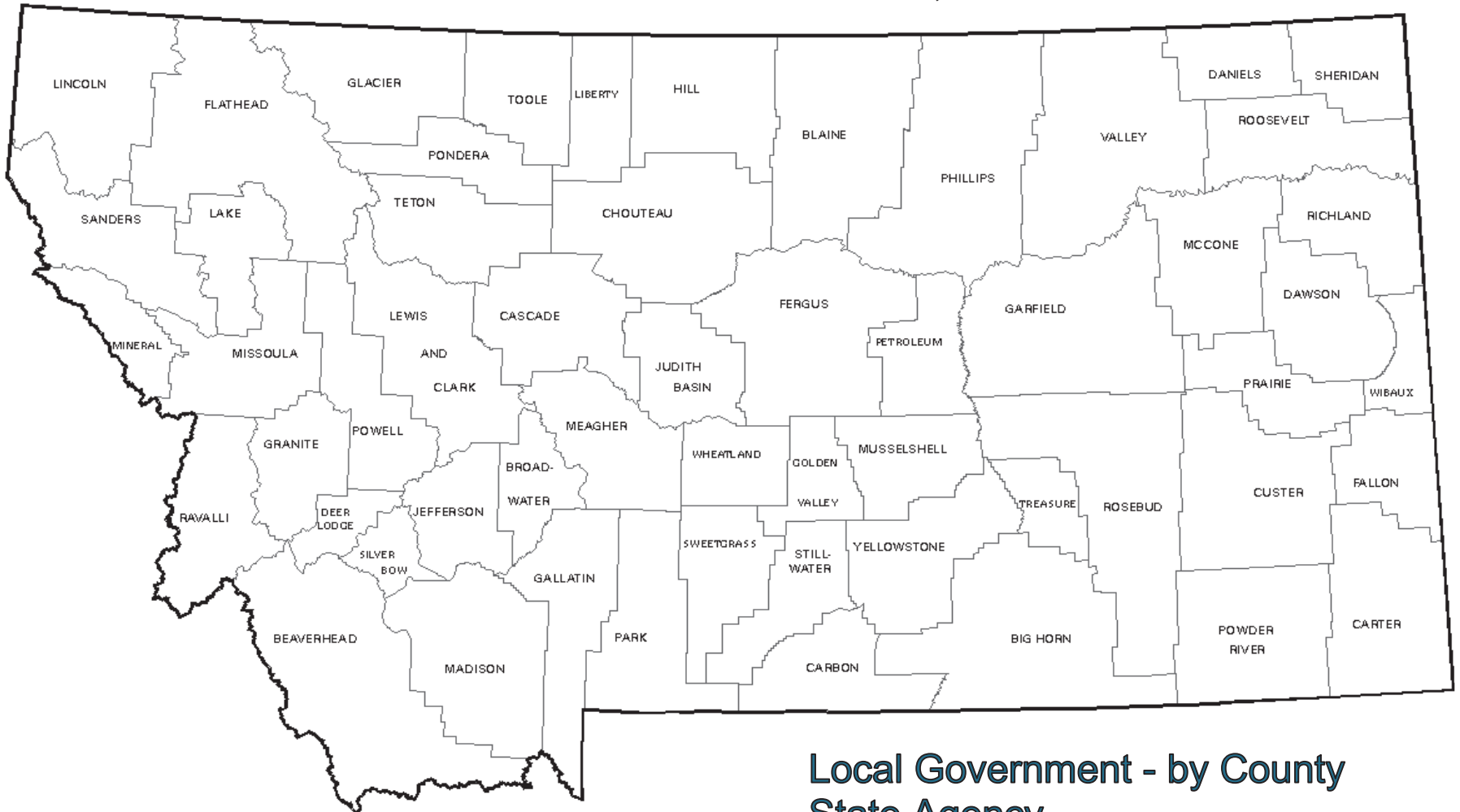
Borrower	FY23		FY22	
	Principal Outstanding	% of Total INTERCAP Loans Outstanding	Principal Outstanding	% of Total INTERCAP Loans Outstanding
Montana State University	\$ 7,443,979	10.84%	\$ 9,005,065	13.01%
Transportation	\$ 6,202,359	9.03%	\$ 5,414,929	7.82%
Corrections	\$ 3,869,659	5.63%	\$ 1,964,326	2.84%



# MONTANA

BOARD OF INVESTMENTS  
I N T E R C A P

## LOAN DETAIL REPORT – JUNE 30, 2023



Local Government - by County  
State Agency  
University

**INTERCAP loans\* - by County**

**As of June 30, 2023**

\*only loans that have remaining commitment and/or outstanding

COUNTY	BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	Fund Date	Drawn	COMMIT REMAINING	OUTSTANDING	MATURITY
BEAVERHEAD	BEAVERHEAD COUNTY	Contract dispute settlement	10	02/17/15	850,000	04/17/15	850,000	-	176,610	02/15/25
BEAVERHEAD	BEAVERHEAD COUNTY H	Facilities construction/improve	5	07/01/19	550,000	06/05/20	550,000	-	283,565	08/15/25
BEAVERHEAD	BEAVERHEAD WATER & S	Upgrade sewer system & cons	15	10/11/22	200,000			200,000	-	
BEAVERHEAD	DILLON	Refi 2009 GO bond-police pen	13	05/24/16	1,319,526	07/15/16	1,319,526	-	449,366	06/15/29
<b>BEAVERHEAD Total</b>					<b>2,919,526</b>		<b>2,719,526</b>	<b>200,000</b>	<b>909,541</b>	
BIG HORN	HARDIN ELEM SCHOOL D	Repair/upgrade Hardin Comm	10	08/18/20	1,000,000	10/29/21	1,000,000	-	901,432	06/15/31
BIG HORN	HARDIN HIGH SCHOOL DI	Repair/Upgrade Hardin Comm	10	08/18/20	500,000	10/29/21	500,000	-	450,494	06/15/31
<b>BIGHORN Total</b>					<b>1,500,000</b>		<b>1,500,000</b>	<b>-</b>	<b>1,351,926</b>	
BLAINE	HARLEM	Preliminary eng. rpt.-water	3	06/20/19	79,795	09/06/19	79,795	-	66,752	08/15/25
<b>BLAINE Total</b>					<b>79,795</b>		<b>79,795</b>	<b>-</b>	<b>66,752</b>	
BROADWATER	BROADWATER COUNTY	Site improve./new waste canis	10	03/11/20	49,700	08/28/20	49,700	-	38,364	08/15/30
<b>BROADWATER Total</b>					<b>49,700</b>		<b>49,700</b>	<b>-</b>	<b>38,364</b>	
CARBON	BRIDGER SCHOOL DISTR	Energy retro/performance cont	15	12/30/13	116,960	01/24/14	116,960	-	41,901	02/15/29
<b>CARBON Total</b>					<b>116,960</b>		<b>116,960</b>	<b>-</b>	<b>41,901</b>	
CASCADE	BELT	Purchase home for Resident S	10	01/15/21	160,000	02/26/21	160,000	-	130,470	02/15/31
CASCADE	CASCADE COUNTY	RID Bob Marshall Place	15	10/08/08	100,931	11/28/08	100,931	-	8,871	02/15/24
CASCADE	CASCADE COUNTY	County courthouse roof repair	10	04/05/17	2,000,000	04/21/17	2,000,000	-	960,777	08/15/27
CASCADE	CASCADE COUNTY	County fairgrounds grandstand	10	05/22/18	2,000,000	12/07/18	2,000,000	-	1,272,987	02/15/29
CASCADE	GREAT FALLS	Stone Meadows Phase 2 stree	15	04/30/15	58,000	07/31/15	58,000	-	22,813	08/15/30
CASCADE	GREAT FALLS	Two new fire pumpers	10	11/06/15	796,859	12/11/15	796,859	-	223,727	02/15/26
CASCADE	ULM FIRE SERVICE AREA	Construct fire station	15	08/31/17	200,000	07/12/19	200,000	-	155,773	08/15/33
<b>CASCADE Total</b>					<b>5,315,790</b>		<b>5,315,790</b>	<b>-</b>	<b>2,775,418</b>	
CHOUTEAU	CHOUTEAU COUNTY	Rehabilitate County bridge.	10	01/19/16	150,155	03/24/17	150,155	-	64,129	02/15/27
CHOUTEAU	FORT BENTON	Pumper truck	15	05/05/09	180,000	07/10/09	180,000	-	18,000	08/15/24
CHOUTEAU	FORT BENTON	Asphalt grinder	10	08/27/15	104,958	10/02/15	104,958	-	27,294	08/15/25
CHOUTEAU	FORT BENTON	Utility tractor & sweeper	5	12/13/21	24,000	05/20/22	24,000	-	21,681	08/15/27
CHOUTEAU	FORT BENTON SCHOOL D	Elem. HVAC and asbestos ab	15	04/08/20	465,604	12/18/20	465,604	-	414,338	02/15/36
<b>CHOUTEAU Total</b>					<b>924,717</b>		<b>924,717</b>	<b>-</b>	<b>545,442</b>	
CUSTER	CUSTER COUNTY	Motor grader	7	11/15/18	200,000	02/08/19	200,000	-	81,622	08/15/25
CUSTER	CUSTER COUNTY	Motor grader	7	01/19/21	200,000	04/23/21	200,000	-	159,071	08/15/28
CUSTER	MILES CITY	SID #211 street improvements	15	08/03/15	59,703	10/02/15	59,703	-	31,172	08/15/30
CUSTER	MILES CITY	Police Building remodel	15	09/02/21	480,000	11/05/21	480,000	-	450,440	08/15/36
CUSTER	MILES CITY	Fire truck	7	12/01/21	321,000	07/08/22	314,227	6,773	292,032	02/15/29
CUSTER	MILES CITY	Airport hangar project	3	06/13/23	330,000			330,000	-	
CUSTER	MILES COMMUNITY COLL	Construct Ag. Advancement C	15	08/18/16	480,000	10/11/16	480,000	-	290,559	08/15/31
<b>CUSTER Total</b>					<b>2,070,703</b>		<b>1,733,930</b>	<b>336,773</b>	<b>1,304,896</b>	

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COUNTY	BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	Fund Date	Drawn	COMMIT REMAINING	OUTSTANDING	MATURITY
DANIELS	FLAXVILLE	Replace water meters	10	06/16/20	17,698	08/14/20	17,698	-	13,685	08/15/30
DANIELS	FLAXVILLE	Repair/upgrade water facility	10	03/14/16	37,035	11/04/16	37,035	-	15,550	02/15/27
<b>DANIELS Total</b>					<b>54,733</b>		<b>54,733</b>	<b>-</b>	<b>29,235</b>	
DAWSON	DAWSON COUNTY	Surface rehabilitaton	15	03/28/23	1,000,000			1,000,000	-	
DAWSON	RICHEY	Sewer line project	15	03/22/16	41,741	10/21/16	41,741	-	25,580	08/15/31
<b>DAWSON Total</b>					<b>1,041,741</b>		<b>41,741</b>	<b>1,000,000</b>	<b>25,580</b>	
DEER LODGE	ANACONDA PUBLIC SCH	Computers and security softwa	5	07/22/19	126,633	08/30/19	126,633	-	40,104	06/15/24
DEER LODGE	ANACONDA-DEER LODGE	Courthouse preservation	15	09/23/00	800,000	07/15/11	800,000	-	206,419	08/15/26
DEER LODGE	ANACONDA-DEER LODGE	Historic street lights District #1	15	04/28/14	999,129	09/26/14	999,129	-	437,979	08/15/29
<b>DEER LODGE Total</b>					<b>1,925,763</b>		<b>1,925,763</b>	<b>-</b>	<b>684,502</b>	
FALLON	BAKER	Excavator	5	05/19/20	66,335	06/19/20	66,335	-	34,092	08/15/25
<b>FALLON Total</b>					<b>66,335</b>		<b>66,335</b>	<b>-</b>	<b>34,092</b>	
FERGUS	FERGUS COUNTY ROY W	Preliminary eng. rpt (PER)-was	6	11/30/20	20,000	03/12/21	20,000	-	13,512	02/15/27
FERGUS	LEWISTOWN	Purchase self-contained breath	10	12/30/20	111,585	02/12/21	111,585	-	91,404	02/15/31
FERGUS	LEWISTOWN	Dispatch system upgrades	10	06/22/23	1,338,678			1,338,678	-	
<b>FERGUS Total</b>					<b>1,470,263</b>		<b>131,585</b>	<b>1,338,678</b>	<b>104,916</b>	
FLATHEAD	BLANKENSHIP RURAL FIRE	Fire Cistern	15	10/21/14	38,976	11/21/14	38,976	-	18,915	02/15/30
FLATHEAD	BLANKENSHIP RURAL FIRE	Type 5 wildfire engine	10	03/06/18	45,000	10/26/18	45,000	-	27,664	08/15/28
FLATHEAD	EVERGREEN RURAL FIRE	Ambulance and engines	5	01/17/23	500,000			500,000	-	
FLATHEAD	FERNDALE RURAL FIRE D	Self-cont. breathing apparatus	10	03/24/23	120,000	05/05/23	113,241	6,759	113,241	08/15/33
FLATHEAD	KALISPELL	Fire pumper	10	10/10/17	467,684	03/16/18	467,684	-	253,897	02/15/28
FLATHEAD	KALISPELL	Woodland Park playground eq	5	11/01/18	97,772	08/23/19	97,772	-	30,996	08/15/24
FLATHEAD	KALISPELL	Ambulance	5	07/13/20	189,438	01/15/21	189,438	-	116,054	02/15/26
FLATHEAD	KALISPELL	Front end loader	5	10/04/21	212,950	11/25/22	212,950	-	212,950	02/15/28
FLATHEAD	KALISPELL	Public works equipment	5	12/27/22	252,000	06/02/23	134,605	117,395	134,605	08/15/28
FLATHEAD	KALISPELL SCHOOL DIST	Lighting energy conservation p	15	03/01/19	229,618	02/14/20	229,618	-	192,387	02/15/35
FLATHEAD	KALISPELL SCHOOL DIST	Lighting energy conservation p	15	03/01/19	526,382	02/14/20	526,382	-	441,032	02/15/35
FLATHEAD	OLNEY-BISSELL SCHOOL	Deferred maintenance projects	10	06/03/19	120,543	08/02/19	120,543	-	38,850	08/15/29
FLATHEAD	OLNEY-BISSELL SCHOOL	Building improvements	15	05/03/23	500,000			500,000	-	
FLATHEAD	PLEASANT VALLEY SCHO	Student transport vehicle	5	01/23/19	12,503	03/22/19	12,503	-	2,624	02/15/24
FLATHEAD	SOMERS ELEMENTARY S	Parking lot expansion	10	04/21/23	300,000			300,000	-	
FLATHEAD	SOMERS RURAL FIRE DIS	Fire station expansion	15	08/15/17	300,000	09/22/17	300,000	-	204,696	08/15/32
FLATHEAD	WAPITI ACRES COUNTY V	Construct 2nd well	15	09/12/14	33,500	05/15/15	33,500	-	16,700	08/15/30
FLATHEAD	WEST VALLEY FIRE DISTR	Construct new fire hall	15	08/05/09	650,000	10/16/09	650,000	-	53,359	08/15/24
FLATHEAD	WEST VALLEY FIRE DISTR	Rosenbauer fire apparatus	10	05/07/15	253,554	05/22/15	253,554	-	53,276	08/15/25
FLATHEAD	WHITEFISH	2014 Type I Fire Pumper	10	02/13/14	485,112	06/20/14	485,112	-	75,046	08/15/24
<b>FLATHEAD Total</b>					<b>5,335,032</b>		<b>3,910,878</b>	<b>1,424,154</b>	<b>1,986,291</b>	
GALLATIN	AMSTERDAM RURAL FIRE	Purchase existing fire station a	15	07/27/22	580,000	12/16/22	580,000	-	400,000	02/15/38

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COUNTY	BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	Fund Date	Drawn	COMMIT REMAINING	OUTSTANDING	MATURITY
GALLATIN	BIG SKY FIRE DISTRICT	Remodel two fire stations	15	02/12/19	1,863,592	04/18/19	1,863,592	-	1,071,181	02/15/34
GALLATIN	BIG SKY SCHOOL DISTRICT	On-campus teacher/staff housing	5	06/19/19	518,127	08/09/19	518,127	-	195,643	08/15/24
GALLATIN	BIG SKY SCHOOL DISTRICT	Bus/Transportation facility	15	11/30/21	1,882,540	03/04/22	1,882,540	-	1,768,408	02/15/37
GALLATIN	BOZEMAN	City street lights upgrade	15	11/21/14	199,231	09/11/15	199,231	-	110,035	08/15/30
GALLATIN	BOZEMAN	Story Mill and Bronken Park improvement	10	04/16/18	314,559	05/24/19	314,559	-	216,147	08/15/29
GALLATIN	BRIDGER CANYON RURAL	Constructing substation	15	02/28/19	350,000	10/04/19	350,000	-	266,782	08/15/34
GALLATIN	CLARKSTON FIRE SERVICE	Brush fire apparatus	7	10/06/20	80,200	12/04/20	80,200	-	58,689	02/15/28
GALLATIN	FORT ELLIS FIRE SERVICE	New fire station	15	06/01/21	3,000,000	05/05/23	598,523	2,401,477	598,523	08/15/38
GALLATIN	LAMOTTE ELEMENTARY SCHOOL	Rehabilitation/improvements project	15	02/23/23	150,000			150,000	-	
GALLATIN	THREE FORKS	Rodeo arena bleacher upgrade	10	07/07/20	310,000	08/07/20	310,000	-	239,512	08/15/30
GALLATIN	THREE FORKS ELEMENTARY	Educational space improvement	7	05/05/22	895,000	06/24/22	895,000	-	836,098	06/15/29
GALLATIN	WEST YELLOWSTONE	Construct Town Hall	13	11/13/12	1,480,866	12/21/12	1,480,866	-	350,086	12/15/25
GALLATIN	WEST YELLOWSTONE K-12	Land purchase for 4-6 plex	10	08/03/22	1,500,000	06/09/23	129,900	1,370,100	129,900	06/15/32
<b>GALLATIN Total</b>					<b>13,124,115</b>		<b>9,202,538</b>	<b>3,921,577</b>	<b>6,241,003</b>	
GOLDEN VALLEY	GOLDEN VALLEY COUNTY	Public safety office building	10	12/15/22	250,000	05/05/23	150,000	100,000	150,000	08/15/33
<b>GOLDEN VALLEY Total</b>					<b>250,000</b>		<b>150,000</b>	<b>100,000</b>	<b>150,000</b>	
GRANITE	DRUMMOND PUBLIC SCHOOL	Purchase bus	7	02/08/22	125,000	02/25/22	125,000	-	107,881	02/15/29
GRANITE	DRUMMOND PUBLIC SCHOOL	Employee housing	15	02/22/23	1,100,000			1,100,000	-	
GRANITE	GRANITE COUNTY	Loan consolidation-veh/equip	5	01/11/22	998,134	03/18/22	998,134	-	803,141	02/15/27
GRANITE	PHILIPSBURG	Wastewater system improvement	15	08/15/16	321,937	10/28/16	321,937	-	199,435	08/15/31
GRANITE	PHILIPSBURG	Preliminary eng. rpt.(PER)-was	6	02/07/18	77,000	04/27/18	77,000	-	23,689	08/15/24
<b>GRANITE Total</b>					<b>2,622,071</b>		<b>1,522,071</b>	<b>1,100,000</b>	<b>1,134,146</b>	
HILL	HILL COUNTY	Five new sheriff vehicles	5	05/04/18	180,012	01/03/20	180,012	-	74,848	02/15/25
HILL	UNIFIED DISPOSAL DISTRICT	New landfill facility	15	10/26/10	900,000	12/10/10	900,000	-	183,537	02/15/26
<b>HILL Total</b>					<b>1,080,012</b>		<b>1,080,012</b>	<b>-</b>	<b>258,385</b>	
JEFFERSON	BOULDER	Reroof City Hall & police vehicle	6	10/06/17	44,000	12/22/17	44,000	-	7,785	02/15/24
JEFFERSON	BULL MOUNTAIN RURAL FIRE	Water tender	5	02/15/18	20,000	05/04/18	20,000	-	2,145	08/15/23
JEFFERSON	BULL MOUNTAIN RURAL FIRE	Fire station improvements	10	06/23/20	26,429	08/14/20	26,429	-	20,888	08/15/30
JEFFERSON	BULL MOUNTAIN RURAL FIRE	Truck refi	7	07/21/20	34,235	08/14/20	34,235	-	22,687	08/15/27
JEFFERSON	CLANCY FIRE SERVICE AREA	Fire truck	7	05/03/23	450,000			450,000	-	
JEFFERSON	JEFFERSON CITY RURAL	New fire engine	10	12/23/20	270,000	01/29/21	270,000	-	238,014	02/15/31
JEFFERSON	JEFFERSON COUNTY	Moonlight Ridge RID #2511 road	15	09/04/09	241,096	12/24/09	241,096	-	24,181	02/15/25
JEFFERSON	JEFFERSON COUNTY	Clerk & Recorder Annex	15	04/30/15	808,475	06/19/15	808,475	-	434,121	08/15/30
JEFFERSON	JEFFERSON COUNTY	County Fairgrounds improvement	15	04/29/16	320,810	09/23/16	320,810	-	201,175	08/15/31
JEFFERSON	JEFFERSON COUNTY	Big Sky Acres RID road improvement	15	10/26/16	135,357	11/23/16	135,357	-	84,941	02/15/32
JEFFERSON	JEFFERSON COUNTY	New roll-off container site	15	04/08/20	687,014	07/10/20	687,014	-	597,928	08/15/35
JEFFERSON	MONTANA CITY RURAL FIRE	Buy land/build station	15	11/05/13	825,000	04/24/15	825,000	-	455,602	08/15/30
JEFFERSON	MONTANA CITY SCHOOL	Septic repair/replace	15	08/23/12	55,168	10/19/12	55,168	-	18,198	06/15/27
<b>JEFFERSON Total</b>					<b>3,917,586</b>		<b>3,467,586</b>	<b>450,000</b>	<b>2,107,665</b>	

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JUDITH BASIN	HOBSON	Repairing municipal pool	15	05/20/14	54,407	06/20/14	54,407	-	24,547	08/15/29
<b>JUDITH BASIN Total</b>					<b>54,407</b>		<b>54,407</b>	<b>-</b>	<b>24,547</b>	
LAKE	MISSION MOUNTAIN COU	Water meters/pits, pump repla	15	09/12/12	95,000	11/09/12	95,000	-	33,288	02/15/28
LAKE	POLSON	New police vehicle	3	02/10/21	177,450	03/26/21	177,450	-	70,441	02/15/24
LAKE	POLSON ELEMENTARY S	Energy retro/performance cont	15	10/22/20	305,900	05/28/21	305,900	-	280,720	08/15/36
LAKE	POLSON HIGH SCHOOL	Energy retro/performance cont	15	10/22/20	204,600	05/28/21	204,600	-	187,772	08/15/36
LAKE	RONAN	Three new police vehicles	6	11/01/18	115,000	03/22/19	115,000	-	33,064	08/15/24
LAKE	RONAN	Front end loader	10	11/26/19	127,000	01/17/20	127,000	-	92,876	02/15/30
LAKE	RONAN	Front end loader attachments	7	11/26/19	100,781	01/17/20	100,781	-	60,160	02/15/27
LAKE	RONAN	Vac Combo truck	7	05/06/21	159,824	06/04/21	159,824	-	127,117	08/15/28
LAKE	ST IGNATIUS SCHOOL DIS	Deferred maintenance projects	15	11/13/18	1,157,973	04/05/19	1,157,973	-	935,209	02/15/34
<b>LAKE Total</b>					<b>2,443,528</b>		<b>2,443,528</b>	<b>-</b>	<b>1,820,647</b>	
LEWIS AND CLARK	AUGUSTA HIGH SCHOOL	Construct bus barn	15	08/04/17	135,000	10/20/17	135,000	-	95,526	02/15/33
LEWIS AND CLARK	BAXENDALE FIRE DIST	New Remini fire station	15	10/04/18	200,000	01/18/19	200,000	-	155,656	02/15/34
LEWIS AND CLARK	HELENA	Municipal golf course irrigation	15	09/20/13	433,099	12/05/14	433,099	-	210,885	02/15/30
LEWIS AND CLARK	HELENA	Downtown parking meters, kios	10	07/08/19	560,243	11/01/19	560,243	-	411,341	02/15/30
LEWIS AND CLARK	HELENA	New fire truck	10	04/05/21	810,000	06/18/21	810,000	-	694,714	08/15/31
LEWIS AND CLARK	HELENA ELEMENTARY SC	Broadwater Elementary roof re	6	03/06/18	757,799	01/25/19	757,799	-	159,605	02/15/24
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Big Sky Subdivision RID road	15	02/28/13	167,896	12/06/13	167,896	-	10,367	02/15/29
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Settler's Cove RID road Impro	15	01/29/14	105,507	12/12/14	105,507	-	26,287	02/15/30
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Search & Rescue Building	8	03/17/14	730,000	05/01/15	730,000	-	47,813	08/15/23
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Lake Home Condo RID road in	15	08/27/14	14,000	12/12/14	14,000	-	1,715	02/15/30
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Hillview RID #2015-3 road imp	10	07/28/15	76,125	02/17/17	76,125	-	8,079	02/15/27
LEWIS AND CLARK	LEWIS & CLARK COUNTY	City-County building HVAC	10	04/09/18	750,000	06/12/20	750,000	-	579,180	08/15/30
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Camelot RID road improveme	10	04/23/18	12,901	04/12/19	12,901	-	750	02/15/29
LEWIS AND CLARK	LEWIS & CLARK COUNTY	South Forestvale RID road imp	10	09/02/18	133,642	01/15/21	133,642	-	57,405	02/15/31
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Lake Home Road RID improve	10	10/22/20	22,244	04/15/22	22,244	-	12,615	02/15/32
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Countryside Road RID	15	03/09/22	79,279			79,279	-	
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Law and Justice Center buildin	10	03/11/21	650,000	06/18/21	308,543	341,457	264,558	08/15/31
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Wild Wind Road & Half Fast D	15	07/09/21	16,122	08/12/22	16,122	-	13,105	08/15/36
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Lincoln RID road improvement	7	05/17/22	74,969	04/14/23	74,969	-	74,969	02/15/30
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Lambkins RID road improveme	7	05/17/22	40,325	04/14/23	40,325	-	40,325	02/15/30
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Augusta RID road improveme	7	05/20/22	28,081	04/21/23	28,081	-	28,081	02/15/30
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Long Gulch RID road improv	7	09/01/22	22,085			22,085	-	
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Hahn RID road improvements	15	03/23/23	26,290			26,290	-	
LEWIS AND CLARK	LEWIS & CLARK COUNTY	Jeanne RID road improvement	15	04/06/23	47,985			47,985	-	
LEWIS AND CLARK	LEWIS & CLARK LIBRARY	Remodel facility	10	11/19/19	2,000,000	02/07/20	2,000,000	-	1,020,324	02/15/30
<b>LEWIS AND CLARK Total</b>					<b>7,893,591</b>		<b>7,376,495</b>	<b>517,096</b>	<b>3,913,302</b>	

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LINCOLN	FISHER RIVER VALLEY FIRE	Fire Truck	10	11/12/21	327,946	12/10/21	327,946	-	297,522	02/15/32
LINCOLN	MCCORMICK RURAL FIRE	Fire station improvements	15	10/13/16	4,842	01/13/17	4,842	-	3,038	02/15/32
<b>LINCOLN Total</b>					<b>332,788</b>		<b>332,788</b>	<b>-</b>	<b>300,560</b>	
MADISON	MADISON COUNTY	Road repairs and maintenance	7	10/13/20	1,500,000	10/07/22	1,267,064	232,936	1,185,705	08/15/29
MADISON	SHERIDAN RURAL FIRE DEPT	Build new fire station	15	06/01/23	325,000			325,000	-	
MADISON	TWIN BRIDGES	Town shop	10	08/06/18	190,000	11/02/19	190,000	-	135,790	08/15/29
MADISON	TWIN BRIDGES	Fire Truck	7	03/28/22	33,757	05/27/22	33,757	-	31,463	08/15/29
MADISON	YELLOWSTONE MOUNTAIN	New & used emergency apparatus	7	02/22/23	1,171,841	03/03/23	1,147,368	24,473	1,147,368	02/15/30
MADISON	YELLOWSTONE MOUNTAIN	Ambulance	7	06/23/23	356,000			356,000	-	
<b>MADISON Total</b>					<b>3,576,598</b>		<b>2,638,189</b>	<b>938,409</b>	<b>2,500,326</b>	
MCCONE	MCCONE COUNTY	Repair Public Library foundation	10	12/10/14	69,050	01/16/15	69,050	-	14,304	02/15/25
MCCONE	MCCONE COUNTY	Sheriff vehicle and radio	5	12/12/19	62,374	04/24/20	62,374	-	32,158	08/15/25
MCCONE	MCCONE COUNTY	Backhoe/loader with attachment	5	02/21/20	77,900	03/20/20	77,900	-	32,131	02/15/25
MCCONE	MCCONE COUNTY	Two road graders	7	03/02/22	705,700	01/27/23	705,700	-	705,700	02/15/30
<b>MCCONE Total</b>					<b>915,024</b>		<b>915,024</b>	<b>-</b>	<b>784,293</b>	
MEAGHER	MEAGHER COUNTY	Construct Ambulance Building	15	02/04/15	120,000	07/02/15	65,099	-	63,884	08/15/30
<b>MEAGHER Total</b>					<b>120,000</b>		<b>65,099</b>	<b>-</b>	<b>63,884</b>	
MISSOULA	BONNER ELEMENTARY SCHOOL	Expand cafeteria/improve office	15	08/12/15	346,000	10/30/15	346,000	-	190,024	06/15/30
MISSOULA	MISSOULA COUNTY	Historical building refit	10	04/27/09	432,500	05/15/09	432,500	-	49,692	08/15/24
MISSOULA	MISSOULA COUNTY	Williams Addtn RID -sewer imp	15	11/04/09	73,000	05/07/10	73,000	-	12,250	08/15/25
MISSOULA	MISSOULA COUNTY	Seeley-Swan Search & Rescue	15	11/10/14	200,000	06/05/15	200,000	-	107,093	08/15/30
MISSOULA	MISSOULA COUNTY	Replace 911 equipment	7	04/23/15	367,234	05/06/16	367,234	-	27,574	08/15/23
MISSOULA	MISSOULA COUNTY	Carlton Cemetery sprinkler sys	10	10/14/15	26,252	12/30/15	26,252	-	8,176	02/15/26
MISSOULA	MISSOULA COUNTY	County Fairgrounds improvement	10	03/14/16	823,604	06/09/17	823,604	-	396,074	08/15/27
MISSOULA	MISSOULA COUNTY	Lewis&Clark RSID 8918 waste	15	10/27/16	10,705	11/17/17	10,705	-	7,145	02/15/33
MISSOULA	MISSOULA COUNTY	Public Safety radio tower/micro	15	04/24/18	425,158	06/15/18	425,158	-	317,863	08/15/33
MISSOULA	MISSOULA COUNTY HIGH	Seeley Swan HS vehicle	7	12/14/20	25,000	02/05/21	25,000	-	18,277	02/15/28
MISSOULA	MISSOULA RURAL FIRE DEPT	Type-1 & type-3 fire engines	10	05/20/22	678,065	06/23/23	678,065	-	678,065	08/15/33
MISSOULA	SEELEY LAKE RURAL FIRE DEPT	Truck/equip. building	15	07/28/09	325,000	08/28/09	325,000	-	26,343	08/15/24
MISSOULA	SEELEY-SWAN HOSPITAL	Seeley-Swan Medical Center e	15	07/17/14	551,390	09/19/14	551,390	-	255,190	08/15/29
<b>MISSOULA Total</b>					<b>4,283,909</b>		<b>4,283,909</b>	<b>-</b>	<b>2,093,766</b>	
MUSSELSHELL	ROUNDUP	UV Disinfection-Sewer Lagoon	10	04/27/12	239,924	07/20/12	239,924	-	73,006	08/15/27
<b>MUSSELSHELL Total</b>					<b>239,924</b>		<b>239,924</b>	<b>-</b>	<b>73,006</b>	
PARK	LIVINGSTON	Police and dispatch center ren	10	01/09/17	75,000	04/13/17	75,000	-	31,913	02/15/27
PARK	LIVINGSTON	New street sweeper & repair e	5	11/21/18	239,269	01/11/19	239,269	-	50,955	02/15/24
PARK	LIVINGSTON	Loader/motor grader	10	12/28/21	300,000	02/11/22	300,000	-	272,168	02/15/32
PARK	PARK COUNTY	Search & Rescue ops bldg	15	10/03/12	880,000	03/01/13	880,000	-	325,214	02/15/28

**INTERCAP loans\* - by County**

**As of June 30, 2023**

\*only loans that have remaining commitment and/or outstanding

COUNTY	BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	Fund Date	Drawn	COMMIT REMAINING	OUTSTANDING	MATURITY
PARK	PARK COUNTY	Dispatch Ctr proj./motor grade	7	05/25/17	357,500	06/23/17	357,500	-	82,754	08/15/24
PARK	PARK COUNTY	Convict Grade Bridge repairs	15	08/08/19	551,362	08/30/19	551,362	-	445,477	08/15/34
PARK	PARK COUNTY	Grader & City/County remodel	7	04/27/20	405,914	06/05/20	405,914	-	269,000	08/15/27
PARK	PARK COUNTY RURAL FIRE	Fire station building improvem	15	09/26/12	200,000	04/12/13	200,000	-	69,678	02/15/28
PARK	PARK COUNTY RURAL FIRE	Adjacent land purchase	15	08/08/14	118,900	08/29/14	118,900	-	53,669	08/15/29
PARK	PARK COUNTY RURAL FIRE	Used structure engine	7	03/13/19	100,000	04/26/19	100,000	-	38,733	02/15/26
PARK	SHIELDS VALLEY ELEMEN	Purchase school bus	8	08/10/17	42,920	08/31/18	42,920	-	20,041	06/15/26
PARK	SHIELDS VALLEY ELEMEN	Teacher housing	15	04/13/21	59,077	05/21/21	59,077	-	53,807	06/15/36
PARK	SHIELDS VALLEY HIGH SC	Purchase school bus	8	08/10/17	64,380	08/31/18	64,380	-	30,061	06/15/26
PARK	SHIELDS VALLEY HIGH SC	Teacher housing	15	04/13/21	88,615	05/21/21	88,615	-	80,710	06/15/36
<b>PARK Total</b>					<b>3,482,937</b>		<b>3,482,937</b>	<b>-</b>	<b>1,824,179</b>	
PETROLEUM	PETROLEUM COUNTY	Two motor graders	7	03/17/17	120,000	04/28/17	120,000	-	27,509	08/15/24
PETROLEUM	WINNETT SCHOOL DISTR	Bus	7	12/28/21	57,087	06/02/23	57,087	-	57,087	06/15/30
PETROLEUM	WINNETT SCHOOL DISTR	Vehicle	7	05/23/22	33,420	08/19/22	33,420	-	27,950	06/15/25
<b>PETROLEUM Total</b>					<b>210,507</b>		<b>210,507</b>	<b>-</b>	<b>112,546</b>	
PHILLIPS	MALTA	Additional 1.84 acre landfill ce	15	04/11/17	346,796	07/21/17	346,796	-	223,180	08/15/32
PHILLIPS	MALTA	Garbage Truck	7	09/05/18	221,081	02/21/20	221,081	-	132,434	02/15/27
PHILLIPS	MALTA SCHOOL DISTRICT	Bus/Transportation facility	15	06/15/22	730,000	10/28/22	730,000	-	730,000	06/15/37
PHILLIPS	SACO PUBLIC SCHOOLS	Roof repair and maintenance	15	04/17/20	248,723	09/18/20	248,723	-	212,839	08/15/35
<b>PHILLIPS Total</b>					<b>1,546,600</b>		<b>1,546,600</b>	<b>-</b>	<b>1,298,454</b>	
PONDERA	CONRAD	Construct Splash Park	10	08/03/21	416,340			416,340	-	
PONDERA	PONDERA COUNTY	Senior Center Remodel Project	15	07/13/11	113,841	08/12/11	113,841	-	30,287	08/15/26
PONDERA	PONDERA COUNTY	Courthouse/jail HVAC upgrade	15	01/09/17	359,000	04/13/17	359,000	-	238,025	02/15/32
PONDERA	VALIER	Motor grader	7	12/01/16	40,000	04/13/17	40,000	-	5,968	02/15/24
<b>PONDERA Total</b>					<b>929,181</b>		<b>512,841</b>	<b>416,340</b>	<b>274,280</b>	
POWELL	AVON RURAL FIRE DISTR	Three-bay addition to fire hall	12	10/20/22	59,997	12/23/22	59,997	-	59,997	02/15/35
POWELL	DEER LODGE	Finance a fire truck	10	05/09/16	420,000	07/08/16	420,000	-	153,700	08/15/26
<b>POWELL Total</b>					<b>479,997</b>		<b>479,997</b>	<b>-</b>	<b>213,697</b>	
RAVALLI	CORVALLIS RURAL FIRE	pumper truck	7	08/23/22	300,000	10/07/22	300,000	-	278,962	08/15/29
RAVALLI	FLORENCE RURAL FIRE	Finance a type one fire vehicle	10	10/14/16	305,764	02/10/17	305,764	-	138,253	02/15/27
RAVALLI	HAMILTON	Justice, Law & Legal Facility re	10	10/25/17	1,000,000	10/05/18	1,000,000	-	607,381	08/15/28
RAVALLI	HAMILTON	Fire station	10	04/20/22	3,200,000	04/21/23	1,623,465	1,576,535	1,623,465	08/15/33
RAVALLI	HAMILTON SCHOOL DIST	Daly Elem. boiler project	15	06/06/13	350,000	10/25/13	350,000	-	138,743	06/15/28
RAVALLI	HAMILTON SCHOOL DIST	Daly Elem. rehab project	15	11/13/18	1,650,000	06/14/19	1,650,000	-	1,357,943	08/15/34
RAVALLI	NORTH VALLEY PUBLIC L	Library building refi	15	03/28/13	68,000	04/26/13	68,000	-	26,124	08/15/28
RAVALLI	PINESDALE	Finance Type 6 fire truck	10	01/02/18	49,000	02/02/18	49,000	-	25,970	02/15/28
<b>RAVALLI Total</b>					<b>6,922,764</b>		<b>5,346,229</b>	<b>1,576,535</b>	<b>4,196,841</b>	
RICHLAND	SIDNEY-RICHLAND REGIC	Airport improvements	15	07/13/20	680,000	08/07/20	680,000	-	564,155	08/15/35

**INTERCAP loans\* - by County**

**As of June 30, 2023**

\*only loans that have remaining commitment and/or outstanding

COUNTY	BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	Fund Date	Drawn	COMMIT REMAINING	OUTSTANDING	MATURITY
<b>RICHLAND Total</b>					<b>680,000</b>		<b>680,000</b>	<b>-</b>	<b>564,155</b>	
ROOSEVELT	CULBERTSON ELEMENTA	Finance classroom addition pr	15	07/29/16	1,600,000	08/19/16	1,600,000	-	979,764	06/15/31
ROOSEVELT	CULBERTSON ELEMENTA	Replace boiler/security cam. u	7	06/18/21	412,105	07/09/21	412,105	-	327,769	08/15/28
ROOSEVELT	FROID ELEMENTARY DIST	Water heaters	10	02/28/22	180,000			180,000	-	
ROOSEVELT	FROID HIGH SCHOOL DIS	Water heaters	10	02/28/22	270,000	07/29/22	242,190	27,810	220,862	06/15/32
ROOSEVELT	WOLF POINT	Street improvements	15	06/29/16	1,300,000	11/04/16	1,300,000	-	798,147	08/15/31
<b>ROOSEVELT Total</b>					<b>3,762,105</b>		<b>3,554,295</b>	<b>207,810</b>	<b>2,326,543</b>	
SANDERS	HOT SPRINGS	Water system improvements	15	11/14/13	110,497	11/20/15	11,646	-	61,744	02/15/31
SANDERS	THOMPSON FALLS	Public works vehicle	5	06/05/20	35,000	07/17/20	35,000	-	17,939	08/15/25
SANDERS	THOMPSON FALLS	Police vehicle	5	01/15/21	49,650	11/19/21	49,650	-	40,043	02/15/27
SANDERS	THOMPSON FALLS	Snowplow	7	12/01/22	68,898	12/30/22	68,898	-	68,898	02/15/30
<b>SANDERS Total</b>					<b>264,045</b>		<b>165,194</b>	<b>-</b>	<b>188,625</b>	
STILLWATER	BEARTOOTH PARKS AND	Repair pool and bath houses	15	01/16/15	53,539	07/02/15	53,539	-	27,143	08/15/30
STILLWATER	COLUMBUS	Sewer main replacement	15	02/25/22	850,000			850,000	-	
STILLWATER	COLUMBUS	Ultraviolet system replacemen	15	02/25/22	450,000			450,000	-	
STILLWATER	COLUMBUS RURAL FIRE D	Fire Truck	10	06/23/21	350,000	07/23/21	350,000	-	301,118	08/15/31
STILLWATER	PARK CITY RURAL FIRE D	Fire apparatus	7	11/25/15	35,000	10/13/17	35,000	-	7,863	08/15/24
STILLWATER	REED POINT ELEMENTAR	Staff housing refi	15	06/30/17	183,109	07/28/17	183,109	-	123,503	06/15/24
STILLWATER	STILLWATER COUNTY	Two used plow trucks	7	08/26/19	107,000	10/04/19	107,000	-	56,092	08/15/26
<b>STILLWATER Total</b>					<b>2,028,648</b>		<b>728,648</b>	<b>1,300,000</b>	<b>515,720</b>	
TETON	CHOTEAU	Asphalt grinder	10	11/08/17	85,550	12/08/17	85,550	-	45,426	02/15/28
TETON	GREENFIELDS IRRIGATIO	Arnold Coulee Drop replace/hy	15	11/30/21	2,626,126			2,626,126	-	
<b>TETON Total</b>					<b>2,711,676</b>		<b>85,550</b>	<b>2,626,126</b>	<b>45,426</b>	
TOOLE	KEVIN	Water system repairs	15	09/06/13	35,828	10/18/13	35,828	-	12,670	08/15/28
TOOLE	KEVIN	Town offices purchase/upgrad	10	11/16/15	39,944	12/18/15	39,944	-	10,366	02/15/26
TOOLE	SUNBURST	Skid Steer	5	01/29/19	40,000	03/08/19	40,000	-	8,454	02/15/24
TOOLE	TRI-CITY INTERLOCAL EQ	Combination sewer truck	7	06/03/19	389,414	06/21/19	389,414	-	203,943	08/15/26
<b>TOOLE Total</b>					<b>505,186</b>		<b>505,186</b>	<b>-</b>	<b>235,432</b>	
TREASURE	HYSHAM	Wastewater system improvem	15	09/17/20	100,000			100,000	-	
TREASURE	HYSHAM SCHOOL DISTRI	HVAC, restroom/locker rm. rer	10	04/16/21	390,500	08/06/21	390,500	-	323,259	08/15/31
<b>TREASURE Total</b>					<b>490,500</b>		<b>390,500</b>	<b>100,000</b>	<b>323,259</b>	
VALLEY	GLASGOW K-12 SCHOOL	Building improvements	10	05/26/23	400,000			400,000	-	
VALLEY	HINSDALE ELEMENTARY	Building improvements	10	08/03/22	332,561			332,561	-	
VALLEY	HINSDALE HIGH SCHOOL	Building improvements	10	08/03/22	805,975			805,975	-	
VALLEY	ST. MARIE RURAL FIRE D	Fire tanker truck	7	05/07/21	60,000	08/20/21	60,000	-	47,702	08/15/28
VALLEY	VALLEY COUNTY	New fire hall	10	05/07/15	100,000	07/24/15	100,000	-	26,183	08/15/25
VALLEY	VALLEY COUNTY	Landfill scraper	10	10/05/15	100,000	11/06/15	100,000	-	25,061	02/15/26
<b>VALLEY Total</b>					<b>1,798,536</b>		<b>260,000</b>	<b>1,538,536</b>	<b>98,946</b>	



**INTERCAP loans\* - by County**

**As of June 30, 2023**

\*only loans that have remaining commitment and/or outstanding

COUNTY	BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	Fund Date	Drawn	COMMIT REMAINING	OUTSTANDING	MATURITY
YELLOWSTONE	BILLINGS	Expand police evidence bldg	15	05/21/19	2,800,000	12/06/19	2,800,000	-	2,369,900	08/15/34
YELLOWSTONE	LAUREL	SID 117 sidewalks project	15	05/27/15	169,000	11/20/15	169,000	-	87,841	08/15/30
YELLOWSTONE	LAUREL	Garbage truck	7	05/13/21	300,000	12/30/22	300,000	-	300,000	02/15/30
YELLOWSTONE	LAUREL	Public works vehicles	7	11/18/22	190,586			190,586	-	
YELLOWSTONE	LAUREL AIRPORT AUTHO	Build a cross wind runway	15	05/11/17	373,198	09/08/17	373,198	-	218,164	08/15/32
YELLOWSTONE	LOCKWOOD RURAL FIRE	Fire station refi	15	06/01/21	2,760,000	06/18/21	2,760,000	-	2,513,778	08/15/36
YELLOWSTONE	LOCKWOOD RURAL FIRE	Fire Training Center land	15	04/28/21	800,000	05/21/21	800,000	-	728,631	08/15/36
YELLOWSTONE	YELLOWSTONE COUNTY	Lockwood pedestrian walkway	10	06/25/15	285,965	11/13/15	285,965	-	78,426	02/15/26
YELLOWSTONE	YELLOWSTONE COUNTY	Lockwood pedestrian walkway	10	10/19/18	350,000	11/09/18	350,000	-	229,026	02/15/29
<b>YELLOWSTONE Total</b>					<b>8,028,750</b>		<b>7,838,164</b>	<b>190,586</b>	<b>6,525,765</b>	
<b>LOCAL GOVERNMENT TOTAL AS OF JUNE 30, 2023</b>					<b>97,566,045</b>		<b>78,129,675</b>	<b>19,282,619</b>	<b>50,108,250</b>	

**State Agency INTERCAP loans\***

**As of June 30, 2023**

*\*only loans that have remaining commitment and/or outstanding*

BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	FUND DATE	DRAWN	COMMIT REMAINING	OUTSTANDING	MATURITY
CORRECTIONS	Food factory expansion	15	02/11/20	2,750,000	05/21/21	2,750,000	-	2,569,659	08/15/36
CORRECTIONS	MCE Laundry upgrades	7	05/25/22	1,300,000	11/18/22	1,300,000	-	1,300,000	02/15/30
<b>CORRECTIONS Total</b>				<b>4,050,000</b>		<b>4,050,000</b>	<b>-</b>	<b>3,869,659</b>	
DNRC	Anticip of issuing GO bond - WPCSRF BIP	2	04/12/23	950,000			950,000	-	
DNRC	Anticip of issuing GO bond - DWSRF BIP	2	04/12/23	1,900,000			1,900,000	-	
DNRC	Anticip of issuing GO bond - WPCSRF	2	04/12/23	1,300,000			1,300,000	-	
DNRC	Anticip of issuing GO bond - DWSRF	2	04/12/23	1,500,000			1,500,000	-	
DNRC	Anticip of issuing Coal Severance Tax (CST) Bonds - RRGL (taxal	5	05/23/23	900,000	06/23/23	15,000	885,000	15,000	08/15/28
<b>DNRC Total</b>				<b>6,550,000</b>		<b>15,000</b>	<b>6,535,000</b>	<b>15,000</b>	
FISH, WILDLIFE, & PARKS	Two replacement helicopters	7	10/8/19	1,600,000	03/06/20	1,600,000	-	1,054,854	2/15/27
<b>FISH, WILDLIFE &amp; PARKS Total</b>				<b>1,600,000</b>		<b>1,600,000</b>	<b>-</b>	<b>1,054,854</b>	
TRANSPORTATION	State Motor Pool	7	05/06/19	1,000,000	06/14/19	1,000,000	-	428,571	06/15/26
TRANSPORTATION	State Motor Pool	7	11/19/19	3,080,000	06/12/20	3,080,000	-	1,760,000	06/15/27
TRANSPORTATION	State Motor Pool	7	02/23/21	2,611,660	06/11/21	2,611,660	-	1,865,472	06/15/28
TRANSPORTATION	State Motor Pool	7	10/26/22	4,000,000	02/24/23	2,325,050	1,674,950	2,148,316	06/15/29
<b>TRANSPORTATION Total</b>				<b>10,691,660</b>		<b>9,016,710</b>	<b>1,674,950</b>	<b>6,202,359</b>	
<b>STATE AGENCY TOTAL AS OF JUNE 30, 2023</b>				<b>22,891,660</b>		<b>14,681,710</b>	<b>8,209,950</b>	<b>11,141,872</b>	

**University INTERCAP loans\***

**As of June 30, 2023**

\*only loans that have remaining commitment and/or outstanding

BORROWER	PROJECT	TERM	COMMIT DATE	COMMIT AMOUNT	FUND DATE	DRAWN	COMMIT REMAINING	OUTSTANDING	MATURITY
MSU-BILLINGS	Student Union/Rimrock Hall HVAC	15	05/22/12	1,260,881	06/22/12	1,260,881	-	410,626	08/15/27
MSU-BILLINGS	Replace two boilers	15	04/08/20	750,000	06/18/21	554,634	195,366.09	521,867	08/15/36
<b>MSU-BILLINGS Total</b>				<b>2,010,881</b>		<b>1,815,515</b>	<b>195,366</b>	<b>932,493</b>	
MSU-BOZEMAN	Bobcat Stadium End Zone project	15	01/12/11	4,000,000	04/29/11	4,000,000	-	1,038,427	08/15/26
MSU-BOZEMAN	Energy retro - multiple buildings	15	11/13/12	4,350,000	11/16/12	4,350,000	-	1,541,141	08/15/28
MSU-BOZEMAN	Renovate Strand Union Building ballrooms	15	08/19/14	1,720,244	04/24/15	1,720,244	-	900,724	08/15/30
MSU-BOZEMAN	Dobbie Lambert Intramural Fields improvements	15	05/22/18	4,000,000	09/14/18	1,716,271	(0.00)	3,031,195	02/15/34
<b>MSU-BOZEMAN Total</b>				<b>14,070,244</b>		<b>11,786,515</b>	<b>(0)</b>	<b>6,511,486</b>	
<b>UNIVERSITY TOTAL AS OF JUNE 30, 2023</b>				<b>16,081,125</b>		<b>13,602,030</b>	<b>195,366</b>	<b>7,443,979</b>	



# Trust Funds Investment Pool *Review*

Presented by:

John Romasko, CFA – Director of Fixed Income

Kirsten Haswell – Investment Officer

Sam Holman – Investment Analyst

William Gross – Investment Analyst

Date:

August 23, 2023

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# Trust Funds Investment Pool Overview

Participant Value (Millions) - 06/30/2023

NAME	TFIP FMV	NAME	TFIP FMV
<b>TRUST FUNDS - PERMANENT</b>			
COAL SEVERANCE TAX PERM FUND	\$ 355,475	MT POLE SUPERFUND SETTLEMENT	\$ 15,453
MONTANA COAL ENDOWMENT FUND	\$ 270,902	STREAMSIDE TAILINGS OU FUND	\$ 14,662
BIG SKY ECONOMIC DEV FUND	\$ 134,562	BUTTE AREA REDEVELOP AUTHORITY	\$ 11,846
SCHOOL FACILITIES FUND	\$ 116,375	BARKER HUGHESVILLE ST RESPONSE	\$ 7,844
MT COAL ENDOWMENT REGIONAL WAT	\$ 93,761	SMELTER HILL UPLANDS REST FUND	\$ 7,341
COAL TAX PARK TRUST FUND	\$ 28,583	BUTTE AREA ONE REST	\$ 5,090
PUBLIC SCHOOL TRUST	\$ 876,520	YELLOWSTONE PIPELINE CLEANUPFD	\$ 4,128
TOBACCO TRUST FUND	\$ 292,936	LIBBY ASBESTOS SITE STATE COST	\$ 4,128
RESOURCE INDEMNITY TRUST FUND	\$ 107,132	FLYING J CECRA FACILITIES FUND	\$ 2,267
CULTURAL TRUST FUND	\$ 15,634	LUTTRELL PIT - OPER & MAINT	\$ 1,725
WILDLIFE HABITAT TRUST FUND	\$ 15,028	EAST HELENA COMPENSATION FUND	\$ 822
NOXIOUS WEED MGMT TRUST FUND	\$ 10,437	UPPER BLACKFT RESP ACT & REST	\$ 85
FWP MITIGATION TRUST	\$ 6,965	ABANDONED MINE RECLAMATION	\$ -
REAL PROPERTY TRUST FUND	\$ 6,780	ZORTMAN/LANDUSKY LT WATER	\$ -
MONTANA HISTORICAL SOCIETY	\$ 3,208	ZORTMANLANDUSKY LT WATER TRUST	\$ -
INVASIVE SPECIES TRUST FUND	\$ 2,933	<b>OPERATING FUNDS</b>	
ENDOWMENT FOR CHILDREN	\$ 1,309	STATE TREASURER'S FUND	\$ 218,163
E HELENA GREENWAY TRAIL MAINT	\$ 695	MONTANA STATE UNIVERSITY	\$ 57,760
OLDER MONTANANS TRUST FUND	\$ 305	FWP GENERAL LICENSE ACCOUNT	\$ 30,184
POTTER TRUST FUND	\$ 218	UNIVERSITY OF MONTANA	\$ 29,403
HAROLD HAMM ENDOWMENT	\$ 44	MONTANA TECH	\$ 455
<b>TRUST FUNDS EXPENDABLE</b>		<b>INSURANCE FUNDS</b>	
UPPER CLRK FK RIVER BASIN REST	\$ 66,714	STATE EMPLOYEE GROUP BENEFITS	\$ 37,056
CLARK FORK SITE RESP ACTION	\$ 48,271	MUS GROUP INSURANCE	\$ 12,764
BELT WATER TREATMENT PLANT	\$ 22,593	MUS WORKERS COMPENSATION	\$ 3,997
CLARK FORK REST	\$ 21,829	HAIL INSURANCE INVESTMENTS	\$ 2,969
UPPER CLRK FK RIVER BASIN RES	\$ 21,210	PERS-DCRP LT DISABILITY PLAN	\$ -
		SUBSEQUENT INJURY TRUST FUND	\$ -

# Trust Funds Investment Pool Overview

## Trust Fund Clients

- Sources
  - *Constitutionally mandated, such as Coal Tax Permanent and School Trust Funds*
  - *Legislatively mandated, such as Noxious Weeds and Endowment for Children Funds*
  - *Legal Settlements, such as the Upper Clark Fork Funds*
  - *Client discretionary operating reserves, such as Montana State University and Hail Insurance*
- Funds can be permanent or expendable and can migrate between those types



# Trust Funds Investment Pool Overview

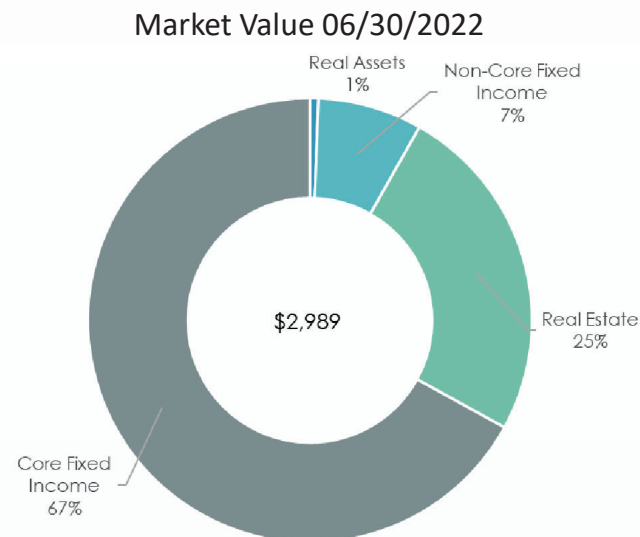
## Trust Funds Investment Pool Objectives

- Strategic Objective
  - *Provide a diversified investment vehicle for participants that offers a return to support client missions*
- Investment Objectives
  - *Provide investment income by assuming a prudent amount of risk*
  - *Preserve principal by diversifying the portfolio across risk factors*
- Pool Objectives
  - *Diversify investments*
  - *Increase yield*
  - *Enhance total return*

# Trust Funds Investment Pool Overview

## Trust Funds Investment Pool Asset Allocation

- The market value of the Trust Funds Investment Pool (TFIP) was almost \$3 billion on June 30, 2023
- TFIP has a diverse asset allocation
- The majority of assets are invested in core fixed income, comprised of investment grade bonds. The large allocation is internally managed which helps provide stable distributions to participants



# Fixed Income Basics

## What is “Fixed Income”?

- A contractual obligation to pay principal and interest over time
- Bonds are issued by government or corporate entities
- Obligations represent a claim on assets that is senior to equity
- Coupons are contractually driven and may be fixed or floating rate
- Maturities are predefined and generally range from 1 day to 30 years

# Fixed Income Basics

## Objectives of Fixed Income

- Total Return = Income + Change in Market Value
  - *Income is primarily generated from coupon payments paid at regular intervals*
  - *Market value is driven by movements in yield (U.S. Treasury rates and spreads)*
- Diversification
  - *Fixed income provides a different risk profile to the portfolio than other asset classes*
  - *More likely to preserve principal in a stressed market environment*
- Liquidity
  - *Ability to raise cash in times of extreme market stress*
  - *Varying degrees of liquidity for different types of bonds*

# Fixed Income Basics

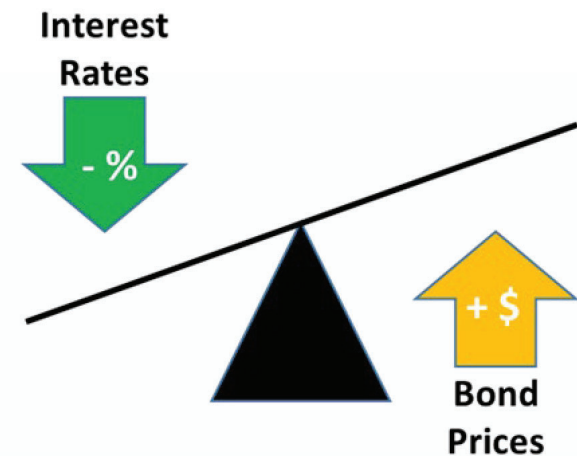
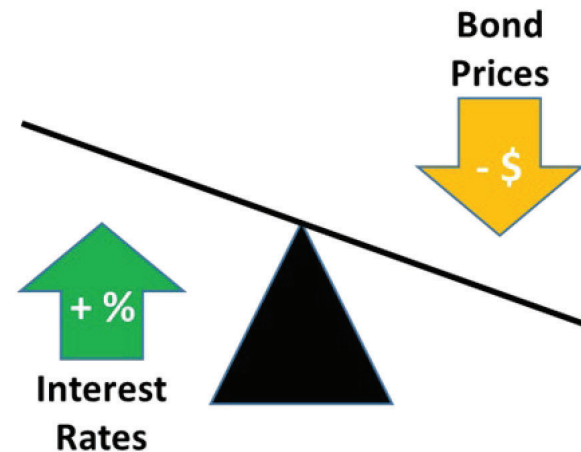
## Primary Fixed Income Risk Factors

- Interest Rates are composed of the following:
  - *Real Risk-Free Rate* – Compensation above inflation that a lender demands of an investment with zero risk. Changes with the preference to lend or spend.
  - *Inflation Risk* – Inflation can erode the purchasing power of cash flows received over the life of a bond.
  - *Maturity Risk* – All else being equal, the longer the maturity the greater the sensitivity to interest rate changes.
  - *Default Risk*– Borrower may have less ability or willingness to meet their contractual obligations and may default.
  - *Liquidity Risk* – Most bonds are traded over the counter (OTC). May not be a willing buyer/seller. Pricing may be opaque. In times of market stress, liquidity may be reduced.

# Fixed Income Basics

## Interest Rate Sensitivity

- When interest rates rise: The value of outstanding bonds falls because the income they pay is less than what investors could receive on a new bond with similar characteristics
- When interest rates fall: The value of outstanding bonds rises because the income they pay is more than what investors could receive on a new bond with similar characteristics



# Fixed Income Management

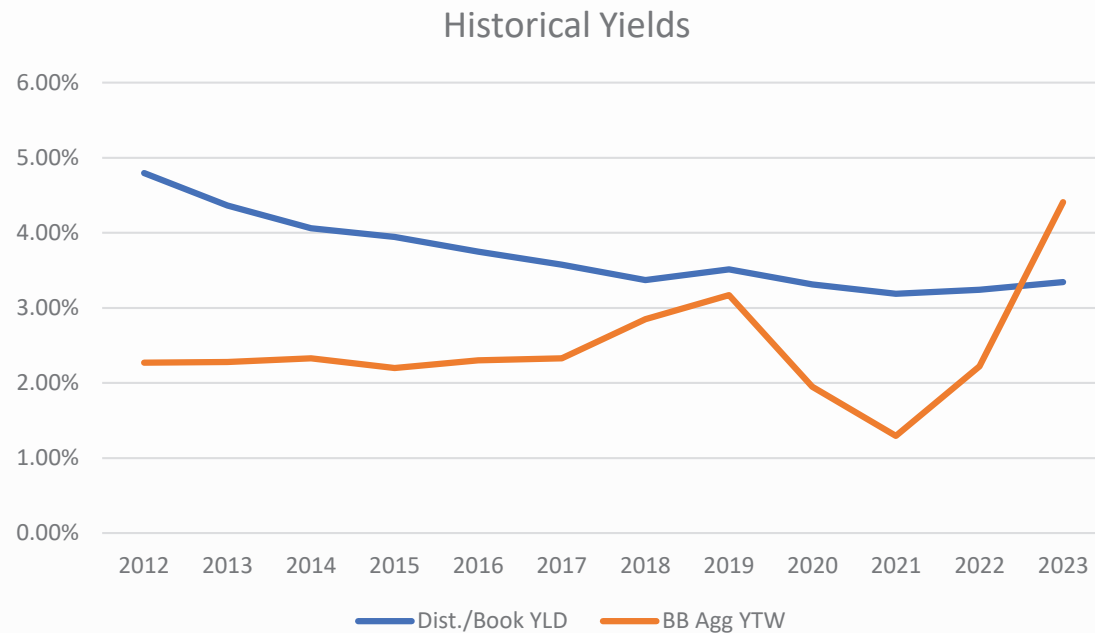
## Team Approach

- All team members participate in asset management
- Continual search for efficiency improvements
  - *Electronic trading*
  - *Systematic credit research process*
  - *Bloomberg data*

# Trust Funds Investment Pool Details

## TFIP Participant Distributions

- Cash distributed is an important factor to TFIP Participants
- Until recently, distributions have been pressured downward with the secular decline in interest rates over the last 30+ years
- Based on current market rates, the decline may moderate

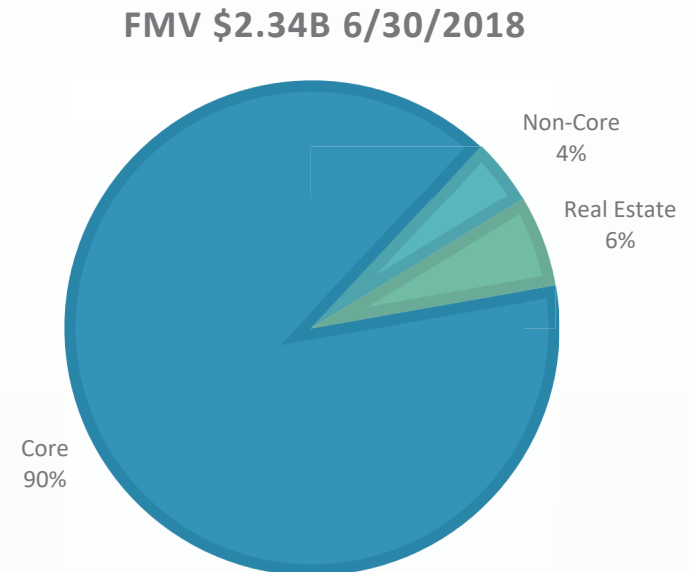
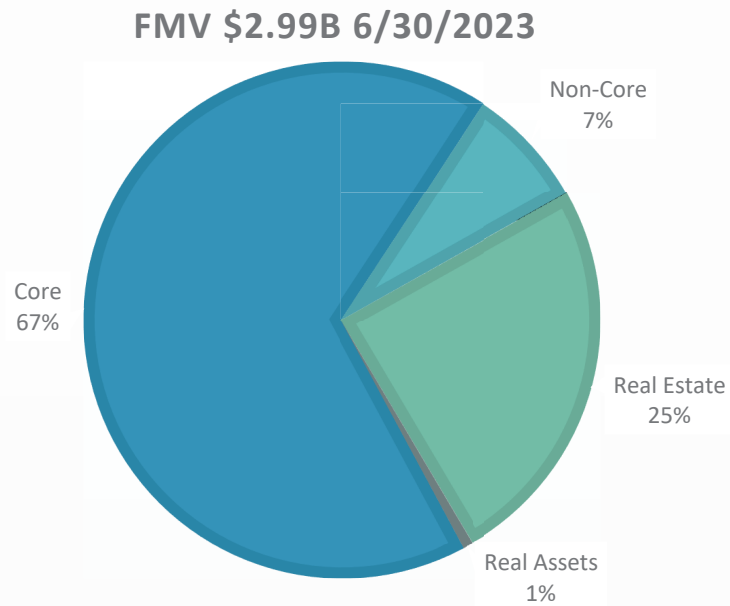




# Trust Funds Investment Pool Details

## Trust Funds Investment Pool Change in Asset Allocation

- TFIP has seen almost \$700 million in net inflow in the past 5 years
- The asset allocation has changed to moderate declining yield
- Income from Real Estate and Real Asset investments is expected to increase the distribution to participants in the long run as well as diversify risks



# Trust Funds Investment Pool Details

## Conclusion

- It is in the best interest of TFIP participants to maintain current yields and increase distributions over the long run
- We expect to make prudent adjustments to the asset allocation as necessary to achieve our goals
- Cooperation among BOI asset class teams will be key to achieving goals

# Appendix

# Fixed Income Terminology

*Principal* – The initial size of a bond or investment.

*Coupon* – The interest rate paid on a bond. This can be either fixed rate or floating rate. A floating interest rate is typically tied to a benchmark such as U.S. T-Bills. Payments can be monthly, semi-annual, or annual.

*Maturity* – The agreed date that the full amount of the bond or investment must be paid back to the lender plus interest.

*Interest* – The amount that must be paid to compensate the lender/investor for the use of funds.

*Sector* – An area of the economy in which businesses share the same or related products or services, an economic sector. Alternatively, a group of securities that exhibit similar characteristics, an asset type sector.

# Fixed Income Terminology

*Ratings* – An assessment of the creditworthiness of a borrower. Bond ratings from Nationally Recognized Statistical Rating Organizations (NRSRO) between AAA and BBB- are investment grade. BB+ and down are below investment grade/high yield.

*Average Credit Quality* – The average credit rating for each bond in the portfolio adjusted for its relative weight in the portfolio.

*Duration* – A measure of a bond or portfolio's sensitivity to changes in interest rates. As duration increases, the bond or portfolio's sensitivity to interest rates increases.

*Weighted Average Maturity or Life* – Measures of how quickly the outstanding principal will be repaid. The higher the number the longer it is expected to take for the debt to be paid.

# Fixed Income Terminology

*Yield to Maturity (YTM)* – The total return anticipated on a bond or portfolio if it is held until maturity and all coupon payments are reinvested at the YTM.

*Yield Curve* – A curve that plots the prevailing interest rate for bonds at different maturities.

*Spread* – A measurement of the difference in yield between a non-Treasury bond and a U.S. Treasury bond. The U.S. Treasury is considered the risk-free alternative. A higher spread represents greater uncertainty of repayment.

*Inflation* – The rate at which the general level of prices for goods and services is increasing. As inflation increases, the purchasing power of money falls.



# Montana Non-Core Fixed Income

## *Asset Class Review*

Presented by:  
Jason Brent, CFA, CAIA  
Director of Public Markets

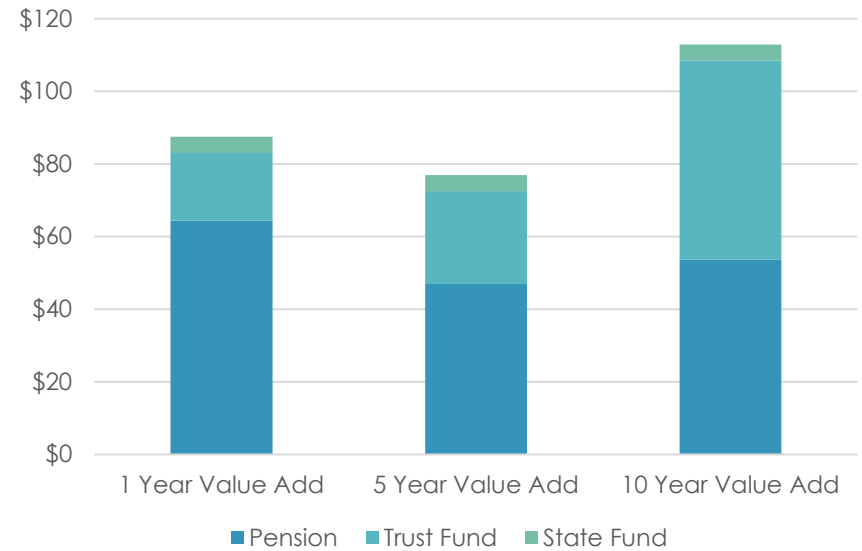
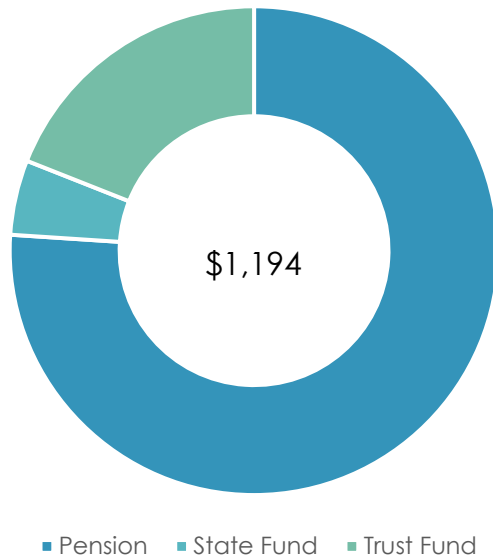
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August 23, 2023



# Non-Core Fixed Income

- Approved Pension Plan Allocation Range of 5% - 9%
- Montana Public Retirement Plans Investment Policy Statement allows for:
  - *US High Yield Fixed Income*
  - *Preferred Securities*
  - *Emerging Market Debt*
  - *Convertible Debt*
- High Yield Strategies will make up at least 25% and no more than 75% of the Non-Core Fixed Income Asset Class
- No strategy other than High Yield will comprise more than 50% of the asset class
- Asset class benchmark is the Bloomberg Barclays US High Yield 2% Issuer Cap
- Long history in US High Yield
- Added Preferred Securities and Emerging Market Debt in 2020, Convertible Bonds in 2023

# Non-Core Fixed Income Ownership Breakdown



\* Dollar values are in \$1,000,000  
June 30, 2023

# Non-Core Fixed Income

## Asset Class Objectives

- Return Enhancement
  - *Higher yields than Core Fixed Income*
- Current Income
  - *Consistent cash flow stream from coupon payments/preferred dividends*
- Diversification
  - *Diverse subset of issuers, sectors, geographies*
- Outperformance vs. the benchmark is not the ultimate measure of success
  - *Passive investment is not a viable alternative*

# Non-Core Fixed Income

## Non-Core Fixed Income (NCFI) Risks

- Credit risk
  - *Risk of default or impairment*
- Interest rate risk
  - *Bond prices may change in reaction to changes in interest rates*
- Call Risk
  - *A callable security allows the issuer to repay the bond before maturity. The security holder would likely have to reinvest the proceeds at lower interest rates*
- Liquidity risk
  - *Most NCFI securities are traded over the counter (OTC). May be difficult to find a willing buyer/seller in certain markets given smaller issuer size and lower trading volumes*
- Political risk (EMD)
  - *Government instability and lack of central bank credibility can have a large impact on returns*
  - *Currency risk*

# Non-Core Fixed Income

## High Yield Bonds

- Debt issued by corporations
- Higher credit risk than investment-grade bonds due to:
  - *Higher leverage*
  - *Smaller companies with less diverse revenue sources*
  - *Companies experiencing financial difficulties*
- Below-investment grade credit ratings
- Shorter duration (less interest rate risk than investment-grade bonds)
- BOI managers have a conservative bias in their approach

CREDIT RATINGS		
Grade	S&P, Fitch	Moody's
Investment Grade	AAA	Aaa
	AA	Aa
	A	A
	BBB	Baa
Below-investment Grade (High Yield)	BB	Ba
	B	B
	CCC	Caa
	CC	Ca
	C	C

# Non-Core Fixed Income

## Preferred Securities

- High-quality issuers
  - Typically have investment grade senior debt
  - Securities may be rated investment grade or non-investment grade
- Junior in capital structure
  - Rank lower than senior debt and higher than common equity
- High exposure to financial sector issuers (Banks, Insurance Companies)
- Pay a dividend, not coupon interest
  - Preferred dividend is paid before common dividends
  - In times of severe stress, issuer can stop paying Preferred dividend
- Variety of structures
  - Can be perpetual, floating rate, fixed-to-fixed, or fixed-to-floating rate
  - “Over-the-Counter” and “\$25 Par” preferreds
  - Contingent Convertibles (“CoCos”)

# Non-Core Fixed Income

## Emerging Market Debt (EMD)

- Issuer types
  - Governments (sovereign issuers) of less-developed countries
  - Quasi-sovereign entities (whole/partially government owned or government guaranteed)
  - Corporations in countries classified as Emerging Markets
- Sovereign debt types
  - Hard currency: Bonds issued in US Dollars (or Euros)
  - Local currency: Bonds issued in the currency of the issuer's country
- Lower credit ratings than Developed Market countries
  - Due to greater economic and/or political risks
  - Ratings range from investment grade to non-investment grade
- Strategy focus
  - BOI has a blended portfolio, which has a mix of both hard currency and local currency bonds (70/30), plus an allocation to EM corporate bonds

# Non-Core Fixed Income

## Convertible Bonds

- Combination of a bond and an equity call option
- Pay a low, fixed-rate coupon and have a fixed maturity date
- “Convertible”
  - *Bonds may be converted into common equity.*
  - *Conversion ratio: Determines how many shares may be converted from each bond*
- “Hybrid” security
  - *Fixed income attributes (coupon payments), which provide downside protection*
  - *Upside potential related to equity value but capped due to callability*
- Issuer types
  - *Predominantly young, high-growth companies with no rated debt*
- Risk & Return profile
  - *Tend to have higher returns and higher volatility than High Yield bonds*

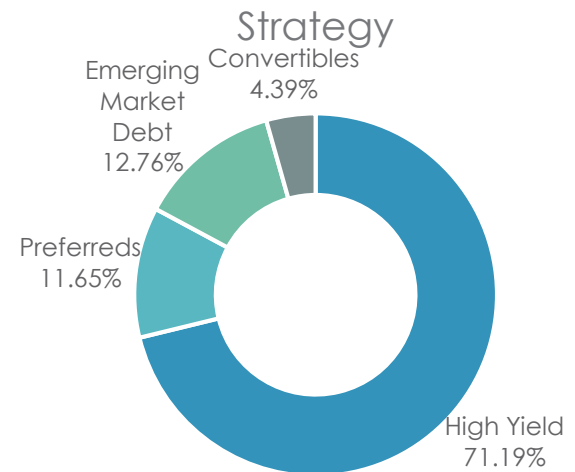
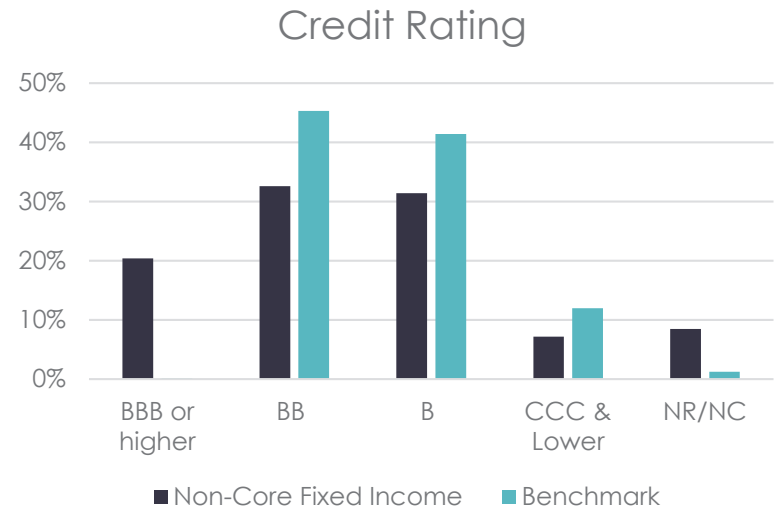
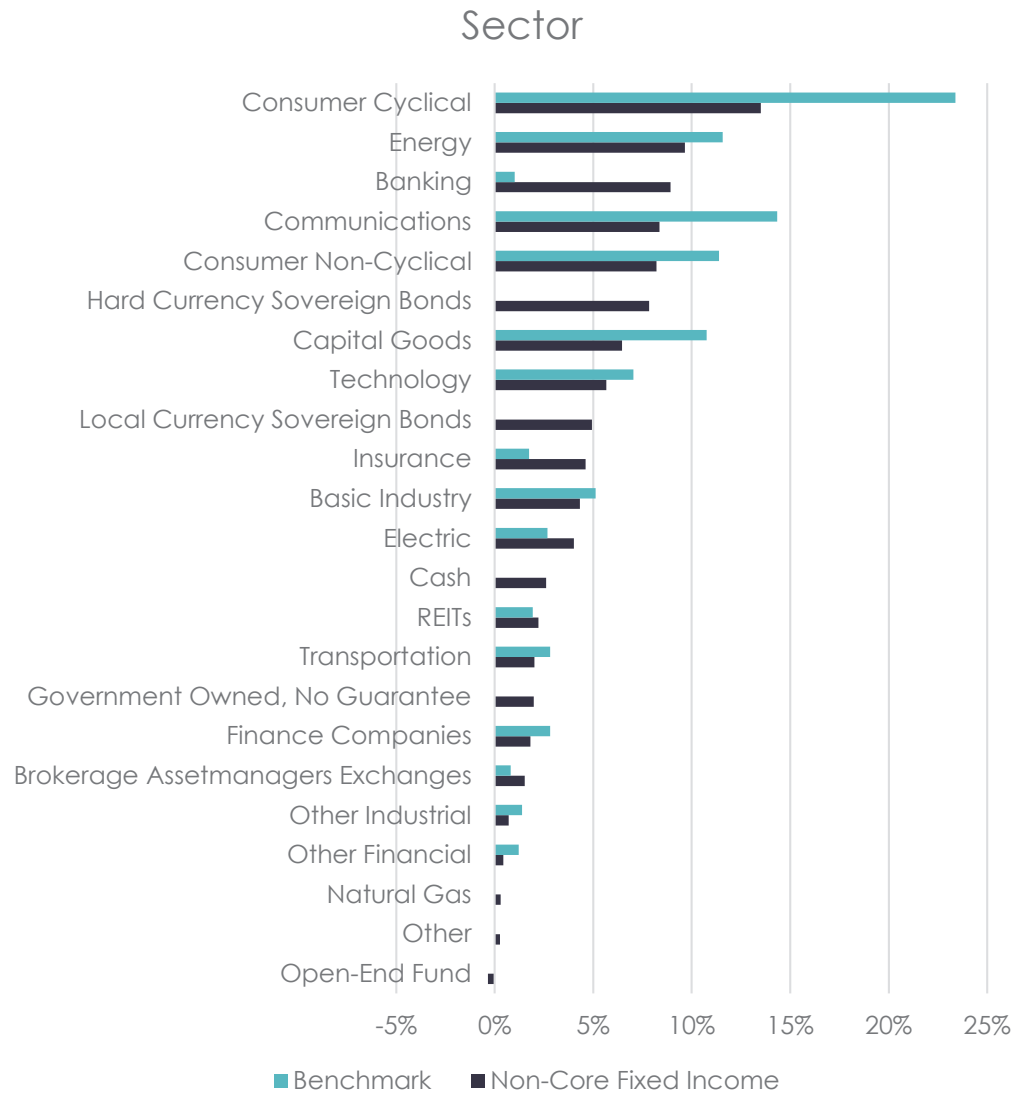


# Non-Core Fixed Income

## Current Portfolio

Manager	Strategy	Market Value as of 6/30/2023 (000 USD)	Inception Date		QTR	1 Year	3 Years	5 Years	Since Inception
<b>PENSION</b>									
Neubeger Berman	US High Yield	\$168,959	1/1/10	Net Returns	1.32%	8.74%	2.52%	2.86%	5.52%
				VS Benchmark	-0.43%	-0.34%	-0.61%	-0.48%	-0.44%
Oaktree	US High Yield	\$209,372	12/5/17	Net Returns	1.76%	9.29%	3.19%	3.45%	2.85%
				VS Benchmark	0.01%	0.22%	0.07%	0.11%	-0.21%
Shenkman	US High Yield	\$185,459	12/1/17	Net Returns	1.72%	9.03%	3.18%	3.53%	3.02%
				VS Benchmark	-0.03%	-0.04%	0.06%	0.19%	-0.06%
Cohen & Steers	Preferred Securities	\$139,088	10/26/20	Net Returns	2.04%	0.27%	---	---	-1.94%
				VS Benchmark	-0.06%	-2.40%	---	---	-0.07%
Payden & Rygel	Emerging Market Debt	\$152,393	12/15/20	Net Returns	2.76%	10.45%	---	---	-5.57%
				VS Benchmark	0.48%	1.84%	---	---	0.33%
Zazove	Convertible Bonds	\$52,472	3/7/23	Net Returns	3.46%	---	---	---	4.94%
<b>TRUST FUND</b>									
Neubeger Berman	US High Yield	\$92,070	3/24/20	Net Returns	1.29%	8.38%	2.47%	---	6.29%
				VS Benchmark	-0.46%	-0.69%	-0.65%	---	-2.43%
Oaktree	US High Yield	\$69,049	8/1/19	Net Returns	1.78%	9.47%	3.35%	---	2.64%
				VS Benchmark	0.03%	0.40%	0.22%	---	0.40%
Shenkman	US High Yield	\$65,880	7/1/19	Net Returns	1.78%	9.07%	3.15%	---	2.46%
				VS Benchmark	0.02%	0.00%	0.02%	---	0.13%
<b>STATE FUND</b>									
Neuberger Berman	US High Yield	\$59,167	4/17/20	Net Returns	1.32%	8.45%	2.48%	---	2.91%
				VS Benchmark	-0.43%	-0.62%	-0.65%	---	-1.73%

# Non-Core Fixed Income Characteristics



# Non-Core Fixed Income

## Risk & Return Profile

Asset Class	Index Name	Annualized Returns 02/2003 - 06/2023	Excess Returns over Core Fixed Income 02/2003 - 06/2023	Standard Deviation - 02/2003 - 06/2023	Sharpe Ratio 02/2003 - 06/2023
US High Yield Bonds	Bloomberg US Corporate High Yield 2% Cap	7.22%	4.08%	9.01%	0.66
Preferred Securities (\$25 Par)	ICE BofAML Fixed Rate Preferred Securities	3.38%	0.25%	12.69%	0.16
Emerging Market Debt (Hard Currency Sovereign Bonds)	JPM EMBI Global Diversified	6.19%	3.06%	8.97%	0.54
Emerging Market Debt (Local Currency Sovereign Bonds)	JPM GBI-EM Global Diversified	5.11%	1.97%	11.78%	0.32
US Convertible Bonds	ICE BofAML All US Convertible ex-Mandatory	9.07%	5.94%	12.30%	0.63
Core Fixed Income	Bloomberg US Aggregate	3.13%	0.00%	3.99%	0.46
Domestic Equities	MSCI USA IMI-ND	10.17%	7.04%	15.21%	0.58

# Non-Core Fixed Income

## Market Commentary

- After a prolonged period of extremely low interest rates, fixed income is now offering attractive yields
  - *Quality of the US High Yield bond market is at an historically high level (as measured by the % of BBs in the benchmark index)*
  - *US High Yield spreads are in a normal range*
- Preferred Securities have lagged due to the turmoil in the banking sector in 1Q23
- Emerging Market Debt has had strong returns over the last year after a period of weakness
- Exposure to Convertible Bonds has been accretive since adding the asset class in 1Q23
- Made contributions to Preferreds, Emerging Market Debt, and Convertibles in July

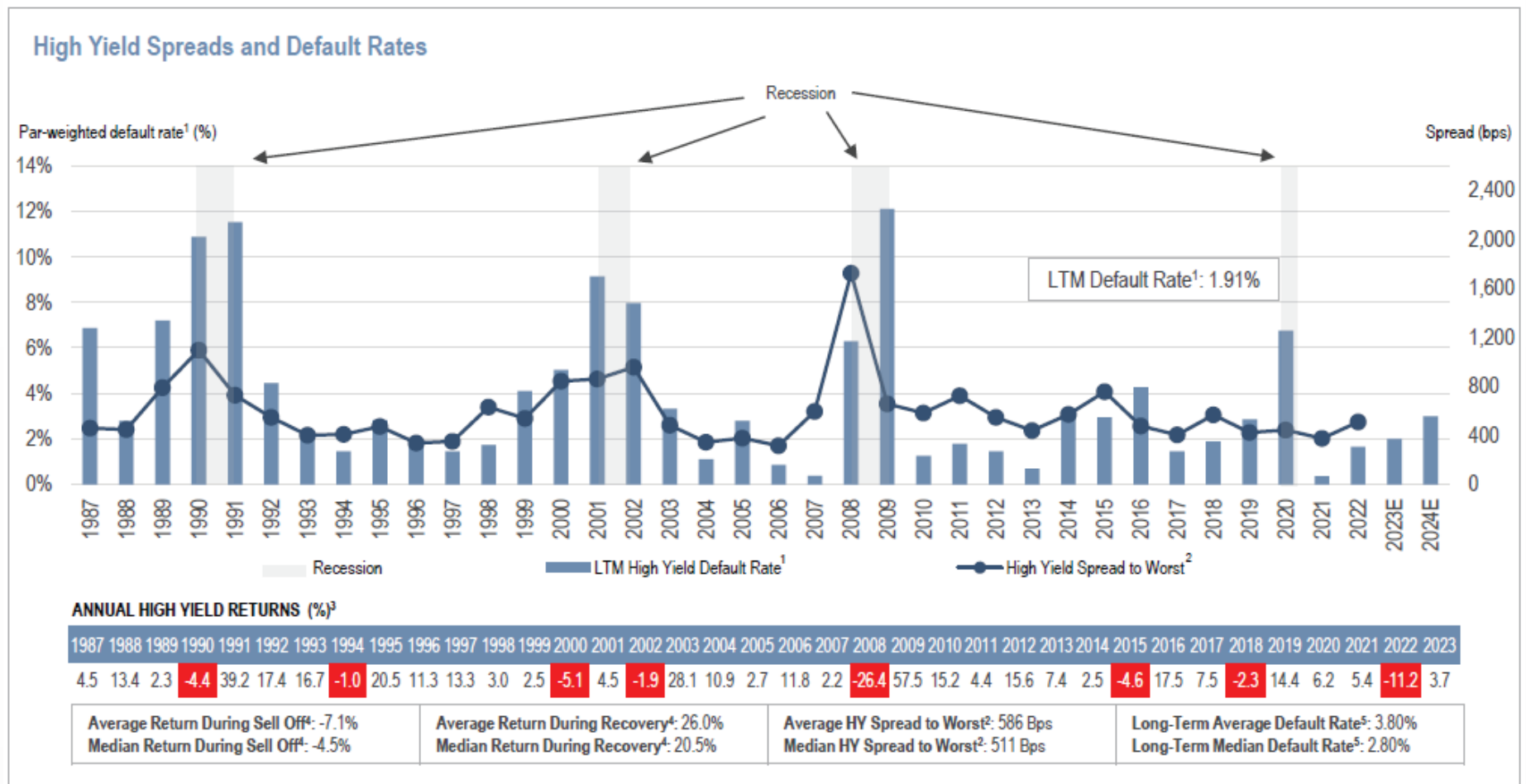
# Non-Core Fixed Income

## Summary

- Non-Core Fixed Income Asset Class Objectives
  - *Return enhancement over Core Fixed Income*
  - *Current income*
  - *Diversification*
- Strategy focus
  - *Have historically had a conservative bias in High Yield managers*
  - *Preferred Securities manager has flexibility among security types and structures*
  - *Blended Emerging Market Debt (hard and local-currency bonds)*
  - *Conservative approach to Convertible Bonds*

# Appendix

# Non-Core Fixed Income









# Quarterly Investment Performance Analysis

Montana Board of Investments

Period Ended: June 30, 2023



Montana Board of Investments  
Comparative Performance  
Retirement Plans

As of June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Public Employees' Retirement - Net</b>	<b>3.07</b>	<b>6.88</b>	<b>8.50</b>	<b>9.86</b>	<b>7.56</b>	<b>8.36</b>	<b>8.17</b>	<b>7.38</b>	<b>-8.48</b>	<b>17.61</b>	<b>11.94</b>	<b>16.77</b>	<b>-2.63</b>	<b>7.71</b>	<b>07/01/1994</b>
Public Employees' Benchmark	3.09	7.10	10.30	8.63	6.46	7.63	7.91	N/A	-10.81	13.79	12.22	20.26	-5.47	N/A	
Difference	-0.02	-0.22	-1.80	1.23	1.10	0.73	0.26	N/A	2.33	3.82	-0.28	-3.49	2.84	N/A	
<b>Public Employees' Retirement - Gross</b>	<b>3.29</b>	<b>7.26</b>	<b>9.23</b>	<b>10.54</b>	<b>8.20</b>	<b>8.98</b>	<b>8.76</b>	<b>7.88</b>	<b>-7.89</b>	<b>18.32</b>	<b>12.53</b>	<b>17.44</b>	<b>-2.03</b>	<b>8.06</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	19	23	22	21	5	37	34	32	41	42	44	42	
<b>Teachers' Retirement - Net</b>	<b>3.07</b>	<b>6.87</b>	<b>8.46</b>	<b>9.84</b>	<b>7.55</b>	<b>8.34</b>	<b>8.17</b>	<b>7.39</b>	<b>-8.52</b>	<b>17.61</b>	<b>11.93</b>	<b>16.78</b>	<b>-2.64</b>	<b>7.72</b>	<b>07/01/1994</b>
Teachers' Benchmark	3.09	7.08	10.24	8.61	6.44	7.62	7.90	N/A	-10.86	13.78	12.21	20.27	-5.47	N/A	
Difference	-0.02	-0.21	-1.78	1.23	1.11	0.72	0.27	N/A	2.34	3.83	-0.28	-3.49	2.83	N/A	
<b>Teachers' Retirement - Gross</b>	<b>3.28</b>	<b>7.25</b>	<b>9.18</b>	<b>10.52</b>	<b>8.19</b>	<b>8.96</b>	<b>8.75</b>	<b>7.89</b>	<b>-7.93</b>	<b>18.32</b>	<b>12.52</b>	<b>17.45</b>	<b>-2.03</b>	<b>8.07</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	20	23	22	21	5	35	34	32	41	42	44	41	
<b>Police Retirement - Net</b>	<b>3.07</b>	<b>6.87</b>	<b>8.50</b>	<b>9.85</b>	<b>7.56</b>	<b>8.36</b>	<b>8.17</b>	<b>7.32</b>	<b>-8.48</b>	<b>17.58</b>	<b>11.95</b>	<b>16.80</b>	<b>-2.63</b>	<b>7.59</b>	<b>07/01/1994</b>
Police Benchmark	3.09	7.09	10.33	8.62	6.46	7.63	7.91	N/A	-10.80	13.73	12.23	20.30	-5.46	N/A	
Difference	-0.02	-0.22	-1.83	1.23	1.10	0.73	0.26	N/A	2.32	3.85	-0.28	-3.50	2.83	N/A	
<b>Police Retirement - Gross</b>	<b>3.29</b>	<b>7.26</b>	<b>9.23</b>	<b>10.53</b>	<b>8.21</b>	<b>8.97</b>	<b>8.76</b>	<b>7.82</b>	<b>-7.89</b>	<b>18.28</b>	<b>12.54</b>	<b>17.47</b>	<b>-2.02</b>	<b>7.94</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	19	23	22	21	5	44	34	32	41	42	44	54	

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. Retirement plan benchmarks' inception dates were updated to 1/1/2011.



Montana Board of Investments  
Comparative Performance  
Retirement Plans

As of June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Firefighters' Retirement - Net</b>	<b>3.07</b>	<b>6.88</b>	<b>8.50</b>	<b>9.85</b>	<b>7.56</b>	<b>8.36</b>	<b>8.18</b>	<b>7.34</b>	<b>-8.47</b>	<b>17.58</b>	<b>11.95</b>	<b>16.79</b>	<b>-2.62</b>	<b>7.59</b>	<b>07/01/1994</b>
Firefighters' Benchmark	3.09	7.09	10.33	8.62	6.46	7.63	7.91	N/A	-10.80	13.73	12.23	20.29	-5.46	N/A	
Difference	-0.02	-0.21	-1.83	1.23	1.10	0.73	0.27	N/A	2.33	3.85	-0.28	-3.50	2.84	N/A	
<b>Firefighters' Retirement - Gross</b>	<b>3.29</b>	<b>7.26</b>	<b>9.23</b>	<b>10.53</b>	<b>8.21</b>	<b>8.98</b>	<b>8.76</b>	<b>7.84</b>	<b>-7.88</b>	<b>18.28</b>	<b>12.53</b>	<b>17.46</b>	<b>-2.01</b>	<b>7.94</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	19	23	22	21	5	42	34	32	41	42	44	55	
<b>Sheriffs' Retirement - Net</b>	<b>3.07</b>	<b>6.87</b>	<b>8.50</b>	<b>9.86</b>	<b>7.56</b>	<b>8.36</b>	<b>8.17</b>	<b>7.36</b>	<b>-8.47</b>	<b>17.61</b>	<b>11.94</b>	<b>16.75</b>	<b>-2.62</b>	<b>7.62</b>	<b>07/01/1994</b>
Sheriffs' Benchmark	3.09	7.09	10.30	8.63	6.46	7.63	7.91	N/A	-10.81	13.79	12.22	20.23	-5.45	N/A	
Difference	-0.02	-0.22	-1.80	1.23	1.10	0.73	0.26	N/A	2.34	3.82	-0.28	-3.48	2.83	N/A	
<b>Sheriffs' Retirement - Gross</b>	<b>3.29</b>	<b>7.26</b>	<b>9.22</b>	<b>10.55</b>	<b>8.21</b>	<b>8.98</b>	<b>8.76</b>	<b>7.86</b>	<b>-7.87</b>	<b>18.32</b>	<b>12.53</b>	<b>17.42</b>	<b>-2.02</b>	<b>7.97</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	19	23	22	21	5	41	34	32	41	42	44	53	
<b>Highway Patrol Retirement - Net</b>	<b>3.07</b>	<b>6.87</b>	<b>8.50</b>	<b>9.87</b>	<b>7.57</b>	<b>8.36</b>	<b>8.18</b>	<b>7.38</b>	<b>-8.46</b>	<b>17.62</b>	<b>11.94</b>	<b>16.78</b>	<b>-2.62</b>	<b>7.61</b>	<b>07/01/1994</b>
Highway Patrol Benchmark	3.09	7.08	10.30	8.64	6.47	7.64	7.92	N/A	-10.79	13.80	12.24	20.26	-5.45	N/A	
Difference	-0.02	-0.21	-1.80	1.23	1.10	0.72	0.26	N/A	2.33	3.82	-0.30	-3.48	2.83	N/A	
<b>Highway Patrol Retirement - Gross</b>	<b>3.28</b>	<b>7.25</b>	<b>9.22</b>	<b>10.55</b>	<b>8.21</b>	<b>8.98</b>	<b>8.76</b>	<b>7.88</b>	<b>-7.87</b>	<b>18.33</b>	<b>12.53</b>	<b>17.45</b>	<b>-2.01</b>	<b>7.96</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	19	23	22	21	5	38	34	32	41	42	44	53	

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. Retirement plan benchmarks' inception dates were updated to 1/1/2011.



Montana Board of Investments  
Comparative Performance  
Retirement Plans

As of June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Game Wardens' Retirement - Net</b>	<b>3.07</b>	<b>6.88</b>	<b>8.50</b>	<b>9.86</b>	<b>7.56</b>	<b>8.36</b>	<b>8.17</b>	<b>7.33</b>	<b>-8.48</b>	<b>17.62</b>	<b>11.91</b>	<b>16.77</b>	<b>-2.62</b>	<b>7.63</b>	<b>07/01/1994</b>
Game Wardens' Benchmark	3.09	7.09	10.29	8.62	6.45	7.63	7.90	N/A	-10.82	13.79	12.18	20.25	-5.46	N/A	
Difference	-0.02	-0.21	-1.79	1.24	1.11	0.73	0.27	N/A	2.34	3.83	-0.27	-3.48	2.84	N/A	
<b>Game Wardens' Retirement - Gross</b>	<b>3.29</b>	<b>7.26</b>	<b>9.23</b>	<b>10.54</b>	<b>8.20</b>	<b>8.98</b>	<b>8.75</b>	<b>7.83</b>	<b>-7.88</b>	<b>18.32</b>	<b>12.50</b>	<b>17.44</b>	<b>-2.01</b>	<b>7.98</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	19	23	22	21	5	43	34	32	42	42	44	52	
<b>Judges' Retirement - Net</b>	<b>3.07</b>	<b>6.87</b>	<b>8.48</b>	<b>9.86</b>	<b>7.56</b>	<b>8.36</b>	<b>8.17</b>	<b>7.37</b>	<b>-8.50</b>	<b>17.63</b>	<b>11.94</b>	<b>16.78</b>	<b>-2.64</b>	<b>7.62</b>	<b>07/01/1994</b>
Judges' Benchmark	3.09	7.09	10.28	8.62	6.45	7.63	7.91	N/A	-10.84	13.80	12.22	20.27	-5.48	N/A	
Difference	-0.02	-0.22	-1.80	1.24	1.11	0.73	0.26	N/A	2.34	3.83	-0.28	-3.49	2.84	N/A	
<b>Judges' Retirement - Gross</b>	<b>3.28</b>	<b>7.26</b>	<b>9.21</b>	<b>10.54</b>	<b>8.21</b>	<b>8.98</b>	<b>8.76</b>	<b>7.87</b>	<b>-7.91</b>	<b>18.34</b>	<b>12.53</b>	<b>17.45</b>	<b>-2.03</b>	<b>7.97</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	19	23	22	21	5	40	34	32	41	42	44	52	
<b>Volunteer Firefighters' Retirement - Net</b>	<b>3.07</b>	<b>6.87</b>	<b>8.46</b>	<b>9.85</b>	<b>7.56</b>	<b>8.36</b>	<b>8.17</b>	<b>7.34</b>	<b>-8.50</b>	<b>17.61</b>	<b>11.94</b>	<b>16.79</b>	<b>-2.64</b>	<b>7.44</b>	<b>07/01/1994</b>
Volunteer Firefighters' Benchmark	3.09	7.09	10.27	8.64	6.46	7.63	7.91	N/A	-10.86	13.85	12.18	20.31	-5.50	N/A	
Difference	-0.02	-0.22	-1.81	1.21	1.10	0.73	0.26	N/A	2.36	3.76	-0.24	-3.52	2.86	N/A	
<b>Volunteer Firefighters' Retirement - Gross</b>	<b>3.29</b>	<b>7.26</b>	<b>9.19</b>	<b>10.53</b>	<b>8.20</b>	<b>8.97</b>	<b>8.75</b>	<b>7.84</b>	<b>-7.91</b>	<b>18.31</b>	<b>12.53</b>	<b>17.46</b>	<b>-2.04</b>	<b>7.79</b>	<b>07/01/1994</b>
All Public Plans (>\$5B) Total Fund Median	2.69	6.69	7.64	9.38	7.49	8.51	7.89	7.77	-10.15	16.85	12.12	17.23	-2.52	8.00	
Rank	24	40	20	23	22	21	5	43	34	32	41	42	45	68	

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. Retirement plan benchmarks' inception dates were updated to 1/1/2011.

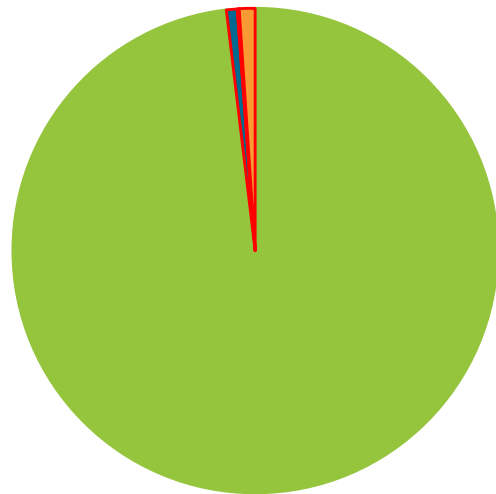


Montana Board of Investments  
 Asset Allocation by Segment  
 Retirement Plans

As of June 30, 2023

	Consolidated Asset Pension Pool (CAPP)		Short Term Investment Pool (STIP)		Total Fund	
	(\$)	%	(\$)	%	(\$)	%
Public Employees' Retirement	6,840,498,267	48.94	69,280,948	46.82	6,909,779,215	48.92
Teachers' Retirement	4,835,066,216	34.59	54,765,554	37.01	4,889,831,770	34.62
Firefighters' Retirement	615,182,793	4.40	6,402,214	4.33	621,585,007	4.40
Police Retirement	559,870,941	4.01	5,867,885	3.97	565,738,826	4.01
Sheriffs' Retirement	488,679,782	3.50	5,265,061	3.56	493,944,842	3.50
Game Wardens' Retirement	277,707,929	1.99	2,786,897	1.88	280,494,826	1.99
Highway Patrol Retirement	184,117,110	1.32	1,854,485	1.25	185,971,596	1.32
Judges' Retirement	129,328,399	0.93	1,302,290	0.88	130,630,689	0.92
Volunteer Firefighters' Retirement	47,060,588	0.34	461,456	0.31	47,522,044	0.34
<b>Retirement Plans Total Fund Composite</b>	<b>13,977,512,024</b>	<b>98.95</b>	<b>147,986,789</b>	<b>1.05</b>	<b>14,125,498,813</b>	<b>100.00</b>

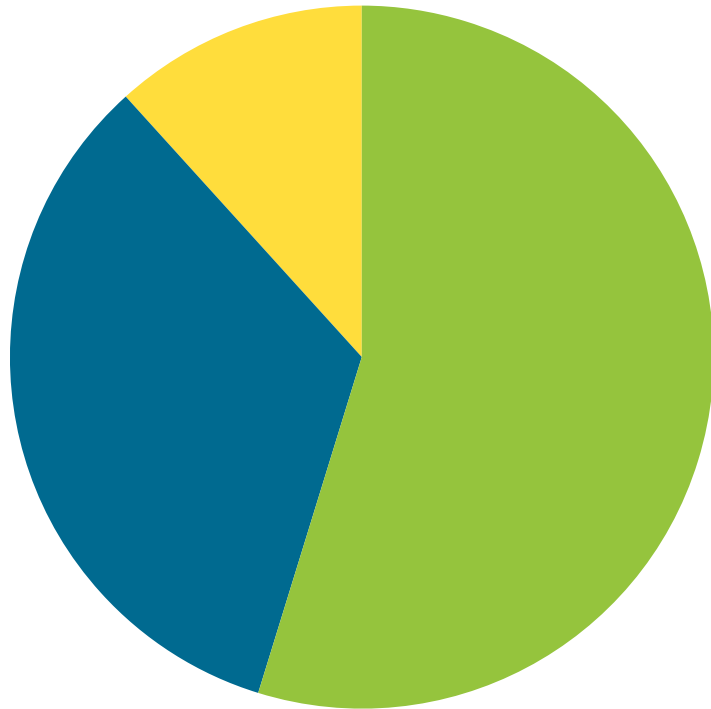
June 30, 2023 : \$14,125,498,813



Segments	Market Value (\$)	Allocation (%)
CAPP Ex Cash	13,859,495,758	98.12
CAPP Cash Pension	98,933,975	0.70
CAPP Asset Class Cash	19,082,291	0.14
Short Term Investment Pool (STIP)	147,986,789	1.05
Total Cash	266,003,055	1.88

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.

June 30, 2023 : \$25,524,330,830



	Market Value (\$)	Allocation (%)
Consolidated Asset Pension Pool (CAPP)	13,977,512,093	54.76
Short Term Investment Pool	8,558,256,527	33.53
Trust Funds Investment Pool	2,988,562,210	11.71

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 June 30, 2023

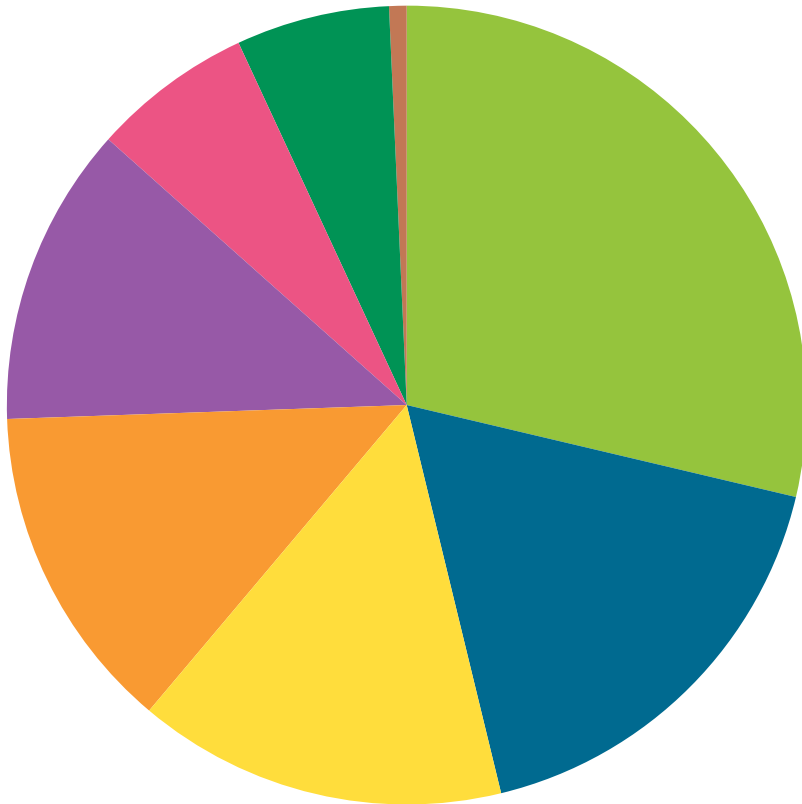
	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Consolidated Asset Pension Pool (CAPP)</b>	<b>3.09</b>	<b>6.92</b>	<b>8.53</b>	<b>9.95</b>	<b>7.65</b>	<b>N/A</b>	<b>N/A</b>	<b>-8.60</b>	<b>17.83</b>	<b>12.10</b>	<b>17.12</b>	<b>-2.74</b>	<b>8.08</b>	<b>04/01/2017</b>
CAPP Custom Benchmark	3.11	7.13	10.33	8.69	6.52	N/A	N/A	-10.99	13.95	12.38	20.70	-5.64	7.16	
Difference	-0.02	-0.21	-1.80	1.26	1.13	N/A	N/A	2.39	3.88	-0.28	-3.58	2.90	0.92	
<b>Trust Funds Investment Pool</b>	<b>-0.75</b>	<b>0.59</b>	<b>-1.33</b>	<b>-0.88</b>	<b>2.58</b>	<b>2.00</b>	<b>2.98</b>	<b>-6.26</b>	<b>1.49</b>	<b>7.23</b>	<b>8.98</b>	<b>0.45</b>	<b>5.41</b>	<b>10/01/1995</b>
Trust Fund Custom Benchmark	-1.28	-0.44	-0.93	-1.20	2.50	1.67	2.38	-5.04	0.71	7.51	8.72	0.01	4.61	
Difference	0.53	1.03	-0.40	0.32	0.08	0.33	0.60	-1.22	0.78	-0.28	0.26	0.44	0.80	
<b>Short Term Investment Pool</b>	<b>1.22</b>	<b>2.32</b>	<b>3.77</b>	<b>1.41</b>	<b>1.64</b>	<b>1.50</b>	<b>1.12</b>	<b>1.67</b>	<b>0.11</b>	<b>0.73</b>	<b>2.28</b>	<b>1.98</b>	<b>2.31</b>	<b>04/01/1997</b>
Short Term Custom Index	1.25	2.40	3.94	1.39	1.54	1.43	1.07	1.69	0.04	0.36	2.14	1.95	2.23	
Difference	-0.03	-0.08	-0.17	0.02	0.10	0.07	0.05	-0.02	0.07	0.37	0.14	0.03	0.08	
iMoney.net Money Fund (Gross) Median	1.29	2.46	4.09	1.51	1.76	1.62	1.21	1.83	0.15	0.73	2.45	2.15	2.31	
Difference	-0.07	-0.14	-0.32	-0.10	-0.12	-0.12	-0.09	-0.16	-0.04	0.00	-0.17	-0.17	0.00	

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 June 30, 2023

June 30, 2023 : \$13,977,512,255



	Market Value (\$)	Allocation (%)
Domestic Equity	4,011,185,192	28.70
Private Investments	2,447,683,208	17.51
International Equity	2,086,988,751	14.93
Core Fixed Income	1,859,722,566	13.31
Real Estate	1,697,163,177	12.14
Non-Core Fixed Income	908,303,129	6.50
Real Assets*	867,532,257	6.21
Cash Pension	98,933,975	0.71

Allocations shown may not sum up to 100% due to rounding.  
 \*Formerly the Natural Resources pension asset class.



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

As of June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Domestic Equity</b>	<b>8.15</b>	<b>15.84</b>	<b>18.87</b>	<b>14.38</b>	<b>10.96</b>	<b>12.48</b>	<b>12.02</b>	<b>-18.98</b>	<b>27.17</b>	<b>20.09</b>	<b>30.75</b>	<b>-7.09</b>	<b>9.69</b>	<b>05/01/2003</b>
Domestic Equity Custom Index	8.39	16.35	19.20	14.09	11.55	12.93	12.51	-19.22	26.12	21.10	31.14	-5.20	10.36	
Difference	-0.24	-0.51	-0.33	0.29	-0.59	-0.45	-0.49	0.24	1.05	-1.01	-0.39	-1.89	-0.67	
<b>International Equity</b>	<b>2.22</b>	<b>9.35</b>	<b>12.48</b>	<b>7.00</b>	<b>3.53</b>	<b>6.44</b>	<b>5.09</b>	<b>-17.62</b>	<b>7.83</b>	<b>13.35</b>	<b>22.86</b>	<b>-14.99</b>	<b>4.64</b>	<b>04/01/1997</b>
International Equity Custom Index	2.38	9.10	12.47	7.33	3.38	6.29	4.85	-16.58	8.53	11.12	21.63	-14.76	4.88	
Difference	-0.16	0.25	0.01	-0.33	0.15	0.15	0.24	-1.04	-0.70	2.23	1.23	-0.23	-0.24	
<b>Core Fixed Income</b>	<b>-0.69</b>	<b>2.18</b>	<b>-0.82</b>	<b>-3.49</b>	<b>0.83</b>	<b>0.45</b>	<b>1.67</b>	<b>-11.91</b>	<b>-1.54</b>	<b>8.25</b>	<b>6.90</b>	<b>0.95</b>	<b>5.05</b>	<b>04/01/1995</b>
Core Fixed Income Custom Index	-0.84	2.09	-0.94	-3.96	0.30	0.10	1.27	-13.01	-1.54	7.51	6.39	0.68	4.41	
Difference	0.15	0.09	0.12	0.47	0.53	0.35	0.40	1.10	0.00	0.74	0.51	0.27	0.64	
<b>Non-Core Fixed Income</b>	<b>1.99</b>	<b>4.38</b>	<b>8.03</b>	<b>1.83</b>	<b>2.59</b>	<b>3.47</b>	<b>3.74</b>	<b>-11.25</b>	<b>3.21</b>	<b>6.40</b>	<b>13.98</b>	<b>-2.27</b>	<b>6.34</b>	<b>06/01/2009</b>
Bloomberg US HY 2% Issuer Cap Index	1.75	5.38	9.07	3.12	3.34	4.52	4.43	-11.18	5.26	7.05	14.32	-2.08	7.38	
Difference	0.24	-1.00	-1.04	-1.29	-0.75	-1.05	-0.69	-0.07	-2.05	-0.65	-0.34	-0.19	-1.04	
<b>Real Assets</b>	<b>3.25</b>	<b>5.71</b>	<b>12.20</b>	<b>15.45</b>	<b>5.40</b>	<b>N/A</b>	<b>N/A</b>	<b>15.88</b>	<b>21.24</b>	<b>-13.43</b>	<b>-2.18</b>	<b>5.55</b>	<b>5.63</b>	<b>04/01/2017</b>
Real Assets Custom Index	-0.96	0.49	4.16	11.24	-0.77	3.42	0.95	1.36	13.32	-12.32	13.06	-11.75	2.49	
Difference	4.21	5.22	8.04	4.21	6.17	N/A	N/A	14.52	7.92	-1.11	-15.24	17.30	3.14	
<b>Real Estate</b>	<b>-1.96</b>	<b>-4.24</b>	<b>-2.10</b>	<b>9.52</b>	<b>7.49</b>	<b>7.85</b>	<b>9.17</b>	<b>12.00</b>	<b>20.00</b>	<b>-0.35</b>	<b>6.97</b>	<b>9.19</b>	<b>4.79</b>	<b>06/01/2006</b>
Real Estate Custom Index	-3.38	-8.37	-3.91	7.46	3.73	4.23	6.67	20.96	13.64	-19.66	25.84	-4.57	5.10	
Difference	1.42	4.13	1.81	2.06	3.76	3.62	2.50	-8.96	6.36	19.31	-18.87	13.76	-0.31	
<b>Cash Pension</b>	<b>2.19</b>	<b>3.27</b>	<b>4.96</b>	<b>1.85</b>	<b>1.91</b>	<b>N/A</b>	<b>N/A</b>	<b>2.06</b>	<b>0.13</b>	<b>0.84</b>	<b>2.28</b>	<b>2.00</b>	<b>1.82</b>	<b>05/01/2017</b>
Short Term Custom Index	1.25	2.40	3.94	1.39	1.54	1.43	1.07	1.69	0.04	0.36	2.14	1.95	1.53	
Difference	0.94	0.87	1.02	0.46	0.37	N/A	N/A	0.37	0.09	0.48	0.14	0.05	0.29	
<b>Private Investments*</b>	<b>2.63</b>	<b>3.82</b>	<b>2.83</b>	<b>21.13</b>	<b>14.93</b>	<b>14.75</b>	<b>13.35</b>	<b>5.94</b>	<b>39.81</b>	<b>10.91</b>	<b>12.95</b>	<b>11.55</b>	<b>12.95</b>	<b>05/01/2002</b>
Private Investments Custom Index	4.84	8.78	14.95	14.13	6.96	10.04	11.81	-13.86	16.54	18.90	27.38	-9.99	10.72	
Difference	-2.21	-4.96	-12.12	7.00	7.97	4.71	1.54	19.80	23.27	-7.99	-14.43	21.54	2.23	

For additional information on the Private Investments Custom Index, please see the Addendum.

\*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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Domestic Equity</b>	<b>8.19</b>	<b>15.89</b>	<b>18.94</b>	<b>14.54</b>	<b>11.18</b>	<b>12.74</b>	<b>12.30</b>	<b>-18.95</b>	<b>27.47</b>	<b>20.37</b>	<b>31.13</b>	<b>-6.78</b>	<b>9.97</b>	<b>05/01/2003</b>
All Public Plans-US Equity Segment Median	6.95	14.49	17.64	13.51	10.04	11.99	11.44	-18.06	24.57	18.92	30.04	-5.83	9.82	
Rank	22	28	17	28	24	23	21	63	30	32	28	74	35	
Population	50	50	49	47	44	41	38	65	70	67	65	66	10	
<b>International Equity</b>	<b>2.29</b>	<b>9.45</b>	<b>12.63</b>	<b>7.28</b>	<b>3.82</b>	<b>6.76</b>	<b>5.41</b>	<b>-17.46</b>	<b>8.18</b>	<b>13.71</b>	<b>23.28</b>	<b>-14.72</b>	<b>5.04</b>	<b>04/01/1997</b>
All Public Plans-Intl. Equity Segment Median	3.10	10.71	15.03	8.38	4.75	7.64	6.20	-16.99	9.51	12.76	23.71	-13.63	N/A	
Rank	80	79	72	73	80	82	80	56	74	45	62	78	N/A	
Population	51	51	51	48	47	47	42	65	69	68	65	68	N/A	
<b>Core Fixed Income</b>	<b>-0.68</b>	<b>2.20</b>	<b>-0.79</b>	<b>-3.45</b>	<b>0.87</b>	<b>0.50</b>	<b>1.71</b>	<b>-11.87</b>	<b>-1.48</b>	<b>8.31</b>	<b>6.94</b>	<b>1.00</b>	<b>5.18</b>	<b>04/01/1995</b>
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.72	2.42	-0.41	-3.43	1.20	0.94	1.96	-12.95	-1.24	8.49	9.17	0.06	4.89	
Rank	47	79	68	51	81	85	77	14	64	53	97	7	20	
Population	131	131	131	131	128	126	122	143	150	158	160	167	58	
<b>Non-Core Fixed Income</b>	<b>2.26</b>	<b>4.66</b>	<b>8.39</b>	<b>2.21</b>	<b>3.05</b>	<b>3.96</b>	<b>4.24</b>	<b>-11.05</b>	<b>3.64</b>	<b>6.91</b>	<b>14.60</b>	<b>-1.71</b>	<b>6.86</b>	<b>06/01/2009</b>
IM U.S. High Yield Bonds (SA+CF) Median	1.58	5.00	8.70	3.50	3.66	4.54	4.52	-9.46	5.31	6.57	14.32	-1.64	7.36	
Rank	13	63	59	91	85	79	66	82	91	44	42	52	76	
Population	135	135	135	133	128	122	111	160	165	179	191	201	87	
<b>Trust Funds Investment Pool</b>	<b>-0.64</b>	<b>0.74</b>	<b>-1.06</b>	<b>-0.70</b>	<b>2.72</b>	<b>2.13</b>	<b>3.09</b>	<b>-6.02</b>	<b>1.59</b>	<b>7.30</b>	<b>9.06</b>	<b>0.53</b>	<b>5.48</b>	<b>10/01/1995</b>
All Public Plans-US Fixed Income Segment Median	-0.62	2.39	0.17	-2.32	1.62	1.33	2.18	-11.83	-0.11	8.59	9.25	-0.25	N/A	
Rank	53	96	70	18	5	16	9	14	12	78	53	22	N/A	
Population	53	53	53	51	48	47	45	70	73	74	68	72	N/A	
<b>Real Estate</b>	<b>-1.43</b>	<b>-3.47</b>	<b>-0.96</b>	<b>10.72</b>	<b>8.89</b>	<b>9.33</b>	<b>10.64</b>	<b>13.02</b>	<b>21.37</b>	<b>1.11</b>	<b>8.65</b>	<b>11.12</b>	<b>6.22</b>	<b>06/01/2006</b>
All Public Plans-Real Estate Segment Median	-1.18	-3.06	-0.73	10.93	8.78	9.36	10.76	13.88	20.84	1.66	7.65	9.04	N/A	
Rank	60	57	54	55	50	51	52	56	47	72	39	15	N/A	
Population	40	36	34	29	23	20	15	42	41	38	35	27	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. The All Public Plans US Equity, Intl Equity, US Fixed Income, and Real Estate segments currently do not have enough members to calculate trailing period returns.

Montana Board of Investments  
Comparative Performance  
Equity Composites

As of June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Domestic Large Cap Equity - Net</b>	<b>8.76</b>	<b>17.19</b>	<b>19.74</b>	<b>14.69</b>	<b>12.34</b>	<b>13.45</b>	<b>12.92</b>	<b>-19.30</b>	<b>28.39</b>	<b>21.44</b>	<b>31.06</b>	<b>-4.71</b>	<b>9.28</b>	<b>12/01/2006</b>
S&P 500 Index (Cap Wtd)	8.74	16.89	19.59	14.60	12.31	13.38	12.86	-18.11	28.71	18.40	31.49	-4.38	9.40	
Difference	0.02	0.30	0.15	0.09	0.03	0.07	0.06	-1.19	-0.32	3.04	-0.43	-0.33	-0.12	
<b>Domestic Large Cap Equity - Gross</b>	<b>8.76</b>	<b>17.19</b>	<b>19.75</b>	<b>14.80</b>	<b>12.49</b>	<b>13.60</b>	<b>13.08</b>	<b>-19.29</b>	<b>28.61</b>	<b>21.66</b>	<b>31.29</b>	<b>-4.52</b>	<b>9.49</b>	<b>12/01/2006</b>
IM U.S. Large Cap Equity (SA+CF) Median	7.91	15.03	18.58	14.10	11.46	12.95	12.50	-17.09	27.38	18.31	30.42	-4.86	9.43	
Rank	34	32	35	34	30	36	33	67	37	34	42	46	48	
<b>Domestic Mid Cap Equity - Net</b>	<b>4.83</b>	<b>8.84</b>	<b>17.61</b>	<b>15.52</b>	<b>8.41</b>	<b>10.29</b>	<b>9.66</b>	<b>-13.07</b>	<b>25.15</b>	<b>13.53</b>	<b>28.03</b>	<b>-10.75</b>	<b>8.67</b>	<b>01/01/2005</b>
Russell Mid Cap Index	4.76	9.01	14.92	12.50	8.46	10.12	10.32	-17.32	22.58	17.10	30.54	-9.06	9.13	
Difference	0.07	-0.17	2.69	3.02	-0.05	0.17	-0.66	4.25	2.57	-3.57	-2.51	-1.69	-0.46	
<b>Domestic Mid Cap Equity - Gross</b>	<b>4.83</b>	<b>8.84</b>	<b>17.61</b>	<b>15.52</b>	<b>8.48</b>	<b>10.52</b>	<b>10.02</b>	<b>-13.07</b>	<b>25.15</b>	<b>13.53</b>	<b>28.11</b>	<b>-10.28</b>	<b>9.07</b>	<b>01/01/2005</b>
IM U.S. Mid Cap Equity (SA+CF) Median	5.15	10.02	17.39	14.16	9.31	11.27	10.93	-13.97	24.74	14.25	30.24	-9.70	9.87	
Rank	63	65	45	34	58	60	78	43	44	58	65	55	84	
<b>Domestic Small Cap Equity - Net</b>	<b>4.95</b>	<b>8.87</b>	<b>15.76</b>	<b>15.86</b>	<b>6.65</b>	<b>10.23</b>	<b>9.77</b>	<b>-16.81</b>	<b>27.56</b>	<b>13.07</b>	<b>25.76</b>	<b>-10.51</b>	<b>11.07</b>	<b>03/01/2003</b>
Russell 2000 Index	5.21	8.09	12.31	10.82	4.21	8.76	8.26	-20.44	14.82	19.96	25.53	-11.01	9.94	
Difference	-0.26	0.78	3.45	5.04	2.44	1.47	1.51	3.63	12.74	-6.89	0.23	0.50	1.13	
<b>Domestic Small Cap Equity - Gross</b>	<b>4.96</b>	<b>8.89</b>	<b>15.79</b>	<b>16.08</b>	<b>6.94</b>	<b>10.62</b>	<b>10.25</b>	<b>-16.79</b>	<b>28.00</b>	<b>13.50</b>	<b>26.25</b>	<b>-10.09</b>	<b>11.57</b>	<b>03/01/2003</b>
IM U.S. Small Cap Equity (SA+CF) Median	5.01	9.14	15.31	14.62	7.01	10.62	10.17	-16.54	23.76	17.43	25.80	-10.37	11.92	
Rank	51	54	45	39	51	51	49	52	33	58	47	49	59	

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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>International Large Cap Passive - Net</b>	<b>2.56</b>	<b>9.95</b>	<b>12.74</b>	<b>7.29</b>	<b>3.64</b>	<b>6.49</b>	<b>5.01</b>	<b>-16.10</b>	<b>7.76</b>	<b>10.81</b>	<b>21.59</b>	<b>-14.04</b>	<b>5.91</b>	<b>06/01/2009</b>
MSCI ACW Ex US Index (USD) (Net)	2.44	9.47	12.72	7.22	3.52	6.32	4.75	-16.00	7.82	10.65	21.51	-14.20	5.71	
Difference	0.12	0.48	0.02	0.07	0.12	0.17	0.26	-0.10	-0.06	0.16	0.08	0.16	0.20	
<b>International Large Cap Passive - Gross</b>	<b>2.56</b>	<b>9.97</b>	<b>12.78</b>	<b>7.35</b>	<b>3.70</b>	<b>6.56</b>	<b>5.08</b>	<b>-16.06</b>	<b>7.82</b>	<b>10.88</b>	<b>21.66</b>	<b>-13.98</b>	<b>5.99</b>	<b>06/01/2009</b>
<b>International Equity Active - Net</b>	<b>1.72</b>	<b>8.95</b>	<b>12.11</b>	<b>6.73</b>	<b>3.58</b>	<b>6.61</b>	<b>5.67</b>	<b>-19.26</b>	<b>7.77</b>	<b>15.91</b>	<b>25.83</b>	<b>-16.18</b>	<b>3.70</b>	<b>04/01/1997</b>
MSCI ACW Ex US Index (USD) (Net)	2.44	9.47	12.72	7.22	3.52	6.32	4.75	-16.00	7.82	10.65	21.51	-14.20	4.96	
Difference	-0.72	-0.52	-0.61	-0.49	0.06	0.29	0.92	-3.26	-0.05	5.26	4.32	-1.98	-1.26	
<b>International Equity Active - Gross</b>	<b>1.86</b>	<b>9.24</b>	<b>12.73</b>	<b>7.29</b>	<b>4.12</b>	<b>7.17</b>	<b>6.21</b>	<b>-18.82</b>	<b>8.30</b>	<b>16.50</b>	<b>26.48</b>	<b>-15.73</b>	<b>4.22</b>	<b>04/01/1997</b>
IM International Large Cap Core Equity (SA+CF) Median	3.30	11.82	17.84	8.98	4.77	7.39	6.34	-15.89	12.14	11.77	23.58	-14.27	6.81	
Rank	90	85	87	85	74	58	55	74	79	29	32	70	100	
<b>International Value - Net</b>	<b>2.51</b>	<b>8.80</b>	<b>12.07</b>	<b>9.38</b>	<b>3.91</b>	<b>7.02</b>	<b>5.64</b>	<b>-13.14</b>	<b>9.32</b>	<b>9.31</b>	<b>20.76</b>	<b>-13.97</b>	<b>2.77</b>	<b>11/01/2006</b>
MSCI ACW Ex US Val Index (USD) (Net)	2.95	8.26	12.19	10.42	2.65	5.71	3.70	-8.59	10.46	-0.77	15.72	-13.97	2.33	
Difference	-0.44	0.54	-0.12	-1.04	1.26	1.31	1.94	-4.55	-1.14	10.08	5.04	0.00	0.44	
<b>International Value - Gross</b>	<b>2.63</b>	<b>9.07</b>	<b>12.61</b>	<b>9.91</b>	<b>4.42</b>	<b>7.56</b>	<b>6.19</b>	<b>-12.73</b>	<b>9.85</b>	<b>9.87</b>	<b>21.37</b>	<b>-13.52</b>	<b>3.33</b>	<b>11/01/2006</b>
IM International Large Cap Value Equity (SA+CF) Median	3.17	12.51	17.81	11.51	4.61	7.32	5.96	-9.17	11.82	4.74	21.15	-14.75	4.43	
Rank	70	84	87	67	58	43	44	68	64	27	46	38	86	
<b>International Growth - Net</b>	<b>1.32</b>	<b>11.34</b>	<b>15.57</b>	<b>4.14</b>	<b>4.37</b>	<b>6.33</b>	<b>5.34</b>	<b>-23.99</b>	<b>3.79</b>	<b>23.08</b>	<b>31.39</b>	<b>-16.09</b>	<b>3.43</b>	<b>11/01/2006</b>
MSCI ACW Ex US Grth Index (USD) (Net)	1.94	10.70	13.26	3.96	4.06	6.69	5.61	-23.05	5.09	22.20	27.34	-14.43	4.09	
Difference	-0.62	0.64	2.31	0.18	0.31	-0.36	-0.27	-0.94	-1.30	0.88	4.05	-1.66	-0.66	
<b>International Growth - Gross</b>	<b>1.46</b>	<b>11.65</b>	<b>16.20</b>	<b>4.70</b>	<b>4.93</b>	<b>6.92</b>	<b>5.90</b>	<b>-23.58</b>	<b>4.33</b>	<b>23.74</b>	<b>32.10</b>	<b>-15.61</b>	<b>3.97</b>	<b>11/01/2006</b>
IM International Large Cap Growth Equity (SA+CF) Median	2.93	12.65	17.83	6.64	6.02	8.55	7.23	-23.83	11.00	23.56	29.67	-13.54	5.43	
Rank	79	66	72	75	72	87	88	49	84	50	25	68	94	
<b>International Small Cap - Net</b>	<b>1.46</b>	<b>5.64</b>	<b>7.39</b>	<b>6.22</b>	<b>1.65</b>	<b>5.78</b>	<b>5.78</b>	<b>-21.69</b>	<b>11.57</b>	<b>14.63</b>	<b>23.91</b>	<b>-18.90</b>	<b>4.16</b>	<b>09/01/2006</b>
MSCI ACWI Ex US Sm Cap Index IMI (USD) (Net)	2.05	6.84	10.93	8.15	2.62	6.10	5.75	-19.97	12.93	14.24	22.42	-18.20	4.83	
Difference	-0.59	-1.20	-3.54	-1.93	-0.97	-0.32	0.03	-1.72	-1.36	0.39	1.49	-0.70	-0.67	

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 MSCI 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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Domestic Large Cap Equity</b>														
<b>BlackRock MSCI US Equity Index (SA) - Net</b>	8.72	17.12	19.56	14.10	N/A	N/A	N/A	-19.46	26.95	21.33	N/A	N/A	12.96	04/01/2019
MSCI US Index (USD) (Gross)	8.72	17.13	19.57	14.11	12.17	13.33	12.79	-19.46	26.97	21.37	31.64	-4.50	12.98	
Difference	0.00	-0.01	-0.01	-0.01	N/A	N/A	N/A	0.00	-0.02	-0.04	N/A	N/A	-0.02	
<b>BlackRock MSCI US Equity Index (SA) - Gross</b>	8.72	17.12	19.57	14.11	N/A	N/A	N/A	-19.45	26.96	21.34	N/A	N/A	12.97	04/01/2019
IM U.S. Large Cap Core Equity (SA+CF) Median	7.74	14.33	17.98	13.94	11.39	12.88	12.56	-16.49	27.77	17.53	30.03	-5.07	12.21	
Rank	30	23	32	45	N/A	N/A	N/A	77	56	29	N/A	N/A	33	
<b>Northern Trust MSCI US Index (SA) - Net</b>	8.72	17.12	19.55	14.10	N/A	N/A	N/A	-19.46	26.97	21.34	31.70	N/A	13.09	11/01/2018
MSCI US Index (USD) (Gross)	8.72	17.13	19.57	14.11	12.17	13.33	12.79	-19.46	26.97	21.37	31.64	-4.50	13.09	
Difference	0.00	-0.01	-0.02	-0.01	N/A	N/A	N/A	0.00	0.00	-0.03	0.06	N/A	0.00	
<b>Northern Trust MSCI US Index (SA) - Gross</b>	8.72	17.12	19.56	14.11	N/A	N/A	N/A	-19.45	26.98	21.36	31.71	N/A	13.10	11/01/2018
IM U.S. Large Cap Core Equity (SA+CF) Median	7.74	14.33	17.98	13.94	11.39	12.88	12.56	-16.49	27.77	17.53	30.03	-5.07	12.37	
Rank	30	23	33	45	N/A	N/A	N/A	77	56	29	31	N/A	35	
<b>iShares:Core S&amp;P Tot USM (ITOT) - Net</b>	8.37	16.48	19.02	N/A	N/A	N/A	N/A	-19.46	N/A	N/A	N/A	N/A	-1.67	12/01/2021
S&P Tot Mkt Index	8.39	16.24	18.90	13.74	11.26	12.77	12.24	-19.53	25.66	20.79	30.90	-5.30	-1.84	
Difference	-0.02	0.24	0.12	N/A	N/A	N/A	N/A	0.07	N/A	N/A	N/A	N/A	0.17	
<b>iShares:Core S&amp;P 500 (IVV) - Net</b>	8.69	16.77	19.49	N/A	N/A	N/A	N/A	-17.03	N/A	N/A	N/A	N/A	0.83	12/01/2021
S&P 500 Index (Cap Wtd)	8.74	16.89	19.59	14.60	12.31	13.38	12.86	-18.11	28.71	18.40	31.49	-4.38	0.01	
Difference	-0.05	-0.12	-0.10	N/A	N/A	N/A	N/A	1.08	N/A	N/A	N/A	N/A	0.82	
<b>Domestic Mid Cap Equity</b>														
<b>iShares:Core S&amp;P Md-Cp (IJH) - Net</b>	4.83	8.84	17.62	15.53	7.82	N/A	N/A	-13.07	25.15	13.53	26.24	-13.95	8.18	07/01/2017
S&P Mid Cap 400 Index (Cap Wtd)	4.85	8.84	17.61	15.44	7.79	10.07	10.21	-13.06	24.76	13.66	26.20	-11.08	8.72	
Difference	-0.02	0.00	0.01	0.09	0.03	N/A	N/A	-0.01	0.39	-0.13	0.04	-2.87	-0.54	

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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Domestic Small Cap Equity</b>														
<b>BlackRock MSCI USA Small Cap Index (SA) - Net</b>	<b>5.23</b>	<b>9.35</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>08/01/2022</b>
MSCI US Sm Cap Index (USD) (Net)	5.12	9.09	14.82	13.31	6.29	9.73	9.35	-17.55	19.11	18.32	26.74	-10.40	3.77	
Difference	0.11	0.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>BlackRock MSCI USA Small Cap Index (SA) - Gross</b>	<b>5.24</b>	<b>9.37</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>08/01/2022</b>
MSCI US Sm Cap Index (USD) (Gross)	5.25	9.36	15.39	13.81	6.78	10.24	9.87	-17.17	19.56	18.90	27.38	-9.99	4.25	
Difference	-0.01	0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>iShares Core S&amp;P Small Cap ETF (IJR) - Net</b>	<b>3.27</b>	<b>5.89</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>2.79</b>	<b>11/01/2022</b>
S&P Sm Cap 600 Index (Cap Wtd)	3.38	6.03	9.75	15.19	5.22	9.63	9.81	-16.10	26.82	11.29	22.78	-8.48	3.04	
Difference	-0.11	-0.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.25	

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 Small Cap ETF (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 Small Cap ETF (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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>International Developed Large Cap Equity</b>														
<b>Acadian Asset Non-US Equity (SA) - Net</b>	1.90	4.96	8.13	10.64	3.95	8.70	6.80	-13.02	16.67	8.89	19.38	-13.44	3.70	11/01/2006
MSCI ACW Ex US Val Index (USD) (Net)	2.95	8.26	12.19	10.42	2.65	5.71	3.70	-8.59	10.46	-0.77	15.72	-13.97	2.33	
Difference	-1.05	-3.30	-4.06	0.22	1.30	2.99	3.10	-4.43	6.21	9.66	3.66	0.53	1.37	
<b>Acadian Asset Non-US Equity (SA) - Gross</b>	2.03	5.21	8.64	11.17	4.46	9.25	7.35	-12.61	17.23	9.45	19.98	-12.99	4.26	11/01/2006
IM ACWI Ex US Value (SA+CF) Median	2.93	12.58	17.31	10.46	4.64	7.50	6.08	-11.10	11.05	6.52	21.34	-14.78	4.39	
Rank	89	99	98	42	59	18	14	64	7	43	57	26	60	
<b>Lazard Asset Management (SA) - Net</b>	3.43	13.57	16.97	9.01	4.16	5.80	N/A	-13.28	4.11	9.59	21.70	-14.32	3.86	06/01/2015
Lazard Custom Index	2.44	9.47	12.72	7.22	3.52	6.34	4.13	-16.00	7.82	10.65	21.51	-15.55	3.09	
Difference	0.99	4.10	4.25	1.79	0.64	-0.54	N/A	2.72	-3.71	-1.06	0.19	1.23	0.77	
<b>Lazard Asset Management (SA) - Gross</b>	3.55	13.84	17.54	9.55	4.68	6.34	N/A	-12.84	4.62	10.14	22.31	-13.88	4.39	06/01/2015
IM ACWI Ex US Value (SA+CF) Median	2.93	12.58	17.31	10.46	4.64	7.50	6.08	-11.10	11.05	6.52	21.34	-14.78	4.75	
Rank	34	29	49	68	49	67	N/A	65	94	39	42	35	63	
<b>BlackRock ACW Ex US SuperFund A (CF) - Net</b>	2.58	9.71	13.00	7.45	3.73	6.56	4.97	-15.77	8.00	10.80	21.77	-13.99	5.93	06/01/2009
MSCI ACW Ex US Index (USD) (Net)	2.44	9.47	12.72	7.22	3.52	6.32	4.75	-16.00	7.82	10.65	21.51	-14.20	5.71	
Difference	0.14	0.24	0.28	0.23	0.21	0.24	0.22	0.23	0.18	0.15	0.26	0.21	0.22	
<b>BlackRock ACW Ex US SuperFund A (CF) - Gross</b>	2.58	9.72	13.04	7.51	3.79	6.63	5.04	-15.72	8.07	10.88	21.85	-13.93	6.01	06/01/2009
IM All ACWI Ex US (SA+CF) Median	3.04	12.07	17.00	7.95	4.90	7.60	6.35	-17.16	9.40	14.78	24.97	-14.57	7.58	
Rank	66	80	82	61	74	72	87	43	62	60	67	43	91	
<b>iShares:Core MSCI EAFE ETF (IEFA) - Net</b>	2.89	11.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	24.52	11/01/2022
MSCI EAFE IM Index (USD) (Net)	2.62	10.78	17.51	8.44	3.93	6.70	5.49	-15.53	11.08	8.47	22.44	-14.40	23.32	
Difference	0.27	1.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.20	
<b>Baillie Gifford (SA) - Net</b>	-0.02	10.12	13.06	0.72	2.84	6.14	N/A	-31.43	1.69	34.22	34.34	-17.35	4.37	06/01/2015
MSCI ACW Ex US Grth Index (USD) (Net)	1.94	10.70	13.26	3.96	4.06	6.69	5.61	-23.05	5.09	22.20	27.34	-14.43	4.59	
Difference	-1.96	-0.58	-0.20	-3.24	-1.22	-0.55	N/A	-8.38	-3.40	12.02	7.00	-2.92	-0.22	
<b>Baillie Gifford (SA) - Gross</b>	0.11	10.40	13.62	1.20	3.33	6.66	N/A	-31.11	2.16	34.86	34.99	-16.93	4.88	06/01/2015
IM ACWI Ex US Growth (SA+CF) Median	3.04	12.45	17.94	6.36	5.65	8.29	6.93	-23.62	9.00	22.14	29.57	-13.77	5.79	
Rank	99	87	91	95	89	88	N/A	92	91	13	9	85	84	

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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Invesco (SA) - Net</b>	<b>2.38</b>	<b>12.33</b>	<b>17.49</b>	<b>6.81</b>	<b>5.53</b>	<b>6.45</b>	<b>N/A</b>	<b>-17.80</b>	<b>5.60</b>	<b>14.84</b>	<b>29.29</b>	<b>-15.17</b>	<b>4.34</b>	<b>06/01/2015</b>
MSCI ACW Ex US Grth Index (USD) (Net)	1.94	10.70	13.26	3.96	4.06	6.69	5.61	-23.05	5.09	22.20	27.34	-14.43	4.59	
Difference	0.44	1.63	4.23	2.85	1.47	-0.24	N/A	5.25	0.51	-7.36	1.95	-0.74	-0.25	
<b>Invesco (SA) - Gross</b>	<b>2.52</b>	<b>12.65</b>	<b>18.17</b>	<b>7.42</b>	<b>6.14</b>	<b>7.08</b>	<b>N/A</b>	<b>-17.32</b>	<b>6.20</b>	<b>15.51</b>	<b>30.05</b>	<b>-14.64</b>	<b>4.97</b>	<b>06/01/2015</b>
IM ACWI Ex US Growth (SA+CF) Median	3.04	12.45	17.94	6.36	5.65	8.29	6.93	-23.62	9.00	22.14	29.57	-13.77	5.79	
Rank	61	47	41	38	35	77	N/A	20	77	83	45	56	78	
<b>International Developed Small Cap Equity</b>														
<b>BlackRock MSCI ACW Ex US Sm Cap Index (CF) - Net</b>	<b>2.12</b>	<b>6.75</b>	<b>10.95</b>	<b>8.21</b>	<b>2.79</b>	<b>6.32</b>	<b>5.96</b>	<b>-19.65</b>	<b>12.84</b>	<b>14.45</b>	<b>22.68</b>	<b>-17.85</b>	<b>6.19</b>	<b>02/01/2012</b>
MSCI ACWI Ex US Sm Cap Index IMI (USD) (Net)	2.05	6.84	10.93	8.15	2.62	6.10	5.75	-19.97	12.93	14.24	22.42	-18.20	5.98	
Difference	0.07	-0.09	0.02	0.06	0.17	0.22	0.21	0.32	-0.09	0.21	0.26	0.35	0.21	
<b>BlackRock MSCI ACW Ex US Sm Cap Index (CF) - Gross</b>	<b>2.14</b>	<b>6.78</b>	<b>11.02</b>	<b>8.32</b>	<b>2.90</b>	<b>6.45</b>	<b>6.11</b>	<b>-19.57</b>	<b>12.98</b>	<b>14.50</b>	<b>22.90</b>	<b>-17.74</b>	<b>6.34</b>	<b>02/01/2012</b>
IM International Small Cap Equity (SA+CF) Median	0.98	7.34	12.39	7.28	3.02	7.17	7.17	-21.48	13.78	13.73	24.78	-17.85	8.29	
Rank	28	63	63	40	54	62	75	41	57	48	62	49	94	
<b>Acadian Ex US Small Cap (SA) - Net</b>	<b>0.71</b>	<b>4.70</b>	<b>6.18</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-5.97</b>	<b>03/01/2022</b>
MSCI ACW Ex US Sm Cap Index (USD) (Net)	2.05	6.84	10.93	8.15	2.62	6.10	5.75	-19.97	12.93	14.24	22.42	-18.20	-5.76	
Difference	-1.34	-2.14	-4.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.21	
<b>Acadian Ex US Small Cap (SA) - Gross</b>	<b>0.88</b>	<b>5.05</b>	<b>6.87</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-5.33</b>	<b>03/01/2022</b>
IM All ACWI Ex US (SA+CF) Median	3.04	12.07	17.00	7.95	4.90	7.60	6.35	-17.16	9.40	14.78	24.97	-14.57	0.05	
Rank	94	100	99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94	
<b>International Emerging Equity</b>														
<b>iShares:Core MSCI EmMkts (IEMG) - Net</b>	<b>2.04</b>	<b>6.76</b>	<b>3.06</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-21.88</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-11.40</b>	<b>01/01/2022</b>
MSCI Emg Mkts IM Index (USD) (Net)	1.62	5.63	3.19	3.60	1.42	5.16	3.16	-19.83	-0.28	18.39	17.65	-15.05	-10.50	
Difference	0.42	1.13	-0.13	N/A	N/A	N/A	N/A	-2.05	N/A	N/A	N/A	N/A	-0.90	

Gross of fees performance is not available (N/A) for the following funds: iShares:Core MSCI EAFE ETF (IEFA), International Equity Pool STIF, and iShares:Core MSCI Em Mkts (IEMG). The current annual expense ratios for the iShares:Core MSCI EAFE ETF (IEFA), and iShares:Core MSCI Em Mkts (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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>US Fixed Income Aggregate - Net</b>	<b>-0.73</b>	2.13	<b>-0.92</b>	<b>-3.62</b>	N/A	N/A	N/A	<b>-11.87</b>	<b>-1.52</b>	7.65	N/A	N/A	<b>-1.32</b>	12/01/2019
Bloomberg US Agg Bond Index	<b>-0.84</b>	2.09	<b>-0.94</b>	<b>-3.97</b>	0.77	0.44	1.52	<b>-13.01</b>	<b>-1.55</b>	7.51	8.72	0.01	<b>-1.73</b>	
Difference	0.11	0.04	0.02	0.35	N/A	N/A	N/A	1.14	0.03	0.14	N/A	N/A	0.41	

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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Neuberger Berman High Yield (SA) - Net</b>	1.32	4.58	8.74	2.52	2.86	3.77	3.83	-11.34	4.76	6.30	13.75	-1.99	5.52	01/01/2010
Bloomberg US HY 2% Issuer Cap Index	1.75	5.38	9.07	3.12	3.34	4.52	4.43	-11.18	5.26	7.05	14.32	-2.08	5.96	
Difference	-0.43	-0.80	-0.33	-0.60	-0.48	-0.75	-0.60	-0.16	-0.50	-0.75	-0.57	0.09	-0.44	
<b>Neuberger Berman High Yield (SA) - Gross</b>	1.37	4.68	8.95	2.76	3.19	4.14	4.22	-11.16	4.96	6.75	14.26	-1.56	5.94	01/01/2010
IM U.S. High Yield Bonds (SA+CF) Median	1.57	5.00	8.67	3.50	3.65	4.53	4.49	-9.46	5.31	6.56	14.29	-1.64	6.09	
Rank	70	62	41	80	77	73	67	83	60	45	51	49	62	
<b>Oaktree US High Yield (SA) (CAPP) - Net</b>	1.76	4.89	9.29	3.19	3.45	N/A	N/A	-9.92	4.91	6.56	15.44	-3.99	2.91	01/01/2018
Bloomberg US HY 2% Issuer Cap Index	1.75	5.38	9.07	3.12	3.34	4.52	4.43	-11.18	5.26	7.05	14.32	-2.08	3.06	
Difference	0.01	-0.49	0.22	0.07	0.11	N/A	N/A	1.26	-0.35	-0.49	1.12	-1.91	-0.15	
<b>Oaktree US High Yield (SA) (CAPP) - Gross</b>	1.86	5.09	9.71	3.60	3.90	N/A	N/A	-9.60	5.34	7.07	16.02	-3.47	3.37	01/01/2018
IM U.S. High Yield Bonds (SA+CF) Median	1.58	5.00	8.70	3.50	3.66	4.54	4.52	-9.46	5.31	6.57	14.32	-1.64	3.33	
Rank	27	46	24	45	32	N/A	N/A	53	50	42	17	92	46	
<b>Shenkman High Yield Fixed Income (SA) (CAPP) - Net</b>	1.72	5.29	9.03	3.18	3.53	N/A	N/A	-8.87	4.24	6.32	13.65	-1.96	3.01	12/01/2017
Bloomberg US HY 2% Issuer Cap Index	1.75	5.38	9.07	3.12	3.34	4.52	4.43	-11.18	5.26	7.05	14.32	-2.08	3.07	
Difference	-0.03	-0.09	-0.04	0.06	0.19	N/A	N/A	2.31	-1.02	-0.73	-0.67	0.12	-0.06	
<b>Shenkman High Yield Fixed Income (SA) (CAPP) - Gross</b>	1.82	5.50	9.46	3.61	3.98	N/A	N/A	-8.52	4.68	6.82	14.18	-1.46	3.47	12/01/2017
IM U.S. High Yield Bonds (SA+CF) Median	1.58	5.00	8.70	3.50	3.66	4.54	4.52	-9.46	5.31	6.57	14.32	-1.64	3.34	
Rank	29	29	29	45	29	N/A	N/A	37	71	45	52	46	38	

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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Cohen &amp; Steers Preferred Securities (SA) - Net</b>	<b>2.04</b>	<b>-0.46</b>	<b>0.27</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-11.53</b>	<b>3.70</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-1.70</b>	<b>11/01/2020</b>
Cohen & Steers Preferred Securities Custom Benchmark	2.11	1.71	2.67	N/A	N/A	N/A	N/A	-12.02	2.72	N/A	N/A	N/A	-1.65	
Difference	-0.07	-2.17	-2.40	N/A	N/A	N/A	N/A	0.49	0.98	N/A	N/A	N/A	-0.05	
<b>Cohen &amp; Steers Preferred Securities (SA) - Gross</b>	<b>2.13</b>	<b>-0.29</b>	<b>0.61</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-11.23</b>	<b>4.06</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-1.36</b>	<b>11/01/2020</b>
<b>Payden &amp; Rygel EMD (SA) - Net</b>	<b>2.76</b>	<b>5.57</b>	<b>10.45</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-15.45</b>	<b>-3.49</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-5.79</b>	<b>01/01/2021</b>
Payden & Rygel EMD Custom Benchmark	2.28	5.20	8.60	N/A	N/A	N/A	N/A	-15.97	-3.92	N/A	N/A	N/A	-6.32	
Difference	0.48	0.37	1.85	N/A	N/A	N/A	N/A	0.52	0.43	N/A	N/A	N/A	0.53	
<b>Payden &amp; Rygel EMD (SA) - Gross</b>	<b>2.86</b>	<b>5.77</b>	<b>10.84</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-15.15</b>	<b>-3.14</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-5.45</b>	<b>01/01/2021</b>
IM Emerging Markets Debt (SA+CF) Median	2.58	5.06	9.62	-0.41	1.71	2.19	2.63	-12.24	-2.13	6.71	14.30	-5.27	-4.49	
Rank	44	42	38	N/A	N/A	N/A	N/A	70	58	N/A	N/A	N/A	69	
<b>Zazove Convertible Bonds (SA) - Net</b>	<b>3.46</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.46</b>	<b>04/01/2023</b>
Bloomberg US Convert's Liquid Bond Index	4.85	9.68	11.36	8.25	9.69	11.37	10.30	-20.06	3.07	54.45	22.79	-1.79	4.85	
Difference	-1.39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.39	
<b>Zazove Convertible Bonds (SA) - Gross</b>	<b>3.58</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.58</b>	<b>04/01/2023</b>
IM U.S. Convertible Bonds (SA+CF) Median	2.88	4.69	6.34	6.23	6.76	7.77	7.43	-11.70	6.22	18.72	18.71	-0.72	2.89	
Rank	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15	

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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
<b>Trust Funds Investment Pool Fixed Income</b>	<b>-0.31</b>	<b>2.93</b>	<b>0.83</b>	<b>-2.39</b>	<b>1.89</b>	<b>1.32</b>	<b>2.38</b>	<b>-11.24</b>	<b>-0.47</b>	<b>8.84</b>	<b>9.12</b>	<b>0.25</b>	<b>5.16</b>	<b>10/01/1995</b>
Bloomberg US Agg Bond Index	-0.84	2.09	-0.94	-3.97	0.77	0.44	1.52	-13.01	-1.55	7.51	8.72	0.01	4.29	
Difference	0.53	0.84	1.77	1.58	1.12	0.88	0.86	1.77	1.08	1.33	0.40	0.24	0.87	
<b>Trust Funds Investment Pool Fixed Income</b>	<b>-0.31</b>	<b>2.93</b>	<b>0.83</b>	<b>-2.39</b>	<b>1.89</b>	<b>1.32</b>	<b>2.38</b>	<b>-11.24</b>	<b>-0.47</b>	<b>8.84</b>	<b>9.12</b>	<b>0.25</b>	<b>5.16</b>	<b>10/01/1995</b>
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.72	2.42	-0.41	-3.43	1.20	0.94	1.96	-12.95	-1.24	8.49	9.17	0.06	4.70	
Rank	9	12	8	11	8	15	15	9	21	36	54	29	6	
<b>Shenkman High Yield Fixed Income (SA) (TFIP) - Net</b>	<b>1.77</b>	<b>5.33</b>	<b>9.07</b>	<b>3.15</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-9.04</b>	<b>4.31</b>	<b>6.05</b>	<b>N/A</b>	<b>N/A</b>	<b>2.46</b>	<b>07/01/2019</b>
Bloomberg US HY 2% Issuer Cap Index	1.75	5.38	9.07	3.12	3.34	4.52	4.43	-11.18	5.26	7.05	14.32	-2.08	2.33	
Difference	0.02	-0.05	0.00	0.03	N/A	N/A	N/A	2.14	-0.95	-1.00	N/A	N/A	0.13	
<b>Shenkman High Yield Fixed Income (SA) (TFIP) - Gross</b>	<b>1.88</b>	<b>5.54</b>	<b>9.50</b>	<b>3.57</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-8.68</b>	<b>4.74</b>	<b>6.54</b>	<b>N/A</b>	<b>N/A</b>	<b>2.89</b>	<b>07/01/2019</b>
IM U.S. High Yield Bonds (SA+CF) Median	1.58	5.00	8.70	3.50	3.66	4.54	4.52	-9.46	5.31	6.57	14.32	-1.64	2.74	
Rank	25	26	29	47	N/A	N/A	N/A	38	68	52	N/A	N/A	42	
<b>Oaktree US High Yield (SA) (TFIP) - Net</b>	<b>1.78</b>	<b>4.91</b>	<b>9.47</b>	<b>3.35</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-9.51</b>	<b>4.93</b>	<b>6.72</b>	<b>N/A</b>	<b>N/A</b>	<b>2.64</b>	<b>08/01/2019</b>
Bloomberg US HY 2% Issuer Cap Index	1.75	5.38	9.07	3.12	3.34	4.52	4.43	-11.18	5.26	7.05	14.32	-2.08	2.24	
Difference	0.03	-0.47	0.40	0.23	N/A	N/A	N/A	1.67	-0.33	-0.33	N/A	N/A	0.40	
<b>Oaktree US High Yield (SA) (TFIP) - Gross</b>	<b>1.88</b>	<b>5.11</b>	<b>9.89</b>	<b>3.75</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-9.20</b>	<b>5.36</b>	<b>7.25</b>	<b>N/A</b>	<b>N/A</b>	<b>3.07</b>	<b>08/01/2019</b>
IM U.S. High Yield Bonds (SA+CF) Median	1.58	5.00	8.70	3.50	3.66	4.54	4.52	-9.46	5.31	6.57	14.32	-1.64	2.67	
Rank	25	46	16	37	N/A	N/A	N/A	48	49	37	N/A	N/A	29	
<b>Neuberger Berman High Yield (SA) (TFIP) - Net</b>	<b>1.29</b>	<b>4.50</b>	<b>8.38</b>	<b>2.47</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-11.43</b>	<b>4.62</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.72</b>	<b>04/01/2020</b>
Bloomberg US HY 2% Issuer Cap Index	1.75	5.38	9.07	3.12	3.34	4.52	4.43	-11.18	5.26	7.05	14.32	-2.08	5.98	
Difference	-0.46	-0.88	-0.69	-0.65	N/A	N/A	N/A	-0.25	-0.64	N/A	N/A	N/A	-1.26	
<b>Neuberger Berman High Yield (SA) (TFIP) - Gross</b>	<b>1.35</b>	<b>4.61</b>	<b>8.60</b>	<b>2.71</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-11.25</b>	<b>4.81</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.98</b>	<b>04/01/2020</b>
IM U.S. High Yield Bonds (SA+CF) Median	1.58	5.00	8.70	3.50	3.66	4.54	4.52	-9.46	5.31	6.57	14.32	-1.64	6.07	
Rank	71	66	54	82	N/A	N/A	N/A	84	65	N/A	N/A	N/A	81	

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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
Abandoned Mine Trust	1.23	2.32	3.77	1.42	1.68	1.47	1.45	1.68	0.13	0.73	2.41	1.85	3.68	12/01/1993
Barker Hughesville St Response	-0.49	0.81	0.61	-0.07	N/A	N/A	N/A	-3.87	1.36	N/A	N/A	N/A	0.20	05/01/2020
Belt Water Treatment Plant Fund	-0.44	0.85	0.71	0.01	2.98	N/A	N/A	-3.71	1.34	6.80	8.56	N/A	2.90	03/01/2018
Big Sky Economic Development Fund	-0.72	0.58	0.26	-0.21	2.92	2.25	3.13	-4.27	1.45	7.12	8.67	0.48	4.24	07/01/2005
Butte Area One Restoration	-0.32	0.96	0.91	0.11	2.63	2.08	2.37	-3.26	1.26	6.07	6.76	1.24	2.91	11/01/2008
Clark Fork River Restoration	-0.32	0.96	0.92	0.11	2.56	2.03	2.44	-3.17	1.19	5.65	7.04	0.96	3.14	11/01/2008
Coal Tax Cultural Trust Fund	-0.66	0.65	0.33	-0.17	2.92	2.25	3.12	-4.20	1.43	6.99	8.64	0.47	5.48	12/01/1993
Coal Tax Park Acquisition	-0.62	0.69	0.46	-0.13	2.92	2.25	3.10	-4.02	1.37	6.86	8.63	0.48	5.46	12/01/1993
East Helena Compensation Fund	0.80	1.95	2.98	1.09	2.46	2.01	2.14	0.48	0.42	2.65	5.52	1.20	1.96	01/01/2013
East Helena Greenway Trail Maintenance	-0.14	1.12	1.23	N/A	N/A	N/A	N/A	-2.81	N/A	N/A	N/A	N/A	0.39	03/01/2021
Endowment for Children	-0.61	0.70	0.30	-0.15	2.91	2.24	3.05	-4.18	1.41	7.01	8.54	0.46	4.19	08/01/2007
Flying J CECRA Facilities Fund	-0.48	0.82	0.62	-0.03	N/A	N/A	N/A	-3.85	1.36	N/A	N/A	N/A	0.22	05/01/2020
FWP License Account	0.53	1.65	2.25	0.42	1.40	1.20	1.10	-1.41	0.46	1.85	3.33	1.50	2.67	11/01/1997
FWP Mitigation Trust Fund	-0.14	1.11	1.19	0.11	1.96	1.48	1.45	-2.79	0.98	3.84	5.46	1.14	3.56	12/01/1993
FWP Real Property Trust	-0.61	0.69	0.41	-0.17	2.89	2.22	3.03	-4.13	1.38	6.83	8.62	0.51	4.91	12/01/1993
Group Benefits	0.62	1.80	2.61	0.84	1.88	1.51	1.48	-0.33	0.63	2.05	4.01	1.37	3.59	12/01/1993
Hail Insurance Investments	0.71	1.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11/01/2022
Harold Hamm Endowment	-0.51	0.79	0.57	-0.06	2.91	2.14	N/A	-3.94	1.43	6.71	8.45	0.57	2.14	07/01/2016
Invasive Species Trust Fund	-0.48	0.83	0.88	N/A	N/A	N/A	N/A	-3.88	1.19	N/A	N/A	N/A	-0.44	10/01/2020
Libby Asbestos Site State Cost	-0.41	0.87	0.75	0.03	N/A	N/A	N/A	-3.60	1.25	N/A	N/A	N/A	0.28	05/01/2020
Luttrell Pit - Operational & Maintenance	-0.44	0.84	0.93	0.13	N/A	N/A	N/A	-3.27	1.36	N/A	N/A	N/A	0.38	05/01/2020
Montana Pole	-0.35	0.93	1.17	0.14	2.68	2.11	2.73	-2.92	1.14	5.61	7.48	0.74	4.65	09/01/1996
Montana State University	1.16	2.36	3.48	1.18	1.71	1.55	1.31	0.58	0.30	1.30	2.87	1.87	1.92	08/01/2004
Montana Tech-UM Agency Funds	1.12	2.23	3.57	1.34	1.70	1.54	1.19	1.36	0.20	1.01	2.56	1.91	1.76	03/01/2003
MT BOI - Clark Fork Site	-0.58	0.69	0.52	-0.10	2.78	2.16	2.82	-3.95	1.44	6.65	8.00	0.67	3.63	11/01/2008
MT BOI UOFM Other	0.47	1.60	2.42	1.09	2.30	1.90	2.04	-0.16	0.73	3.47	4.54	1.42	2.77	08/01/2002
MUS Group Insurance	0.86	2.01	3.10	1.07	1.82	1.56	1.55	0.57	0.26	1.70	3.39	1.96	1.42	10/01/2011
MUS Workers Compensation	0.68	1.85	2.83	1.01	2.12	1.79	N/A	0.10	0.46	2.55	4.43	1.62	1.80	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 June 30, 2023

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018	Since Incep.	Inception Date
Older Montanans Trust	-0.66	0.65	0.29	-0.19	2.93	2.26	3.08	-4.23	1.41	7.19	8.62	0.49	4.06	08/01/2007
Permanent Coal Trust Excl Crp	-0.12	0.96	1.06	0.72	2.88	2.42	3.13	-2.02	1.82	5.57	6.81	1.28	5.27	12/01/1993
PERS Defined Cont Disability	4.27	10.26	11.60	7.26	6.53	7.28	N/A	-15.55	13.16	14.06	20.77	-4.88	6.50	09/01/2015
Potter Trust Fund	-0.51	0.79	0.56	-0.06	2.92	2.25	N/A	-3.96	1.41	6.78	8.47	0.51	2.47	06/01/2016
Resource Indemnity Trust	-0.74	0.59	0.18	-0.24	2.96	2.27	3.16	-4.44	1.48	7.23	8.88	0.44	5.55	12/01/1993
School Facilities Fund	-0.73	0.53	0.35	-0.24	2.70	N/A	N/A	-4.24	1.39	6.97	7.88	-0.13	2.16	01/01/2018
Smelter Hill Up Restorative	-0.39	0.90	0.78	0.01	2.20	1.81	1.89	-3.54	1.29	5.62	5.64	1.57	2.04	11/01/2008
State Fund Insurance	0.43	2.86	2.37	0.60	3.08	2.80	3.35	-7.68	3.04	7.62	9.65	0.38	5.12	12/01/1993
Streamside Tailings Operable Unit	-0.52	0.78	0.60	-0.05	2.77	2.16	2.92	-3.70	1.27	6.47	7.92	0.57	4.77	02/01/1999
Subsequent Injury Fund	1.15	2.67	4.12	1.53	1.71	1.55	1.15	1.66	0.13	0.73	2.28	1.98	2.89	12/01/1993
Tobacco Trust Fund	-0.72	0.62	0.25	-0.22	2.91	2.23	3.13	-4.40	1.51	7.10	8.67	0.46	4.96	01/01/2001
Treasurers	1.08	2.18	3.50	1.24	1.52	1.41	1.08	1.34	0.10	0.63	2.28	1.97	2.71	12/01/1993
Treasure State Endowment	-0.72	0.61	0.22	-0.22	2.94	2.26	3.14	-4.37	1.47	7.15	8.81	0.46	5.43	12/01/1993
Treasure State Reg. Water System	-0.72	0.61	0.23	-0.22	2.94	2.26	3.14	-4.37	1.47	7.15	8.80	0.45	5.11	06/01/2000
Trust and Legacy Account	-0.72	0.60	0.26	-0.22	2.96	2.27	3.16	-4.37	1.47	7.19	8.84	0.43	6.11	07/01/1991
UCFRB Assess/Litig Cost Rec	-0.70	0.62	0.22	-0.24	2.80	2.16	2.98	-4.37	1.53	6.68	8.50	0.49	5.05	07/01/1999
UCFRB Restoration Fund	-0.62	0.70	0.36	-0.20	2.88	2.24	2.98	-4.22	1.36	6.90	8.52	0.67	4.99	06/01/1999
Upper Blackfoot Response	1.08	2.20	3.50	1.35	2.15	1.79	1.74	1.22	0.32	1.55	4.24	1.49	1.64	09/01/2010
Weed Control Trust	-0.74	0.59	0.18	-0.24	2.96	2.27	3.16	-4.44	1.48	7.23	8.88	0.44	4.79	12/01/1993
Wildlife Habitat Trust	-0.62	0.70	0.42	-0.16	2.87	2.21	3.03	-4.10	1.38	6.75	8.54	0.51	4.92	12/01/1993
Yellowstone Pipeline Cleanup Fund	-0.05	0.93	1.43	N/A	N/A	N/A	N/A	-1.42	N/A	N/A	N/A	N/A	0.44	04/01/2021
Zortman/Landusky LT H2O	1.23	2.32	3.77	1.42	1.65	1.48	1.51	1.68	0.13	0.73	2.28	1.98	5.79	09/01/1999
Z/L Long Term H2O Trust Fund	1.23	2.32	3.77	1.42	1.65	1.49	1.51	1.68	0.13	0.73	2.28	1.98	3.80	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.
- 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: SPDR S&P 500 ETF (SPY), Domestic Equity Pool STIF, iShares:Core S&P Md-Cp (IJH), iShares:Russ 2000 ETF (IWM), iShares:MSCI EAFE ETF (EFA), and International Equity Pool STIF. The current annual expense ratios are as listed below.

**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.
- The plan sponsor peer group was updated from All Public Plans >\$3B Total Fund Median to All Public Plans >\$5B Total Fund Median.
- 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**

- Hail Insurance Investments was added in 11/2022.
- The Yellowstone Pipeline Cleanup Fund was added in 04/2021.
- The East Helena Greenway Trail Maintenance Fund was added in 03/2021.
- The Invasive Species Trust Fund was added in 10/2020.
- Barker Hughesville St Response, Libby Asbestos Site State Cost, Flying J CECRA Facilities Fund, and Luttrell Pit - Operations and Maintenance were added in 05/2020.
- The Belt Water Treatment Plant Fund was added in 03/2018.
- The School Facilities Fund was added in 01/2018.
- The Potter Trust Fund and the Harold Hamm Endowment were added in 06/2016.
- MUS Workers Compensation was added in 04/2016.

**Manager Transition Comments**

- BlackRock MSCI Emg Mkts Index NL (CF) was terminated in 04/2023.
- Zazove Convertible Bonds (SA) was funded in 03/2023.

**Manager Transition Comments (cont.)**

- 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;l (DEMSX) was liquidated in 02/2022.
- DFA Intl Sm Co;l (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.
- DFA US Sm Cap Tr (CF) was liquidated in 11/2021.
- Jacobs Levy 130/30 Large Cap (SA) was liquidated in 11/2021.
- J.P. Morgan 130/30 (SA) was liquidated in 11/2021.
- T. Rowe U.S. Structured Research (SA) was liquidated in 11/2021.
- Vaughan Nelson Management (SA) was liquidated in 11/2021.
- iShares:Core S&P Tot USM (ITOT) was funded in 11/2021.
- 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.
- 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;l (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.



**Miscellaneous Comments**

- Fiscal year ends on 06/30.
- During Q4 2019 Diversifying Strategies investments were liquidated and Investment Grade Credit, US Treasury & Agency, and TIPS were consolidated into the Core Fixed Income composite.
- Non-Core Fixed Income currently consists of High Yield, Preferred Securities and EMD.
- Private Investments currently consist of Private Equity, Private Credit, Venture Capital, and Passive ETFs.
- During Q1 2021 the Natural Resources PAC was renamed to the Real Assets PAC.

Montana Board of Investments  
 Fee Schedule

As of June 30, 2023

	Fee Schedule	Market Value As of 06/30/2023 (\$)
iShares:Core S&P Tot USM (ITOT)	0.03 % of Assets	139,783,323
iShares:Core S&P 500 (IVV)	0.03 % of Assets	76,987,934
iShares:Core S&P Md-Cp (IJH)	0.05 % of Assets	18,997,829
iShares:Core S&P Small Cap ETF (IJR)	0.06 % of Assets	68,449,585
iShares:Core MSCI EAFE ETF (IEFA)	0.07 % of Assets	107,734,455
iShares:Core MSCI EmMkts (IEMG)	0.09 % of Assets	67,541,496

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

PORTLAND

BOISE

CHICAGO

NEW YORK

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# Investment Update

Board Meeting: August 23-24, 2023

Information as of: June 30, 2023

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# CIO Update

## Economic Environment

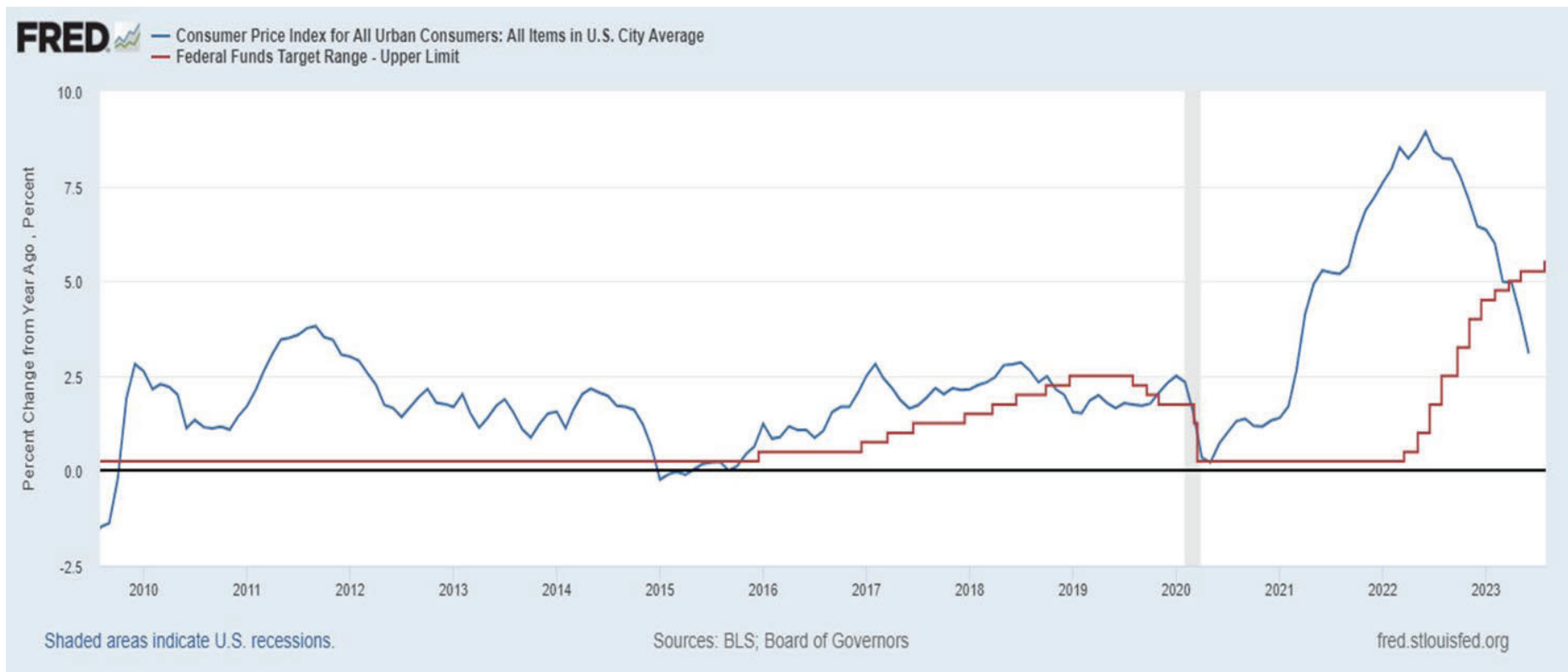
- **Leading Economic Index** – Steady decline over the last 12 months. Many components have weakened but remain stronger than expectations.
- **Job Growth** – Job growth is slowing but the labor market remains tight with the unemployment rate at 3.5%.
- **Retail Sales** – The U.S. consumer has remained resilient. In recent months, there has been modest growth in retail sales ex. auto.
- **Inflation** – CPI ex. Food and Energy is up 4.8% year over year. Headline CPI slowed to a 3% annualized rate in June.
- **Housing** – Existing home sales and housing starts have fallen sharply as mortgage rates increased. Housing affordability is near historic lows. Supply remains constrained.
- **Currency** – Over the last 9 months, the U.S. Dollar has weakened versus the major currencies but remains slightly above the long-term mean.



# CIO Update

## Economic Environment

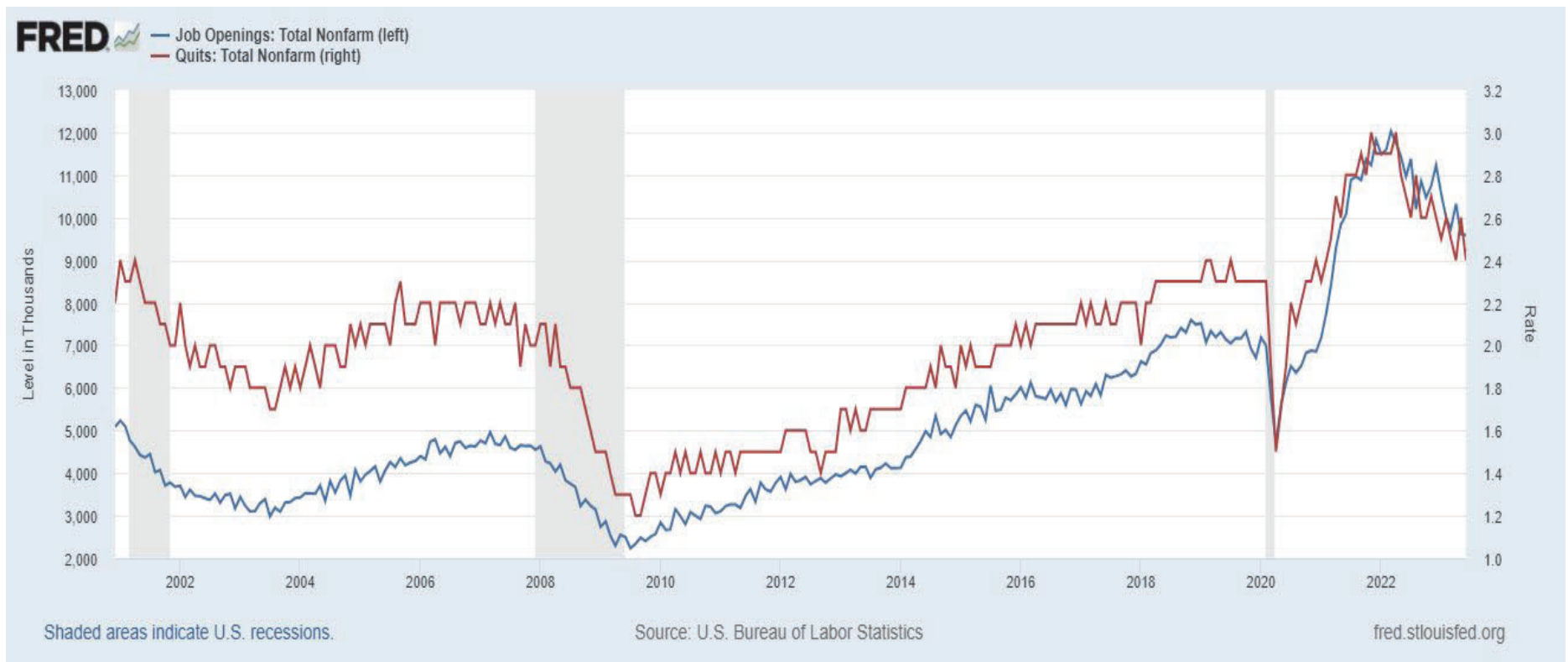
Federal Reserve rate increases are having the desired effect on inflation.



# CIO Update

## Economic Environment

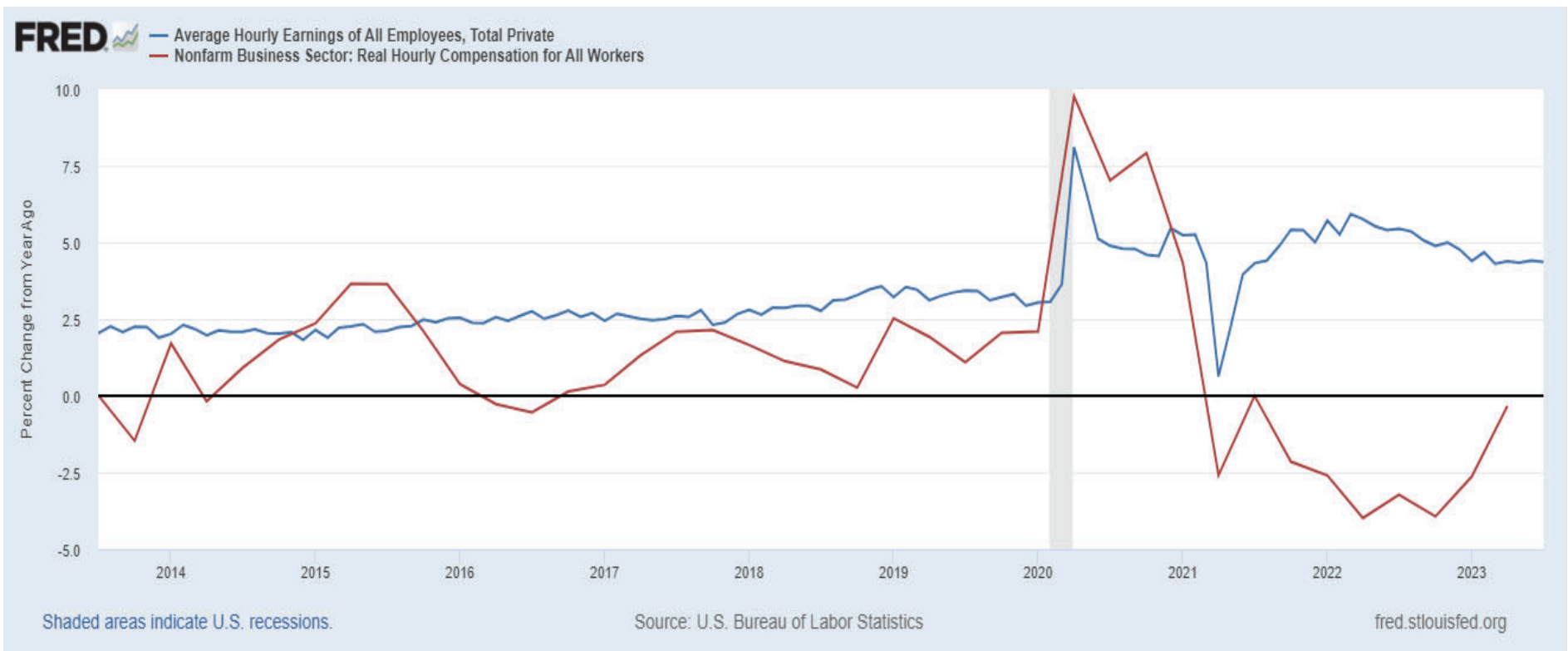
Job openings and the quit rate are declining but remain above prior cycles.



# CIO Update

## Economic Environment

Real earnings are starting to grow as inflation slows and wages increase.

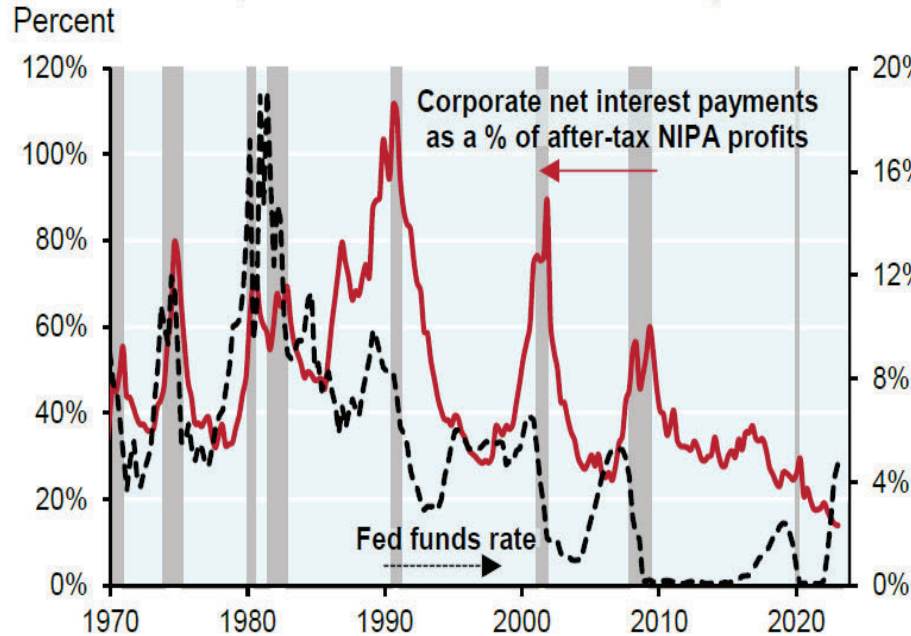


# CIO Update

## Economic Environment

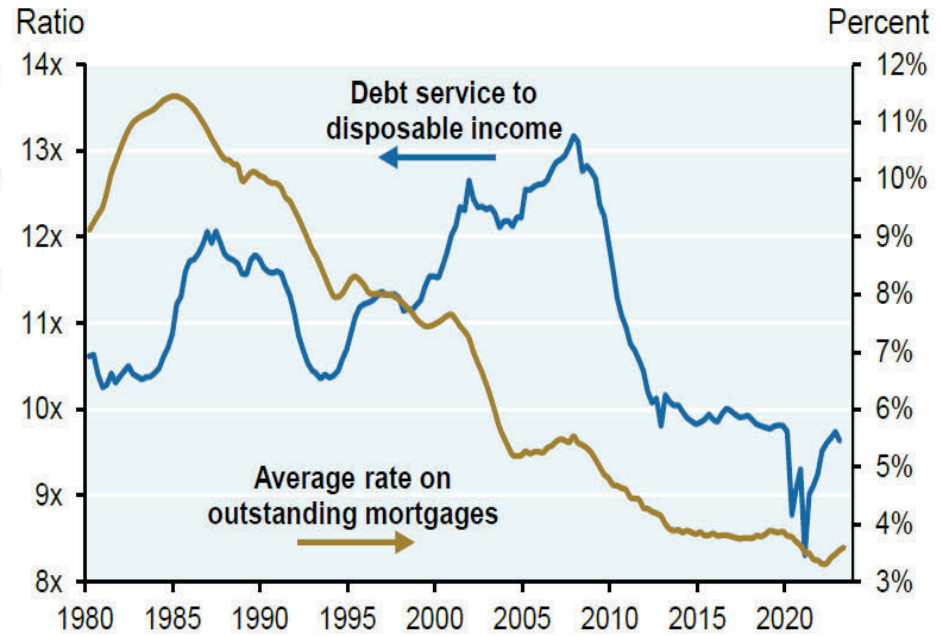
Business and consumers are still benefiting from lower borrowing costs and strong balance sheets.

**US nonfin. corporate net interest costs at 60 year low**



Source: Bloomberg, JPMAM. Q1 2023.

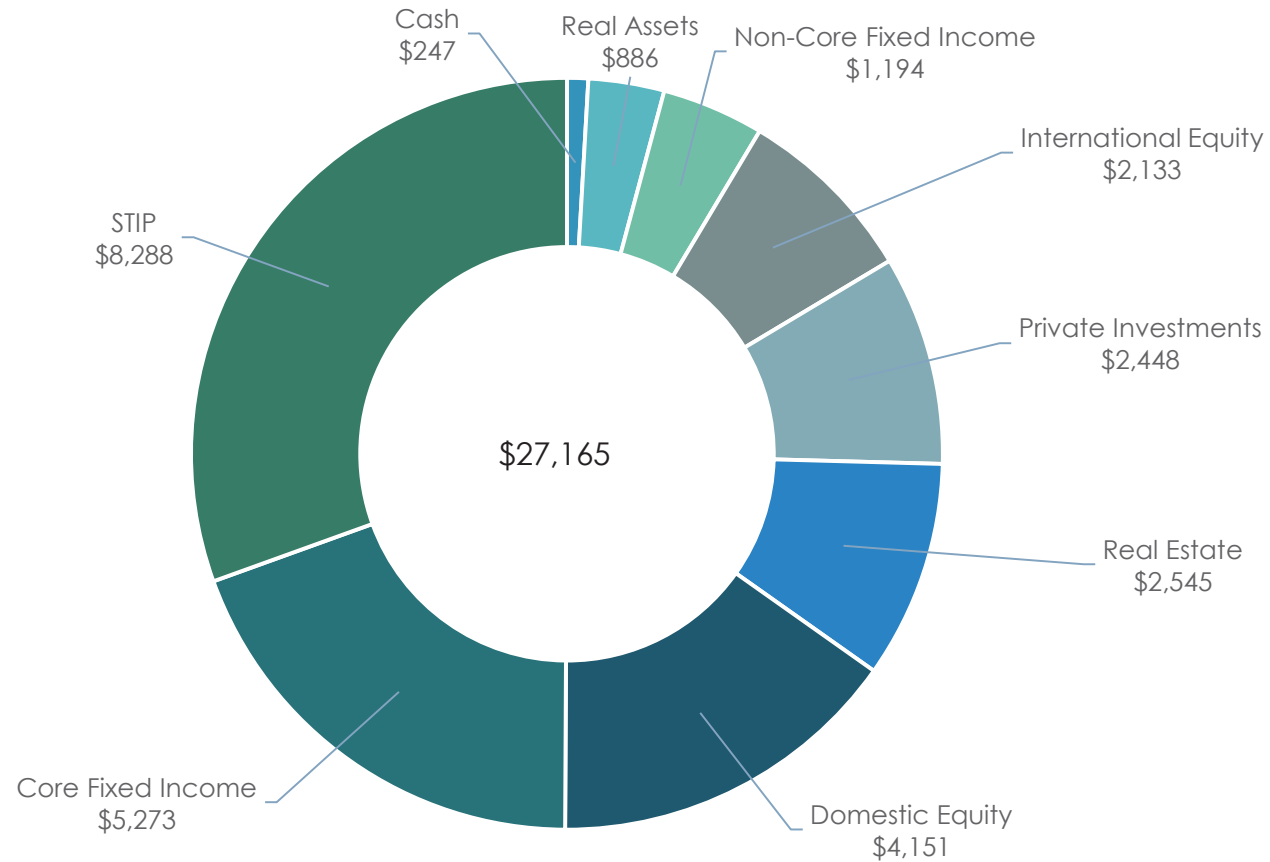
**US household debt**



Source: Bloomberg, BEA, JPMAM. June 2023.

# CIO Update

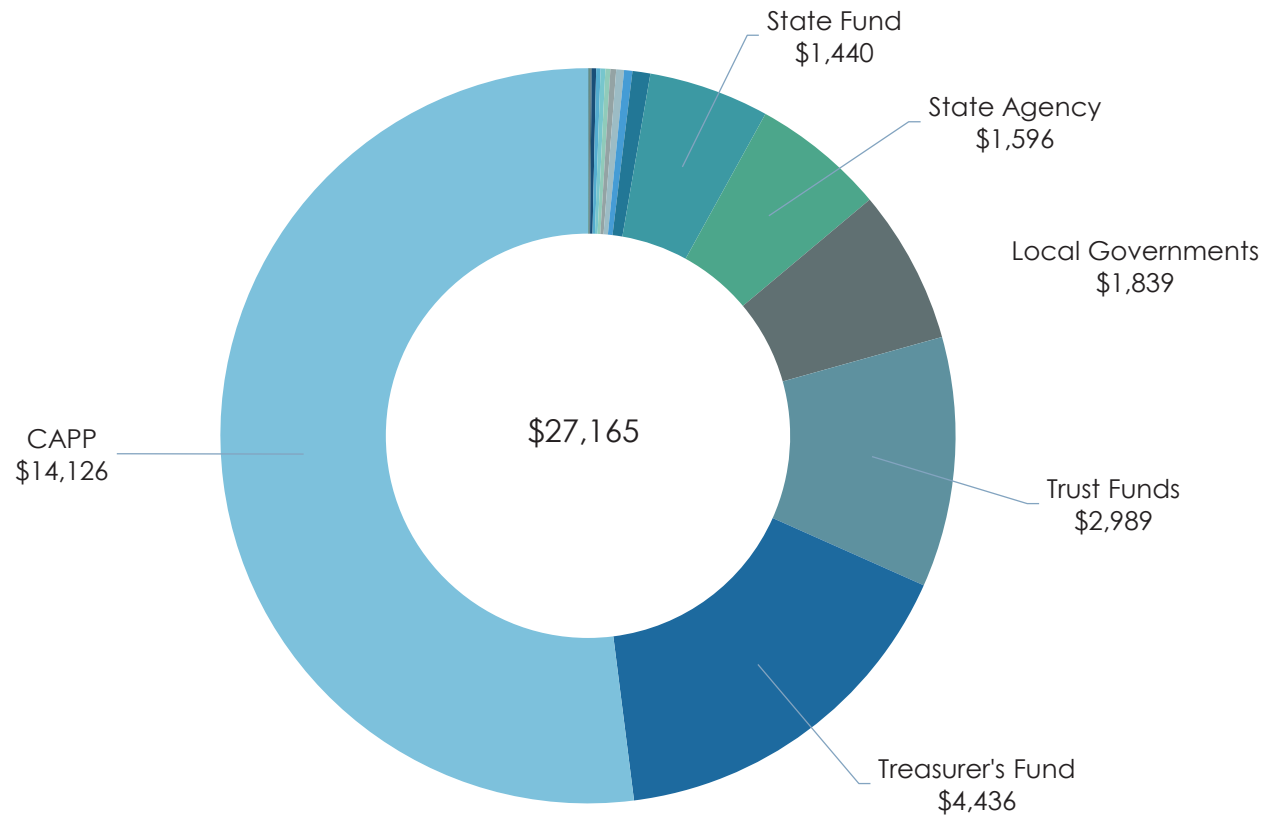
## AUM by Asset Class



\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

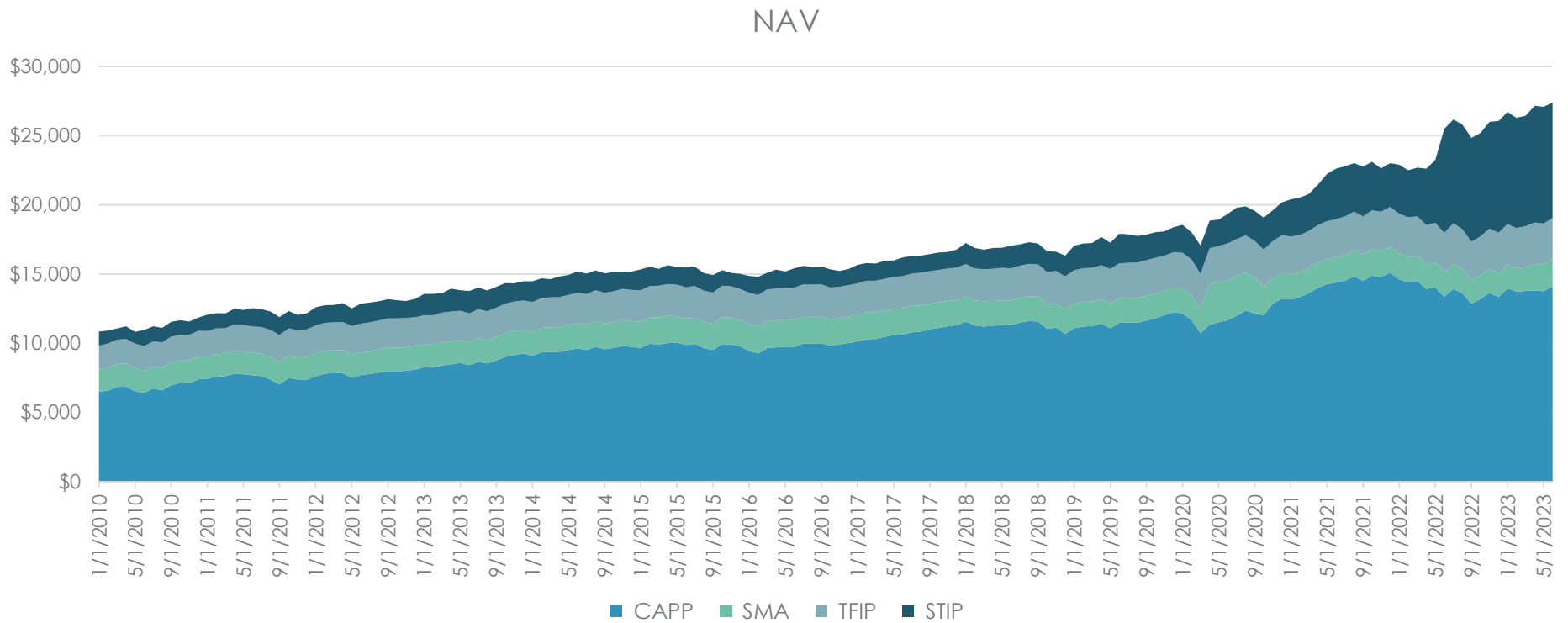
## AUM by Participant Type



\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

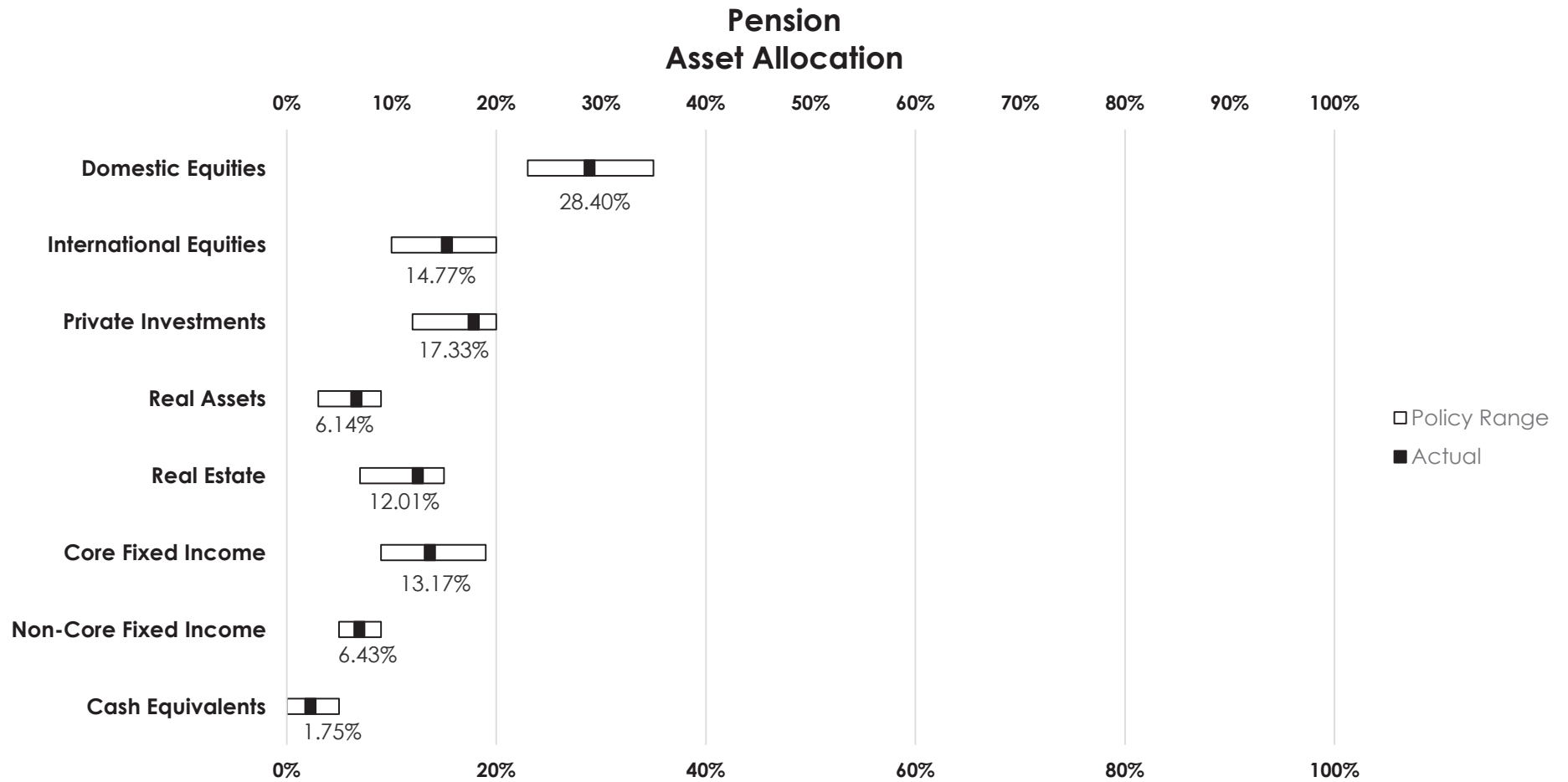
## AUM by Pool



\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

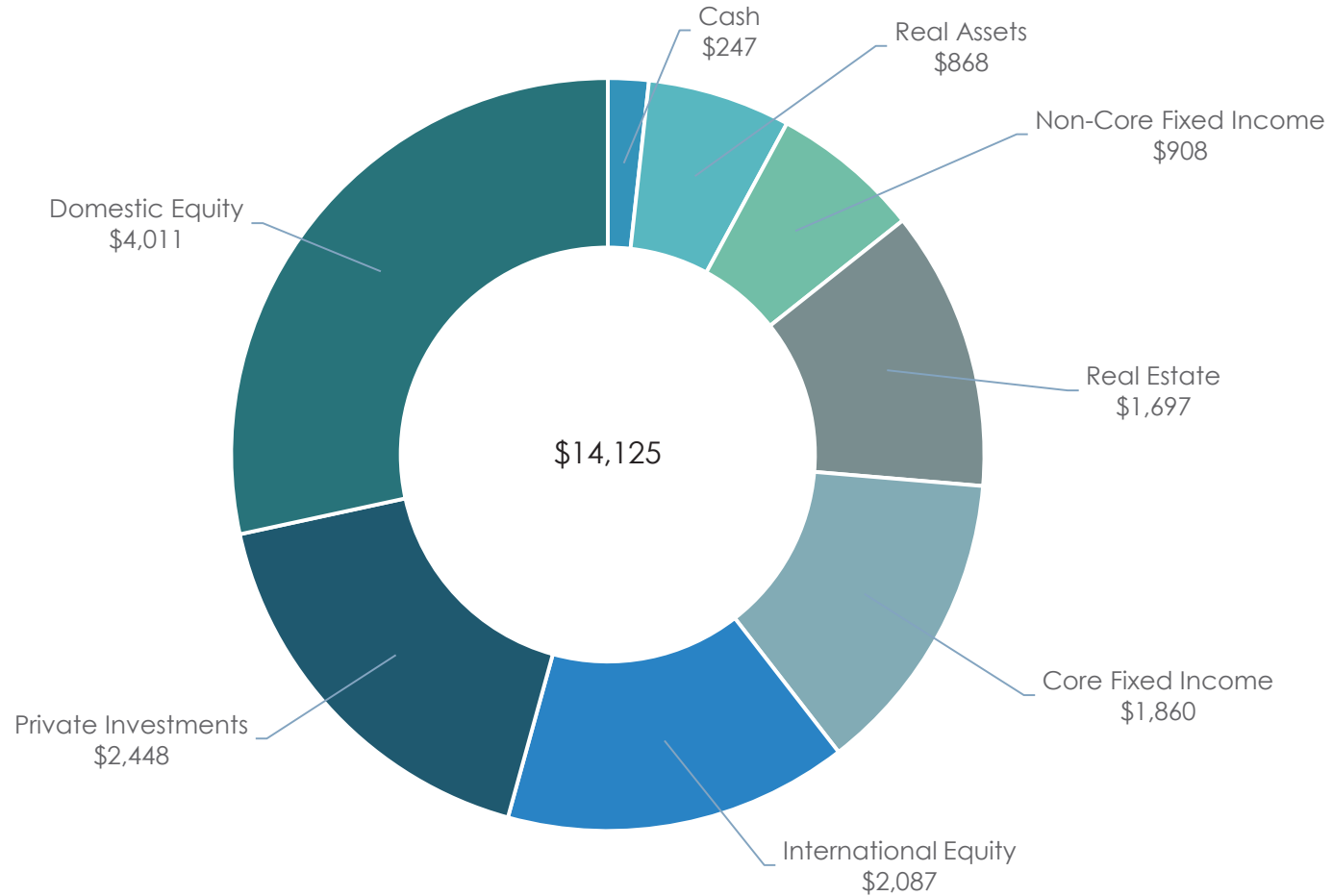
## Pension Asset Allocation





# CIO Update

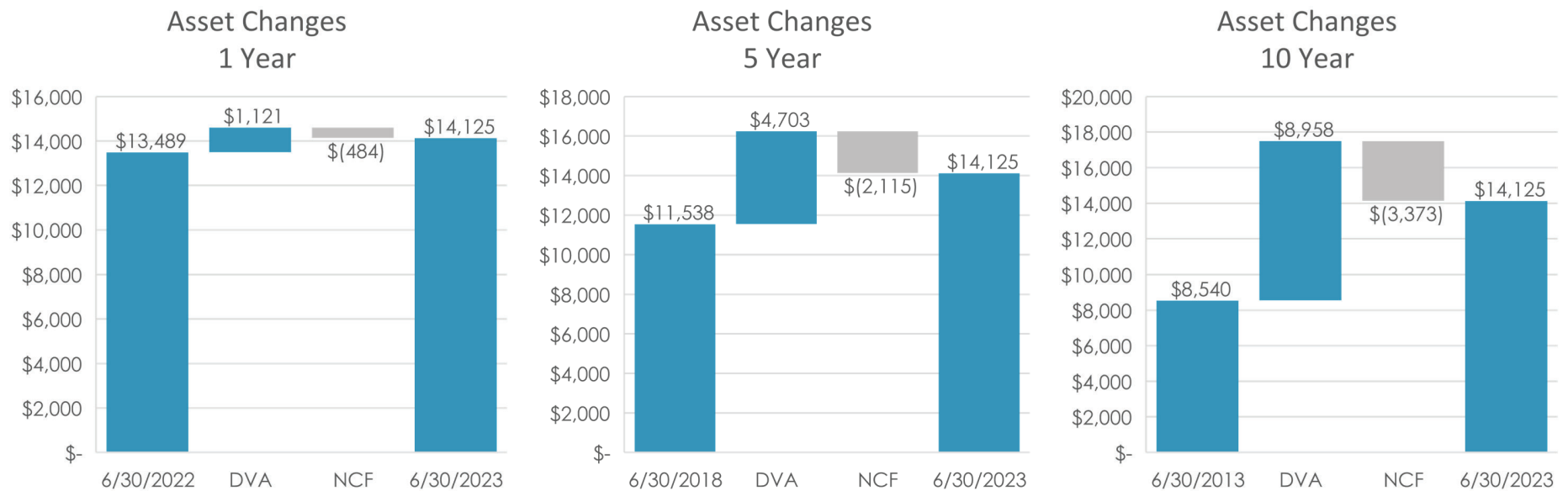
## Pension Asset Allocation



\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

## Pension Net Performance



- 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  
June 30, 2023

# CIO Update

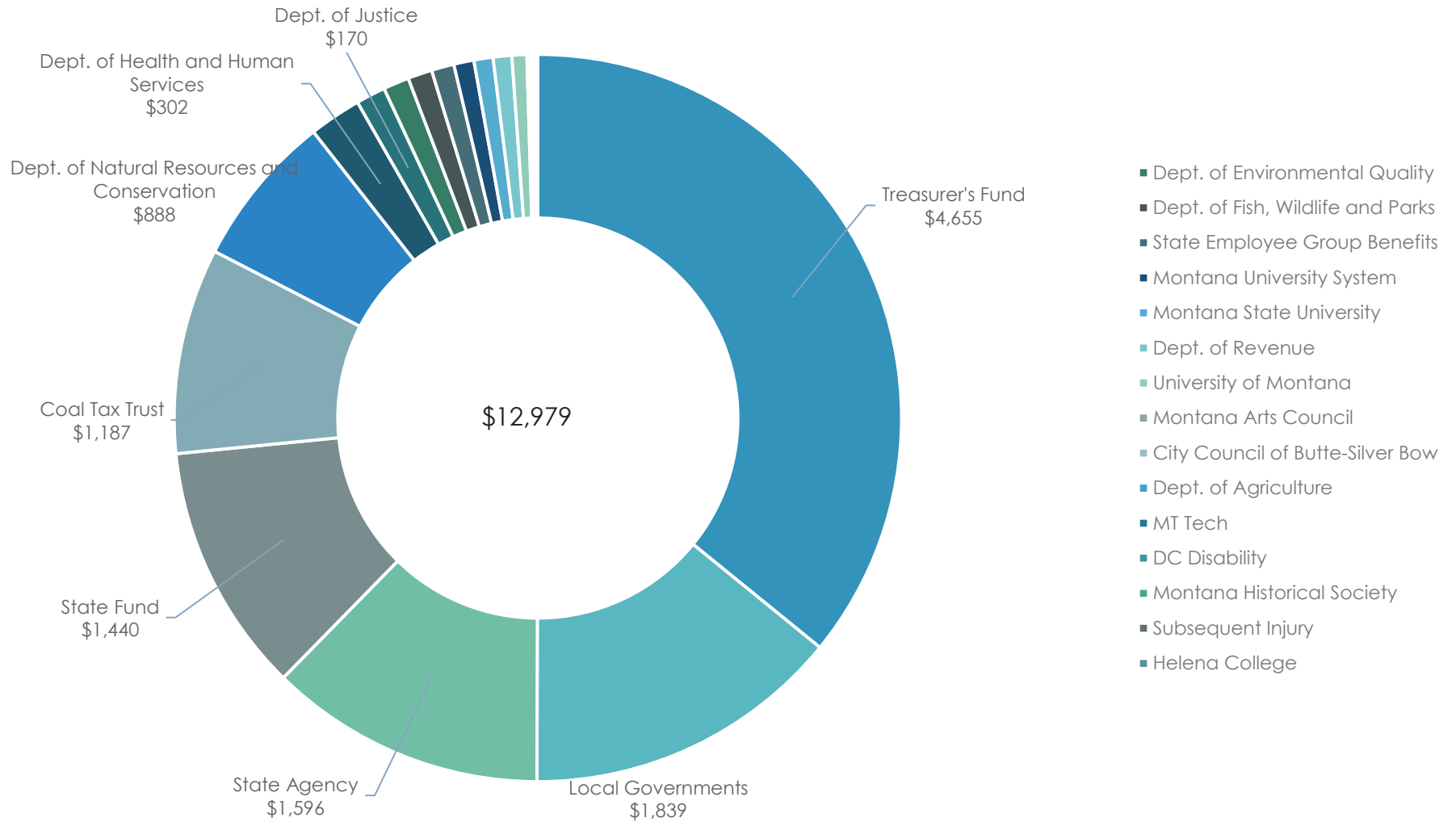
## Pension Net Performance

Performance	1 Year	3 Year	5 Year	10 Year	20 Year	Since Inception
Public Employees' Retirement	8.50%	9.86%	7.56%	8.17%	7.39%	7.71%
Police Officers' Retirement	8.50%	9.85%	7.56%	8.18%	7.32%	7.59%
Game Wardens' Retirement	8.50%	9.86%	7.56%	8.17%	7.33%	7.63%
Sheriffs' Retirement	8.50%	9.87%	7.56%	8.17%	7.36%	7.62%
Judges' Retirement	8.48%	9.86%	7.56%	8.17%	7.37%	7.62%
Highway Patrol Retirement	8.50%	9.87%	7.57%	8.18%	7.38%	7.62%
Teachers' Retirement	8.46%	9.84%	7.55%	8.17%	7.39%	7.72%
Vol Firefighters' Retirement	8.46%	9.85%	7.56%	8.17%	7.34%	7.45%
Firefighters' Retirement	8.50%	9.85%	7.56%	8.18%	7.34%	7.59%

Inception 7/1/1994

# CIO Update

## AUM ex. CAPP

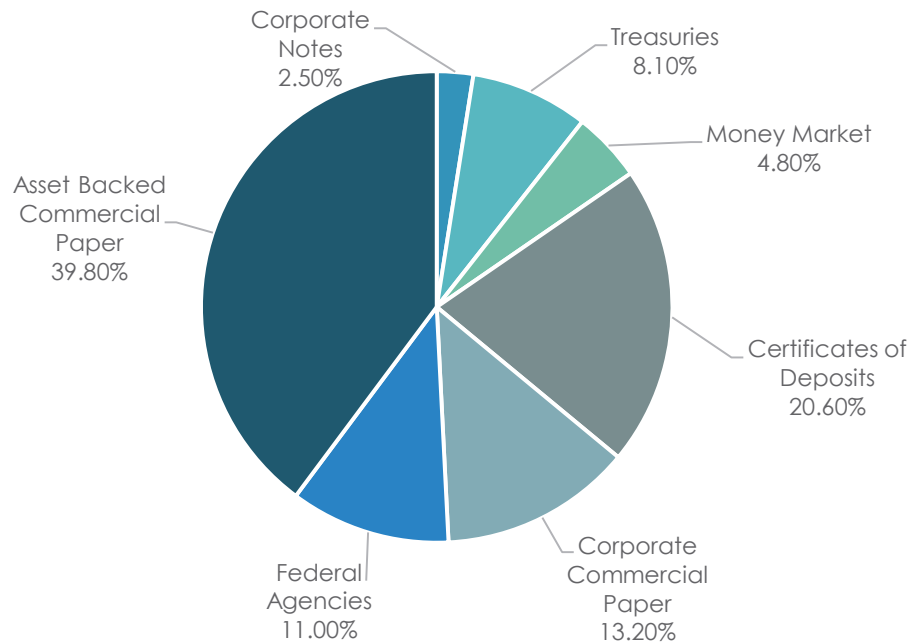


\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

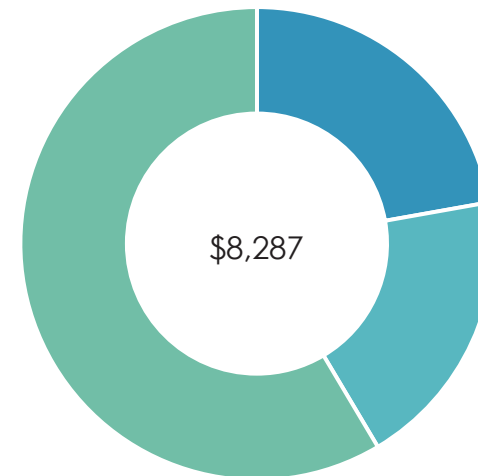
## Short Term Investment Pool

STIP Sectors



- The weighted average maturity of the portfolio was 57 days at quarter end
- The STIP Reserve was \$68.6M at quarter end

STIP Clients



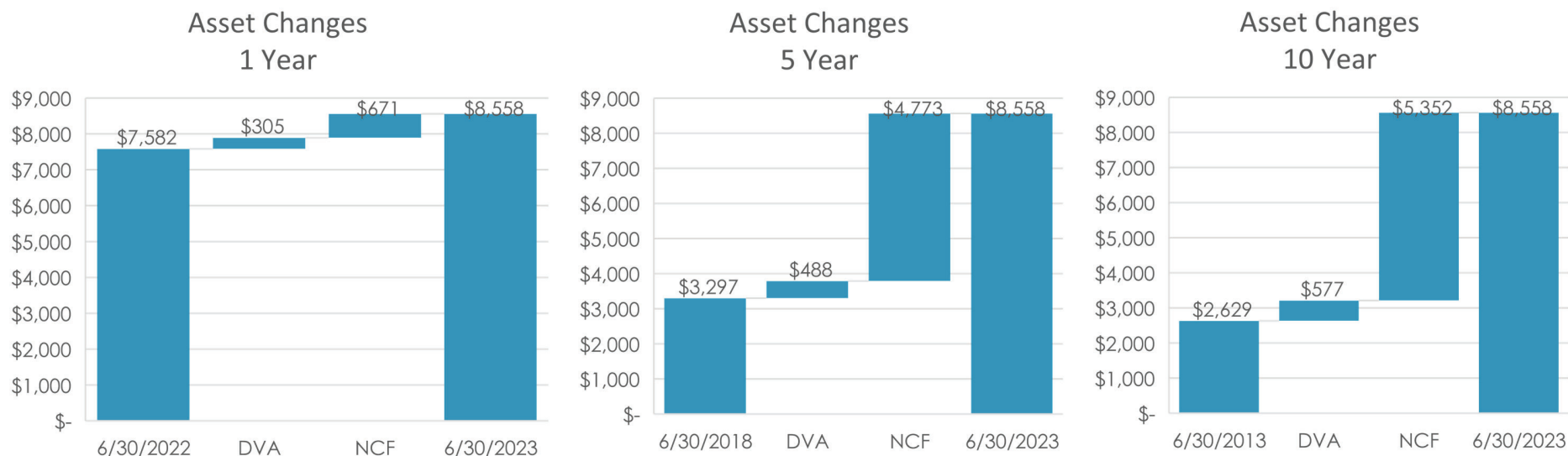
■ Treasurer's Fund ■ Local Governments ■ State

\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

## Short Term Investment Pool

### STIP Net Performance



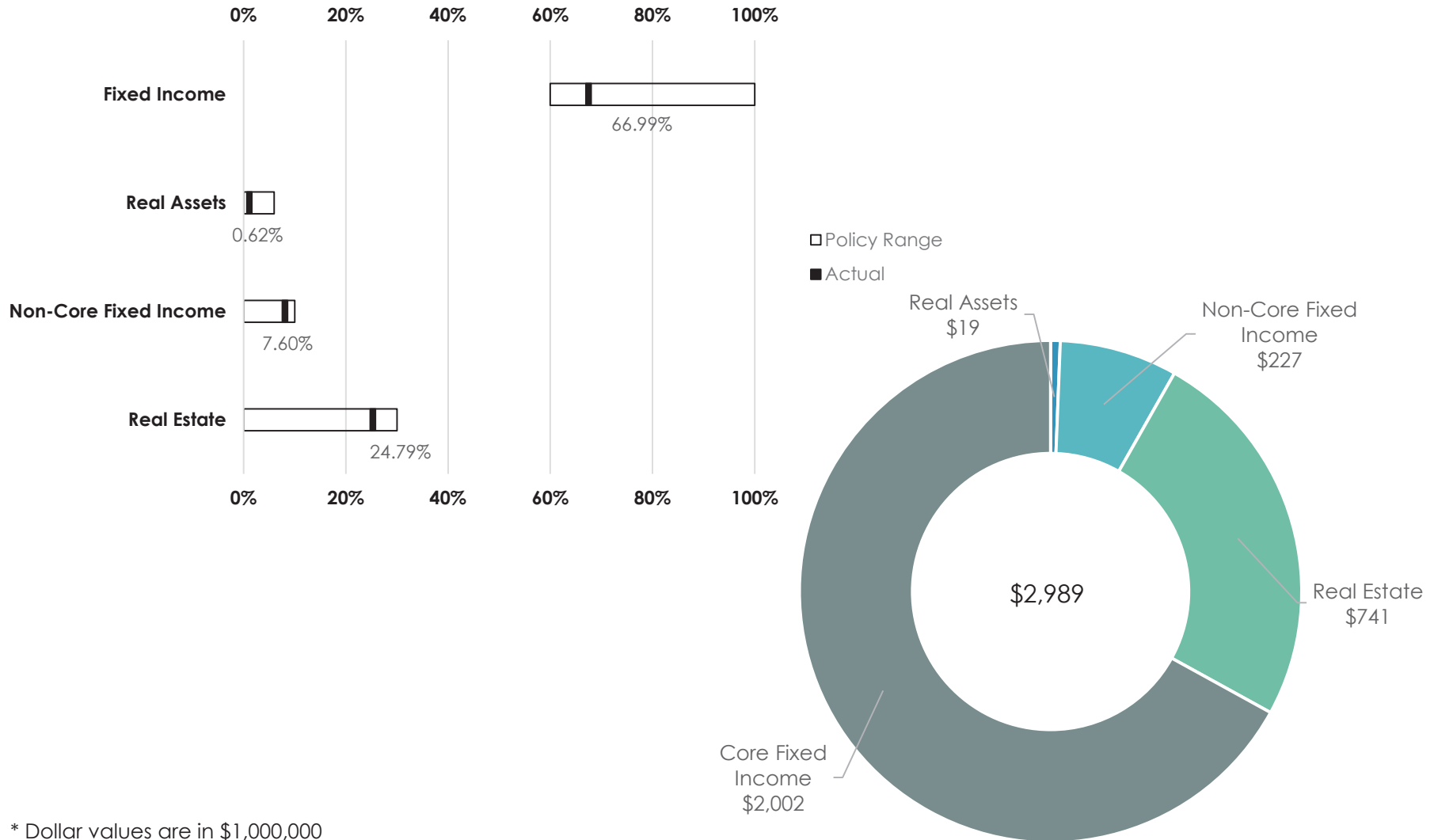
Performance	1 Year	3 Year	5 Year	10 Year	Since Inception
Short Term Investment Pool (STIP)	3.77%	1.41%	1.64%	1.12%	2.31%
Short Term Investment Pool Benchmark	3.94%	1.39%	1.54%	1.07%	2.23%

\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

## Trust Funds Investment Pool

**Trust Fund  
Asset Allocation**

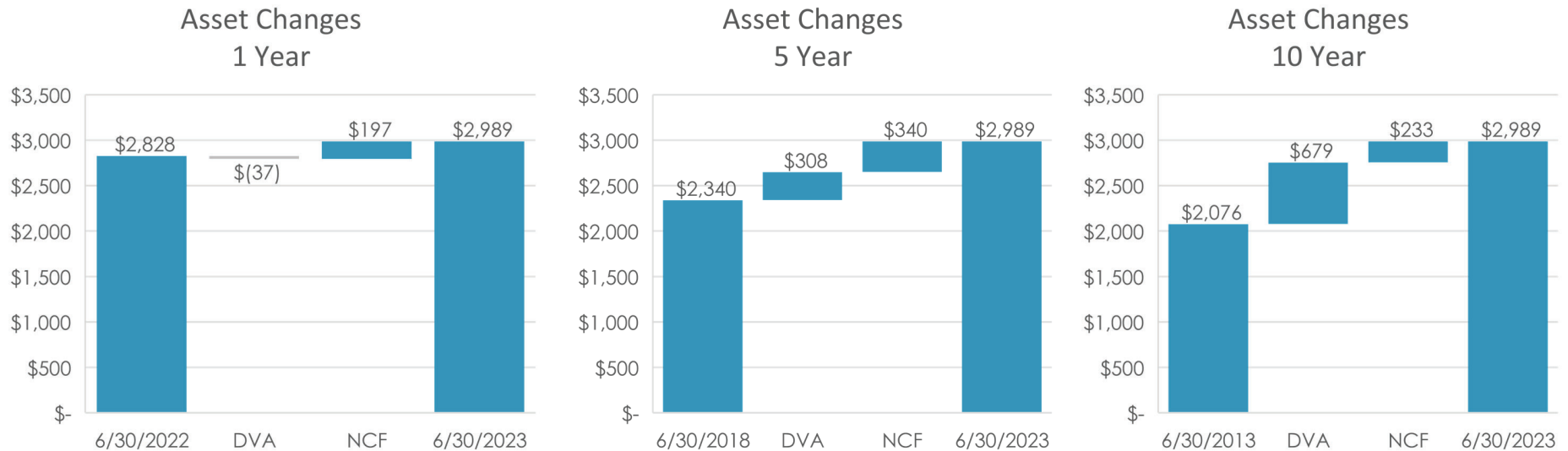


\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

## Trust Funds Investment Pool

### TFIP Net Performance



Performance	1 Year	3 Year	5 Year	10 Year	Since Inception
Trust Funds Investment Pool (TFIP)	-1.33%	-0.88%	2.58%	2.98%	5.41%
Trust Funds Investment Pool Benchmark	-0.94%	-1.20%	2.50%	2.39%	4.61%

Yield	1 Year	3 Year	5 Year	10 Year
Trust Funds Investment Pool (TFIP)	3.71%	3.19%	3.22%	3.30%

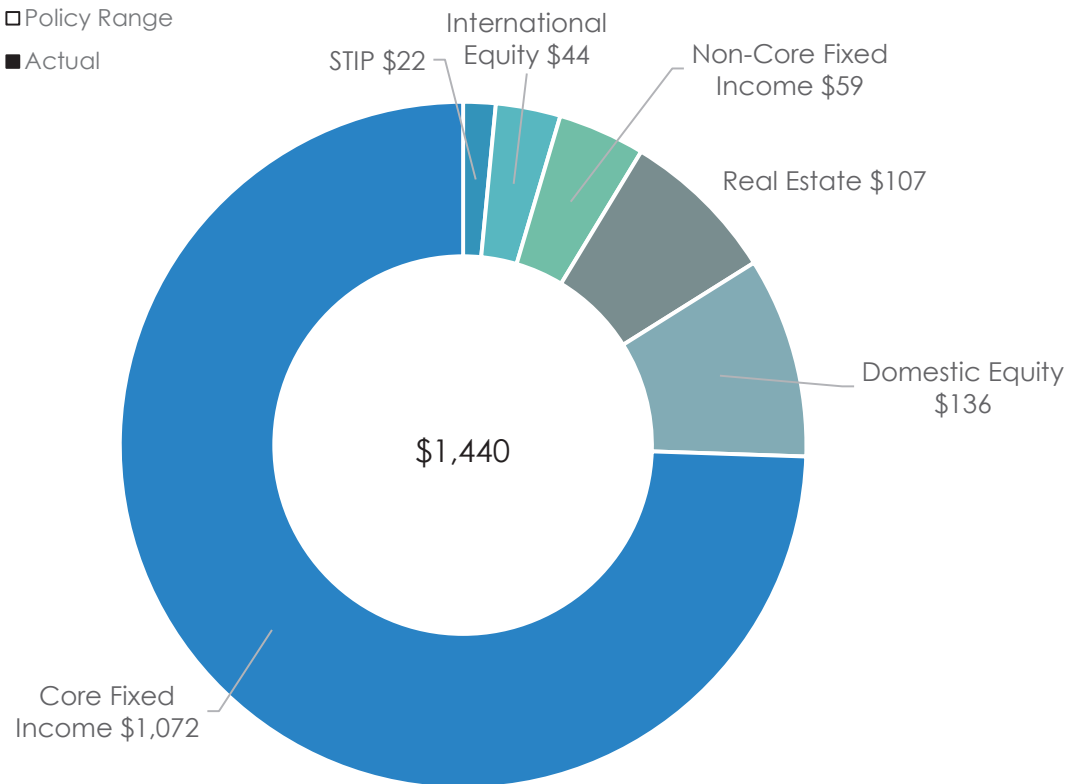
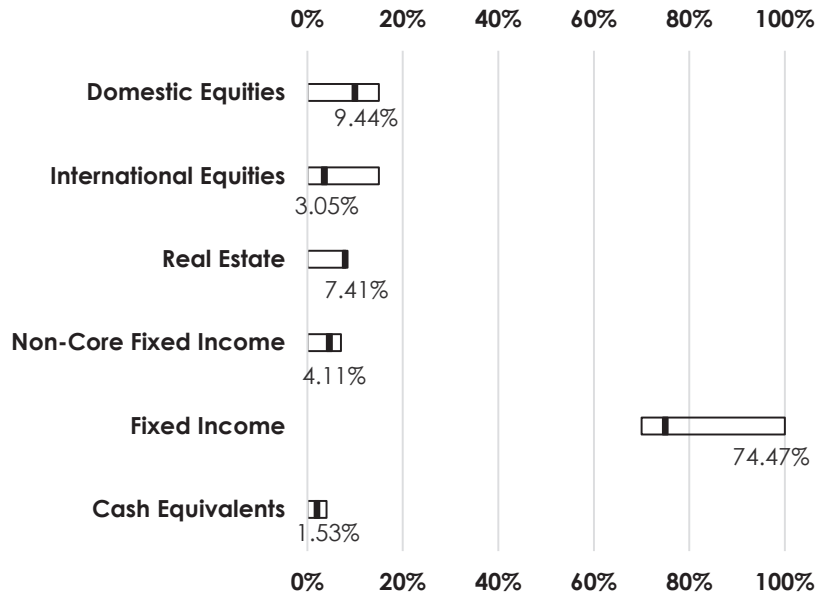
\* Dollar values are in \$1,000,000  
June 30, 2023



# CIO Update

## State Fund Investment Pool

State Fund  
Asset Allocation

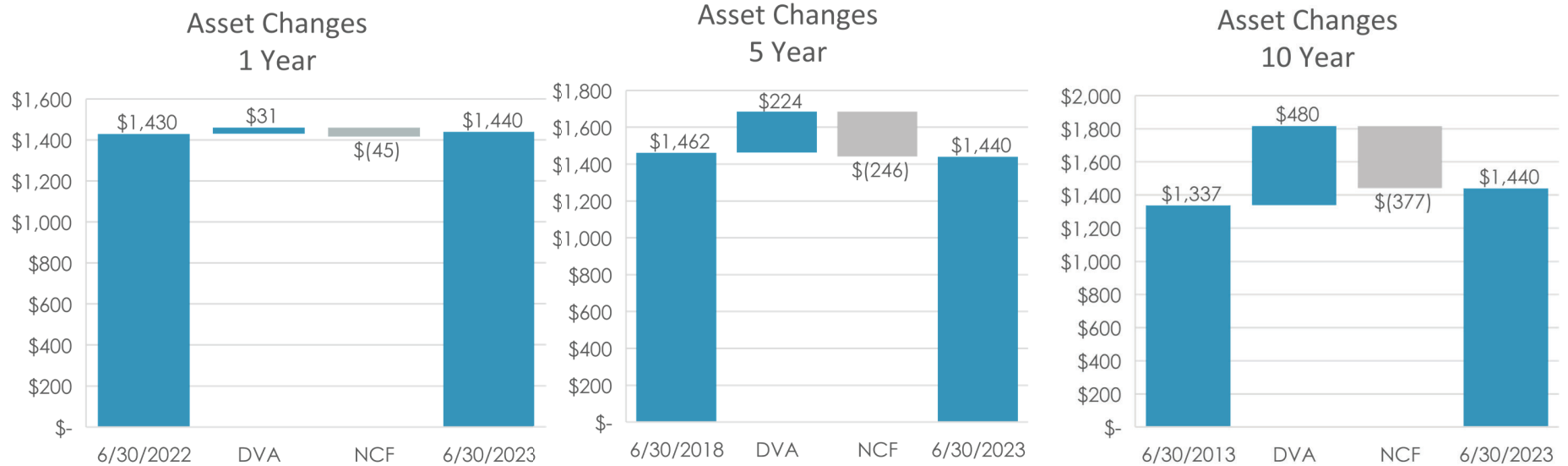


\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

## State Fund Investment Pool

### SFIP Net Performance



Performance	1 Year	3 Year	5 Year	10 Year	Since Inception
State Fund	2.23%	0.50%	3.00%	3.31%	5.10%
State Fund Benchmark	1.50%	-0.14%	2.57%	2.94%	4.57%

\* Dollar values are in \$1,000,000  
June 30, 2023

# CIO Update

- Market believes the Federal Reserve is near the end of the hiking cycle. Public equities continue to push higher with enthusiasm around technology/artificial intelligence leading the charge.
- Cautious outlook. Skeptical of the goldilocks narrative. Risk/reward for fixed income/cash assets has shifted.
- Moved our securities lending with State Street to a separate account. Greater control over risk and return characteristics.
- Hired Colmore, Inc. to provide a fee validation service for our Private Investment, Real Estate, and Real Asset managers.
- Promoted Rob Samson to Investment Analyst, Level II at the end of June.
- Asset allocation meeting with RVK. Board asset allocation discussion in October.

# 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, 8.4% return.

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

- About \$642M of equity asset classes were sold and \$158M of fixed income/cash asset classes were bought during the fiscal year. The pension net cash need was \$-484M for the fiscal year.
- In aggregate, the overweighting/underweighting of the asset classes relative to their benchmarks increased the pension portfolio's return by 15 bps.

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

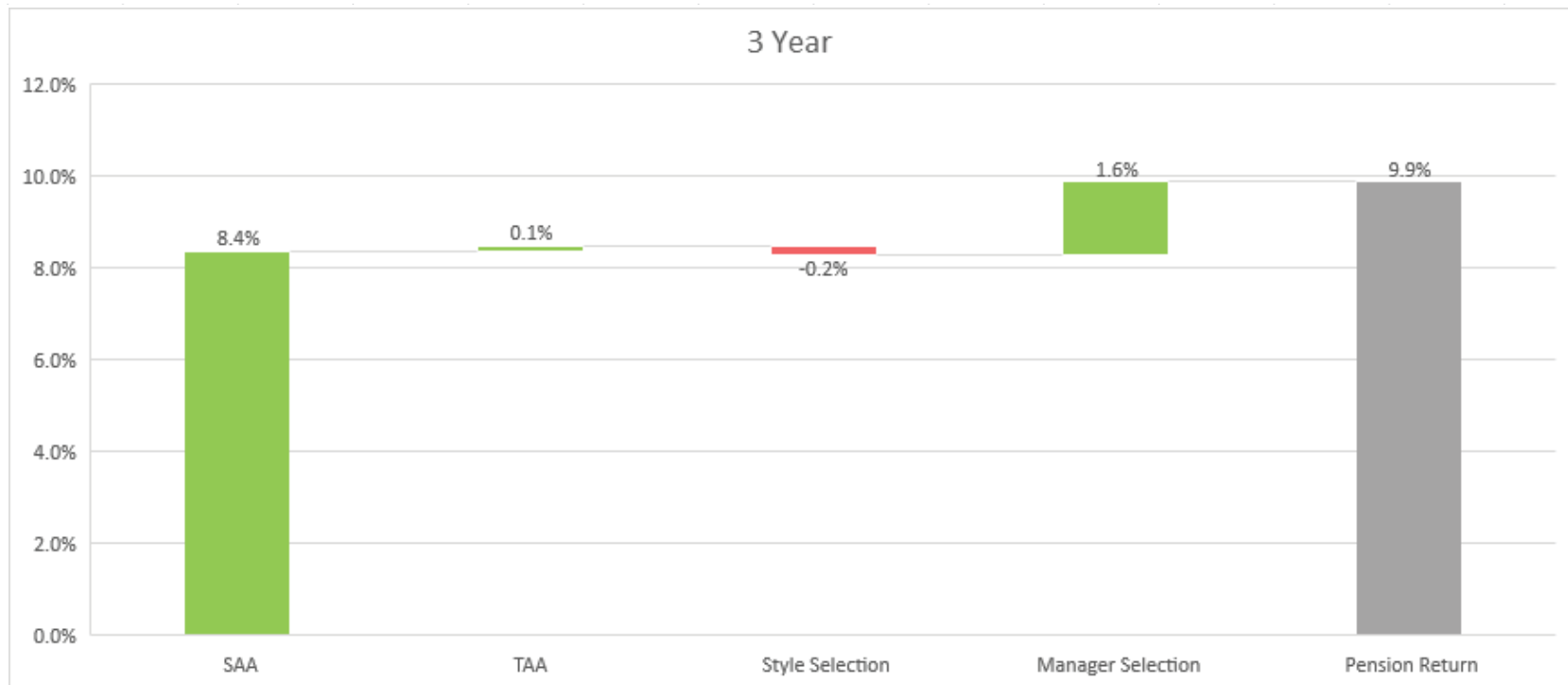
- The International Equity manager benchmarks had an overall higher exposure to growth benchmarks than the asset class benchmark leading to total style underperformance of 7 bps.
- The Real Assets portfolio has about 54% exposure to commodities versus 33% in the custom benchmark. The strong outperformance of the Commodity Producers Index relative to Infrastructure and TIPS resulted in style outperformance of about 16 bps.
- In Real Estate, exposure to a CMBS index was the primary contributor to style underperformance of 21 bps.
- Within Non-Core Fixed Income, exposure to preferred & EMD indexes led to style underperformance of 8 bps.

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

- In International Equity, there was mixed manager performance for a total underperformance of 3 bps.
- Within Core Fixed Income, our internal portfolio was an outperformer adding 6 bps.
- Private Investments was by far 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 15 bps, with Infrastructure providing the majority of the positive contributions.
- Our Private Real Estate Portfolio, CMBS Manager, and REIT Manager all added positive Manager Selection effects totaling 34 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.

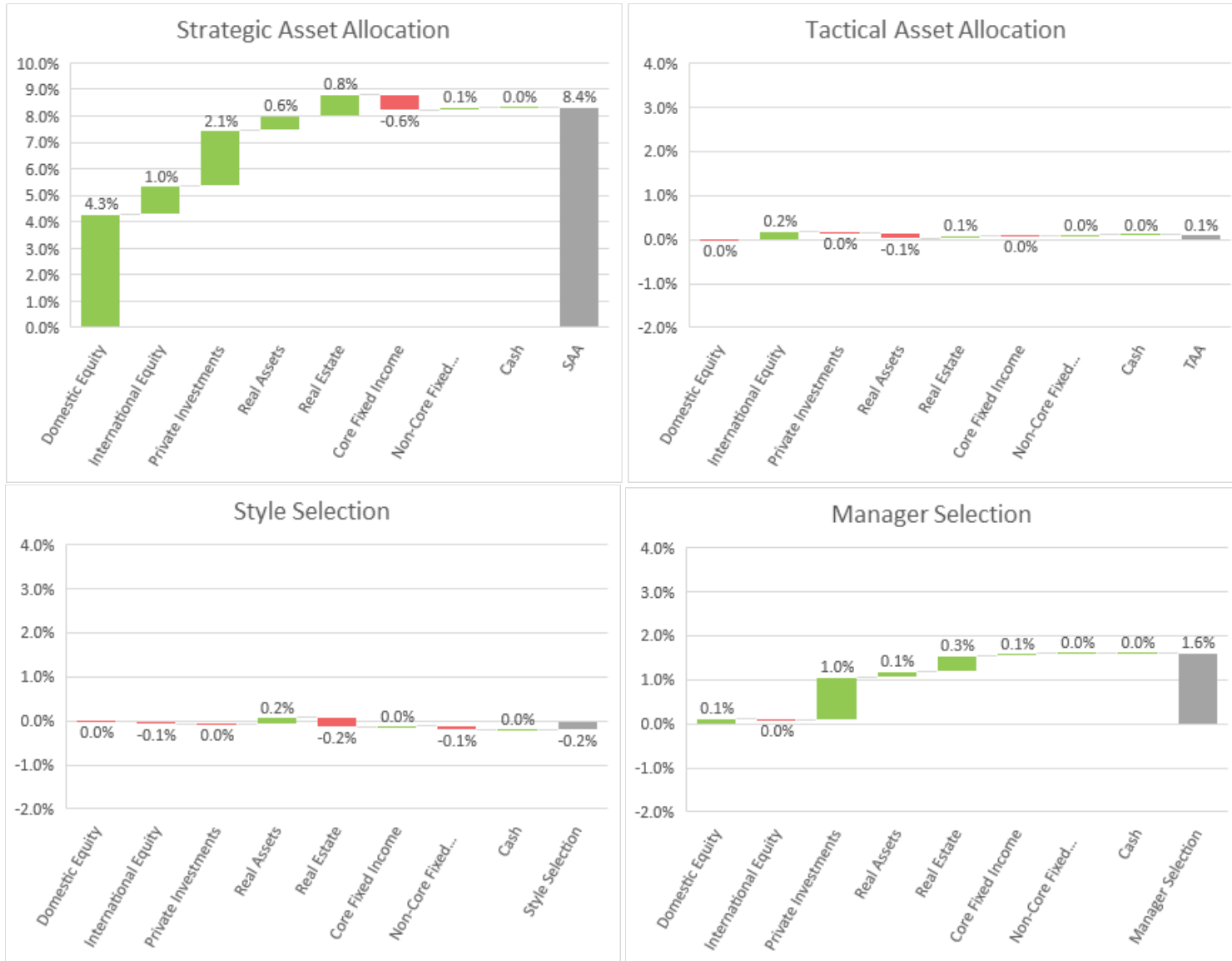
Tactical Asset Allocation (TAA) - The *additional* return earned by investing in the asset class benchmarks at our actual rather than midpoint weights.

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

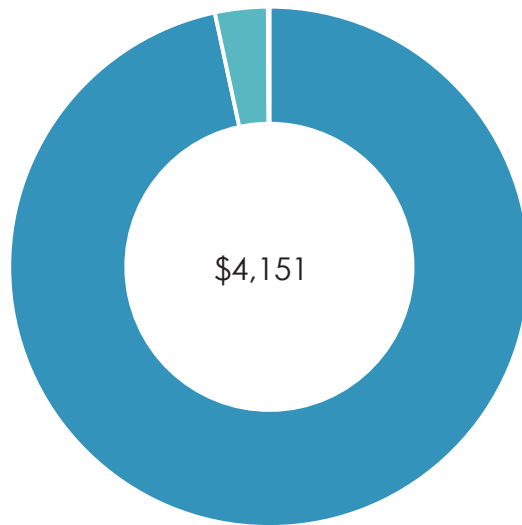
Manager Selection - The *additional* return earned by investing in the underlying managers rather than the underlying manager benchmarks.

\* 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.

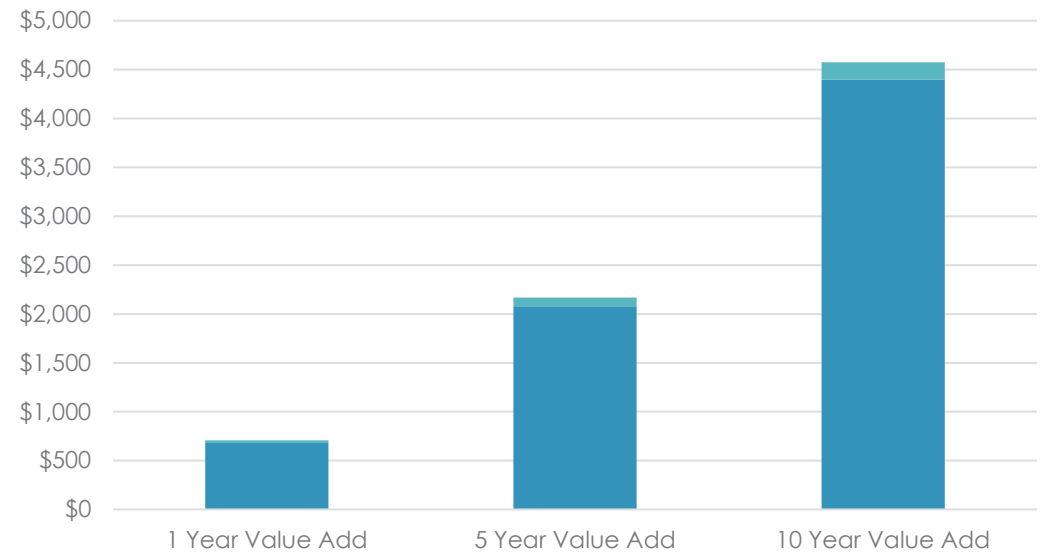
# Macro Attribution



# Domestic Equity Ownership Breakdown



■ Pension ■ State Fund ■ DC Disability



■ Pension ■ State Fund ■ DC Disability

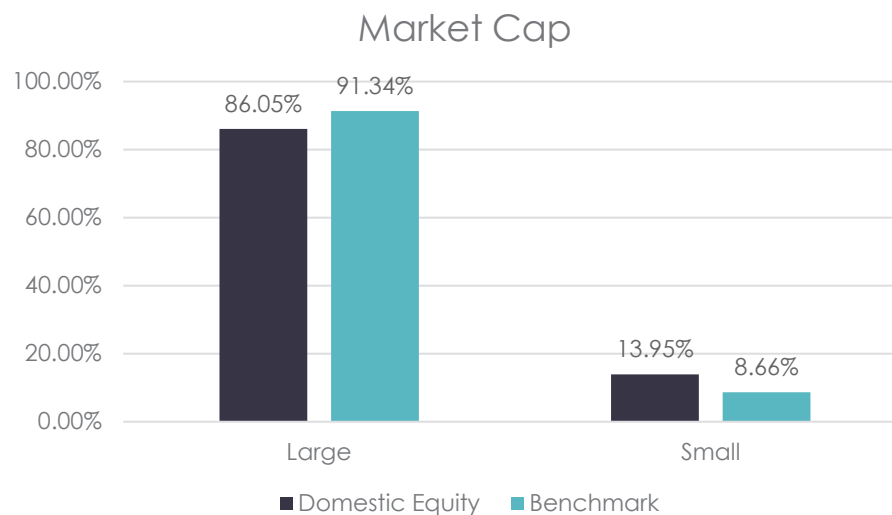
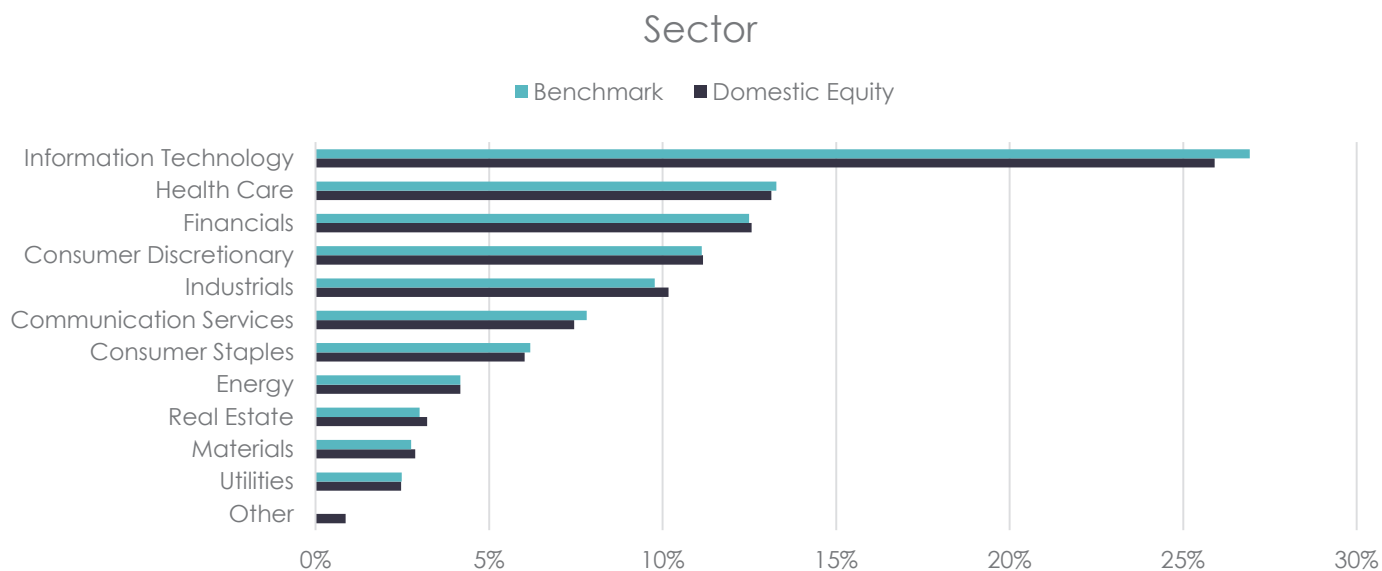
Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	18.87%	19.20%	10.96%	11.55%	12.02%	12.51%
State Fund	19.57%	19.59%	12.29%	12.31%	12.85%	12.86%
DC Disability	18.95%	18.90%	11.33%	11.26%	NA	NA

- US Equities extended their rally that began in October 2022. Mega-cap growth stocks continued to dominate, with the NASDAQ 100 Index returning +39% YTD, compared to the MSCI USA IMI return of +21%
- Increasing hope of avoiding a hard landing has boosted optimism for equities
- Underperformance of Small Cap stocks has weighed on asset class returns vs. the asset class benchmark

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

June 30, 2023

# Domestic Equity Characteristics





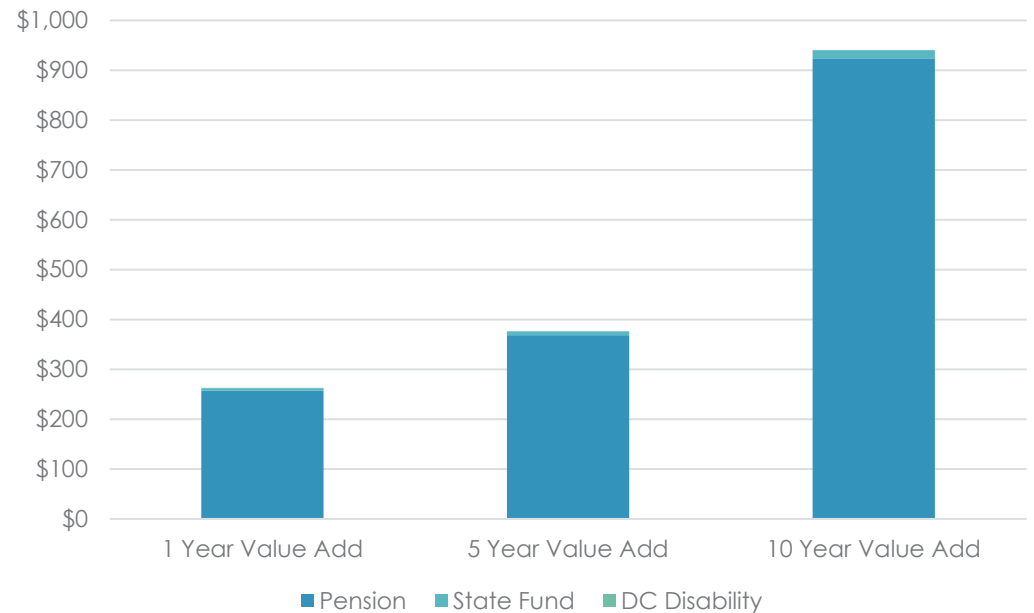
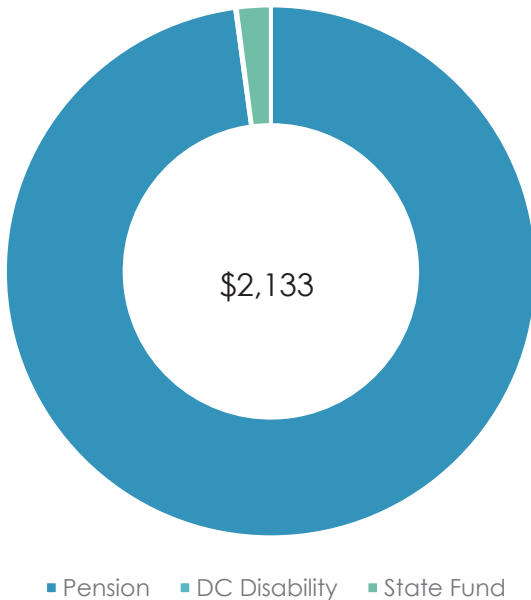
# Domestic Equity Valuation

S&P 500 Index - Price/Earnings Ratio  
(July 22, 2013 to July 21, 2023)



- After a steep drop in P/E multiples in 2022, valuations for US Equities have risen in 2023. At the end of 2Q23, the forward P/E for the S&P 500 was 19.1x, up from 16.7x at the end of 2022 and above the 25-year average of 16.8x

# International Equity Ownership Breakdown



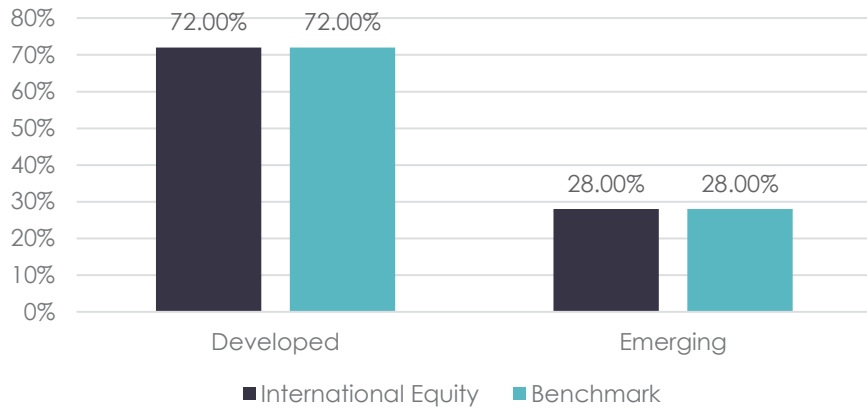
Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	12.48%	12.47%	3.53%	3.38%	5.09%	4.85%
State Fund	12.68%	12.72%	3.55%	3.52%	4.79%	4.75%
DC Disability	13.07%	12.72%	3.80%	3.52%	NA	NA

- International Equities had solid returns in FY23, but lagged US Equities. International Growth stocks outpaced Value stocks and Large Caps outperformed Small Caps YTD (but by a smaller margin than in the US).
- Developed Markets returns for the last year are in line with those of US Equities, but Emerging Markets lagged. Currency has been a slight drag on returns in 2023 for International stocks.

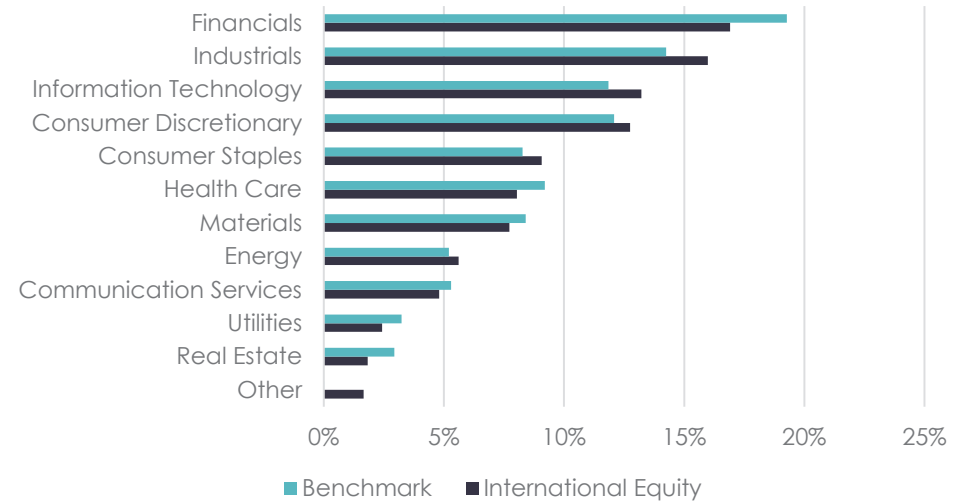
\* Dollar values are in \$1,000,000  
June 30, 2023

# International Equity Characteristics

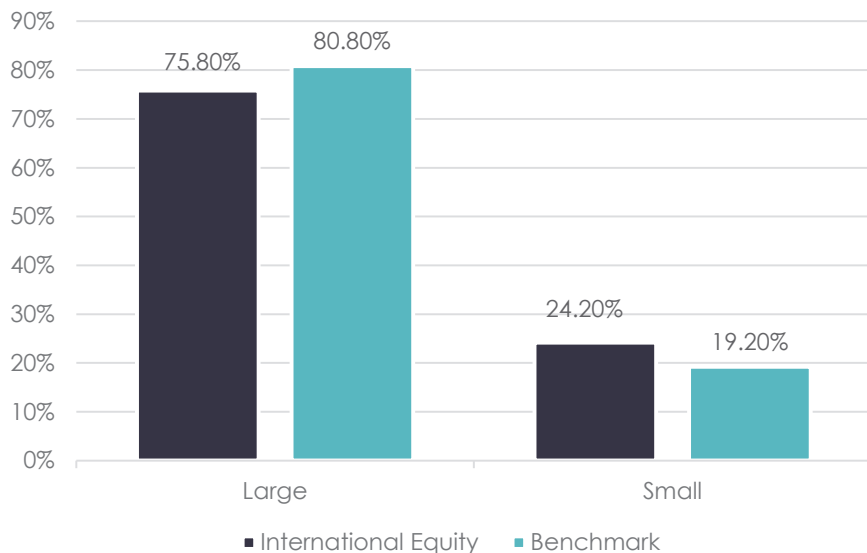
### Developed vs. Emerging Markets



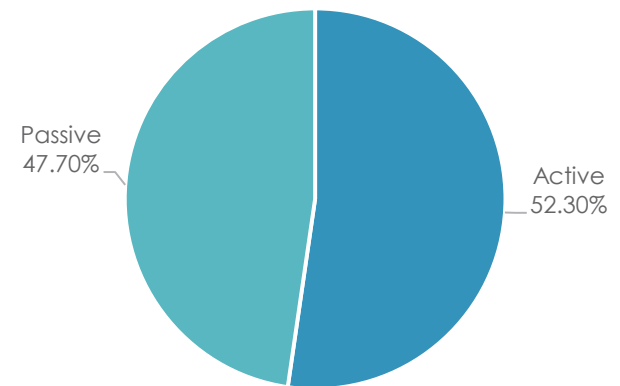
### Sector



### Market Cap



### Active vs. Passive



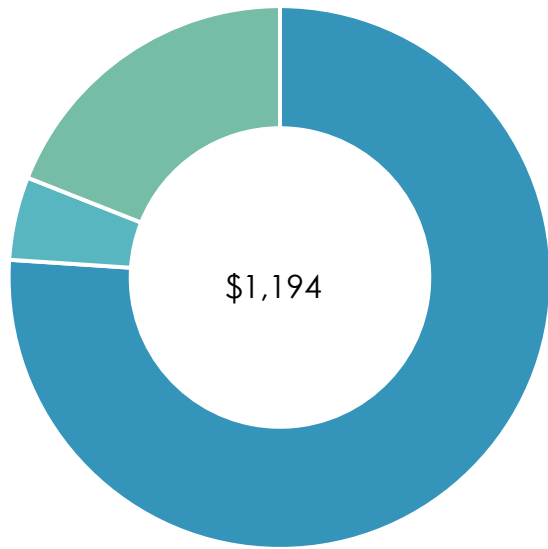
# International Equity Valuation

ACWI ex. U.S. Index - Price/Earnings Ratio  
(July 22, 2013 to July 21, 2023)

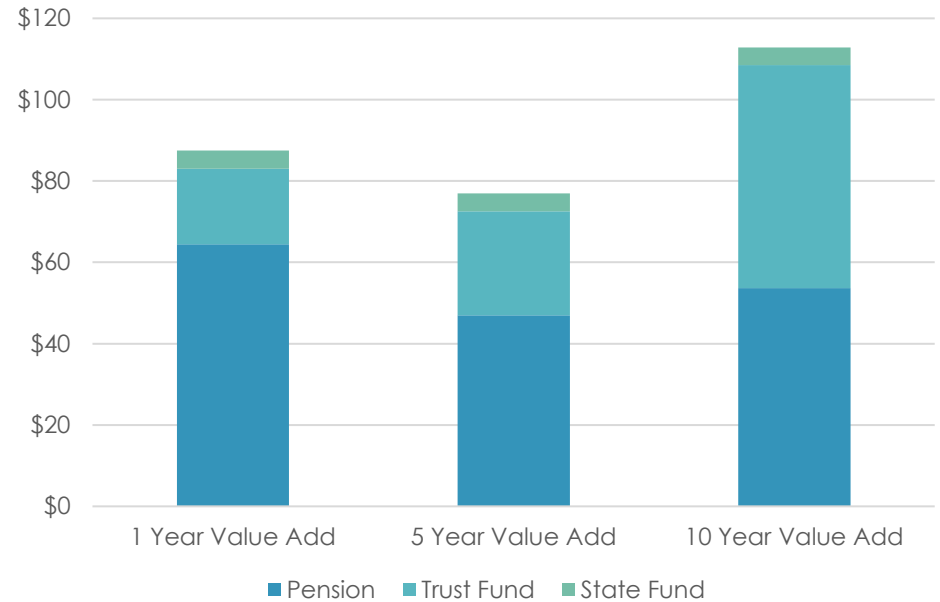


- The forward P/E for the MSCI ACWI ex-US Index was 12.9x at the end of 2Q23, up slightly from 1Q23 and close to its 20-year average of 13.1x, but at a 33% discount to the S&P 500

# Non-Core Fixed Income Ownership Breakdown



■ Pension ■ State Fund ■ Trust Fund



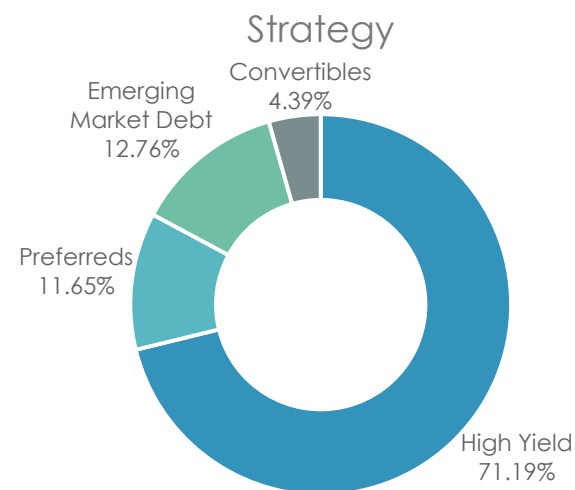
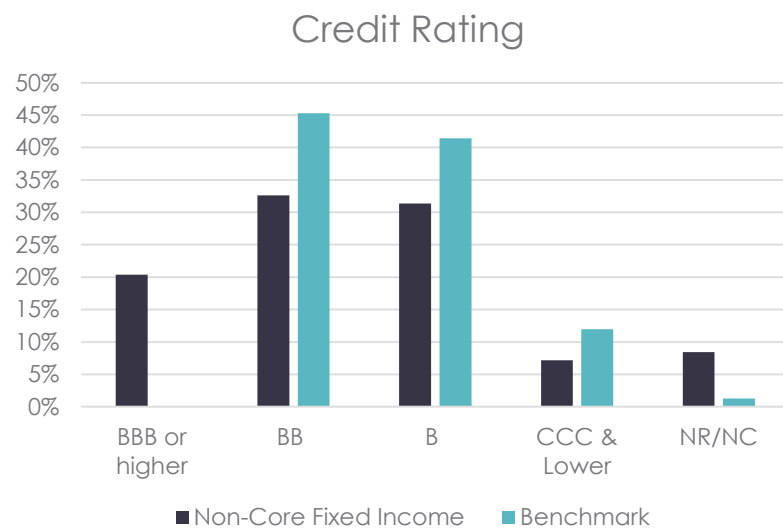
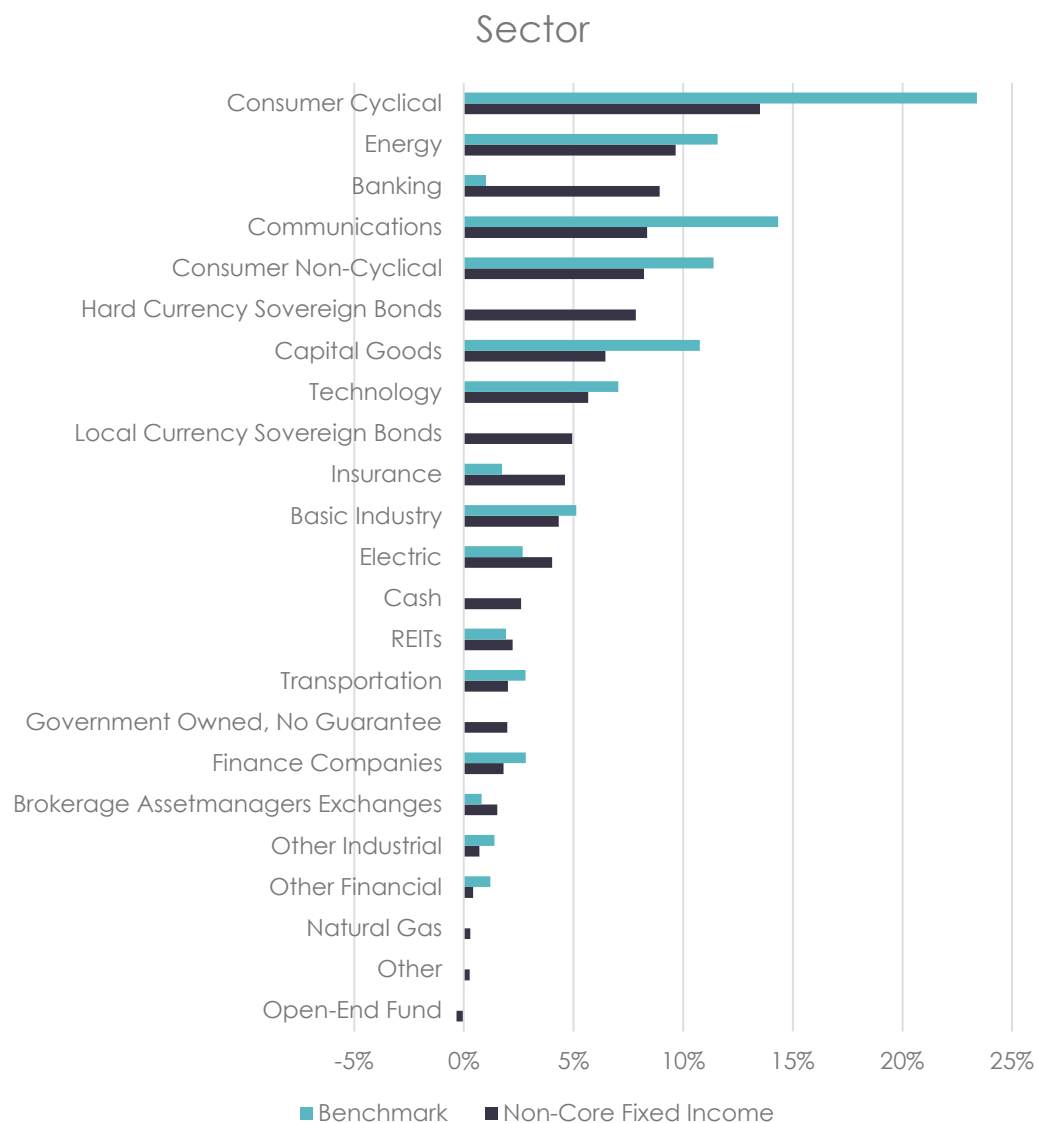
Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	8.03%	9.07%	2.59%	3.34%	3.74%	4.43%
State Fund	8.48%	9.07%	NA	NA	NA	NA
Trust Fund	9.01%	9.07%	2.40%	3.34%	4.02%	4.43%

- After the negative reaction to interest rate hikes in early 2022, Non-Core Fixed Income continued to post strong absolute returns. Over the last year, Emerging Market Debt outperformed High Yield bonds, while Preferred Securities lagged due to the fallout in the banking sector in March 2023.
- BOI's conservatively-biased, US High Yield managers lagged YTD in a market where lower-quality credits outperformed. Active management in Emerging Market Debt has been strong, while our Preferred Securities manager underperformed due to the banking sector turmoil.

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

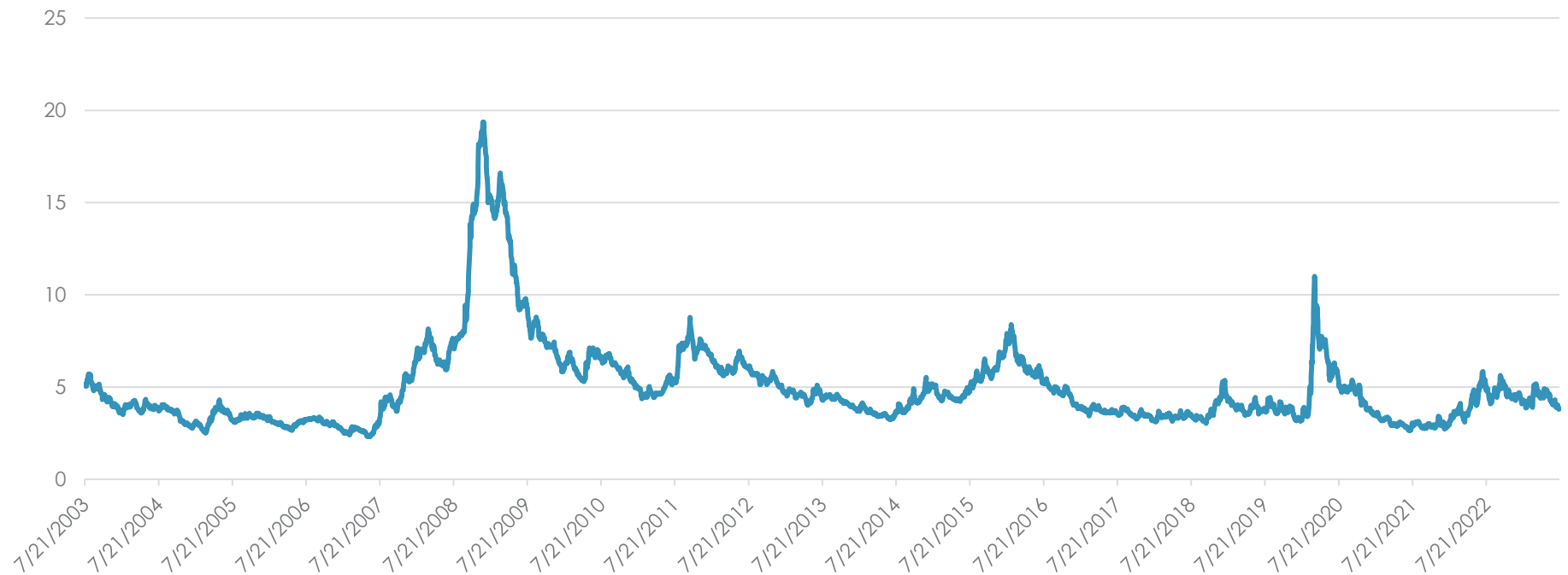
June 30, 2023

# Non-Core Fixed Income Characteristics



# Non-Core Fixed Income Valuation

Bloomberg High Yield Index – Option Adjusted Spread  
(July 21, 2003 to July 21, 2023)



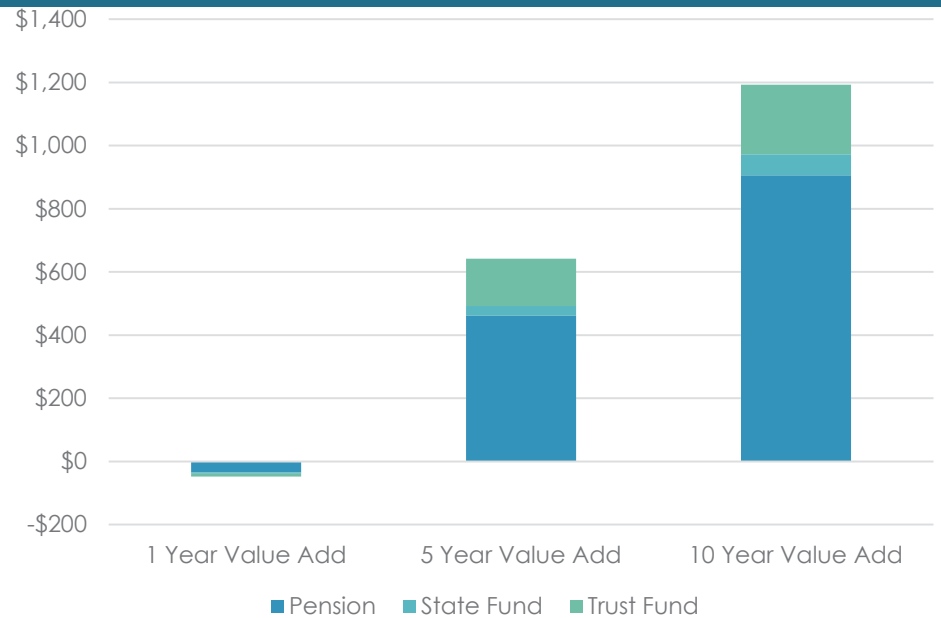
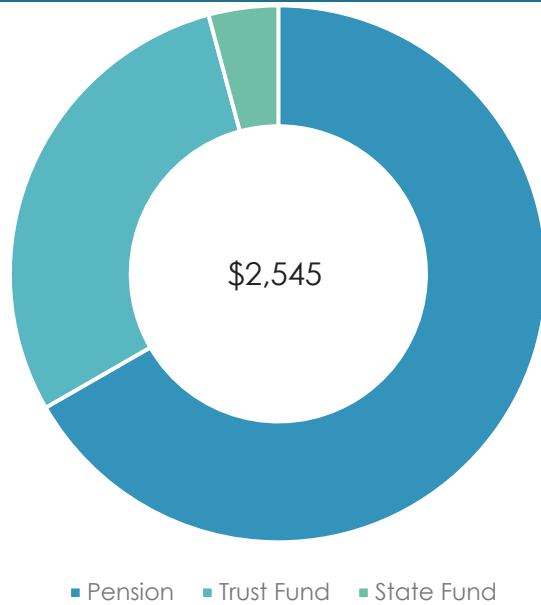
- High yield spreads have generally compressed over the last year (outside a period of spread widening in March-May 2023). The range of high yield spreads in 2Q23 was the lowest since 4Q21.

# Non-Core Fixed Income New Commitments FYTD

- **Zazove Associates - \$50 million**



# Real Estate Ownership Breakdown



Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	-2.10%	-3.91%	7.49%	3.73%	9.17%	6.67%
State Fund	-3.75%	-3.91%	5.83%	6.56%	7.48%	8.47%
Trust Fund	0.12%	-3.91%	6.77%	6.56%	7.94%	8.47%

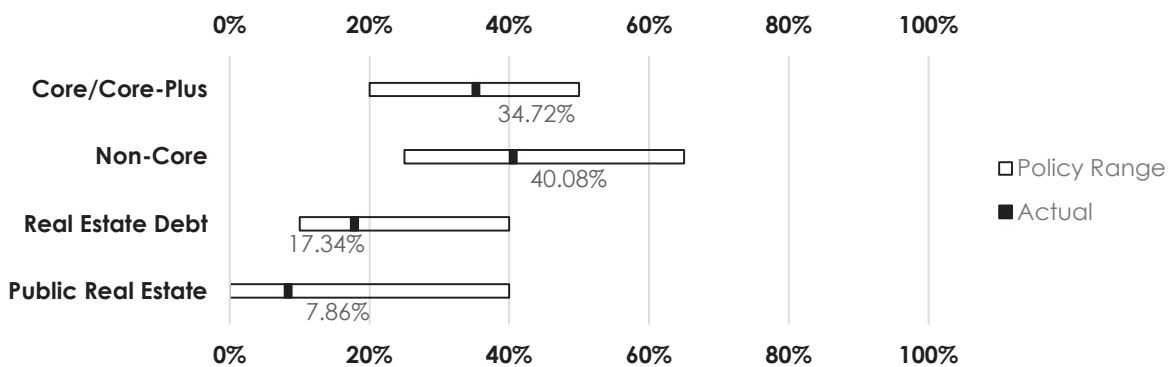
- Pricing dislocation remains, transaction volumes are down, and tight credit conditions persist
- Fundamentals are healthy, mild softening is likely to continue, and cap rates are showing signs of stabilization
- Expect continued valuation write downs in some real estate sectors and modestly declining performance within the portfolio

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

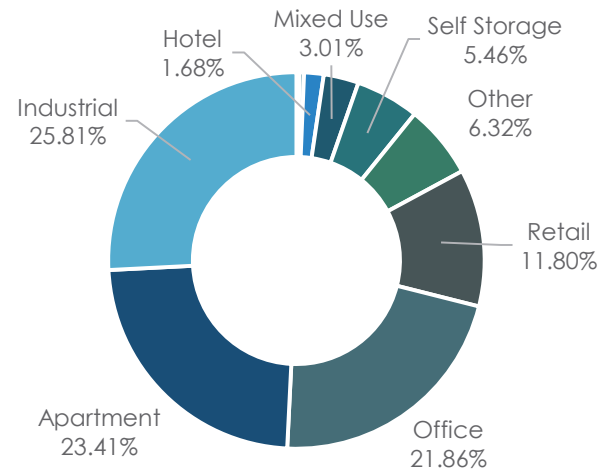
June 30, 2023

# Real Estate Characteristics

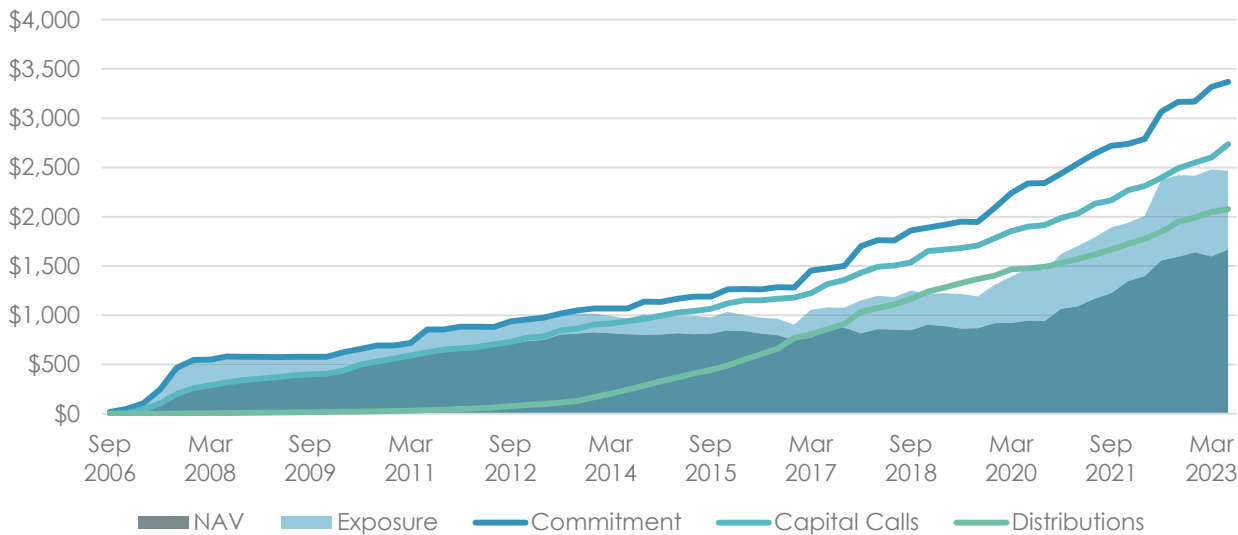
### Real Estate Asset Allocation



### Property Type



### Private Real Estate Over Time



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

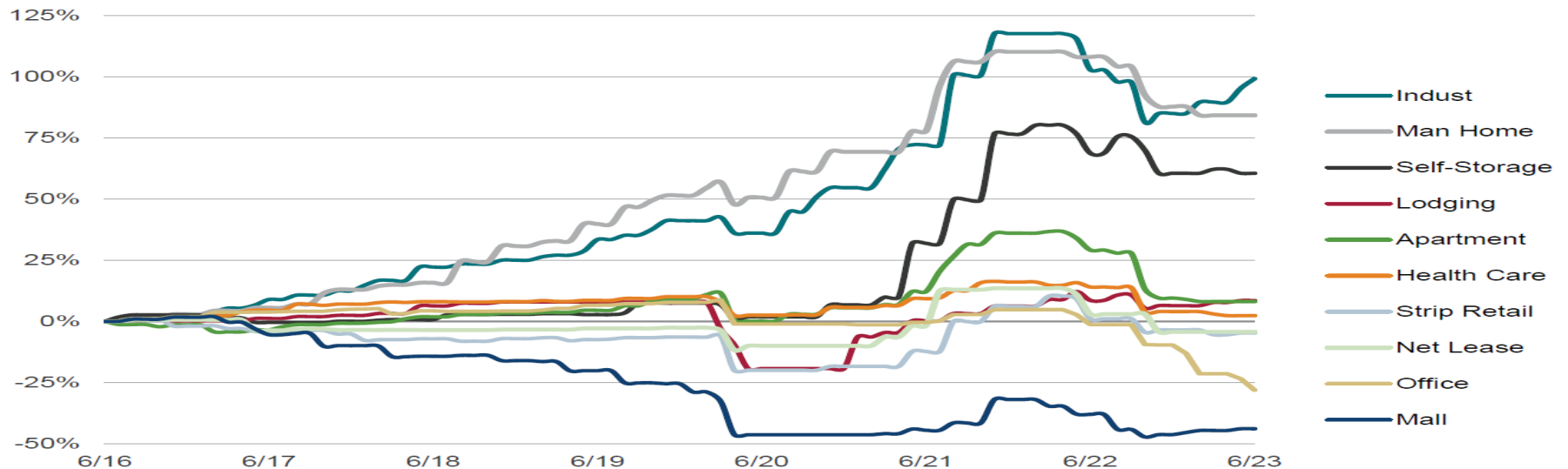
June 30, 2023

# Real Estate Valuation

## Green Street CPPI®: Sector-Level Indexes

	Index Value	Change in Commercial Property Values		
		Past Month	Past 12 Mos	Recent Peak
All Property	130.4	-0.8%	-12%	-16%
Core Sector	129.7	-1.0%	-13%	-19%
Apartment	150.7	0.0%	-16%	-21%
Industrial	232.4	2.0%	-2%	-8%
Mall	80.5	0.0%	-9%	-18%
Office	78.0	-6.0%	-27%	-31%
Strip Retail	113.8	0.0%	-6%	-14%
Health Care	132.7	0.0%	-10%	-12%
Lodging	109.8	0.0%	0%	-3%
Manufactured Home Park	283.8	0.0%	-11%	-12%
Net Lease	97.6	0.0%	-7%	-16%
Self-Storage	278.8	0.0%	-5%	-11%

### Cumulative Change in CPPI®: Past Seven Years



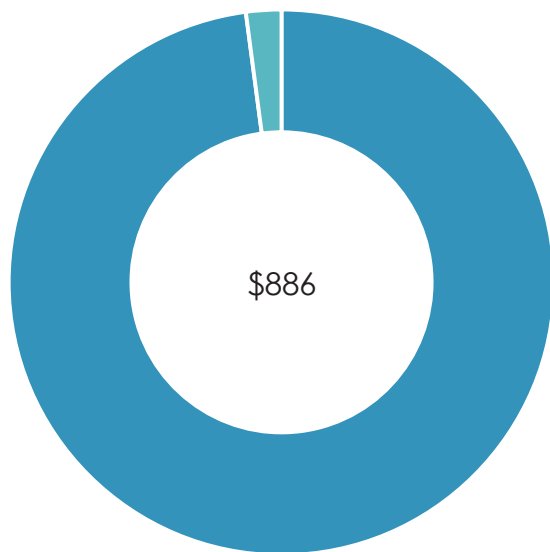
- After a steep decline due to rising interest rates, values are beginning to stabilize

# Real Estate

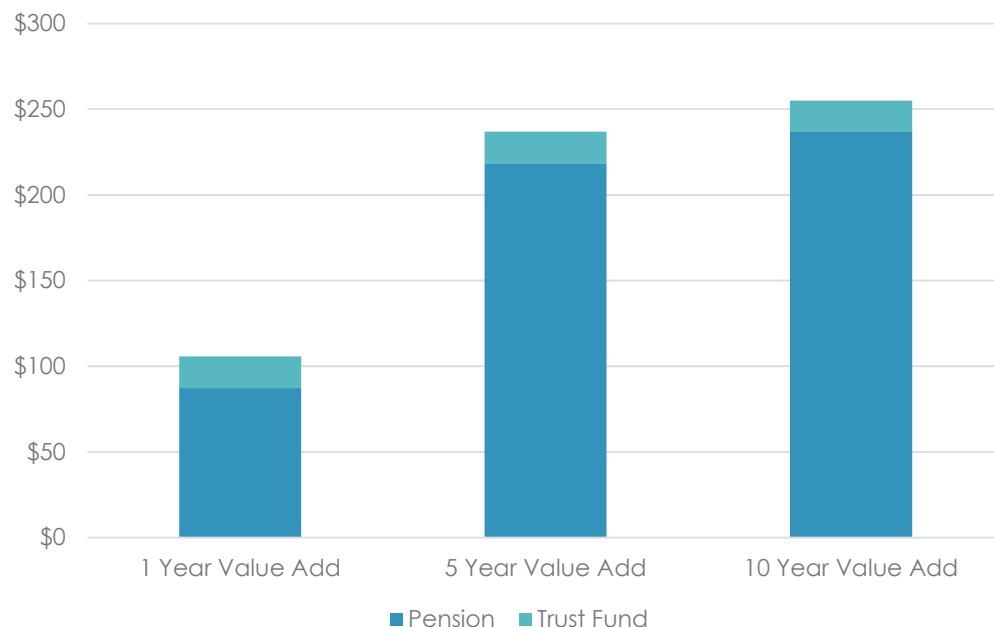
## New Commitments FYTD

- Marcus Capital Partners Fund IV, LP - \$50M (CAPP)
- AEW Cold Storage Properties Fund, LP - \$80M (CAPP) / \$50M (TFIP)
- EverWest Silver Bow Holdings, LLC - \$100M (CAPP) / \$50M (TFIP)
- Sweet Grass-Equus, LP - \$100M (CAPP) / \$50M (TFIP)
- Bell Value-Add Fund VIII, LP - \$50M (CAPP)
- DRA Growth & Income Fund XI, LP - \$50M (CAPP)
- Stockbridge Value Add Fund V, LP - \$50M (CAPP)
- **Oak Street Real Estate Capital Fund VI, LP - \$50M (CAPP)**

# Real Assets Ownership Breakdown



■ Pension ■ Trust Fund



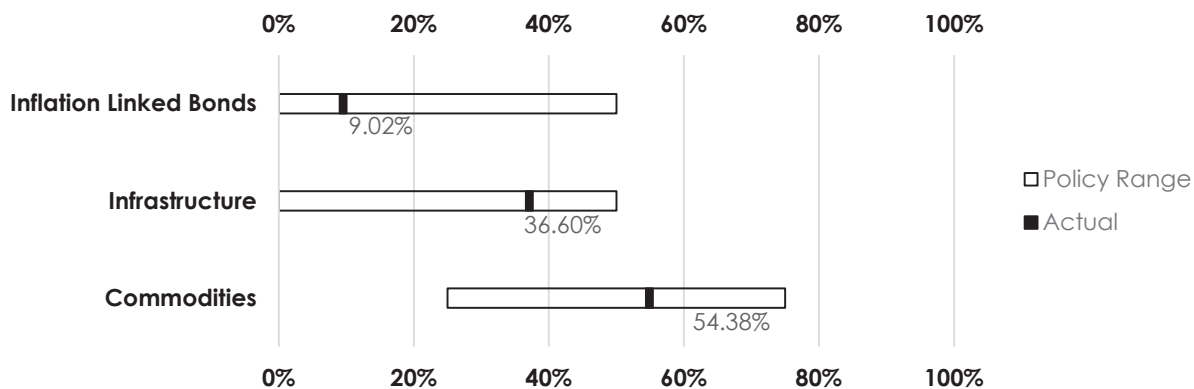
Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	12.20%	4.23%	5.40%	-0.76%	NA	NA
Trust Fund	NA	NA	NA	NA	NA	NA

- Global oil demand recently hit an all-time high of 102.5M barrels per day, surpassing pre-COVID levels
- US housing and construction remains soft despite the recent increase in housing starts
- US South and Pacific NW timber prices were mixed in 2Q23, but generally declined

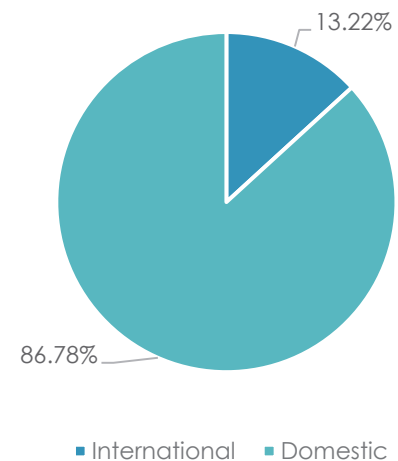
\* Dollar values are in \$1,000,000  
June 30, 2023

# Real Assets Characteristics

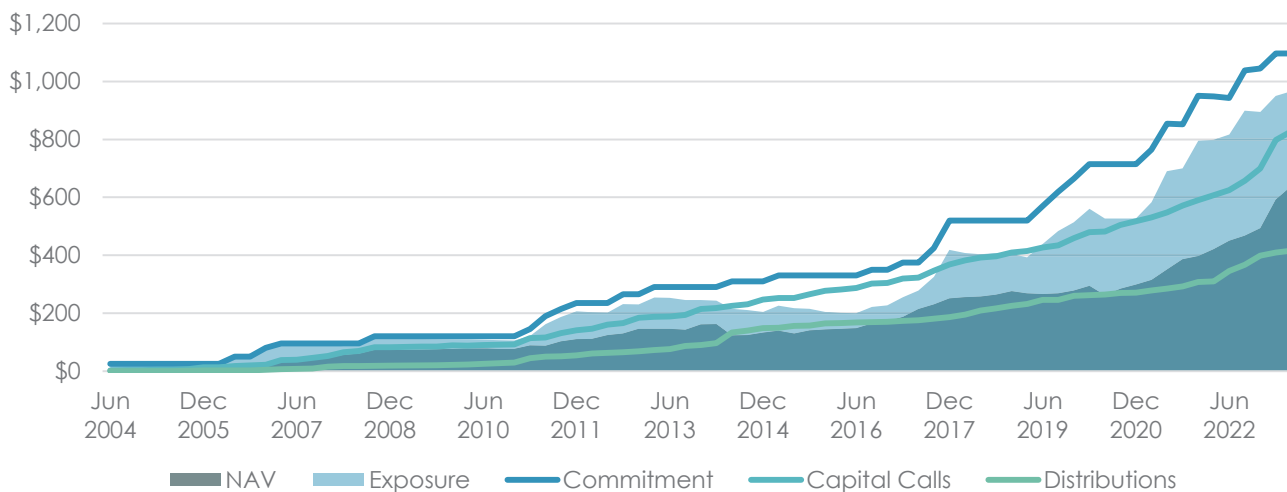
## Real Assets Asset Allocation



## Domestic vs. International



## Private Real Assets Over Time



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

June 30, 2023

# Real Assets Valuation

Crude Oil (WTI) – Price per barrel  
(July 20, 2018 to July 21, 2023)



Lumber – Price per 1000 board feet  
(July 20, 2018 to July 21, 2023)



- Oil has been range bound with US economic uncertainty, continued OPEC+ supply cuts, Russian sanctions, and China's lackluster reopening
- Lumber prices are up slightly in 2Q23, but remain near pre-pandemic levels, housing starts are lagging

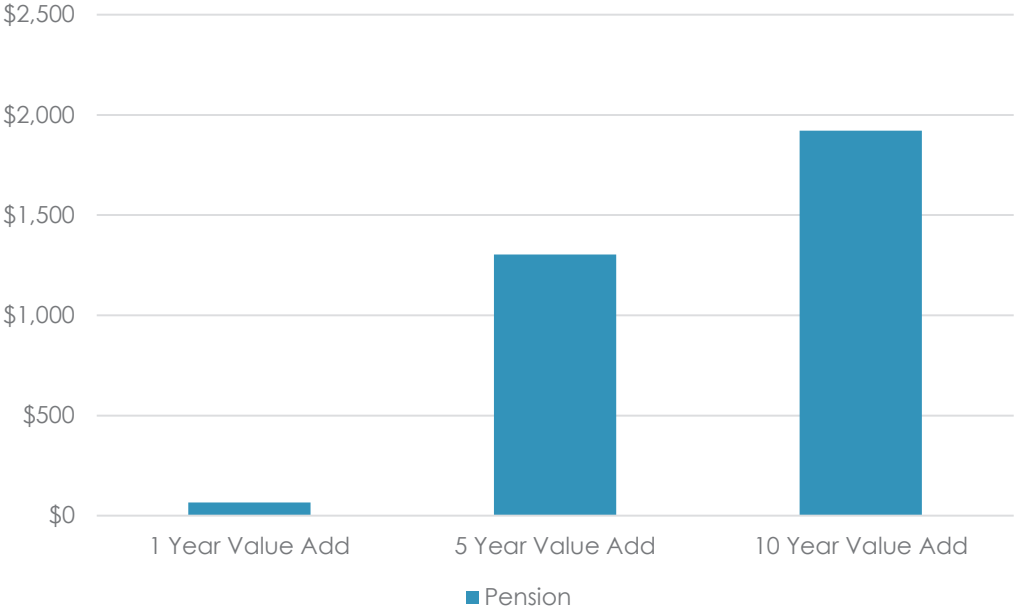
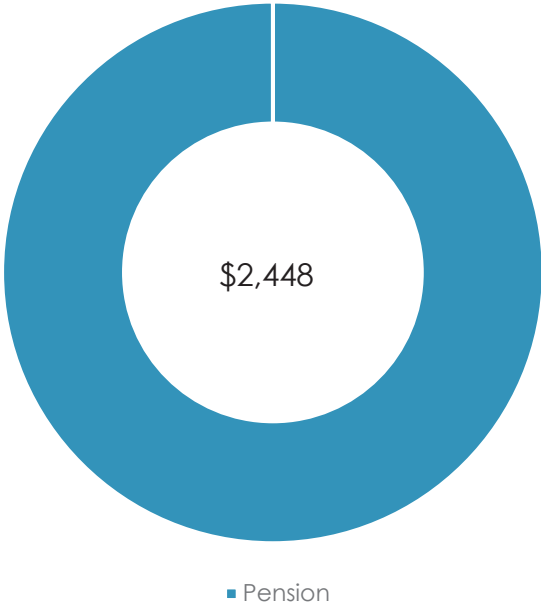
# Real Assets

## New Commitments FYTD

- CBRE Musselshell Infrastructure Investments, LP - \$100M (CAPP) / \$50M (TFIP)
- Kimmeridge Fund VI, LP - \$50M (CAPP)



# Private Investments Ownership Breakdown



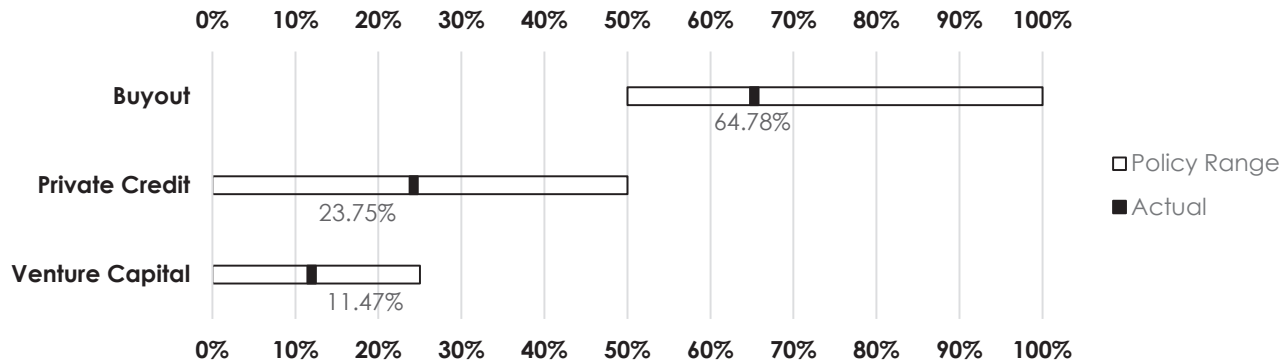
Performance	YTD/1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	2.83%	14.94%	14.93%	6.96%	13.35%	11.66%

- Performance is strong relative to the benchmark and the portfolio continues to outperform over the long-term
- Markdowns have been modest in recent quarters and primarily focused on the Venture Capital funds. The overall portfolio is holding up well

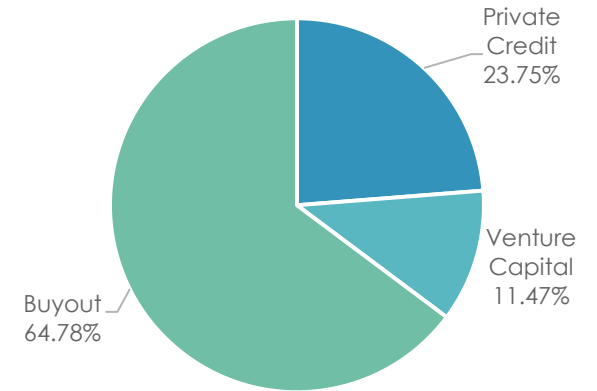
\* Dollar values are in \$1,000,000  
June 30, 2023

# Private Investments Characteristics

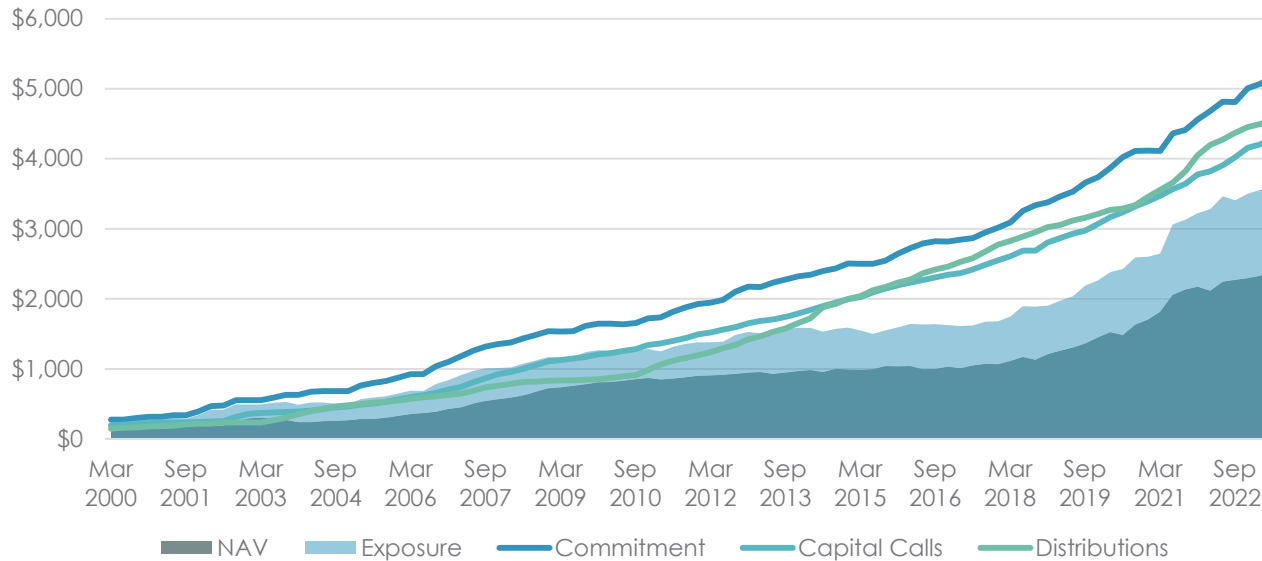
## Private Investments Asset Allocation



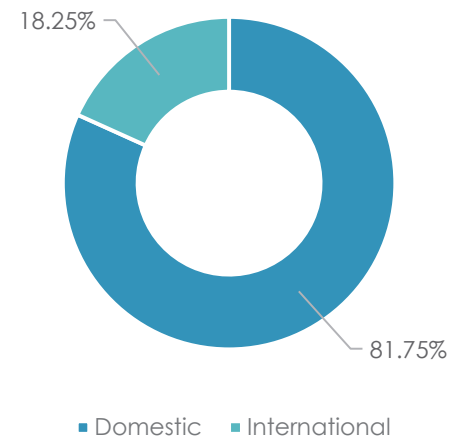
## Strategy



## Private Investments Over Time

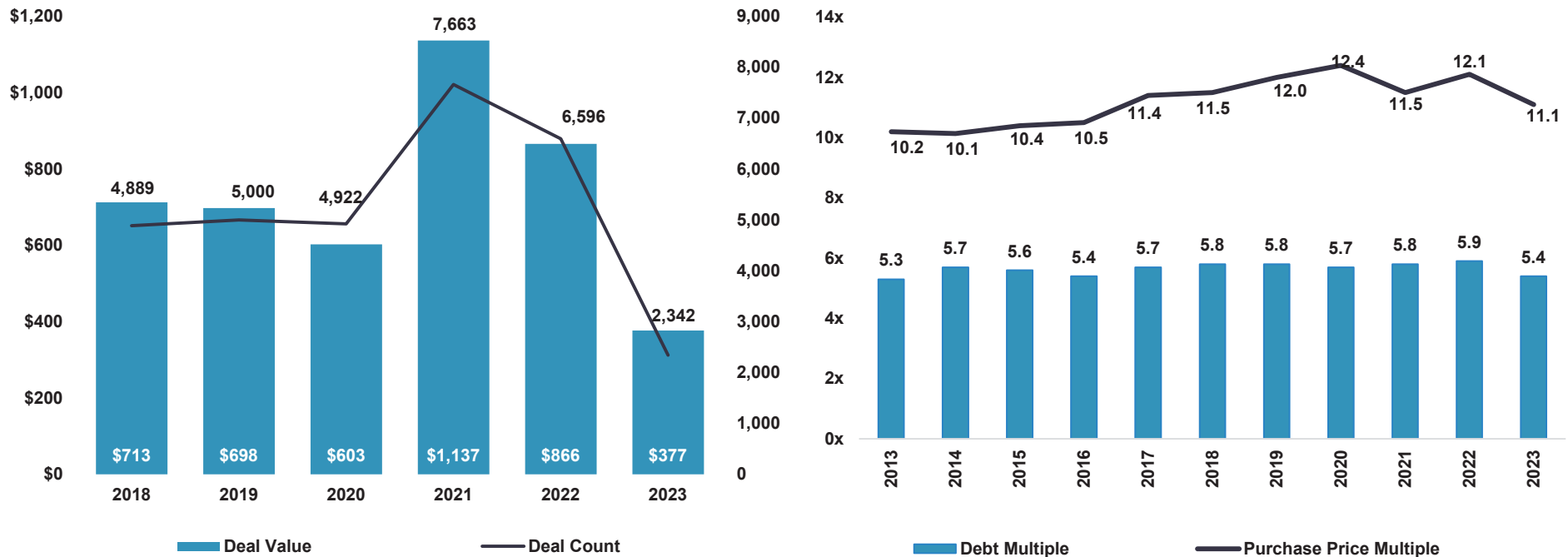


## Domestic vs. International



\* Dollar values are in \$1,000,000  
June 30, 2023

# Private Investments Valuation



- U.S. buyout deal making delivered another mixed quarter in 2Q23 with deal count slightly up and dollar value declining slightly compared to 1Q23.
- Deal count is still solidly ahead of pre-COVID levels, 2,342 YTD versus 1,574 in the first half of 2019. Managers have had to adjust to complete deals. Deals have gotten smaller, making them more digestible and easier to finance.
- Debt usage continues to be below the long-term average, driven by higher cost of capital and a more risk-averse environment among lenders due to recent issues in the banking sector.

Source: PitchBook. \*as of 6/30/2023

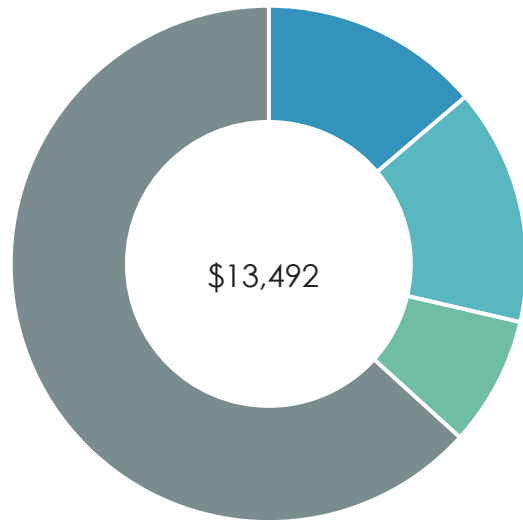
June 30, 2023

# Private Investments

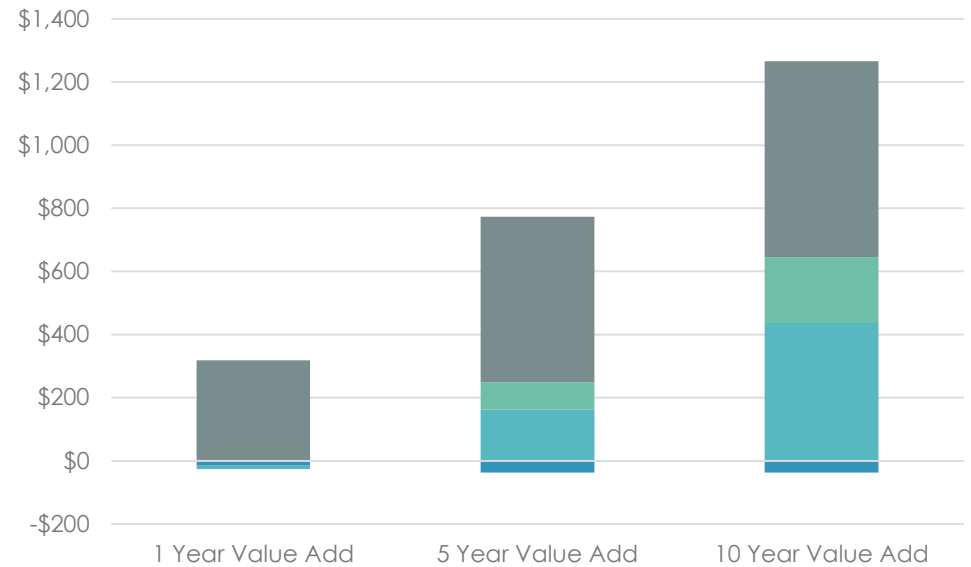
## New Commitments FYTD

- Deerpath Capital Advantage VI - \$75M
- Audax Private Equity Fund VII - \$60M
- EQT Fund X, L.P. - \$60M
- Axiom Asia Fund 7, L.P. - \$60M
- OCP Asia Fund V (US), L.P. - \$50M
- Foundation Capital Fund XI/Leadership Fund 4 - \$50M
- Accolade Partners IX/Venture I - \$50M

# Core Fixed Income Ownership Breakdown



■ Pension ■ Trust Fund ■ State Fund ■ STIP



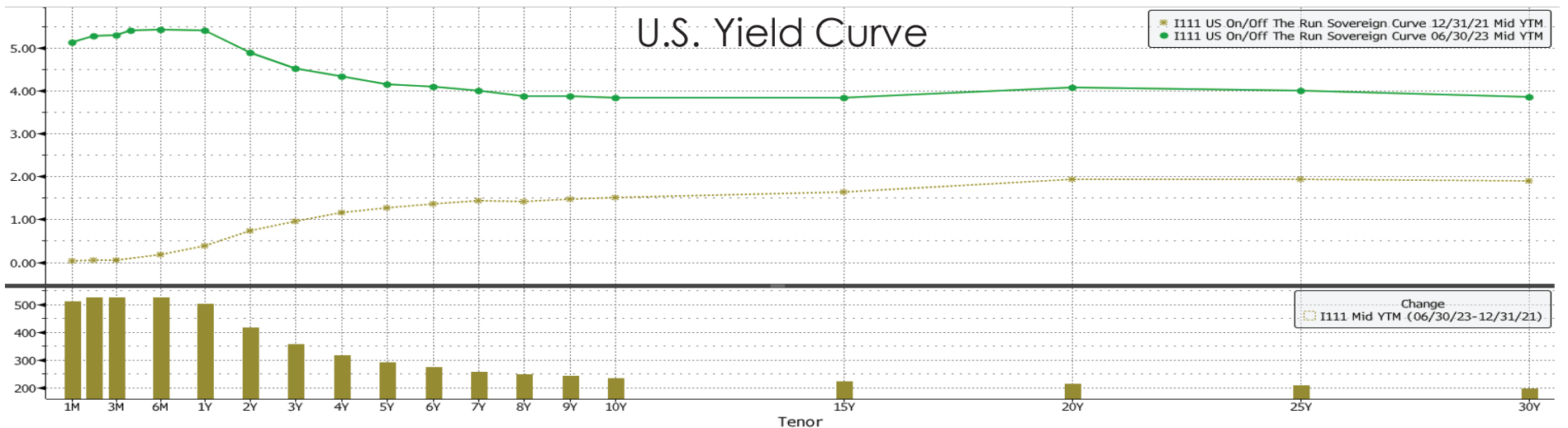
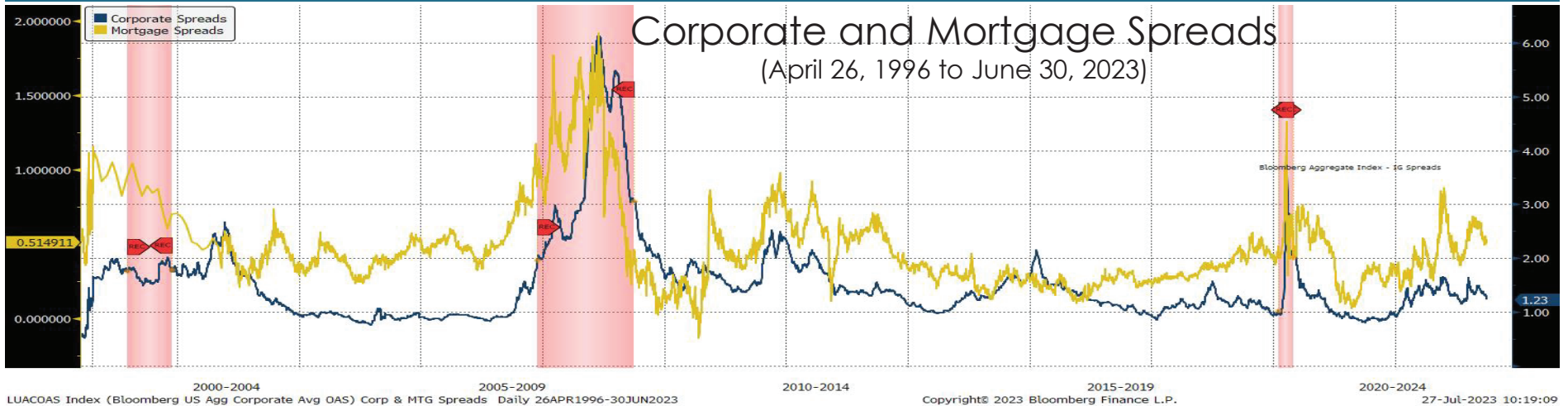
■ Pension ■ Trust Fund ■ State Fund ■ STIP

Performance	1 Year	1 Year Benchmark	5 Year	5 Year Benchmark	10 Year	10 Year Benchmark
Pension	-0.82%	-0.94%	0.83%	0.30%	1.67%	1.27%
Trust Fund	-0.57%	-0.94%	1.23%	0.77%	2.03%	1.52%
State Fund	0.31%	-0.70%	1.42%	0.86%	1.74%	1.23%
STIP	3.77%	3.94%	1.64%	1.54%	1.12%	1.07%

- Negative returns on the year were driven by the dramatic increase in interest rates
- 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  
June 30, 2023

# Core Fixed Income Valuation

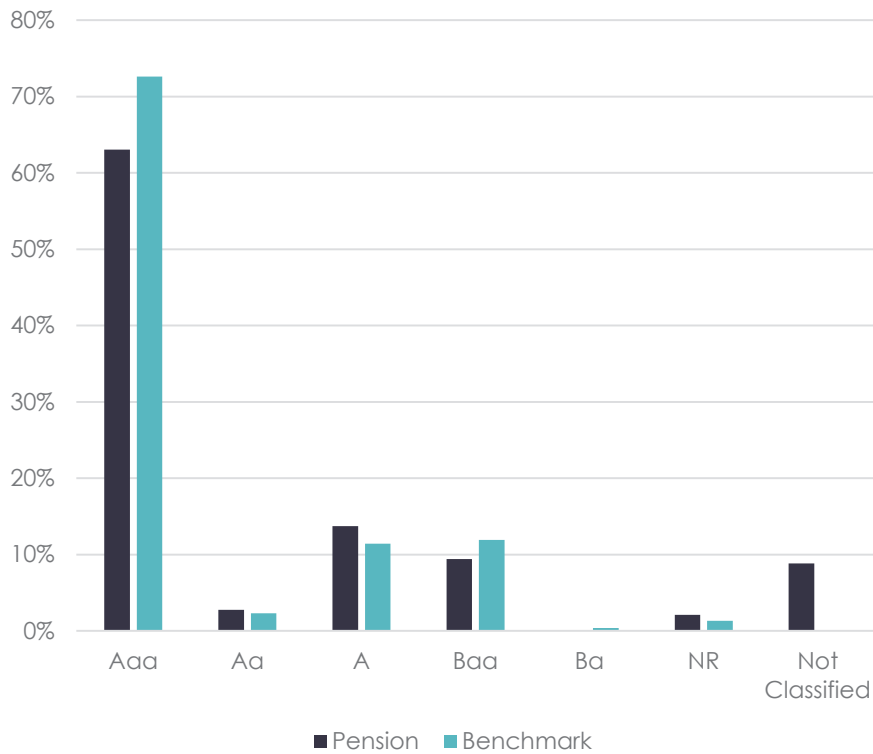


- Risk premiums have declined close to historical averages
- The inversion of the yield curve is near record levels

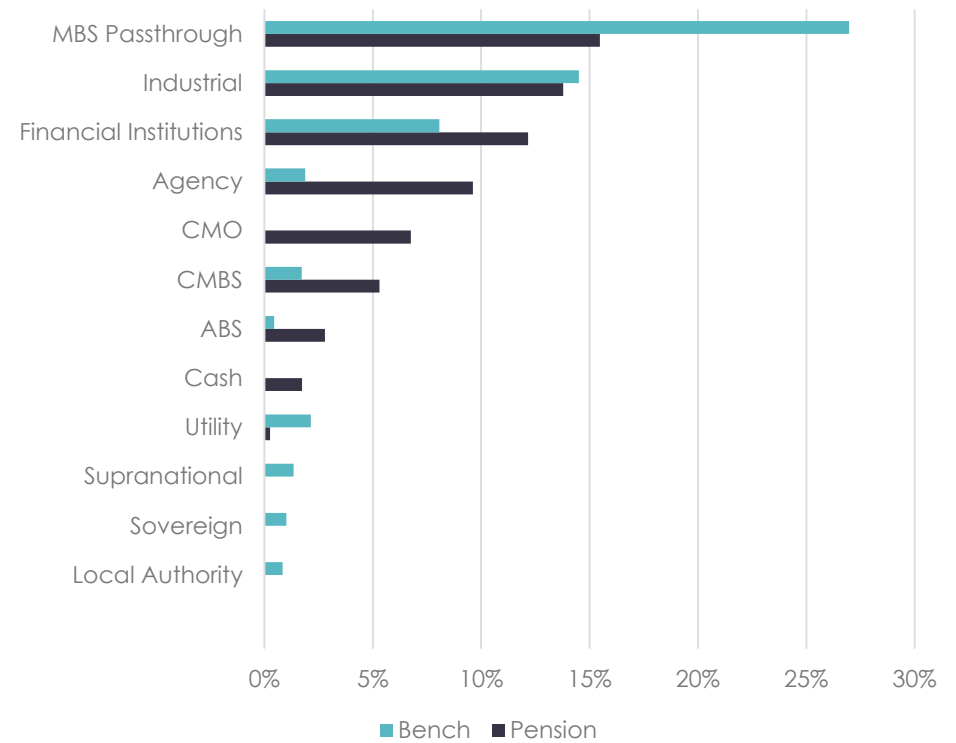
# Core Fixed Income Characteristics - Pension

Core Fixed Income				
	Portfolio	Index	Difference	% of Index
Duration (Yrs)	6.54	6.25	0.29	104.64%
Yield to Worst	4.90%	4.82%	0.08%	101.66%
CTD from Corporate	1.28	1.76	-0.48	72.73%

Credit Rating

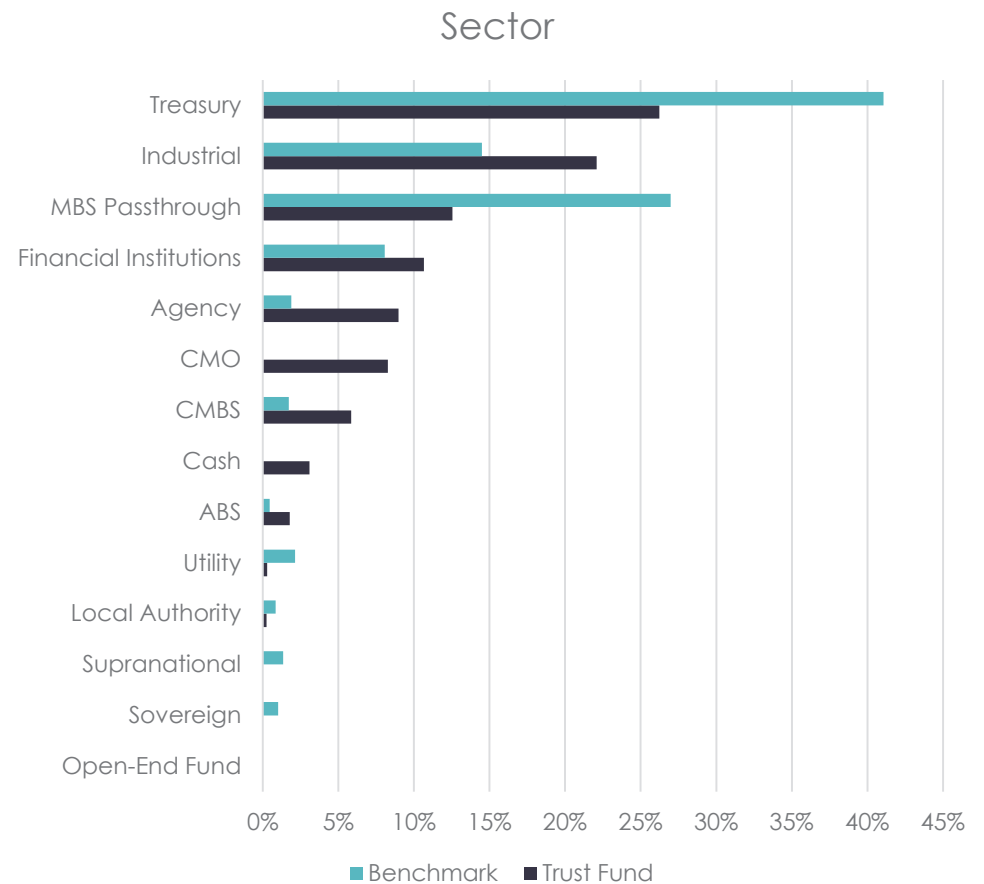
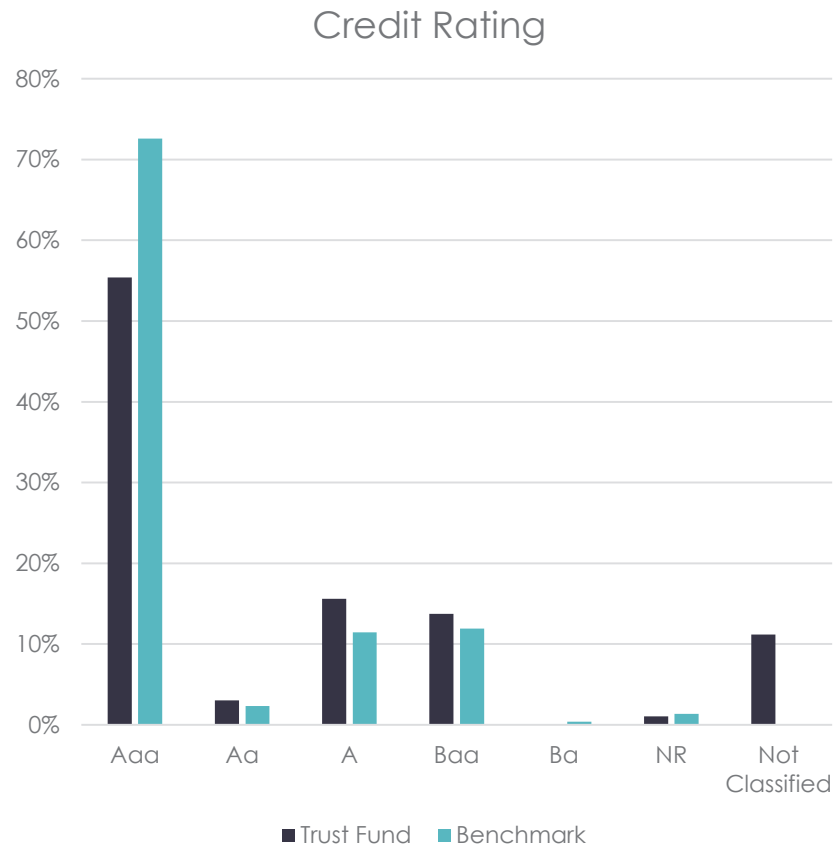


Sector



# Core Fixed Income Characteristics – Trust Fund

Trust Funds Investment Pool				
	Portfolio	Index	Difference	% of Index
Duration	6.49	6.25	0.24	103.84%
Yield to Worst	4.79%	4.82%	-0.03%	99.38%
CTD from Corporate	1.67	1.76	-0.09	94.89%

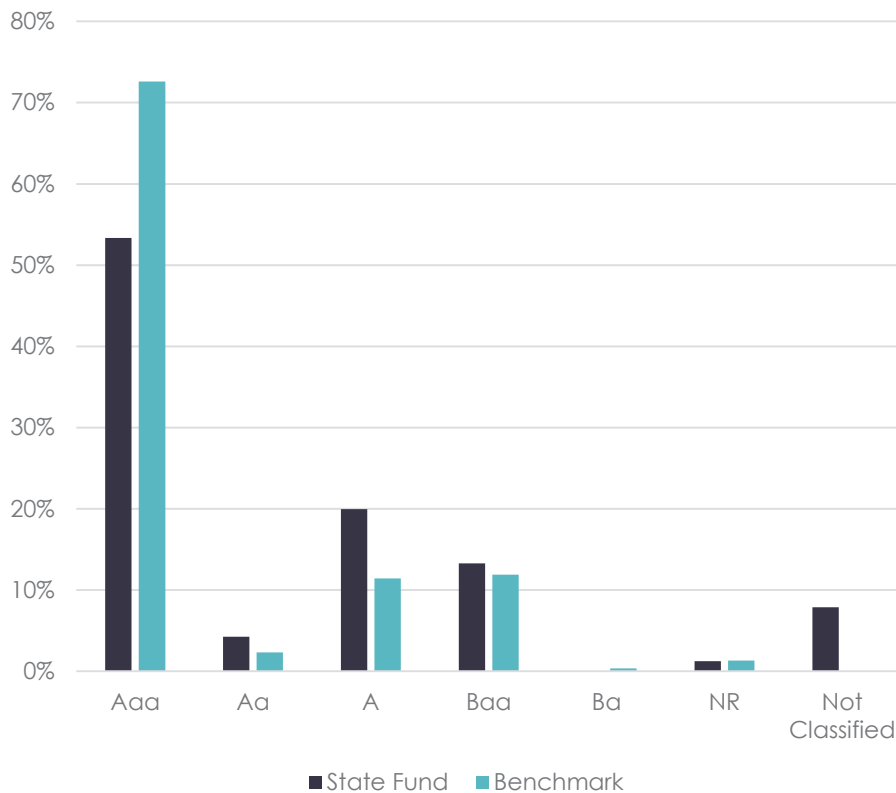




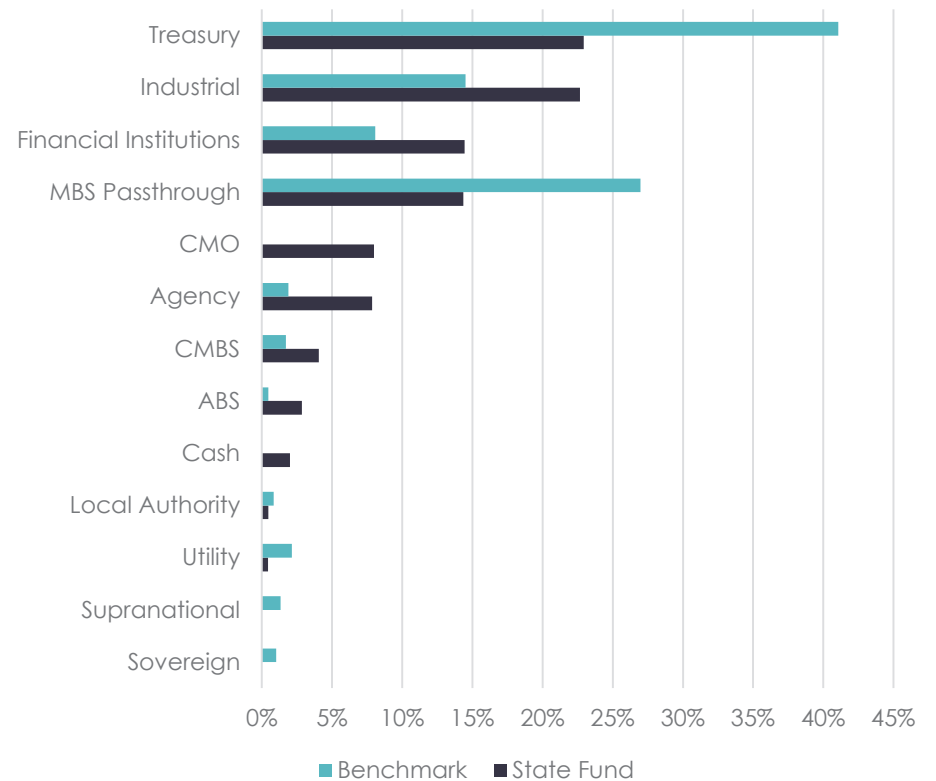
# Core Fixed Income Characteristics – State Fund

State Fund Investment Pool				
	Portfolio	Index	Difference	% of Index
Duration	5.32	6.25	-0.93	85.12%
Yield to Worst	4.84%	4.82%	0.02%	100.41%
CTD from Corporate	1.5	1.76	-0.26	85.23%

Credit Rating



Sector

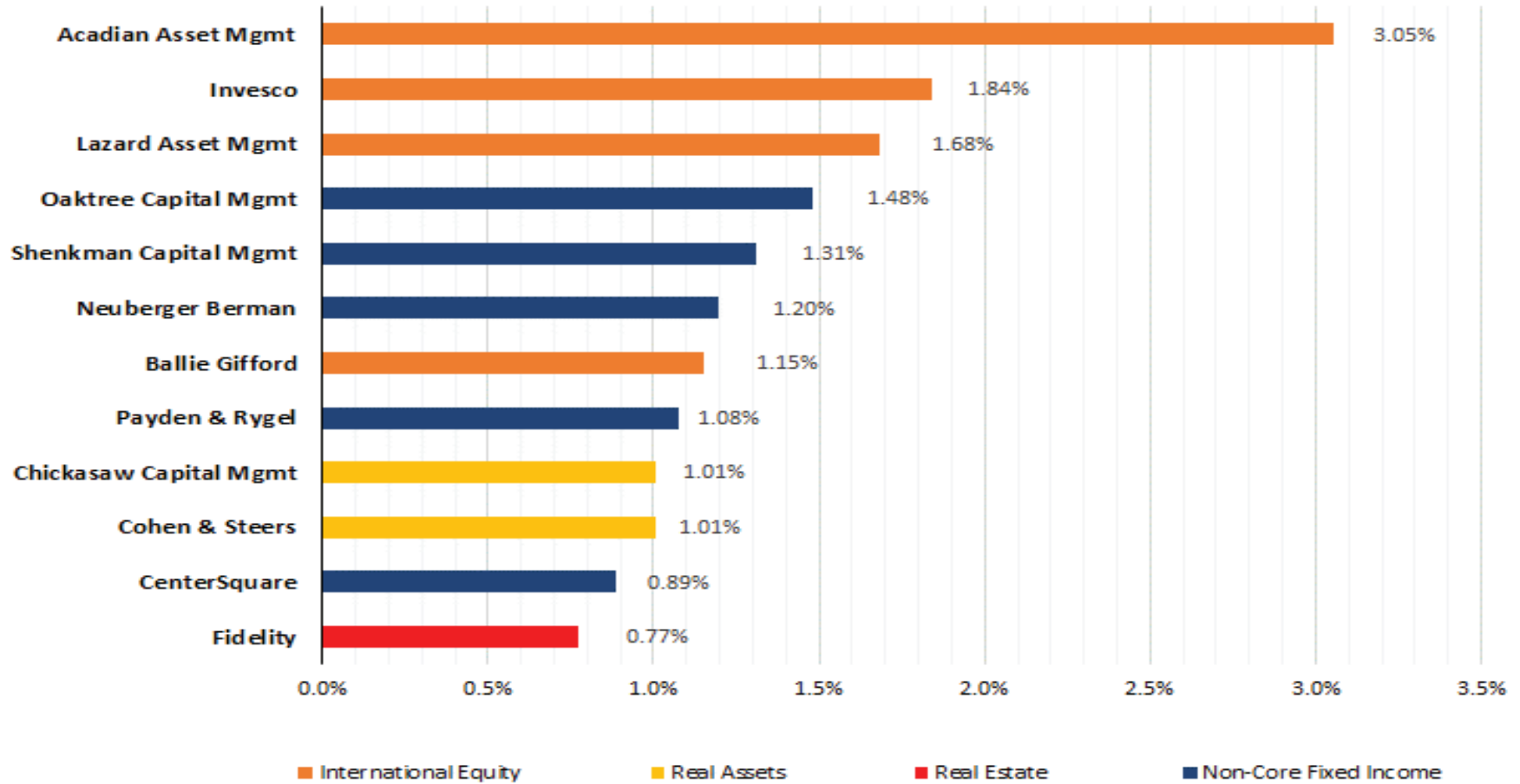


# APPENDIX

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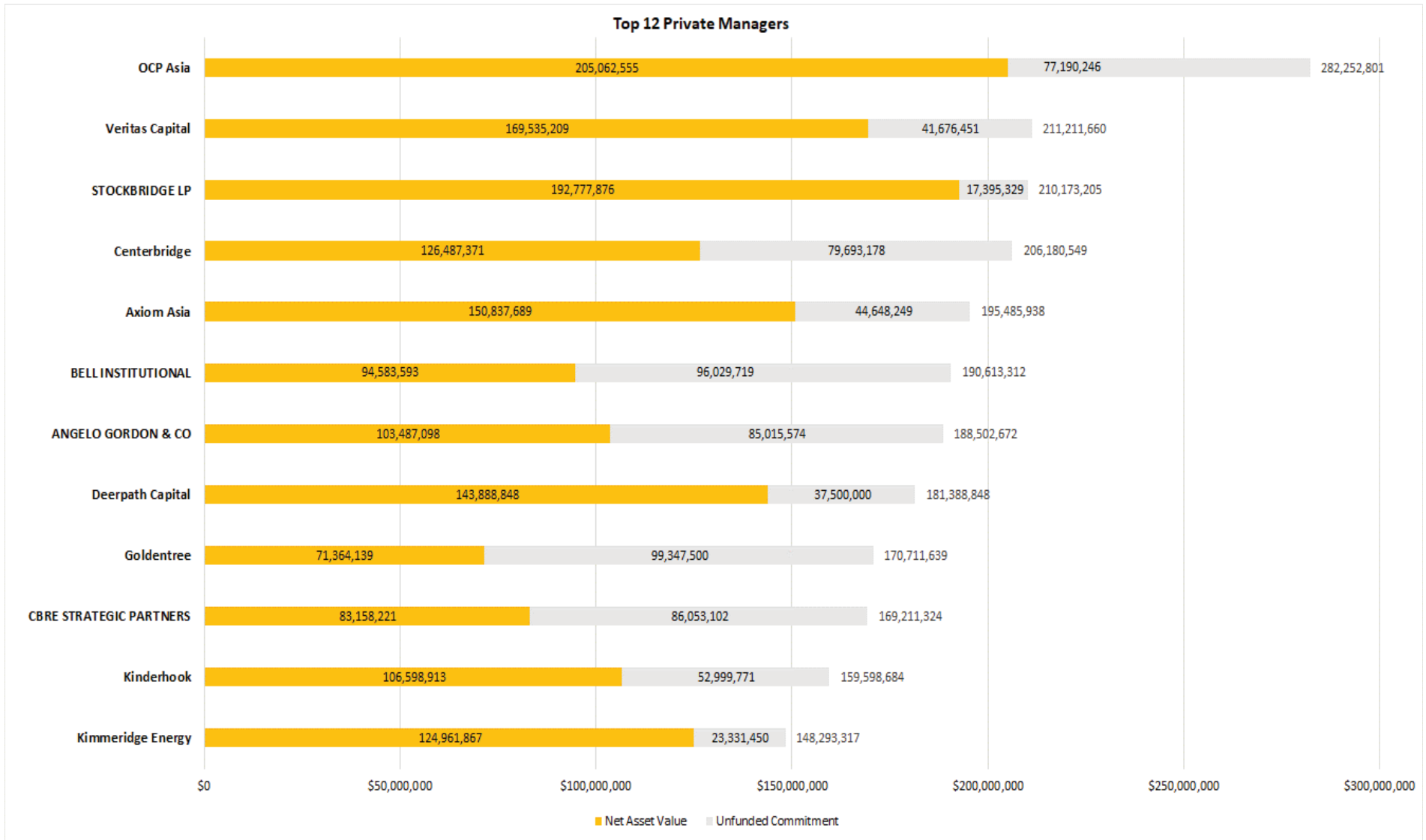
# Risk Management Pension Holdings

Top 12 Active Managers

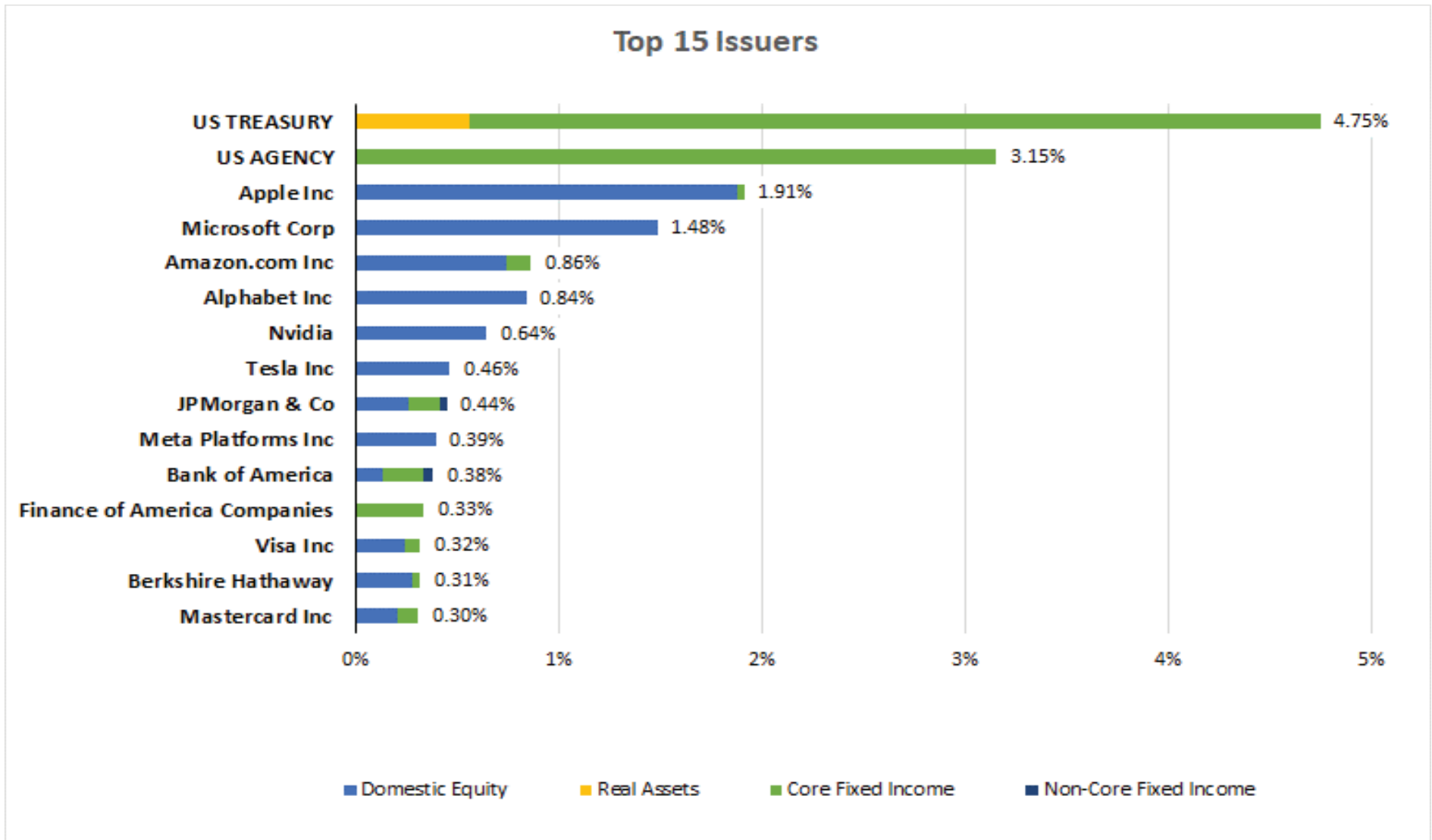


\*Montana Public Retirement Plans shall have no greater than 5% of its Net Asset Value managed by any one external manager using an active investment strategy

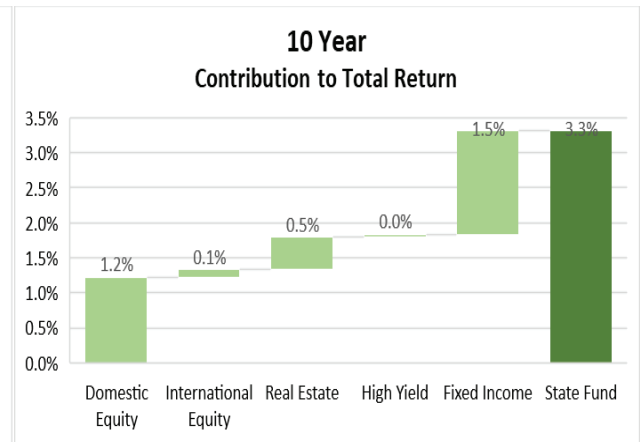
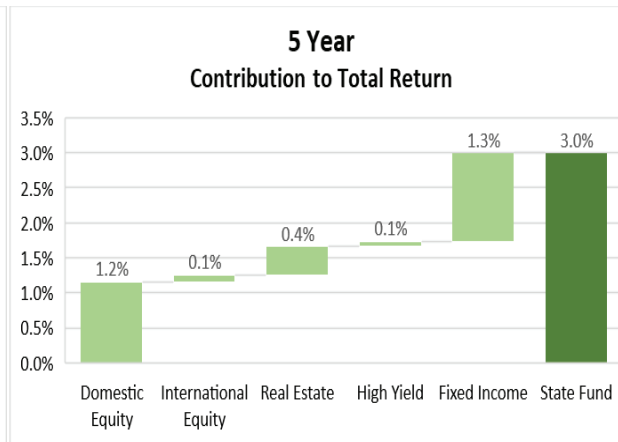
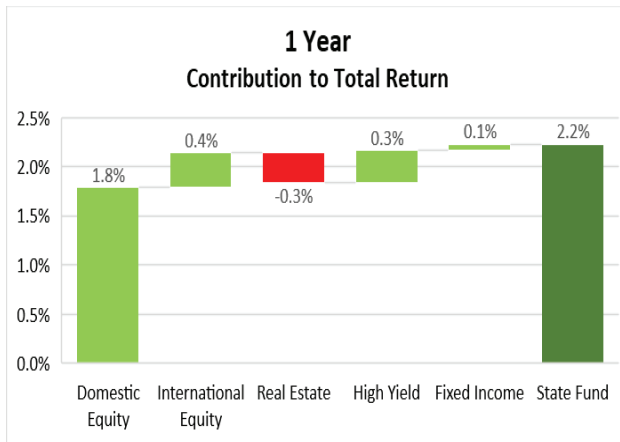
# Risk Management Pension Holdings



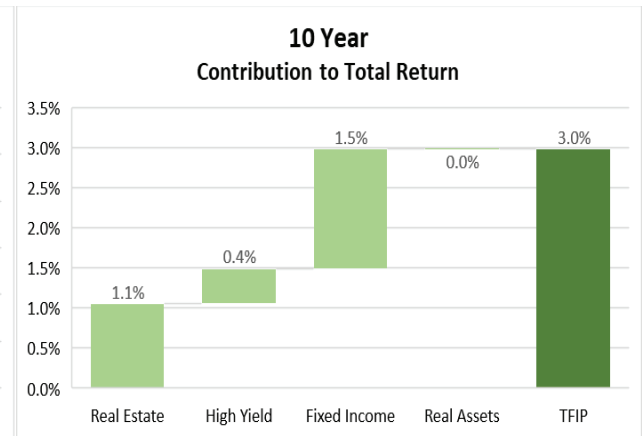
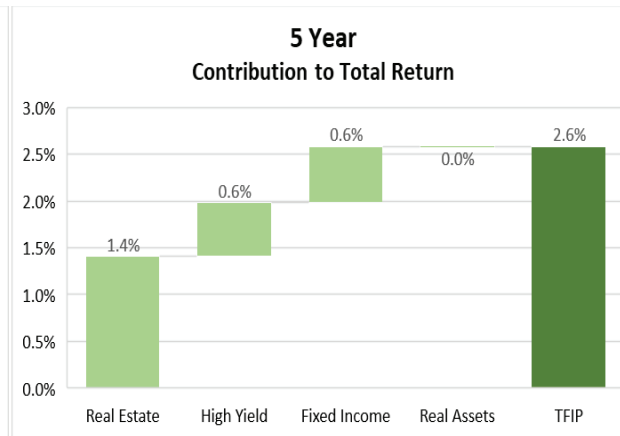
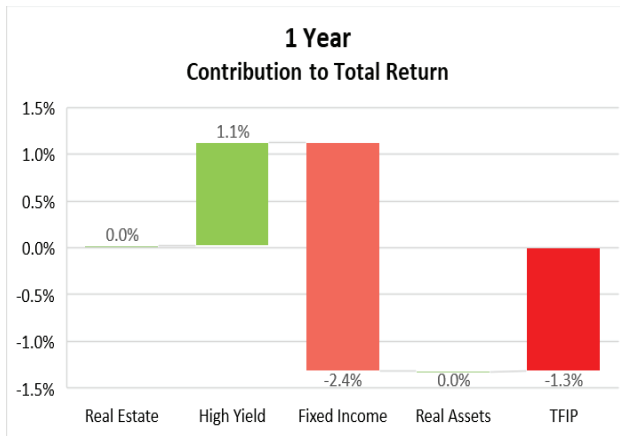
# Risk Management Pension Holdings



# State Fund Performance



# Trust Funds Investment Pool Performance







# 2023 Board of Investments Meetings

## 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				

## 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

2022

February 16-17

**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 20

**Education:**

Domestic Equity Asset Class Review  
RVK Annual Capital Market Assumptions

**Reports:**

Benchmarks Used by the Board

May 25-26

**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:**

Audit: Accounting Staff Review  
HR: Staffing Level Review  
HR: Exempt Staff Compensation Review

August 3-4

**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

**Committee Meetings:**

Audit: SOC 1, Type 2 Report

October 26-27

**Education:**

Separate Accounts Investment Review  
First Reading - Asset Allocation Range Recommendation

**Reports:**

CEM, Inc Cost Reporting Analysis

**Committee Meetings:**

HR: Exempt Staff Performance Review

December 6-7

**Education:**

2023 Legislative Session  
Policy 217 - Reauthorization of Investment Vendors  
Adoption - Asset Allocation Range Approval

**Reports:**

Quarterly Reports  
In-State Loan Reports  
INTERCAP Reports

**Committee Meetings:**

Audit: Annual Report and Financial Statements

2023

February 22-23

**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 12

**Education:**

International Equities Asset Class Review  
RVK Annual Capital Market Assumptions

**Reports:**

Benchmarks Used by the Board

May 24-25

**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:**

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

August 23-24

**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

**Committee Meetings:**

Audit: SOC 1, Type 2 Report

October 11

**Education:**

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

**Reports:**

Securities Lending

**Committee Meetings:**

HR: Exempt Staff Performance Review

December 13-14

**Education:**

MPERA and TRS Relationship  
Policy 217 - Reauthorization of Investment Vendors  
Adoption - Asset Allocation Range Approval

**Reports:**

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 1/100<sup>th</sup> 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 bond's 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