

SWIB Board Meeting of June 12, 2024

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Name of Meeting: Regular Meeting of the Board of Trustees

***Joint Educational Session of State of Wisconsin Investment Board
Board of Trustees and CFA Society Madison****

Date/Time: Tuesday, June 11, 2024 1:30 pm

Room: Via Teleconference

<u>Session 1</u>		
	Topic	Speaker
1:30 pm	Introductions	Clyde Tinnen, Chair Edwin Denson, ED/CIO
1:30 pm	The Impact of GLP-1 Drugs on the Economy & Healthcare	Dr. Jay Rao, Integral Health Asset Management
2:30 pm	Commercial Real Estate Cycles	Ed Reardon, Managing Director, Head of Securitization Research at Deutsche Bank
3:30 pm	AI: Demystifying Hype. Determining Risks. Discovering Potential.	Talia Goldberg, Partner, Bessemer Venture Partners
4:30 pm	Closing Remarks	Clyde Tinnen

Motion to Recess

**The Joint Educational Session is open to the public. Members of the public planning to attend this meeting should contact SWIB at (608) 261-9341 or email Dawn.Tuescher@swib.state.wi.us for information on how to register.*

Name of Meeting: Regular Meeting of the Board of Trustees
Date/Time: Wednesday, June 12, 2024 Approx. 10:40 am (following Audit)
Room: 1st Floor Conference Room
Address: 4703 Madison Yards Way, Madison, WI 53705
Virtual: [Click here to join meeting](#); 608-267-3179 passcode 310591842

OPEN SESSION
<ol style="list-style-type: none"> 1. Committee Reports – Open Session Items <ol style="list-style-type: none"> A. Audit and Finance Committee B. Benchmark and Performance Committee C. Compensation and Workforce Development Committee D. Strategic Planning and Corporate Governance Committee
<ol style="list-style-type: none"> 2. Consent Agenda <ol style="list-style-type: none"> A. Open Session Minutes of March 20, 2024 B. Recommended Actions from Committee Agendas – Open Session Items
<ol style="list-style-type: none"> 3. Investment Performance and Market Updates <ol style="list-style-type: none"> A. Board Investment Performance Report, Q1 2024 B. Callan Quarterly Report
<ol style="list-style-type: none"> 4. Investment Committee Open Session Business <ol style="list-style-type: none"> A. Amendments to WRS Investment Committee Investment Guidelines B. Approved Open Session Investment Committee Meeting Minutes for February 27, March 21 and April 23, 2024 C. Final Open Session Agenda for May 28, 2024 and Draft Open Session Agendas for June 25 and July 23, 2024
<ol style="list-style-type: none"> 5. Quarterly Investment Update, Q1 2024
CLOSED SESSION*
RECONVENE IN OPEN SESSION
<ol style="list-style-type: none"> 6. Announcement of Matters Taken Up in Closed Session

* The motion to go into closed session at this meeting is made pursuant to: (i) Sections 19.36(5) and 19.85(1)(e) of the Wisconsin Statutes to consider confidential and proprietary strategies for the investment of public funds relating to specific proprietary investment strategies of internal WRS portfolios, asset allocation, and risk management and/or for any comments or discussion on prior closed session minutes that discuss the same; (ii) Section 19.85(1)(c) of the Wisconsin Statutes to discuss the compensation and performance evaluation data of specific SWIB employees and/or for any comments or discussion on prior closed session minutes that discuss the same; and (iii) Section 19.85(1)(g) of the Wisconsin Statutes to confer with SWIB’s chief legal counsel to receive advice concerning legal strategy for ongoing and potential litigation, and/or for any comments or discussion on prior closed session minutes that discuss the same. The Board may convene in additional closed sessions or announce additional closed session items at the meeting in accordance with the procedure outlined in the Attorney General’s Opinion reported at 66 OAG 106 (1977). Whenever a closed session is held, the Board will subsequently reconvene in open session to cover remaining agenda items.

7. In the Absence of Questions, the Following Reports will be Filed Without Comment (For informational purposes):
- A. Quarterly Charges to Funds Reports, Q1 2024
 - B. Private Markets and Funds Alpha Commitments, Q1 2024
 - C. Board Contact Log

8. Future Items for Discussion

Motion to Recess // Lunch Break

NOTES: Items may be taken in order other than listed.

Estimated times are for planning purposes only. Agenda items will last until discussion is concluded.

The meeting site is physical accessible. Upon prior request, reasonable accommodations will be provided.

Name of Meeting: Regular Meeting of the Board of Trustees

*Joint Educational Session of State of Wisconsin Investment Board
Board of Trustees and CFA Society Madison**

Date/Time: Wednesday, June 12, 2024 1:30 pm

Room: Via Teleconference

<u>Session 2</u>		
	Topic	Speaker
1:30 pm	Introductions	Clyde Tinnen, Chair
1:30 pm	Energy Transition and Investment Opportunities	Phil Deutsch, Fund Head & Partner, NGP Energy Technology Partners
2:30 pm	Real Interest Rates: Higher for Longer?	Ken West, Professor of Economics, UW - Madison
3:30 pm	Tails & Survival	Nassim Nicholas Taleb, Author

Adjourn — Trustee Tinnen

**The Joint Educational Session is open to the public. Members of the public planning to attend this meeting should contact SWIB at (608) 261-9341 or email Dawn.Tuescher@swib.state.wi.us for information on how to register.*

Board Meeting

Tab 1 – Committee Reports – Open Session Items

- A. Audit and Finance Committee
- B. Benchmark and Performance Committee
- C. Compensation and Workforce Development Committee
- D. Strategic Planning and Corporate Governance Committee

Board Meeting

Tab 2 – Consent Agenda

- A. Open Session Minutes of March 20, 2024
- B. Recommended Actions from Committee Agendas –
Open Session Items

Regular Meeting of the Board of Trustees

Wednesday, June 12, 2024

STATE OF WISCONSIN INVESTMENT BOARD

CONSENT AGENDA – OPEN SESSION ITEMS

Proposed Motions:

1. Move to approve the Open Session Minutes of March 20, 2024, as presented.
2. *[TBD after Committee meetings]*

STATE OF WISCONSIN INVESTMENT BOARD
Board Meeting – Open Session

Wednesday, March 20, 2024

Office of the Investment Board
4703 Madison Yards Way, Madison, WI

Board Members Present: Clyde Tinnen, Chair
Esther Ancel, Trustee
Barb Bolens, Trustee
Kathy Blumenfeld, Trustee
Jeff DeAngelis, Trustee
Kristi Palmer, Trustee
Dave Schalow, Trustee
John Voelker, Trustee

Staff/Others Present: Eric Barber, Chief Legal Counsel
Zach Berghouse, Internal Auditor
Brandon Brickner, Internal Audit Director
Kate Burkart-Paulson, Senior Legal Counsel
Sara Chandler, Chief of Staff & Strategy
Hassan Chehime, Head of Risk Management
Edwin Denson, Executive Director/Chief Investment Officer
Anne-Marie Fink, Private Markets & Funds Alpha CIO
Greg Fletcher, Performance Director
Shannon Gannon, Communications Director
Jameson Greenfield, Chief Financial Officer
Dan Gyrog, Internal Auditor
Rochelle Klaskin, Deputy Executive Director/Chief Operating Officer
Leo Kropywiansky, Senior Portfolio Manager
Jon Loboda, Performance Measurement Operations Manager
Todd Mattina, Head Economist, Asset & Risk Allocation CIO
Dawn Tuescher, Executive Administrative Assistant
Ivan “Butch” Cliff, Callan Associates
Amelia Ball, Legislative Audit Bureau
Sam Rebenstorf, Legislative Audit Bureau
Erik Thulien, Legislative Audit Bureau
Harrison Bader, BlackRock
Kevin Balaod, With Intelligence
Elizabeth Hachten, Public Attendee
Pete Knotek, Public Attendee
Bob Schaefer, Public Attendee
Anne Steinberg, Public Attendee

(Some individuals may have attended only portions of the meeting.)

Trustee Tinnen, Chair of the Board of Trustees, declared a quorum was present and called the Board of Trustees meeting to order at 9:00 a.m. on March 20, 2024.

1. Committee Reports – Open Session Items

A. Audit and Finance Committee

Trustee Palmer, Chair of the Audit and Finance Committee, reported that in open session, the Committee: (i) approved prior meeting minutes; (ii) received an open audit issues report; (iii) approved the draft External Management Fees and Follow-up audit reports; (iv) reviewed the 2024 Internal Audit Plan Status and 2024 Internal Audit goals; and (v) received a Quarterly Cost of Management Update for Q4 2023.

B. Compensation and Workforce Development Committee

Trustee DeAngelis, Chair of the Compensation and Workforce Development Committee, reported that in open session, the Committee: (i) approved prior meeting minutes; (ii) reviewed the Compensation Committee charter, the 2023 Incentive Compensation program and outputs, division scorecards, and an update from Talent Acquisition; (iii) made recommendations to the Board with respect to the 2024 Investment Services Staff Strategic Results Scorecard, and the award of incentive compensation for SWIB employees excluding Senior IMS and ISS members, the ED/CIO and Deputy Executive Director/Chief Operating Officer, as well as ED/CIO discretionary awards.

C. Strategic Planning and Corporate Governance Committee

Trustee Tinnen, Chair of the Strategic Planning and Corporate Governance Committee, reported that in its open session meeting, the Committee: (i) approved prior meeting minutes; (ii) heard a real estate strategy report and market outlook presentation from staff and StepStone, SWIB's real estate strategy consultant; (iii) received an update on corporate governance, (iv) received a preview of the June Investment Forum; and (v) received a progress report on Project Centum.

2. Consent Agenda

Eric Barber, Chief Legal Counsel, distributed a proposed consent agenda. Trustee Tinnen asked whether there were any motions listed on the consent agenda that should be removed for further discussion and individual action. Hearing none, he referred to the following items on the consent agenda:

- Move to approve the Open Session Minutes of December 15, 2023, as presented.
- Move to approve the 2024 Investment Services Staff Strategic Results Scorecard, as recommended by the Compensation and Workforce Development Committee.
- Move to approve, each as recommended by the Compensation and Workforce Development Committee, (i) the incentive compensation awards for performance year 2023 for all SWIB employees in the aggregate of \$12,472,924, excluding the specific awards to the Executive Director/Chief Investment Officer, the Deputy Executive Director/Chief Operating Officer, Asset Class CIOs, Strategy Heads, Senior Portfolio Managers of Investment Management Staff, Chief Legal Counsel, Chief Financial Officer, Head of Risk Management, Head of Human Resources, and Internal Audit Director, as recommended and allocated by the Executive Director/Chief Investment Officer, and (ii) amendments to the CY2024 Total Cost of Management Plan to reflect the actual amount of incentive compensation paid in the aggregate to all SWIB staff.

Motion: A motion was made by Trustee Tinnen and seconded by Trustee Bolens to approve the consent agenda, as presented. The motion passed unanimously.

3. Election of Secretary and Assistant Secretary

Trustee Tinnen stated that, in accordance with Board procedures, the Board elects a Secretary and Assistant Secretary annually. Duties of the Secretary include signing the minutes of the Board meetings. Duties of the Assistant Secretary include certifying to the validity of copies of statutes and SWIB documents when requested by counterparties. Typically, the Board selects a Trustee as Secretary and the Chief Legal Counsel as Secretary.

Motion: A motion to elect Trustee Merfeld as Secretary and Eric Barber as Assistant Secretary for 2024 was made by Trustee Tinnen and seconded by Trustee Palmer.

4. Annual Committee Assignments by Board Chair

Mr. Barber stated that, pursuant to each Committee Charter, the Board Chair appoints members of each Committee and appoints members to serve as Committee chair, vice chair, and secretary for terms not to exceed one year. He reviewed the appointments in effect until February 28, 2025, included on page 19 of the meeting materials.

5. Proposed 2025 Board Meeting Dates

Mr. Barber shared tentative dates for the 2025 Board and Committee meetings and asked that the Trustees advise whether they are aware of any conflicts as soon as possible.

6. Investment Performance and Market Updates

A. Board Investment Performance Report, Q4 2023

Greg Fletcher, Performance Director, presented the *Investment Performance Report*, as of December 31, 2023, included on pages 23-38 of the meeting materials. Mr. Fletcher reported that: (i) the Core Trust Fund (CTF) returned 7.03% net of all fees and expenses in Q4 2023, resulting in -8 basis points (bps) of excess performance for the quarter; (ii) the CTF returned 11.4% net of all fees and expenses for the one-year period, resulting in an excess return of 39 bps; (iii) the CTF five-year return net of all fees and expenses of 9.29% outperformed the Policy Benchmark by 57 bps on an annualized basis; and (iv) the CTF gross-of-fee return outperformed the 60/40 Reference Portfolio return by 66.8% (cumulative) over the past twenty years, which equates to an excess value add of \$29.5 billion over the same period.

Mr. Fletcher highlighted: (i) the CTF net of all fees and expenses return outperformed its benchmark for the one-, three-, and five-year time periods; (ii) the CTF net of external manager fee return outperformed its benchmark for the five-, ten-, and twenty-year time periods; (iii) the CTF gross of fee return outperformed its benchmark for the thirty-year time period; (iv) the Variable Trust Fund (VTF) net of all fee and expense return underperformed for the one-, three-, and five-year periods; (v) the VTF net of external manager fee return underperformed its benchmark for the five-, ten-, and twenty-year periods; and (vi) the VTF gross of fee return outperformed its benchmark for the thirty-year time period. Mr. Fletcher then noted that SWIB's investment management has added more than \$3.1 billion above benchmark returns to the WRS over the last five years.

Mr. Fletcher reviewed the overall assets under management (AUM) of SWIB, noting that the AUM increased by almost \$12 billion over the past year. He then referenced that the percentage of WRS assets that are actively managed declined, driven by a variety of factors, and the percentage of WRS assets that are internally managed assets remained consistent. Next, Mr. Fletcher: (i) provided a breakdown of CTF asset class exposures, noting that the portfolio remains well diversified and all asset classes are within

target range; (ii) reviewed the asset class performance for the CTF over various time periods and discussed the performance of the alpha pool overlay; (iii) reviewed VTF performance and asset class exposures, noting that asset class exposures were within target range; and (iv) presented return information for the Separately Managed Funds.

Mr. Fletcher concluded by reviewing the *Leverage Performance*, included on page 40 of the meeting materials. He noted that policy leverage contributed 66 bps to CTF absolute performance for the year ended December 31, 2023 and 55 bps over the five-year period.

B. 2023 Callan Report

Ivan “Butch” Cliff, Executive Vice President and Director of Research, Callan Associates, presented on SWIB’s performance relative to its peer group, included on pages 42-58 in the meeting materials.

Mr. Cliff reviewed SWIB’s cumulative returns relative to the policy target. He noted that SWIB’s absolute gross returns of 9.58% annualized over the past five years represents gross excess returns of 76 bps annualized, resulting in a cumulative excess return of 5.4% over SWIB’s target policy return. Mr. Cliff pointed to SWIB’s highly controlled tracking error relative to target as evidence of strong risk controls and noted the consistency with which SWIB’s quarterly returns exceeded target policy returns. When looking at a ten-year period, Mr. Cliff again identified consistency and risk control, pointing to an annualized 10-year gross excess return of 49 basis points, resulting in a cumulative gross excess return of 9.09%.

Mr. Cliff concluded by reviewing a comparison of SWIB’s risk and asset allocation versus the policy target and peers. He noted that SWIB’s use of financial leverage enables the use of more risk reducing/diversifying assets without sacrificing growth assets, allowing for a more diversified and risk-balanced portfolio than most peers. Noting that SWIB’s Sharpe ratio was slightly better than the policy target, Mr. Cliff identified that SWIB’s implementation added more return than risk and that its risk-return trade off is competitive. SWIB’s consistently low tracking error and its top-decile excess return places it in the top decile of peers in excess return ratio (excess return *divided by* tracking error).

7. Committee Open Session Business

A. Amendments to Investment Committee Charter

Mr. Barber reviewed changes to the Investment Committee charter, included on pages 70-73 of the meeting materials. He noted that the substantive amendments aligned guidelines for passive external managers with the Asset & Risk Allocation (ARA) division’s authority to engage passive external managers following the transition of the division’s historical risk management function to the risk management team.

Motion: A motion was made by Trustee Palmer and seconded by Trustee Schalow to approve the changes to the Investment Committee Charter, as reflected in the Committee materials.

B. Amendments to WRS Investment Committee Investment Guidelines

Mr. Barber discussed amendments to the *SWIB Investment Committee Wisconsin Retirement System Investment Guidelines*, approved by the Investment Committee on December 21, 2023 and included on pages 74-122 of the meeting materials. He noted that the proposed changes: (i) modified the small cap portfolio’s guidelines and soft risk parameters for consistency across equity portfolios following

implementation of the portfolio's new benchmark; (ii) added guidelines for the ARA division's engagement of passive external managers; (iii) modified the ex ante tracking error limit for the investment grade credit portfolio; (iv) removed no-longer-applicable guidelines for the discontinued stand-alone currency overlay; (v) clarified the high yield and leveraged loan portfolio guidelines to allow the team to pursue opportunities not otherwise expressly enumerated in the guidelines; (vi) increased the shorting limit in the beta one equity portfolio and added permissions to short cash bonds in the beta one fixed income portfolio; and (vii) updated the soft risk parameters to reflect the risk management team's ongoing conversations with the investment teams.

C. Approved Open Session Investment Committee Minutes

Mr. Barber stated that the approved open session minutes of the November 28, 2023, December 21, 2023, and January 23, 2024 Investment Committee meetings were included on pages 123-141 of the meeting materials for the Board's review and noted that staff had previously reviewed the agendas for these meetings with the Board.

D. Agendas for Upcoming Meetings

Mr. Barber also stated that the final open session agenda for the February 27, 2024 Investment Committee meeting and the draft open session agendas for the March 21 and April 23, 2024 meetings were included on pages 142-147 of the meeting materials for the Board's review.

E. Draft Open Session Enterprise Risk and Compliance Committee Minutes

Mr. Barber noted the draft open session minutes of the November 9, 2023 Enterprise Risk and Compliance Committee meeting were included on pages 148-150 of the meeting materials for the Board's review.

8. Quarterly Investment Update, Q4 2023

Todd Mattina, Head Economist, Asset & Risk Allocation CIO, presented the *Performance Trends & Outlook*, included on pages 154-157 of the meeting materials. Mr. Mattina began with a review of the CTF five-year rolling annualized net of external manager fee return compared to the CTF twenty-year net of fee return and the actuarial target rate of return. He noted that despite volatility over the last few years, the five-year rolling return continues to outperform the actuarial target as well as the policy benchmark.

Mr. Mattina then provided a brief commentary on the CTF five-year return estimate, which projected a five-year annualized return of 6.9% using NEPC's assumptions for 2024. He also discussed the five-year forward estimate and highlighted the potential negative impact to the five-year annualized return as the 2019, 2020, and 2021 performance years, which had meaningfully positive performance of 19.5%, 15.3%, and 17.0%, respectively, fall out of the five-year performance time period and are replaced with the NEPC 10-year expected return assumption of 6.5%. Mr. Mattina concluded with a discussion of benchmark performance year-to-date, emphasizing the dispersion of returns across asset classes and the value of SWIB's diversification.

Leo Kropywiansky, Senior Portfolio Manager—Asset & Risk Allocation, presented the *Economic Update*, included on pages 159-190 of the meeting materials. He noted the investment team's view that real GDP growth would slow on a Q4 over Q4 basis as effects from tight Federal Reserve policy and financial conditions have not yet fully played out. With respect to inflation, SWIB's forecast is for moderating inflation, though remaining above the 2% target, with the potential for Federal Reserve policy to begin easing in mid-2024. He commented that (i) labor market supply and demand are better balanced now, with

wage growth moderating but remaining high, (ii) continued structural under-supply of housing has resulted in poor affordability as prices resumed rising over the course of 2023, and (iii) smaller and mid-cap banks are likely to continue experiencing challenges, in part due to the correction in commercial real estate prices after strong gains in 2020 through mid-2022.

9. Motion to Convene in Closed Session

Motion: A motion to convene in closed session pursuant to: (i) Sections 19.36(5) and 19.85(1)(e) of the Wisconsin Statutes to consider confidential and proprietary strategies for the investment of public funds relating to specific proprietary investment strategies of internal WRS portfolios, asset allocation, and risk management and/or for any comments or discussion on prior closed session minutes that discuss the same; (ii) Section 19.85(1)(c) of the Wisconsin Statutes to discuss the compensation and performance evaluation data of specific SWIB employees, including SWIB’s executive director/chief investment officer and SWIB’s board of trustees, and/or for any comments or discussion on prior closed session minutes that discuss the same; and (iii) Section 19.85(1)(g) of the Wisconsin Statutes to confer with SWIB’s chief legal counsel to receive advice concerning legal strategy for ongoing and potential litigation, and/or for any comments or discussion on prior closed session minutes that discuss the same, was made by Trustee Palmer and seconded by Trustee Ancel.

The Chair called for a roll call vote.

Ancel–Aye	Blumenfeld–Aye	Bolens–Aye	DeAngelis–Aye
Palmer–Aye	Schalow–Aye	Tinnen–Aye	Voelker–Aye

There being eight ayes and no nays, the Chair declared the motion passed. The Board convened in closed session at 10:55 a.m. and reconvened in open session at 11:46 a.m.

10. Announcement of Board Actions Relating to Items Taken up in Closed Session

Trustee Tinnen announced that while in closed session the Board received a risk management update and discussed Investment Committee closed session business. While in executive closed session, the Board (i) approved prior meeting minutes, (ii) approved items from the committee meetings’ executive closed sessions, including incentive compensation matters, and (iii) received an update on litigation matters from the Chief Legal Counsel.

11. Reports Filed Without Comment

In the absence of questions, the following reports, included on pages 243-260 of the meeting materials, were filed without comment: Quarterly Charges to Funds Report, Q4 2023; Private Markets and Funds Alpha Commitments, Q4 2023, and Board Contact Log.

12. Future Items for Discussion

Mr. Barber noted that the Annual Agenda Plan was included on pages 262-265 in the meeting materials for the Board’s information.

13. Adjournment

Motion: A motion to adjourn was made by Trustee DeAngelis and seconded by Trustee Voelker. The motion passed unanimously, and the meeting was adjourned at 11:48 a.m.

Date of Board Approval:

Signed:

Tom Merfeld, Board Secretary

DRAFT

Board Meeting

Tab 3 – Investment Performance and Market Updates

- A. Board Investment Performance Report, Q1 2024
- B. Callan Quarterly Report



Investment Performance Report

as of March 31, 2024

Executive Summary

March 31, 2024

- The Core Trust Fund returned 3.49% net of all fees and expenses in Q1, resulting in excess performance of +59 bps. For one year, the Core Trust Fund has returned 10.72% net of all fees and expenses, resulting in an excess return of +94 bps.
- The Core Trust Fund five-year net of all fees and expenses return of 8.38% outperforms the Policy Benchmark by +67 bps on an annualized basis.
- The Core Trust Fund gross of fee return outperformed the 60/40 Reference Portfolio return by 60.7% (cumulative) over a 20-year period, which equates to an excess value add of \$28.4 billion over the same period.

WRS Performance

as of March 31, 2024

Fund	Net of All Fees and Expenses Return %			
	Calendar – YTD	1 Year	3 Year	5 Year
Core Trust Fund	3.49	10.72	4.52	8.38
Core Trust Fund Benchmark	2.89	9.78	3.87	7.70
Excess	+0.59	+0.94	+0.65	+0.67
Net Excess Value Add (\$M)	+\$685.9	+\$1,000.7	+\$2,306.8	+\$3,780.7
Variable Trust Fund	8.67	24.04	7.48	11.84
Variable Trust Fund Benchmark	8.39	24.46	7.61	11.98
Excess	+0.27	(0.42)	(0.13)	(0.14)
Net Excess Value Add (\$M)	+\$25.1	(\$30.8)	(\$33.4)	(\$51.1)

SWIB's investment management has added more than \$3.7 billion above benchmark returns over the last five years to the WRS.

(Annualized Return shown for all periods greater than 1 yr)

Fund	Net of External Manager Fee Return %			Gross of Fee Return %
	5 Year	10 Year	20 Year	30 Year
Core Trust Fund	8.48	7.24	7.14	8.16
Core Trust Fund Benchmark	7.70	6.77	6.79	7.76
Excess	+0.78	+0.47	+0.35	+0.40
Variable Trust Fund	11.90	10.00	8.69	9.13
Variable Trust Fund Benchmark	11.98	10.04	8.72	8.94
Excess	(0.08)	(0.03)	(0.03)	+0.19

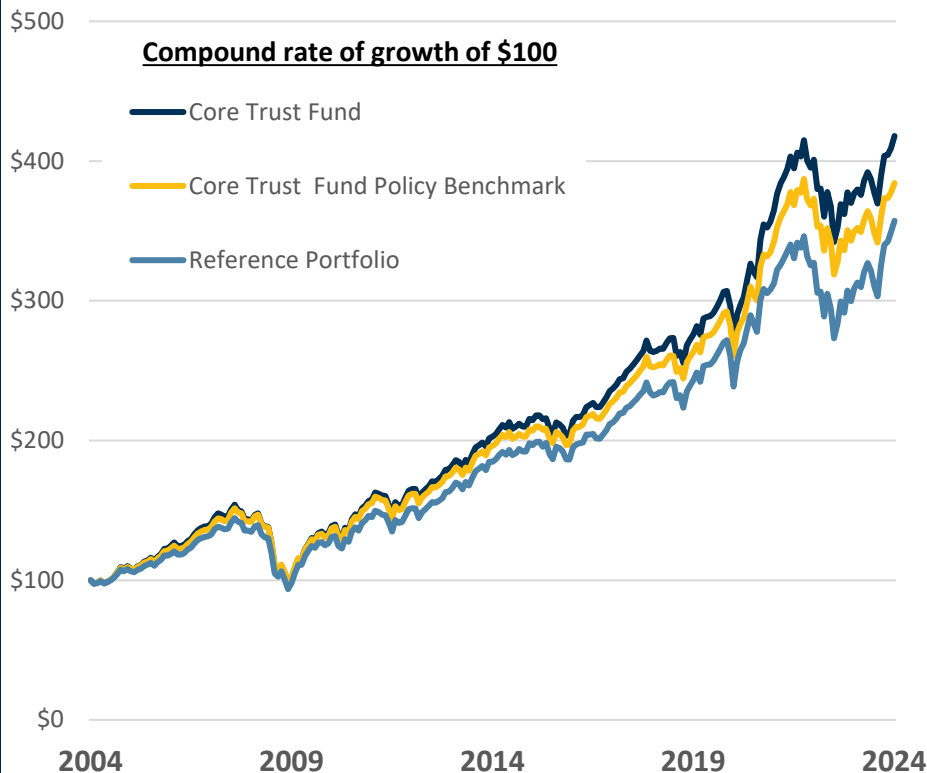
(Annualized Return shown for all periods greater than 1 yr)

Excess returns may contain rounding differences

CTF Performance vs. 60/40 Reference Portfolio

20-year cumulative return¹: April 1, 2004, to March 31, 2024

Indexed Benefit of CTF's Asset Allocation & Active Management Over Time



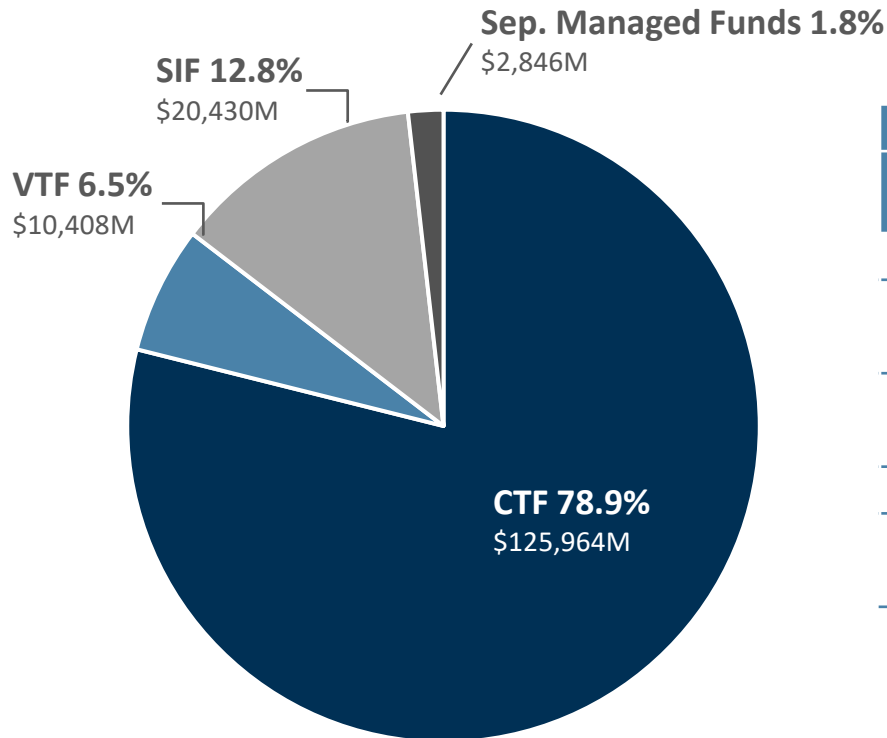
Portfolio / Benchmark	Annualized Gross Return	Cumulative Gross Return	Cumulative \$ Excess Value Added
Reference Portfolio ² (60% equity/40% bonds)	6.6%	257.3%	= Passive Market Return
Benefit of CTF Asset Allocation			
CTF Policy Benchmark	7.0%	284.3%	+\$14.9B
Benefit of CTF Active Management			
CTF Actual Results	7.4%	318.0%	+\$13.5B
CTF Excess Return vs. Reference Portfolio	+0.8% pts	+60.7% pts	+\$28.4B

¹ Core Trust Fund beginning market value, as of April 1, 2004, was \$59.6B and ending market value, as of March 31, 2024, was \$126.0B

² Reference Portfolio is composed of 60% MSCI World and 40% Bloomberg US Gov't / Credit (rebalanced monthly)

Total Assets Under Management (AUM)

as of March 31, 2024



Gross Market Value of Assets (\$millions)			
By Fund	3/31/2023	3/31/2024	1 Year Change
Total WRS	126,837	136,372	+9,535
Core Trust Fund	118,082	125,964	+7,882
Variable Trust Fund	8,755	10,408	+1,653
State Investment Fund (SIF) ¹	19,285	20,430	+1,145
Separately Managed Funds	2,680	2,846	+166
Total SWIB AUM	\$148,802	\$159,648	+\$10,846

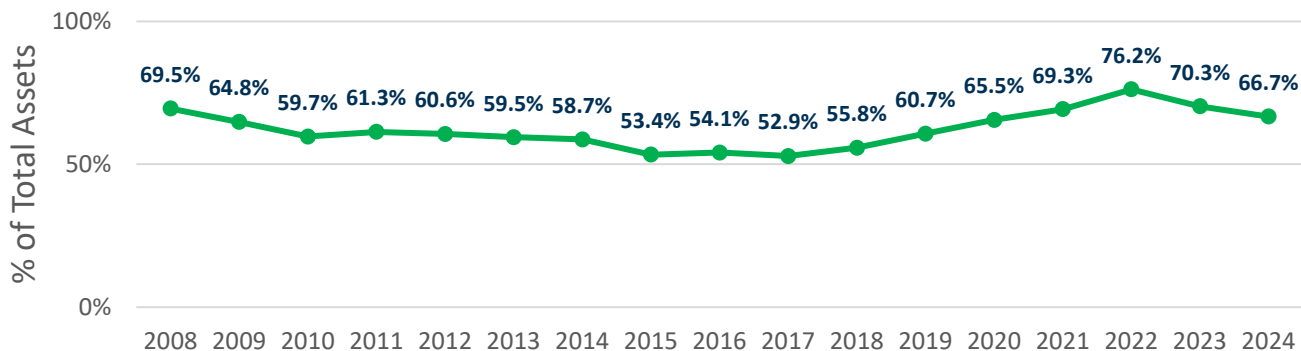
¹ Excludes cash invested in SIF held on behalf of CTF and VTF

Refer to the disclosure section for additional details

WRS Assets as of March 31, 2024

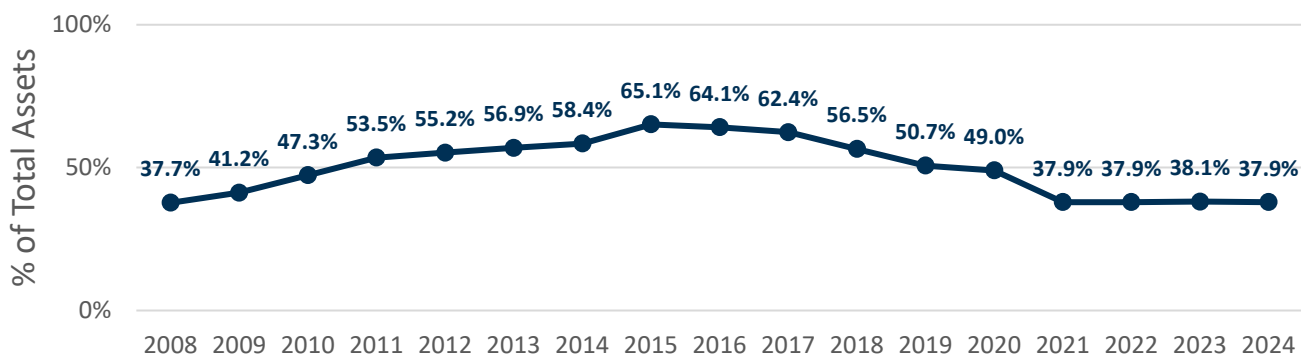
Breakdown of Active vs. Passive and Internal vs. External

Actively Managed Assets



Actively managed assets are a larger share of WRS AUM

Internally Managed Assets



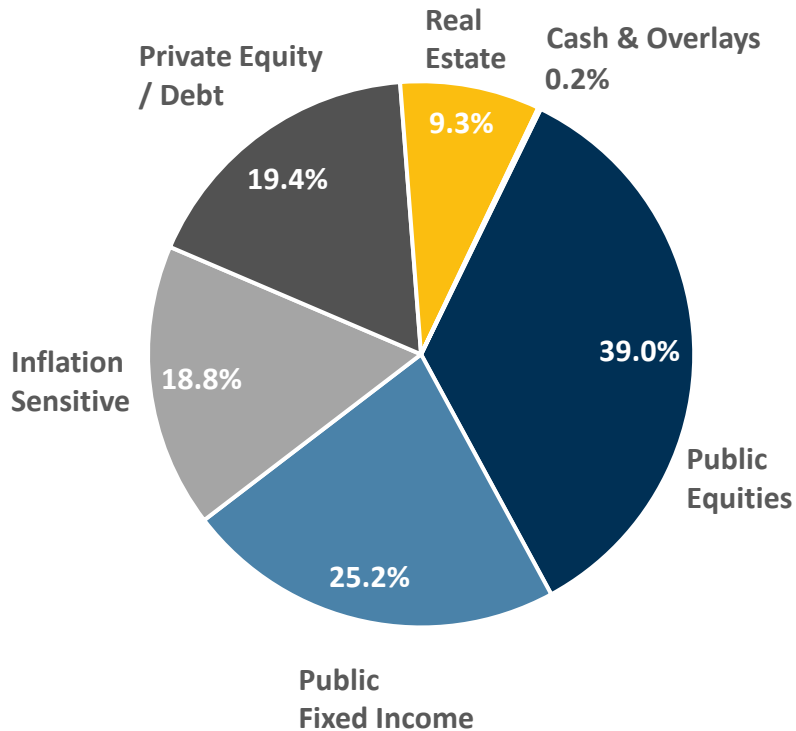
45% of Total SWIB Assets (including SIF) are internally managed

Refer to the disclosure section for additional details

Core Trust Fund Assets Under Management

Breakdown by Asset Class as of March 31, 2024

**Total Exposure - % of Total
3/31/2024**



Total CTF by Asset Class	Total Exposure \$ & Adjusted AUM (\$millions)		
	Total Exposure \$ 3/31/2023	Total Exposure \$ 3/31/2024	Year over Year Change
Public Equities	51,835	49,116	-2,719
Public Fixed Income	28,175	31,725	+3,550
Inflation Sensitive	22,226	23,700	+1,474
Real Estate	11,975	11,682	-293
Private Equity / Debt	21,283	24,429	+3,146
Cash & Overlays	89	221	+132
Total Exposure	\$135,583	\$140,874	+5,291
<i>Less: Policy Leverage</i>	<i>17,501</i>	<i>14,907</i>	<i>+2,594</i>
Total CTF AUM	\$118,082	\$125,968	+7,886

Total Exposure is composed of the gross market value of investments, plus beta exposure added or offset through derivative instruments

The Real Estate and Private Equity / Debt asset classes (29% of the Core Trust Fund) contain Illiquid Investments, as defined in "Report Disclosures: Glossary, Definitions & Data Sources", below.

Core Trust Fund Allocation

All exposures shown as of March 31, 2024

Allocation – Exposure View

Strategies	(\$ millions)	As % of Total Fund		Target Range %	Notes
	Total Exposure	Portfolio Exposure %	Benchmark Target %		
Public Equities	49,116	38.99	38.97	32.97– 44.97	Public & Private exposures include cash Strategies include exposure management investments Cash / Overlays: Includes liquidity, overlay cash, cash used to fund synthetic beta related to Alpha Pool.
Global Developed	39,757	31.56	31.60		
US Small Cap	2,829	2.25	2.27		
International Small Cap	2,705	2.15	2.04		
Emerging Markets	3,826	3.04	3.06		
Public Fixed Income	31,725	25.19	25.36	19.36 – 31.36	Benchmark Target weights are adjusted monthly to reflect the actual exposure to Private Equity/Debt and Real Estate. Offsetting adjustments are made to Public Equities and Public Fixed Income.
Investment Grade	19,216	15.25	15.22		
Non-Investment Grade	9,405	7.47	7.61		
Emerging Market Debt	3,104	2.46	2.54		
Inflation Sensitive	23,700	18.81	19.00	14.0 – 24.0	
Real Estate	11,682	9.27	9.27	5.27 – 13.27	
Private Equity / Debt	24,429	19.39	19.39	10.0 – 26.0	
Cash / Overlays	221	0.18	0.00		
Leverage	(14,907)	(11.83)	(12.00)	(20.0) to (4.0)	Additional CTF leverage details available in disclosure section
Total Fund – Total Exposure	\$140,874	111.83	112.00	104.0 – 120.0	
Total Fund – Market Value	\$125,968	100.00	100.00		

Asset \$ exposures and % weights may contain rounding differences

Core Trust Fund: Asset Class Returns

as of March 31, 2024

Asset Class Group: Public Equities	Performance Start Date	Total Exposure Value (\$millions)	Net of External Manager Fee Return %				
			Calendar YTD	1 Year	3 Year	5 Year	10 Year or ITD
Public Equities	12/31/2002	\$48,684	8.54	23.42	7.03	11.31	8.96
Benchmark			7.95	23.61	7.24	11.50	9.16
Excess			+0.59	(0.19)	(0.21)	(0.19)	(0.20)
Global Developed	2/28/2017	\$37,859	9.21	25.31	8.60	12.19	11.33
Benchmark			9.00	25.69	9.10	12.61	11.68
Excess			+0.20	(0.37)	(0.50)	(0.41)	(0.34)
Global Equities w/EM	5/31/2021	\$1,651	10.22	24.84			6.88
Benchmark			8.31	23.73			5.62
Excess			+1.92	+1.11			+1.26
US Small Cap	2/28/2017	\$2,829	7.76	21.45	2.02	9.91	9.07
Benchmark			5.68	20.46	1.26	8.98	8.28
Excess			+2.08	+0.99	+0.76	+0.93	+0.79
International Small Cap	1/31/2020	\$2,690	5.75	13.30	0.37		4.68
Benchmark			2.18	13.15	(0.65)		4.26
Excess			+3.56	+0.15	+1.02		+0.42
Emerging Market ex China	3/31/2022	\$3,121	4.43	19.96			1.98
Benchmark			4.03	20.63			2.31
Excess			+0.41	(0.67)			(0.32)
Emerging Market China	3/31/2022	\$506	0.32	(14.34)			(11.26)
Benchmark			(2.20)	(17.11)			(11.17)
Excess			+2.52	2.77			(0.09)

Core Trust Fund: Asset Class Returns

as of March 31, 2024

Asset Class Group: Public Fixed Income & Inflation Sensitive	Performance Start Date	Total Exposure Value (\$millions)	Net of External Manager Fee Return %				
			Calendar YTD	1 Year	3 Year	5 Year	10 Year or ITD
Public Fixed Income	12/31/2003	\$31,949	0.31	5.61	(1.10)	1.67	2.17
Benchmark			(0.09)	4.88	(1.03)	1.50	2.02
Excess			+0.40	+0.73	(0.06)	+0.16	+0.15
Investment Grade US Credit	2/28/2022	\$7,564	(0.08)	5.16			(1.71)
Benchmark			(0.41)	4.15			(1.87)
Excess			+0.33	+1.01			+0.16
US Treasuries	2/28/2022	\$7,875	(1.07)	(0.20)			(3.94)
Benchmark			(0.96)	0.05			(3.64)
Excess			(0.11)	(0.25)			(0.30)
US Long Treasuries	9/30/2022	\$1,003	(3.07)	(5.95)			(0.44)
Benchmark			(3.26)	(6.08)			(0.59)
Excess			(0.19)	(0.13)			+0.14
MBS	4/30/2020	\$2,512	0.14	4.23	(2.37)		(1.80)
Benchmark			(1.04)	1.39	(2.84)		(2.36)
Excess			+1.19	+2.85	+0.46		+0.57

(periods greater than 1 yr show annualized return, since inception returns shown for strategies with less than 10-year history)

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

Core Trust Fund: Asset Class Returns

as of March 31, 2024

Asset Class Group: Public Fixed Income & Inflation Sensitive	Performance Start Date	Total Exposure Value (\$millions)	Net of External Manager Fee Return %				
			Calendar YTD	1 Year	3 Year	5 Year	10 Year or ITD
High Yield	7/31/2019	\$6,295	1.63	10.71	0.61		3.09
Benchmark			1.30	10.18	2.12		3.60
Excess			+0.33	+0.53	(1.51)		(0.50)
Leveraged Loans	3/31/2023	\$3,110	2.43	12.71			12.71
Benchmark			1.99	12.16			12.16
Excess			+0.44	+0.55			+0.55
Emerging Market Debt - USD	6/30/2005	\$1,569	2.57	11.65	(0.58)	1.18	3.20
Benchmark			2.04	11.28	(1.39)	0.71	3.05
Excess			+0.53	+0.37	+0.81	+0.47	+0.15
Emerging Market Debt - Local	7/31/2017	\$1,529	(1.88)	5.45	(1.20)	0.29	(0.30)
Benchmark			(2.12)	4.91	(1.60)	0.13	(0.09)
Excess			+0.24	+0.55	+0.40	+0.16	(0.21)
Inflation Sensitive	12/31/2003	\$23,696	(0.09)	0.45	(0.52)	2.56	1.80
Benchmark			(0.08)	0.45	(0.53)	2.49	1.73
Excess			(0.01)	+0.00	+0.02	+0.07	+0.07

(periods greater than 1 yr show annualized return, since inception returns shown for strategies with less than 10-year history)

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

Core Trust Fund: Asset Class Returns

as of March 31, 2024

Asset Class Group: Private Markets & Other Strategies	Performance Start Date	Total Exposure Value (\$millions)	Net of External Manager Fee Return %				
			Calendar YTD	1 Year	3 Year	5 Year	10 Year or ITD
Real Estate	12/31/2003	\$11,682	(3.29)	(7.88)	6.08	5.23	7.80
Benchmark			(5.00)	(12.73)	4.01	3.34	6.28
Excess			+1.71	+4.85	+2.07	+1.89	+1.52
Private Equity / Debt	11/30/2006	\$24,429	2.25	7.93	13.99	15.88	13.87
Benchmark			2.15	7.08	11.64	13.44	11.44
Excess			+0.09	+0.85	+2.35	+2.43	+2.43
<i>Other strategies:</i>							
Alpha Pool Overlay	1/31/2011	\$12,177	1.33	2.54	3.11	3.99	2.64
Benchmark (set to zero as of 1/1/2019)		(at 1/1/22 = \$6,336)	0.00	0.00	0.00	0.00	0.74
Excess			+1.33	+2.54	+3.11	+3.99	+1.90

(periods greater than 1 yr show annualized return, since inception returns shown for strategies with less than 10-year history)

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

Core Trust Fund: Asset Class Returns

Net of External Mgr Fee - Excess Returns as of March 31, 2024



Excess Return - % points

¹ Either 10-year annualized return or Since Inception (ITD) annualized return is used if there is insufficient return history

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

Core Trust Fund: Alpha Pool Overlay

as of March 31, 2024

Alpha Pool Return	Performance Start Date	Market Value (\$ millions)	Net of External Manager Fee Return %				
			Calendar YTD	1 Year	3 Year	5 Year	10 Year
Total Alpha Pool Composite	1/31/2011	\$12,177	1.33	2.54	3.11	3.99	2.64

- Prior to 2022, Hedge Fund sub strategy assets composed > 90% of the Alpha Pool Composite
- Each sub strategy in the composite incurs the cost of implementation expense (assessed on a pro rata basis using AUM). Hence, each sub strategy is assigned a Zero Benchmark.

Alpha Pool: Key Sub Strategies	Inclusion Date	Market Value (\$ millions)	Calendar YTD Net Return %	1 Year Net Return %
Hedge Funds	1/31/2011	\$8,309 (68%)	2.18	5.33
Multi Strat	2/1/2022	\$2,510 (21%)	2.99	1.62
Global Equity	4/1/2023	\$816 (7%)	2.61	1.43

Alpha Pool Overlay Return (Alpha Pool + Beta Return)	Calendar YTD	1 Year	3 Year	5 Year	10 Year
CTF Policy Benchmark (Beta)	2.89	9.78	3.87	7.70	6.77
Alpha Pool Overlay Return (Alpha Pool + Beta)	4.22	12.31	6.98	11.69	9.41

(Annualized Return shown for all periods greater than 1 yr)

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

Variable Trust Fund

as of March 31, 2024

Performance

Fund	Performance Start Date	Market Value (\$ millions)	Net of External Manager Fee Return %				
			Calendar YTD	1 Year	3 Year	5 Year	10 Year
Variable Trust Fund	6/30/77	\$10,408	8.68	24.11	7.54	11.90	10.00
Variable Trust Fund Benchmark			8.39	24.46	7.61	11.98	10.04
Excess			+0.29	(0.35)	(0.07)	(0.08)	(0.03)

(Annualized Return shown for all periods greater than 1 yr)

Portfolio Allocation

By Portfolio	(\$ millions)		As % of Total Fund		Target Range
	Total Exposure	Portfolio Exposure	Exposure Target		
Public Equities	10,379	99.71	100.00		
US Equities	7,266	69.81	70.00	65.0 – 75.0%	
International Equities	3,113	29.91	30.00	25.0 – 35.0%	
Cash & Overlays	30	0.29	0.00		
Total Fund	\$10,408	100.00	100.00		

- *Asset class exposures are within the Target Range*

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

Separately Managed Funds

as of March 31, 2024

Fund	Performance Start Date	Market Value (\$ millions)	Net of External Manager Fee Return %				
			Calendar YTD	1 Year	3 Year	5 Year	10 Year or ITD
State Investment Fund (SIF)	6/30/1975	\$21,984	1.35	5.39	2.70	2.05	1.42
SIF Benchmark			1.32	5.19	2.67	1.98	1.38
Excess			+0.03	+0.21	+0.03	+0.07	+0.04
State Life Insurance Fund	10/31/1994	\$97	(1.91)	(0.03)	(3.67)	0.41	2.39
No Benchmark							
Historical Society Endowment Fund	12/31/1993	\$27	7.79	22.99	7.16	11.50	10.05
Historical Society Endowment Benchmark			7.32	22.03	6.93	11.08	9.79
Excess			+0.46	+0.96	+0.24	+0.42	+0.26
Injured Patients & Families Comp. Fund	10/31/1993	\$1,458	0.83	5.68	(0.37)	3.05	3.65
IP&FC Benchmark			0.80	5.36	(0.49)	2.65	3.21
Excess			+0.03	+0.32	+0.12	+0.40	+0.45
UW System Long Term Fund	3/31/2018	\$574	3.99	11.35	4.73	7.75	7.15
UW System Benchmark			3.96	11.25	4.62	7.58	6.96
Excess			+0.03	+0.10	+0.11	+0.17	+0.19
UW Cash Management Fund	4/30/2022	\$690	1.65	7.62			4.12
UW Cash Management Benchmark			1.64	7.71			4.18
Excess			+0.01	(0.09)			(0.06)

(periods greater than 1 yr show annualized return, since inception returns shown for strategies with less than 10-year history)

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

Leverage Performance

As of March 31, 2024

CTF Policy Leverage Performance

as of March 31, 2024

Core Trust Fund	Net of External Manager Fee Return %			
	Calendar YTD	1 Year	3 Year	5 Year
Unlevered Returns (as estimated):				
Portfolio ¹	3.34	10.37	4.63	8.03
CTF Benchmark Return ¹	2.73	9.31	3.87	7.26
Excess Return	+0.61	+1.06	+0.77	+0.78
<hr/>				
Portfolio Return (Unlevered)	3.34	10.37	4.63	8.03
Absolute Return from Leverage ^{1,2}	0.16	0.47	0.00	0.44
Implementation (+) or (-)	(0.00)	(0.01)	(0.01)	0.00
<hr/>				
Levered Returns (as reported):				
Portfolio	3.50	10.83	4.63	8.48
CTF Benchmark	2.89	9.78	3.87	7.70
Excess	+0.61	+1.05	+0.76	+0.78

(Annualized Return shown for all periods greater than 1 yr)

Leverage notes:

¹ The Unlevered Portfolio Return, Unlevered CTF Benchmark Return, Absolute Return from Leverage and Implementation (+) or (-) are estimated

² Policy leverage was first introduced into the CTF and the benchmark at the end of April 2012

- Policy leverage at SWIB is implemented passively. Therefore, it generally does not contribute to active risk or excess returns¹
- Policy leverage amplifies absolute returns (whether positive or negative), which is an important component in SWIB's strategy to meet the 6.8% actuarial target over the long-term
- The CTF benchmark return is levered to create an apples-to-apples comparison for evaluating relative performance of the CTF (i.e., excess return)

Excess returns may contain rounding differences
Refer to the disclosure section for additional details

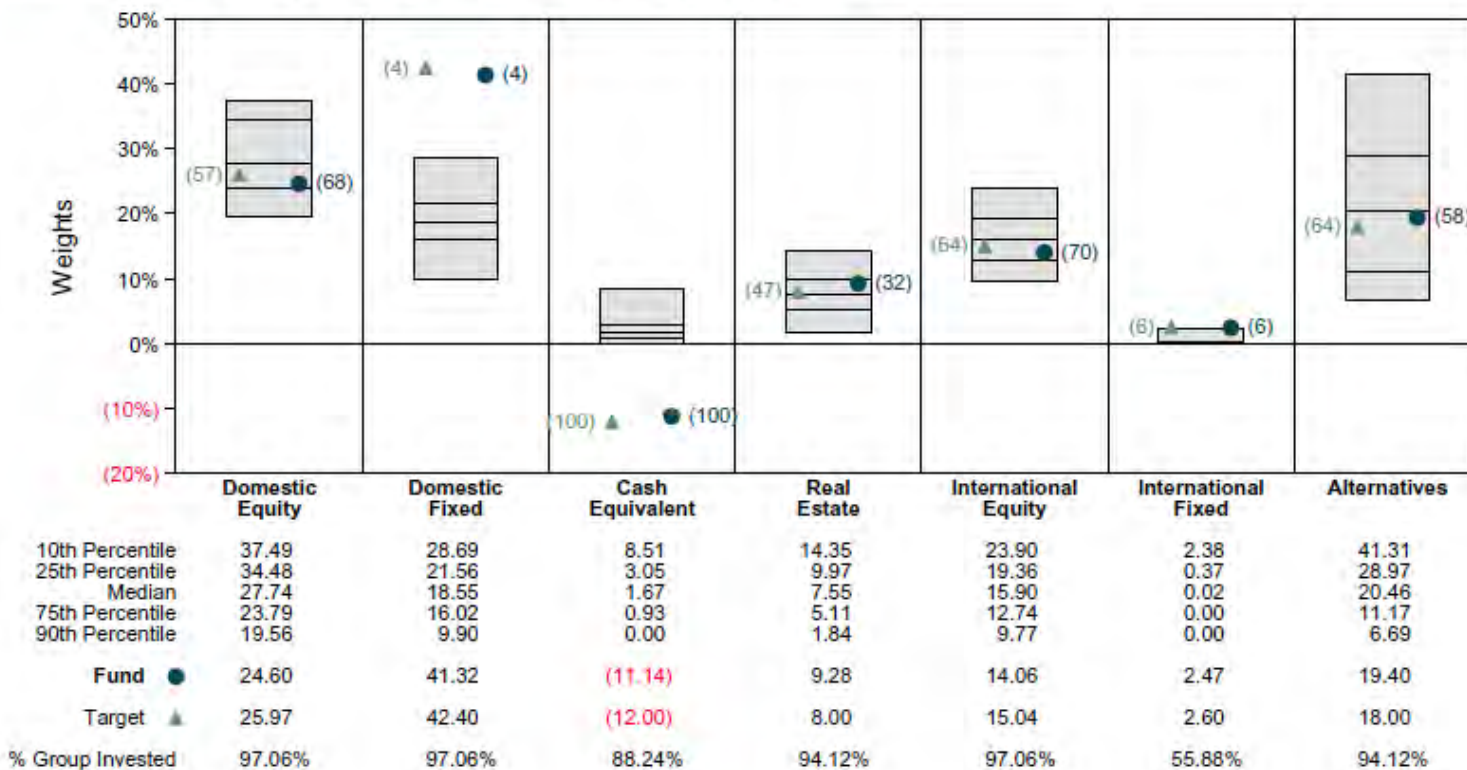
Callan Quarterly Report Summary

2nd Quarter 2024

Callan Peer Rank Update

CTF Asset Allocation Comparison to Peer Group (3.31.2024)

Asset Class Weights vs Callan Public Fund Spons- V Lg DB (>10B)

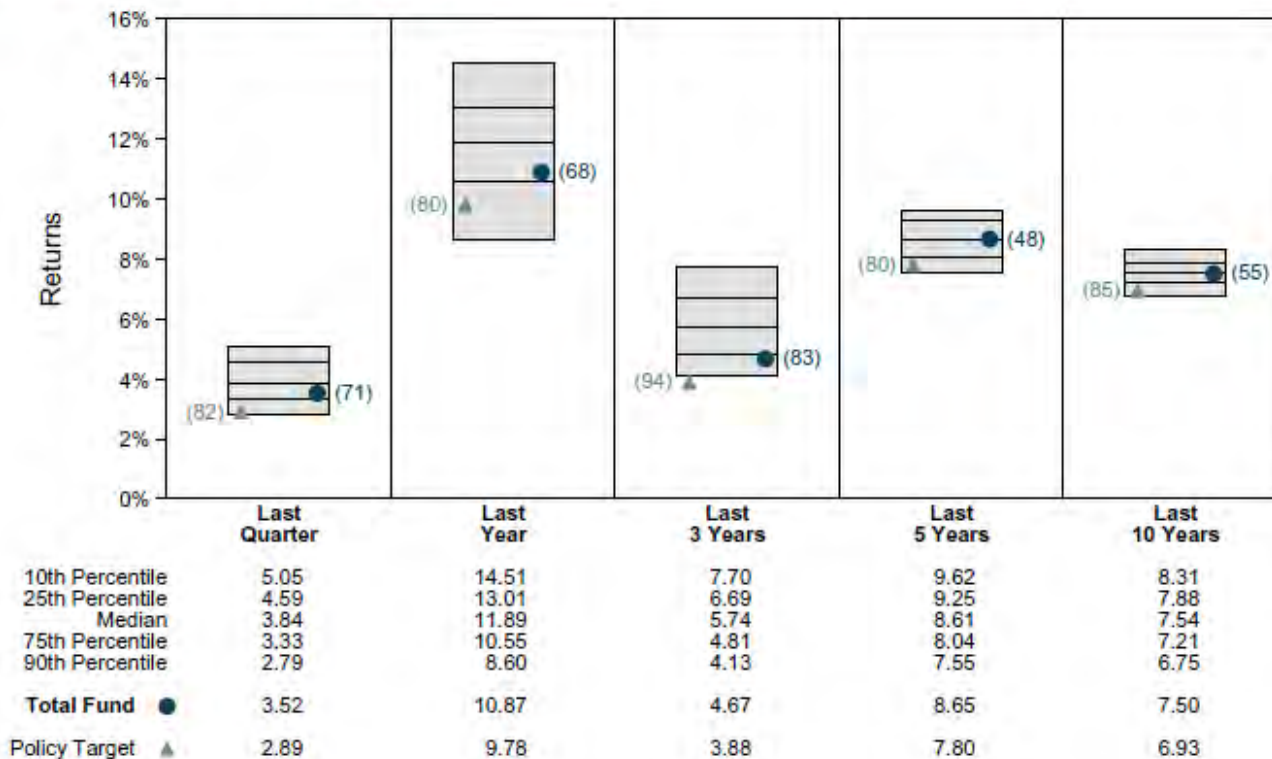


- SWIB's use of financial leverage (> 10%) enables more risk reducing/diversifying assets without sacrificing growth assets

Callan Peer Rank Update

CTF Performance vs. Peer Group (Gross Return, 3.31.2024)

Callan Public Fund Spons- V Lg DB (>10B)

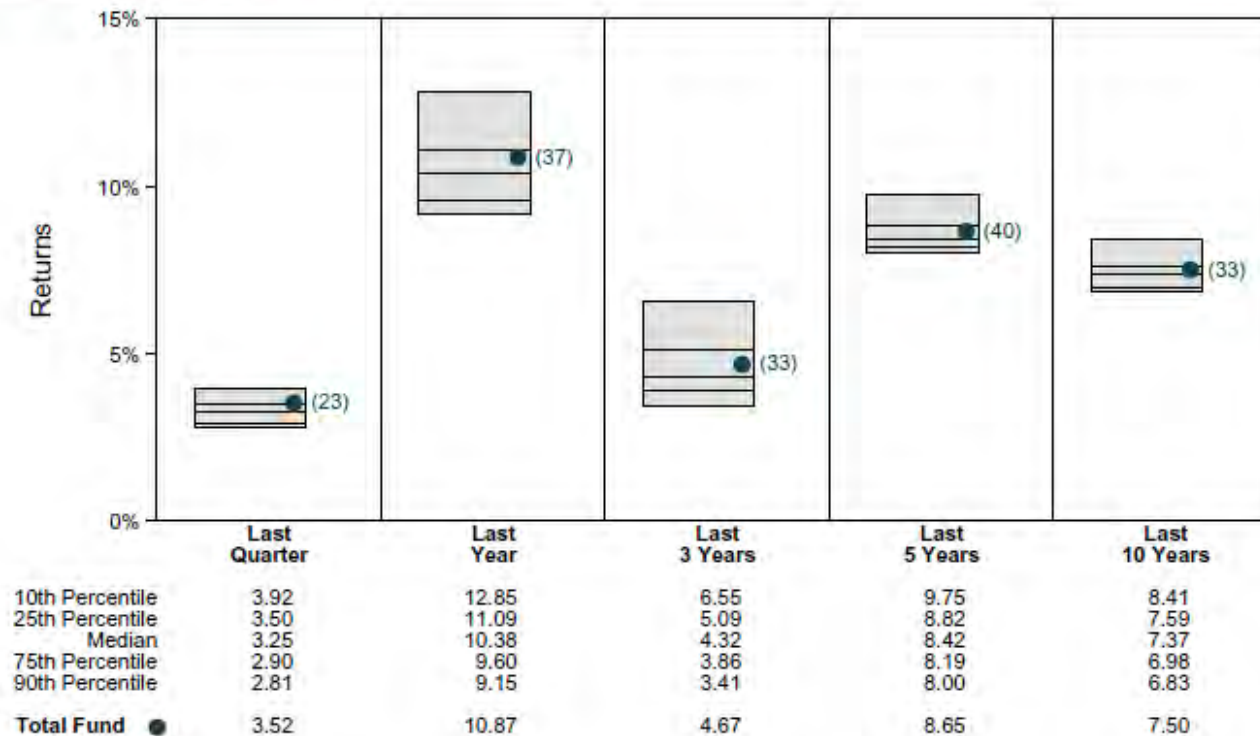


- CTF return exceeds Policy Target over all periods
- Return is below median for the 1- and 3-year periods and longer term 5- and 10-year periods are above or near the median

Callan Peer Rank Update

CTF Performance on Asset Allocation Adjusted Basis vs. Peer Group

Asset Allocation Adjusted Ranking

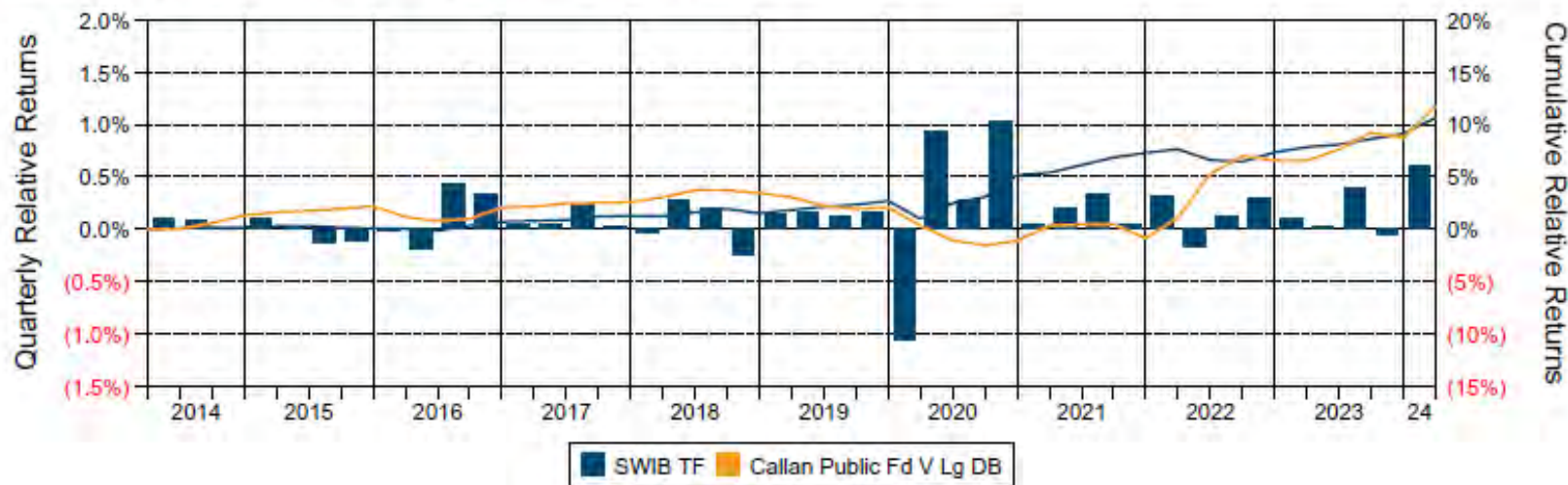


- Uses adjustment to peer universe to match the CTF risk-balanced allocation
- Achieved 1st quartile results last quarter, 2nd quartile ranking over 1-, 3-, 5-, and 10-year periods

Callan Peer Rank Update

10 Year Return Consistency vs. > \$10B Peer Group (3.31.2024)

Cumulative and Quarterly Relative Returns vs Target



- The CTF exhibits low tracking error relative to its peers and produces stable, ascending cumulative performance over 10 years
- CTF Qtrly relative returns vs. Policy Benchmark are generally positive over the 10-year period

Report Disclosures

Glossary, Definitions & Data Sources

Report Disclosures

Key Terms and Portfolio Return Information

Term	Description / Definitions
Gross of Fee Return (“GoF Return”)	The returns generated in investment portfolios (or accounts) that include the deduction of transaction expenses incurred as a result of executing a trade or acquiring or disposing of the investment. In some instances, these expenses are not readily separable from the cost of the investment and are not distinctly recorded within accounting records invoiced by third parties. Security lending income is included in GoF return (however, Security Lending expense is not). Starting on 1/1/2021, the SWIB practice of “grossing up” external management fees, performance fees and any identifiable carried interest by crediting the investment accounts was discontinued. The use of GoF Return is limited to performance comparison to gross benchmark returns, long term CTF / VTF return periods where GoF is the sole return type available and for the purpose of fulfilling data submissions to consultants for peer performance comparison purposes.
Net of External Manager Fee Return (“NoF Return”)	The GoF return plus additional deductions for external management fees, performance fees and any identifiable carried interest incurred in investment portfolios. SWIB has account records to support NoF return history over approximately 20 years.
Net of All Fees and Expenses Return (“NoA Return”)	The NoF return plus additional deductions for administrative expenses, categorized by SWIB as either Direct or Indirect expenses, that are permitted to be charged directly to the Trust Funds under statutory authority. The Cost Allocation Protocol governs the allocation methods and booking processes to allocate expenses at the investment account level. Examples of the type of expenses that fall under this category, include custody and banking fees, general operating expenses and investment consulting services. Security Lending expense is included in NoA Return. The recording of official, NoA return at the portfolio or account level began in 2017.
Annualized Return Calculation	SWIB reports containing portfolio and benchmark return calculations for time periods greater than 1 year generally utilize a geometric averaging calculation. Returns shown for periods of less than 1 year are not presented utilizing the annualization calculation method. In this instance, compound returns are reported for the specified calendar period (e.g., month to date, quarter to date or year to date). Annualized Return = $((1 + r^1) \times (1 + r^2) \times (1 + r^3) \dots)^{\wedge} (\text{calendar units} / \text{time interval measured}) - 1$; $r^{(n)}$ = series of holding period returns and calendar units are often expressed as days, months or years
Cumulative Return Calculation	SWIB uses the cumulative return calculation (“cumulative basis”) to reflect the aggregate amount an investment has gained or lost over time for portfolios and benchmarks. This measurement shares aspects of the annualized return calculation, however, it excludes the geometric averaging. Cumulative Return = $((1 + r^1) \times (1 + r^2) \times (1 + r^3) \dots) - 1$; $r^{(n)}$ = series of holding period returns
Compound rate of growth of \$100	The cumulative and compounded rate of growth of portfolio and benchmark returns may also be presented on an indexed basis over time. Compound rate of growth of \$100 = $(\$100 \times (1 + r^1) \times (1 + r^2) \times (1 + r^3) \dots)$; $r^{(n)}$ = series of holding period returns

Report Disclosures

Key Terms and Portfolio Return Information

Term	Description / Definitions
Excess Return % (“Excess”)	Portfolio return or security level return minus the benchmark return. Portfolio or Composite Returns are generally compared against benchmarks with a similar level of risk. It is widely used as a measure of the value added by the portfolio or investment manager or the manager's ability to outperform the market.
Net Excess Value Add \$ (“NEVA”)	Net Excess Value Add \$ (“NEVA”) calculates the portfolio’s performance return in total dollars relative to a benchmark. NEVA is a measure used to assess the value-add dollars that a particular investment strategy or team generated over specified time periods. NEVA is also used to monitor the return objectives set forth in the annual Active Risk Budget which is prepared for the CTF and VTF funds managed by SWIB.
Gross Excess Value Add \$ (“GEVA”)	A fund’s Excess Value Add \$ may be calculated on a gross-basis when the comparable benchmark returns are also presented on a gross-basis. The CTF Performance comparison vs. the 60/40 Reference Portfolio and Policy Benchmark is presented on a gross-basis.
SWIB Inception To Date Reporting	The Quarterly Performance Summary discloses a reporting period described as 10 years or ITD . The return disclosed in this reporting field yields either 10-year annualized returns for funds or portfolios with at least 10 years of return history or the data field may revert to the return since inception for portfolios with less than 10 years of history. The quarterly report provides a performance start date for those portfolios with the abbreviated return history.
Performance Start Date	The date denotes the initial period of a portfolio or composites’ return data series that is stored and calculated by the SWIB Performance Measurement Service Agent.
Time-weighted Rate of Return	A method of calculating period-by-period returns that reflects the change in value and negates the effects of external cash flows. This methodology is applied to portfolios that are processed with daily frequency and where daily valuation updates of the underlying instruments are available.
Modified Dietz Total Rate of Return	A measurement that evaluates a portfolio's return based on a weighted calculation of its cash flow. The method considers the timing of cash flows and assumes a constant rate of return over the specified time period. This methodology is applied to portfolios and composites that are processed with monthly frequency (and where only monthly valuation updates are available).

Report Disclosures

Key Terms and Portfolio Return Information

Term	Description / Definitions
Policy Benchmark	The Fund level Benchmark as approved by the Benchmark Committee. The Benchmark is composed of multiple indices that reflect the Fund's exposure to a diverse set of investment strategies. (can also referred to as "Policy Target" as implemented through SWIB's Asset Allocation plan).
Reference Portfolio	Hypothetical global portfolio comprised of 60% MSCI World Net (using a SWIB custom net variant as of 2010) and 40% Bloomberg Barclays Government Credit Index. The return is presented on a gross of fee basis and assumes no contributions or withdrawals.
Zero or No Benchmark (for Official Measurement purposes)	<p>Zero Benchmark: This designation applies to the Core Trust Fund Alpha Pool Overlay. Since 1/1/2019, the benchmark associated with the Alpha Pool Overlay has been set to zero. The Cost of Implementation (which includes an estimate of financing costs) is directly allocated to the underlying strategies that make up the Alpha Pool Overlay and the effect of the cost allocation will usually result in a deduction from the strategy's return.</p> <p>No Benchmark: In certain instances, a benchmark is not assigned for the purpose of measuring excess performance. For example, SWIB's client, the State Life Insurance Fund (SLIF), has no assigned benchmark for its investment mandate due to the limitations placed on SWIB's investment activities by the SLIF. The SLIF portfolio invests in fixed income securities that approximate the expected life of the Fund's insurance contracts, and SWIB is directed to hold all securities to maturity other than in extraordinary circumstances.</p>
Reported Net Benchmark Returns	<p>The SWIB Benchmark and Performance Committee and its designated benchmark consultant follow the parameters set forth in the SWIB Benchmarking Philosophy. Under the Philosophy, selected benchmarks should exhibit the characteristics described in the <i>Benchmark Qualities</i> criteria to ensure portfolio and benchmark attributes are closely aligned.</p> <p>Net Total Return Benchmarks: benchmark type commonly used for most publicly-traded portfolio strategies. The benchmark returns reflect the price performance, plus the net amount of all special and regular dividends after applying an assumed foreign tax withholding rate (as determined by the benchmark data provider.)</p> <p>SWIB Custom Net Benchmark for non-U.S. Public Equity Strategies: SWIB's custodian bank customizes SWIB's non-U.S. equity benchmarks to reflect the actual, historical reinvestment of withholding tax rates rather than index provider's assumption for varying countries.</p> <p>Net of External Manager Fee-based Benchmarks: benchmark type most frequently used to gain better alignment when the measured SWIB portfolio return is inclusive of external management fees, performance fees and carried interest charges (e.g., private market investments.)</p>

Report Disclosures

Key Terms and Portfolio Return Information

Term	Description / Definitions
Custom Weighted Calculated Benchmarks	<p>SWIB managed funds and / or portfolios may require the construction of custom benchmarks that are created through applying static or asset weighted calculations to achieve a blended benchmark that is representative of the investment strategy. When available or feasible, SWIB will request its third-party benchmark data provider(s) to blend benchmarks as a part of the market data service. If this option is not available, SWIB will calculate the benchmark using market data inputs.</p> <p>In certain cases, SWIB may customize a benchmark to more accurately reflect the SWIB managed Fund's tax status and actual tax rate experience in non-U.S jurisdictions with investment portfolio with-holding taxes applicable to dividends and capital gains. This type of custom benchmark is designated as "SWIB Custom Net".</p>
Gross Market Value	The price at which the fund investor can buy or sell the underlying investment instruments held in the portfolio at a given time multiplied by the quantity held, plus any accrued income. The Gross Market Value of a portfolio is the market value of the portfolio or composite without any deduction for SWIB expenses.
Illiquid Investments	Those investments that may be difficult to sell or be sold quickly because of a lack of market or ready or willing investors.
Total Exposure	For SWIB managed funds governed by the WRS Investment Policy, this measure reflects the total value of the fund's exposure to investable markets by asset class and sub asset class. Total Exposure is inclusive of those instruments utilized under the WRS Leverage Use Policy to achieve the asset exposures approved under the asset allocation strategy and active risk target.
Internally Managed Portfolios	Portfolios managed by SWIB investment professionals. Each internal portfolio is assigned compulsory investment guidelines and is also assigned "soft risk parameters." Soft risk parameters refer to desired characteristics and/or risk exposures.
Externally Managed Portfolios	Portfolios managed by third-party investment managers hired by SWIB. External active and passive managers operate under contractual investment guidelines approved by SWIB's Investment Committee or by SWIB's investment management staff, as designated in the Investment Committee Charter.
Active Management	Actively managed portfolios have the objective of out-performing their respective benchmarks (or generating alpha) by using investment insights or quantitative tools to deploy buy, hold, and sell decisions. This style of management will result in portfolio positioning decisions that will add active risk and generate higher tracking error. Actively managed portfolios are governed through investment guidelines and soft risk parameters.
Passive Management	Passively managed portfolios have the objective of closely tracking the returns and risk of their respective benchmarks. This style of management usually involves mirroring the benchmark security holdings (or constituents) to closely replicate the benchmark risk and return.

Report Disclosures

Key Terms and Portfolio Return Information

Term	Description / Definitions
Note on report data sources and processing	<p><u>Return Calculation Processing</u> Bank of New York Mellon, Global Risk Services (BNYM GRS), an independent 3rd party, provides services related to custodial records, accounting and performance return calculations for SWIB managed funds. BNYM also serves as the source for certain standard, market-based benchmarks and static weight blended benchmarks.</p>
	<p><u>Return Calculations Prepared on a Notional or Unlevered Basis (Core Trust Fund only)</u> SWIB uses leverage to help achieve the Core Trust Fund’s diversification objectives. A description of the Leverage Use Policy is contained in the Wisconsin Retirement System Investment Committee Investment Guidelines. For those accounts and composites deploying leverage, the calculation of notional or unlevered returns (using gross asset exposure) is required to achieve a comparable return vs. market indices. SWIB has directed its performance agent, BNYM GRS, to configure the performance measurement platform to process this type of calculation. Consistent with Leverage Use Policy guidelines, this calculation may be processed inside reported composites that contain US Large Cap Equity, US Small Cap Equity, MSCI World x US Equity, US TIPS and US Treasury exposures.</p>
	<p><u>State Investment Fund (SIF) Commingled Fund Processing</u> The State Investment Fund (SIF) pools the cash of the State of Wisconsin and its agencies, the Wisconsin Retirement System (WRS), and various local government units (Local Government Investment Pool) into a commingled fund with the investment objectives of safety of principal and liquidity while earning a competitive money market rate of return. For purposes of calculating earnings to each participant , all investments are valued at amortized cost. SIF returns are calculated using the monthly net earnings distributed to all commingled fund participants. SIF returns are presented net of all allocated SWIB administrative costs and State Controller’s Office costs that are allocated to the participants of the Local Government Investment Pool.</p>
	<p><u>Benchmark Market Data and Selection Process</u> The data source for this information is provided by multiple investment industry market data vendors and analytics firms depending on the investment strategy. The SWIB Benchmark and Performance Committee governs the benchmark selection process. An independent consultant (selected by the Board of Trustees or “Board”) makes recommendations to initially select or change benchmarks.</p>
	<p><u>Peer Rank Return Comparison Data</u> This information is provided and processed by industry consultants that consume return information for SWIB managed funds and then provide investor universe return comparisons and analytics using proprietary databases. When consultant info is included in the Quarterly Performance Summary the preparer of the work is identified.</p>
<p>SWIB Annual Reports: Additional WRS disclosures can be found in the Annual Reports, available at https://www.swib.state.wi.us/list-of-investments.</p>	

Report Disclosures

Key Terms and Portfolio Return Information

Term	Description / Definitions
<p>(continued)</p> <p>Note on report data sources and processing</p>	<p><u>Project Centum Platform Migration Changes</u></p> <p>On 1/1/2024, the BNYM ABOR RAM processing platform became the primary source for Core and Variable Trust Fund return calculations and market value amounts contained in this report. The State Investment Fund (SIF) and the SWIB-managed Separately Managed Funds continue to be processed using the BNYM IBOR market value and return calculation source.</p> <p>This report contains return calculations that are processed using Total Exposed (Notional-based) Assets for accounts with substantial derivative positions that generate leverage for the Core Trust Fund. The objective of this calculation is to generate meaningful returns that compare to the account or composite’s benchmark. This processing continues to be performed on the BNYM IBOR platform and applies to following composites:</p> <ul style="list-style-type: none"> CTF – Public Equities (pg. 9) CTF – Global Developed (pg. 9) CTF – Public Fixed Income (pg. 10) CTF – US Treasuries (pg. 10) CTF – Inflation Sensitive (pg. 11)

Leverage Disclosures

Calculation formulas to estimate impact

Report Disclosures

Notes on CTF Leverage Analysis

Term	Description / Definitions
Portfolio Return (Unlevered)	<p>This is an estimated-only CTF return because SWIB does not implement a CTF unlevered portfolio to calculate actual performance against. Leverage is used to expand the CTF's entire asset base. All definitions that include (unlevered) are ESTIMATES only for this reason.</p> <p>It is estimated by:</p> <ol style="list-style-type: none"> 1) <u>Excess Return (Levered)</u> is first subtracted from the <u>Portfolio Return (Levered)</u>¹; 2) The result of Step 1 is then divided by the <u>Policy Leverage Factor</u>; then 3) <u>Excess Return (Levered)</u> is added back to the result of Step 2 and that number is then adjusted to account for the cost of financing (i.e., the expense of acquiring leverage, which would not be applicable to an unlevered portfolio). $\text{Portfolio Return (Unlevered)} = \left(\frac{\text{Portfolio Return (Levered)} - \text{Excess Return (Levered)}}{\text{Policy Leverage Factor}} \right) + \text{Excess Return (Levered)} - \text{cost of implementation}$ <p>¹ Note, because <u>Excess Return (Levered)</u> is the difference between two similarly “levered” portfolios (Portfolio Return (Levered) and Benchmark Return (Levered)), it represents outperformance that is not attributable to leverage. Accordingly, it is subtracted first as it would be inaccurate to reduce such amount by the Policy Leverage Factor for purposes of this calculation.</p> <p><u>Policy Leverage Factor</u> is the amount of the approved Policy Leverage during any given period, time weighted for multi-year periods. Policy Leverage was first introduced into the CTF Portfolio and Benchmark at the end of April 2012 and was raised from 10% to 15%, effective Calendar Year 2021.</p>
CTF Benchmark Return (Unlevered)	<p>Estimated by the <u>Benchmark Return (Levered)</u> divided by the <u>Policy Leverage Factor</u> for the period.</p>

Report Disclosures

Notes on CTF Leverage Analysis

Term	Description / Definitions
Excess Return (Unlevered)	<p>The Excess Return (Unlevered) is the excess return that it is estimated SWIB would have achieved if it did not implement leverage for the CTF.</p> <p>Estimated as <u>Portfolio Return (Unlevered)</u> minus <u>Benchmark Return (Unlevered)</u>.</p> <p>Can also be estimated by taking the actual <u>Excess Return (Levered)</u> minus <u>Implementation (+) or (-)</u> (see below for definition).</p>
Absolute Return from Leverage	<p>Estimated by the <u>Portfolio Return (Levered)</u> minus <u>Portfolio Return (Unlevered)</u> minus <u>Implementation (+) or (-)</u>.</p>
Implementation (+) or (-)	<p>The relative cost of financing (i.e., the actual cost of financing minus the CTF benchmark cost of financing). The CTF benchmark cost of financing is the CTF cash benchmark, previously LIBOR plus 30 bps and now BSBY plus 30 bps. Implementation (+) or (-) can also result from outperformance or underperformance relative to how efficiently SWIB replicates the index in connection with policy leverage (this is called basis risk).</p> <p>Can either be positive or negative. When the leverage implementation is achieved at a cost saving compared to the CTF cash benchmark (i.e., less than the CTF cash benchmark), it is positive (+); but when it is achieved with additional cost compared to the CTF cash benchmark (i.e., more than the CTF cash benchmark), it is negative (-). Cost savings can generate minor excess returns for the CTF. Basis risk can also generate minor contributions to or detractions from relative performance with respect to policy leverage.</p>
Portfolio Return (Levered)	<p>Actual performance of the CTF Portfolio for the period presented, from all strategies including Policy Leverage.</p>
CTF Benchmark Return (Levered)	<p>Actual performance of the CTF Benchmark for the period, taking into account the use of Policy Leverage.</p>
Excess Return (Levered)	<p>Actual excess return of the CTF. Portfolio Return (Levered) minus Benchmark Return (Levered).</p>

Board Meeting

Tab 4 – Investment Committee Open Session Business

- A. Amendments to WRS Investment Committee Investment Guidelines
- B. Approved Open Session Investment Committee Meeting Minutes of February 27, March 21, and April 23, 2024
- C. Final Open Session Investment Committee Agenda for May 28, 2024 and Draft Open Session Agendas for June 25 and July 23, 2024

SWIB Investment Committee
**WISCONSIN RETIREMENT SYSTEM
INVESTMENT GUIDELINES**

Revised as of

~~December~~March 21, 20234

Repurchase Agreements	BBB
Commercial Paper	A-2/P-2
Unrated Wisconsin Company Commercial Paper (maximum maturity of 90 days and percentage of the portfolio in unrated CP cannot exceed 15%)	Unrated
Corporate Notes, Bankers' Acceptances, Certificates of Deposit/ Time Deposit, Bank Deposits and Yankee/Euro Certificates of Deposit/Time Deposits (U.S. Dollars) greater than 1 year	A
Corporate Notes, Bankers' Acceptances, Certificates of Deposit/ Time Deposit, Bank Deposits and Yankee/Euro Certificates of Deposits (U.S. Dollars) less than 1 year (the percentage of the portfolio in BBB cannot exceed 15%).	BBB
Wisconsin CD Program – individual bank	Unrated

N. General Guidelines specific for Private Markets and Funds Alpha Portfolios

1. The portfolio manager shall be responsible for notifying the ED/CIO of any referrals or significant contacts by or on behalf of SWIB Trustees regarding consideration of an investment opportunity.
2. The Private Markets & Funds Alpha (PMFA) staff shall report to the Trustees all portfolio commitments to non-public investments.
3. Each portfolio manager shall obtain written confirmation from legal counsel (which may be external legal counsel) that documentation has been satisfactorily completed prior to closing of any investment in his or her portfolio that involves negotiated SWIB documentation.
4. Each portfolio manager shall submit to the head of PMFA a written summary of any proposed investment. The head of PMFA will review all such investments to determine that a) the investment falls within the portfolio's investment guidelines, including limits on invested capital, b) the investment is consistent with the portfolio's established strategy, and c) the appropriate due diligence standards are being applied. No such investment may be closed without approval of the head of PMFA or ED/CIO depending upon the nature and amount of the investment as required in the relevant portfolio guidelines. The portfolio manager shall retain responsibility for each investment decision. External managers with delegated investment discretion operate under separate authority. For purposes of this paragraph, "investments" does

not include the individual properties within a Real Estate Equity Portfolio separate account tranche, but does include the tranche that holds such properties.

5. Dollar limitations for commitments to funds or other investments do not apply to incidental and customary contractual reinvestment, indemnity, reserve or similar obligations incorporated into the terms of an investment, provided such obligations are not expected to be material.

6. Private equity and venture capital investments in markets designated as “developed” or “emerging” are investments in countries included in the MSCI World Index or the MSCI Emerging Market Index, respectively. Real estate investments in markets designated as “developed” or “emerging” are investments in properties in countries included in the EPRA/NAREIT Developed Index and the EPRA/NAREIT Emerging Market Index, respectively.

7. Funds or commingled investments shall be considered U.S., non-U.S., “developed” or “emerging” based on their primary strategy and not on a look-through basis to the underlying investments.

8. Exposure limits and credit quality exposure limits are to be applied at the time of purchase. The term “exposure” is defined as the net asset value [\(which includes co-investments\)](#) plus unfunded commitments. “Allocations” are calculated as the current net asset value of any existing investment(s) plus the intended subscription.

~~9. A “follow-on fund” is generally defined as an investment or an investment vehicle that has the same sponsor or manager and is either parallel to, or has a substantially similar investment strategy as, a fund in which SWIB is or has been an investor.~~

9. ~~10.~~ SWIB staff may determine to engage a consultant to review prospective investments, perform operational due diligence on prospective investments, or otherwise assist staff in the evaluation of investment opportunities and/or managers.

O. Private Debt Portfolio

The overall objective of the Private Debt Portfolio (the “Private Debt Portfolio” includes both the Wisconsin Private Debt Portfolio and the Non-Wisconsin Private Debt Portfolio) is to invest funds of the Core Fund in ~~market rate fixed income~~ [debt](#) instruments consistent with SWIB’s fiduciary responsibilities that are primarily private loans negotiated by SWIB directly or as part of an investor group that includes banks or other institutional investors. [Instruments can be fixed or floating rate.](#) The two portfolios are invested as follows:

- Wisconsin Private Debt Portfolio – This portfolio’s investments will consist of loans or fixed income securities issued by companies or entities that are headquartered in

Wisconsin, have existing operations in Wisconsin, or intend to apply the proceeds to new business operations in Wisconsin which contribute to the Wisconsin economy.

- **Non-Wisconsin Private Debt Portfolio** – This portfolio can invest in loans or fixed income securities issued by companies or entities located in or doing business in the United States.

The Private Debt Portfolio may also include securities sold to SWIB pursuant to Rule 144A or in the public fixed income markets. Investments may be made in fixed income instruments and in instruments with both fixed income and equity features.

1. Investments may carry a rating from a national rating agency, the National Association of Insurance Commissioners (NAIC) or SWIB. Notwithstanding the provisions of the General Guidelines above, the head of Private Debt may make investments that carry a “BBB” or better rating from a national rating agency or the NAIC, provided that if the investment carries only a SWIB rating, it shall be approved by the head of PMFA, regardless of size.
2. Investments may be made in below investment grade instruments provided that such investments do not in the aggregate constitute more than 25% of the Private Debt Portfolio’s par value. Any investment below investment grade requires approval from the head of PMFA.
3. The Private Debt Portfolio’s aggregate issuer limits shall be scaled by quality and a purchase may not cause the Private Debt Portfolio’s exposure to a borrower or issuer to exceed the following limits (at par value):

Rating	Maximum Position
U.S. Gov’t/Agency	No Limit
“AA” or higher	\$100 MILLION
“A”	\$75 MILLION
“BBB”	\$50 MILLION
“BB” or less	\$25 MILLION

4. The Private Debt Portfolio shall maintain at minimum a weighted average rating of “BBB”, where “AAA”=4, “AA”=3, “A”=2, “BBB”=1, and “BB” or less =0.
5. Other guideline limitations notwithstanding, the head of Private Debt or other staff authorized by the head of PMFA may modify or waive terms of investments in the portfolio and generally take any and all other actions that are necessary and

reasonable to protect, maintain or enhance the value of SWIB’s position in the investments.

P. Venture Capital Portfolio

The SWIB Venture Capital Portfolio (the “Venture Capital Portfolio” includes both the Wisconsin Venture Capital Portfolio and the Non-Wisconsin Venture Capital Portfolio) consists of venture capital or venture capital-related investments and invests as follows:

- The Non-Wisconsin Venture Capital Portfolio shall make venture capital investments on a global basis in limited partnership or other fund vehicles, strategic partnerships, or in co-investments in venture-backed companies or publicly traded companies that were venture backed.
- The Wisconsin Venture Capital Portfolio shall make venture capital investments in limited partnership or other fund vehicles or strategic partnerships that are either located in Wisconsin and/or which target Wisconsin as a primary market or as co-investments in venture-backed companies or publicly traded companies that were venture backed that are located or have operations in Wisconsin.

1. Any other guidelines notwithstanding, the Venture Capital Portfolio commitments are subject to the following approvals:

Approval By:	Head of PMFA	ED/CIO
New-Manager		
• Venture Capital Funds	Up to \$ 60 <u>65</u> million or less	More than \$ 60 <u>65</u> million
• ☐ Venture Capital Co-Investments	Up to \$20 million or less	More than \$20 million
Follow-on Commitments		
• ☐ Venture Capital Funds	Up to \$75 million	More than \$75 million
• Venture Capital Co-Investments (excluding funds of one)	Up to \$25 million	More than \$25 million
SWIB ownership equal to or greater than 50% of an		ED/CIO, provided that notice shall be given to the ED/CIO if ownership of an individual fund (excluding

individual fund (excluding funds of one and a fund/vehicle through which a co-investment is made)	funds of one and a fund/vehicle through which a co-investment is made) is equal to or greater than 33 1/3%
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2. No more than 45% of the Venture Capital Portfolio’s exposure may be invested outside of the U.S., without the approval of the ED/CIO. No more than 20% of the Venture Capital Portfolio’s exposure may be invested in emerging markets. No more than 5% of the Venture Capital Portfolio’s exposure may be invested in ~~companies~~ investments located in emerging markets.
3. Venture capital investments may be made through funds, strategic partnerships, or co-investments. Venture capital co-investments (excluding funds of one) must be made in one of the following ways:
 - (1) alongside a fund with the same sponsor or manager as a fund in which SWIB is or has been an investor,
 - (2) alongside a fund with the same sponsor or manager as a fund on which SWIB is conducting due diligence and is actively evaluating for a prospective commitment, or
 - (3) as approved by the ED/CIO.
4. From time to time, SWIB may consider formation of fund investments where it may participate both as a general partner and as limited partner.
5. ~~Venture capital co~~ Co-investments ~~made within~~ in the ~~Wisconsin~~ Venture Capital Portfolio ~~are limited to companies with their headquarters or primary operations in Wisconsin. Co-investments in the Non-Wisconsin Venture Capital Portfolio~~ may not make up more than 15% of the Venture Capital Portfolio’s exposure.
6. Neither the aggregate exposure ~~(including co-investments)~~ to any fund manager or sponsor, nor the aggregate amount of investments in any company, may exceed 20% of the Venture Capital Portfolio’s exposure without approval of the ED/CIO.
7. No single co-investment (excluding funds of one) shall exceed 10% of the Venture Capital Portfolio’s exposure.
8. The Venture Capital Portfolio may make co-investments in public company securities through private placements, including PIPEs, or other offerings. Co-investments in public company securities shall not exceed 10% of the Venture Capital Portfolio’s exposure. For purposes of this guideline, public company securities received via a distribution are not counted and are expected to be sold as soon as reasonably practicable.

9. Subject to the approval thresholds and the restrictions above, the head of Venture Capital or other staff authorized by the head of PMFA may modify or waive terms of investments in the portfolio and generally take any and all other actions that are necessary and reasonable to protect, maintain or enhance the value of SWIB's position in the investments.

Q. Private Equity Portfolio

The Private Equity Portfolio consists of private equity or private equity-related investments, made on a global basis, in limited partnership or other fund vehicles, strategic partnerships, and co-investments in operating or holding companies. ~~Investment guidelines and soft parameters shall be applied to the aggregate composition of the Private Equity Portfolio (including the Legacy, Private Equity Co-Investment, Current Return and Current Return Co-Investment Portfolios), unless otherwise stated.~~

1. Any other guidelines notwithstanding, all portfolio commitments are subject to the following approvals:

	Head of PMFA	ED/CIO
New Manager		
• Funds or Strategic Partnerships	\$ 150 <u>250</u> million or less	Over \$ 150 <u>250</u> million
• Co-Investments	\$ 50 <u>75</u> million or less	Over \$ 50 <u>75</u> million
Follow-on Commitments		
• <input type="checkbox"/> Funds or Strategic Partnerships	\$300 million or less	Over \$300 million
• <input type="checkbox"/> Co-Investments	\$100 million or less	Over \$100 million
SWIB ownership equal to or greater than 50% of an individual fund (excluding funds of one and a fund/vehicle through which a co-investment is made)	ED/CIO, provided that notice shall be given to the ED/CIO if ownership of an individual fund (excluding funds of one and a fund/vehicle through which a co-investment is made) is equal to or greater than 33 1/3%	

2. The Private Equity Portfolio shall not include investments in venture capital funds.
3. Investments may be made through funds, strategic partnerships, or co-investments. Co-investments must be made in one of the following ways:

- (1) alongside a fund with the same sponsor or manager as a fund in which SWIB is or has been an investor,
 - (2) alongside a fund with the same sponsor or manager as a fund on which SWIB is conducting due diligence and is actively evaluating for a prospective commitment, or
 - (3) as approved by the ED/CIO.
4. Neither the aggregate exposure (including co-investments) to any fund manager or sponsor, nor the aggregate amount of investments in any company, may exceed 10% of the total Private Equity Portfolio's exposure without approval of the ED/CIO.
 5. No more than 45% of the Private Equity Portfolio's exposure may be invested outside of the U.S., without the approval of the ED/CIO. No more than 20% of the Private Equity Portfolio may be invested in emerging markets.
 - ~~6. No more than 45% of the Private Equity Co-Investment Portfolio's exposure may be invested outside of the U.S., without the approval of the ED/CIO. No more than 20% of the Private Equity Co-Investment Portfolio's exposure may be invested in companies located in emerging markets.~~
 6. ~~7.~~ The Private Equity ~~Co-Investment~~ Portfolio may make co-investments in public company securities through private placements, including PIPEs, or other offerings. Co-investments in public company securities shall not exceed 102% of the Private Equity ~~Co-Investment~~ Portfolio's exposure. For purposes of this guideline, public company securities received via a distribution are not counted and are expected to be sold as soon as reasonably practicable.
 7. ~~8.~~ Other guideline limitations notwithstanding, the head of Private Equity or other staff authorized by the head of PMFA may modify or waive terms of investments in the portfolio and generally take any and all other actions that are necessary and reasonable to protect, maintain or enhance the value of SWIB's position in the investments.

R. Real Estate Equity Portfolio Guidelines

The Real Estate Equity Portfolio contains investments in a broad range of real estate and real estate-related assets, including equity and debt investments, either solely, or through investment vehicles and structures such as public or private Real Estate Investment Trusts (REITs), public or private real estate company securities, limited liability corporations, limited partnerships, joint ventures, separate accounts or co-investment vehicles. Investment guidelines and soft parameters for Real Estate shall be applied, on an invested basis, to the aggregate composition of the Real Estate Equity Portfolio (except that all REIT portfolios shall be included in the aggregate as Core holdings).

All portfolio commitments are subject to the following approvals:

	Head of PMFA	ED/CIO
Commingled Fund ● □ New Fund	\$ 150 <u>250</u> million or less	Over \$150 <u>250</u> million
● □ Follow-on Fund	\$300 million or less	Over \$300 million
Core - Separate Account*	\$300 million or less	Over \$300 million
Non-Core – Separate Account*	\$200 million or less	Over \$200 million

*With respect to a separate account tranche, approval is required for the tranche, and not for individual investments within the tranche.

1. Aggregate exposure (including co-investments) to any commingled fund manager or sponsor may not exceed 20% of the Real Estate Equity Portfolio's exposure without approval of the ED/CIO. This limit does not apply to real estate investments for which SWIB has sole discretion to select, retain, and terminate manager(s) and/or advisor(s) without cause.
2. Aggregate direct public REIT and real estate company stock holdings (excluding underlying commingled fund holdings and externally managed REIT Portfolios) may not exceed 15% of the Real Estate Equity Portfolio's exposure and portfolio investments in any one public REIT or company may not exceed 3% of the Real Estate Equity Portfolio's exposure. SWIB's direct ownership position in any public REIT or company may not exceed 20% of outstanding voting equity, without ED/CIO approval. Any externally managed REIT portfolio(s) will be managed under separate authority, with guidelines set out in the management agreement(s) between SWIB and the selected manager(s).
3. No more than 45% of the Real Estate Equity Portfolio's exposure may be invested outside the U.S., without the approval of the ED/CIO. No more than 20% of the Real Estate Equity Portfolio's exposure may be invested in emerging markets, and no more than 10% of the Real Estate Equity Portfolio's exposure may be invested in separate accounts invested in emerging markets.
4. Other guideline limitations notwithstanding, the head of Real Estate or other staff authorized by the head of PMFA may: modify or waive terms of investments in the portfolio, including without limitation mortgages and leases on real estate in the portfolio; enter into new mortgages and leases; execute deeds and bills of sale; make expenditures for maintenance and improvements; grant easements; hire consultants, service providers, real estate advisors and property managers; and

generally take any and all other actions that are necessary and reasonable to protect, maintain or enhance investment value of SWIB’s position in the investments.

5. Prior to funding a direct investment (including a property within a separate account tranche) where real property is a material component, the property shall be evaluated for the presence of environmental and code compliance issues. If environmental issues that require action by governmental authorities exist, then funding shall not occur until an adequate remediation program is in place. If code compliance issues exist, then an adequate plan to bring the property into compliance shall be in place.
6. SWIB may not initiate improvement or development of real property owned or controlled by SWIB without making provisions for compliance with applicable Federal, state and local codes and ordinances.

S. Current Return Portfolio

The Current Return Portfolio consists of current return or certain equity-related investments, made on a global basis, in limited partnership or other fund vehicles, strategic partnerships, and co-investments in operating or holding companies. Investments may be made in ~~fixed income~~debt instruments and in instruments with both current pay and equity features. ~~Investment guidelines and soft parameters shall be applied to the aggregate composition of the Private Equity Portfolio (including the Legacy, Private Equity Co-Investment, Current Return and Current Return Co-Investment Portfolios), unless otherwise stated.~~

1. Any other guidelines notwithstanding, all portfolio commitments are subject to the following approvals:

	Head of PMFA	ED/CIO
New Manager		
• Funds or Strategic Partnerships	\$150 <u>250</u> million or less	Over \$150 <u>250</u> million
• Co-Investments	\$50 <u>75</u> million or less	Over \$50 <u>75</u> million
Follow-on Commitments		
• <input type="checkbox"/> Funds or Strategic Partnerships	\$300 million or less	Over \$300 million
• <input type="checkbox"/> Co-Investments	\$100 million or less	Over \$100 million
SWIB ownership equal to or greater than 50% of an individual fund (excluding funds of one and a	ED/CIO, provided that notice shall be given to the ED/CIO if ownership of an individual fund (excluding funds of one and a fund/vehicle through which a co-	

fund/vehicle through which a co-investment is made)	investment is made) is equal to or greater than 33 1/3%
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2. Investments may be made through funds, strategic partnerships, or co-investments. Co-investments must be made in one of the following ways:
 - (1) alongside a fund with the same sponsor or manager as a fund in which SWIB is or has been an investor;
 - (2) alongside a fund with the same sponsor or manager as a fund on which SWIB is conducting due diligence and is actively evaluating for a prospective commitment; or
 - (3) as approved by the ED/CIO.
3. Neither the aggregate exposure (including co-investments) to any fund manager or sponsor, nor the aggregate amount of investments in any company, may exceed ~~10~~25% of the ~~total Private Equity~~Current Return Portfolio's exposure without approval of the ED/CIO.
4. No more than 45% of the Current Return Portfolio's exposure may be invested outside of the U.S., without the approval of the ED/CIO. No more than 20% of the Current Return Portfolio may be invested in emerging markets.
- ~~5. No more than 45% of the Current Return Co-Investment Portfolio's exposure may be invested outside of the U.S., without the approval of the ED/CIO. No more than 20% of the Current Return Co-Investment Portfolio's exposure may be invested in companies located in emerging markets.~~
5. ~~6.~~The Current Return ~~Co-Investment~~ Portfolio may make co-investments in public company securities through private placements or other offerings. Co-investments in public company securities shall not exceed ~~10~~25% of the Current Return ~~Co-Investment~~ Portfolio's exposure. For purposes of this guideline, public company securities received via a distribution are not counted and are expected to be sold as soon as reasonably practicable.
6. ~~7.~~Other guideline limitations notwithstanding, the head of Private Equity or other staff authorized by the head of PMFA may modify or waive terms of investments in the portfolio and generally take any and all other actions that are necessary and reasonable to protect, maintain or enhance the value of SWIB's position in the investments.

T. Hedge Fund Portfolio

The Hedge Fund Portfolio (“HF Portfolio”) will be comprised primarily of direct investments in hedge funds and is intended to generate a low-beta, alpha-oriented return stream.

1. The HF Portfolio will be comprised of the following investment vehicles:
 - a. *Direct Investments or Fund-of-Funds*: SWIB intends for its portfolio to be comprised primarily of direct investments in hedge funds rather than fund-of-funds vehicles that use an intermediary investment advisor(s) to select and allocate to hedge funds through a commingled fund. SWIB may make investments in fund-of-fund vehicles, as may be deemed appropriate by Funds Alpha staff and otherwise approved hereunder.
 - b. *Hedge Funds or Separately Managed Accounts (“SMAs”)*: Investments can be made in limited liability partnerships with other investors or, in some cases depending upon the manager and size of investment, in separately managed accounts. SWIB expects most investments will be in limited liability vehicles. SWIB may invest via SMAs if it is in the best interest of SWIB to do so.
 - c. *Special Opportunity Investments*: SWIB may invest a portion of its portfolio in special opportunity investments, which may include: interests in the equity or revenues of hedge fund managers, co-investments, or external manager “best ideas” opportunities. Special Opportunity Investments will be capped at 20% of the market value of the total HF Portfolio.
2. Hedge Fund Investment Strategies:
 - a. *Event-Driven* – investments up (debt or credit) and down (equity) the corporate capital structure where an expectation exists for realized profits over a short to medium time frame as a result of a known catalyst such as a merger, spinoff, or restructuring.
 - b. *Long-Short Equity* – long and short investments in publicly traded stocks.
 - c. *Tactical Trading* – global investments in indexes, commodities, interest rates, and currencies and, in each case, their derivatives as a result of relative value or directional forecasts from a systematic or discretionary approach.
 - d. *Relative Value* – strategies that seek to take advantage of price differentials by buying and selling different yet related securities. Relative value strategies include fixed income arbitrage, insurance linked, long/short credit, quantitative strategies, structured credit, and volatility-related investments.

- e. *Multistrategy* – funds that invest across multiple asset classes, typically (but not always) with multiple portfolio managers. Most multistrategy funds diversify across three or more underlying strategies.

The HF Portfolio has the following target weightings and ranges to the individual hedge fund strategies:

	<u>Target Allocation</u>	<u>Target Maximum</u>
Relative Value	20%	40%
Event-Driven	15%	30%
Long-Short Equity	20%	30%
Tactical Trading	20%	40%
Multistrategy	20%	40%
Special Opportunity Investments	<u>5%</u>	20%
	100%	

3. Approvals: HF Portfolio allocations are subject to the following approvals:

	Head of PMFA	ED/CIO
New Funds		
• Core	Up to \$300 million aggregated	More than \$300 million
• Special Opp/ Co-invest	Up to \$ 50 <u>75</u> million aggregated	More than \$ 50 <u>75</u> million
Additional Subscriptions to Existing Funds and/or Follow-On Funds		
• □ Core	Up to \$400 million aggregated	More than \$400 million

◆ Special Opp/ Co invest	Up to \$100 million aggregated	More than \$100 million
SWIB ownership equal to or greater than 50% of an individual fund, calculated at the master fund level (excluding funds of one and a fund/vehicle through which a co-investment is made)	ED/CIO, provided that notice shall be given to the ED/CIO if ownership of an individual fund (excluding funds of one and a fund/vehicle through which a co-investment is made) is equal to or greater than 33 1/3%	

4. The aggregate exposure to any hedge fund manager or sponsor (including co-investments) may not exceed 15% of the total HF Portfolio’s exposure without approval of the ED/CIO.
5. Other guideline limitations notwithstanding, the head of Funds Alpha or other staff authorized by the head of PMFA may modify or waive terms of investments in the portfolio and generally take any and all other actions that are necessary and reasonable to protect, maintain, or enhance the value of SWIB’s position in the investments.
6. All redemptions, terminations or reductions of capital will be at the discretion of the Funds Alpha Manager and the head of PMFA.

U. Beta One Portfolio

The Beta One Portfolio is comprised primarily of direct investments in strategies of external managers that are intended to generate both (1) the total return (or beta of one) of a SWIB policy benchmark and (2) an excess return (or alpha) over the benchmark through active security selection. Tracking error measures divergence around the given benchmark. In comparison, SWIB’s external hedge fund portfolio is designed to deliver only an excess return or alpha. This section does not govern passive external managers which the Asset and Risk Allocation Division oversees and monitors.

1. Investments in Beta One External Managers will be comprised of the following investment vehicles:
 - a. *Separately Managed Accounts* (“SMAs”): ~~SWIB intends for its portfolio to be comprised primarily of direct investments in various strategies via SMAs, in which external managers direct positioning but~~ the assets ~~of which would~~ reside at SWIB’s custodial bank.
 - b. *Commingled Investments or Fund Investments*: ~~Investments can be made in commingled funds and/or in which SWIB has a percentage ownership in~~ limited liability partnerships ~~with~~ or other structures alongside other investors or in a

~~Fund~~fund-of-~~One~~one structure where SWIB is the sole investor. Assets reside at the manager’s custodial bank.

2. Investment Strategies and Broad Guidelines for Beta One External Managers:
 - a. *Equities* – strategies will be comprised of various fundamental, quantitative and other approaches intended to produce an active return above the respective benchmarks. Strategies will be invested in traditional long only portfolios, active extension formats (i.e. 130/30, 150/50) and other public equity securities approaches across various styles, geographies and market cap weights. A limited use of shorting (up to 80%) may be used in the active extension format in non-SMAs.
 - b. *Fixed Income* – strategies will be comprised of various fundamental, quantitative, and other approaches intended to produce an active return above the respective benchmarks. Strategies will primarily be invested in portfolios across the credit quality spectrum, across geographies, including emerging and frontier market debt, across structures (e.g., asset-backed securities, corporate debentures, etc.) Individual manager guidelines may allow shorting of cash bonds. Derivatives may be used (long or short) for both hedging and investment purposes and will be set forth in the individual manager guidelines.
 - c. Notwithstanding any shorting permitted in (a) above, pursuant to SWIB’s policies, the investment guidelines for SMAs will prohibit the Beta One External Managers from shorting any equity securities and from purchasing equity securities in secondary offerings.

3. Any use of derivatives, leverage, and shorting allowed will be incorporated into the ex-ante risk assessments and active risk contributions.

4. Approvals: Beta One External Manager allocations are subject to the following approvals:

Investment	Head of PMFA	ED/CIO
New Manager Relationship <u>Beta One Fixed Income</u>	Up to \$ 1.75 <u>1.8</u> billion	More than \$ 1.75 <u>1.8</u> billion
Additional Subscriptions to Existing Manager <u>Beta One Equity</u>	Up to \$ 2 <u>1</u> billion	More than \$ 2 <u>1</u> billion
Includes all Funds Alpha investments aggregated with the Manager, regardless of vehicle, strategy or portfolio.		

5. Other guideline limitations notwithstanding, the head of Funds Alpha or other staff authorized by the head of PMFA may modify, amend or waive terms of Beta One Manager investment management agreements and generally take any and all other actions that are necessary and reasonable to protect, maintain, or enhance the value of SWIB's position in the investments.
6. All redemptions, terminations or reductions of capital will be at the discretion of the head of Funds Alpha and the head of PMFA in consultation with the head of ARA for policy benchmark exposure consideration.
7. Notwithstanding the above discretion regarding redemptions, terminations or reductions, if the Risk Management Division determines that certain risk attributes in the context of the total Core Fund or the aggregate Beta One Portfolio are undesirable for the Core Fund, Variable Fund or the aggregate portfolio, then the head of Risk Management may recommend redemptions, terminations or reductions to portfolio exposures. With the ED/CIO's concurrence, the head of Funds Alpha will make the changes as recommended by the head of Risk Management.

V. Private Markets and Funds Alpha Overage Portfolios

Portfolios may be established at the asset class level for private equity, co-investment, real estate, venture capital, hedge fund, and private debt asset classes to provide for (i) excess exposure to certain investment ideas where the sizing of the investment requires it to be held, in part, outside of an individual internal portfolio or (ii) hedging transactions using public or private securities. In each case, a primary investment must be made by the relevant private markets or hedge fund portfolio with the excess exposure or hedging transaction being allocated to an overage portfolio. The relevant PMFA strategy head will be responsible for portfolio oversight and monitoring of the investment, including the securities in the overage portfolio.

These portfolios may also be used to express investment strategies and ideas that do not fit clearly in any of the private markets or Funds Alpha portfolios but are attractive from a risk/return perspective. In such cases, no primary investment will be made in the existing private markets portfolios, and the ED/CIO will designate a portfolio manager that will be responsible for portfolio oversight and monitoring.

These portfolios may invest in (1) any instrument approved for the relevant private markets asset class portfolios described elsewhere in these guidelines, and (2) any other public or private securities or derivatives approved for trading by SWIB solely for hedging purposes. Each investment idea expressed in the portfolios shall be approved by the head of PMFA, the relevant strategy head, and a majority of the ED/CIO and the heads of ARA

and GPMS. Any approved investment shall be reported to the Investment Committee on a monthly basis. Other governance, monitoring, compliance or reporting for the investment may also be specified in the approval. Portfolios will not have a separate benchmark or risk target, but will be included within the benchmark and soft risk parameters for the applicable aggregated asset class, portfolio, or Core Fund, as applicable and as approved at the time of the investment. If the investment will use active risk assigned to exposure management, it will be noted in the investment approval.

VII. EXTERNAL MANAGEMENT

Portfolios may be managed internally by SWIB investment professionals or externally by money management firms. In making the decision on how the portfolios will be managed, SWIB compares the resources, expertise, diversification benefits, and cost of internal management versus external management. If the decision is made to manage the portfolios externally, SWIB will determine whether a separate account or commingled fund best suits SWIB's needs.

External active and passive managers operate under contractual investment guidelines approved by SWIB's investment management staff.

		30% of Current Return Portfolio for Current Return Co-Investments
Maximum Co-Investments alongside funds with the same sponsor or manager as a fund on which SWIB was conducting due diligence and actively evaluating for a prospective commitment at the time of co-investment ⁴	Private Equity <u>Venture Capital</u>	5% of core Private Equity Portfolio for Private Equity Co-Investments 5% of Current Return Portfolio for Current Return Co-Investments <u>5% of Venture Capital Portfolio for Venture Capital Co-Investments</u>
Maximum Venture Capital Exposure	Venture Capital	25% of <u>sum of Private Equity & Current Return, Private Debt and Venture Capital</u>
Maximum Development Risk (Direct Holdings Only)	Real Estate	10%
Maximum Single Property Type Exposure - Quarterly	Real Estate	50%
Minimum Core Holdings (Including REIT portfolios)	Real Estate	50%
Maximum Value Holdings	Real Estate	30%
Maximum Opportunistic Holdings	Real Estate	30%
Maximum Core Portfolio Leverage	Real Estate	50%
Maximum Core Fund/Deal Leverage (Must be non-recourse to SWIB)	Real Estate	65%
Maximum Real Estate Equity Portfolio Leverage	Real Estate	60%
Maximum Holdings with Leverage > 80%	Real Estate	10%
Maximum Debt Holdings	Real Estate	25%
Ex ante volatility (tracking error) range <u>Range</u>	Hedge Fund	2.5% to 6.5%, measured with a trailing two-year risk sampling period
	Beta One <u>Equity</u>	1.00 <u>0.8</u> % to 2.0%

⁴ If SWIB subsequently commits to a limited partnership or other fund vehicle of the sponsor or manager, then such co-investment shall no longer be included for purposes of calculating this soft parameter.

Beta One Fixed Income 0.8% to 2.0%

Equity Delta to the S&P 500 Range	Hedge Fund	-0.3 to +0.3 (target of zero) over a market cycle measured ex ante with a trailing two-year risk sampling period
Target Beta Range	Beta One <u>Equity</u>	0.85 <u>0.8</u> to 1.15 <u>1.2</u> (target of 1.0) <u>(CTF + VTF)</u>

Beta One Fixed Income 0.8 to 1.2 (target of 1.0)

Maximum one-year annual Conditional Value at Risk (CVaR)	Hedge Fund	7% based on trailing two-year risk sampling period
Maximum Hedge Fund Active Risk Contribution	Hedge Fund	6.0 bps of Core Fund active risk
Maximum General Partner/Investment Manager Portfolio Concentration	Hedge Fund	12%
	Beta One	25% <u>(CTF+VTF)</u>

STATE OF WISCONSIN INVESTMENT BOARD
Investment Committee Meeting–Open Session

Tuesday, February 27, 2024

Offices of the Investment Board
4703 Madison Yards Way, Madison, Wisconsin

Committee Members Present: Edwin Denson, Executive Director/Chief Investment Officer (Chair)
Anne-Marie Fink, Private Markets & Funds Alpha–Chief Investment Officer
Todd Mattina, Head Economist & Asset and Risk Allocation Chief Investment Officer
Stefano Cavaglia, Senior Portfolio Manager–Asset & Risk Allocation
Derek Drummond, Head of Funds Alpha
Diane Linn, Senior Portfolio Manager–Multi-Asset Strategies
Lin Maung, Senior Portfolio Manager–Private Equity
Chase Nicholson, Senior Portfolio Manager–Multi-Asset Strategies
Jason Rector, Portfolio Manager–Funds Alpha
Mike Shearer, Head of Fixed Income Strategies
Nick Stanton, Head of Multi-Asset Strategies
Ivy Zhang, Senior Portfolio Manager–Asset & Risk Allocation

Eric Barber, Chief Legal Counsel (non-voting)
Hassan Chehime, Head of Risk Management (non-voting)
Rochelle Klaskin, Deputy Executive Director/Chief Operating Officer (non-voting)

Also in Attendance: Barb Bolens, Trustee
John Voelker, Trustee
Nathan Ballard, Senior Legal Counsel
Zach Berghouse, Internal Auditor
Kevin Blank, Analyst–Funds Alpha
Brandon Brickner, Internal Audit Director
Kate Burkart-Paulson, Senior Legal Counsel
Sara Chandler, Chief of Staff & Strategy
Trey Edgerle, Compliance Analyst
Greg Fletcher, Performance Director
Tom Freeman, Director of Quantamental Research
Shannon Gannon, Communications Director
Jameson Greenfield, Chief Financial Officer
Thomas Gregg, Investment Operations Analyst
Brian Heimsoth, Senior Portfolio Manager–Asset & Risk Allocation
Vince Janecky, Internal Auditor Data Analyst
Phil Johnson, Senior Portfolio Manager–Non-Investment Grade Fixed Income
Salah Khalaf, Portfolio Manager–Private Markets & Funds Alpha
Jason Kowalke, Investment Operations Analyst
Jason Krueger, Compliance Analyst
Lisa Lange, Director of Compliance & Senior Legal Counsel

Shan Lo, Senior Portfolio Manager–Multi-Asset Strategies
Jeff Lucas, Senior Portfolio Manager–Investment Grade Fixed Income
Bill Luetzow, Legal Counsel
Matt Marek, Senior Analyst–Asset & Risk Allocation
Damian Maroun, Head of Trading and Execution
Ed Martinez, PMFA Business Director
Frank Mazzucco, Legal Counsel
Joy Mukherjee, Senior Portfolio Manager–U.S. Small Cap Strategy
Sunil Nair, Operational, Financing & Counterparty Risk Director
Chad Neumann, Senior Portfolio Manager–Global Equity Strategy
Anand Rakesh, Director of Risk Analytics & Financial Engineering
Systems
Tom Robinson, Head of Corporate Governance
Andrea Ruiz, Senior Portfolio Manager–Liquidity, Inflation & Rates
Mgmt.
Susan Schmidt, Head of Equities
Gabriel Souza, Investment Operations Analyst
Rob Thornton, ARA Business Director
Dawn Tuescher, Executive Administrative Assistant
Rob Vanderpool, Fund Administration Director
Zhenping Wang, Senior Analyst–Asset & Risk Allocation
Feng Zhao, Senior Portfolio Manager–Multi-Asset Strategies
Joe Nankof, NEPC
Keri Ware, Legislative Audit Bureau
(Some individuals may have attended only portions of the meeting.)

OPEN SESSION

With a quorum present, Edwin Denson, Chair of the Investment Committee, called the meeting to order at 1:01 p.m.

1. Approval of the Minutes

Mr. Denson asked if there were any comments on either the open or closed session minutes of the January 23, 2024 Investment Committee (IC) meeting. Hearing no comments, Mr. Denson stated that the Committee could approve both the open and closed session minutes in open session.

Motion: A motion was made by Mr. Mattina and seconded by Mr. Nicholson to approve both the open session and the closed session minutes of January 23, 2024, as presented. The motion passed unanimously.

2. Q4 2023 Quarterly Updates

Mike Shearer, Head of Fixed Income Strategies, and Nick Stanton, Head of Multi-Asset Strategies, presented the *Global Public Markets Strategies Quarterly Update, Q4 2023*, included on pages 10-27 in the meeting materials. Mr. Shearer reported on performance from the Global Public Markets Strategies division for 2023, noting that performance varied across the board, with six of eight division strategies exhibiting positive absolute returns and

four of eight generating positive relative returns. He noted that five portfolios undertook significant operational or process transitions during the year. He also confirmed that each portfolio was in compliance with its guidelines.

Mr. Shearer then provided a market review for the fixed income markets, noting that **(a)** financial market conditions eased significantly in the fourth quarter, with rates decreasing amid declining volatility and a weaker U.S. dollar, **(b)** inflation fell more than anticipated and the Federal Reserve signaled an openness to beginning policy normalization, **(c)** the U.S. yield curve bull steepened due to market expectations of more accommodative monetary policy, and **(d)** spreads across investment grade, high yield, and mortgage-backed securities (MBS) markets generally tightened during the fourth quarter. Finally, with respect to the equity markets, Mr. Stanton commented that **(i)** following a weak October, equity markets overall rallied during the fourth quarter as volatility declined, **(ii)** the quality, value and momentum equity factors underperformed during the quarter, and **(iii)** after an initial spike, volatility declined sharply during the quarter with the rally in equity markets.

3. Convene in Closed Session

Motion: A motion to go into closed session as authorized pursuant to sections 19.85(1)(e) and 19.36(5) of the Wisconsin Statutes to consider confidential strategies for the investment of public funds, including **(a)** the review of active risk profiles of portfolio investments and the Core and Variable Trust Funds, and **(b)** the review of specific proprietary investment strategies and investment instruments related to global public market strategies, global equities, small cap equities, multi-asset, fixed income strategies, short-term credit, and exposure management, was made by Ms. Fink and seconded by Mr. Stanton.

Mr. Denson called for a roll call vote.

Denson-Aye	Fink-Aye	Mattina-Aye	Cavaglia-Aye
Drummond-Aye	Linn-Aye	Maung-Aye	Nicholson-Aye
Rector-Aye	Shearer-Aye	Stanton-Aye	Zhang-Aye

There being twelve ayes and no nays, Mr. Denson declared the motion passed. The Committee convened in closed session at 1:08 p.m. and reconvened in open session at 3:42 p.m.

4. Announcement of Committee Actions Relating to Items Taken Up in Closed Session

Mr. Denson announced that, while in closed session, the Committee **(a)** reviewed active risk profiles of portfolio investments and the Core and Variable Trust Funds, and **(b)** reviewed specific proprietary investment strategies and investment instruments related to global public market strategies, global equities, small cap equities, multi-asset, fixed income strategies, short-term credit, and exposure management.

5. QIR Certification

Lisa Lange, Director of Compliance and Senior Legal Counsel, presented a proposal that the Committee appoint Phil Johnson as a Qualified Independent Representative (QIR) for both Leveraged Loan Index Total Return Swaps and Single-Name Leveraged Loan Swaps, as set

forth on pages 171-183 in the meeting materials. She noted that the appointment would be for all approved counterparties with whom SWIB has a master netting agreement for such instruments and that Mr. Johnson's signed Internal QIR Certificates and Agreements documenting his relevant knowledge and experience was included in the meeting materials for the Committee's review. She also explained that, if approved as a new QIR, Mr. Johnson would be subject to quarterly and annual certifications regarding his QIR status as a condition of his employment.

Motion: A motion was made by Mr. Stanton and seconded by Mr. Mattina to approve that Phil Johnson meets all of the QIR Criteria with respect to Leveraged Loan Index Total Return Swaps and Single-Name Leveraged Loan Swaps, respectively, for all approved counterparties with whom SWIB has a master netting agreement for such instruments, from time to time, and he is approved to act and is hereby appointed as a QIR with respect to such counterparties. The motion passed unanimously.

6. Soft Risk Parameters

Hassan Chehime, Head of Risk Management, noted that the report *Soft Risk Parameters—Asset Class and Portfolio*, as of January 31, 2024, was included on pages 184-185 in the meeting materials for the Committee's review. Mr. Chehime noted that there were no new discussion triggers this month and that two discussion triggers had been dropped relating to the Variable Trust Fund's (VTF) ex ante tracking error and the MBS portfolio's active duration.

7. Future Meeting Topics

Mr. Denson noted that draft agendas for the March 21, 2024 and April 23, 2024 Committee meetings were included on pages 186-189 in the meeting materials for the Committee's review.

8. Adjournment

Motion: A motion to adjourn the meeting was made by Ms. Fink and seconded by Mr. Nicholson. The motion passed unanimously, and the meeting adjourned at 3:44 p.m.

Date of Committee Approval: 03/21/24

Signed: /s/ Eric Barber
Eric Barber, Secretary
Investment Committee

STATE OF WISCONSIN INVESTMENT BOARD
Investment Committee Meeting–Open Session

Thursday, March 21, 2024

Offices of the Investment Board
4703 Madison Yards Way, Madison, Wisconsin

Committee Members Present: Edwin Denson, Executive Director/Chief Investment Officer (Chair)
Anne-Marie Fink, Private Markets & Funds Alpha–Chief
Investment Officer
Todd Mattina, Head Economist & Asset and Risk Allocation
Chief Investment Officer
Stefano Cavaglia, Senior Portfolio Manager–Asset & Risk Allocation
Derek Drummond, Head of Funds Alpha
Diane Linn, Senior Portfolio Manager–Multi-Asset Strategies
Lin Maung, Senior Portfolio Manager–Private Equity
Chase Nicholson, Senior Portfolio Manager–Multi-Asset Strategies
Jason Rector, Portfolio Manager–Funds Alpha
Mike Shearer, Head of Fixed Income Strategies
Nick Stanton, Head of Multi-Asset Strategies
Ivy Zhang, Senior Portfolio Manager–Asset & Risk Allocation

Eric Barber, Chief Legal Counsel (non-voting)
Hassan Chehime, Head of Risk Management (non-voting)
Rochelle Klaskin, Deputy Executive Director/Chief Operating
Officer (non-voting)

Also in Attendance: Kathy Blumenfeld, Trustee
Zach Berghouse, Internal Auditor
Kevin Blank, Analyst–Funds Alpha
Kate Burkart-Paulson, Senior Legal Counsel
Sara Chandler, Chief of Staff & Strategy
Tom Dobesh, Senior Portfolio Manager–Non-Investment Grade
Fixed Income
Jack Drew, Trader
Kliton Duri, Senior Portfolio Manager–Non-Investment Grade
Fixed Income
Chris Eckerman, Senior Portfolio Manager–Private Equity
Trey Edgerle, Compliance Analyst
Greg Fletcher, Performance Director
Scott Freundlich, Portfolio Manager–Non-Investment Grade
Fixed Income
Megan Gall, Investment Operations Analyst
Chirag Gandhi, Senior Portfolio Manager–Multi-Asset
Strategies
Shannon Gannon, Communications Director
Jameson Greenfield, Chief Financial Officer
Thomas Gregg, Investment Operations Analyst
Dan Gyorog, Internal Auditor

Brian Heimsoth, Senior Portfolio Manager–Asset & Risk Allocation
Vince Janecky, Internal Auditor Data Analyst
Phil Johnson, Senior Portfolio Manager–Non-Investment Grade
Fixed Income
Salah Khalaf, Portfolio Manager–Private Markets & Funds Alpha
Jason Kowalke, Investment Operations Analyst
Jason Krueger, Compliance Analyst
Lisa Lange, Director of Compliance & Senior Legal Counsel
Shan Lo, Senior Portfolio Manager–Multi-Asset Strategies
Jon Loboda, Performance Measurement Operations Manager
Damian Maroun, Head of Trading and Execution
Ed Martinez, PMFA Business Director
Frank Mazzucco, Senior Legal Counsel
Sunil Nair, Operational, Financing & Counterparty Risk Director
Scott Parrish, Head of Private Equity
Chris Prestigiaco, Head of Private Debt & Venture Capital
Anand Rakesh, Director of Risk Analytics & Financial Engineering
Systems
Tom Robinson, Head of Corporate Governance
Jason Rothenberg, Head of Real Estate
Edouard Senechal, Senior Portfolio Manager–Asset & Risk
Allocation
Gabriel Souza, Investment Operations Analyst
Matt Terpstra, Internal Auditor
Rob Thornton, ARA Business Director
Leif Thybony, Senior Portfolio Manager–Non-Investment Grade Fixed
Income
Dawn Tuescher, Executive Administrative Assistant
Zhenping Wang, Senior Analyst–Asset & Risk Allocation
Joe Nankof, NEPC
Cefe Quesada, Public Attendee
(Some individuals may have attended only portions of the meeting.)

OPEN SESSION

With a quorum present, Edwin Denson, Chair of the Investment Committee, called the meeting to order at 1:00 p.m.

1. Approval of the Minutes

Mr. Denson asked if there were any comments on either the open or closed session minutes of the February 27, 2024 Investment Committee (IC) meeting. Hearing no comments, Mr. Denson stated that the Committee could approve both the open and closed session minutes in open session.

Motion: A motion was made by Mr. Mattina and seconded by Mr. Nicholson to approve both the open session and the closed session minutes of February 27, 2024, as presented. The motion passed unanimously.

2. June Investment Forum Preview

Jack Drew, Trader, provided an update on the June Investment Forum, which will be held virtually with sessions during the afternoons of June 11-12, 2024. Mr. Drew reported that session topics may include a commercial real estate market outlook, potential applications of artificial intelligence, decision-making amid uncertainty, and energy transition investment opportunities.

3. Convene in Closed Session

Motion: A motion to go into closed session as authorized pursuant to sections 19.85(1)(e) and 19.36(5) of the Wisconsin Statutes to consider confidential strategies for the investment of public funds, including **(i)** the review of active risk profiles of portfolio investments and the Core and Variable Trust Funds, **(ii)** the review of specific proprietary investment strategies and investment instruments related to private markets and funds alpha and exposure management, and **(iii)** the review of broker information, was made by Mr. Drummond and seconded by Mr. Maung.

Mr. Denson called for a roll call vote.

Denson-Aye	Fink-Aye	Mattina-Aye	Cavaglia-Aye
Drummond-Aye	Linn-Aye	Maung-Aye	Nicholson-Aye
Rector-Aye	Shearer-Aye	Stanton-Aye	Zhang-Aye

There being twelve ayes and no nays, Mr. Denson declared the motion passed. The Committee convened in closed session at 1:05 p.m. and reconvened in open session at 3:06 p.m.

4. Announcement of Committee Actions Relating to Items Taken Up in Closed Session

Mr. Denson announced that, while in closed session, the Committee **(i)** reviewed active risk profiles of portfolio investments and the Core and Variable Trust Funds, **(ii)** reviewed specific proprietary investment strategies and investment instruments related to private markets and funds alpha and exposure management, and **(iii)** reviewed broker information.

5. Amendments to Investment Committee WRS Investment Guidelines

Lisa Lange, Director of Compliance and Senior Legal Counsel, discussed the proposed amendments to the *SWIB Investment Committee Wisconsin Retirement System Investment Guidelines*, included on pages 117-135 in the meeting materials. She reported that the proposed changes **(a)** updated approval thresholds for investments made in the Private Markets & Funds Alpha (PMFA) portfolios and had them apply to both new managers and follow-on commitments or subscriptions without differentiation, **(b)** added that instruments in the private debt portfolio can be fixed or floating rate, **(c)** updated the language in the beta one portfolio guidelines regarding separately managed accounts and commingled investments, and **(d)** clarified language throughout the PMFA guidelines on exposure limits, including **(i)** incorporating co-investments into exposure limits across the portfolios, **(ii)** revising the venture capital co-investment limit to be measured against the aggregate venture capital portfolio, **(iii)** updating the single-manager exposure limit for the current return portfolio to 25% of that portfolio. Lastly, she noted the proposed changes to the soft

risk parameters to add a separate discussion trigger for venture capital co-investments and to separate and adjust the ex ante tracking error and target beta ranges for the beta one fixed income and equity portfolios.

Motion: A motion was made by Mr. Mattina and seconded by Mr. Nicholson to approve the proposed amendments to the *SWIB Investment Committee WRS Investment Guidelines*, as presented in the Committee materials. The motion passed unanimously.

6. Research Task Force Report

Stefano Cavaglia, Senior Portfolio Manager–Asset & Risk Allocation, presented the *Research Task Force Update*, included on pages 136-143 in the meeting materials. He discussed recent task force initiatives, including (a) sponsoring seminars relating to current events, including geopolitical risk and diverging viewpoints on the likelihood of a recession, (b) assisting in planning the June Investment Forum, (c) hosting speakers on evergreen investment themes such as resource efficiency and carbon trading, (d) promoting knowledge-sharing and educational programs, including joining the International Centre for Pension Management, and (e) sponsoring membership in a forum for quantitative research in finance and co-funding initial research with the multi-strategy portfolio investment team. Lastly, Mr. Cavaglia noted that the task force is seeking to add new members following the recent conclusion of four members' terms.

7. Transition Update (Q4 2023)

Mr. Denson reported that there were no transition events in Q4 2023.

8. Quarterly Performance Review (Q4 2023)

Mr. Denson noted that the *Investment Performance Report*, as of December 31, 2023, was included on pages 144-189 in the meeting materials for the Committee's information.

9. QIR Annual Certification Report

Mr. Denson noted that the QIR Annual Certification Report for 2023 was included on page 190 in the meeting materials for the Committee's information.

10. Soft Risk Parameters

Hassan Chehime, Head of Risk Management, noted that the report *Soft Risk Parameters–Asset Class and Portfolio*, as of February 29, 2024, was included on pages 191-192 in the meeting materials for the Committee's review. Mr. Chehime noted that there were two new discussion triggers this month relating to the Variable Trust Fund's (VTF) ex ante tracking error and the mortgage-backed securities (MBS) portfolio's active duration, and that no discussion triggers had been dropped.

11. Future Meeting Topics

Mr. Denson noted that draft agendas for the April 23, 2024 and May 28, 2024 Committee meetings were included on pages 193-196 in the meeting materials for the Committee's review.

12. Adjournment

Motion: A motion to adjourn the meeting was made by Ms. Fink and seconded by Mr. Cavaglia. The motion passed unanimously, and the meeting adjourned at 3:19 p.m.

Date of Committee Approval: 04/23/24

Signed: /s/ Eric Barber
Eric Barber, Secretary
Investment Committee

STATE OF WISCONSIN INVESTMENT BOARD
Investment Committee Meeting–Open Session

Tuesday, April 23, 2024

Offices of the Investment Board
4703 Madison Yards Way, Madison, Wisconsin

Committee Members Present: Edwin Denson, Executive Director/Chief Investment Officer (Chair)
Anne-Marie Fink, Private Markets & Funds Alpha–Chief Investment Officer
Todd Mattina, Head Economist & Asset and Risk Allocation
Chief Investment Officer
Stefano Cavaglia, Senior Portfolio Manager–Asset & Risk Allocation
Derek Drummond, Head of Funds Alpha
Diane Linn, Senior Portfolio Manager–Multi-Asset Strategies
Lin Maung, Senior Portfolio Manager–Private Equity
Chase Nicholson, Senior Portfolio Manager–Multi-Asset Strategies
Jason Rector, Portfolio Manager–Funds Alpha
Mike Shearer, Head of Fixed Income Strategies
Nick Stanton, Head of Multi-Asset Strategies
Ivy Zhang, Senior Portfolio Manager–Asset & Risk Allocation

Eric Barber, Chief Legal Counsel (non-voting)
Hassan Chehime, Head of Risk Management (non-voting)
Rochelle Klaskin, Deputy Executive Director/Chief Operating Officer (non-voting)

Also in Attendance: Barb Bolens, Trustee
John Voelker, Trustee
Joe Amoyal, Senior Trader–Non-Investment Grade Fixed Income
Nathan Ballard, Senior Legal Counsel
Kate Burkart-Paulson, Senior Legal Counsel
Sara Chandler, Chief of Staff & Strategy
Tunc Dayioglu, Senior Portfolio Manager–Funds Alpha
Kliton Duri, Senior Portfolio Manager–Non-Investment Grade
Fixed Income
Chris Eckerman, Senior Portfolio Manager–Private Equity
Trey Edgerle, Compliance Analyst
Greg Fletcher, Performance Director
Scott Freundlich, Portfolio Manager–Non-Investment Grade
Fixed Income
Megan Gall, Investment Operations Analyst
Shannon Gannon, Communications Director
Max Garcia, Analyst–Funds Alpha
Chase Gendron, Investment Operations Analyst
Jameson Greenfield, Chief Financial Officer
Thomas Gregg, Investment Operations Analyst
Alex Hansen, Investment Operations Analyst
Brian Heimsoth, Senior Portfolio Manager–Asset & Risk Allocation

Phil Johnson, Senior Portfolio Manager–Non-Investment Grade
Fixed Income
Ryan Johnston, Senior Analyst–Funds Alpha
Salah Khalaf, Portfolio Manager–Private Markets & Funds Alpha
Jason Kowalke, Investment Operations Analyst
Dylan Krivoshein, Investment Operations Analyst
Leo Kropywiansky, Senior Portfolio Manager–Asset & Risk
Allocation
Jason Krueger, Compliance Analyst
Lisa Lange, Director of Compliance & Senior Legal Counsel
Alex Li, Analyst–Asset & Risk Allocation
Shan Lo, Senior Portfolio Manager–Multi-Asset Strategies
Bill Luetzow, Legal Counsel
Matt Marek, Senior Analyst–Asset & Risk Allocation
Damian Maroun, Head of Trading and Execution
Ed Martinez, PMFA Business Director
Frank Mazzucco, Senior Legal Counsel
Sunil Nair, Operational, Financing & Counterparty Risk Director
Scott Parrish, Head of Private Equity
Chris Prestigiacomio, Head of Private Debt & Venture Capital
Cefe Quesada, Chief Technology Officer
Anand Rakesh, Director of Risk Analytics & Financial Engineering
Systems
Robby Richlen, Analyst–Funds Alpha
Jay Risch, Government Relations Liaison
Joe Roth, Transition Management and Portfolio Support Manager
Jason Rothenberg, Head of Real Estate
Dan Schally, Analyst–Real Estate
Edouard Senechal, Senior Portfolio Manager–Asset & Risk
Allocation
Hannibal Smith, Operational Risk Analyst
Gabriel Souza, Investment Operations Analyst
Rob Thornton, ARA Business Director
Leif Thybony, Senior Portfolio Manager–Non-Investment Grade Fixed
Income
Dawn Tuescher, Executive Administrative Assistant
Rob Vanderpool, Fund Administration Director
Zhenping Wang, Senior Analyst–Asset & Risk Allocation
Doston Bradley, Cerberus Capital Management
Andrew Higginson, Schroders
Joe Nankof, NEPC
Keri Ware, Legislative Audit Bureau
(Some individuals may have attended only portions of the meeting.)

OPEN SESSION

With a quorum present, Edwin Denson, Chair of the Investment Committee, called the meeting to order at 1:00 p.m.

1. Approval of the Minutes

Mr. Denson asked if there were any comments on either the open or closed session minutes of the March 21, 2024 Investment Committee (IC) meeting. Hearing no comments, Mr. Denson stated that the Committee could approve both the open and closed session minutes in open session.

Motion: A motion was made by Mr. Shearer and seconded by Mr. Cavaglia to approve both the open session and the closed session minutes of March 21, 2024, as presented. The motion passed unanimously.

2. Private Markets & Funds Alpha Division Update

Anne-Marie Fink, Private Markets & Funds Alpha–Chief Investment Officer, presented the *Private Markets & Funds Alpha Division Update*. She highlighted that the Private Markets & Funds Alpha (PMFA) division was nearing completion of the RFP process to select investment due diligence, operational due diligence, and database management services consultants for each of the PMFA verticals.

3. Q1 2024 Quarterly Updates

A. Private Equity

Scott Parrish, Head of Private Equity, presented the *Quarterly Activity Report – Private Equity*, included on pages 9-27 in the meeting materials. He provided a private equity market update for Q1 2024, noting that (a) U.S. private equity fundraising dollars and the number of funds both decreased year-over-year, accompanied by an increase in fundraising periods, (b) U.S. private equity deal volume and value declined year-over-year, while exit volume and value increased modestly from the low levels of Q1 2023, (c) median leverage multiples on transactions funded by broadly syndicated loans increased slightly year-over-year, (d) sponsor dry powder totaled nearly \$1 trillion, with approximately 60% represented by funds raised in 2022 and 2023, (e) the number of portfolio company exits was split evenly between corporate acquisitions and sponsor-to-sponsor transactions, as IPO activity remained limited, and (f) European private equity fundraising dollars increased materially year-over-year. He also answered questions from the Committee regarding portfolio company exit valuations.

Mr. Parrish then reported that, as of December 31, 2023, the market value of the aggregate private equity asset class, excluding the venture capital and private debt portfolios, was approximately \$21.3 billion and, when including the venture capital and private debt portfolios, made up approximately 19.8% of the Core Trust Fund (CTF). He commented that, while capital calls continued to exceed distributions in the first quarter, distributions are beginning to increase.

Mr. Parrish then reviewed the private equity portfolios' (a) sub-asset class diversification, highlighting the increased percentage of co-investments and small- and mid-buyout managers, (b) public versus private portfolio company exposure, noting that public exposure continued to decrease as a result of recent sales of public companies from the portfolio and fewer portfolio companies exiting via public offerings, and (c) industry diversification, highlighting the increased exposure to the information technology sector since 2020. Lastly,

Mr. Parrish reviewed the commitments made in Q1 2024, discussed the portfolio pipeline for Q2 2024, and confirmed that the portfolio remained in compliance with all investment guidelines.

Ms. Fink then noted that absolute and relative performance for the private equity portfolios for Q1 2024 would be provided at the May Committee meeting after managers' year-end statements are finalized and the relevant benchmarks are reported.

B. Real Estate

Jason Rothenberg, Head of Real Estate, presented the *Quarterly Activity Report – Real Estate*, included on pages 28-40 in the meeting materials. He provided a real estate market overview, noting that (a) overall U.S. market transaction volume in Q4 2023 declined materially year-over-year and the 2023 activity level was the lowest level since 2013, with slowdowns across all major property types, (b) the elevated cost of financing continued to create headwinds for transactions and apply pressure on existing owners as debt maturities come due, (c) the bid-ask spread for new transactions remains elevated in the office and multi-family sectors, and (d) vacancy rates are increasing in office and industrial, although absolute vacancy levels for industrial remain well below the long-term average as they continue to normalize from the extreme lows experienced during the pandemic. Mr. Rothenberg also answered questions regarding debt maturities in the office sector and potential restructuring options available to lenders and servicers.

Mr. Rothenberg then reviewed the real estate portfolio, noting that the portfolio's market value declined slightly to approximately \$11.6 billion as of the end of Q1 2024, due primarily to valuation declines for certain assets. The portfolio represented approximately 9.2% of the CTF. He discussed the portfolio's (i) risk profile, where leverage increased modestly due to asset-level depreciation, (ii) diversification by property type, highlighting that the team continues to reduce the portfolio's underweight to industrial and evaluate compelling debt and credit opportunities, and (iii) exposure by market, noting the year-over-year increase to international, secondary domestic, and tertiary domestic markets.

Mr. Rothenberg also reviewed the portfolio's performance, highlighting outperformance relative to the benchmark over all time periods despite negative absolute returns for the one-year period. He then (a) discussed performance by sub-strategy, noting challenging one-year performance for office and multi-family, (b) reviewed the commitment made in the first quarter and the pipeline under review, and (c) confirmed that the portfolio remained in compliance with its investment guidelines. Lastly, he led the Committee's discussion regarding the portfolio's debt exposure.

C. Private Debt

Chris Prestigiacomo, Head of Private Debt & Venture Capital, presented the *Private Debt Portfolio Investment Committee Quarterly Report*, included on pages 41-52 in the meeting materials. Mr. Prestigiacomo provided a private debt market update for the first quarter, noting that (a) fundraising declined in 2023 to pre-pandemic levels, with the lowest number of funds raised in over ten years, (b) private debt has overtaken venture capital to become the second-largest private markets strategy by annual fundraising metrics, (c) dry powder available to invest increased modestly year-over-year and relative to the longer-term

average, and **(d)** slower economic growth and elevated interest rates in 2024 may impact the to-date relatively low private credit default rates.

Mr. Prestigiacomio noted that the portfolio added two new loans during the first quarter. He then reviewed the portfolio's **(i)** characteristics, with the average coupon and yield-to-maturity increasing from the prior quarter while average life and duration decreased, **(ii)** current below investment grade (BIG) holdings, which increased modestly to 10% following a recent loan downgrade, and **(iii)** sector mix, which remained slightly underweight industrial relative to the benchmark, while the financials sector exposure increased modestly.

With respect to the portfolio's performance, Mr. Prestigiacomio highlighted that the portfolio outperformed its benchmark over the three- and five-year time periods but underperformed for the one-year time period. Lastly, he **(a)** reported that there were no problem credits or workouts in the portfolio, **(b)** confirmed that the portfolio remained in compliance with its guidelines, and **(c)** discussed the pipeline under review.

D. Funds Alpha

Derek Drummond, Head of Funds Alpha, presented the *Funds Alpha Q1 2024 Update*, included on pages 53-59 in the meeting materials. He discussed performance for the first quarter, commenting that the hedge fund and beta one portfolios all had positive excess value added (EVA) year-to-date. He highlighted that **(a)** the beta one equity portfolio outperformed its benchmark by 115 basis points (bps) for the quarter, driven by mean reversion after year-end followed by broad-based security selection alpha, **(b)** the beta one fixed income portfolio generated 44 bps of positive relative returns for the quarter, due to risk-on spread compression in U.S. and emerging markets, and **(c)** the hedge funds portfolio outperformed its benchmark by 212 bps for the quarter, with strong performance across all sub-strategies led by equity long/short and macro managers.

Mr. Drummond then provided an update on the market environment, noting that **(i)** hedge fund managers are cautiously optimistic that the favorable alpha environment will continue, **(ii)** U.S. fixed income managers have taken risk down as credit spreads rallied, while idiosyncratic risk among emerging market debt managers remains elevated, and **(iii)** geopolitical risk continues to be high overall. He also reviewed manager positioning in the beta one portfolios, commenting that the beta one equity portfolio was slightly underweight beta, and confirmed that all portfolios were in compliance with their guidelines for Q1 2024. Lastly, Mr. Drummond answered questions regarding the team's management of portfolio exposure to geopolitical and event-driven risk.

4. Convene in Closed Session

Motion: A motion to go into closed session as authorized pursuant to sections 19.85(1)(e) and 19.36(5) of the Wisconsin Statutes to consider confidential strategies for the investment of public funds, including **(a)** the review of active risk profiles of portfolio investments and the Core and Variable Trust Funds, and **(b)** the review of specific proprietary investment strategies and investment instruments related to private equity, real estate, private debt, venture capital, funds alpha, and exposure management, was made by Mr. Drummond and seconded by Ms. Linn.

Mr. Denson called for a roll call vote.

Denson-Aye	Fink-Aye	Mattina-Aye	Cavaglia-Aye
Drummond-Aye	Linn-Aye	Maung-Aye	Nicholson-Aye
Rector-Aye	Shearer-Aye	Stanton-Aye	Zhang-Aye

There being twelve ayes and no nays, Mr. Denson declared the motion passed. The Committee convened in closed session at 1:37 p.m. and reconvened in open session at 2:34 p.m.

5. Announcement of Committee Actions Relating to Items Taken Up in Closed Session

Mr. Denson announced that, while in closed session, the Committee (i) reviewed active risk profiles of portfolio investments and the Core and Variable Trust Funds and (ii) reviewed specific proprietary investment strategies and investment instruments related to private equity, real estate, private debt, venture capital, funds alpha, and exposure management.

6. Soft Risk Parameters

Hassan Chehime, Head of Risk Management, noted that the report *Soft Risk Parameters—Asset Class and Portfolio*, as of March 29, 2024, was included on pages 155-156 in the meeting materials for the Committee’s review. Mr. Chehime noted that there were no new discussion triggers this month and that two discussion triggers had been dropped relating to the small cap portfolio’s ex ante tracking error and the mortgage-backed securities (MBS) portfolio’s active duration. Lastly, he highlighted that the beta one soft risk parameters related to ex ante tracking error and ex ante beta were separated for each of the beta one equity and beta one fixed income portfolios, with only the ex ante tracking error for beta one fixed income outside of its target range, and that a new soft risk parameter regarding maximum venture capital co-investment exposure had been added.

7. Future Meeting Topics

Mr. Denson noted that draft agendas for the May 28, 2024 and June 25, 2024 Committee meetings were included on pages 157-160 in the meeting materials for the Committee’s review.

8. Adjournment

Motion: A motion to adjourn the meeting was made by Ms. Fink and seconded by Mr. Nicholson. The motion passed unanimously, and the meeting adjourned at 2:35 p.m.

Date of Committee Approval: 05/28/24

Signed: /s/ Eric Barber
Eric Barber, Secretary
Investment Committee

Name of Meeting: Staff Investment Committee Meeting
Date/Time: Tuesday, May 28, 2024 1:00 pm
Room: 7th Floor Conference Room - 7022
Address: 4703 Madison Yards Way, Madison, WI 53705

Est. Time Minutes	Action Item	Topic	Presenter
		OPEN SESSION	
	Motion	1. Approval of the Minutes – Open Session A. April 23, 2024	
15	Motion	2. Benchmark Presentation	Joe Nankof, NEPC
5		3. Private Markets & Funds Alpha Division Performance Update	Anne-Marie Fink Scott Parrish
5		4. Global Public Market Strategies Division Update	Mike Shearer Nick Stanton
20		5. Q1 2024 Quarterly Updates A. Global Equities B. Small Cap C. Fixed Income Strategies D. Multi-Asset E. LIRM	Susan Schmidt Joy Mukherjee Mike Shearer Chase Nicholson Andrea Ruiz
	Motion	CLOSED SESSION*	
	Motion	RECONVENE IN OPEN SESSION	
		6. Announcement of Committee Actions Relating to Items Taken Up in Closed Session	
		7. Soft Risk Parameters (No presentation unless requested)	
		8. Future Meeting Topics	

* A motion to go into closed session at this meeting is authorized pursuant to sections 19.85(1)(e) and 19.36(5) of the Wisconsin Statutes (a) to consider confidential strategies for the investment of public funds, including (i) the review of active risk profiles of portfolio investments and the Core and Variable Trust Funds, and (ii) the review of specific proprietary investment strategies and investment instruments related to private markets and funds alpha, fixed income strategies, global equities, small cap equities, multi-asset, short-term credit, and exposure management, and (b) to discuss and approve prior closed session minutes that discuss the same. The Committee may convene in additional closed sessions or announce additional closed session items at the meeting in accordance with the procedure outlined in the Attorney General’s Opinion reported at 66 OAG 106 (1977). Whenever a closed session is held, the committee will subsequently reconvene in open session to cover remaining agenda items.

	Motion	9. Motion to Adjourn	
		<p><i>NOTES: Items may be taken in order other than listed.</i></p> <p><i>The meeting site is physically accessible. Upon prior request, reasonable accommodations will be provided.</i></p>	

Future Meetings

- 6/25/24 – June Committee Mtg.
- 7/23/24 – July Committee Mtg.
- 8/27/24 – August Committee Mtg.
- 9/24/24 – Sept Committee Mtg.
- 10/22/24 – Oct Committee Mtg.
- 11/26/24 – Nov Committee Mtg.
- 12/19/24 – Dec Committee Mtg.

Voting Committee Members:

- Edwin Denson (Chair)**, Executive Director/Chief Investment Officer
- Anne-Marie Fink**, Private Markets & Funds Alpha–CIO
- Todd Mattina**, Head Economist, Asset & Risk Allocation–CIO
- Stefano Cavaglia**, Senior Portfolio Manager–Asset & Risk Allocation
- Derek Drummond**, Head of Funds Alpha
- Diane Linn**, Senior Portfolio Manager–Multi-Asset Strategies
- Lin Maung**, Senior Portfolio Manager–Private Equity
- Chase Nicholson**, Senior Portfolio Manager–Multi-Asset Strategies
- Jason Rector**, Portfolio Manager–Funds Alpha
- Mike Shearer**, Head of Fixed Income Strategies
- Nick Stanton**, Head of Multi-Asset Strategies
- Ivy Zhang**, Senior Portfolio Manager–Asset & Risk Allocation

Non-voting Committee Members

- Rochelle Klaskin**, Deputy Executive Director/Chief Operating Officer
- Eric Barber (Secretary)**, Chief Legal Counsel
- Hassan Chehime**, Head of Risk Management

AGENDA / NOTICE

Name of Meeting: Staff Investment Committee Meeting
Date/Time: Tuesday, June 25, 2024 1:00 pm
Room: 7th Floor Conference Room - 7022
Address: 4703 Madison Yards Way, Madison, WI 53705

Est. Time Minutes	Action Item	Topic	Presenter
		OPEN SESSION	
	Motion	1. Approval of the Minutes – Open Session A. May 28, 2024	
5		2. October Board Workshop Preview	Todd Mattina
10	Motion	3. Amendments to Investment Committee WRS Investment Guidelines	Lisa Lange
	Motion	CLOSED SESSION*	
	Motion	RECONVENE IN OPEN SESSION	
		4. Announcement of Committee Actions Relating to Items Taken Up in Closed Session	
5		5. Research Task Force Report	Stefano Cavaglia
5		6. Transition Update (Q1 2024)	Brian Heimsoth
		7. Quarterly Performance Review (Q1 2024) (No presentation unless requested)	
		8. Soft Risk Parameters (No presentation unless requested)	
		9. Future Meeting Topics	
	Motion	10. Motion to Adjourn	
		<i>NOTES: Items may be taken in order other than listed.</i> <i>The meeting site is physically accessible. Upon prior request, reasonable accommodations will be provided.</i>	

* A motion to go into closed session at this meeting is authorized pursuant to sections 19.85(1)(e) and 19.36(5) of the Wisconsin Statutes (a) to consider confidential strategies for the investment of public funds, including (i) the review of active risk profiles of portfolio investments and the Core and Variable Trust Funds, (ii) the review of specific proprietary investment strategies and investment instruments related to exposure management, and (iii) the review of broker information, and (b) to discuss and approve prior closed session minutes that discuss the same. The Committee may convene in additional closed sessions or announce additional closed session items at the meeting in accordance with the procedure outlined in the Attorney General’s Opinion reported at 66 OAG 106 (1977). Whenever a closed session is held, the committee will subsequently reconvene in open session to cover remaining agenda items.

Future Meetings

7/23/24 – July Committee Mtg.
8/27/24 – August Committee Mtg.
9/24/24 – Sept Committee Mtg.
10/22/24 – Oct Committee Mtg.
11/26/24 – Nov Committee Mtg.
12/19/24 – Dec Committee Mtg.

Voting Committee Members:

Edwin Denson (Chair), Executive Director/Chief Investment Officer
Anne-Marie Fink, Private Markets & Funds Alpha–CIO
Todd Mattina, Head Economist, Asset & Risk Allocation–CIO
Stefano Cavaglia, Senior Portfolio Manager–Asset & Risk Allocation
Derek Drummond, Head of Funds Alpha
Diane Linn, Senior Portfolio Manager–Multi-Asset Strategies
Lin Maung, Senior Portfolio Manager–Private Equity
Chase Nicholson, Senior Portfolio Manager–Multi-Asset Strategies
Jason Rector, Portfolio Manager–Funds Alpha
Mike Shearer, Head of Fixed Income Strategies
Nick Stanton, Head of Multi-Asset Strategies
Ivy Zhang, Senior Portfolio Manager–Asset & Risk Allocation

Non-voting Committee Members

Rochelle Klaskin, Deputy Executive Director/Chief Operating Officer
Eric Barber (Secretary), Chief Legal Counsel
Hassan Chehime, Head of Risk Management

AGENDA / NOTICE

Name of Meeting: Staff Investment Committee Meeting
Date/Time: Tuesday, July 23, 2024 1:00 pm
Room: 7th Floor Conference Room - 7022
Address: 4703 Madison Yards Way, Madison, WI 53705

Est. Time Minutes	Action Item	Topic	Presenter
		OPEN SESSION	
	Motion	1. Approval of the Minutes – Open Session A. June 25, 2024	
5		2. June Investment Forum Debrief	Jack Drew
5		3. Private Markets & Funds Alpha Division Update	Anne-Marie Fink
45		4. Q2 2024 Quarterly Updates A. Private Equity B. Real Estate C. Private Debt D. Funds Alpha	Scott Parrish Jason Rothenberg Chris Prestigiacomio Derek Drummond
	Motion	CLOSED SESSION*	
	Motion	RECONVENE IN OPEN SESSION	
		5. Announcement of Committee Actions Relating to Items Taken Up in Closed Session	
		6. Soft Risk Parameters (No presentation unless requested)	
		7. Future Meeting Topics	
	Motion	8. Motion to Adjourn	
		<i>NOTES: Items may be taken in order other than listed.</i> <i>The meeting site is physically accessible. Upon prior request, reasonable accommodations will be provided.</i>	

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Future Meetings

8/27/24 – August Committee Mtg.
 9/24/24 – Sept Committee Mtg.
 10/22/24 – Oct Committee Mtg.
 11/26/24 – Nov Committee Mtg.
 12/19/24 – Dec Committee Mtg.

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Nick Stanton, Head of Multi-Asset Strategies
Ivy Zhang, Senior Portfolio Manager–Asset & Risk Allocation

Non-voting Committee Members

Rochelle Klaskin, Deputy Executive Director/Chief Operating Officer
Eric Barber (Secretary), Chief Legal Counsel
Hassan Chehime, Head of Risk Management

Board Meeting

Tab 5 – Quarterly Investment Update, Q1 2024



Quarterly Investment Update

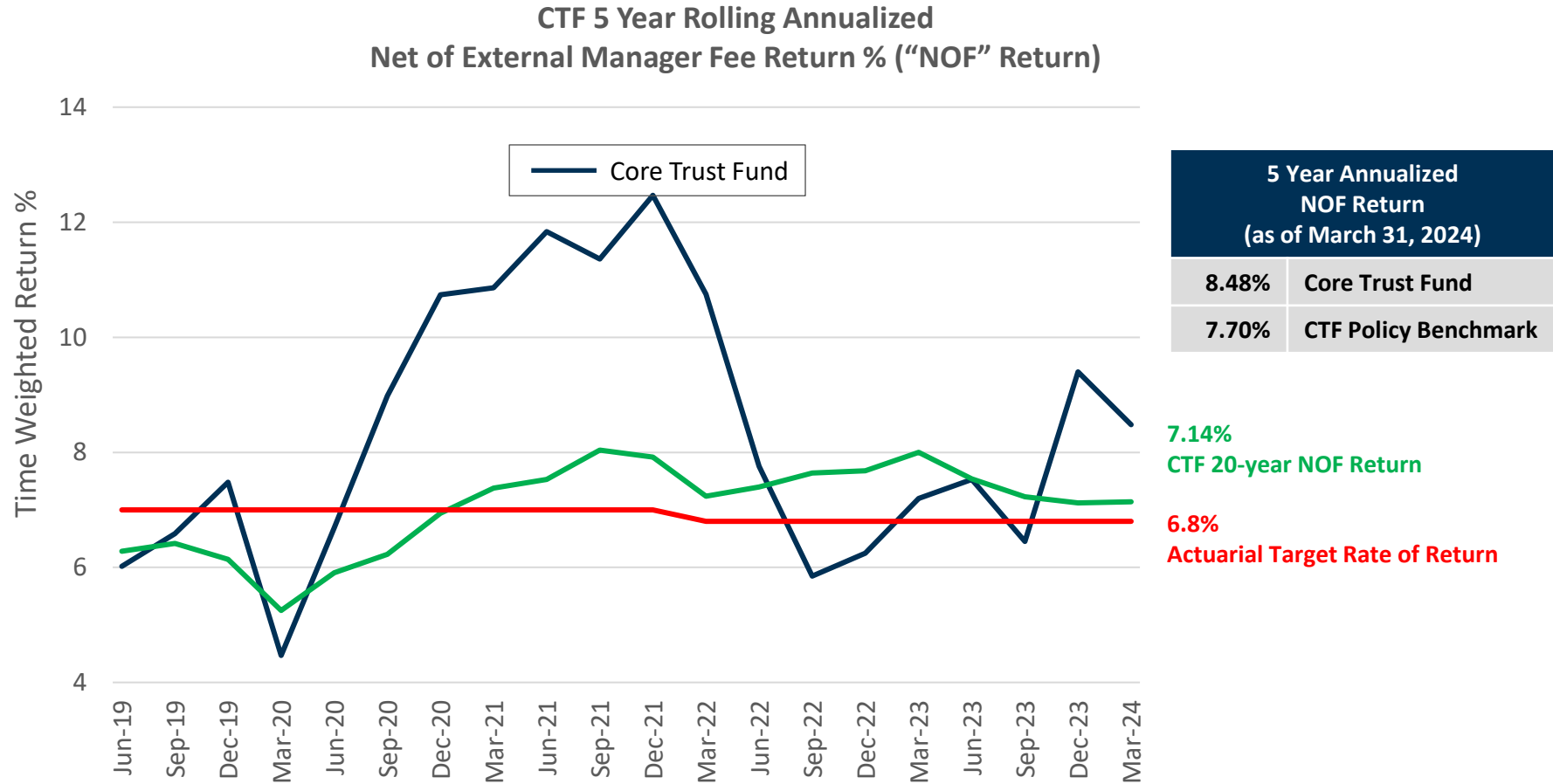
Board Meeting

June 12, 2024

Performance Trends & Outlook

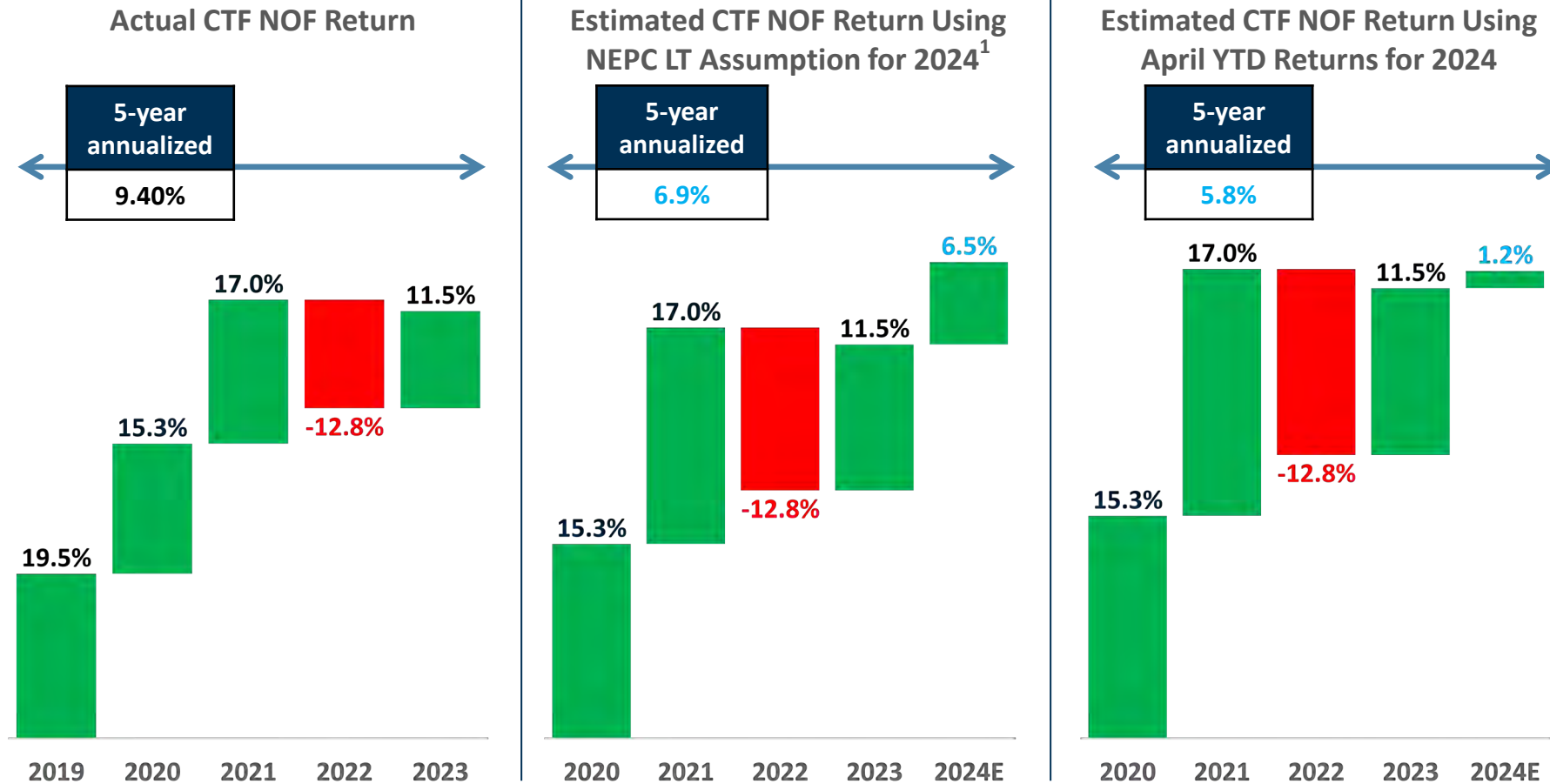
CTF 5 Year Rolling Return Trend

Quarter-end Results Through March 31, 2024



CTF 5-year Return Estimate

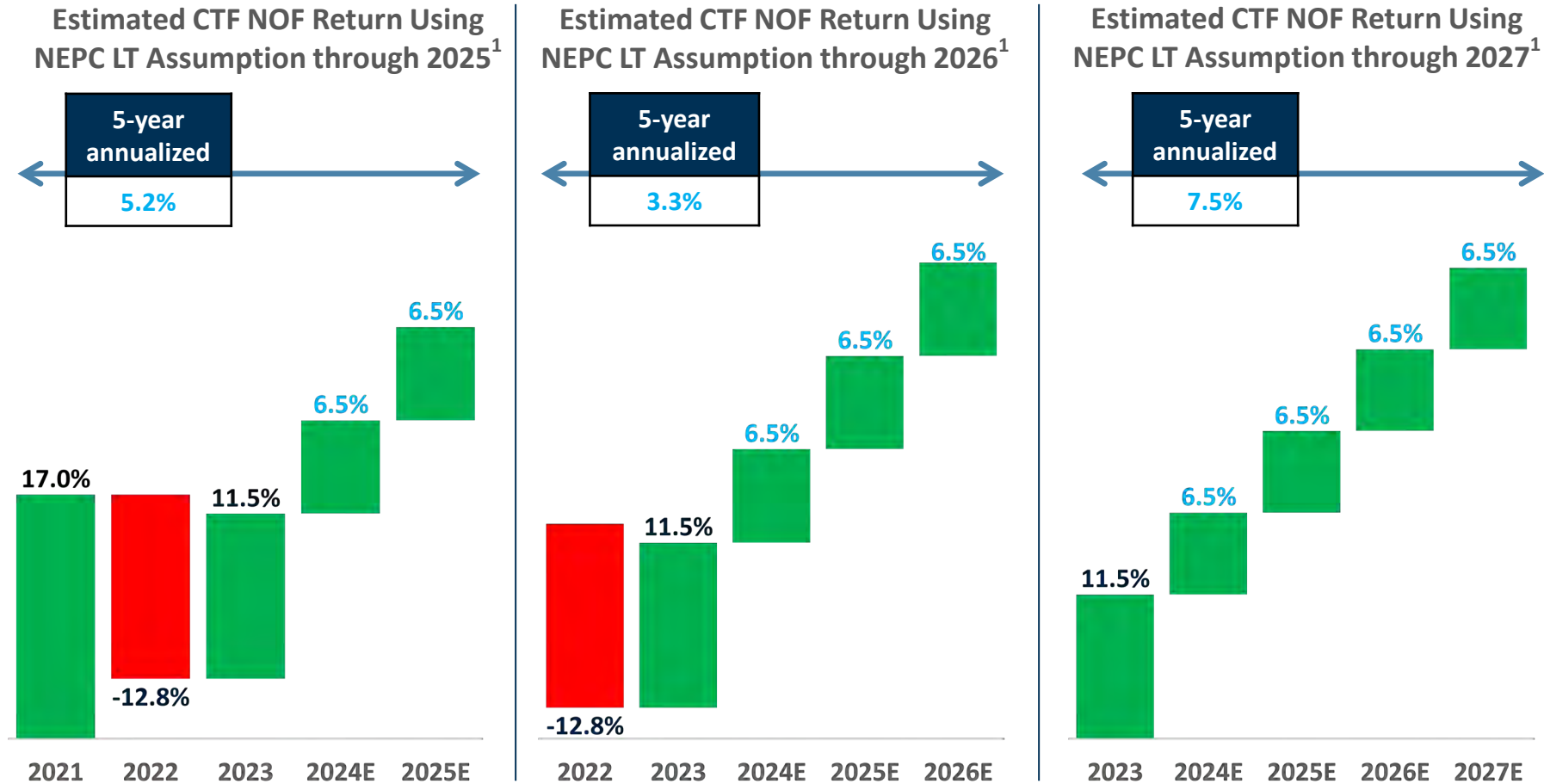
Calendar year and 5-year annualized returns



¹The NEPC 10-year expected return assumption is used to estimate 2024

CTF 5-year Return Forward Estimate

Calendar year and 5-year annualized returns



¹The NEPC 10-year expected return assumption is used to estimate 2024, 2025, 2026, and 2027

CTF Policy Benchmark & Other Indices

April 30, 2024: Total Rate of Return %, Annualized					
Index Name (Gross Return Basis, unless noted)	YTD	1yr	5yr	10yr	10yr volatility
CTF Policy Benchmark (Gross)	0.6	6.7	6.9	6.6	8.7
MSCI USA	5.9	23.3	13.2	12.3	15.5
MSCI USA Small Cap	(1.3)	14.1	7.9	8.7	19.6
MSCI World ex US Equities (Net)	2.8	9.1	6.3	4.4	15.2
MSCI World ex US Equities (Net) (Local)	8.5	14.5	8.4	7.4	12.3
MSCI EAFE Small Cap	(0.5)	5.6	4.1	4.9	16.5
MSCI Emerging Markets ex China	2.4	18.2	6.1		
MSCI China	4.3	(6.6)	(5.4)	2.3	23.9
MSCI ACWI	4.8	18.0	10.0	8.7	14.8
MSCI ACWI (Local)	6.6	19.9	10.8	10.1	13.6
Bloomberg US Gov't / Credit	(3.1)	(1.3)	0.1	1.4	5.1
ICE BOFA High Yield BB/B	0.4	8.2	3.6	4.2	7.3
Bloomberg U.S. TIPs	(1.8)	(1.3)	2.1	1.9	5.0

Source: Factset, SWIB

Economic Update

Summary

Growth

- SWIB view on Q4/Q4 real GDP growth in 2024 is +1.2%, slowing from a strong +3.1% in 2023.
 - (1) Fed policy and overall financial conditions are still restrictive. Effects have not fully played out.
 - (2) High household liquid balances due to COVID stimulus have been run down...and eroded in real terms.

Inflation

- SWIB view on core Q4/Q4 PCE inflation in 2024 is +2.6%, slowing from +2.9% in 2023.
- Inflation has consistently surprised on the upside this year, forcing the Fed into a “high rates for longer” stance.

Fed

- The market is currently pricing only 50 bp of Fed cuts this year, versus 150 bp in December.
- Cuts can still begin this year, but inflation needs to cooperate.

US equity market

- Despite Fed cuts being priced out by markets, US equities have had a good year.
- Equity performance remains lopsided, with the “Magnificent 7” now accounting for 28.1% of US market cap.
- The last time there was comparable concentration was during the tech bubble

Labor market

- Labor market supply/demand are better balanced now. Wage growth has moderated but remains high.

Growth & Inflation Outlook

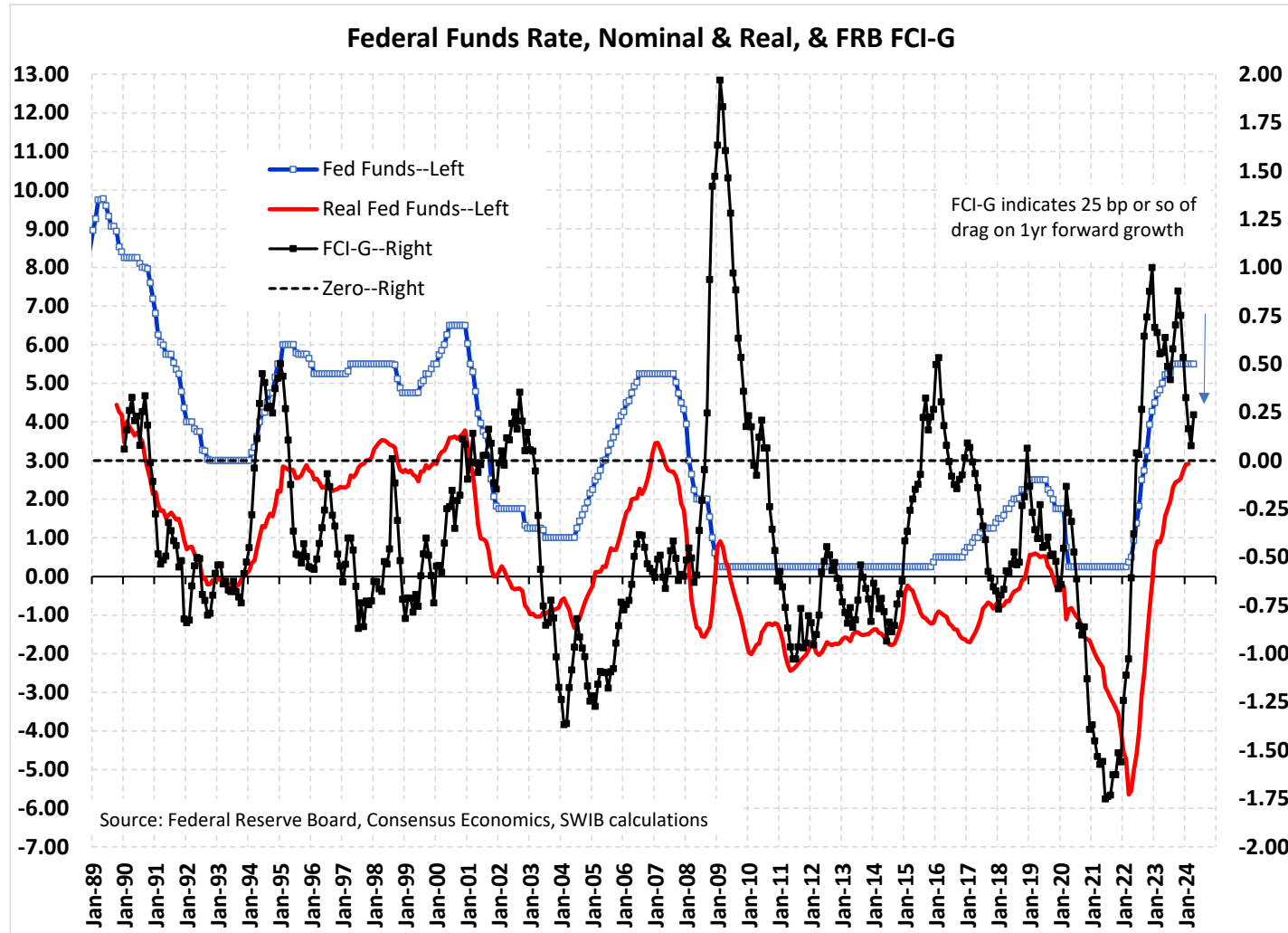
Growth

- SWIB view is for slowing of Q4/Q4 growth to +1.2% in 2024, from a strong +3.1% in 2023
 - (1) Effects of Fed tightening not yet fully played out
 - (2) While household balance sheets are in decent shape, pandemic stimulus funds have been spent down in real terms
- SWIB outlook is a bit below Bloomberg consensus

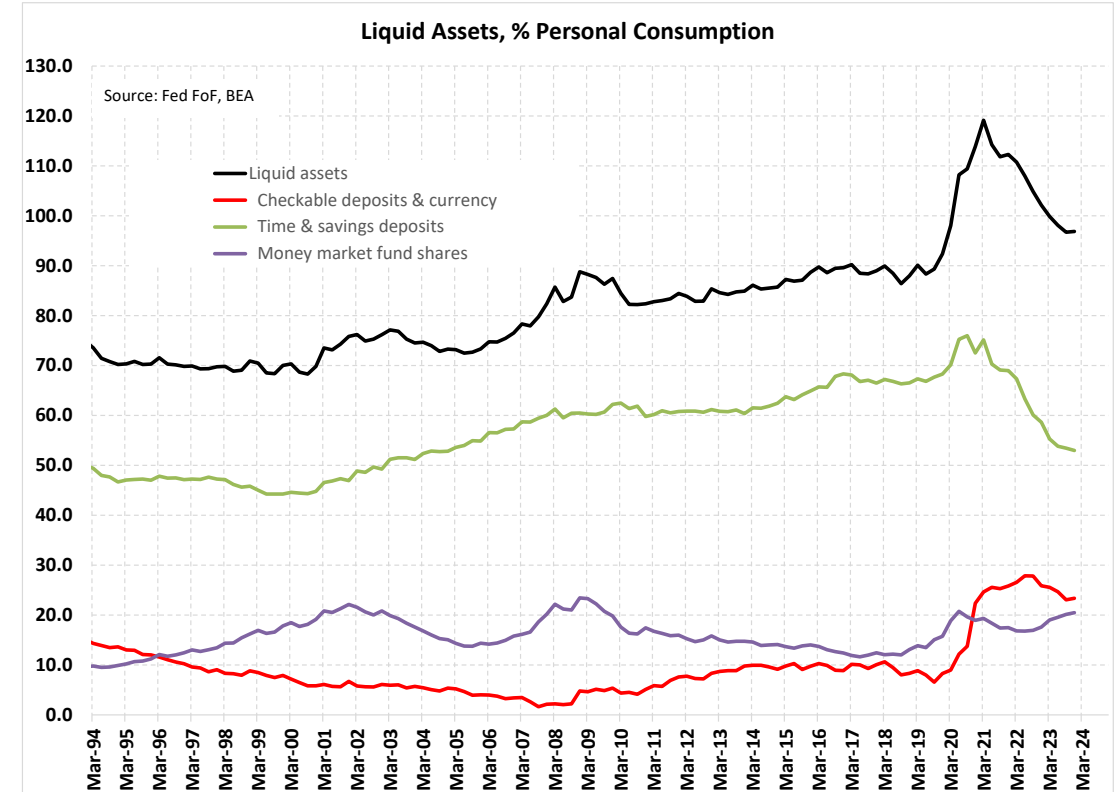
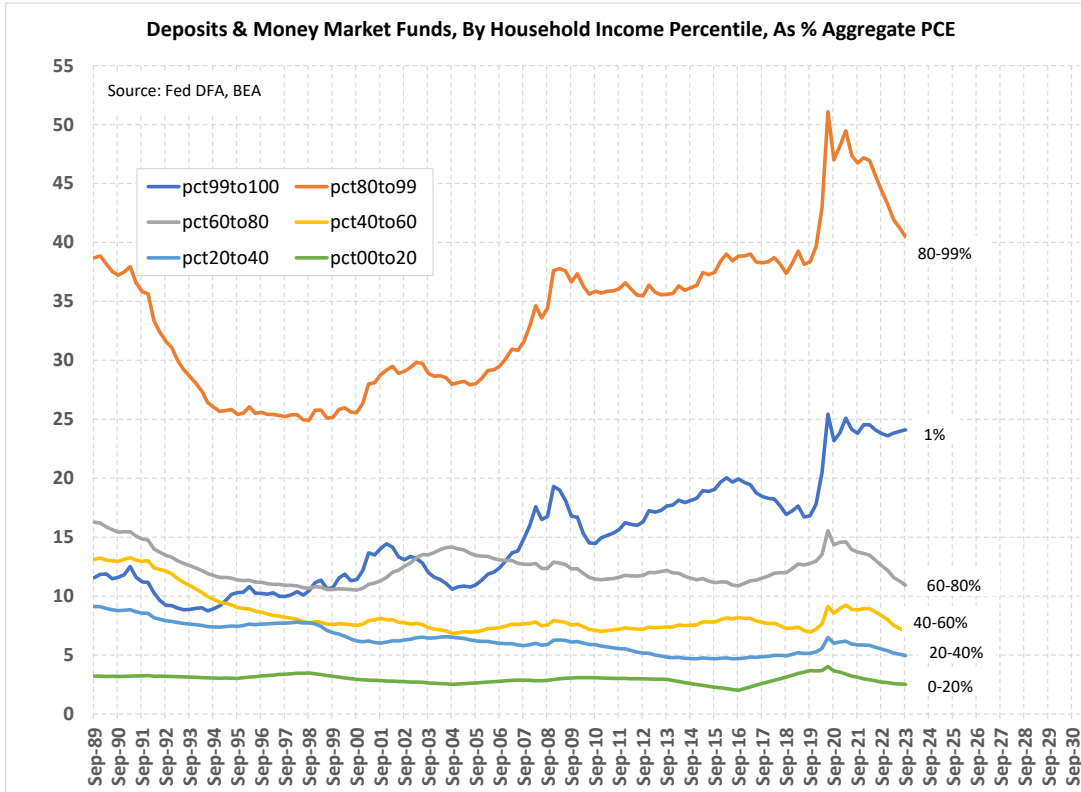
US Real GDP Q/Q SAAR									US Real GDP			Annual Average		
	Q1'23	Q2'23	Q3'23	Q4'23	Q1'24	Q2'24	Q3'24	Q4'24	Q4/Q4 2022	2023	2024	2022	2023	2024
Real GDP	2.2	2.1	4.9	3.4	1.6	1.1	1.3	1.2	0.7	3.1	1.3	1.9	2.5	2.2
Private consumption	3.8	0.8	3.1	3.3	2.5	1.8	1.2	1.5	1.2	2.7	1.8	2.5	2.2	2.3
Gross private investment	-9.0	5.2	10.0	0.7	3.2	0.4	3.0	2.0	-2.4	1.5	2.2	4.8	-1.2	3.0
Private fixed inv	3.1	5.2	2.6	3.5	5.3	5.9	1.9	2.8	-0.8	3.6	4.0	1.3	0.6	4.1
Nonresidential	5.7	7.4	1.5	3.8	2.9	2.4	1.8	2.7	5.6	4.6	2.5	5.2	4.5	2.9
Structures	30.3	16.1	11.2	10.9	-0.1	2.0	2.0	2.5	0.8	16.9	1.6	-2.1	13.2	5.0
Equipment	-4.1	7.7	-4.4	-1.1	2.1	2.0	1.0	1.8	5.3	-0.6	1.7	5.2	-0.3	0.8
Intel property	3.8	2.7	1.8	4.3	5.4	4.0	2.5	3.5	8.3	3.1	3.8	9.1	4.5	3.8
Residential	-5.3	-2.2	6.7	2.8	13.9	-0.2	2.0	3.5	-17.4	0.4	4.7	-9.0	-10.6	5.0
Δ in private inventories*	-2.3	-0.2	1.1	-0.4	-0.3	-0.1	0.2	-0.1	-1.0	-1.8	-0.4	0.5	-0.4	0.0
Net exports G&S*	0.6	0.1	0.0	0.2	-1.0	-0.2	-0.2	-0.3	-3.0	-4.9	10.2	-0.5	0.8	-0.4
Exports G&S	6.8	-9.3	5.4	5.0	0.9	-0.5	-0.5	0.3	4.3	1.8	0.1	7.0	2.6	1.1
Imports G&S	1.3	-7.6	4.2	2.2	7.2	1.0	1.0	2.0	2.1	-0.1	2.8	8.6	-1.7	2.6
Govt consn & inv	4.8	3.3	5.8	4.6	1.2	1.0	0.8	0.5	0.8	4.6	0.9	-0.9	4.1	2.4
Final domestic demand	3.8	2.0	3.5	3.5	2.8	2.5	1.3	1.6	0.8	3.2	2.0	1.7	2.3	2.6
Private final domestic demand	3.6	1.7	3.0	3.3	3.1	2.6	1.3	1.8	0.8	2.9	2.2	2.3	1.9	2.6
Real GDP, SWIB	2.2	2.1	4.9	3.4	1.6	1.1	1.3	1.2	0.7	3.1	1.2	1.9	2.5	2.2
Bloomberg consensus 20-May-24	2.2	2.1	4.9	3.4	1.6	1.7	1.3	1.5	0.7	3.1	1.8	1.9	2.5	2.3
Fed SEP 13-Dec-24	--	--	--	--	--	--	--	2.1	--	--	2.1	--	--	--

* Contribution to growth

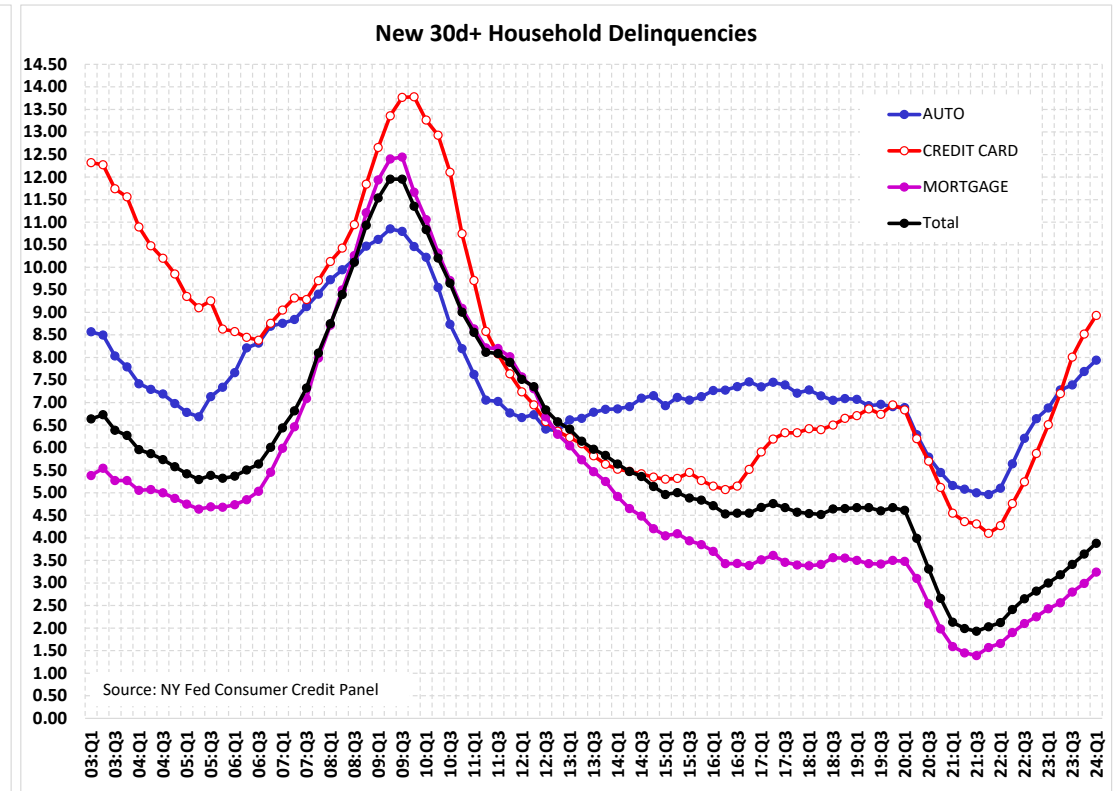
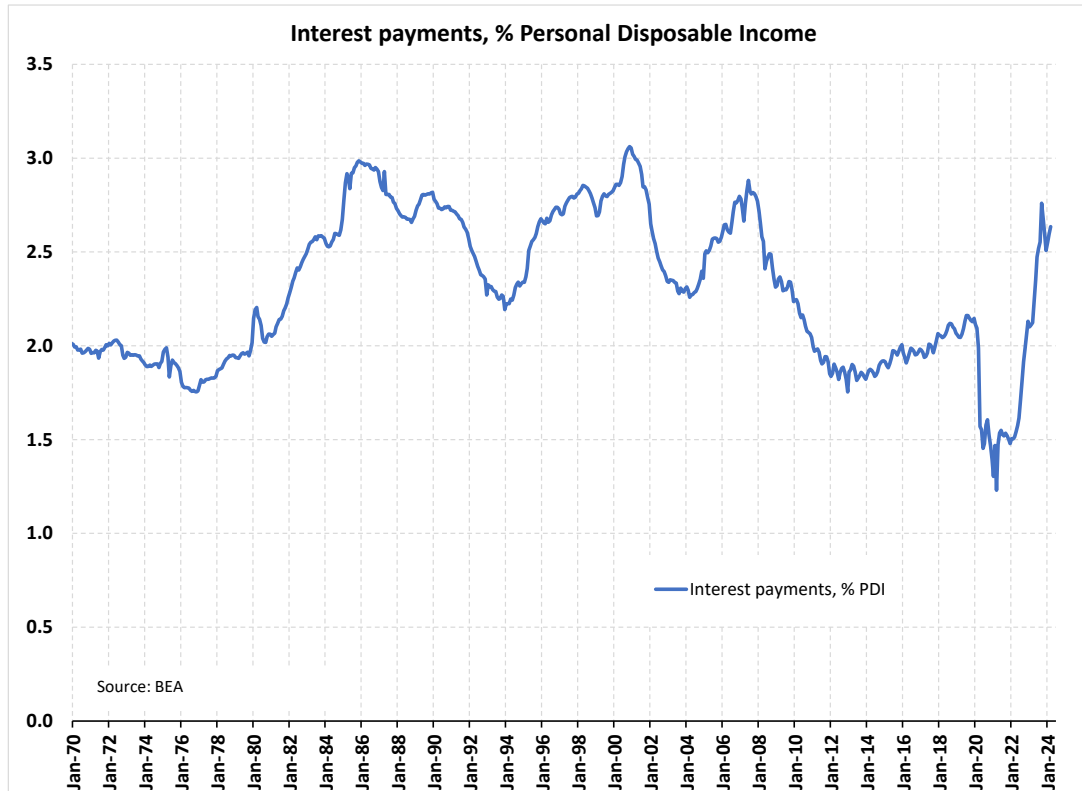
Fed tightening cycle has ended, but policy remains restrictive. FCI-G, the Fed's composite index of financial conditions, still indicates a drag of 25 bp or so on 1yr forward GDP growth.



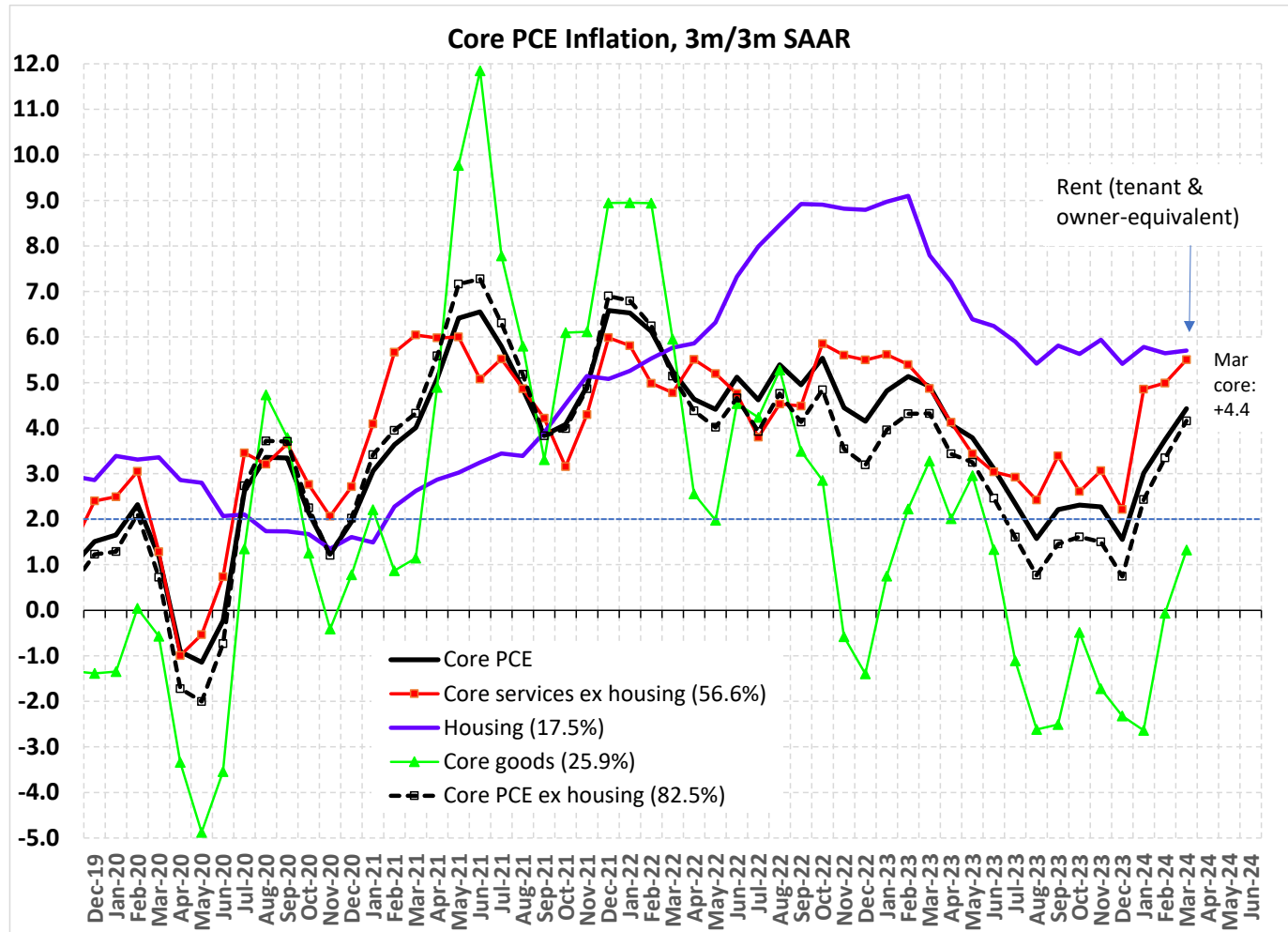
High household liquid balances due to COVID stimulus have been run down... ...and eroded by pricier consumption, especially in the lower income quintiles



While household finances are generally in decent shape, interest burden has risen on floating-rate debt. Auto and card delinquencies are rising.

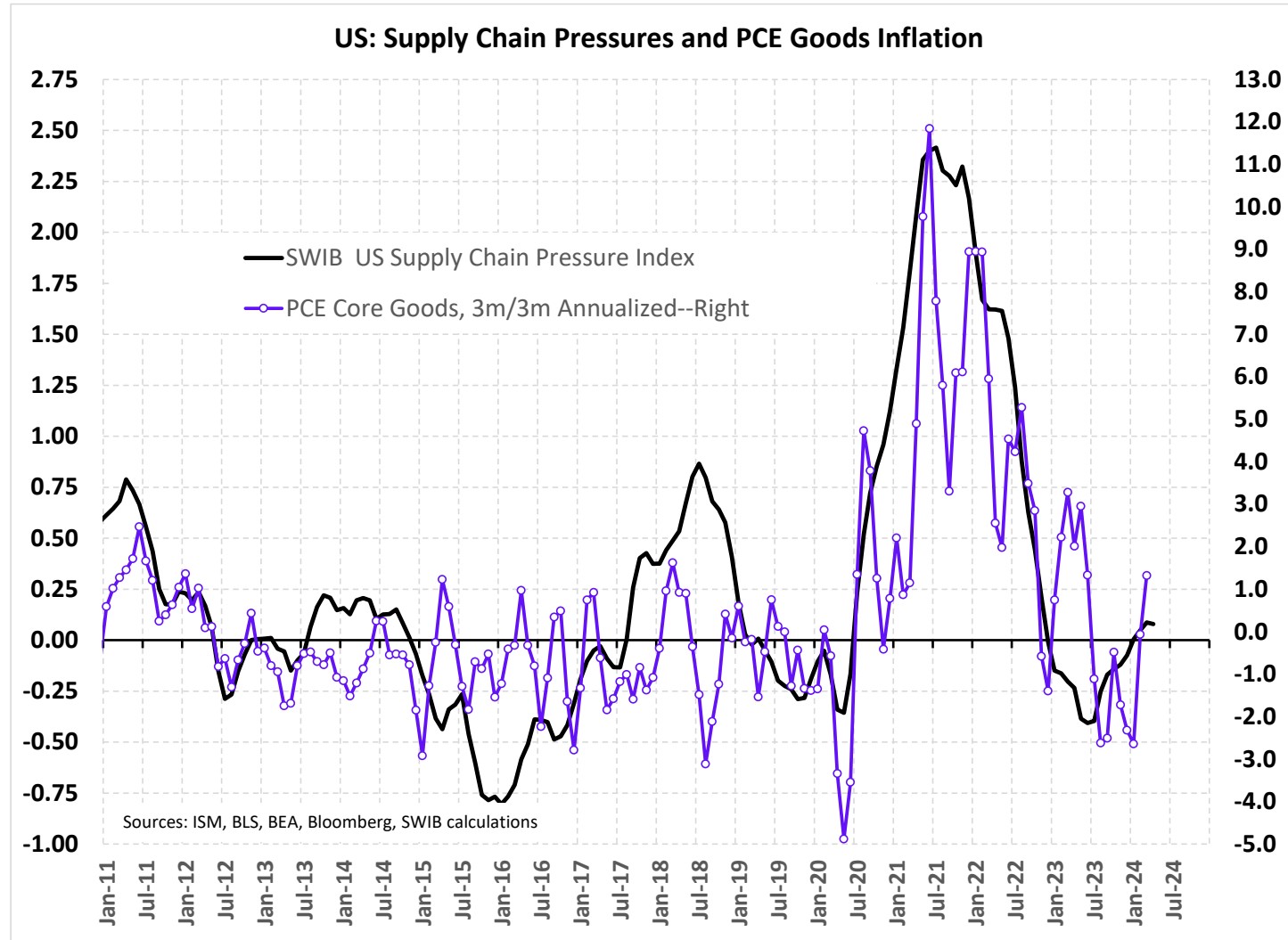


Mar-24 core PCE inflation rebounded to +4.4% 3m/3m due to both goods & services



- Core PCE inflation has rebounded to worrisome levels, justifying a “high for longer” stance by the Fed.
- Some of the rebound might be one-off, particularly in foreign air fares and financial services, but bears close watching.
- Early indicators suggest a moderation of core 3m/m inflation to 3.4% in April.

Supply chain pressures have moved from deflationary to neutral



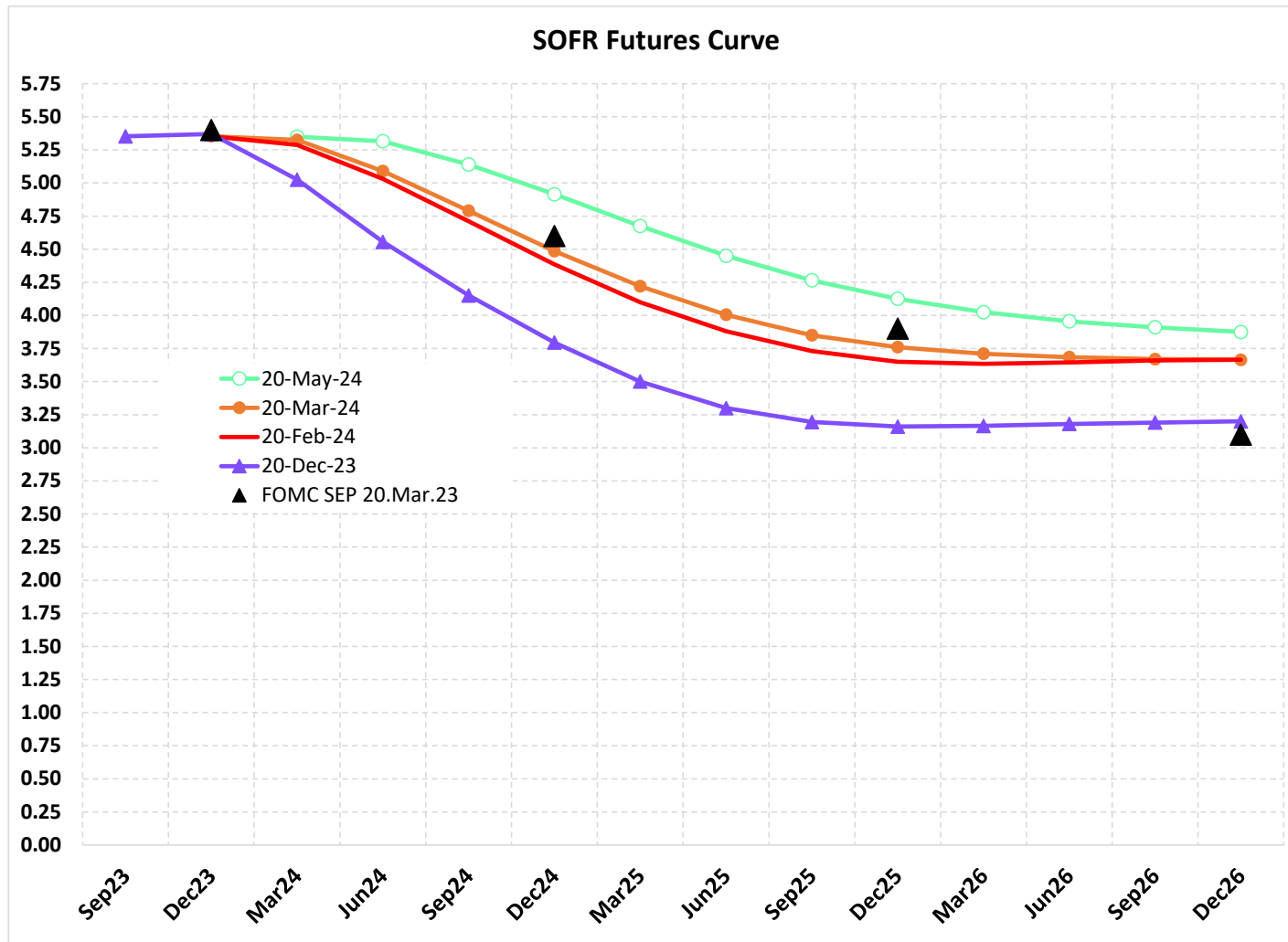
SWIB outlook is still for moderating inflation, in line with consensus and last FOMC SEP

Core PCE Outlook	Wgt	Y/Y Actual				Y/Y Forecast	
		Sep-23	Oct-23	Nov-23	Dec-23	Dec-24	Dec-25
Core PCE	100.0%	3.6	3.4	3.2	2.9	2.6	2.3
New motor vehicles	2.4%	2.6	2.0	1.4	1.0	0.0	0.0
Used motor vehicles	1.5%	-8.0	-6.8	-3.6	-1.0	-1.0	-1.0
Other durable goods	9.5%	-2.7	-2.5	-2.8	-3.4	-1.0	1.0
Core nondurables	12.7%	2.8	3.0	2.6	2.3	2.2	2.0
Housing	17.4%	7.2	6.9	6.7	6.3	5.3	3.5
Core utilities	0.8%	5.3	5.4	5.4	5.3	4.0	3.0
Health care	18.3%	2.1	2.3	2.4	2.5	2.2	2.2
Motor vehicle rental	0.2%	-8.6	-9.4	-10.3	-12.3	0.0	0.0
Air transportation	1.2%	2.3	0.5	5.4	3.3	3.5	2.5
Other transp services	2.4%	7.3	6.9	7.1	5.0	3.0	2.5
Food services	7.2%	5.8	5.3	5.2	5.1	3.5	3.0
Accommodation	1.2%	7.0	1.7	1.7	0.9	1.5	2.0
Education services	2.1%	2.3	2.3	2.2	2.1	2.0	2.0
Financial & insurance	8.1%	4.3	3.9	2.9	3.1	3.0	2.5
Other household svcs	11.8%	3.0	2.9	1.7	2.4	3.0	2.0
Non-profit consumption	3.4%	8.3	7.1	5.8	4.5	2.5	2.5
Core PCE forecasts		Sep-23	Oct-23	Nov-23	Dec-23	Dec-24	Dec-25
SWIB		3.6	3.4	3.2	2.9	2.6	2.3
FOMC SEP 20-Mar-24		3.6	3.4	3.2	2.9	2.6	2.0
BBG Consensus 21-May-24		3.6	3.4	3.2	2.9	2.6	2.2

+2.6% for 2024 revised up
from 2.4% as of last QIU

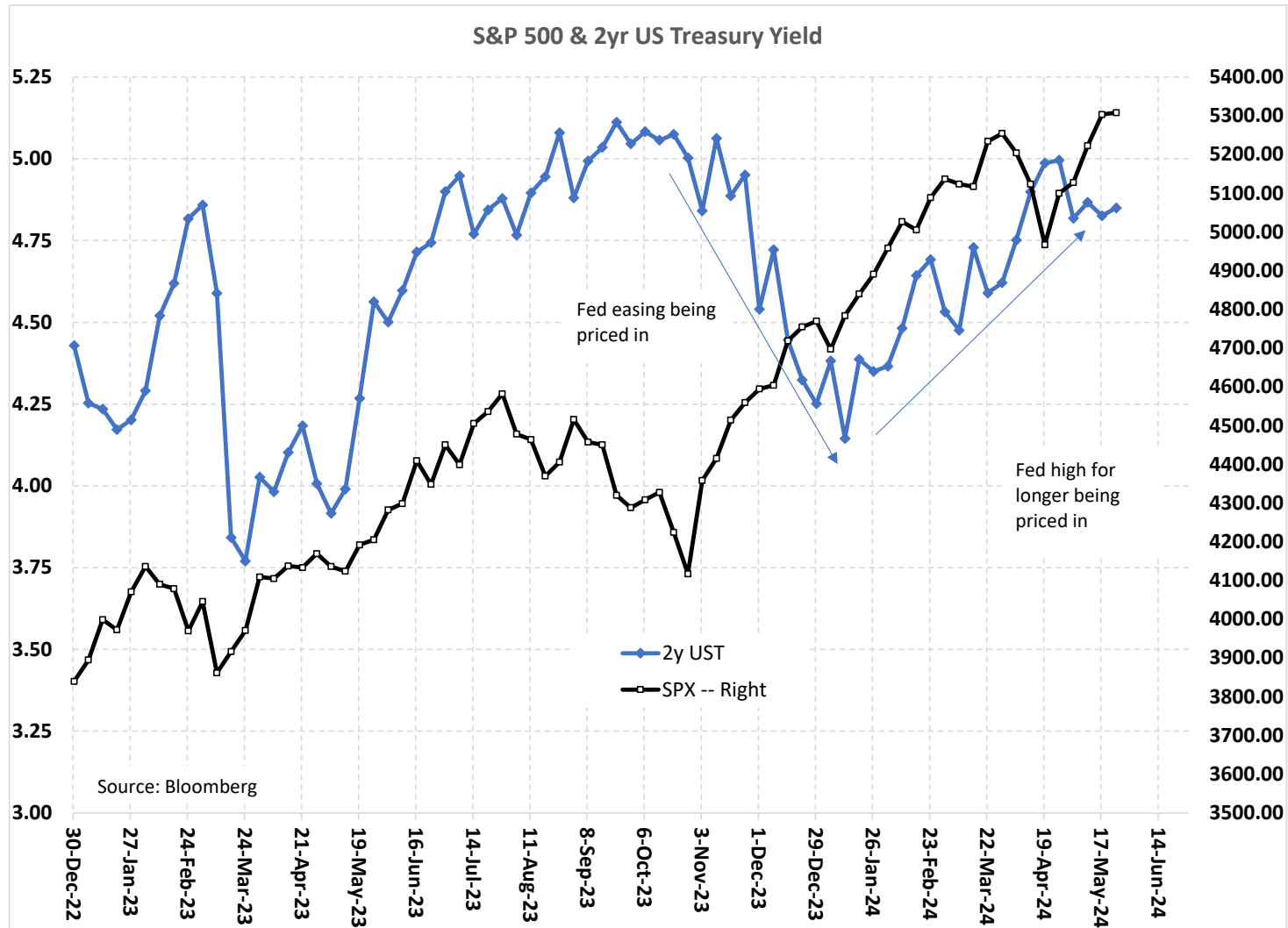
Fed & Markets

In December, market was expecting 150 bp of Fed cuts in 2024. Now, around 50 bp are priced.

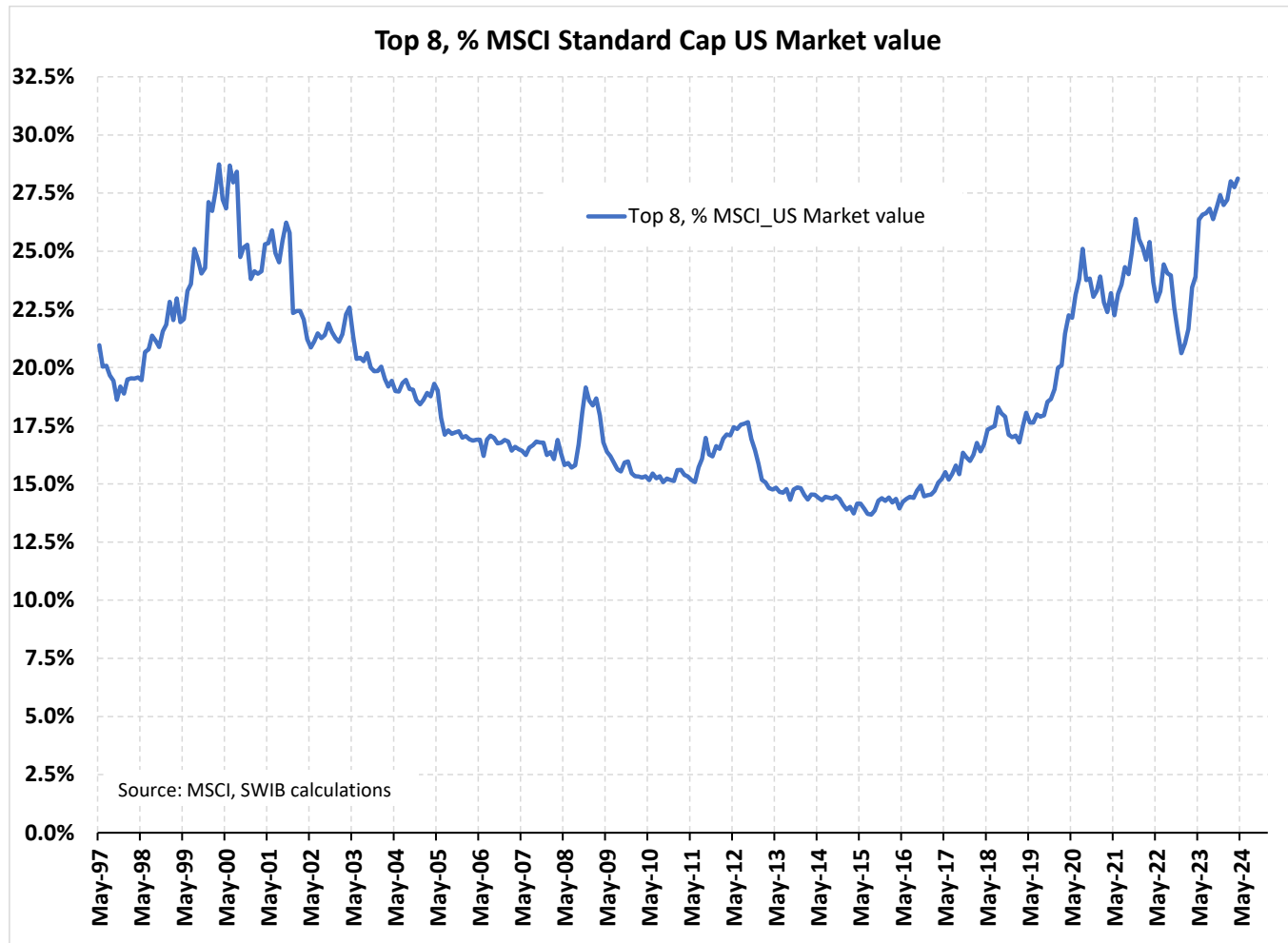


● Next Fed decision (and new SEP) comes on 12-Jun

US equities have rallied year-to-date despite a “high for longer” Fed being priced, although with a selloff in the 1st half of April.



The US equity market remains lopsided

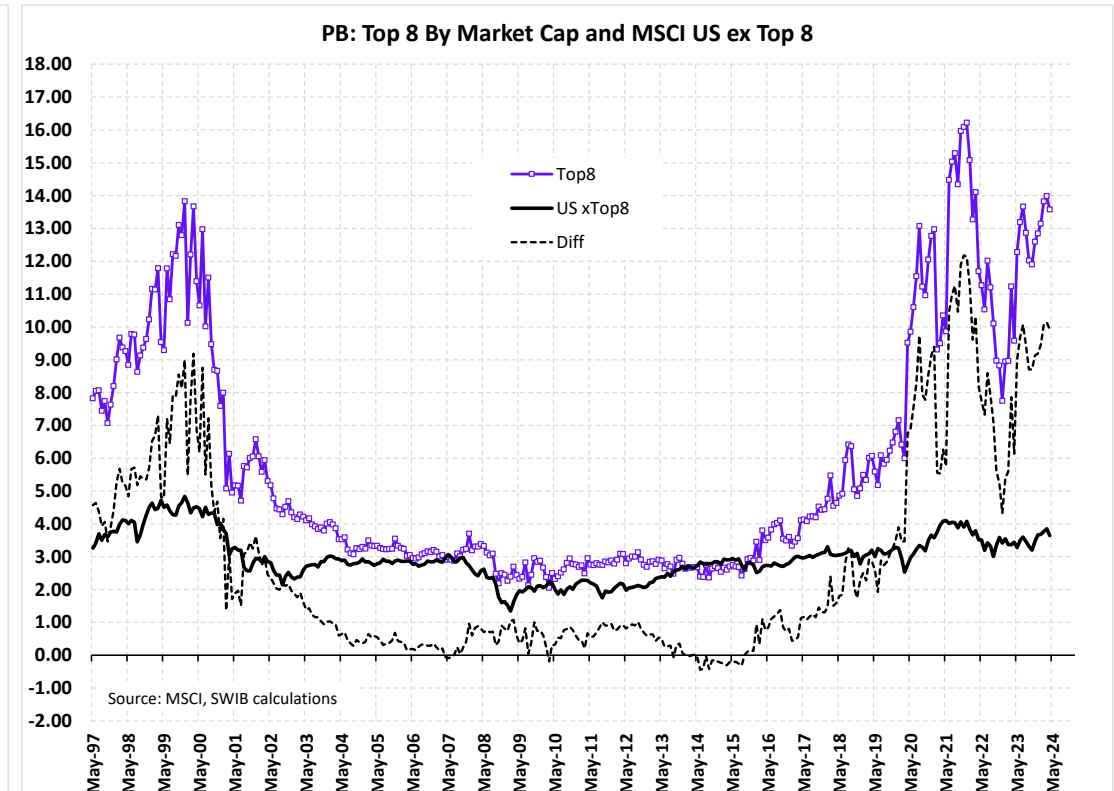
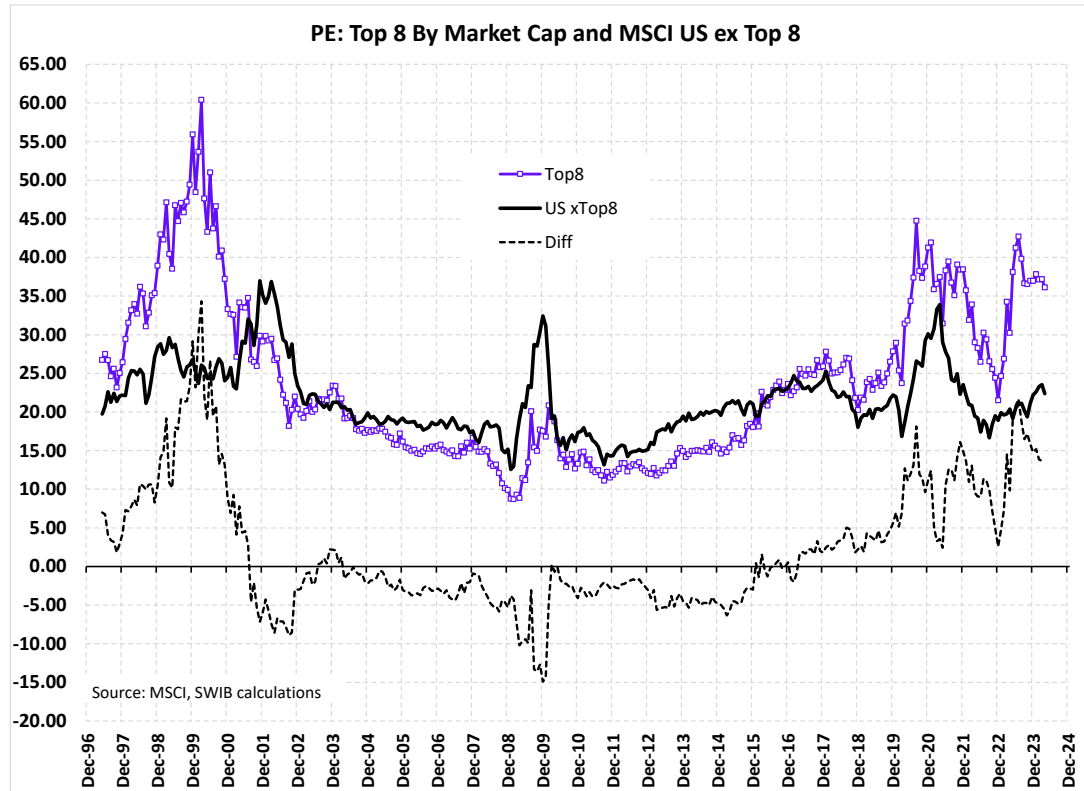


- 8 of 612 stocks account for 28.1% of market cap
- The last time there was comparable concentration was during the tech bubble

The US equity market remains lopsided: then and now

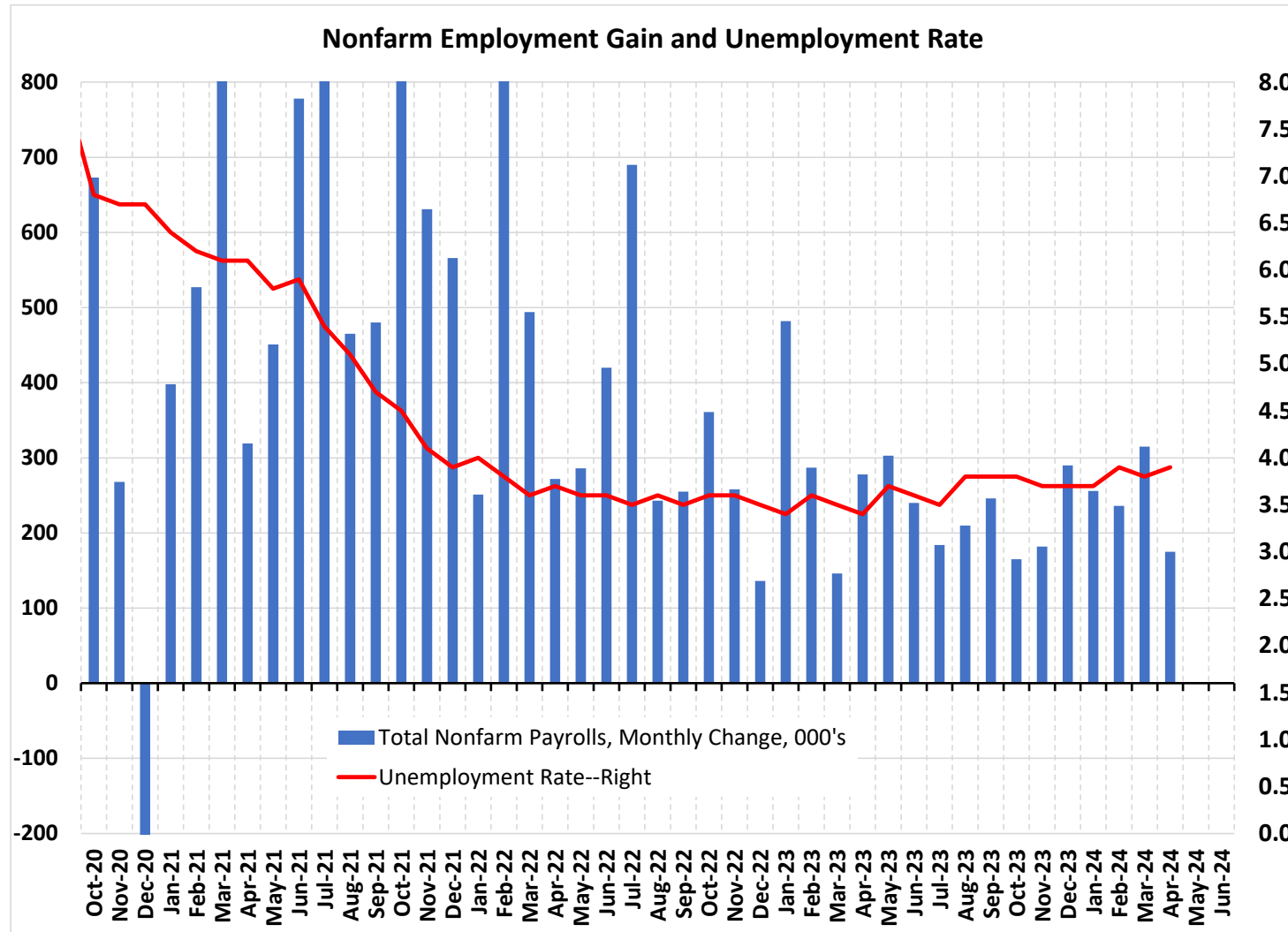
		Top 8, % MSCI_US Market value	Name1	Name2	Name3	Name4	Name5	Name6	Name7	Name8
Tech bubble	31-Dec-99	27.1%	MICROSOFT CORP	GE AEROSPACE	CISCO SYSTEMS	WALMART	EXXON MOBIL CORP	INTEL CORP	LUCENT TECHNOLO	IBM CORP
Tech bubble	31-Jan-00	26.7%	MICROSOFT CORP	GE AEROSPACE	CISCO SYSTEMS	INTEL CORP	EXXON MOBIL CORP	WALMART	IBM CORP	CITIGROUP
Tech bubble	29-Feb-00	27.6%	MICROSOFT CORP	CISCO SYSTEMS	GE AEROSPACE	INTEL CORP	EXXON MOBIL CORP	WALMART	ORACLE CORP	LUCENT TECHNOLO
Tech bubble	31-Mar-00	28.7%	MICROSOFT CORP	CISCO SYSTEMS	GE AEROSPACE	INTEL CORP	EXXON MOBIL CORP	WALMART	ORACLE CORP	IBM CORP
Tech bubble	28-Apr-00	27.2%	GE AEROSPACE	CISCO SYSTEMS	INTEL CORP	MICROSOFT CORP	EXXON MOBIL CORP	WALMART	ORACLE CORP	CITIGROUP
Tech bubble	31-May-00	26.8%	GE AEROSPACE	INTEL CORP	CISCO SYSTEMS	MICROSOFT CORP	EXXON MOBIL CORP	WALMART	CITIGROUP	ORACLE CORP
Tech bubble	30-Jun-00	28.7%	GE AEROSPACE	INTEL CORP	CISCO SYSTEMS	MICROSOFT CORP	PFIZER	EXXON MOBIL CORP	WALMART	ORACLE CORP
Tech bubble	31-Jul-00	28.0%	GE AEROSPACE	CISCO SYSTEMS	INTEL CORP	MICROSOFT CORP	EXXON MOBIL CORP	PFIZER	WALMART	CITIGROUP
Tech bubble	31-Aug-00	28.4%	GE AEROSPACE	INTEL CORP	CISCO SYSTEMS	MICROSOFT CORP	EXXON MOBIL CORP	PFIZER	CITIGROUP	ORACLE CORP
Now	29-Dec-23	27.0%	APPLE	MICROSOFT CORP	AMAZON.COM	NVIDIA	ALPHABET A	META PLATFORMS A	ALPHABET C	TESLA
Now	31-Jan-24	27.2%	APPLE	MICROSOFT CORP	NVIDIA	AMAZON.COM	META PLATFORMS A	ALPHABET A	ALPHABET C	TESLA
Now	29-Feb-24	28.0%	MICROSOFT CORP	APPLE	NVIDIA	AMAZON.COM	META PLATFORMS A	ALPHABET A	ALPHABET C	LILLY (ELI) & COMP/
Now	29-Mar-24	27.8%	MICROSOFT CORP	APPLE	NVIDIA	AMAZON.COM	META PLATFORMS A	ALPHABET A	ALPHABET C	LILLY (ELI) & COMP/
Now	30-Apr-24	28.1%	MICROSOFT CORP	APPLE	NVIDIA	AMAZON.COM	ALPHABET A	META PLATFORMS A	ALPHABET C	LILLY (ELI) & COMP/

Valuation ratios: Top 8 and the rest

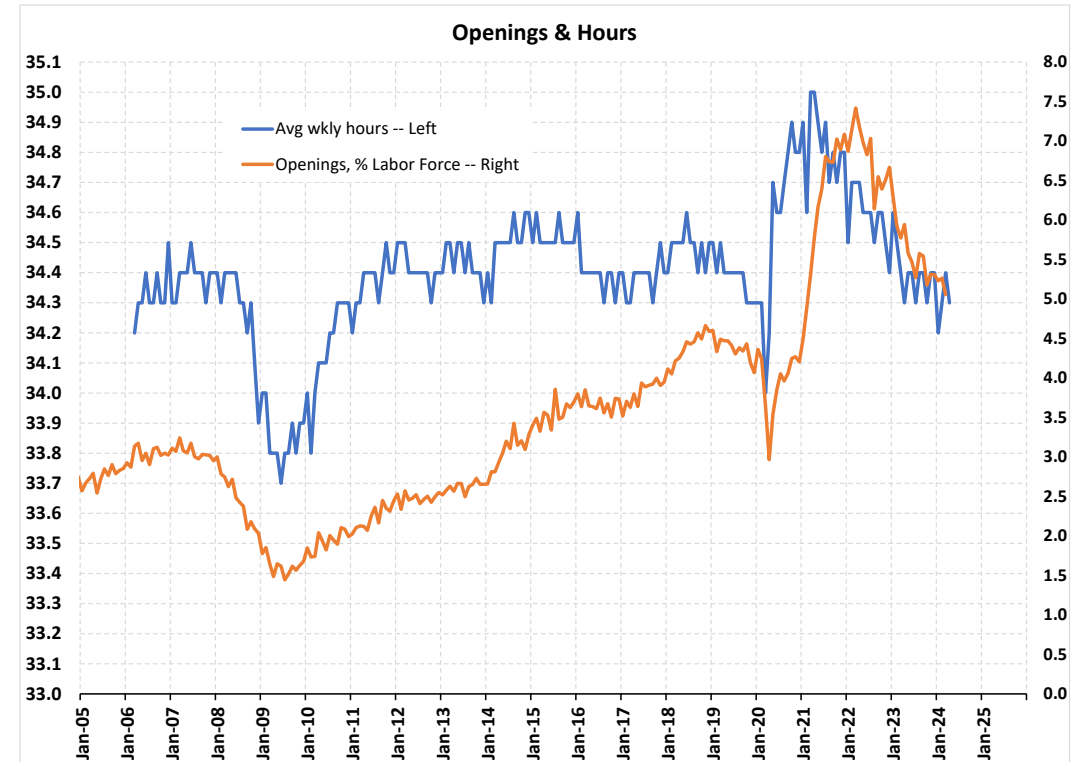
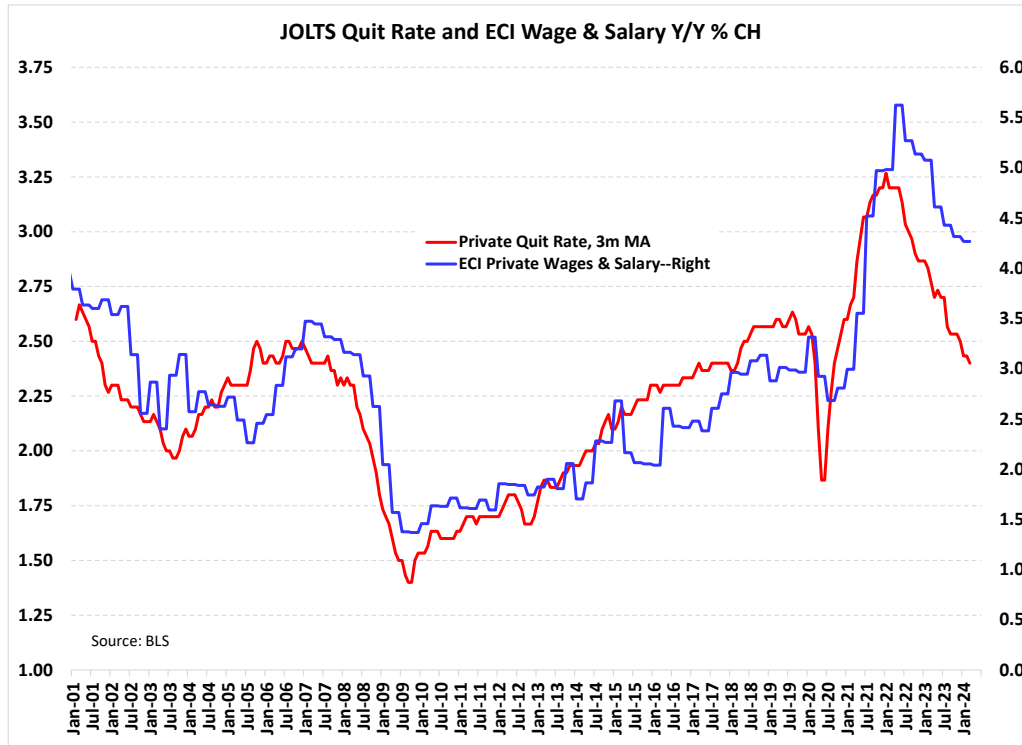


Labor Market

The labor market remains healthy: exaggerated payroll gains of Dec-Mar slowed to a still-respectable +175k in Apr. Unemployment rate remains below 4.0%.



Quit rate, weekly hours, and openings have declined, indicating a less-tight labor market. Wage & salary growth has moderated but remains high.



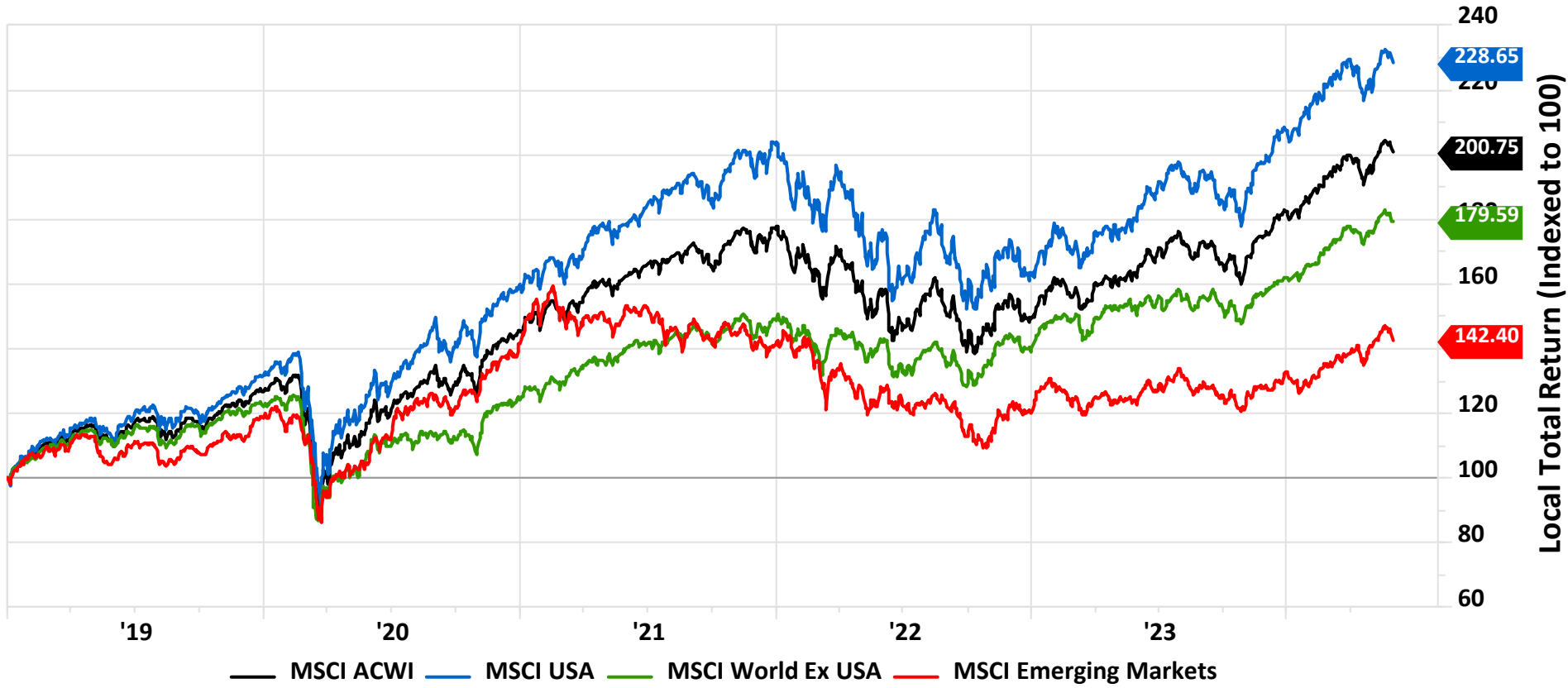
Asset Class Review

Global Equities - Performance

Both DM and EM equities were volatile in the last few weeks

05/31/2024

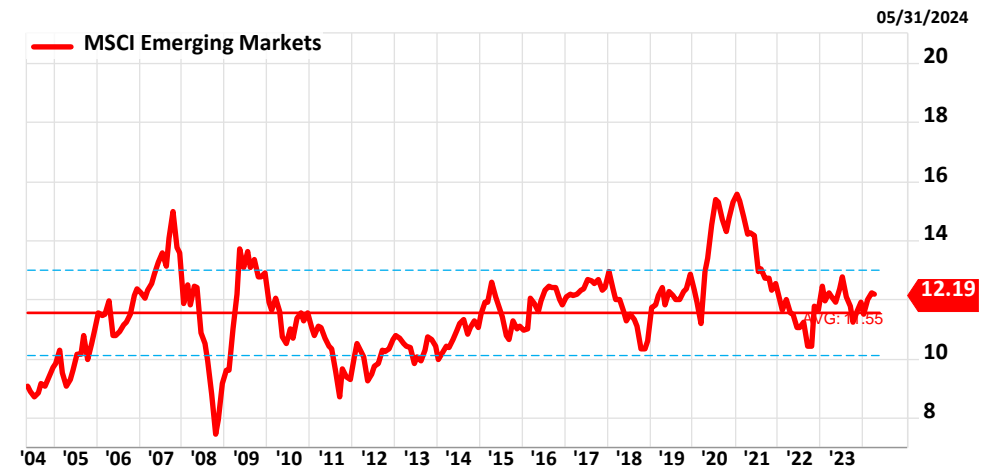
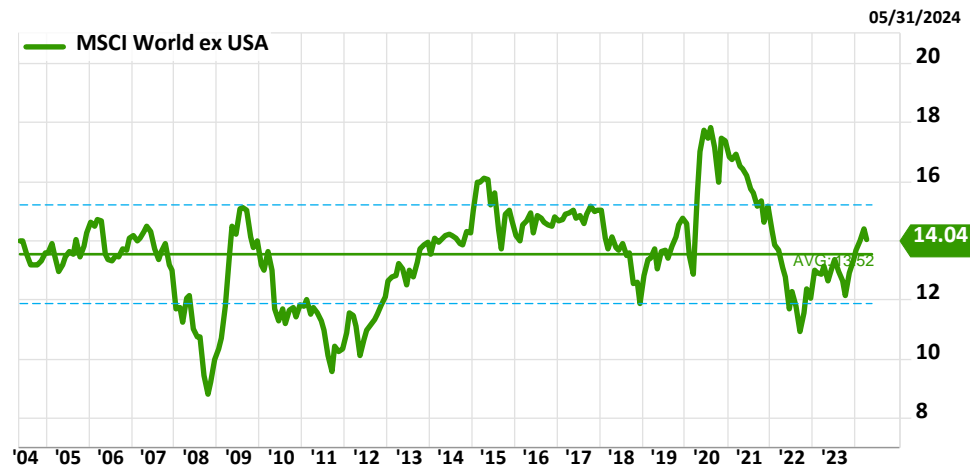
Local Equity Performance



Source: FactSet

Global Equities - Valuation

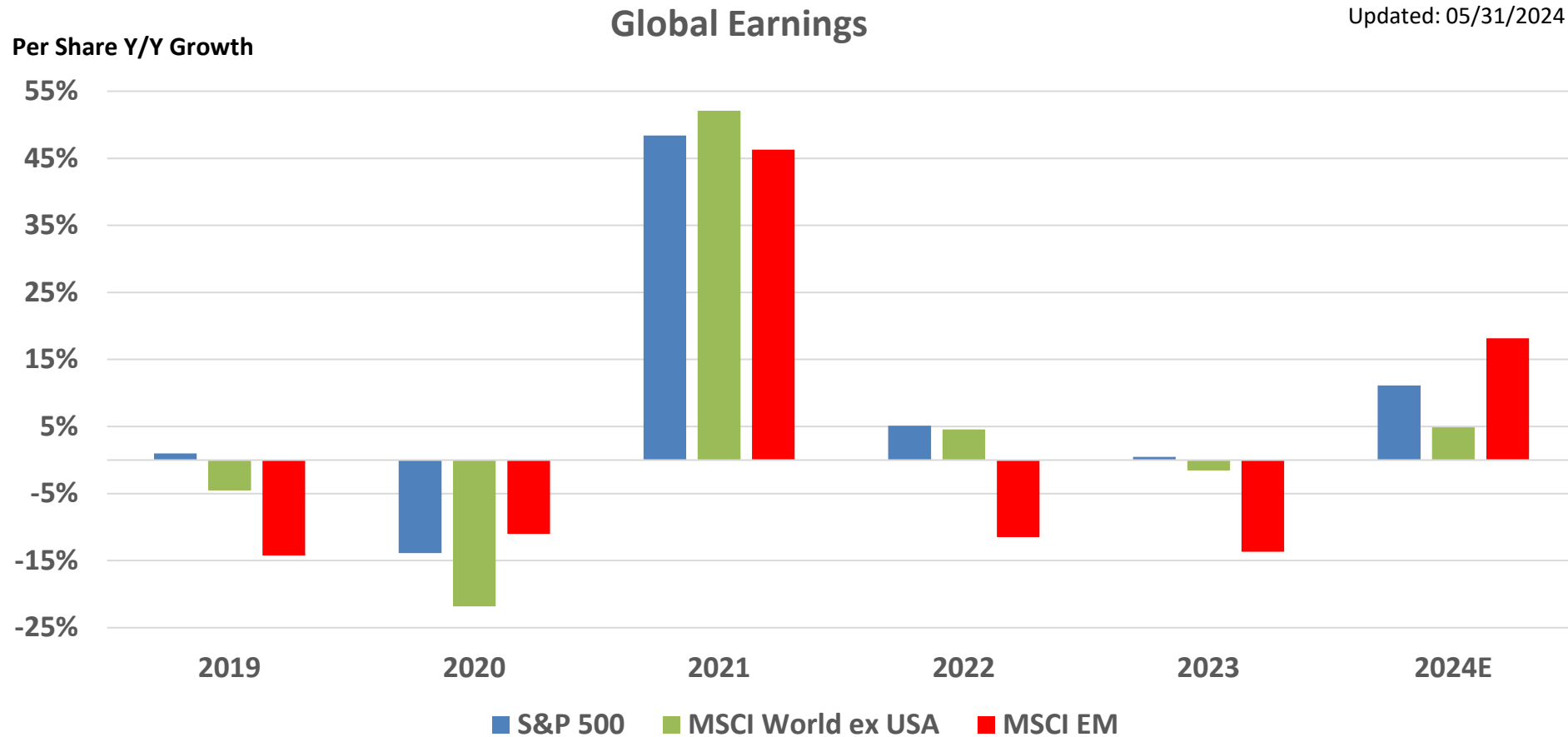
US P/E ratio is above one standard deviation of its 20-year average



Source: FactSet Market Aggregates - Next Twelve Month P/E Ratio, monthly, 20-year Average with 1 Std. Dev. Bands

Earnings Growth

Strong EM recovery expected in 2024



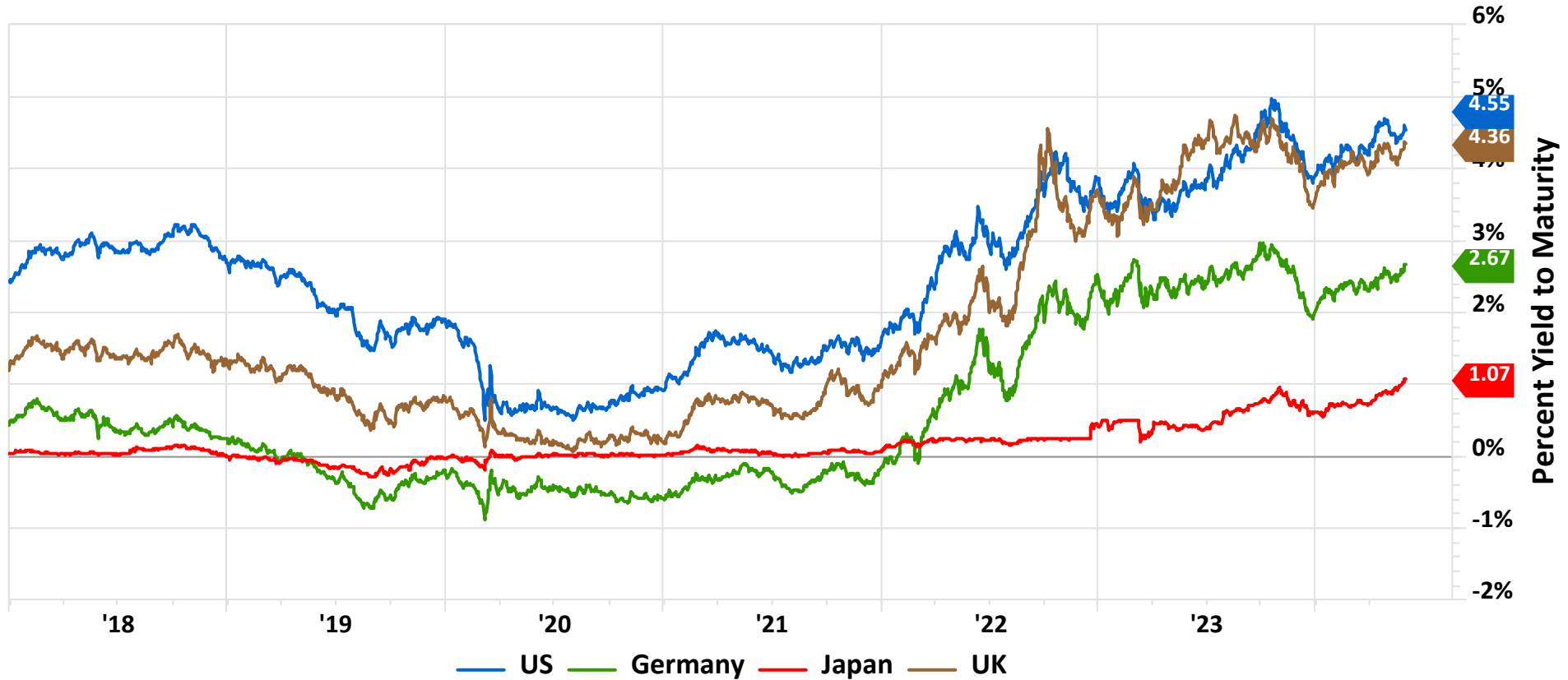
Source: Analyst Consensus; FactSet

Global Bonds

DM yields have increased in recent months

05/31/2024

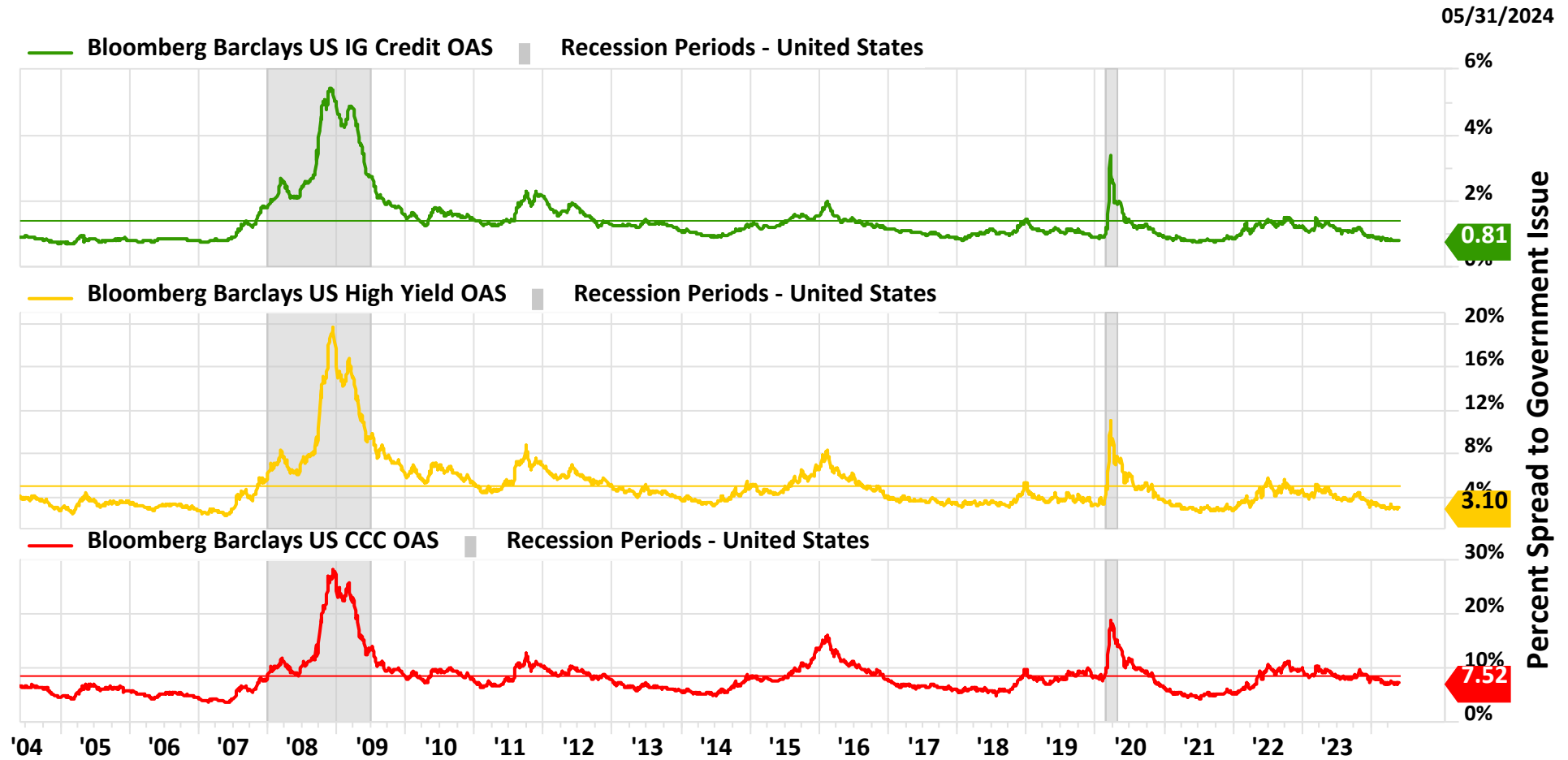
10-Year Government Bond Yields



Source: FactSet

Credit Sectors

Spread levels are below the long run averages

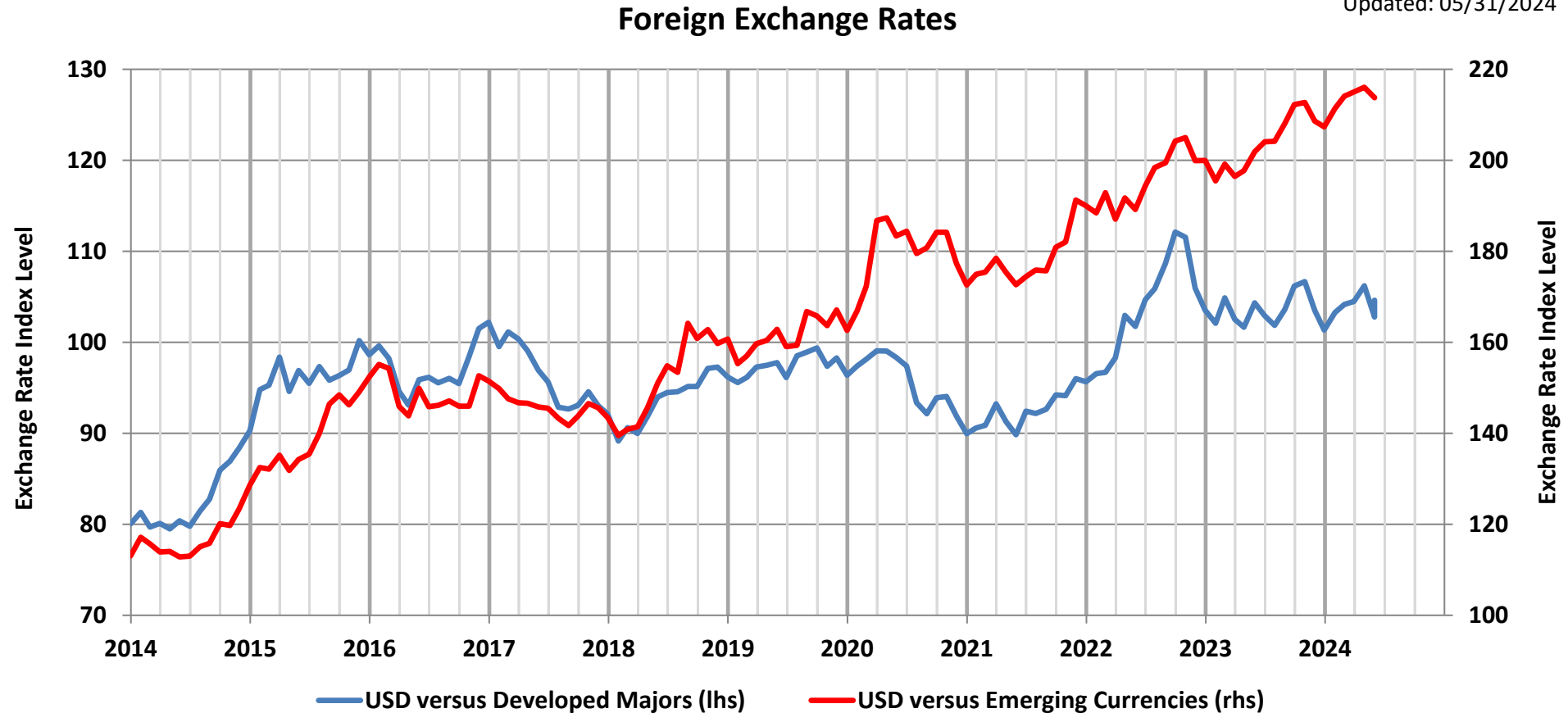


Source: FactSet

Currency Performance

USD trend versus EM has reversed somewhat in recent weeks; range versus DM continues

Updated: 05/31/2024



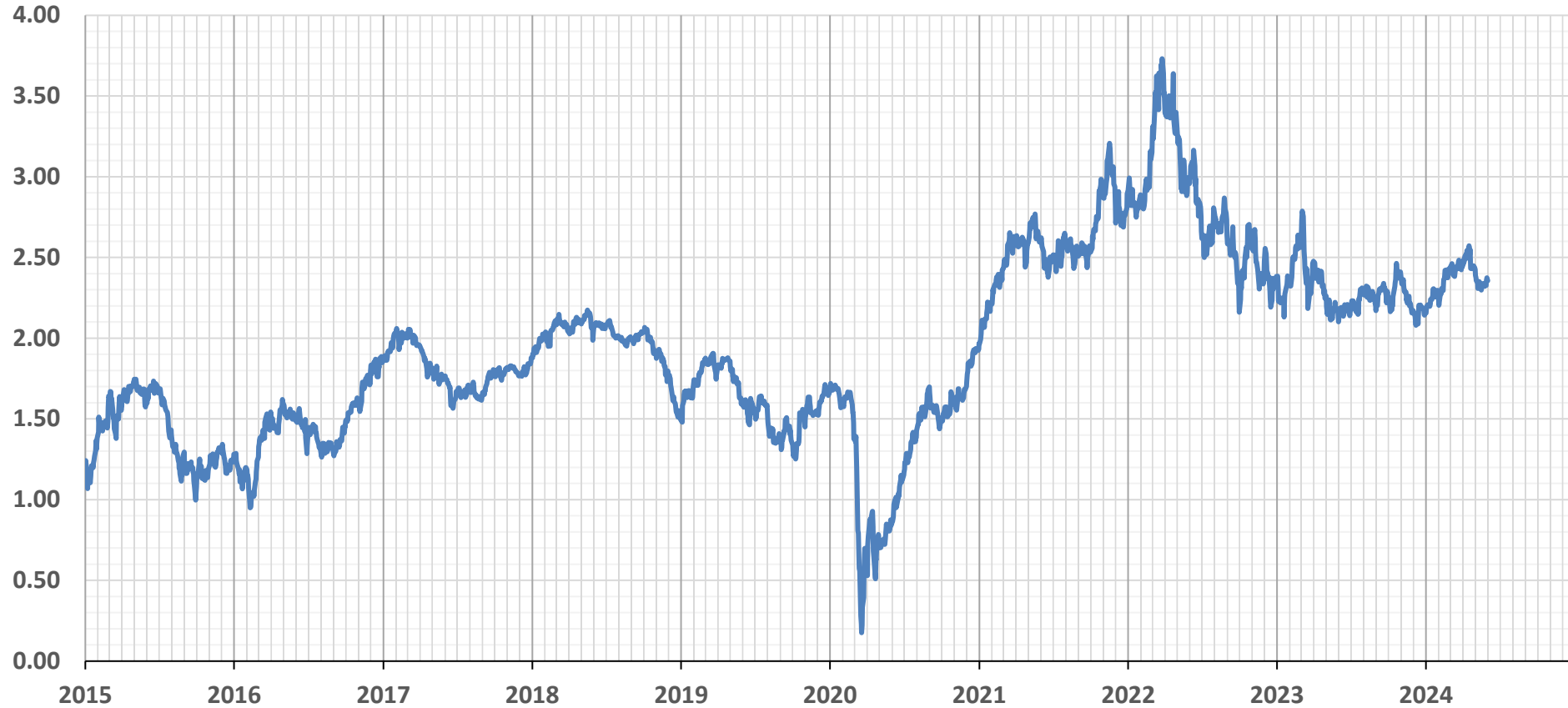
Source: Bloomberg, DXY Index, JPM Emerging Markets Currency Index (Inverted)

U.S. Inflation

Medium term expectations have ticked up in recent weeks

As of: 05/31/2024

US 5 Year Breakeven Inflation



Source: Bloomberg

Board Meeting

Tab 6 – Announcement of Matters Taken Up in Closed Session

Board Meeting

Tab 7 – In the Absence of Questions, the Following Reports will be filed without comment (for informational purposes):

- A. Quarterly Charges to Funds Reports, Q1 2024
- B. Private Markets and Funds Alpha Commitments, Q1 2024
- C. Board Contact Log

May 13, 2024

Senator Howard Marklein, Co-Chair
Joint Committee on Finance
P.O. Box 7882
Madison, WI 53707

Representative Mark Born, Co-Chair
Joint Committee on Finance
P.O. Box 8952
Madison, WI 53708

Senator Eric Wimberger, Co-Chair
Joint Legislative Audit Committee
P.O. Box 7882
Madison, WI 53707

Representative Robert Wittke, Co-Chair
Joint Legislative Audit Committee
P.O. Box 8953
Madison, WI 53708

Secretary Kathy Blumenfeld
Department of Administration
101 East Wilson Street
P.O. Box 7864
Madison, WI 53707

Dear Senator Marklein, Senator Wimberger, Representative Born, Representative Wittke and Secretary Blumenfeld:

State statutes require the State of Wisconsin Investment Board (SWIB) to report all expenses charged to the trust funds under management and the number of full-time equivalent positions created or abolished during the quarter¹. The information contained in this report is for the quarter ended March 31, 2024.

Total Cost of Management Summary	2Q 2023	3Q 2023	4Q 2023	1Q 2024	Trailing 4 Qtr Total	% of Total
Internal Operating Expenses						
Operating Budget Expenses	\$ 19,303,861	\$ 29,927,680	\$ 30,466,430	\$ 16,684,634	\$ 96,382,605	66.0%
Custodial, Investment Operations & Banking	1,723,893	2,137,630	2,213,596	2,085,638	8,160,757	5.6%
Legal	558,921	489,077	254,543	470,162	1,772,703	1.2%
Investment Research & Consulting	8,535,712	10,199,330	7,637,651	9,086,537	35,459,230	24.3%
Total Internal Operating Expenses	\$ 30,122,387	\$ 42,753,717	\$ 40,572,220	\$ 28,326,971	\$ 141,775,295	97.1%
Total Securities Lending Agent Expenses	\$ 1,064,140	\$ 971,498	\$ 1,086,188	\$ 1,104,239	\$ 4,226,065	2.9%
Total SWIB Operating Costs	\$ 31,186,527	\$ 43,725,215	\$ 41,658,408	\$ 29,431,210	\$ 146,001,360	100.0%
Externally Managed Separate Account Fees						
Beta One & Other - Separately Managed	\$ 15,796,013	\$ 4,854,855	\$ (1,657,872)	\$ 21,469,368	\$ 40,462,364	5.2%
Supplemental Information - External Fund Fees						
Real Estate	\$ 21,394,315	\$ 21,806,743	\$ 21,208,015	\$ 21,563,935	\$ 85,973,008	11.1%
Private Equity & Venture Capital	64,812,083	58,359,821	65,850,965	55,512,830	244,535,699	31.7%
Hedge Funds	56,693,136	93,214,422	70,745,475	108,182,074	328,835,107	42.6%
Beta One & Other - External Funds	3,082,375	16,839,386	371,046	52,379,087	72,671,894	9.4%
Total External Investment Management Fees	\$ 161,777,922	\$ 195,075,227	\$ 156,517,629	\$ 259,107,295	\$ 772,478,073	100.0%
Grand Total Cost of Management	\$ 192,964,449	\$ 238,800,442	\$ 198,176,037	\$ 288,538,505	\$ 918,479,433	

¹Wisconsin Statutes Section 25.17 (13m): Investment-related costs and expenses charged to the WRS Trust Funds, State Investment Fund, State Life Insurance Fund, Historical Society Endowment Fund, Injured Patients and Families Compensation Fund and UW Trust Fund. Investment transaction expenses, such as trading commissions and interest expense, are included in investment returns, and therefore not included in this report.

SWIB operating costs are charged to the trust funds under management. Externally managed fund fees for commingled assets are netted against investment returns generated by SWIB's external fund holdings. It is important to consider costs in the context of value-added investment returns. For example, during the five years ended December 31, 2023, after consideration of all expenses, costs, and fees, SWIB generated more than \$3.1 billion in additional profits beyond what would have been generated by the benchmark portfolio SWIB is measured against. These profits all go directly into the Wisconsin Retirement System for the benefit of its beneficiaries.

Attachment A provides a breakdown of the amount and percentage of assets managed under each type of dedicated and commingled account or partnership, and the change in the amount and percentage from the prior calendar quarter. As of March 31, 2024, SWIB's total authorized full-time equivalent positions are 298 as shown in the table below.

Assets Under Management & Positions		
	12/31/2023	3/31/2024
Internal Management	45.4%	45.2%
External Management	54.6%	54.8%
Total SWIB Positions	298	298

In addition, Attachment B provides details of the services provided to SWIB and their associated quarterly costs. For definitions of the expense categories presented in the Total Cost of Management Summary table, please refer to Attachment C.

As new investment strategies are implemented and markets continue to evolve, SWIB will continue evaluating the most efficient means to manage the trust fund assets. Please contact us if you have any questions or comments about this report.

Sincerely,



Edwin Denson
Executive Director/Chief Investment Officer

Attachments

cc: Members, Joint Committee on Finance
Members, Joint Committee on Audit
Robert Lang, Legislative Fiscal Bureau
Joe Chrisman, Legislative Audit Bureau

Total Assets Under Management								
	6/30/2023		9/30/2023		12/31/2023		3/31/2024	
	Amount (in millions)	%	Amount (in millions)	%	Amount (in millions)	%	Amount (in millions)	%
Wisconsin Retirement System (WRS)								
Internally Managed Assets	\$50,868	39.5%	\$46,836	37.6%	\$50,381	38.0%	\$51,697	37.8%
Externally Managed Dedicated Assets	29,758	23.1%	29,716	23.9%	32,166	24.3%	36,294	26.6%
Externally Managed Commingled Assets	48,259	37.4%	47,996	38.5%	49,854	37.7%	48,357	35.5%
1. Passive Index	1,011	0.8%	916	0.7%	788	0.6%	741	0.5%
2. Limited Partnerships	32,894	25.5%	33,681	27.0%	34,302	25.9%	34,657	25.4%
3. Active Managed Commingled	14,354	11.1%	13,399	10.8%	14,764	11.2%	12,959	9.5%
Total WRS Assets	\$128,885	100.0%	\$124,548	100.0%	\$132,401	100.0%	\$136,348	100.0%
Other Funds								
State Investment Fund - Internally Managed	\$19,718		\$19,995		\$19,853		\$20,430	
Separately Managed Funds - Internally Managed	\$96		\$89		\$97		\$94	
Separately Managed Funds - Externally Managed	\$2,603		\$2,538		\$2,710		\$2,751	
Total Other Funds	\$22,417		\$22,622		\$22,660		\$23,276	
Total Assets Under Management	\$151,302		\$147,170		\$155,062		\$159,624	
Supplemental AUM Breakout								
Total Internal Assets Under Management	\$70,682	46.7%	\$66,919	45.5%	\$70,332	45.4%	\$72,222	45.2%
Total External Asset Under Management	\$80,620	53.3%	\$80,251	54.5%	\$84,730	54.6%	\$87,402	54.8%

STATE OF WISCONSIN INVESTMENT BOARD
Expenses for All Funds Under Management
Quarter Ending March 31, 2024

EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES*
<u>Internal Expenses</u>		
Staff Compensation	Staff Compensation	\$ 10,422,579
Fringe Benefits	Fringe Benefits	3,196,812
Supplies, Travel & Facilities	General Supplies & Services	3,065,243
Total Internal Expenses		\$ 16,684,634
<u>Custodial, Investment Operations and Banking Fees</u>		
BNY Mellon Asset Servicing - Custody	Master Custody Services	\$ 472,365
BNY Mellon Asset Servicing - Investment Operations	Investment Operating Services	1,437,298
Markit NA	Investment Data Management Software	175,975
Total Custodial, Investment Operations and Banking Fees		\$ 2,085,638
<u>Legal Fees</u>		
DLA Piper LLP (US)	Legal Work for Investment Strategies	\$ 52,827
Godfrey & Kahn SC	Legal Work for Investment Strategies	22,842
Husch Blackwell	Legal Work for Investment Strategies	575
Legal Services Expense Accrual	Legal Work for Investment Strategies	367,557
Purrington Moody Weill LLP	Legal Work for Investment Strategies	12,928
Quarles & Brady	Legal Work for Investment Strategies	11,492
Reinhart Boerner Van Deuren SC	Legal Work for Investment Strategies	1,942
Total Legal Fees		\$ 470,162
<u>Investment Counsel</u>		
12358433 Canada Inc.	Investment Consulting	\$ 66,120
20-20 Investment Association	Investment Membership	20,000
3x108 Fintech Consulting Limited	Investment Consulting	149,838
AE Business Solutions	Investment Consulting Services	41,140
Aksia LLC	Hedge Fund Investment Consulting	193,750
Alex Solutions	Research and Data Services	43,000
Arthur Selender	Investment Consulting Services	2,000
Australian Super	Investment Research	5,000
Automation Anywhere, Inc.	Process Automation Software	44,702
Backstop Solutions Group	Investment Software	71,003
Barrons	Investment Research	218
BCA Research Inc	Global & Domestic Fixed Income Strategy Research	27,875
Bixby Research and Analytics LLC	Research and Data Services	16,667
Blackrock Financial Management Inc	Risk Services	81,884
Bloomberg Finance LP	Market, Company, Industry & Benchmark Information	1,552,191
BNY Mellon Asset Servicing - Eagle/Pace	Investment Consulting Services	115,000
Bonfire Interactive LTD	Strategic Sourcing Software	20,000
Bridge Consulting Partners Ltd	Investment Consulting Services	75,240
Capital Economics LTD	Market Research	15,375
CappThesis, LLC	Research and Data Services	2,500
CBJL Incorporated	Investment Consulting Services	101,680
CBOE Global Markets, Inc.	Research and Data Services	66,140
CCG Data Solutions	Investment Consulting Services and Software	88,200
CEM Benchmarking Inc	Investment Cost Analysis	43,600
CFRA Research	Investment Research Services	24,269
Charles River System Inc	Portfolio Management Trading Software & Services	402,730
CoStar Portfolio Strategy	Real Estate Consulting & Research Services	23,613
CUSIP Global Services	Research and Data Services	16,250
Dacheng Xiu	Investment Research	62,475
Datacamp Inc	Research and Data Services	50
Department of Administration	Various Administrative and Technology Services	(107,364)
DiatomC LLC	Investment Consulting	92,040
Dow Jones News Service	Company and Industry News Services	355
DTCC – EPN	Trade Settlement Service	4,800
DTCC ITP LLC	Trade Settlement Service	2,374
EFront Financial Solutions Inc	Private Markets Portfolio Management Services	229,807
Elevation LLC	Research and Data Services	12,500
Eliassen Group	Information Technology Consulting Services	65,793

EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES*
EquiLend Holdings LLC	Investment Data	10,700
Ernst & Young LLP	Tax Compliance Services & Investment Consulting	70,936
FactSet Research Systems Inc	Financial & Economic Database	1,044,591
FBN Securities, Inc.	Investment Research	8,500
FIS Data Systems Inc.	Research and Data Services	11,283
Fitch Solutions Inc	Credit Rating Services	36,042
FTSE International Inc	Real Time Index Data	15,261
Funston Advisory Services LLC	Consulting Services	29,000
Gallagher	Insurance and Risk Management Services	15,875
Gcon4 Group	Integration Software	3,812
Green Street Advisor	Real Estate Analytics	29,850
Haver Analytics	Global Macroeconomic Research	22,740
Ice Data LP	Fixed Income Indices	91,726
iFathom Corporation	Investment Consulting	112,665
IHS Markit KY3P LLC	Risk Management Services	1,660
Infopro Digital Services Limited	Research and Data Services	4,000
Institutional Investor	Investment Data and Research Services	19,500
Institutional Limited Partners Association ILPA	Private Equity Research	7,500
Institutional Shareholder Services Inc	Proxy Voting Analysis	55,958
Investment Research Expense Accrual	Investment Research	410,081
IPC Systems Inc	Trading Telecommunication System	10,500
JPSB Consulting Limited	Investment Consulting	84,240
Keystone Consulting Inc	Investment Information Technology Consulting Services	74,212
Knowledge Services	Recruitment and Staffing Services	67,825
Kreischer Miller LLP	Investment Consulting	42,750
Lake Street Capital Markets, LLC	Investment Research	3,500
London Stock Exchange	London Stock Exchange Data	49,264
Makor Securities London LTD	Investment Research	3,750
Manalo Advisors Limited	Research and Data Services	3,750
Markit Group Limited	Investment Consulting Services	81,688
Markit-EDM Limited	Investment Consulting	200,885
McLagan Partners Inc	Investment Compensation Data and Analysis	27,500
Meketa Investment Group	Public Markets External Manager Consultant	68,938
MNI Market News	Research and Data Services	5,020
Moodys Analytics	Economic, Currency & Bond Analysis	89,084
Motion Recruitment Partners	Information Technology Consulting Services	8,640
MSCI - Barra	Research and Data Services	70,220
MSCI Inc - Risk Metrics Solutions	Research and Data Services	272,731
MSCI, Inc	Research and Data Services	148,798
MT Analytics ULC	Investment Consulting	80,941
My Data Outlet International, LLC	Research and Data Services	33,000
NAIOP Commercial Real Estate Development Association	Investment Consulting Services	395
National Council of Real Estate Investment Fiduciaries	Real Estate Performance Research	2,575
NEPC LLC	Investment Consulting Services	80,000
Nuware Technology Corp	Investment Information Technology Consulting Services	65,520
NYSE Market Inc	New York Stock Exchange Data	6,013
Oliver James	Investment Consulting Services	(24,764)
OptionMetrics	Investment Data Service	43,350
Options Price Reporting Authority	Quote System for Options Market	2,142
Oxford Economics USA INC	Research and Data Service	17,588
Pac-invest	Research and Data Services	14,139
PEI Media Inc	Private Equity Real Estate News	23,875
Pension Real Estate Association	Real Estate Investment Research	330
Piper Sandler & Co	Investment Research	43,100
Pitchbook Data Inc	Research and Data Services	20,333
PremiaLab	Investment Research	27,500
Preyer	Investment Consulting Services	81,428
Private Placements Investors Association	Investment Research	300
Q4 Psychological Associates	Consulting Services	6,500
Quantum Research Consulting LLC	Investment Consulting	60,300
Refinitiv	Investment Research	364,464
RIMES Technologies Corporation	Research and Data Service	48,563
S&P Global Market Intelligence	Industry & Corporate Research	108,999
Sapiat Pte Ltd	Investment Risk Analysis	10,250
Seaport Global Securities LLC	Research and Data Services	2,790
SEI Investments	Research and Data Services	22,736
SemiAnalysis	Investment Research	(156)

EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES*
SimCorp Data & Performance Capitalized Expenses	Investment System	(302,545)
SimCorp Implementation Capitalized Expenses	Investment System	(1,834,961)
Simcorp USA, Inc.	Investment System	2,131,311
Snowflake Inc	Research and Data Services	43,636
Solve Advisors Inc	Investment Research	10,299
Spherion	Recruitment and Staffing Services	16,093
StepStone Group	Private Equity Consulting Services	223,561
StepStone Group Real Estate	Real Estate Consulting Services	59,330
SWIFT SC	Research and Data Services	544
SystemsAccountants	Investment Information Technology Consulting Services	80,640
The Financial Times Limited	Investment Research	320
The Institute for Quantitative Research in Finance	Research and Data Services	5,500
The Nasdaq Stock Market, LLC	Research & Data Services	4,725
The Spaulding Group, Inc.	Audit Services	21,250
Toronto Stock Exchange	Market Data	14,553
TradeWeb	On-Line Fixed Income Trading Services	10,826
Trepp, LLC	Investment Research	52,800
UFP Research SA	Investment Research	6,250
Unit4 Business Software Inc	Financial & Administration Services System	81,409
Variyas Global Solutions, Inc.	Information Technology Consulting Services	150,703
Verity LLC	Research Management System	54,433
Verus Advisory Inc	Benchmarking Consulting Services	5,000
Virtu ITG Analytics LLC	Trading Transaction Cost Analysis	25,000
Visible Alpha LLC	Research and Data Services	19,950
With Intelligence LLC	Investment Data and Research	8,996
Wolverine Execution Services LLC	Options Trading Platform	1,395
WorldBridge Partners Inc	Recruitment Consulting	65,520
Total Investment Counsel		\$ 9,086,537
<u>Separate Account Public Market Management Fees</u>		
Alliance Bernstein	Public Market Management Fees	\$ 6,928,609
Blackrock	Public Market Management Fees	1,468,341
Dodge and Cox	Public Market Management Fees	1,184,178
Driehaus Private Equity	Public Market Management Fees	7,213,020
eSecLending	Public Market Management Fees	4,089
Fidelity Investments	Public Market Management Fees	1,492,207
Parametric	Public Market Management Fees	609,196
Prudential Global Investment Management (PGIM)	Public Market Management Fees	2,378,024
Robeco Institutional Asset Management	Public Market Management Fees	127,047
Wellington Trust Company	Public Market Management Fees	64,657
Total Separate Account Public Market Management Fees		\$ 21,469,368
<u>Securities Lending Agent Fees</u>		
BNY Mellon Asset Servicing & eSecLending	Securities Lending Agent Fees	\$ 1,104,239
Total Securities Lending Agent Fees		\$ 1,104,239
Total Quarterly Charges to Funds		\$ 50,900,578

*All costs reported are on an accrual basis. Negative expense amounts are due to accrual adjustments and/or other miscellaneous adjustments.

Explanation of Expenses

Internal Operating Expenses

Internal operating expenses consist primarily of staff compensation and fringe benefits. SWIB employs a staff of professional investment and support staff to manage trust fund assets. Other internal operating expenses consist of office equipment, supplies, business travel, information technology equipment and services, and general services.

Custodial & Banking Fees

Wisconsin Certificate of Deposit Program: Under a contract with SWIB, Bankers' Bank administers the program under which the State Investment Fund (SIF) purchases certificates of deposit from Wisconsin-based banks and thrifts. Most administrative costs are paid by the participating banks. SWIB's expenses help underwrite other administrative costs, such as insurance that SWIB requires to be purchased. There are currently no investments in Bankers' Bank certificates of deposit and no fees were incurred.

BNY Mellon: Provides master custodial and administrative services (safekeeping of assets, income collection, valuations and accounting) for public and private domestic and foreign securities in the Wisconsin Retirement System (WRS), the SIF, and the other separately managed trust funds. In addition, SWIB receives performance measurement and analytical services through its contract with BNY Mellon, which serves as the official book of record for SWIB's accounting and performance measurement functions. BNY Mellon provides data and analytical tools used by SWIB for compliance and risk management. These include global collateral management, data management, and hosting services. Fees for these services are established by contract.

US Bank: The State of Wisconsin contracted with US Bank to be the state's working bank. The fees paid to US Bank by the SIF reflect bank service charges that are not directly applicable to the fund participants.

Legal Fees, Services, and Expenses

Under authority delegated by the Attorney General, pursuant to s. 25.18 (1) (a) Statutes, SWIB may employ legal counsel for any matters arising out of the scope of its investment authority. This includes legal services relating to bankruptcies, class actions, private markets transactions, fiduciary advice, securities law, investment litigation, and other similar matters.

Investment Counsel

Current law gives SWIB the authority to employ investment counsel in any matters arising out of the scope of its investment authority. Investment research and services provided include global market, industry, economic and company information, financial and performance analytics, news information, pricing and exchange data, credit ratings, financial modeling, economic forecasting, trading services, and a variety of Board consultations. These services enable SWIB to perform due diligence on current and future holdings and assist in monitoring investments.

Securities Lending Agent Fees

Securities lending programs generally earn income through the reinvestment of cash collateral posted by borrowers and through the collection of fees for loans where non-cash collateral is posted. SWIB's securities lending income is shared with the agent to pay the costs associated with the administration of the program. Securities lending agent fees are reported as expenses.

Externally Managed Separate Account Fees

External asset managers have been delegated authority within guidelines established by SWIB to determine investment strategy and purchase securities in SWIB's name within a SWIB account. Fees are typically assessed as a percentage of the market value of assets under management and in some cases, fees are based on investment performance.

External Funds Fees

SWIB invests in separate legal entities managed by external investment managers to gain exposure to select strategies including Public Markets, Private Equity, Venture Capital, Real Estate and Hedge Funds. In exchange for their investment management services, the external managers charge a fee within the entity they manage. Fees are typically assessed as a percentage of the market value of assets under management, commitments, and in some cases are based on investment performance. While the fees charged to these external vehicles do not meet the statutory definition of a cost or expense to SWIB, they are currently included in SWIB's total cost of management. Accordingly, these fees are reported as supplemental information. Beginning in 2023, External Funds Fees for private markets are reported on a net fee basis rather than gross. Net fees reflect fee offsets, waivers, and deferrals.

Private Equity Commitments*

January 2024 – March 2024

<i>Investment</i>	<i>Commitment (millions)</i>
Audax Private Equity/Strategic Capital - SW	\$250.0
Carnelian Energy Capital V	\$31.0
Inflexion Partnership Capital Fund III	£50.0
Rubicon Fund II	\$62.0
Sterling Group Partners VI	\$135.0
Healthcare Co-Investment	\$10.0
Media Co-Investment	\$13.0
Financials Co-Investment	\$20.0

**Includes Current Return Portfolio and Co-Investments.*

Private Debt Investments/Commitments

January 1, 2024 to March 31, 2024 (First Quarter)

<i>Investment</i>	<i>Investment/Commitment</i>
Infrastructure	\$3,000,000
Consulting Services	\$7,000,000
Financial Services	\$15,000,000
Financial Services	\$18,000,000
Total	\$43,000,000

Real Estate Commitments

January 2024 – March 2024

<i>Investment</i>	<i>Commitment (millions)</i>
MetWest International Venture, LLC	\$40
Total	\$40

Funds Alpha Commitments*

January 1st – March 31st, 2024

Manager	Commitment (Millions)
Brigade	\$ 235
Artisan	\$ 80
Dodge and Cox	\$ 280
Oak Hill	\$ 58
Badgerstone Access	\$ 82
BH Coinvest II	\$ 15
Bayview MSR	\$ 50
Bayview MSR Overage	\$ 150
Four World Project Ship	\$ 25
TOTAL	\$ 975

**Includes Hedge Funds and Beta One*

Board Contact Log

DATE OF INBOUND COMMUNICATION	DATE OF BOARD COMMUNICATION	COMMUNICATION SOURCE	TOPIC
May 16, 2024	June 3, 2024	Derek Baer	Cryptocurrency business risks
May 21, 2024	June 3, 2024	Bonnie Gorman	Fossil Fuel divestment and systemic climate risks
May 21, 2024	June 3, 2024	Dan Fitch	Fossil fuel divestment and systemic climate risks
May 21, 2024	June 3, 2024	Dyan Pasono	Fossil fuel divestment and systemic climate risks
May 21, 2024	June 3, 2024	Kelly Kearns	Fossil fuel divestment and systemic climate risks
May 21, 2024	June 3, 2024	Philip Gasper	Fossil fuel divestment and systemic climate risks
May 21, 2024	June 3, 2024	Rita Meuer	Fossil fuel divestment and systemic climate risks
May 22, 2024	June 3, 2024	Mary A. Smith	Fossil fuel divestment and systemic climate risks
May 22, 2024	June 3, 2024	Nancy K. Gloe	Fossil fuel divestment and systemic climate risks
May 26, 2024	June 3, 2024	Sally Ann Bowers	Fossil fuel divestment and systemic climate risks
May 27, 2024	June 3, 2024	Lori Guderyon	Fossil fuel divestment and systemic climate risks
May 28, 2024	June 3, 2024	Lewis Kuhlman	Fossil fuel divestment and systemic climate risks
May 29, 2024	June 3, 2024	Anne Steinberg	Fossil fuel divestment and systemic climate risks

This log records referrals by Trustees, former Trustees, former SWIB staff, elected officials, other government officials, and the Executive Director. It is maintained pursuant to the Board's governance policy regarding referrals of investments and business opportunities.

Board Contact Log

DATE OF INBOUND COMMUNICATION	DATE OF BOARD COMMUNICATION	COMMUNICATION SOURCE	TOPIC
May 29, 2024	June 3, 2024	Eric Hansen	Fossil fuel divestment and systemic climate risks
May 29, 2024	June 3, 2024	Judith Stadler	Fossil fuel divestment and systemic climate risks

This log records referrals by Trustees, former Trustees, former SWIB staff, elected officials, other government officials, and the Executive Director. It is maintained pursuant to the Board's governance policy regarding referrals of investments and business opportunities.

Board Meeting

Tab 8 – Future Items for Discussion