
MINNESOTA STATE BOARD OF INVESTMENT

STATE BOARD OF INVESTMENT
MEETING
August 14, 2024



Governor Tim Walz
State Auditor Julie Blaha
Secretary of State Steve Simon
Attorney General Keith Ellison

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**STATE BOARD OF INVESTMENT
MEETING**

AGENDA

August 14, 2024

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Board Members:
 Governor Tim Walz, Chair
 State Auditor Julie Blaha
 Secretary of State Steve Simon
 Attorney General Keith Ellison

Executive Director & Chief Investment Officer:
 Jill E. Schurtz

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AGENDA

**STATE BOARD OF INVESTMENT
 MEETING**

**Wednesday, August 14, 2024
 10:00 a.m.**

**Minnesota Senate Building
 Room 1200
 95 University Avenue West
 St. Paul, MN**

TAB

1. Call to Order

2. Approval of Minutes of May 21, 2024 Motion Needed

3. Report from the Executive Director ([Jill Schurtz](#))

A. Quarterly Performance Summary A

B. Administrative Report B

4. Asset Allocation Study Update C

5. Private Markets Investment Program Report ([Gary Martin/Jill Schurtz](#)) D Motion Needed

6. Other Items

REPORTS

- ❖ **Public Markets Investment Program Report**
- ❖ **Participant Directed Investment Program and Non-Retirement Investment Program Report**
- ❖ **Aon Market Environment Report**
- ❖ **Meketa Capital Markets Outlook & Risk Metrics Report**
- ❖ **SBI Comprehensive Performance Report**

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Approval of
May 21, 2024
SBI Meeting Minutes

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Minutes State Board of Investment Meeting May 21, 2024

The State Board of Investment (SBI) met at 10:10 A.M. Tuesday, May 21, 2024, in the Minnesota Senate Building, Room 1200, St. Paul, Minnesota. Prior to the quarterly meeting, each Board member reviewed and discussed the material with the Executive Director and investment consultants retained by the SBI.

Members Present:

Governor Tim Walz (Chair)
State Auditor Julie Blaha
Secretary of State Steve Simon
Attorney General Keith Ellison

Call to Order

Governor Tim Walz, Chair, called the meeting to order.

Recognition of Ms. Bibi Black

Board Members, Executive Director Schurtz, and the SBI Consultants expressed their deep appreciation for Ms. Black's 43 years of extraordinary service to the State of Minnesota.

Approval of Minutes

The minutes of the February 29, 2024, SBI meeting were approved.

Performance Summary

Executive Director Jill Schurtz referred members to the Quarterly Performance Summary in Tab A of the meeting materials and outlined the following items from the report as of March 31, 2024:

AUM: The SBI was responsible for \$142.1 billion in assets. Of the assets under management, the Combined Funds represented \$92.8 billion.

Performance: The Combined Funds returned 4.8% for the quarter, 10.5% for the fiscal year to date, and 14.6% for the one-year period ending March 31, 2024. The Combined Funds exceeded its long-term objectives by outperforming its Composite Index for the ten-year time-period and provided a real rate of return above inflation over a 20-year time-period.

Asset Allocation and TUCS Ranking: The Combined Funds asset mix was in-line with asset allocation targets. When compared to other public pension plans with assets greater than \$20 billion in the Trust Universe Comparison Service (TUCS), the Combined Funds return ranked in the 25th percentile for the quarter and the 9th percentile for the year.

Executive Director's Administrative Report

Ms. Schurtz referred members to Tab B of the meeting materials for the Executive Director's Administrative Report. She stated that SBI remains ahead of budget for the fiscal year to date.

SBI Administrative Committee Report

On the motion of Attorney General Ellison, the following recommendations were approved:

Approval of the Executive Director's Proposed Annual Objectives for FY2025

The SBI Administrative Committee recommends that the Board approve the FY25 Executive Director's Annual Objectives. Further, the Committee recommends that the Annual Objectives serve as the basis for the Executive Director's performance evaluation for FY25.

Approval of Budget Plan for FY2025 and FY2026

The SBI Administrative Committee recommends that the Board approve the FY25 and FY26 Administrative Budget Plan, as presented to the Committee and subject to appropriations by the legislature, and that the Executive Director have the flexibility to reallocate funds between budget categories if the Executive Director deems necessary.

Approval of Continuing Fiduciary Education Plan

The SBI Administrative Committee recommends that the Board adopt the Continuing Fiduciary Education Plan.

Approval of Executive Director's Evaluation and Salary Process

The SBI Administrative Committee recommends that the Board approve the FY25 evaluation and salary process for the SBI Executive Director as provided in the meeting materials under Tab C.

Private Markets Investment Program Report

Gary Martin, Chair of the Investment Advisory Council, reviewed the four private market recommendations listed in Tab D of the meeting materials. Mr. Martin stated that all are with existing managers: Angelo Gordon Realty Fund IV; Blue Owl GP Stakes VI; KKR Global Infrastructure Investors V; and Permira Strategic Opportunities I.

On the motion of Secretary of State Simon, the recommendations listed below were approved.

The following terms apply to these recommendations: It is understood that 1) such a commitment will not exceed 20% of the Fund and 2) an additional amount not to exceed one percent of the total commitment for the payment of required charges at closing may be required and is approved. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and none of the State of Minnesota, the Investment Advisory Council, the State Board of Investment or its Executive Director have any liability for reliance by the Fund upon this approval. Until the Executive Director, on behalf of the SBI, executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on the Fund or a reduction or termination of the commitment.

AG Europe Realty Fund IV

The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute a commitment of up to \$125 million to AG Europe Realty Fund IV.

Blue Owl GP Stakes VI

The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute a commitment of up to \$175 million to Blue Owl GP Stakes VI.

KKR Global Infrastructure Investors V

The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute a commitment of up to \$200 million to KKR Global Infrastructure Investors V.

Permira Strategic Opportunities I

The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute a commitment of up to \$125 million to Permira Strategic Opportunities I.

SBI's Climate Roadmap

Executive Director Schurtz also introduced Vice President and Director of Stewardship Nate Blumenshine for the presentation of the SBI's Climate Roadmap. Ms. Schurtz stated that representatives of Meketa Investment Group, Sarah Bernstein, key partner on climate issues, and lead partner, Allan Emkin, were available for comment. Mr. Blumenshine highlighted the commitments.

- Issue an RFP for an external partner to support engagements.
- Institutionalize environment, social, and governance integration into the SBI's investment process.
- Continue to support climate data disclosure efforts, evaluate appropriate metrics, and over time identify an external provider of physical climate change data for the SBI portfolio.
- Publish an annual Stewardship Report.
- Seek opportunities to deploy up to \$100-\$200 million annually into Energy Transition Solutions investments.

Ms. Schurtz stated that the Investment Advisory Council endorsed the Staff's recommendation that the Board amend the Investment Beliefs to include the following language:

As long-term institutional investors, our fiduciary duty requires us to consider all material risks and opportunities.

Ms. Schurtz stated that this language captures the SBI's role as long-term institutional investors and presents a simple, clear, and enduring articulation of the SBI's obligation to the 840,000 Minnesota Public Employees who entrust the SBI with their retirement security. The SBI recognizes this is a complex and continually evolving space and will continue to adapt its approach within the framework of the SBI's fiduciary duty and mission.

On the motion of State Auditor Julie Blaha, the Board adopted the amendment to the Investment Beliefs.

Public Testimony

Individuals listed below were recognized to speak before the SBI.

- Barry Kleider, Sylvia Schwarz, Janna E.D. Pressman and Isabel Laderman
- Sam Limrick, Eli Bradenburg, Meridith Richmond and Dr. Sima Shakhsari
- Wade Lunebar, Jordan Fein and Ana Banales
- Juli Zenker, Asiya Ahmed and Sana Wazwaz
- Dr. Jimmy Hoke, Jim Deluca and Ray Hommeyer

Informational Reports included in Quarterly Meeting Material

Public Markets Investment Report

Participant Directed Investment Program and Non-Retirement Investment Program Report

Aon Market Environmental Report

Meketa Capital Markets Outlook & Risk Report

SBI Comprehensive Performance Report

Adjournment of Meeting

A motion was made to adjourn the meeting. The motion passed and the meeting adjourned at 11:28 a.m.

Respectfully submitted,



Jill E. Schurtz
Executive Director and
Chief Investment Officer

TAB A

Quarterly Performance Summary

June 30, 2024

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Quarterly Report

Performance Summary

June 30, 2024



Description of SBI Investment Programs

The Minnesota State Board of Investment is responsible for the investment management of various retirement funds, trust funds and cash accounts.

Combined Funds

The Combined Funds represent the assets for both the active and retired public employees in the statewide retirement systems, the biggest of which are the Public Employees Retirement Association (PERA), the Teachers Retirement Association (TRA), and the Minnesota State Retirement System (MSRS). The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

Fire Plans + Other Retirement Plans

Fire Plans and Other Retirement Plans include assets from volunteer fire relief plans and other public retirement plans with authority to invest with the SBI, if they so choose. Fire Plans that are not eligible to be consolidated with Public Employees Retirement Association (PERA) or elect not to be administered by PERA may invest their assets with the SBI using the same asset pools as the Combined Funds. The Statewide Volunteer Firefighter Retirement Plan is administered by PERA and has its own investment vehicle called the Volunteer Firefighter Account.

Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. Investment goals among the PDIP's many participants are varied. In order to meet the variety of goals, participants may allocate their investments among one or more accounts that are appropriate for their needs within statutory requirements and rules established by the participating organizations.

Non-Retirement Funds

The Non-Retirement Funds are funds established by the State of Minnesota and other government entities for various purposes which include the benefit of public schools, the environment, other post-employment benefits, workers compensation insurance, and other purposes.

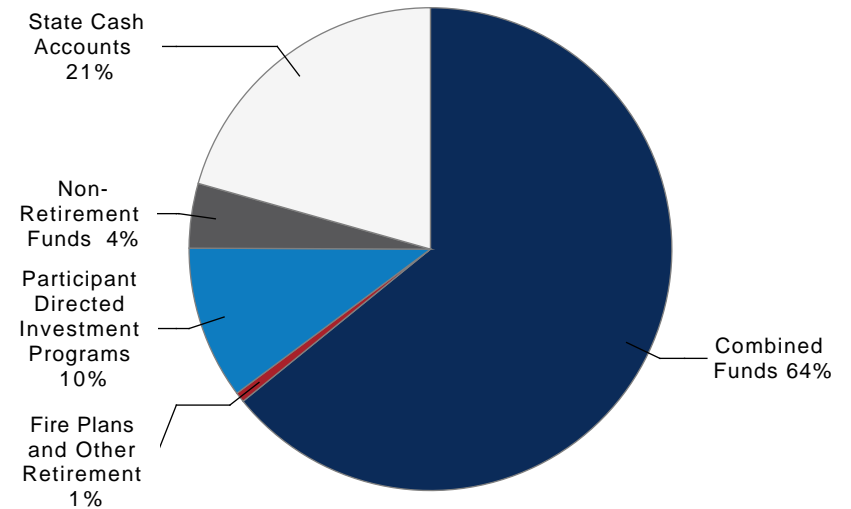
State Cash

The State Cash accounts are cash balances of state government funds including the State General Fund. Most accounts are invested by SBI staff through a short-term pooled fund referred to as the Treasurer's Cash Pool. It contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury. Because of special legal restrictions, a small number of cash accounts cannot be commingled.



Funds Under Management

	<u>\$ Millions</u>
COMBINED FUNDS	\$93,679
Fire Plans + Other Retirement Plans	982
Participant Directed Investment Program	14,967
State Deferred Compensation Plan	10,139
Health Care Savings Plan	2,075
Unclassified Employees Retirement Plan	402
Hennepin County Supplemental Retirement Plan	179
PERA Defined Contribution Plan	102
Minnesota College Savings Plan	2,022
Minnesota Achieving a Better Life Experience Plan	47
Non-Retirement Funds	6,435
Assigned Risk Plan	277
Permanent School Fund	2,130
Environmental Trust Fund	1,879
Closed Landfill Investment Fund	151
Miscellaneous Trust Funds	1,006
Other Postemployment Benefits Accounts	991
State Cash	30,093
Invested Treasurer's Cash	29,161
Other State Cash Accounts	933
TOTAL SBI AUM	146,156



Note: Differentials within column amounts may occur due to rounding. Totals are unaudited and may differ from the final fiscal year-end report.



Quarterly Report

Comparison to Objective

Match or Exceed Composite Index (10 yr.)

Outperform a composite market index weighted in a manner that reflects the long-term asset allocation of the Combined Funds over the latest 10 year period.

10 Year

Combined Funds	8.3%
<i>Combined Funds - Composite Index</i>	8.0
Excess	0.2

Provide Real Return (20 yr.)

Provide returns that are 3-5 percentage points greater than inflation over the latest 20 year period.

20 Year

Combined Funds	8.3%
<i>CPI-U</i>	2.6
Excess	5.8

Note:

Throughout this report performance is calculated net of investment management fees, differentials within column amounts may occur due to rounding, and returns for all periods greater than one year are annualized.



Combined Funds Summary

Combined Funds Change in Market Value (\$Millions)

	<u>One Quarter</u>
COMBINED FUNDS	
Beginning Market Value	\$92,762
Net Contributions	-630
Investment Return	1,547
Ending Market Value	93,679

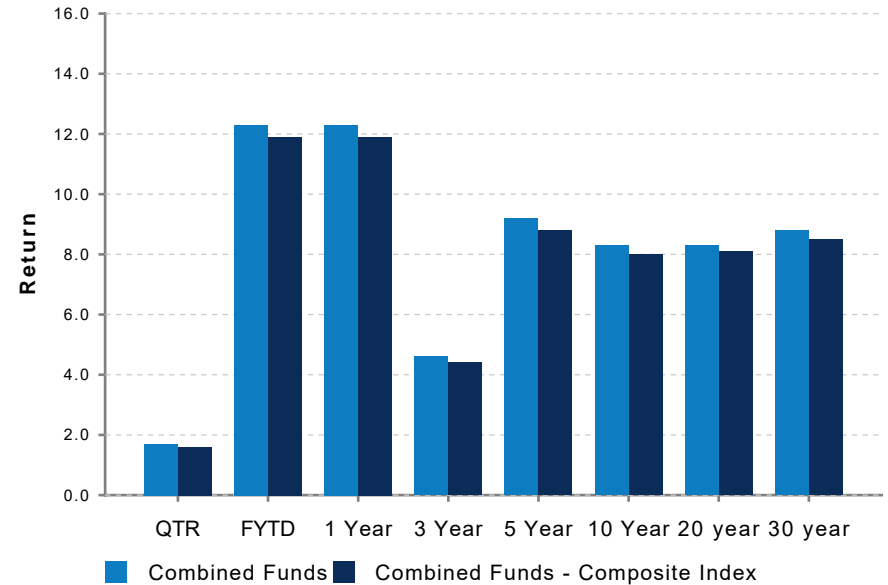
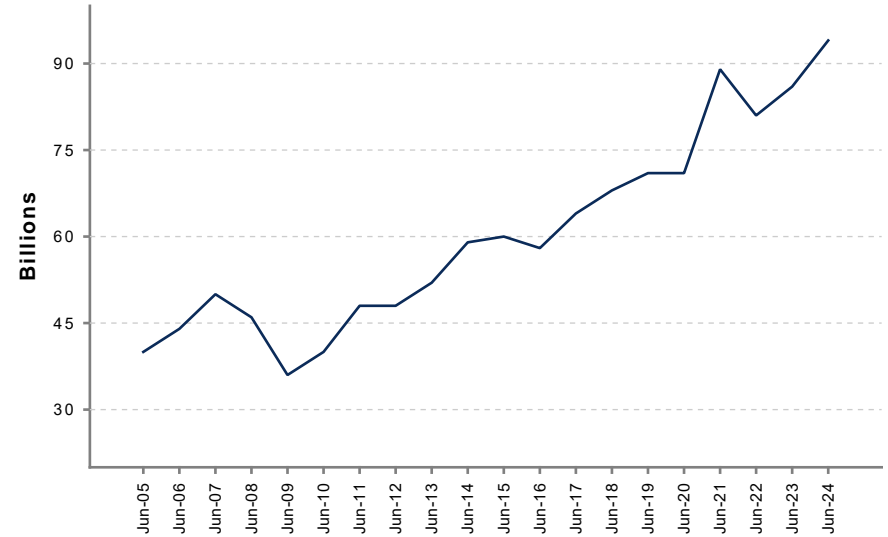
The change in market value of the Combined Funds since the end of last quarter is due to net contributions and investment returns.

Performance (Net of Fees)

The Combined Funds' performance is evaluated relative to a composite of public market index and private market investment returns. The Composite performance is calculated by multiplying the beginning of month Composite weights and the monthly returns of the asset class benchmarks.

	<u>QTR</u>	<u>FYTD</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>20 Yr</u>	<u>30 Yr</u>
Combined Funds	1.7%	12.3%	12.3%	4.6%	9.2%	8.3%	8.3%	8.8%
Combined Funds - Composite Index	1.6%	11.9%	11.9%	4.4%	8.8%	8.0%	8.1%	8.5%
Excess	0.1%	0.5%	0.5%	0.2%	0.4%	0.2%	0.3%	0.3%

Asset Growth



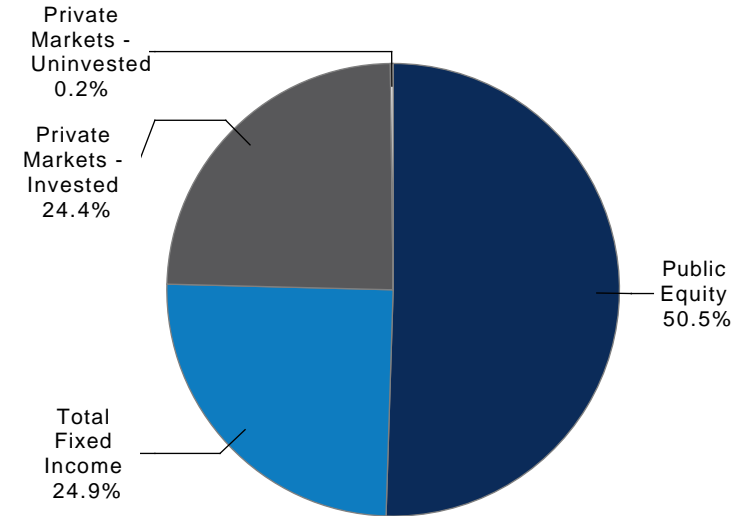


Combined Funds Summary

Asset Mix

The Combined Funds actual asset mix relative to the Strategic Asset Allocation Policy Target is shown below. Any uninvested portion of the Private Markets allocation is held in cash.

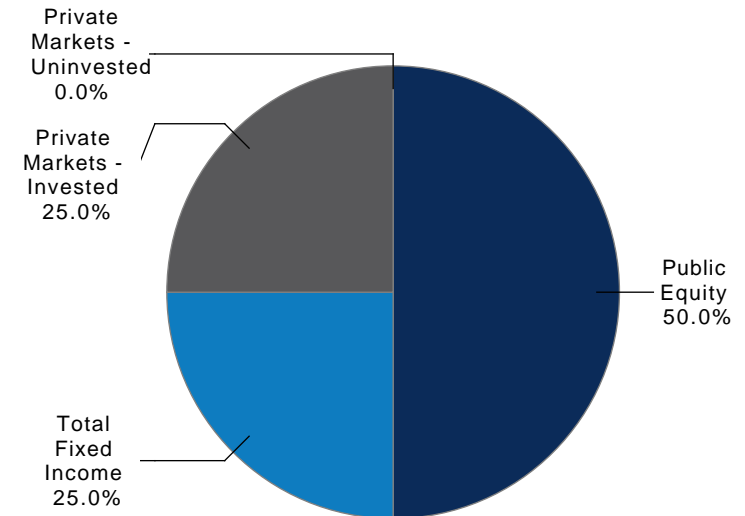
	<u>(Millions)</u>	<u>Actual Mix</u>	<u>Policy Target</u>
Public Equity	\$47,340	50.5%	50.0%
Total Fixed Income	23,284	24.9	25.0
Private Markets - Total	23,055	24.6	25.0
Private Markets - Invested	22,833	24.4	
Private Markets - Uninvested	222	0.2	
TOTAL	93,679	100.0	



Composite Index Comparison

The Combined Funds Composite is set as the Strategic Asset Allocation Policy Target. The Combined Funds Composite weighting shown below is as of the first day of the quarter.

	<u>Policy Weight</u>	<u>Market Index</u>
Public Equity	50.0%	Public Equity Benchmark
Total Fixed Income	25.0	Total Fixed Income Benchmark
Private Markets - Invested	24.9	Private Markets
Private Markets - Uninvested	0.1	ICE BofA US 3-Month Treasury Bill





Combined Funds Asset Class Performance Summary

Public Equity

The Combined Funds Public Equity includes Domestic Equity, International Equity and Global Equity.

The Public Equity benchmark is 67% Russell 3000 and 33% MSCI ACWI ex US (net).

	<u>Market Value</u>	<u>Actual Weight</u>	<u>Policy Weight</u>	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>30 Year</u>
Public Equity	\$47.3	50.5%	50.0%	2.5%	19.8%	19.8%	5.9%	11.7%	9.8%	9.0%	9.5
Public Equity Benchmark				2.5	19.3	19.3	5.6	11.3			
Excess				0.0	0.5	0.5	0.3	0.4			
Domestic Equity	31.5	33.6	33.5	3.2	23.5	23.5	8.0	14.2	12.1	10.1	10.4
Domestic Equity Benchmark				3.2	23.1	23.1	8.1	14.1	12.1	10.2	10.5
Excess				-0.0	0.4	0.4	-0.0	0.1	-0.0	-0.0	-0.1
International Equity	14.8	15.8	16.5	1.5	12.8	12.8	2.0	6.8	4.7	6.3	5.9
International Equity Benchmark				1.0	11.6	11.6	0.5	5.5	3.8	5.8	5.1
Excess				0.5	1.2	1.2	1.6	1.3	0.8	0.6	0.8
Global Equity	1.0	1.1	0.0	-1.8	12.0	12.0	-1.8				
MSCI AC World Index (net)				2.9	19.4	19.4	5.4				
Excess				-4.7	-7.4	-7.4	-7.2				

Note:

Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a Total Public Equity return. For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



Combined Funds Asset Class Performance Summary

Total Fixed Income

The Combined Funds Fixed Income program includes Core/Core Plus, Return Seeking Fixed Income, Treasuries and Laddered Bond + Cash.

The Total Fixed Income benchmark is 40% Bloomberg U.S. Aggregate Index/ 40% Bloomberg Treasury 5+ Years Index/ 20% ICE BofA US 3-Month Treasury Bill.

	<u>Market Value</u>	<u>Actual Weight</u>	<u>Policy Weight</u>	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>30 Year</u>
Total Fixed Income	\$23.3	24.9%	25.0%	0.3%	2.7%	2.7%	-2.8%	0.5%	2.1%	3.7%	5.0%
Total Fixed Income Benchmark				-0.0%	1.5%	1.5%	-3.2%	-0.1%	1.5%	3.2%	4.6%
Excess				0.3%	1.2%	1.2%	0.5%	0.6%	0.5%	0.4%	0.4%
Core/Core Plus	\$5.3	5.7%	5.0	0.2%	3.6%	3.6%	-2.8%	0.5%	1.9%	3.6%	4.9%
Core Bonds Benchmark				0.1%	2.6%	2.6%	-3.0%	-0.2%	1.3%	3.1%	4.5%
Excess				0.2%	1.0%	1.0%	0.2%	0.7%	0.6%	0.5%	0.4%
Return Seeking Fixed Income	\$4.5	4.8%	5.0	0.7%	7.1%	7.1%	-0.4%				
Bloomberg U.S. Aggregate				0.1%	2.6%	2.6%	-3.0%				
Excess				0.6%	4.5%	4.5%	2.6%				
Treasury Protection	\$8.9	9.5%	10.0	-0.7%	-1.6%	-1.6%	-6.6%	-2.3%			
Bloomberg Treasury 5+ Year				-0.8%	-1.7%	-1.7%	-6.6%	-2.3%			
Excess				0.1%	0.2%	0.2%	0.0%	0.0%			
Laddered Bond + Cash	\$4.7	5.0%	5.0	1.3%	5.5%	5.5%	3.0%	2.1%	1.6%	1.8%	3.1%
ICE BofA US 3-Month Treasury Bill				1.3%	5.4%	5.4%	3.0%	2.2%	1.5%	1.6%	2.5%
Excess				-0.0%	0.1%	0.1%	-0.1%	-0.0%	0.1%	0.2%	0.6%

Note:

Since 12/1/2020 the Total Fixed Income includes allocations to Core/Core Plus Bonds, Return Seeking Bonds, Treasuries and Laddered Bond + Cash. From 7/1/2020 to 11/30/2020 Total Fixed Income was Core Bonds, Treasuries and Cash. From 2/1/2018-6/30/20 Total Fixed Income was Core Bonds and Treasuries. Prior to 2/1/2018, Total Fixed Income was Core Bonds. For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



Combined Funds Asset Class Performance Summary

Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>25 Year</u>	<u>30 Year</u>
Private Markets - Invested	1.4%	7.7%	7.7%	11.0%	12.9%	11.6%	13.6%	12.7%	13.5%
Private Markets -Uninvested(1)	1.8%	5.7%	5.7%	0.1%					
Private Equity	1.8%	9.8%	9.8%	10.8%	16.1%	15.2%	15.7%	14.0%	15.5%
Private Credit	-0.2%	9.8%	9.8%	13.2%	11.5%	12.3%	12.6%	12.3%	
Resources	1.8%	4.4%	4.4%	12.8%	4.6%	1.3%	12.6%	13.3%	12.8%
Real Estate	-1.0%	-6.7%	-6.7%	9.0%	8.9%	10.1%	8.7%	8.9%	9.4%

Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

Private Equity Investments - The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

Private Credit Investments - The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

Resource Investments - The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

Real Estate Investments - The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the Combined Funds Performance Report.

(1) The Uninvested Private Markets is currently cash. Prior to 11/02/2022. The Uninvested portion of the Private Markets allocation was invested in a combination of a passively managed S&P 500 Index strategy and a cash overlay strategy invested in equity derivatives and cash.

Source: State Street Bank



SBI Combined Funds Strategic Allocation Category Framework

	<u>06/30/2024</u> (\$ millions)	<u>06/30/2024</u> Weights	<u>Category Range</u>	
<u>Growth - Appreciation</u>				
Public Equity	\$ 47,381.2	50.6%		
Private Equity	\$ 16,519.5	17.6%		
Non-Core Real Assets	\$ 3,634.2	3.9%		
	\$ 67,535.0	72.1%	50%	75%
<u>Growth - Income-oriented</u>				
Core Fixed Income	\$ 5,307.9	5.7%		
Private Credit	\$ 2,071.3	2.2%		
Return-Seeking Fixed Income	\$ 4,462.4	4.8%		
	\$ 11,841.7	12.6%	15%	30%
<u>Real Assets</u>				
Core Real Estate		0.0%		
Real Assets	\$ 555.9	0.6%		
	\$ 555.9	0.6%	0%	10%
<u>Inflation Protection</u>				
TIPS		0.0%		
Commodities		0.0%		
		0.0%	0%	10%
<u>Protection</u>				
U.S. Treasuries	\$ 8,861.9	9.5%		
	\$ 8,861.9	9.5%	5%	20%
<u>Liquidity</u>				
Cash	\$ 4,883.8	5.2%		
	\$ 4,883.8	5.2%	0%	5%
<u>Opportunity</u>				
Opportunity		0.0%		
		0.0%	0%	10%
Total	\$ 93,678.6	100%		
Illiquid Asset Exposure	\$ 22,781.2	24.3%	0%	30%



Volatility Equivalent Benchmark Comparison

	As of June 30, 2024							
	<i>1-year</i>	<i>3-year</i>	<i>5-year</i>	<i>10-year</i>	<i>15-year</i>	<i>20-year</i>	<i>25-year</i>	<i>30-year</i>
SBI Combined Funds Return	12.3%	4.6%	9.2%	8.3%	10.3%	8.3%	7.1%	8.8%
Volatility Equivalent Benchmark Return			5.4%	5.4%	7.1%	6.1%	5.4%	6.7%
Value Added			3.8%	2.9%	3.2%	2.2%	1.7%	2.1%
Standard Deviation: Benchmark = Combined Funds			10.7%	9.1%	9.0%	9.4%	9.6%	9.6%
Benchmark Stock Weight			50%	54%	56%	56%	59%	60%
Benchmark Bond Weight			50%	46%	44%	44%	41%	40%

The Volatility Equivalent Benchmark stock and bond weights are adjusted to equal the standard deviation of the SBI Combined Funds portfolio. Then a return is calculated. The bond return used is the Bloomberg U.S. Aggregate. The stock return used is the MSCI AC World Net Return Index. Prior to 12/31/98 it was the MSCI ACWI Total Return Index and pre-11/1/1993 it was the Wilshire 5000 adjusted for various SBI divestment mandates.

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Combined Funds Summary

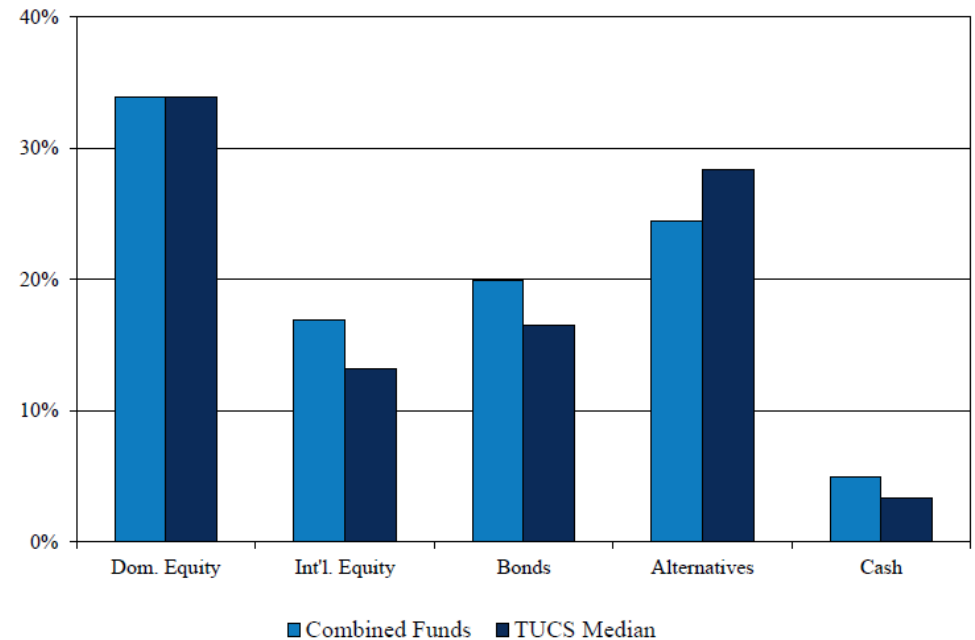
Asset Mix Compared to Other Pension Funds

The comparison universe used by the SBI is the Trust Universe Comparison Service (TUCS). Only funds with assets over \$20 billion are included in the comparisons shown in this section.

Comparisons of the Combined Funds' asset mix to the median allocation to stocks, bonds and other assets of the public funds in TUCS over \$20 billion are shown below:

Combined Funds Asset Mix

	<u>(\$Millions)</u>	<u>Actual Mix</u>
Public Equity	47,340	50.5
Total Fixed Income	23,284	24.9
Private Markets - Invested	22,833	24.4
Private Markets - Uninvested	222	0.2
TOTAL	93,679	100.0



	<u>Domestic Equity</u>	<u>International Equity</u>	<u>Bonds</u>	<u>Alternatives</u>	<u>Cash</u>
Combined Funds	33.8%	16.9%	19.9%	24.4%	5.0%
Median in TUCS	33.8%	13.2%	16.5%	28.3%	3.3%



Combined Funds Summary

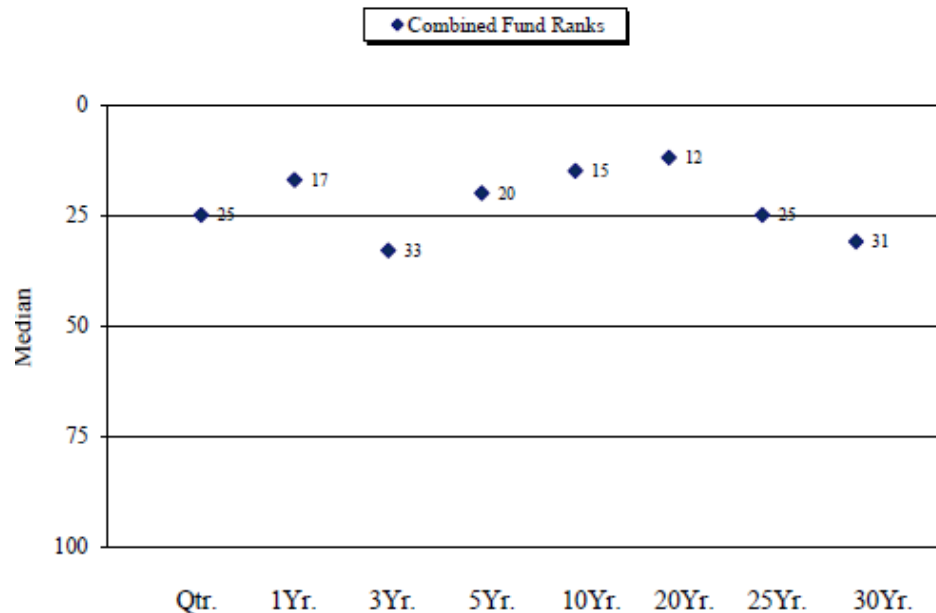
Performance Compared to Other Pension Funds

While the SBI is concerned with how its returns compare to other pension investors, universe comparisons should be used with great care. There are several reasons why such comparisons will provide an "apples to oranges" look at performance:

- Differing Allocations. Asset allocation will have a dominant effect on return. The allocation to stocks among the funds in TUCS typically ranges from 20-90%, a very wide range for meaningful comparison. This further distorts comparisons among funds.
- Differing Goals/Liabilities. Each pension fund structures its portfolio to meet its own liabilities and risk tolerance. This will result in different asset mix choices. Since asset mix will largely determine investment results, a universe ranking is not relevant to a discussion of how well a plan sponsor is meeting its long-term liabilities.

With these considerations in mind, the performance of the Combined Funds compared to other public pension funds in Trust Universe Comparison Service (TUCS) are shown below.

The SBI's returns are ranked against public plans with over \$20 billion in assets. All funds in TUCS report their returns gross of fees.

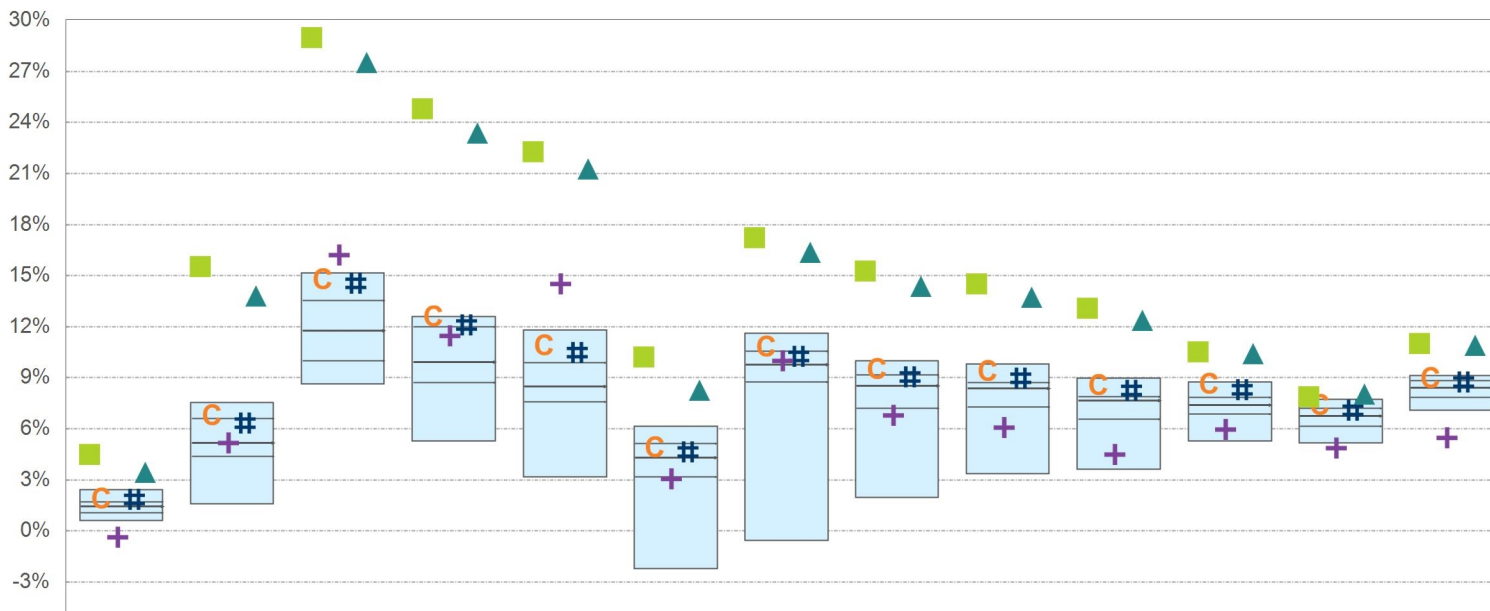


Periods Ended 06/30/2024

	Qtr	1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs	25 Yrs	30 Yrs
Combined Funds	25th	17th	33rd	20th	15th	12th	25th	31st
Percentile Rank in TUCS								

Minnesota State Board of Investments Performance Comparison

*Total Returns of Master Trusts - Public : Plans > \$20 Billion
Cumulative Periods Ending : June 30, 2024*



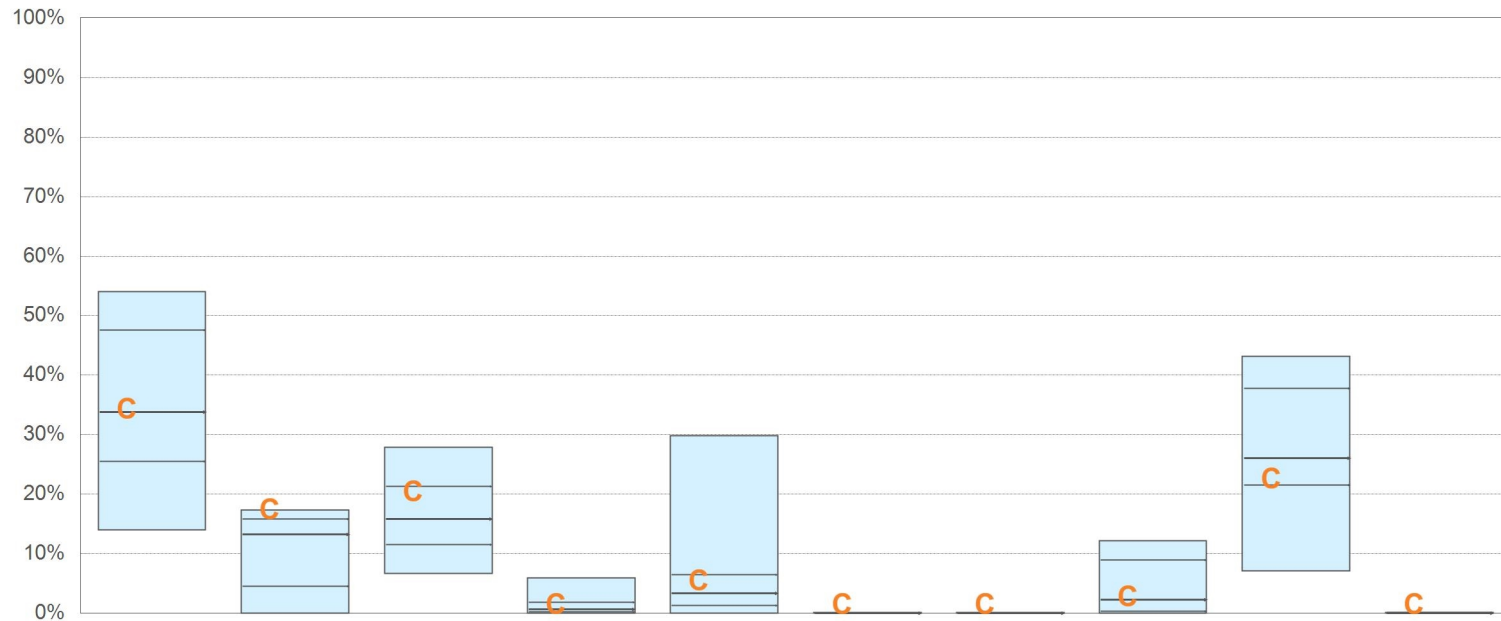
Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years	20 Years	25 Years	30 Years
5th	2.42	7.56	15.14	12.60	11.82	6.15	11.62	10.01	9.82	8.97	8.74	7.74	9.13
25th	1.71	6.59	13.53	12.00	9.90	5.13	10.56	9.16	8.71	7.90	7.86	7.19	8.83
50th	1.43	5.17	11.75	9.93	8.50	4.32	9.76	8.52	8.37	7.65	7.41	6.75	8.42
75th	1.08	4.37	9.99	8.73	7.58	3.18	8.77	7.19	7.28	6.58	6.88	6.15	7.86
95th	0.60	1.61	8.65	5.30	3.18	-2.23	-0.55	1.96	3.36	3.64	5.29	5.17	7.08

No. Of Obs	26	26	26	26	25	24	24	23	22	22	19	17	16
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C Combined Funds	1.71 (25)	6.59 (25)	14.60 (21)	12.41 (17)	10.71 (13)	4.72 (33)	10.62 (20)	9.32 (20)	9.21 (20)	8.36 (15)	8.45 (12)	7.19 (25)	8.79 (31)
# SBI Combined Funds Ind	1.62 (33)	6.12 (33)	14.31 (21)	11.88 (25)	10.26 (21)	4.43 (45)	10.05 (41)	8.81 (29)	8.77 (20)	8.03 (20)	8.08 (18)	6.85 (37)	8.51 (43)
■ S&P 500	4.28 (1)	15.29 (1)	28.77 (1)	24.56 (1)	22.05 (1)	10.01 (1)	17.01 (1)	15.04 (1)	14.28 (1)	12.86 (1)	10.29 (1)	7.67 (5)	10.80 (1)
▲ Russell 3000	3.22 (1)	13.56 (1)	27.27 (1)	23.13 (1)	21.02 (1)	8.05 (1)	16.12 (1)	14.14 (1)	13.48 (1)	12.15 (1)	10.17 (1)	7.82 (1)	10.66 (1)
+ MSCI Wld Ex US (Net)	-0.60 (99)	4.96 (54)	15.98 (1)	11.23 (29)	14.28 (1)	2.82 (79)	9.78 (45)	6.55 (89)	5.85 (94)	4.27 (94)	5.72 (93)	4.63 (99)	5.26 (100)

Minnesota State Board of Investments Asset Allocation of Master Trusts - Public : Plans > \$20 Billion

Quarter Ending June 30, 2024



Percentile Rankings	US Equity	Non-US Equity	US Fixed	Non-US Fixed	Cash	Convertible	GIC GAC	Real Estate	Alternative Investments	Other
5th	54.05	17.32	27.89	5.92	29.85	0.07	0.13	12.21	43.16	0.10
25th	47.57	15.77	21.34	1.87	6.45	0.00	0.00	8.96	37.83	0.10
50th	33.83	13.20	15.80	0.69	3.31	0.00	0.00	2.28	26.06	0.00
75th	25.54	4.55	11.52	0.25	1.25	0.00	0.00	0.34	21.52	0.00
95th	14.01	0.00	6.66	0.00	0.03	0.00	0.00	0.05	7.07	0.00
C Combined Funds	33.83 (50)	16.94 (12)	19.89 (30)	0.00 (100)	4.97 (35)	0.00 (100)	0.00 (100)	2.28 (50)	22.10 (60)	0.00 (99)

TAB B

Executive Director's Administrative Report

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DATE: August 7, 2024

TO: Members, State Board of Investment

FROM: **Jill E. Schurtz**
Executive Director and Chief Investment Officer

1. Report on SBI's Administrative Budget

A report on the SBI's administrative budget for the fiscal year to date through June 30, 2024, is included as **Attachment A**.

2. Russia/Belarus Update

Each quarter, staff provides a report to the Board on steps taken to implement *Minnesota Statutes*, section 11A.245 that requires SBI actions concerning companies with operations in Russia and Belarus.

During the 2022 legislative session, the Minnesota Legislature passed a bill requiring the SBI to liquidate its holdings in companies with their principal place of business in Russia or Belarus. The bill was signed into law and became effective on April 2, 2022. The statute prohibits any new investment in target companies and requires the SBI to identify and liquidate, to the extent practicable, 50% of its direct holdings in target companies within nine months of the effective date; and 100% of its holdings within 15 months of the effective date. SBI utilizes information from data service providers, including MSCI, Factset, and Bloomberg to develop a list of target companies with their principal place of business in Russia or Belarus.

In order to facilitate an efficient and orderly liquidation, in April 2022 the SBI consolidated the relevant holdings across accounts under the management of one "liquidation manager". Staff receives monthly reports from the SBI's custodian bank concerning SBI holdings of companies on the restricted list, as well as periodic reports from the liquidation manager regarding market conditions and progress towards liquidation of the remaining holdings.

In the second calendar quarter of 2024, no Russia or Belarus holdings were sold, due to the reasons outlined below. As of June 30, 2024, fifteen relevant holdings and Russian currency remained on the holdings list.

The liquidation manager indicated that, except for sporadic trading in foreign-listed depository receipts, the market for equity trading remained effectively closed to foreign investors during the quarter due to sanctions imposed by the United States and its allies as well as retaliatory actions taken by the Russian government to restrict foreign capital flows. Due to these sanctions and actions, it was not possible to liquidate 100% of the holdings within 15 months of the effective date. The liquidation manager will sell whenever an opportunity presents itself.

On June 21, 2024, staff sent a letter to each applicable external manager containing the most recent restricted list.

3. Iran Update

Each quarter, staff provides a report to the Board on steps taken to implement *Minnesota Statutes*, section 11A.244, which requires certain SBI actions concerning companies with operations in Iran.

SBI receives information on companies with Iran operations from Institutional Shareholder Services, Inc. (ISS). Staff receives monthly reports from the SBI's custodian bank concerning SBI holdings of companies on the restricted list and undertakes the required communication.

Under the statute, if after 90 days following the SBI's communication, a company continues to have scrutinized business operations (as defined in 11A.244), the SBI must divest all publicly traded securities of the company according to the following schedule:

- at least 50% shall be sold within nine months after the company appeared on the scrutinized list; and
- 100% within fifteen months after the company appeared on the scrutinized list.

At the end of the second quarter, there were two companies on the SBI's Iran restricted list held in the Combined Funds portfolio, Gazprom PJSC, and PetroChina Company Limited.

Gazprom PJSC is scheduled for divestment; however, no market currently exists as Russian securities are restricted from trading under sanctions imposed by the United States, Russia, or other governments. Despite continued efforts, the liquidation manager was unable to find a market to sell this security during the quarter. As a result, no shares of Gazprom PJSC held in the portfolio were sold during the second quarter.

As required under the statute, staff notified PetroChina that it would be subject to divestment if it did not cease operations in Iran. As PetroChina failed to respond or cease operations, staff directed liquidation of the company's shares per the statutory requirements.

On June 21, 2024, staff sent a letter to each applicable external manager containing the most recent restricted list.

4. Thermal Coal Update

The Minnesota State Board of Investment approved a resolution at its May 2020 meeting requiring the removal of any publicly traded company deriving more than 25% of its revenue from thermal coal production (exploration/mining). The SBI has contracted with Institutional Shareholder Services, Inc. (ISS) to identify companies that meet the criteria set forth in the resolution.

The resolution required the removal of the initially identified companies in a prudent and expeditious manner by December 31, 2020. Beginning with the Board's regularly scheduled third quarter 2020 meeting and continuing each quarter thereafter, staff reports to the Board on updates and the status of any action authorized by this resolution.

In the second quarter, the SBI portfolio held no thermal coal-connected assets.

On June 21, 2024, staff sent a letter to each applicable external manager containing the most recent restricted list.

5. Litigation Update

SBI legal counsel will give a verbal update on the status of any litigation at the meeting.

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TAB C

Asset Allocation Study Update

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DATE: August 7, 2024

TO: Members, State Board of Investment

FROM: Members, Investment Advisory Council and SBI Staff

SUBJECT: Update on Asset Allocation Study

Staff will provide an update on the Asset Allocation Study currently underway at the Investment Advisory Council meeting on August 14, 2024.

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TAB D

Private Markets Investment Program Report

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DATE: August 7, 2024

TO: Members, State Board of Investment

FROM: Members, Investment Advisory Council and SBI Staff

SUBJECT: Private Markets Commitments for Consideration

Staff has reviewed the following action agenda item:

- A. Status of SBI Current Private Markets Commitments
- B. Consideration of New Investment Commitments

Existing Managers:

Private Equity	BlackRock	LTPC II	up to \$300 million
Private Equity	Summit Partners	Summit Partners Growth Equity Fund XII	up to \$250 million
Private Equity	Thoma Bravo	Thoma Bravo Fund XVI	up to \$150 million
Private Equity	Thomas H. Lee Partners	THL Equity Fund X	up to \$200 million

SBI action is required on item B.

A. Status of SBI Current Private Markets Commitments

Minnesota State Board of Investment Combined Funds June 30, 2024

Combined Funds Market Value \$93,678,626,503

	% of Combined Funds	Current Level	Target Level ¹	Difference
Market Value (MV)	24.4%	\$22,833,205,280	\$23,419,656,626	\$586,451,346
<i>Policy Target</i>	25%			
<i>Statutory Limit</i>	35%			
MV +Unfunded	36.9%	\$34,537,707,462	\$46,839,313,251	\$12,301,605,789
<i>Policy Limit</i>	50.0%			

Asset Class	% of Combined Funds	Market Value	Unfunded Commitment	Total
Private Equity	17.6%	\$16,519,531,363	\$8,117,085,065	\$24,636,616,428
Private Credit	2.2%	\$2,071,392,576	\$1,281,159,675	\$3,352,552,250
Real Assets	2.2%	\$2,057,434,490	\$650,484,939	\$2,707,919,429
Real Estate	2.3%	\$2,132,839,459	\$1,655,772,504	\$3,788,611,963
Other ²		\$52,007,392		\$52,007,392
Total		\$22,833,205,280	\$11,704,502,182	\$34,537,707,462

Cash Flows June 30, 2024

Calendar Year	Capital Calls	Distributions	Net Invested
2024	\$1,326,585,710	(\$1,799,924,380)	(\$473,338,670)
2023	\$2,744,167,005	(\$2,162,823,326)	\$581,343,680
2022	\$3,945,092,895	(\$3,140,446,870)	\$804,646,025
2021	\$4,556,450,698	(\$3,672,823,834)	\$883,626,864
2020	\$2,786,134,001	(\$2,318,825,278)	\$467,308,723
2019	\$2,543,614,503	(\$2,080,037,860)	\$463,576,642
2018	\$1,992,000,341	(\$2,049,733,815)	(\$57,733,474)
2017	\$2,021,595,780	(\$2,383,863,711)	(\$362,267,931)

¹ There is no target level for MV + Unfunded. This amount represents the maximum allowed by policy

² Represents in-kind stock distributions from the liquidating portfolio managed by T.Rowe Price and cash accruals.

B. Consideration of New Investment Commitments

ACTION ITEMS:

1) Investment with an existing Private Equity manager, BlackRock, in LTPC II (“Fund”).

LTPC II will seek to make control investments in North American and European businesses that exhibit growing and predictable cash flow generation, recurring revenue sources, and strong balance sheets. The investment team believes that businesses with these characteristics are best positioned to execute a value-creation strategy with moderate leverage. The Fund’s active ownership model will be focused on engagement around key drives of value creation, including, among other things, (i) human capital, (ii) driving organic growth, (iii) improving company operations, (iv) assisting with M&A; and (v) optimizing capital structure. The Fund aims to build a high-conviction portfolio across different end markets, primarily focusing on Services, Consumer, Healthcare, Technology, and Financials. The investment team intends to underwrite portfolio companies for a holding period of 5-8 years. However, the team will assess each portfolio company regularly and may seek to exit an investment earlier or hold the investment longer than originally underwritten.

In addition to reviewing the attractiveness of the LTPC II investment opportunity, staff conducted appropriate due diligence, including but not limited to reference checks, database searches, and, to the extent available, a review of the Fund’s potential investor base. The staff’s diligence process will continue as additional data and documentation become available.

More information on LTPC II is included in **Attachment A, beginning on page 7.**

RECOMMENDATION:

The Investment Advisory Council endorses Staff’s recommendation that the SBI authorize the Executive Director, with assistance from SBI’s legal counsel, to negotiate and execute a commitment of up to \$300 million to LTPC II. It is understood that 1) such a commitment will not exceed 20% of LTPC II and 2) an additional amount not to exceed one percent of the total commitment for the payment of required charges at closing may be required and is approved. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and none of the State of Minnesota, the Investment Advisory Council, the State Board of Investment, or its Executive Director have any liability for reliance by BlackRock upon this approval. Until the Executive Director, on behalf of the SBI, executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on BlackRock or a reduction or termination of the commitment.

2) Investment with an existing Private Equity manager, Summit Partners (“Summit”), in Summit Partners Growth Equity Fund XII L.P. (“Fund”).

Summit is raising Summit Partners Growth Equity Fund XII to continue its long history of investing in growth companies within the Technology, Healthcare & Life Sciences, and Growth Products & Services sectors, which include but are not limited to, financial services, financial technology, business services, branded consumer, industrial technology and other growth industries. Summit seeks to identify these companies through its thematic idea-generation process, which draws on its deep sector expertise and direct sourcing capabilities. Summit targets companies that it believes are category leaders with solid business fundamentals. The investment team at Summit is complemented by an internal value enhancement services platform to support the growth and improvement of investment outcomes.

In addition to reviewing the attractiveness of the Summit Partners Growth Equity Fund XII L.P. investment opportunity, staff conducted appropriate due diligence, including but not limited to reference checks, database searches, and, to the extent available, a review of the Fund’s potential investor base. The staff’s diligence process will continue as additional data and documentation become available.

More information on Summit Partners Growth Equity Fund XII L.P. is included as **Attachment B beginning on page 11.**

RECOMMENDATION:

The Investment Advisory Council endorses Staff’s recommendation that the SBI authorize the Executive Director, with assistance from SBI’s legal counsel, to negotiate and execute a commitment of up to \$ 250 million to Summit Partners Growth Equity Fund XII L.P. It is understood that 1) such a commitment will not exceed 20% of Summit Partners Growth Equity Fund XII L.P. and 2) an additional amount not to exceed one percent of the total commitment for the payment of required charges at closing may be required and is approved. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and none of the State of Minnesota, the Investment Advisory Council, the State Board of Investment, or its Executive Director have any liability for reliance by Summit Partners upon this approval. Until the Executive Director, on behalf of the SBI, executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Summit Partners or a reduction or termination of the commitment.

3) Investment with an existing Private Equity manager, Thoma Bravo, (“Thoma Bravo”), in Thoma Bravo Fund XVI, L.P. (“Fund”).

Thoma Bravo Fund XVI, L.P. will seek to invest in North American software and technology-enabled services companies, typically in the form of control buyouts. Thoma Bravo’s strategy seeks to create value by transforming businesses in fragmented,

consolidating industry sectors into larger, more profitable, and more valuable businesses through rapid operational improvements, growth initiatives, and strategic and accretive add-on acquisitions. Throughout the process of managing an investment, Thoma Bravo intends to proactively manage liquidity options by developing and cultivating relationships with potential strategic and financial purchasers, the investment community, and lending sources.

In addition to reviewing the attractiveness of the Thoma Bravo Fund XVI, L.P. investment opportunity, staff conducted appropriate due diligence, including but not limited to reference checks, database searches, and, to the extent available, a review of the Fund's potential investor base. The staff's diligence process will continue as additional data and documentation become available.

More information on Thoma Bravo Fund XVI, L.P. is included as **Attachment C beginning on page 15.**

RECOMMENDATION:

The Investment Advisory Council endorses Staff's recommendation that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute a commitment of up to \$150 million to Thoma Bravo Fund XVI, L.P. It is understood that 1) such a commitment will not exceed 20% of Thoma Bravo Fund XVI, L.P. and 2) an additional amount not to exceed one percent of the total commitment for the payment of required charges at closing may be required and is approved. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and none of the State of Minnesota, the Investment Advisory Council, the State Board of Investment, or its Executive Director have any liability for reliance by Thoma Bravo, L.P. upon this approval. Until the Executive Director, on behalf of the SBI, executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Thoma Bravo, L.P. or a reduction or termination of the commitment.

4) Investment with an existing Private Equity manager, Thomas H. Lee Partners, ("THL"), in THL Equity Fund X, L.P. ("Fund").

THL Equity Fund X will seek to make middle market buyout investments with a focus on North America. THL invests in three core industry groups – Financial Technology & Services, Healthcare and Technology & Business Solutions. THL focuses on companies with enterprise values between \$250 million and \$3 billion. They believe this will have a greater ability to source transactions, accelerate growth, and improve operations for companies of this size. By using their domain expertise and the internal operating capabilities of their Strategic Resource Group ("SRG"), they seek to create deal-sourcing advantages and to accelerate growth and improve operations in portfolio companies in partnership with management teams. Once THL acquires a portfolio company, they are active, hands-on investors with an operationally intensive approach to building value. Their integrated teams

of investment and SRG professionals partner with portfolio company management teams to identify high-priority growth, operating, and organizational initiatives.

In addition to reviewing the attractiveness of the THL Equity Fund X, L.P. investment opportunity, staff conducted appropriate due diligence, including but not limited to reference checks, database searches, and, to the extent available, a review of the Fund's potential investor base. The staff's diligence process will continue as additional data and documentation become available.

More information on THL Equity Fund X, L.P. is included as **Attachment D beginning on page 19.**

RECOMMENDATION:

The Investment Advisory Council endorses Staff's recommendation that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute a commitment of up to \$200 million to THL Equity Fund X, L.P. It is understood that 1) such a commitment will not exceed 20% of THL Equity Fund X and 2) an additional amount not to exceed one percent of the total commitment for the payment of required charges at closing may be required and is approved. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and none of the State of Minnesota, the Investment Advisory Council, the State Board of Investment, or its Executive Director have any liability for reliance by Thomas H. Lee Partners upon this approval. Until the Executive Director, on behalf of the SBI, executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Thomas H. Lee Partners or a reduction or termination of the commitment.

ATTACHMENT A

MANAGER SUMMARY PROFILE

I. Background Data

<i>Name of Fund:</i>	LTPC II, LP
<i>Type of Fund:</i>	Limited Partnership
<i>Target Fund Size:</i>	\$5 billion
<i>Fund Manager:</i>	BlackRock
<i>Administrative Contact:</i>	Laura Champion 50 Hudson Yards New York, NY 10001

II. Organization and Staff

BlackRock (the “Firm”) is forming LTPC II (“Fund”) to generate attractive risk-adjusted returns by investing in businesses that exhibit strong, consistent returns on invested capital. BlackRock will aim to achieve this objective by creating a portfolio of established businesses based in North America and Western Europe with strong, recurring revenues, prudent capital structures, and stable growth potential over a long-term horizon.

LTPC II is a division of BlackRock Equity Private Markets, a business unit of BlackRock Financial Management, Inc. LTPC was founded by BlackRock in 2019 as its flagship direct private equity platform. BlackRock is the world's largest investment management firm, with more than \$10 trillion of assets under management, and its founders, Larry Fink, and Robert Kapito, continue to lead it. Blackrock is a publicly traded company with a global footprint comprising 89 offices in 38 countries.

The LTPC Investment Team is led by Colm Lanigan, Andre Bourbonnais, and Dag Skattum (“the Founding Partners”). The Investment Team comprises 19 investment professionals based in New York and London. The Founding Partners and three additional Managing Directors (together, the “Senior Leadership Team) bring deep and complementary private equity experience. The Investment Team’s background includes investing experience in premier global private equity firms, global sovereign wealth funds, and sophisticated institutional investors with direct investing programs. The team brings value-creation capabilities through operating experience in executive roles and financing and advisory experience at leading global investment banks.

Blackrock believes an inclusive and connected culture is fundamental to its success. Based on this belief, Blackrock launched a “Together as one” campaign to promote inclusive behaviors and build a culture where every employee has the ability to foster a more connected workplace. Departments across the firm host DEI inclusion weeks to mobilize employees on team and functional levels by providing space for discussions on real life challenges faced

by their colleagues. In 2021, Blackrock commissioned a third-party review of their DEI strategy, particularly as it relates to racial equity in the U.S., to provide useful feedback in assessing their progress and areas of future focus.

III. Investment Strategy

The Fund will seek to make control investments in businesses with growing and predictable cash-flow generation, recurring revenue sources, and consistent return on invested capital. LTPC II believes that companies with these characteristics, coupled with strong balance sheets, are best positioned to allow the investment team to execute a value-creation strategy with moderate use of leverage. The investment team will seek businesses it believes present opportunities to create value through the rapid implementation of operational efficiencies and where their insight and expertise can drive transformative growth initiatives. The LTPC II team intends to work closely with the management teams of portfolio companies as active owners. The Fund's active ownership model will be focused on engagement around key drivers of value creation, including, among other things, (i) human capital, (ii) driving organic growth, (iii) improving company operations, (iv) assisting with M&A; and (v) optimizing capital structure. In all cases, the Investment Team will seek to take advantage of available resources, including the Fund's Industry Advisors. The Industry Advisors are expected to provide insights to the management teams at the portfolio company regarding corporate strategy, business optimization, human capital management, sales and marketing strategies, merger integration, and other themes.

The LTPC II team expects that when the Fund invests in a portfolio company, it will underwrite the portfolio company for a holding period of 5-8 years. However, the investment team expects to assess each portfolio company regularly and may seek to exit the investment earlier or hold the investment longer than originally underwritten. BlackRock believes this flexible approach will help the Fund optimize value creation and exit opportunities to maximize returns for investors.

The Fund aims to build a high-conviction portfolio across different end markets. Although the investment team believes that companies that possess the attributes described above can be found in many sectors, it believes such companies are most heavily concentrated in the five core sectors that are the Fund's primary focus: Services, Consumer, Healthcare, Technology, and Financials. The Fund will seek to make investments of \$400 million to \$1 billion across a portfolio of 8-12 companies in business where it will be the control or lead investor. The Fund's geographic focus will be in North America and Western Europe, with the ability to invest more globally on a limited basis.

BlackRock believes its position as the world's largest asset manager, with access to management of thousands of public companies and a global network of professionals, advisors, and clients, will give LTPC II an important edge in sourcing transactions. In addition, BlackRock offers the LTPC II team a wide range of resources in research and insights, investment expertise, technological capabilities, and platform support. The value of BlackRock's global brand and scaling potential leads owners and management teams of prospective portfolio companies to view LTPC II as a preferred partner.

Sustainability considerations are an important component of the due diligence process. BlackRock’s firmwide environmental, social, and governance integration statement details the Firm’s approach to integrating themes of sustainability and outlines the foundation, ownership, and oversight mechanisms that underpin the Fund’s approach. BlackRock has a dedicated Sustainable & Transition Solutions team, which oversees the Firm’s global efforts on sustainable investing, including the integration of climate-related factors. BlackRock Investment Stewardship encourages portfolio companies to have sound corporate governance and business practices that support the creation of durable, long-term financial value.

IV. Investment Performance

Previous fund performance as of March 31, 2024 is shown below:

Fund	Vintage Year	Total Commitments	SBI Investment	Net IRR*	Net MOIC*	Net DPI**
Long Term Capital Partners I	2019	\$4.3 billion	\$950 million	33%	2.4x	0.6x

* Previous fund investments are not indicative of future results. Net IRR, Net MOIC, and Net DPI were provided by BlackRock.

** DPI performance is as of June 30, 2024

V. Investment Period and Term

The fund will have a four-year investment period and a twelve-year term, with the potential of two one-year extension periods.

This document is a summary of more detailed information provided in the Fund’s Confidential Private Placement Memorandum (the “PPM”). It is qualified in its entirety by the more detailed information provided in the PPM and the Fund’s Agreement of Limited Partnership.

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ATTACHMENT B

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	Summit Partners Growth Equity Fund XII L.P.
Type of Fund:	Private Equity – Growth
Target Fund Size:	\$9.0 billion
Fund Manager:	Summit Partners
Manager Contact:	Ross Murphy 222 Berkeley Street Boston, MA 02116

II. Organization and Staff

Summit Partners (the “Firm” or “Summit”) is a global alternative investment firm founded in 1984. The Firm serves as the investment manager of growth equity and subordinated debt funds (the “Summit Funds”), which seek to invest primarily in rapidly growing, profitable companies. The Firm currently manages \$37 billion in assets dedicated to US growth equity, European growth equity, venture capital, debt, and public equity asset classes. For four decades, the Summit Funds have invested in more than 520 growth equity and venture companies generally within the three industries in which it focuses: Technology, Healthcare & Life Sciences, and Growth Products & Services. These companies have completed more than 435 liquidity events, including multiple public equity offerings, M&A exits to strategic acquirers and sales to financial sponsors. The Firm’s 100+ investment professionals operate as an integrated team across sectors, strategies, and geographies. Summit Partners maintains offices in Boston, Menlo Park, New York, London and Luxembourg.

Summit is led by CEO Peter Chung and COO Scott Collins. Mr. Chung, who joined Summit in 1994, became CEO in 2015. Mr. Collins, who joined the firm in 1996, founded Summit’s London office in 2001 and currently serves as the Firm’s COO. Messrs. Chung and Collins are members of the Technology team.

As a firm, Summit recognizes the importance of and is committed to creating a diverse, inclusive, performance-driven environment purpose-built to serve their limited partners, generate the best ideas, drive innovation and promote the professional growth of their team. They believe diverse teams have a positive impact on their investment process and outcomes by supporting strong cultures and engaged employees. To this end, they aim to be the best place to work for the best people in their industry, regardless of background, and to create a work environment where Summit team members feel empowered to develop, contribute and succeed. These efforts are supported by the Firm’s Diversity Committee and governed by the Firm’s Code of Conduct. Summit continues to sponsor and support several diversity-related organizations and initiatives, including Sponsors for Education Opportunity (SEO), Synergist,

Level20, Harvard Business School's Women in Investing, and Boston Women in Private Equity.

III. Investment Strategy

Summit is raising Summit Partners Growth Equity Fund XII (the "Fund" or "GE XII") to continue its long history of investing in growth companies within the Technology, Healthcare & Life Sciences, and Growth Products & Services, which include but are not limited to, financial services, financial technology, business services, branded consumer, industrial technology and other growth industries. Summit seeks to identify these companies through its thematic idea-generation process, which draws on its deep sector expertise and direct sourcing capabilities.

Since Summit's inception in 1984, its growth equity investment strategy has been grounded in a fundamental belief that profitable growth is the most reliable source of superior risk-adjusted returns across market cycles. Summit targets companies that it believes are category leaders with solid business fundamentals. The growth equity team seeks to identify and partner with companies exhibiting these characteristics within three primary sectors. The Fund expects to invest between \$75 million and \$500 million per investment for a minority or majority position in growth-oriented private companies across these three target sectors.

Summit believes it is a pioneer and industry leader in direct sourcing of investments. Today, the Firm continues to innovate and evolve its direct sourcing capabilities with investments in technology, people, and processes. Managing Director-led sector teams employ a thematic idea-generation process to identify and prioritize emerging and durable growth themes. Over the last five years, on average, Summit has contacted more than 14,000 companies worldwide each year. Summit believes this expansive market coverage provides early insight into growth trends and helps it identify and productively engage with category leaders across its focus sectors. The Summit team has historically met with nearly 1,300 companies each year. These visits enable team members to build long-standing relationships and continue to refine investment theses.

To complement a talented deal team and support the growth and improvement of investment outcomes, Summit established a value enhancement services platform in 2007 to serve its portfolio companies' operational and financing needs. Since that time, the value enhancement capabilities and resources have expanded significantly to include four separate teams:

- **Peak Performance Group** – provides support in functional areas such as revenue optimization, growth marketing, technology, and M&A with a focus on improving operational efficiency, strengthening corporate infrastructure, and executing growth strategies;
- **Capital Markets Team** – helps in structuring and executing capital markets transactions to support growth initiatives;

- **Talent & Recruiting Team** – assists with capital and talent support, including talent assessment and development, Diversity, Equity & Inclusion (DE&I) support, and recruiting experienced and impactful senior executives and board directors; and
- **Technology & Data Science Team** – provides expertise for due diligence, perspective on product organization design and data science and pattern recognition to support key growth initiatives.

These teams are integrated into Summit’s investment process from pre-investment due diligence to post-investment value creation.

Summit believes that effective corporate governance, proactive risk management and a commitment to human capital development are important components of a productive growth investment strategy that seeks to invest in category-leading growth companies worldwide; to be a valued and trusted partner to the executives with whom they work; and to deliver strong risk-adjusted returns to these stakeholders. Since the Firm’s founding in 1984, these responsible investing (“RI”) factors have been embedded within Summit’s investment and operational processes, guided by a belief that RI practices will lead to stronger, more productive growth of their business and portfolio companies. This commitment is codified in Summit’s Guiding Principles, which emphasize the importance of intellectual and moral integrity and responsible corporate citizenship in its interactions with executives, investors and each other.

IV. Investment Performance

Previous fund performance as of March 31, 2024, is shown below:

Fund	Vintage Year	Total Commitment	SBI Investment	Net IRR*	Net MOIC*	DPI*
Summit Ventures	1984	\$160 million	\$10 million	13%	2.0x	2.0x
Summit Ventures II	1988	\$231 million	\$30 million	30%	2.6x	2.6x
Summit Ventures III	1992	\$279 million	--	63%	3.6x	3.6x
Summit Ventures IV	1995	\$610 million	--	101%	7.6x	7.6x
Summit Ventures V	1998	\$1,118 million	\$25 million	8%	1.4x	1.4x
Summit Ventures VI	2001	\$2,080 million	--	15%	2.2x	2.2x
Summit Private Equity VII	2006	\$3,100 million	--	10%	1.9x	1.8x
Summit Growth Equity VIII	2012	\$2,712 million	\$100 million	26%	2.5x	2.2x
Summit Growth Equity IX	2016	\$3,292 million	\$100 million	27%	2.2x	1.1x
Summit Growth Equity X	2019	\$4,900 million	\$150 million	17%	1.4x	0.2x
Summit Growth Equity XI	2021	\$8,350 million	\$250 million	13%	1.1x	0.0x

* Performance data provided by the General Partner. Previous Fund investments may be relatively immature and returns may not be indicative of future results.

V. Investment Period and Team

The fund will have a six-year investment period and a ten-year term, with options to extend for two additional periods, each consisting of two years, each with the consent of the General Partner and two-thirds in interest of the Limited Partners.

This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum (the "PPM"). It is qualified in its entirety by the more detailed information provided in the PPM.

ATTACHMENT C

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. **Background Data**

Name of Fund:	Thoma Bravo Fund XVI, L.P.
Type of Fund:	Private Equity
Target Fund Size:	\$20 billion
Fund Manager:	Thoma Bravo, L.P.
Manager Contact:	Candice Sorbera 375 Park Avenue, Suite 1504 New York NY 10022

II. **Organization and Staff**

Thoma Bravo, L.P. (“Thoma Bravo” or the “Firm”) is sponsoring Thoma Bravo Fund XVI, L.P. (the “Fund” or “Fund XVI”) to make investments (generally expected to consist of control buyouts) in application, infrastructure or security software products and/or technology-enabled services (collectively, “Software”) companies in North America.

Thoma Bravo is a successor to Golder Thoma & Co., founded in 1980 by Stanley Golder and Carl Thoma, who had worked together within what was First Chicago Corporation’s venture capital group. It was there that the partners began to develop the consolidation or “buy and build” investment strategy of seeking to create value by building companies in fragmented industries through add-on acquisitions. The original firm subsequently became Golder, Thoma, Cressey, Rauner, Inc. (often referred to as GTCR), which in 1998 split into two firms, one of which was Thoma Cressey Equity Partners Inc. (“TCEP”). From 1998 through 2007, TCEP (renamed Thoma Cressey Bravo, Inc. in 2007) raised and invested in three private equity funds: Fund VI, Fund VII, and Fund VIII, which invested principally in companies in the services, software, and healthcare sectors. In 2008, Brian Cressey spun out to form Cressey and Company, and Carl Thoma and Orlando Bravo renamed Thoma Cressey Bravo to Thoma Bravo.

With offices in San Francisco, Chicago, Miami, London, New York, and Dubai, the Firm employs over 90 investment professionals, including 31 senior investment professionals. The Firm also utilizes the services of over 30 operating partners and operating advisors¹ who are not employees of the Firm. All six Managing Partners have worked together at Thoma Bravo for nineteen years.

Thoma Bravo is committed to improving DEI internally and within the industry. The Firm is a signatory for the ILPA Diversity in Action initiative, which commits the Firm to specific actions that advance diversity and inclusion within Thoma Bravo and the industry more

¹ Personnel figures are as of March 31, 2024

broadly. The Firm continues to expand its reach into external diversity and inclusion-focused organizations, including partnering with organizations such as Sponsors for Educational Opportunity (“SEO”), Women’s Association of Venture Equity (“WAVE”), The Synergist Network, Private Equity Women Investor Network (“PEWIN”), Women’s Private Equity Summit, and the Gender Equity Consortium (Founding Member).

III. Investment Strategy

Fund XVI is expected to build upon the investment strategy and process originally developed by Carl Thoma and his partners more than 35 years ago and more recently refined by Orlando Bravo and the other current Thoma Bravo partners. This strategy seeks to create value by transforming businesses in fragmented, consolidating industry sectors into larger, more profitable, and valuable companies through rapid operational improvements, growth initiatives, and strategic and accretive add-on acquisitions. The application and infrastructure software and technology-enabled services industry sectors on which Thoma Bravo focuses today are fragmented and consolidating, which lend themselves particularly well to this strategy. Fund XVI is expected to target roughly 12-15 platform investments and typically commit over \$900 million over the life of each investment.

The investment process typically starts with proactive deal sourcing, where investment professionals seek out companies that Thoma Bravo believes fit within its buy-and-build strategy. Thoma Bravo professionals are active in the software and technology-enabled services sectors by contacting industry professionals and intermediaries through face-to-face meetings, email correspondence, phone conversations, and attending industry conferences. Once formal due diligence is initiated, the Thoma Bravo investment staff and often one or more operating partners embark on a rigorous, hands-on, and time-intensive process. In addition to thoroughly evaluating the prospective portfolio company, the process allows Thoma Bravo time to work with the target company’s management team to develop an operational improvement program. Upon closing an investment, the company’s management is expected to implement the operational improvement plan agreed upon during due diligence with the guidance of Thoma Bravo and often one or more operating partners or operating advisors.

Once the operating improvements are achieved and management functions as planned, a consolidation strategy typically will be pursued to generate continued growth. Like operating plans, Thoma Bravo’s consolidation plans typically are formulated pre-investment and are central to the investment thesis on which any investment is pursued. However, the investment return to which the investment is underwritten generally does not include the impact of acquisitions so that a successful consolidation program may produce an incremental return to the original plan. These consolidation initiatives and operational improvements are intended to quickly transform a company into a more profitable, larger, and valuable business attractive to strategic or financial acquirers or public investors. Throughout the process of managing an investment, Thoma Bravo intends to proactively manage liquidity options by developing and cultivating relationships with potential strategic and financial purchasers, the investment community, and lending sources. Thoma Bravo expects to use the following methods of

exiting investments in portfolio companies: (i) sales to strategic purchasers or financial purchasers, (ii) initial public offerings, and (iii) recapitalizations (for interim liquidity).

Thoma Bravo considers diverse ESG factors when investing and monitoring its portfolio companies. In the pre-investment and ownership phases, if deal team members identify material ESG risks or opportunities, they are included in discussions with the Investment Committee. Thoma Bravo may engage external advisors to conduct additional ESG-related due diligence. Where an ESG risk or opportunity is identified, Thoma Bravo may work with the prospective portfolio company management team to develop an action plan to address the risk or opportunity. During the Firm's ownership period, it receives periodic reports on ESG metrics from its portfolio companies and monitors ESG risks and opportunities in conjunction with portfolio company management.

IV. Investment Performance

Previous fund performance as of March 31, 2024, for Thoma Bravo is shown below:

Fund	Vintage Year	Total Commitments	SBI Investment	Net IRR*	Net MOIC*	Net DPI*
Fund VII**	2001	\$554 million	\$50 million	23.9%	2.1x	2.1x
Fund VIII**	2006	\$765 million	\$70 million	18.3%	2.9x	2.9x
Fund IX	2008	\$823 million	--	44.1%	3.8x	3.8x
Fund X	2012	\$1.3 billion	--	37.9%	3.1x	2.9x
SOFI	2013	\$418 million	--	34.1%	3.1x	3.0x
Fund XI	2014	\$3.7 billion	--	26.6%	3.6x	2.7x
SOFII	2015	\$1.1 billion	--	16.5%	2.4x	1.2x
Discover I	2016	\$1.1 billion	--	35.3%	3.1x	2.6x
Fund XII	2016	\$7.6 billion	\$75 million	16.6%	2.2x	1.0x
Discover II	2018	\$2.4 billion	--	24.1%	2.0x	0.7x
Fund XIII	2019	\$12.6 billion	\$150 million	26.4%	1.9x	0.7x
Explore Fund	2020	\$1.1 billion	--	24.7%	1.5x	0.2x
Discover Fund III	2021	\$3.9 billion	--	9.7%	1.2x	0.0x
Fund XIV	2021	\$17.9 billion	\$150 million	7.5%	1.2x	0.1x
Fund XV	2022	\$24.3 billion	\$100 million	12.0%	1.2x	0.0x

* Previous fund investments are not indicative of future results.

** Funds VII and VIII include investments in sectors other than software and technology-enabled services. Net IRR, Net MOIC and Net DPI were provided by Thoma Bravo.

V. Investment Period and Term

The Fund will have a six-year investment period and a ten-year term. The Fund may be extended for an additional one-year period at the discretion of the General Partner and, thereafter, for two additional one-year periods at the discretion of the General Partner with the consent of the Fund's advisory committee.

This document is for informational purposes only and is not intended, and should not be relied on in any manner, as legal, tax, investment, accounting or other advice or as an offer to sell or a solicitation of an offer to buy limited partner or other interests in any fund, any investment vehicle or any other security. Any offer or solicitation regarding a fund will be made only pursuant to the confidential private placement memorandum of the Fund (as may be amended or supplemented, the "PPM") and Fund's subscription documents and Agreement of Limited Partnership (the "LPA"), which will be furnished to qualified investors on a confidential basis at their request for their consideration in connection with such offering. This document is not a part of the PPM nor a part of the subscription documents. The information contained in this document will be superseded by, and is qualified in its entirety by reference to the PPM, which contains important information about the investment objectives, terms and conditions of an investment in the Fund, tax information and risk disclosures that should be read carefully prior to any investment in the Fund, and the LPA.

ATTACHMENT D

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	THL Equity Fund X, L.P.
Type of Fund:	Private Equity Limited Partnership
Total Fund Size:	\$6.25 billion
Fund Manager:	Thomas H. Lee Partners, L.P.
Manager Contact:	Tyler Griffith 100 Federal Street Boston, MA 02110

II. Organization and Staff

Thomas H. Lee Partners, L.P. (“THL” or the “Firm”) is sponsoring THL Equity Fund X, L.P. (the “Fund” and, together with its parallel funds, “Fund X”), a private investment fund that will acquire middle market growth companies in Identified Sector Opportunities (“ISOs”) across three Industry Groups: Financial Technology & Services, Healthcare, and Technology & Business Solutions. The Firm seeks to leverage its deep domain expertise and the operating capabilities of its in-house Strategic Resource Group (“SRG”) to create deal-sourcing advantages and improve portfolio company operations to accelerate revenue and margin growth.

THL was founded in 1974 in Boston, MA. As of May 2024, the Firm has approximately 140 professionals, 18 Executive Partners (who are consultants, not employees of THL), and an extensive network of executive relationships and corporate partnerships. The Firm is led by the Management Committee, which includes Co-CEOs Scott Sperling and Todd Abbrecht, the leaders of each of the three industry verticals: Jim Carlisle, Josh Nelson and Ganesh Rao, and THL’s COO and Head of SRG, Dan Jones. The average Committee member tenure at THL is 24 years.

THL is focused on improving diversity, equity, and inclusion (“DEI”) within the Firm. The firm’s DEI Leadership Committee, comprised of senior leaders, is focused on advancing the firm’s DEI initiatives and has rolled out a broader strategic plan to guide these efforts. These initiatives include partnerships with external organizations, such as SEO’s Alternative Investments Fellowship Program, and Synergist Network. Both of these are active partnerships that facilitate relationship-building, training and mentoring opportunities with individuals from underrepresented backgrounds.

III. Investment Strategy

Consistent with its predecessor funds, Fund X will seek middle-market buyout investments with a focus on North America. THL focuses its efforts on companies with enterprise values between \$250 million and \$3 billion as it believes this will have a greater ability to source transactions, accelerate growth, and improve operations for companies of this size. Since 1974, THL has raised over \$33 billion in equity capital, invested in over 170 companies, and completed more than 675 add-on acquisitions, representing an aggregate enterprise value at acquisition of over \$260 billion.

Based in one office, THL's fully integrated teams comprised of investment, business development, and operating professionals – typically specialized by industry and/or function – have been deliberately constructed to help deliver advantaged sourcing, accelerate revenue growth and margin expansion, and help drive quicker realizations. THL built a large team focused on the middle market, distinguished by seniority and tenure. The Firm's Managing Directors and Directors average 24 years of industry experience. To complement THL investment professionals, the Firm established the Strategic Resource Group ("SRG") in 2006 as an internal, operationally-focused resource. SRG partners with THL portfolio companies to accelerate growth, improve operations, and drive long-term sustainable value. Led by Dan Jones, who has been with THL for 16 years, SRG consists of professionals with extensive industry experience who engage with the management of portfolio companies to formulate a value creation plan and take the lead in driving revenue and EBITDA growth.

THL invests in three core Industry Groups – Financial Technology & Services, Healthcare, and Technology & Business Solutions. Within these industries, the firm commits months, and sometimes years, of research to identify subsectors that meet stringent investment criteria, where THL has the conviction that its operational leverage can help drive revenue and margin growth expeditiously. Those criteria include:

1. Large addressable market
2. Sustainable growth driven by long-duration secular trends
3. Attractive industry structure with potential for organic and inorganic growth
4. Potential for high and sustainable returns on invested capital
5. Sizable and actionable opportunity set; and
6. Low cyclicity.

Once THL acquires a portfolio company, the Firm has an active, hands-on, operationally-intensive approach to creating value. SRG engages early with a company (usually during diligence) to develop a value creation plan. SRG is implementation-oriented, typically operating on-site at many portfolio companies between three and four days each week to expeditiously drive key initiatives in partnership with portfolio company executives. SRG engagements typically fall into three broad models:

- Growth Acceleration: Targeted efforts involving discrete initiatives focused on driving revenue and/or margin growth;

- Growth Transformation: Complex, long-term engagements involving multiple SRG capabilities and team members; and
- Growth Restoration: Efforts focused on reducing costs, extending operating runway, and building momentum, often in the face of an unexpected business disruption.

Regardless of the engagement model, SRG works alongside dedicated portfolio company personnel, using some combination of five key growth levers, aiming to accelerate both revenue and EBITDA growth:

- Go-to-Market: Accelerate revenue growth through sales, marketing, and product initiatives;
- M&A: Systematic playbook for acquiring and integrating add-ons helps drive predictable outcomes and more efficient M&A;
- Technology & Product: Implement scalable and secure internal systems infrastructure, helping to enhance growth and improve operations with new products;
- Scalability: Invest in infrastructure and improving core operations, helping to produce efficient, sustainable growth and expand margins; and
- Talent & Organization: Place the best people in the right organizational structures, with the proper incentives, to help drive the VCP quickly.

THL adopted a sustainability policy in 2015, updated in 2024, and became a signatory to the UNPRI in 2020. THL believes integrating sustainability into its approach can create valuable opportunities for its portfolio companies and their stakeholders. As the Firm grows and evolves its sustainability program, THL is focused on applying a consistent approach to diligence, monitoring, and reporting, where appropriate in light of each investment's characteristics.

IV. Investment Performance

Previous fund performance as of March 31, 2024, is shown below:

Fund	Vintage Year	Total Commitment	SBI commitment	Net IRR*	Net MOIC*	DPI*
Fund I	1984	\$66 million	--	50%	2.6x	2.6x
Fund II	1989	\$568 million	--	54%	3.4x	3.4x
Fund III	1995	\$1.4 billion	--	32%	1.9x	1.9x
Fund IV	1998	\$3.5 billion	--	(3%)	0.9x	0.9x
Fund V	2000	\$6.1 billion	--	14%	1.7x	1.7x
Fund VI	2006	\$8.1 billion	--	8%	1.6x	1.6x
Fund VII	2016	\$2.6 billion	\$100 million	20%	1.8x	1.4x
Fund VIII	2019	\$3.6 billion	\$150 million	33%	1.8x	1.2x
Fund IX	2022	\$5.6 billion	\$150 million	4%	1.0x	0.0x

* Previous Fund investments may be relatively immature and, therefore, returns may not be indicative of future results. Net IRR and Multiple of Invested Capital (MOIC) are provided by Thomas H. Lee.

V. Investment Period and Term

Consistent with THL Fund IX, the Fund is expected to have a five-year investment period and a ten-year term subject to three additional one-year extension periods that are subject to Advisory Committee consent.

This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum (the "PPM"). It is qualified in its entirety by the more detailed information provided in the PPM.

REPORTS

- ❖ Public Markets Investment Program Report
- ❖ Participant Directed Investment Program and Non-Retirement Investment Program Report
- ❖ Aon Market Environment Report
- ❖ Meketa Capital Markets Outlook & Risk Metrics Report
- ❖ SBI Comprehensive Performance Report

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REPORT

Public Markets Investment Program

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DATE: August 7, 2024

TO: Members, State Board of Investment

FROM: Members, Investment Advisory Council and SBI Staff

SUBJECT: SBI Public Markets Program Report

This report provides a brief review of financial markets and the performance of the Combined Funds portfolio for the quarter and 12-month periods ended June 30, 2024. Included in this section are a market commentary and performance summary for the overall Combined Funds portfolio, performance summaries for the portfolio's public markets managers, and a report of any organizational updates for the public markets managers in the SBI portfolio.

The report includes the following sections:

	Page
• Market Review and Combined Funds Performance	3
• Public Markets Managers' Performance	5
• Organizational Updates and Summary of Manager Meeting Activity	11

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Review of SBI Combined Funds Performance Second Quarter 2024 (CY)

Market Summary

Global equity markets gained in the second calendar quarter of 2024, with the MSCI All Country World (ACWI) Index of global stocks rising +2.9% in U.S. dollar terms. U.S. stocks, and more specifically the so-called “Magnificent Seven” or “Mag 7” basket of mega cap U.S. technology companies, drove the majority of equity index performance globally.

The U.S. dollar rose +1.3% versus a trade-weighted basket of foreign currencies, most notably versus the Japanese yen (+5.9%) and Mexican peso (+9.6%). Interest rates rose during the quarter amid pronounced yield volatility, driven by investor uncertainty over the pace of U.S. economic growth and the path of Fed rate policy. The Bloomberg Global Aggregate Bond Index declined -1.1% during the quarter, while the U.S. Aggregate Bond Index managed to gain +0.1%, helped by a late-quarter rally spurred by tame inflation readings and slowing job market data which investors hoped might signal faster rate cuts.

U.S. equity markets rose overall, but the gains were highly concentrated in a few stocks. Excluding the contribution to return from the Mag 7, the Russell 3000 Index of broad U.S. stocks declined by over -1%. Broad equity sentiment was hurt during the quarter by weaker economic data, including a slowdown in hiring, falling consumer confidence, and purchasing manager survey data from the Institute for Supply Management (ISM) showing that activity in both the manufacturing and services sectors fell into contractionary territory during the second quarter.

In the U.S., economic data releases during the quarter showed a mixed picture. While estimates of gross domestic product (GDP) growth for the first calendar quarter of 2024 came in weaker than expected (+1.4% vs. initial survey estimates of +2.5%), early estimates of 2Q GDP growth rebounded to a more robust +2.8% annual pace. The job market cooled during the quarter with the monthly non-farm payroll report showing employers added fewer new jobs during the second quarter vs. Q1, and the unemployment rate rose to 4.1% in June from 3.8% at the end of March. Despite a hotter-than-expected CPI report in April, broad measures of inflation returned to their downward trend during May and June, giving a boost to the Fed’s inflation-fighting credibility and increasing calls for the Fed to begin cutting as soon as its September meeting.

Within fixed income, yields rose across the U.S. Treasury yield curve during the quarter, dampening returns on longer-maturity fixed income assets. The Fed remained on hold during the quarter, and the FOMC’s so-called “dot plot” of forward-looking policy expectations released at its June meeting showed policymakers expected to deliver just one cut over the remainder of 2024. Most credit-oriented fixed income sectors performed well during the quarter, as the added yield compensation for holding bonds with a moderate degree of credit risk outweighed the impact of a more uncertain outlook for the economy and interest rates.

Overall Combined Funds Portfolio Performance – Quarter and Last 12 Months

The overall Combined Funds portfolio returned +1.7% during the **calendar second quarter**, outperforming the composite benchmark’s return of +1.6%. The Combined Funds portfolio benefitted from active manager outperformance across the international equity and fixed income portfolios. Within fixed income, the portfolio’s allocation to return-seeking strategies benefitted

from the strong performance of most credit-sensitive sectors over the quarter. Gains from the portfolio's currency hedging program benefitted performance during the quarter. The portfolio's slight overweight to equities relative to the policy target, and a corresponding underweight to fixed income, also contributed to portfolio outperformance during the period. Returns within the private markets portfolio during the quarter were muted. The private markets invested portfolio gained +1.4% during the quarter, led by the Private Equity and Resources allocations, both of which returned +1.8% for the quarter.

For the **one-year period ended June 30, 2024**, the portfolio posted a return of +12.3%, outperforming the composite benchmark return of +11.9% for the same period. The portfolio benefitted from a positive contribution from active management, particularly within domestic and international equities, as well as within core/core plus and return seeking fixed income. Mark-to-market gains from the portfolio's currency hedging program also helped drive relative outperformance. In terms of asset allocation, the portfolio's allocation to return-seeking strategies significantly outperformed the portfolio's fixed income policy benchmark over the period, while a modest underweight to both the Treasury protection portfolio and emerging market stocks helped relative performance over the period as these sectors lagged the broader market. The invested private markets portfolio returned +7.7% for the 12 months ended June 30, 2024, led by the Private Equity and Private Credit allocations, both of which returned +9.8% for the one-year period.

Review of Public Markets Manager Performance Second Quarter 2024 (CY)

Domestic Equity

After two consecutive quarters of double-digit returns, U.S. stocks as measured by the Russell 3000 posted a more muted +3.2% gain for the second calendar quarter of 2024. Index performance for the quarter was highly concentrated among mega cap technology and communication services names. The so-called Magnificent Seven stocks (Microsoft, Apple, Alphabet, Amazon, NVIDIA, Meta, and Tesla) rose +16.9%, while the remaining members of the index collectively fell -1.5%. With the quarter's rally in mega cap technology names, the 10 largest stocks grew to account for 29.5% of the Russell 3000, marking the highest index concentration since the dot-com era of 1999-2000.

Market enthusiasm for the artificial intelligence theme remained strong, yet behind that headline lurked worries about higher-for-longer interest rates, weakening fundamentals in cyclical and consumer-focused industries and increased political uncertainty. Outside of the technology (+12.3%) and communications services (+9.1%) sectors, performance was mixed. Seven sectors posted negative returns during the quarter, with materials (-5.0%) and industrials (-3.3%) experiencing the biggest declines.

Growth stocks strongly outpaced value names during the quarter (Russell 3000 Growth Index +7.8% vs. Russell 3000 Value Index -2.3%), while performance within large cap stocks once again dominated the return of small caps (Russell 1000 Index +3.6% vs. Russell 2000 Index -3.3%).

Within large caps, growth stocks within information technology and communication services performed strongly during the quarter, while cyclical industries like materials, industrials and energy lagged. Within small caps, value stocks underperformed growth stocks, though both lagged large caps (Russell 2000 Growth Index -2.9% vs. Russell 2000 Value Index -3.6%). Healthcare was the biggest detractor in small cap value (-10.1%) with healthcare providers, pharmaceuticals, and biotech names all falling more than -10%. Within small cap growth, strong performance in consumer staples (+5.8%) was not enough to offset losses in industrials (-3.7%) and information technology (-3.5%).

The Combined Funds domestic equity portfolio gained +3.2% during the quarter, keeping pace with the Russell 3000 Index (+3.2%). Despite managers' collective underweight to mega cap growth names, overall stock selection in other sectors contributed positively to relative performance.

In a reversal from the prior quarter, the portfolio's large cap and all cap growth managers all underperformed their benchmarks during the quarter. These managers as a group are less concentrated than their respective market cap-weighted benchmarks, leading to an underweight in the largest index names, which detracted from performance over the period. A significant underweight to Apple, one of the strongest performers during the quarter, was particularly notable, but the broader lack of exposure to high-performing technology names, as well as poor security selection in healthcare also dragged on this cohort's relative performance. Both Sands Capital (+0.3% Manager vs. +8.3% Benchmark) and all-cap manager Zevenbergen underperformed (+2.2% Manager vs. +7.8% Benchmark) due to poor stock selection in the information technology

and health care sectors, as well as an underweight position in the Mag 7 relative to their respective benchmarks.

Active large cap value managers slightly underperformed during the quarter (-2.4% Managers vs. -2.2% Benchmark). Barrow Hanley outperformed the benchmark (-1.6% Manager vs. -2.2% Benchmark) due to strong stock selection within information technology, communication services and materials. LSV, a domestic large cap manager with a quantitative, deep-value approach, generally holds stocks that are cheaper than the benchmark based on price and cash flow metrics. This approach underperformed the benchmark during the quarter (-3.2% Manager vs. -2.2% Benchmark) due to poor stock selection across several sectors, including consumer staples and industrials, which was partially offset by positive security selection within utilities, financials, technology and communication services.

The portfolio's semi-passive large cap managers both outperformed their benchmark during the quarter (+4.2% Managers vs. +3.6% Benchmark). Quantitative manager Blackrock outperformed the market primarily due to sentiment measures that correctly selected stocks positioning around themes such as AI beneficiaries. Blackrock's other major signal groups did well, including macro and fundamental signals. Fundamental manager JP Morgan, which focuses on stock selection through an industry-neutral portfolio, outperformed primarily due to positioning within information technology, healthcare, and industrials.

Small cap growth managers outperformed their benchmark in aggregate during the quarter (-1.0% Managers vs. -2.9% Benchmark), with the single biggest contribution coming from their collective underweight to Super Micro Computer (-18.9%), the index's darling in the previous quarter. Fundamental manager Hood River delivered strong outperformance (+2.8% Manager vs. -2.9% Benchmark) stemming from positive security selection within industrials and technology. Wellington outperformed (-1.5% Manager vs -2.9% Benchmark), driven by stock selection in the technology and consumer discretionary sectors. In contrast, Arrowmark underperformed (Manager -3.9% vs. Benchmark -2.9%) due to an emphasis on smaller capitalization and anti-momentum stocks within the consumer discretionary, information technology, and energy sectors.

Small cap value managers narrowly beat their benchmark during the quarter (-3.5% Managers vs. -3.6% Benchmark). Stock selection drove the outperformance, especially in the healthcare, industrials, and information technology sectors. Deep value manager Peregrine outperformed for the quarter (-2.1% Manager vs. -3.6% Benchmark), benefiting from stock selection in the consumer discretionary and healthcare sectors. Fundamental manager Hotchkis and Wiley underperformed (-5.4% Manager vs. -3.6% Benchmark), hurt by poor stock selection in consumer discretionary and materials names.

The portfolio's passive portfolios tracked their respective benchmarks during the quarter, posting a combined return of +3.5%, which was in-line with the overall passive benchmark's return.

Developed International Equity and Currency Overlay

International developed markets equities, as measured by the MSCI World ex USA Index (net), fell -0.6% in U.S. dollar terms during the quarter, trailing U.S. markets. However, some of this relative underperformance was attributable to the strengthening of the U.S. dollar over the quarter, which reduced the value of foreign-denominated investments from the perspective of dollar-based

investors. Expressed in local currency terms, non-U.S. developed market stocks rose +0.8% over the quarter.

Although most individual developed markets ending the quarter in positive territory, weak performance among the largest countries in the index, particularly France and Japan, was enough to offset gains elsewhere in the index. French equities fell as investors weighed the implications of the strong showing by France's far-right National Rally party in the EU parliamentary elections. Following that result, French President Emmanuel Macron added to the political uncertainty by calling for snap legislative elections. In Japan, stocks fell in response to a more hawkish stance by the Bank of Japan, with real estate, consumer discretionary and materials names posting the sharpest declines.

The portfolio's active developed markets managers outperformed the MSCI World ex USA Index (net), returning +0.2% versus the benchmark's -0.6% return. Manager outperformance was largely attributable to security selection in Japan, particularly within the industrial and consumer discretionary sectors. Core manager Columbia Threadneedle led the portfolio (+1.0% Manager vs. -0.6% Benchmark), driven by stock selection in Europe and Japan. Quantitative manager Acadian (+0.8% Manager vs. -0.6% Benchmark) benefitted from stock selection and allocation decisions within Europe, largely driven by valuation signals. Fundamental manager Fidelity also outperformed (+0.4% Manager vs. -0.6% Benchmark), primarily from strong security selection within Japanese industrial names.

The passive developed markets portfolio outperformed the MSCI World ex USA Index (net) return for the quarter (-0.3% Manager vs. -0.6% Benchmark). The slightly larger performance variance experienced this quarter is the result of dividend withholding differences during a seasonally high period for dividend payments in non-U.S. markets, particularly in Japan and Europe.

The U.S. dollar appreciated versus developed markets currencies during the quarter, leading to gains in the portfolio's currency overlay program, which added approximately +0.6% relative to an unhedged international developed markets equity benchmark. The dollar benefitted from continued hawkish sentiment from the Federal Reserve following strong economic readings and above-target inflation. During the quarter, the program's gains were driven by weakness in the Japanese yen, which has steadily depreciated versus the U.S. dollar over the past year given the continued large interest rate differential between the two currencies. The program's overall hedge ratio ranged from 28% to 49% during the quarter and stood at 37% as of the end of June.

Emerging Markets Equity

Emerging markets equities, as measured by the MSCI Emerging Markets Index (net), rose +5.0% in U.S. dollar terms during the quarter, outperforming both the U.S. and international developed markets. Strong performance in local currency terms (+6.2% MSCI EM (net) in local currency terms) easily overcame the modest headwind from a strengthening U.S. dollar during the quarter. Index performance for the quarter was led by strong gains from China, India, and Taiwan, the three largest index constituents by weight. After several quarters of underperformance, Chinese stocks gained, led higher by internet companies and banks. Indian industrial and consumer discretionary names continued their strong performance from the prior quarter, with bank stocks also contributing meaningfully to performance. Taiwan's performance was led once again by its semiconductor sector, which has continued to benefit from forecasts of growth in chip demand fueled by broader adoption of AI.

Despite strong performance from the broader MSCI China Index, the onshore-focused index of China A-share companies fell -2.1% during the quarter. Notwithstanding announcements from the government of further action in support of capital markets and reforms to the real estate market, both consumer and business sentiment within China remain weak.

The portfolio's active emerging markets managers returned +4.9% during the quarter, slightly underperforming the MSCI Emerging Markets Index (net) return of +5.0%. Overall, manager performance benefitted from positive security selection in semiconductor names, particularly in South Korea, while security selection within China was negative.

Core manager Macquarie once again led the active EM managers (+8.1% Manager vs. +5.0% Benchmark) with its significant overweight positioning to semiconductor names. Quality growth manager Morgan Stanley (+6.5% Manager vs. +5.0% Benchmark) also benefitted from overweight positions in semiconductor names. Deep value manager Pzena underperformed (+2.5% Manager vs. +5.0% Benchmark), hurt by its stock selection in and overweight to consumer staples, which was the worst performing sector in the index for the quarter. Security selection within utilities also detracted from Pzena's performance during the quarter.

Earnest Partners' China A-share strategy underperformed the MSCI China A Index during the quarter (-5.2% Manager vs. -2.1% Benchmark). Earnest's underperformance was in part the result of the manager holding a zero weight in the utilities and energy sectors, which were the two best performing sectors in the index, as well as an overweight to and poor selection within the consumer staples sector.

The passive emerging markets portfolio outperformed the MSCI Emerging Markets Index (net) for the quarter (+5.4% Manager vs. +5.0% Benchmark). Reported performance reflects the impact of a reversal of pricing differences noted in last quarter's performance related to the timing of index and portfolio pricing around the Easter market holiday in the United States. Excluding this impact, the portfolio's performance was within tolerance relative to its benchmark for the quarter.

Global Equity and ACWI ex USA Equity

The MSCI All-Country World Index (ACWI) (net) gained +2.9% in the first quarter. Dispersion across countries was pronounced. Countries such as Taiwan (+15.1%), India (+10.2%) and China (+7.1%) strong posted positive returns during the quarter, while markets such as France (-7.5%), Japan (-4.3%) and Canada (-2.1%) lagged. Index gains were driven primarily by information technology (+11.4%), communication services (+8.1%) and utilities (+3.6%) while materials, real estate, industrials, energy and the consumer sectors all experienced modest declines.

The Combined Funds' global equity managers underperformed the MSCI All-Country World Index (ACWI) (net) for the quarter (-1.8% Managers vs. +2.9% Benchmark). As a group, the managers hold an overweight position in Europe and are underweight to the United States. This relative positioning detracted from quarterly performance, as did security selection within these markets. Quality growth manager Martin Currie underperformed (-4.4% Manager vs. +2.9% Benchmark), as poor stock selection and an overweight to healthcare hurt relative performance for the quarter. Value manager Ariel (-2.7% Manager vs. +2.9% Benchmark) also lagged the benchmark, hurt by poor security selection in the U.S. and a large overweight to French stocks.

The portfolio's ACWI ex USA manager, Earnest Partners, lagged the benchmark over the quarter (-0.1% Manager vs. +1.0% Benchmark). Underperformance was driven primarily by poor stock selection within the consumer discretionary, healthcare and communication services sectors.

Core/Core Plus and Return Seeking Bonds

The U.S. investment grade fixed income market, as measured by the Bloomberg U.S. Aggregate Index, posted a return of +0.1% during the second quarter. Overall, performance during the quarter was impacted by volatile and rising Treasury yields. In April, Treasury yields continued their upward trend, as strong economic data and sticky inflation pushed out the timeline for potential rate cuts in 2024. Over the balance of the quarter, more encouraging CPI prints and evidence of a weakening economy brought the prospect of Fed interest rate cuts back into view, driving a rally in yields from April's highs. Overall, the yield on the benchmark 10-year U.S. Treasury Note rose by +20 basis points (bps) during the quarter to end at 4.4%. While the yield curve remains inverted, during the quarter long-term yields rose more than those for shorter maturities, causing the curve to steepen.

Investment grade (IG) credit modestly underperformed other fixed income sectors for the quarter, as investors balked at tight valuations amid a slowdown in the economy and the potential for the Fed to keep rates higher for longer. On the positive side, continued positive investor flows into fixed income and lower new-issue corporate supply helped support IG credit valuations. Corporate spreads widened +4 bps during the quarter and ended June at +94bps over similar maturity U.S. Treasuries, well below their 20-year average level of +149bps.

Within securitized sectors, U.S. Agency MBS matched the performance of the broader fixed income market for the quarter (Bloomberg MBS Index +0.1%). The volatile interest rate environment negatively impacted MBS valuations, eroding their carry advantage relative to U.S. Treasuries. Credit-oriented securitized bonds generally outperformed, as higher spreads and solid underlying collateral performance attracted yield-focused investors. Outperformance in non-agency mortgage credit was supported by strong home price appreciation and borrower credit fundamentals. Commercial mortgage-backed (CMBS) sector performance was generally positive, although the timing of any recovery within the office sector remains uncertain.

Within the high yield sector, lower quality (CCC-rated) spreads widened in sympathy with weakness in the broader (ex-mega cap technology) equity market, while spreads for higher quality (BB-rated and B-rated) names remained rangebound. Supported by the floating rate nature of the asset class, limited distressed/default experience, and renewed demand from CLO buyers, leveraged loans returned +1.9% for the quarter. Emerging market debt posted positive results for the quarter, driven by strong performance within the U.S.-dollar denominated EM market. In contrast, local currency EM debt returns were negatively impacted by volatility associated with elections in key emerging market countries, like Mexico, and local inflation trends.

The portfolio's core/core plus bond managers outperformed the Bloomberg Aggregate Index during the quarter (+0.2% Managers vs. +0.1% Benchmark). Core managers benefitted from allocations to and security selection within IG Credit and Agency MBS, while core plus managers' allocations to and security selection within HY Credit, IG Credit, Securitized Credit, and Agency MBS boosted their performance for the quarter. Notably, core plus manager Western Asset's

underperformance was driven by poor issue selection within emerging markets and a longer-than-benchmark duration position.

The portfolio's return-seeking bond managers returned +0.7% during the quarter, outperforming the portfolio's policy benchmark (Bloomberg U.S. Aggregate Bond Index), which returned +0.1%. The return-seeking managers' performance for the quarter was in-line with the weighted composite of the managers' individual benchmarks, which returned +0.7%.

Within the return-seeking portfolio, the dedicated high yield managers' asset selection within the lower credit quality segments of the market contributed to outperformance. Notably, KKR's security selection within CCC-quality high yield contributed to performance for the quarter. Both Oaktree and KKR's relative sector exposures were also positive contributors to performance, particularly within the capital goods, energy, healthcare, support services, and media industries.

Underperformance within the portfolio's multi-asset credit managers was driven by an overweight to local emerging markets, which were negatively impacted by local inflation trends and broader interest rate volatility. On the positive side, the managers benefitted from allocations to high yield bonds, floating rate bank loans, CLOs, and residential and commercial mortgage credit.

The reported performance of securitized opportunities manager TCW during the quarter (+1.1% Manager vs. +1.3% Benchmark) was negatively impacted by a correction of a NAV overstatement in the current period related to the reversal of interest accruals on modified non-agency MBS pools (interest shortfalls). The impact of the NAV restatement was approximately -0.7%.

Treasury Protection Portfolio

The Treasury Protection Portfolio fell -0.7% during the quarter, slightly outperforming the benchmark of -0.8%. Consistent with the performance experienced during the first calendar quarter, managers' holdings of U.S. agency securities continued to provide a yield and performance tailwind during current quarter relative to their U.S. Treasury-only benchmark. Managers' duration positioning in the volatile and rising rate environment was a slight detractor to returns, on balance.

Laddered Bonds + Cash Portfolio

The Combined Funds Laddered Bonds + Cash Portfolio performed in line with the ICE BofA U.S. 3-Month Treasury Bill benchmark, delivering a return of +1.3% for the quarter. During the quarter, the SBI added net funds to the laddered bond portfolio and maintained the effective maturity of the laddered portfolio, enabling managers to continue investing in higher yielding assets with maturities ranging from six months to one year. Managers' allocations to corporate bonds and asset-backed securities (ABS) resulted in a modest yield advantage over the benchmark.

Public Markets Managers' Organizational Updates Second Quarter 2024

Ariel (Global Equity)

Vivian Lubrano joined the firm as Senior VP Global Equities, Portfolio Manager, and Senior Research Analyst. Ms. Lubrano will work alongside Henry Mallari- D'Auria and Micky Jargirdar on the day-to-day management of the Ariel Global product. Senior Quantitative Analyst Henry Huang left the firm. Edward Hak-Chung Leung joined the firm as Director of Quantitative Research to fulfill the duties of Mr. Huang.

Columbia Threadneedle (Fixed Income)

Brian Lavin, Senior Portfolio Manager and Head of U.S. High Yield, plans to retire in March 2025. Kris Keller, Senior Portfolio Manager, will become Head of U.S. High Yield, after Mr. Lavin retires.

Dodge & Cox (Fixed Income)

Bill Strickland, Chief Operating Officer (COO), will retire in June 2025. Hallie Marshall assumed the role of Associate COO as of June 30, 2024, and will succeed Mr. Strickland as COO once he retires.

Hotchkis & Wiley (Domestic Equity)

Portfolio Manager Marshall Cowden left the firm effective May 2024. Mr. Cowden served as the energy services and payment processors analyst on the SBI portfolio. Mr. Cowden's coverage will be redistributed among the team.

LSV (Domestic Equity)

Philip Owrutsky joined the firm as a senior quantitative analyst in April 2024.

Macquarie (Emerging Markets Equity)

Brian Murray, the Chief Compliance Officer for Macquarie, left the firm effective June 13, 2024. Marty Wolin was appointed the new Chief Compliance Officer.

Martingale (Domestic Equity)

James Eysenbach and Jennifer Cooper were appointed Co-CEOs effective on July 1, 2024, replacing former CEO and co-founder William Jacques. Mr. Jacques will remain an active member of the investment team and will serve as Co-Chair of the Board of Directors.

Oaktree (Fixed Income)

In May 2024, Ramzi Habibi, Managing Director, transferred to the Strategic Credit group from the U.S. High Yield Bond team. Mr. Habibi was previously Co-Director of Research for the U.S. High Yield Bond team. Also in May 2024, Megan Messina was appointed Assistant Portfolio Manager of Oaktree's U.S. CLO Mandates. Ms. Messina previously served as Head of U.S. CLO Capital Markets.

PGIM (Fixed Income)

As previously announced, Head of PGIM Fixed Income Michael Lillard retired in April 2024. In preparation for Mr. Lillard's departure, John Vibert was appointed the new President and CEO of PGIM Fixed Income in January 2024. Richard Greenwood, Managing Director and Head of Credit, will retire in April 2025. Mr. Greenwood will maintain oversight of both Corporate Credit Research and Portfolio Management until January 1, 2025, and will serve as an advisor to PGIM through April 2025. Starting January 1, 2025, Craig Dewling, Co-Chief Investment Officer, will assume direct oversight of the Credit Portfolio Management teams.

Record Currency (Currency Overlay)

Tom Arnold, Head of Client Team, and Shaesta Wahedally, Head of Client Onboarding, formally joined the Board of Record Currency Management Limited (RCML) during the reporting period after receiving FCA approval. Steve Cullen, CFO, retired from Record effective July 1, 2024 after transitioning his responsibilities to Richard Heading, who joined the firm in early June. Mr. Heading will join the RCML Board, subject to FCA approval.

State Street Global Advisors (Passive EM and DM)

Dwayne Hancock, portfolio manager for the Developed Markets international passive portfolio, announced his retirement during the quarter. Mr. Hancock will be succeeded by Lisa Hobart, who joined SSgA in 2006 and currently serves as Senior Portfolio Manager on the Systematic Equity Beta Solutions Team. Ms. Hobart graduated from Leeds University with a B.A. (Hons) in Economics and Management. She holds the Investment Management Certificate.

TCW (Fixed Income)

In June 2024, Jeff Byer, Global Head of Operations, departed from the firm. Also in June, Penny Morgan joined TCW as Global Head of Operations. Ms. Morgan was previously the Global Co-Head of Investment Operations at Western.

Western (Fixed Income)

John Bellows, Head of Broad Markets and Portfolio Manager for select Broad Markets Portfolios, resigned from Western on May 1, 2024. Mark Lindbloom assumed the role of Head of Broad Markets. Mr. Lindbloom had previously led Western's Broad Markets team from 2019 to 2023. During the quarter Chia-Liang Lian, Co-Head of Investment Management, Asia (ex-Japan) and Co-Head of Emerging Markets Debt, left the firm following a leave of absence. Kevin Ritter, who served as Interim Head of the U.S.-based Emerging Markets Team, will continue to lead the team as Head of Emerging Markets

Zevenbergen (Domestic Equity)

Andrew Niedt joined Zevenbergen as a Research Analyst in June 2024.

Q2 2024 Manager Meetings

During the quarter, Staff met with managers listed below. Note that while staff met with some managers multiple times during the quarter, each manager/strategy is listed only once below.

Investment Manager	Asset Class
Acadian Asset Management LLC	Developed Markets Equity
Ariel Investments, LLC	Global Equity
Ashmore Investment Management Limited	Fixed Income
Baillie Gifford Overseas Limited	Global Equity
BlackRock Financial Management, Inc.	Fixed Income
BlackRock Institutional Trust Company	Passive Equity
Columbia Threadneedle Investments	Domestic Equity
Goldman Sachs Asset Management, L.P.	Domestic Equity
Goldman Sachs Asset Management, LP	Fixed Income
J.P. Morgan Investment Management Inc.	Developed Markets Equity
LSV Asset Management	Domestic Equity
Macquarie Investment Management Advisers	Emerging Markets Equity
Marathon Asset Management LLP	Developed Markets Equity
Martin Currie Inc.	Emerging Markets Equity
Morgan Stanley Investment Management Inc.	Emerging Markets Equity
Neuberger Berman Investment Advisers LLC	Fixed Income
NISA Investment Advisors, LLC	Equity Overlay
Oaktree Capital Management, L.P.	Fixed Income
Pacific Investment Management Company LLC (PIMCO)	Fixed Income
Payden & Rygel	Fixed Income
Peregrine Capital Management	Domestic Equity
PGIM	Fixed Income
Record Currency LLC	Currency Overlay
TCW	Fixed Income
Winslow Capital Management, LLC	Domestic Equity

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REPORT

Participant Directed
Investment Program
and
Non-Retirement
Investment Program

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DATE: August 7, 2024

TO: Members, State Board of Investment

FROM: Members, Investment Advisory Council and SBI Staff

SUBJECT: Participant Directed Investment Program and Non-Retirement Program

This section of the report provides commentary on the Participant Directed Investment Program (PDIP) investment options and Non-Retirement Program managers along with the list of due diligence meetings staff conducted during the second calendar quarter of 2024.

The report includes the following sections:

	Page
• Participant Directed Investment Program Fund Commentaries	3
• Non-Retirement Fund Commentaries	5
• Manager Meetings	7

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Participant Directed Investment Program Fund Commentaries Second Quarter 2024

Domestic Equities

Vanguard Total Stock Market Index Institutional Plus

The Fund employs an index sampling approach designed to track the performance of the CRSP U.S. Total Market Index, which represents approximately 100% of the investable U.S. stock market and includes large-, mid-, small-, and micro-cap stocks. The Fund matched the benchmark performance for the quarter with a +3.2% return.

Vanguard Institutional Index Plus

The Fund employs a full replication indexing approach designed to track the S&P 500 Index. The Fund matched the benchmark performance for the quarter with a +4.3% return. *Note: This option is only available to the Minnesota Deferred Compensation Plan (MNDCP).*

Vanguard Dividend Growth Fund

The Fund is actively managed by Wellington Management. The Fund's strategy is to assemble a concentrated portfolio of large- and mid-cap stocks, emphasizing high-quality companies with a history of paying stable or increasing dividends. The Fund returned -1.6% for the quarter, underperforming the S&P U.S. Dividend Growers Index return of +0.4%. Weak stock selection and an underweight to the information technology sector drove the underperformance for the quarter. An overweight in the industrial sector and weak stock selection in healthcare and consumer staples sectors also detracted.

Vanguard Mid-Cap Index

The Fund employs a full replication indexing approach designed to track the performance of a broadly diversified pool of mid-cap U.S. stocks. The Fund matched the benchmark performance for the quarter with a -2.7% return.

T. Rowe Price Institutional Small-Cap Stock Fund

The Fund's investment process emphasizes fundamental research and active, bottom-up stock selection. The Fund seeks to provide long-term capital growth by investing primarily in stocks of small companies in both growth- and value-oriented market segments. The Fund returned -4.6% for the quarter, underperforming the Russell 2000 Index return of -3.3% primarily from weak stock selection in the healthcare sector. Stock selection in the consumer staples and financials sectors also detracted.

International Equities

Fidelity Diversified International Equity Fund

The Fund actively selects international companies, primarily in foreign developed markets. The Fund focuses on companies with significant long-term earnings potential, durable business models, and attractive growth prospects. The Fund returned +0.3% for the quarter, outperforming the MSCI EAFE Index return of -0.4%. Strong stock selection in information technology, consumer discretionary, and industrials sectors benefited relative returns. Regionally, the portfolio benefited from an underweight and stock selection in Japan, and in its out-of-benchmark exposure to emerging markets.

Vanguard Total International Stock Index

The Fund employs a full replication indexing approach designed to track the FTSE Global All Cap ex U.S. Index, a market-cap weighted index designed to measure the performance of developed and emerging market companies. The Fund matched the benchmark return of +0.8% for the quarter.

Fixed Income and Capital Preservation Options

Dodge & Cox Income Fund

The Fund invests in a diversified portfolio that consists primarily of investment-grade debt securities, with a higher allocation to corporate and securitized debt relative to the benchmark. The Fund returned +0.5% for the quarter, outperforming the Bloomberg U.S. Aggregate Index return of +0.1%. Relative outperformance for the quarter was primarily attributable to security selection within the industrial sector and Agency mortgage-backed securities (MBS). Asset allocation also contributed to outperformance through the exposure to non-benchmark collateralized mortgage obligations (CMO) and an overweight to the financial sector.

Vanguard Total Bond Market Index

The Fund employs an index sampling approach designed to track the performance of the Bloomberg U.S. Aggregate Index. The Fund returned +0.2% for the quarter, slightly outperforming the benchmark return of +0.1%.

Stable Value Fund

Galliard Capital Management manages the Stable Value Fund in a separately managed account. The Fund's assets are invested in short- and intermediate-duration fixed-income securities combined with investment contracts from financial institutions. The contracts have features designed to smooth the impact of changes in interest rates on the value of participant accounts and provide a stable net asset value. The Fund returned +0.8% for the quarter compared to a +1.3% return for its benchmark, the 3-Year Constant Maturity Treasury Yield +45 basis points. In periods of rapidly rising interest rates and/or an inverted yield curve, as experienced over the last 24 months, it is not uncommon for stable value strategies to lag their respective benchmarks. The Fund's overall quarterly return was within expectations given current market conditions. Despite the headwinds from rapidly rising interest rates, relative performance of the Fund's underlying fixed income strategies versus their respective performance benchmarks remains positive.

Money Market Fund

State Street Global Advisors manages the cash option in a commingled pool called the Short-Term Investment Strategy. The Fund returned +1.4% for the quarter, slightly outperforming the ICE BofA 3-Month U.S. T-Bill Index return of +1.3%.

Balanced Option

Vanguard Balanced Index

The Fund seeks capital appreciation, current income, and long-term income growth by employing an index sampling approach designed to track the investment performance of a composite benchmark of 60% CRSP U.S. Total Stock Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index. The Fund matched the benchmark performance for the quarter with a +2.0% return.

Non-Retirement Fund Commentaries Second Quarter 2024

Assigned Risk Plan Fixed Income Manager

RBC Global Asset Management actively manages the fixed income portfolio for the Assigned Risk Plan relative to the Bloomberg U.S. Government Intermediate Index, focusing on security selection and sector allocation. The Portfolio's performance matched the benchmark for the quarter, returning +0.6%. For the quarter, relative performance was positively impacted by the portfolio's yield advantage relative to the index. The portfolio generally maintains a duration position within +/-0.5 years relative to the index. During the quarter, the portfolio's duration was slightly longer than the benchmark, which mildly detracted from relative performance as interest rates rose modestly.

Non-Retirement Program Fixed Income Manager

Prudential Global Investment Management (PGIM) actively manages the Non-Retirement Fixed Income Portfolio relative to the Bloomberg U.S. Aggregate Index in a separately managed portfolio. The Portfolio returned +0.3% for the quarter, slightly outperforming the benchmark return of +0.1%. Relative outperformance was the result of an overweight position in investment-grade corporate securities and structured products, including asset-backed securities (ABS) and commercial mortgage-backed securities (CMBS).

Non-Retirement Program Domestic Equity Manager

Mellon Investments Corporation passively manages the Non-Retirement Domestic Equity Portfolio in a separately managed portfolio. The Portfolio employs a full replication indexing approach designed to track the performance of its benchmark, the S&P 500 Index. The Portfolio performance matched the benchmark for the quarter, returning +4.3%.

Non-Retirement Program Money Market Manager

State Street Global Advisors manages the Non-Retirement Money Market Fund against the iMoneyNet All Taxable Money Fund Average. The Fund returned +1.4% for the quarter, slightly outperforming the benchmark return of +1.3%.

**Organizational Updates with
Participant-Directed Investment Program Funds and
Non-Retirement Managers
Second Quarter 2024**

Dodge & Cox (Participant-Directed Investment Program)

Bill Strickland, Chief Operating Officer (COO), will retire in June 2025. Hallie Marshall assumed the role of Associate COO as of June 30, 2024, and will succeed Mr. Strickland as COO once he retires.

Vanguard (Participant-Directed Investment Program)

Salim Ramji was appointed Vanguard's new CEO and became a member of the Board of Directors, effective July 8, 2024. Mr. Ramji, who was previously the Global Head of iShares & Index Investing at Blackrock, succeeds Tim Buckley as CEO. Mark Loughridge, Vanguard's Lead Independent Director, will serve as the new non-executive Chairman of the Board.

PGIM (Non-Retirement Fixed-Income)

As previously announced, Head of PGIM Fixed Income Michael Lillard retired in April 2024. In preparation for Mr. Lillard's departure, John Vibert was promoted to President and CEO of PGIM Fixed Income in January 2024. Richard Greenwood, Managing Director and Head of Credit will retire in April 2025. Mr. Greenwood will maintain oversight of both Corporate Credit Research and Portfolio Management until January 1, 2025, and will serve as an advisor to PGIM through April 2025. Starting January 1, 2025, Craig Dewling will assume direct oversight of the Credit Portfolio Management teams.

RBC (Assigned Risk Plan Fixed-Income)

Mike Lee, Managing Director & Head of RBC Global Asset Management North American Institutional and CEO of RBC GAM-US, retired as of July 31, 2024. Donald Sanya has been promoted to Head of RBC GAM's U.S. Institutional business and will assume Mike's role as CEO of RBC GAM-US, effective August 1, 2024. Also, effective August 1, 2024, Brandon Lew, Managing Director and Co-Head of RBC GAM Business Finance, will assume the additional title of President.

**Manager Meetings
Second Quarter 2024**

Investment Manager	Management Style/Asset Class	Investment Program
• Ascensus	Multi-Asset Class Platform	PDIP (MN ABLE Plan)
• TIAA-CREF	Multi-Asset Class Platform	PDIP (MN 529 Plan)
• Galliard	Active, Stable Value Fund	PDIP
• RBC	Active, Fixed Income	Assigned Risk Plan, Non-Retirement
• SSGA	Passive, Target Retirement Fund	PDIP
• Vanguard	Active, Dividend Growth Fund	PDIP

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REPORT

AON Market Environment Report

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Market Environment

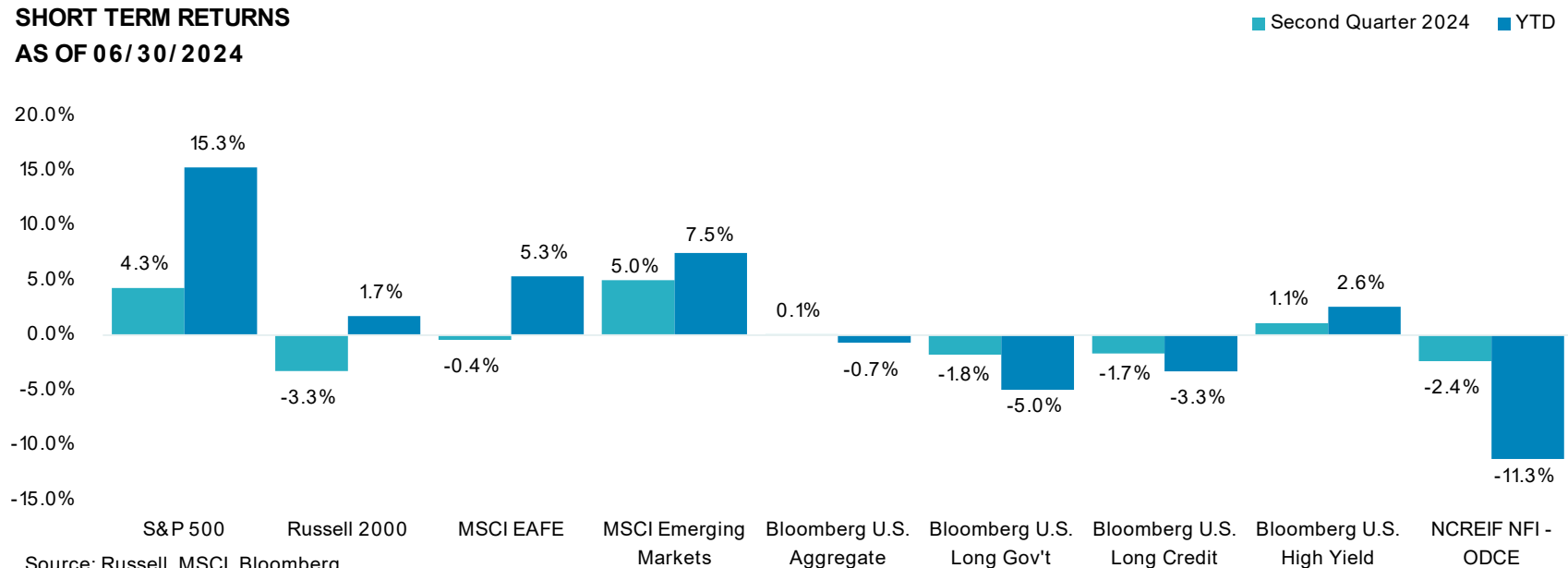
Second Quarter 2024

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Market Highlights

SHORT TERM RETURNS AS OF 06/30/2024



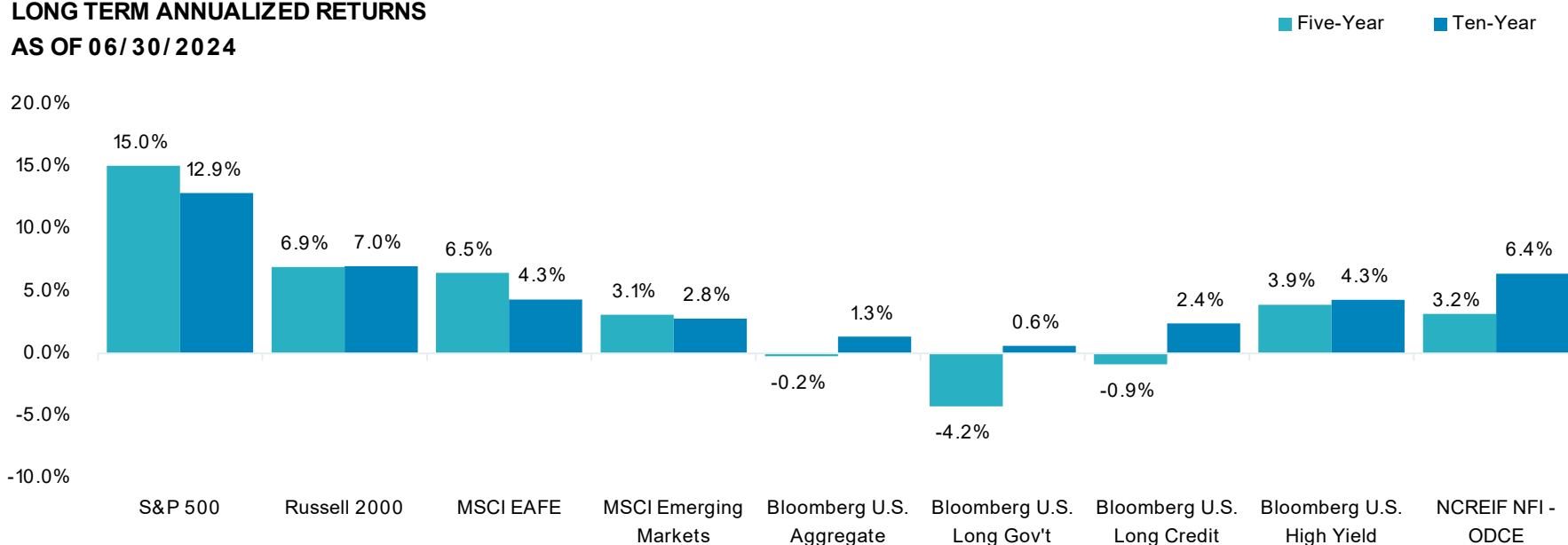
Source: Russell, MSCI, Bloomberg

MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

Past performance is no guarantee of future results. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.

Market Highlights

LONG TERM ANNUALIZED RETURNS AS OF 06/30/2024



Source: Russell, MSCI, Bloomberg

Past performance is no guarantee of future results. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.

Market Highlights

Returns of the Major Capital Markets						
	Period Ending 06/30/2024					
	Second Quarter	YTD	1-Year	3-Year ¹	5-Year ¹	10-Year ¹
Equity						
MSCI All Country World IMI	2.38%	10.28%	18.40%	4.70%	10.36%	8.17%
MSCI All Country World	2.87%	11.30%	19.38%	5.43%	10.76%	8.43%
Dow Jones U.S. Total Stock Market	3.24%	13.61%	23.20%	7.90%	14.04%	12.07%
Russell 3000	3.22%	13.56%	23.13%	8.05%	14.14%	12.15%
S&P 500	4.28%	15.29%	24.56%	10.01%	15.05%	12.86%
Russell 2000	-3.28%	1.73%	10.06%	-2.58%	6.94%	7.00%
MSCI All Country World ex-U.S. IMI	0.92%	5.28%	11.57%	0.19%	5.62%	3.92%
MSCI All Country World ex-U.S.	0.96%	5.69%	11.62%	0.46%	5.55%	3.84%
MSCI EAFE	-0.42%	5.34%	11.54%	2.89%	6.46%	4.33%
MSCI EAFE (Local Currency)	1.00%	11.06%	15.08%	8.10%	8.98%	7.40%
MSCI Emerging Markets	5.00%	7.49%	12.55%	-5.07%	3.10%	2.79%
Equity Factors						
MSCI World Minimum Volatility (USD)	-0.71%	5.05%	9.10%	3.28%	5.43%	7.74%
MSCI World High Dividend Yield	-1.21%	4.51%	10.31%	5.16%	7.22%	6.32%
MSCI World Quality	5.78%	18.16%	29.22%	10.67%	16.57%	13.45%
MSCI World Momentum	5.08%	26.32%	37.48%	7.83%	13.14%	12.41%
MSCI World Enhanced Value	-2.56%	4.29%	12.69%	5.58%	7.83%	5.63%
MSCI World Equal Weighted	-2.00%	3.01%	10.48%	1.24%	6.79%	6.18%
MSCI World Index Growth	6.42%	17.37%	26.63%	7.65%	15.53%	12.47%
MSCI USA Minimum Volatility (USD)	0.79%	8.54%	14.60%	6.20%	8.28%	10.66%
MSCI USA High Dividend Yield	-1.73%	6.27%	12.70%	5.93%	8.08%	9.18%
MSCI USA Quality	5.38%	18.99%	31.43%	11.65%	17.59%	15.38%
MSCI USA Momentum	4.50%	25.71%	37.74%	6.19%	12.19%	13.64%
MSCI USA Enhanced Value	-3.99%	3.54%	13.35%	2.52%	8.08%	7.86%
MSCI USA Equal Weighted	-2.68%	5.33%	13.92%	3.14%	10.11%	9.47%
MSCI USA Growth	9.37%	22.19%	34.11%	10.80%	19.84%	16.45%

Returns of the Major Capital Markets						
	Period Ending 06/30/2024					
	Second Quarter	YTD	1-Year	3-Year ¹	5-Year ¹	10-Year ¹
Fixed Income						
Bloomberg Global Aggregate	-1.10%	-3.16%	0.93%	-5.49%	-2.02%	-0.42%
Bloomberg U.S. Aggregate	0.07%	-0.71%	2.63%	-3.02%	-0.23%	1.35%
Bloomberg U.S. Long Gov't	-1.80%	-4.99%	-5.55%	-10.45%	-4.24%	0.60%
Bloomberg U.S. Long Credit	-1.68%	-3.30%	2.01%	-6.76%	-0.87%	2.40%
Bloomberg U.S. Long Gov't/ Credit	-1.73%	-4.10%	-1.58%	-8.51%	-2.22%	1.65%
Bloomberg U.S. TIPS	0.79%	0.70%	2.71%	-1.33%	2.07%	1.91%
Bloomberg U.S. High Yield	1.09%	2.58%	10.44%	1.64%	3.92%	4.31%
Bloomberg Global Treasury ex U.S.	-3.07%	-6.76%	-2.89%	-8.80%	-4.68%	-2.25%
JP Morgan EMBI Global (Emerging Market)	0.44%	1.84%	8.35%	-2.22%	0.27%	2.35%
Commodities						
Bloomberg Commodity Index	2.89%	5.14%	5.00%	5.65%	7.25%	-1.29%
Goldman Sachs Commodity Index	0.65%	11.08%	15.01%	12.69%	8.28%	-3.12%
Hedge Funds						
HFRI Fund-Weighted Composite ²	0.54%	5.01%	9.80%	2.87%	6.67%	4.77%
HFRI Fund of Funds ²	0.44%	4.63%	8.50%	2.06%	4.78%	3.48%
Real Estate						
NAREIT U.S. Equity REITS	0.06%	-0.13%	7.79%	0.30%	3.90%	5.90%
NCREIF NFI - ODCE	-0.45%	-2.81%	-9.26%	1.89%	3.16%	6.41%
FTSE Global Core Infrastructure Index	-0.12%	1.67%	4.31%	1.89%	3.98%	5.76%
Private Equity						
Burgiss Private IQ Global Private Equity ³			6.43%	11.01%	15.07%	13.40%

MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

¹ Periods are annualized.

² Latest 5 months of HFR data are estimated by HFR and may change in the future.

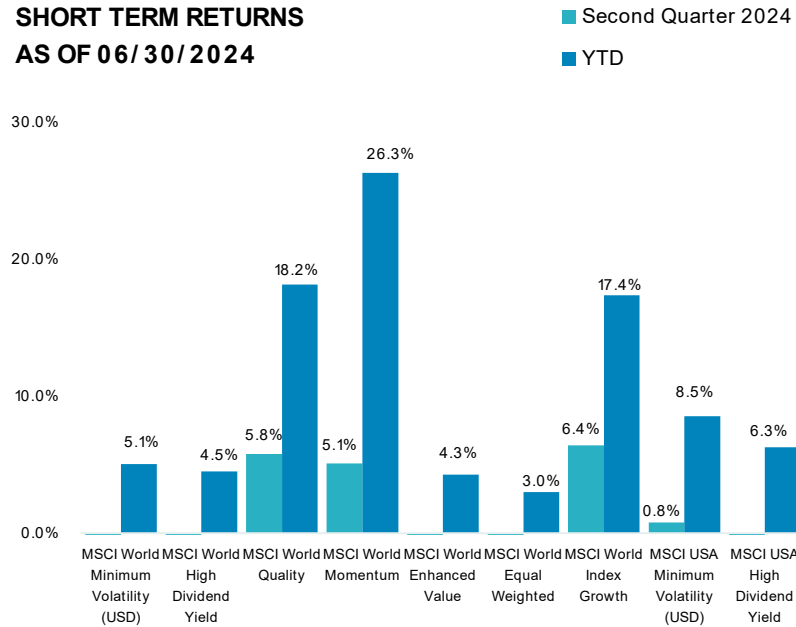
³ Burgiss Private IQ Global Private Equity data is as at December 31, 2023

Source: Russell, MSCI, Bloomberg

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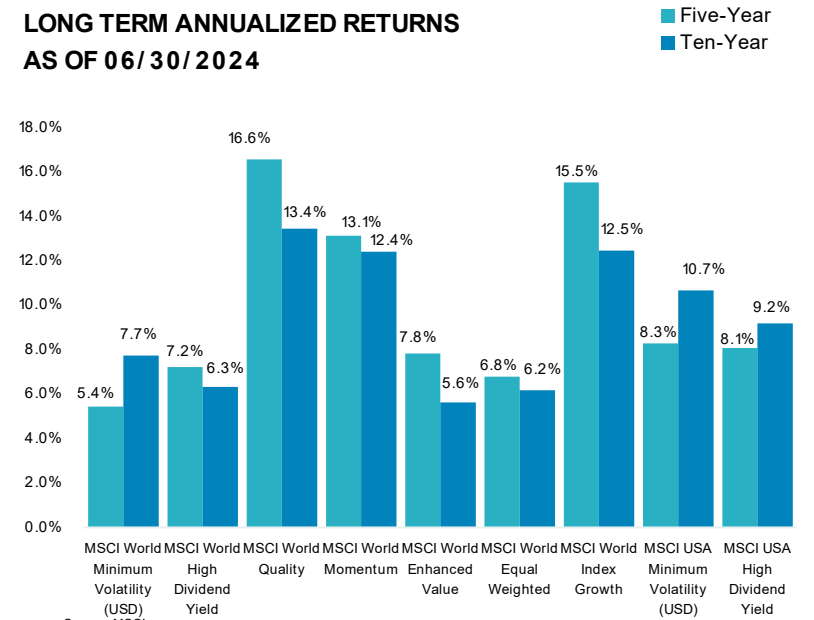
Factor Indices

SHORT TERM RETURNS AS OF 06/30/2024



Source: MSCI
 MSCI Indices show net total returns throughout this report.
 All other indices show gross total returns..

LONG TERM ANNUALIZED RETURNS AS OF 06/30/2024

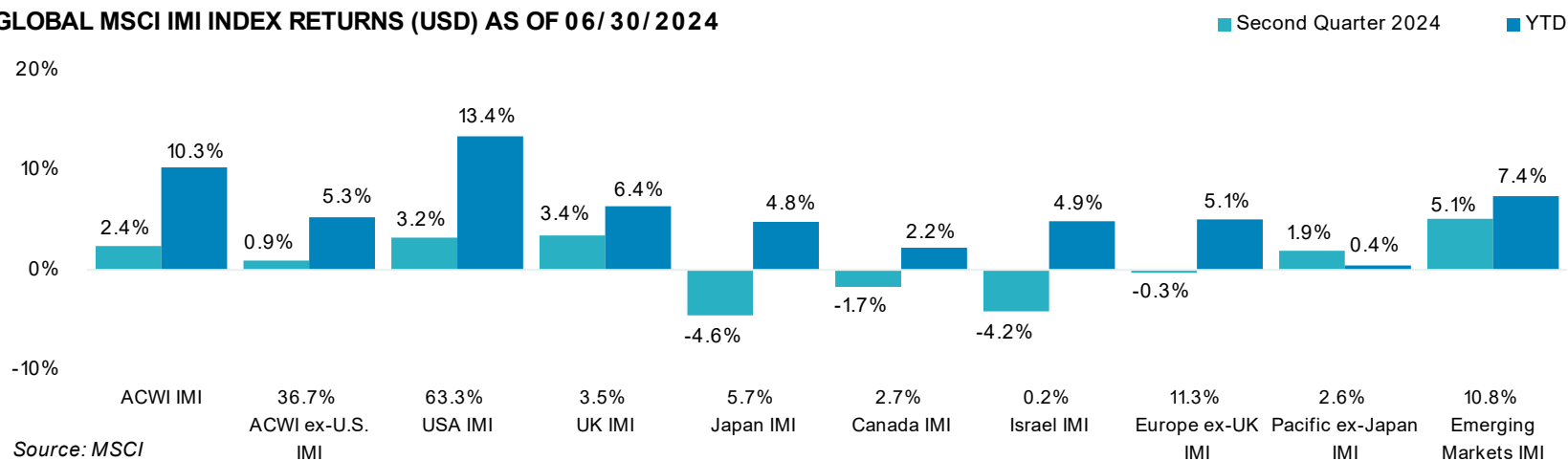


Source: MSCI
 MSCI Indices show net total returns throughout this report. All other indices show gross total returns..

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Global Equity Markets

GLOBAL MSCI IMI INDEX RETURNS (USD) AS OF 06/30/2024



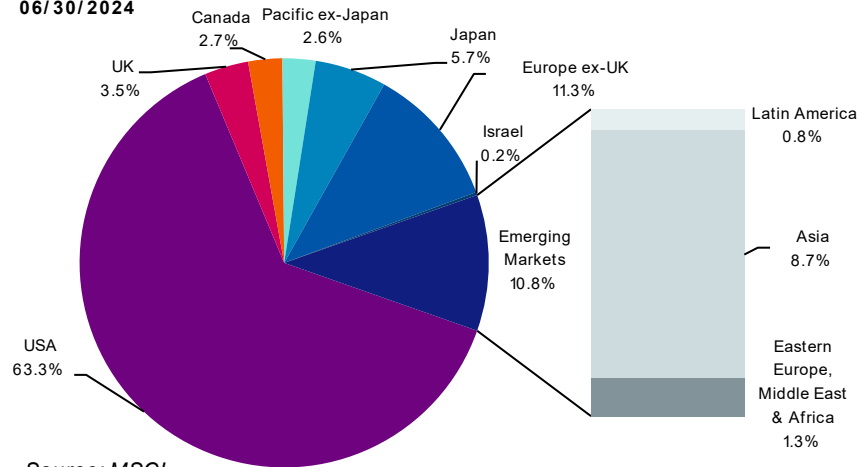
- In Q2 2024, the global equity markets rose. The S&P 500 Index reached an all-time high, driven by a positive outlook on a solid earnings season, easing inflation data, signs of economic resilience, and rallies from the tech giants. Volatility fell slightly during the quarter as the CBOE Volatility Index (VIX) fell to 12.4 in Q2 from 13 in the previous quarter, staying well below its 20-year average of 19.1.
- Across international markets, all regions had a mixed performance over the quarter. Emerging Markets IMI equities were the best performer over the quarter with major contributions coming from MSCI Taiwan IMI (13.5%) and MSCI India IMI (12.0%).
- Japan IMI was the worst performer with a return of -4.6% over the quarter. Consumer Discretionary (-11.2%) and Materials (-8.5%) weighed over the Japanese equities.

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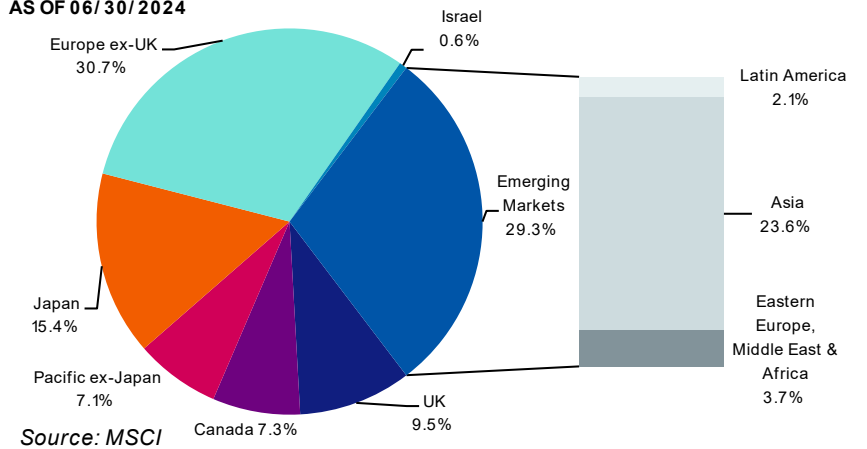
Global Equity Markets

Below is the country/region breakdown of the global and international equity markets as measured by the MSCI All Country World IMI Index and the MSCI All Country World ex-U.S. IMI Index, respectively.

MSCI ALL COUNTRY WORLD IMI INDEX GEOGRAPHIC ALLOCATION AS OF 06/30/2024



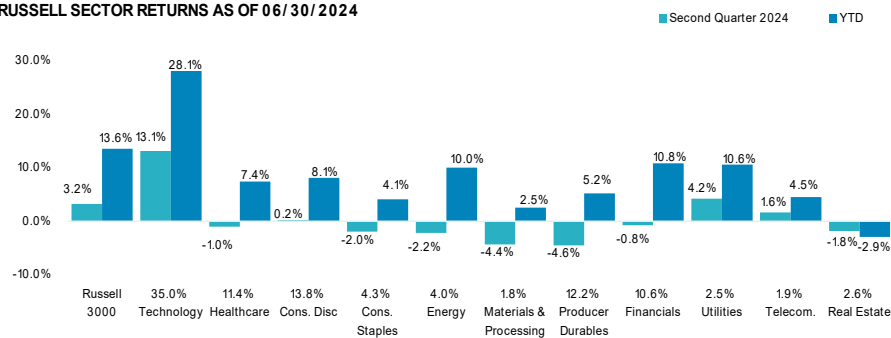
MSCI ALL COUNTRY WORLD EX-U.S. IMI INDEX GEOGRAPHIC ALLOCATION AS OF 06/30/2024



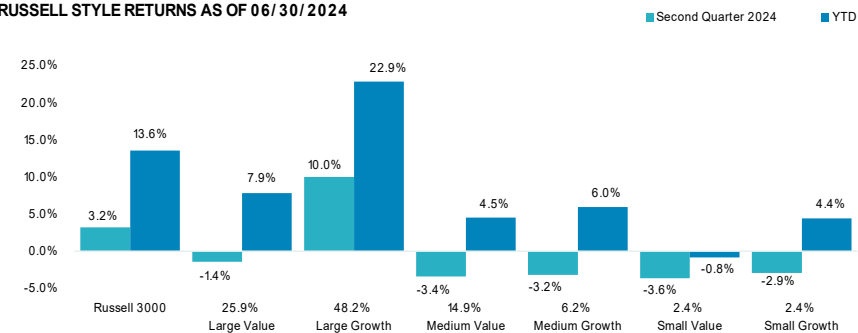
U.S. Equity Markets

- U.S. equities had a positive quarter with the S&P 500 Index rising by 4.3%. The Nasdaq Composite has outperformed over the quarter with a return of 8.5%.
- The United States House of Representatives has approved a military aid package valued at \$95 billion. The package comprises \$60 billion in military aid for Ukraine, \$26 billion for Israel, \$8 billion for U.S. allies in the Indo-Pacific region (including Taiwan), and \$9 billion in humanitarian assistance for civilians in war zones (such as Gaza). The bill received a majority vote of 311 to 112, with 210 Democrats and 101 Republicans in favor.
- The U.S. economy grew at an annualized rate of 1.4% in the first quarter of 2024, slightly higher than the expected and previous quarter's annualized growth rate of 1.3%.
- The Russell 3000 Index rose 3.2% during the second quarter and 13.6% on a YTD basis. Technology (13.1%) and Utilities (4.2%) were the best performers while Producer Durables (-4.6%) and Materials & Processing (-4.4%) were the worst performers.
- On a style basis, growth outperformed value across market capitalizations over the quarter. Large-cap stocks outperformed Medium and Small-cap stocks in both growth and value styles over the quarter.

RUSSELL SECTOR RETURNS AS OF 06/30/2024



RUSSELL STYLE RETURNS AS OF 06/30/2024

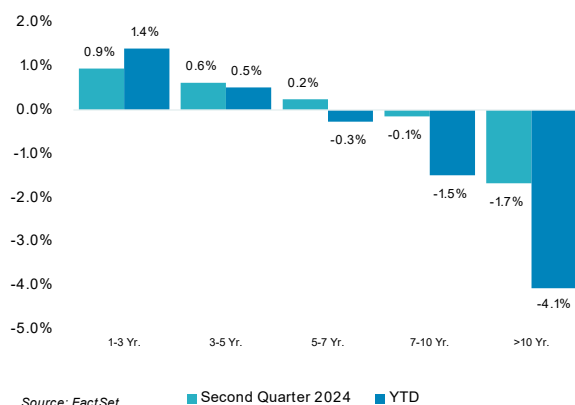


Source: Russell Indexes

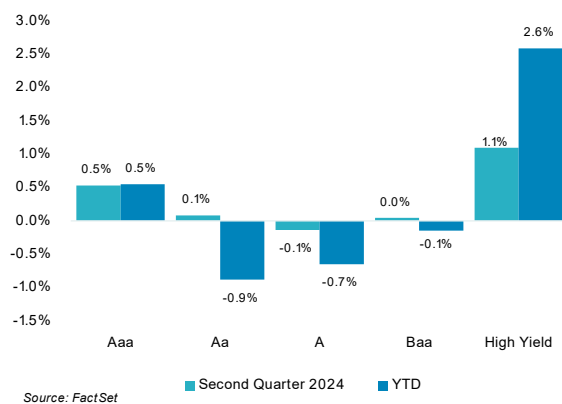
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U.S. Fixed Income Markets

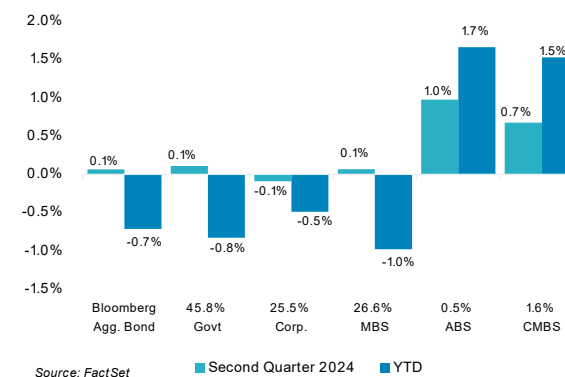
BLOOMBERG AGGREGATE RETURNS BY MATURITY AS OF 06/30/2024



BLOOMBERG AGGREGATE RETURNS BY QUALITY AND HIGH YIELD RETURNS AS OF 06/30/2024



BLOOMBERG AGGREGATE RETURNS BY SECTOR AS OF 06/30/2024

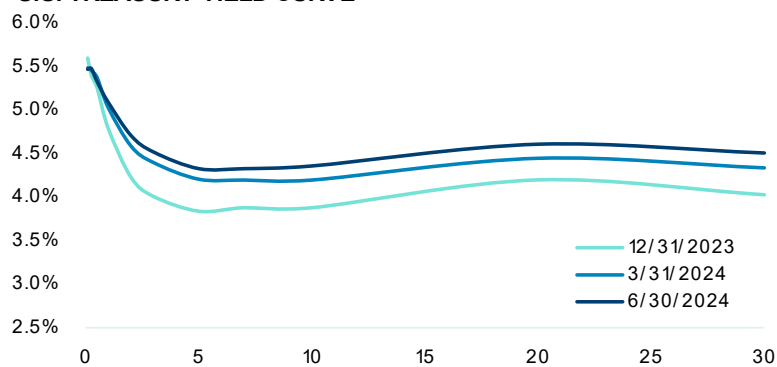


- The U.S. Federal Reserve (Fed) kept its interest rate unchanged at 5.25%-5.5%. According to the latest Fed "dot plot," the median FOMC member believes only one quarter-point cut this year is appropriate, compared to three rate cuts projected earlier in March. Meanwhile, the Fed plans to slow its pace of quantitative tightening starting in June, lowering the cap on the amount of treasury rolling off the balance sheet from \$60 billion to \$25 billion each month.
- The Bloomberg U.S. Aggregate Bond Index was up 0.1% over the quarter but was down 0.7% on a YTD basis.
- Across durations, all maturities (except for 7-10 Yr. and >10 Yr.) finished the quarter in positive territory with shorter maturities rising more.
- Within investment-grade bonds, higher-quality issues generally outperformed lower-quality issues, with Aaa-rated bonds returning 0.5% during the quarter. High-yield bonds rose by 1.1%. On a YTD basis, high-yield bonds outperformed indicating an increase in risk appetite.

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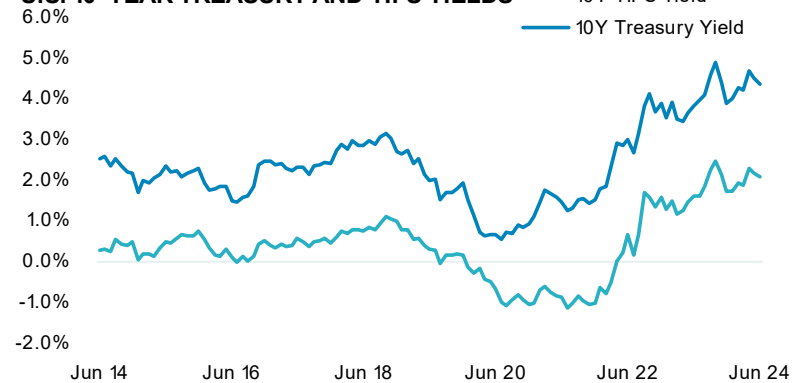
U.S. Fixed Income Markets

U.S. TREASURY YIELD CURVE



Source: U.S. Department of Treasury

U.S. 10-YEAR TREASURY AND TIPS YIELDS

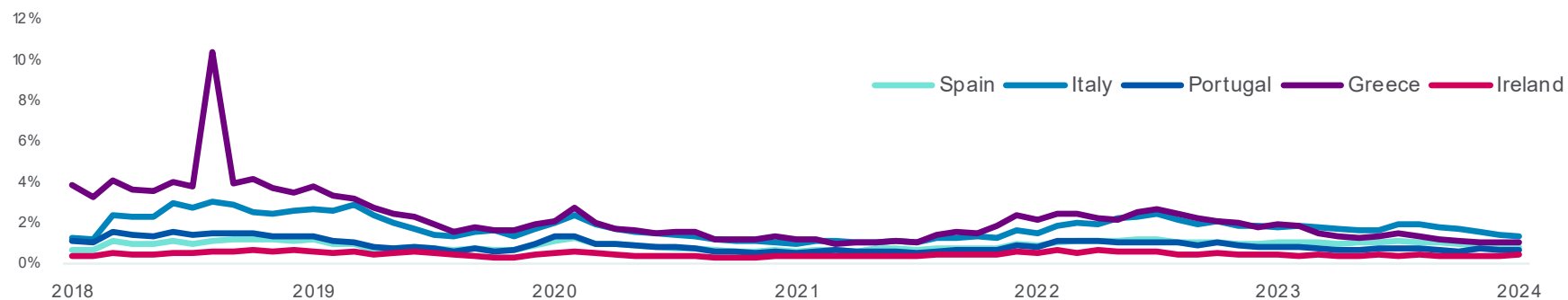


Source: U.S. Department of Treasury

- U.S. Treasury yields generally rose across maturities as the yield curve shifted upwards over the quarter. The 10-year Treasury yield rose by 16bps to 4.36%, and the 30-year Treasury yield rose by 17bps to 4.51% over the quarter.
- U.S. headline consumer price inflation slowed to 3.3% year-on-year in May. This was below economists' expectations and the previous month's reading of 3.4%. U.S. core inflation, which excludes energy and food prices, reduced to 3.4% year-on-year in May, down from the previous month's 3.6% and lower than economists' expectations of 3.5%.
- The 10-year TIPS yield rose by 20bps over the quarter to 2.08%.

European Fixed Income Markets

EUROZONE PERIPHERAL BOND SPREADS (10-YEAR SPREADS OVER GERMAN BUNDS)



Source: FactSet

- European government bond spreads over 10-year German bunds widened across the Euro Area. The European Central Bank (ECB) reduced the policy interest rate by 0.25% to 3.75% as a result of lower inflation. ECB president Christine Lagarde emphasized that further rate cuts 'depend on the data'. According to the Bank's latest projections, economic growth is expected to pick up to 0.9% in 2024, 1.4% in 2025 and 1.6% in 2026. Headline inflation is expected to rise by 2.5% in 2024, 2.2% in 2025 and 1.9% in 2026.
- Italian and Greek government bond yields rose by 40bps and 37bps to 4.07% and 3.74%, respectively over the quarter while Portugal government bond yields rose by 26bps to 3.24%. Spanish and Irish government bond yields rose by 23bps and 21bps to 3.38% and 2.94%, respectively over the quarter.
- German bund yields rose by 17bps to 2.47% over the quarter.
- Eurozone headline inflation rose by more than expected, as the consumer price index (CPI) increased 2.6% year-on-year in May, higher than the 2.4% increase recorded in April and above economists' expectations of 2.5%. Core inflation rose 2.9% year-on-year, up from April's 2.7% and beat economists' expectations.

Credit Spreads

Spread (bps)	6/30/2024	3/31/2024	12/31/2023	Quarterly Change (bps)	YTD
U.S. Aggregate	39	39	42	0	-3
Long Gov't	2	0	2	2	0
Long Credit	115	109	117	6	-2
Long Gov't/Credit	60	57	62	3	-2
MBS	48	49	47	-1	1
CMBS	97	96	126	1	-29
ABS	57	55	68	2	-11
Corporate	94	90	99	4	-5
High Yield	309	299	323	10	-14
Global Emerging Markets	258	260	294	-2	-36

Source: FactSet, Bloomberg

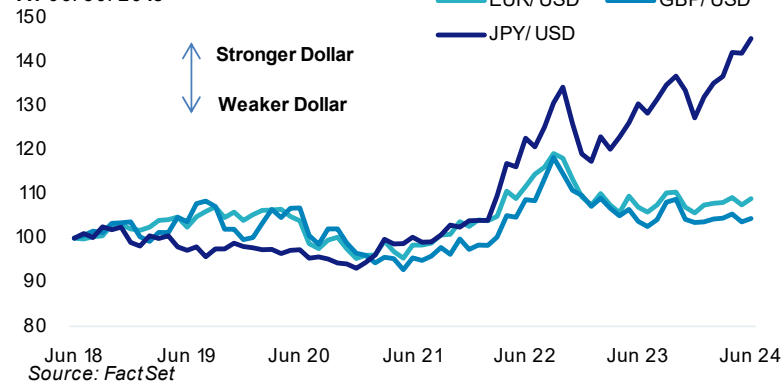
- Credit markets remained flat over the quarter with spreads generally widening.
- High Yield and Long Credit spreads widened by 10bps and 6bps, respectively. Meanwhile, Global Emerging Market spreads narrowed by 2bps.

Currency

**TRADE WEIGHTED U.S. DOLLAR INDEX
(2006 = 100)**

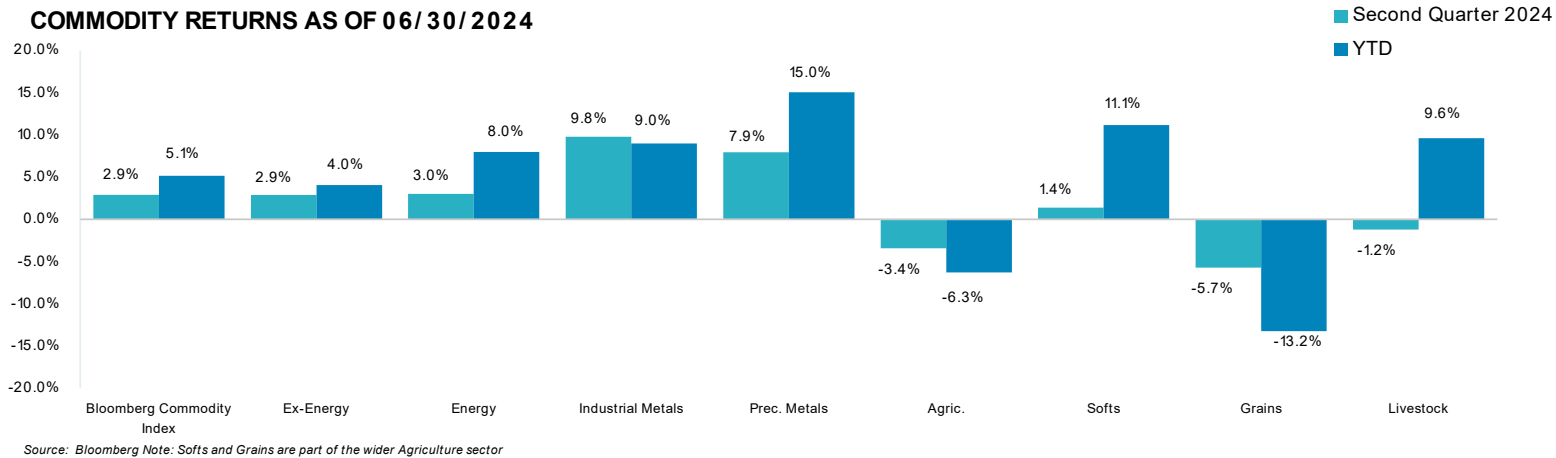


**U.S. DOLLAR RELATIVE TO EUR, GBP AND JPY REBASED TO 100
AT 06/30/2018**



- The U.S. Dollar appreciated against major currencies (except for sterling) over the quarter. On a trade-weighted basis, the U.S. dollar appreciated by 2.6%.
- Sterling appreciated by 0.1% against the U.S. dollar. The BoE kept its policy interest rate at 5.25%. The Monetary Policy Committee (MPC) voted 7-2 to maintain the current rate, with two members voting for a 25bps rate cut. The MPC stated that it is ready to adjust monetary policy based on economic data to sustainably return inflation to the 2% target. The BoE governor Andrew Bailey expressed optimism about recent encouraging inflation data, emphasising the need to ensure inflation remains low.
- The U.S. dollar appreciated by 0.8% against the euro and by 6.3% against the yen.

Commodities

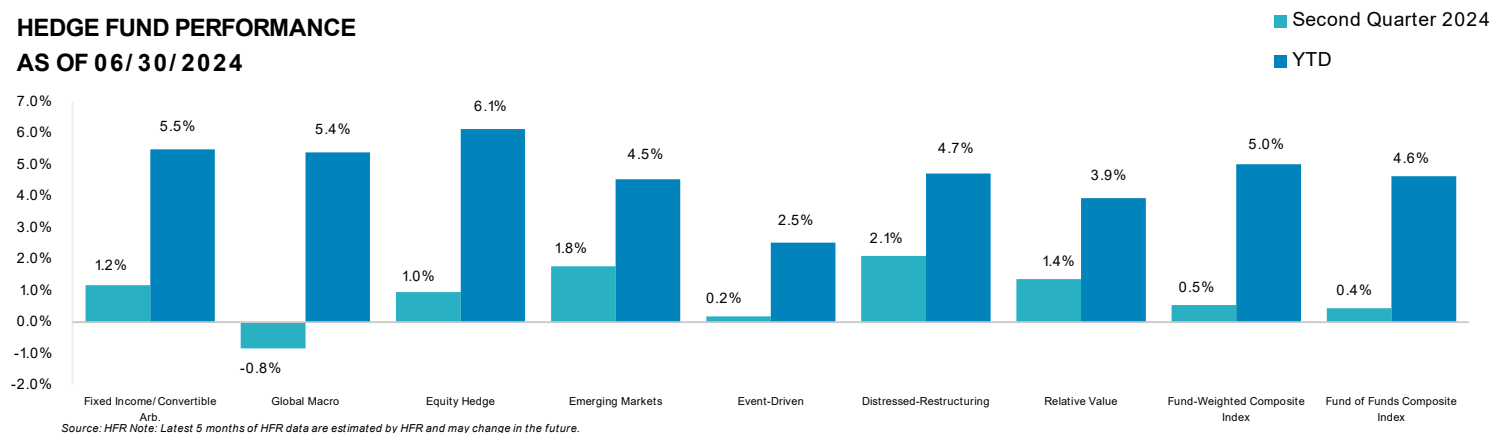


- Commodity prices rose over the quarter with the Bloomberg Commodity Index rising by 2.9% for the quarter.
- The Energy sector was up by 3.0% over the quarter and 8.0% on a YTD basis. The price of WTI crude oil fell by 2.0% to U.S.\$82/B.
- Industrial Metals rose the most over the quarter at 9.8%.
- The Grains subsector was the worst performer with a return of -5.7% over the quarter.

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Hedge Funds Market Overview

HEDGE FUND PERFORMANCE AS OF 06/30/2024

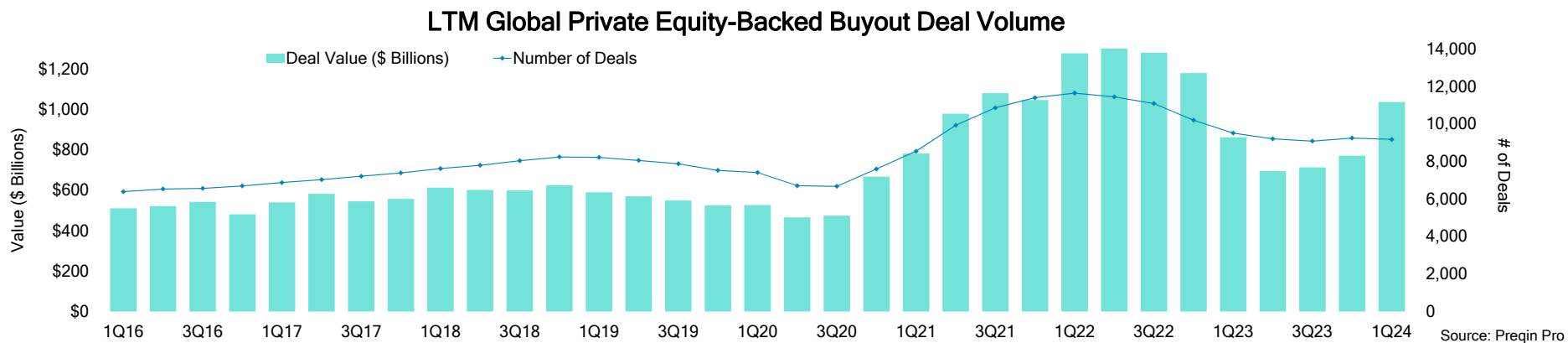


- Hedge fund performance was generally positive over the quarter.
- The HFRI Fund-Weighted Composite produced a return of 0.5% and the HFRI Fund of Funds Composite Index produced a return of 0.4% over the quarter.
- Over the quarter, Distressed Restructuring was the best performer with a return of 2.1%.
- Global Macro was the worst performer with a return of -0.8% over the quarter.
- On a YTD basis, Equity Hedge has outperformed all other strategies while Event-Driven has performed the worst.

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Private Equity Overview

First Quarter 2024

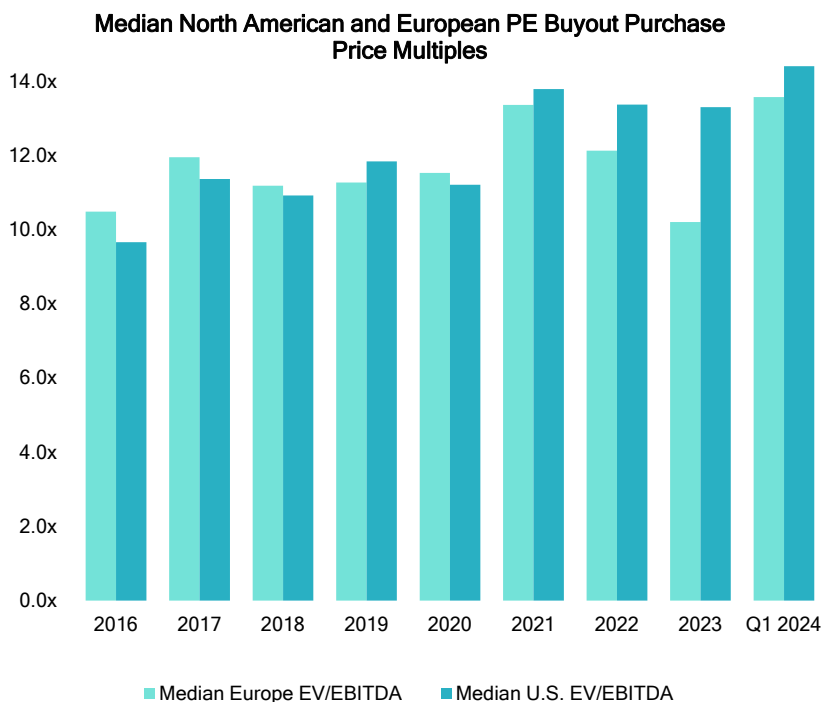


- Fundraising:** In Q1 2024, \$244.6 billion was raised by 484 funds, which was a decrease of 30.6% on a capital basis and a decrease of 32.8% by number of funds over the prior quarter. Dry powder stood at \$3.2 trillion at the end of the quarter, a slight decrease of 1.0% compared to Q4 2023, but an increase of 23.3% compared the five-year average.¹
- Buyout:** Global private equity-backed buyout deals totaled \$425.4 billion in Q1 2024, which was an increase on a capital basis of 70.8% compared to Q4 2023 and 102.9% higher than the five-year quarterly average. Deal value was driven by a large PIPE investment in Aramco by Public Investment Fund (estimated at \$163.3 billion of the quarter's total deal value).¹ During the quarter, the median purchase price multiple for U.S. private equity buyouts was 14.4x EBITDA, up from 13.3x in FY 2023 and up from the five-year average (12.7x). On a TTM basis, the U.S. median purchase price multiple through Q1 2024 was 13.1x. The median purchase price multiple for European private equity buyouts ended the quarter at 13.6x EBITDA, which compares to 10.2x at the end of 2023 and to the five-year average of 11.7x.² Globally, buyout exit value totaled \$64.8 billion across 537 deals during the quarter, down from \$141.8 billion in value from 614 deals during the prior quarter.¹
- Venture:** During the quarter, an estimated 3,925 U.S. venture-backed transactions totaling \$36.6 billion were completed, which was a decrease on both a capital and deal count basis over the prior quarter, which saw an estimated 4,034 deals completed totaling \$40.1 billion. This was also a decrease of 32.4% compared to the five-year quarterly average of \$54.1 billion. Total U.S. venture-backed exit value increased during the quarter, totaling approximately \$18.4 billion across an estimated 600 completed transactions. This compares to \$10.4 billion across 536 exits in Q4 2023. This was meaningfully below the five-year quarterly average of \$74.6 billion of exit value from 401 transactions.³

Sources: ¹ Preqin ² Pitchbook/LCD ³ PitchBook/NVCA Venture Monitor ⁴ Fitch Ratings ⁵ Jefferies

Notes: FY=Fiscal year ended 12/31; YTD=Year to date; LTM=Last 12 months (aka trailing 12 months); PPM=Purchase Price Multiples: Total Purchase Price + EBITDA.

Private Equity Overview



Source: Pitchbook, LCD

Sources: ¹ Preqin ² Pitchbook/LCD ³ PitchBook/NVCA Venture Monitor ⁴ Fitch Ratings ⁵ Jefferies

- **Mezzanine:** 4 funds closed on \$2.1 billion during the quarter. This was an increase from the prior quarter's total of \$1.5 billion raised by 7 funds but represented a decrease of 65.9% from the five-year quarterly average of \$6.1 billion. Estimated dry powder was \$61.7 billion at the end of Q1 2024, down from \$65.5 billion at the end of the prior year.¹
- **Distressed Debt/Special Situations:** The TTM U.S. high-yield default rate was 3.04% as of March 2024, which was up slightly from December 2023's TTM rate of 2.96%.⁴ During the quarter, \$5.2 billion was raised by 12 funds, down from the \$25.0 billion raised by 17 funds during Q4 2023. Dry powder was estimated at \$145.2 billion at the end of Q1 2024, which was down 11.5% from Q4 2023. This was down from the five-year average level of \$152.7 billion.¹
- **Secondaries:** 5 funds raised \$12.4 billion during Q1 2024, down substantially from the \$28.2 billion raised by 10 funds in Q4 2023. This was a slight decrease compared to the five-year quarterly average of \$13.9 billion.¹ The average discount rate for LP buyout and venture capital portfolios finished the year at 6.0% and 29.0%, respectively.⁵
- **Infrastructure:** \$35.1 billion of capital was raised by 24 funds in Q1 2024 compared to \$68.7 billion of capital raised by 31 funds in Q4 2023. The 10 largest funds in market are currently seeking a combined \$167.2 billion in capital. Infrastructure managers completed 475 deals for an aggregate deal value of \$58.4 billion in Q1 2024, compared to 599 deals totaling \$109.2 billion in Q4 2023.¹
- **Natural Resources:** During Q1 2024, 5 funds closed on \$3.0 billion compared to 9 funds closing on \$3.5 billion during the prior quarter. 172 energy and utilities deals were completed in Q1 2024 totaling \$174.9 billion, an increase, on a capital basis, compared to 829 completed deals totaling \$54.6 billion in FY 2023. Energy and utilities deals accounted for the largest percentage of private equity deal value during the quarter.¹

Appendix

Index Definitions

Index	Definition
MSCI AC World Index	The MSCI ACWI Index, MSCI's flagship global equity index, is designed to represent performance of the full opportunity set of large- and mid-cap stocks across 23 developed and 24 emerging markets. As of May 2022, it covers more than 2,933 constituents across 11 sectors and approximately 85% of the free float-adjusted market capitalization in each market.
MSCI All Country World Investable Market Index	A capitalization-weighted index of stocks representing approximately 49 developed and emerging countries, including the U.S. and Canadian markets and covering all investable large-, mid- and small-cap securities.
MSCI World Index	A free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets, representing 24 developed market country indices.
MSCI EAFE	The MSCI EAFE Index is an equity index which captures large and mid-cap representation across 21 Developed Markets countries* around the world, excluding the US and Canada. With 783 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
MSCI Emerging Markets	The MSCI Emerging Markets Index captures large and mid-cap representation across 24 Emerging Markets (EM) countries. With 1,441 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
MSCI Emerging Markets Investable Market Index	A capitalization-weighted index of stocks representing approximately 26 emerging countries, and covering all investable large-, mid- and small-cap securities.
MSCI Factor indexes	These are rules-based indexes that capture the returns of systematic factors that have historically earned a persistent premium over long periods of time—such as Value, Low Size, Low Volatility, High Yield, Quality and Momentum and Growth.
MSCI USA Value/Growth	The MSCI USA Value/Growth Index captures U.S. large and mid cap securities exhibiting overall value/growth style characteristics. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
Dow Jones U.S. Total Stock Market Index	A capitalization-weighted index of stocks representing all U.S. equity eligible securities.
S&P 500	The S&P 500® is widely regarded as the best single gauge of large-cap U.S. equities and serves as the foundation for a wide range of investment products. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.
S&P GSCI	A world-production weighted index that is based on the average quantity of production of each commodity in the index.
Russell 3000 Index	The Russell 3000 Index is a market-capitalization-weighted equity index that seeks to track 3000 of the largest U.S.-traded stocks.
Russell 2000 Index	The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000® Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership.

Appendix

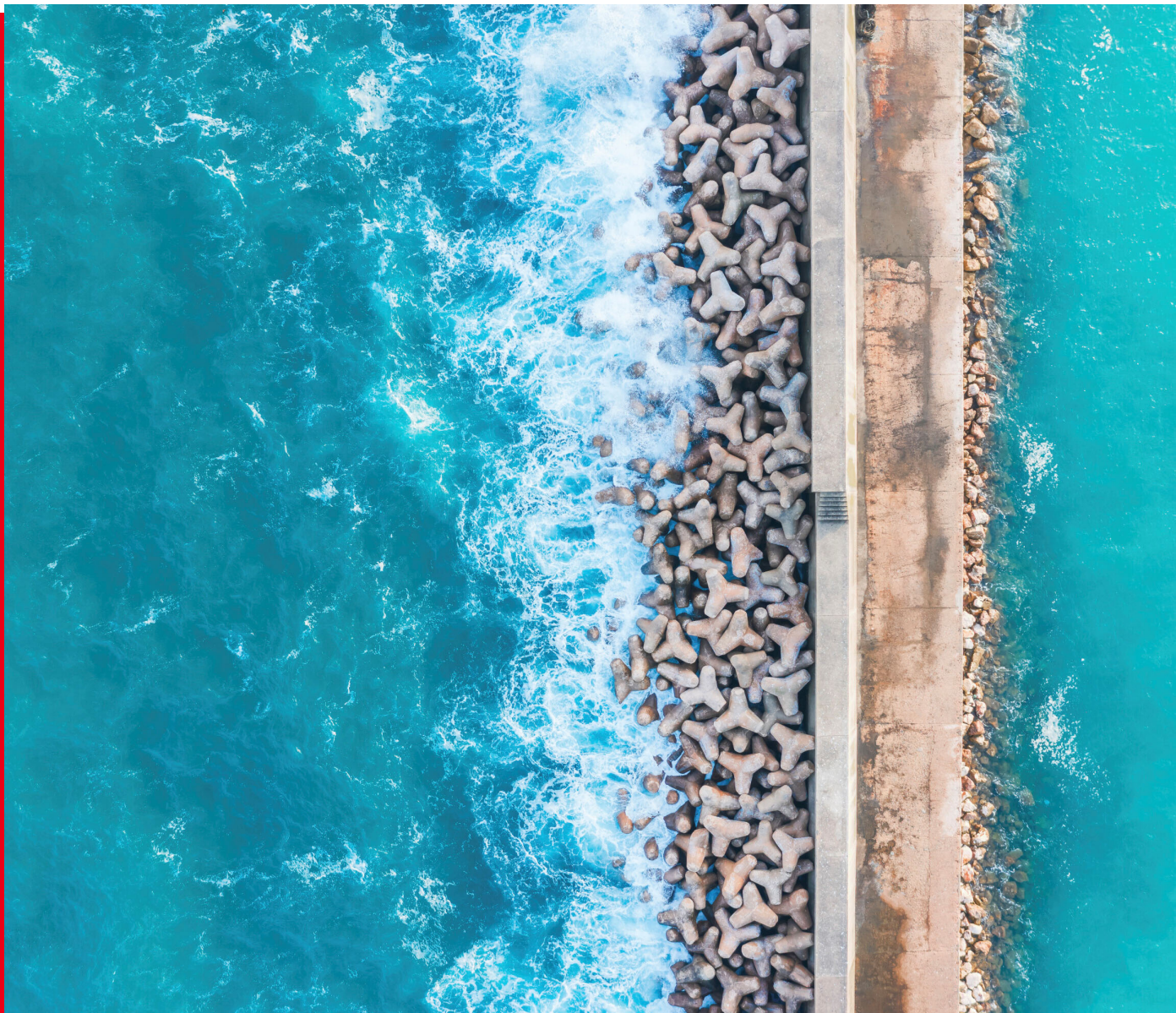
Index Definitions

Index	Definition
Bank of America Merrill Lynch U.S. Corporate Index	An unmanaged index considered representative of fixed-income obligations issued by U.S. corporates.
Bank of America Merrill Lynch U.S. High Yield Index	An unmanaged index considered representative of sub-investment grade fixed-income obligations issued by U.S. corporates.
Bloomberg U.S. Government Index	An unmanaged index considered representative of fixed-income obligations issued by the U.S. government.
Bloomberg Long Credit Index	An unmanaged index considered representative of long duration fixed-income obligations issued by U.S. corporates.
Bloomberg Global Aggregate Index	The Bloomberg Global Aggregate Index is a flagship measure of global investment grade debt from twenty-eight local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.
Bloomberg U.S. Aggregate Index	The Bloomberg US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, fixed rate agency MBS, ABS and CMBS (agency and non-agency).
Bloomberg U.S. TIPS Index	The Index measures the performance of the U.S. treasury inflation linked bond market.
JP Morgan EMBI Global	The J.P.Morgan Emerging Markets Bond Index Global ("EMBI Global") tracks total returns for traded external debt instruments in the emerging markets and is an expanded version of the JPMorgan EMBI+.
Bloomberg Commodity Index	The Bloomberg Commodity Index is a broadly diversified commodity price index distributed by Bloomberg Index Services Limited.
HFRI Fund Weighted Composite	The HFRI Fund Weighted Composite Index is a global, equal-weighted index of single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or \$10 Million under management and a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
HFRI Fund of Funds	HFR FOF Indices are comprised of funds that are constituents of the HFRI 500 Index and are designed to synthetically (S) represent the performance of Low, Mid or High volatility fund of funds.
FTSE NARIET	The FTSE Nareit U.S. Real Estate Index Series tracks the performance of the U.S. REIT industry at both an industry-wide level and on a sector-by-sector basis.
NCREIF NFI-ODCE	The NFI-ODCE, like the NCREIF Property Index (NPI) and other stock and bond indices, is a capitalization-weighted index based on each fund's net invested capital, which is defined as beginning market value net assets (BMV), adjusted for weighted cash flows (WCF) during the period.
FTSE Global Core Infrastructure	The FTSE Infrastructure Index Series is a comprehensive set of nine cap-weighted indices, diversified across six FTSE-defined infrastructure sub-sectors, to reflect the performance of infrastructure and infrastructure-related listed securities worldwide.

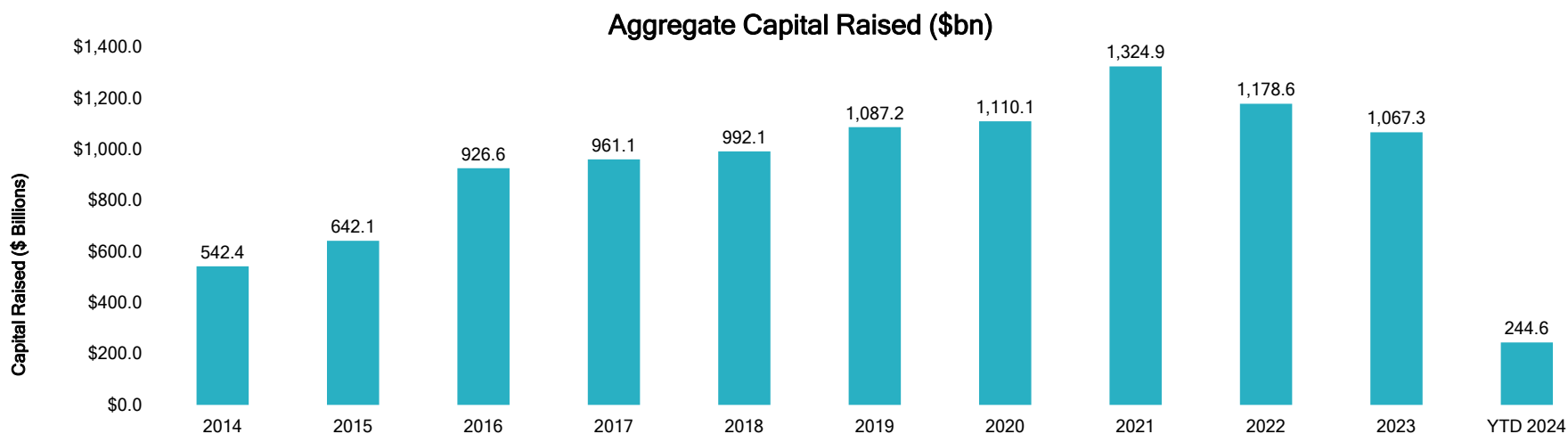
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Q1 2024 Global Private Equity Market Overview

July 2024



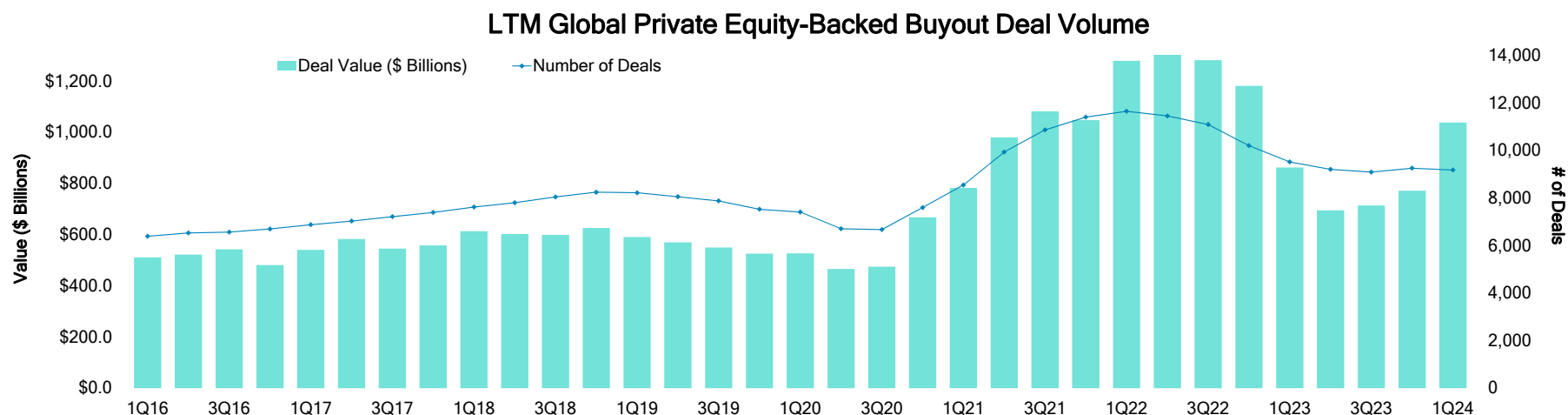
Private Equity Overview



Fundraising

- In Q1 2024, \$244.6 billion was raised by 484 funds, which was a decrease of 30.6% on a capital basis and a decrease of 32.8% by number of funds over the prior quarter. Compared to Q1 2023, capital raised decreased by 3.9% while the number of closed funds decreased by 30.3%.¹
 - Q1 2024 fundraising was 15.2% lower, on a capital basis, and 56.1% lower, by number of funds, compared to the five-year quarterly average.
 - The majority of capital was raised by funds located in North America, comprising 50.5% of the quarter's total. This was down significantly from 78.5% during the prior quarter. Capital raised by European managers accounted for 43.8% of capital raised during the quarter, an increase from 15.3% in Q4 2023. The remainder was attributable to managers located in Asia and other parts of the world.
- Dry powder stood at \$3.2 trillion at the end of the quarter, a slight decrease of 1.0% compared to Q4 2023, but an increase of 23.3% compared the five-year average.¹

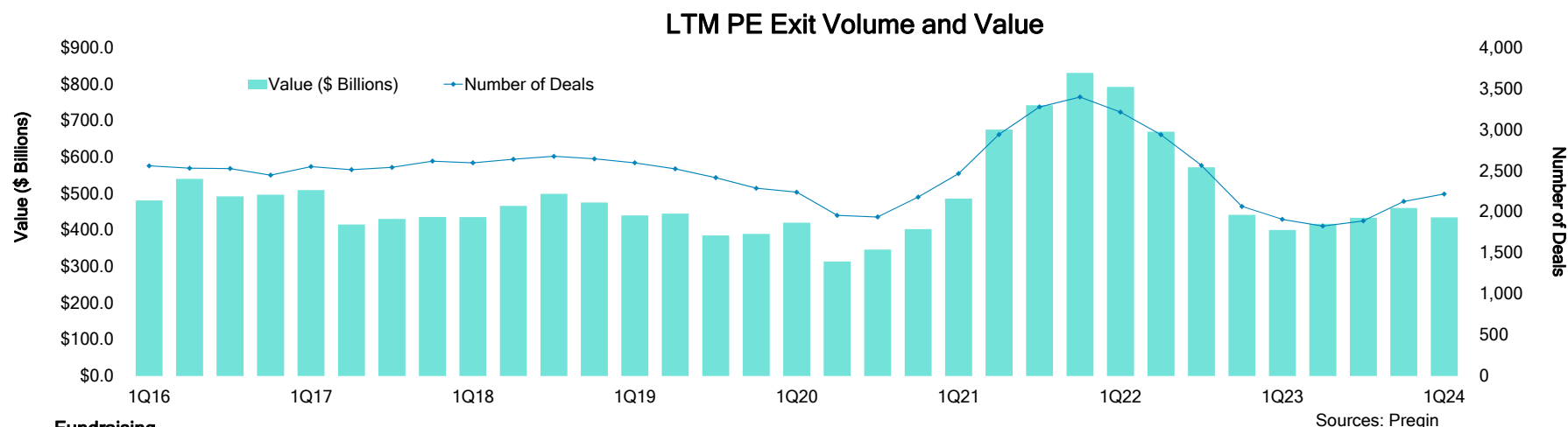
Private Equity Overview (cont.)



Activity

- Global private equity-backed buyout deals totaled \$425.4 billion in Q1 2024, which was an increase on a capital basis of 70.8% compared to Q4 2023. However, deal value was impacted by a large PIPE investment in Aramco by Public Investment Fund (estimated at \$163.3 billion of the quarter's total deal value).¹
 - Deal value in Q1 2024 was an increase of 102.9% compared to the five-year quarterly average.
 - Add-on deals comprised the largest amount of completed deals by type, accounting for 46.8% of the quarter's total.
- On an LTM basis, the median purchase price multiple for North American PE buyout transactions was 13.1x EBITDA at the end of Q1 2024, down from 2023's median level of 13.3x and down from the peak level seen in 2021 of 13.8x EBITDA.³
 - The median purchase price multiple for all North American PE buyout transactions completed during the quarter ended at 14.4x EBITDA, an increase of 1.7x (multiple of EBITDA) compared to the five-year average and 2.9x higher than the ten-year average.
- In Europe, the median purchase price multiple ended Q1 2024 at 11.7x EBITDA on an LTM basis, up from 10.2x in 2023 but down from the peak level seen in 2021 of 13.4x EBITDA. This was equal to the five-year average and slightly above the ten-year average of 11.3x EBITDA.³
- GPs were able to obtain debt financing but utilized more equity to consummate transactions.
 - For U.S. broadly syndicated loan-funded transactions, debt comprised 45.1% of completed transactions, a slight decrease compared to the prior year's 45.7%.³

Buyouts / Corporate Finance



Fundraising

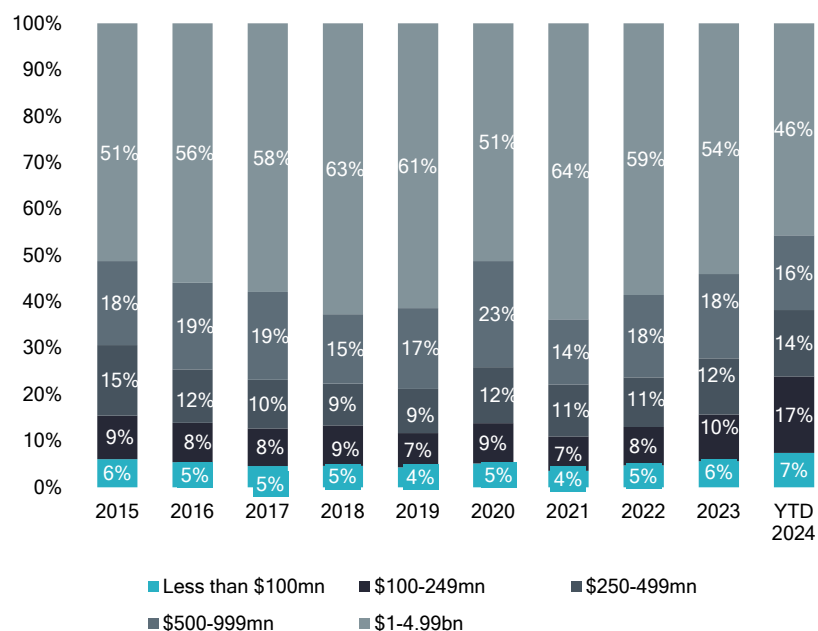
- \$149.7 billion was closed on by 137 buyout and growth funds in Q1 2024, compared to \$182.6 billion raised by 183 funds in Q4 2023. This represented an increase of 10.0% compared to capital raised in Q1 2023.¹
 - This was also higher, on a capital basis, than the five-year quarterly average of \$136.3 billion raised, but meaningfully lower by the average number of funds raised (249).
 - Capital raised during Q1 2024 represented 24.7% of capital raised in FY 2023.
 - EQT X was the largest fund raised during the quarter, closing on \$23.8 billion of commitments.
- Buyout and growth equity dry powder was estimated at \$1.4 trillion at the end of Q1 2024, down 1.6% compared to the prior quarter.¹
 - An estimated 60.5% of buyout dry powder was targeted for North America, while European dry powder comprised 24.0% and Asia/Rest of World accounted for the remainder.

Activity

- Globally, buyout exit value totaled \$64.8 billion across 537 deals during the quarter, down from \$141.8 billion in value from 614 deals during the prior quarter.¹

Buyouts / Corporate Finance

Buyout Deal Value by Deal Size



Sources: Preqin

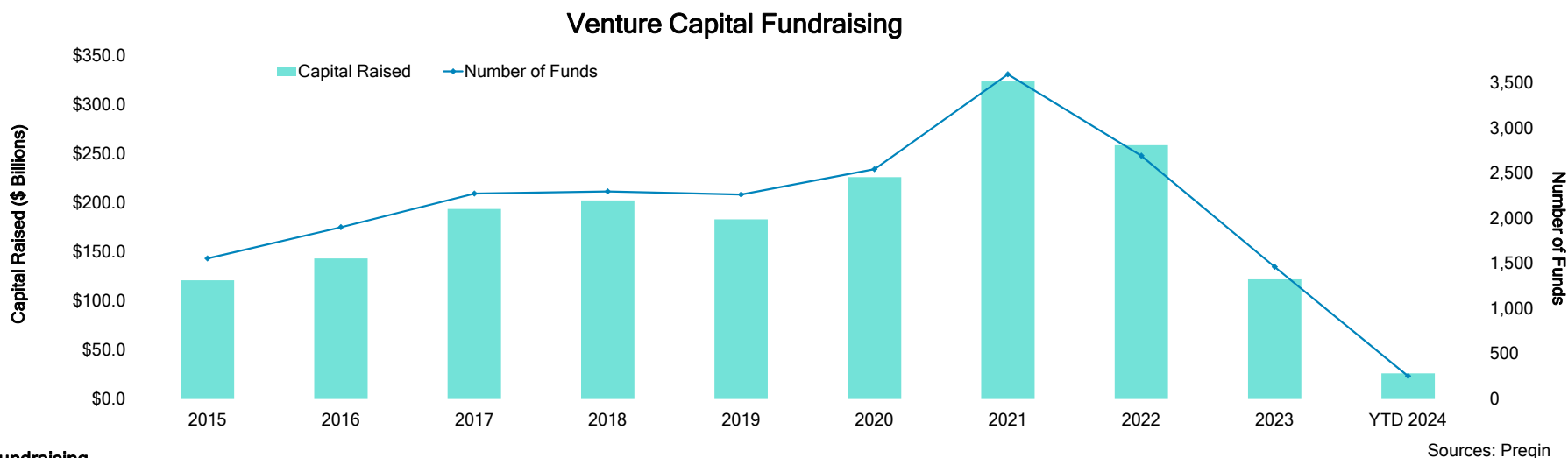
Activity

- Global private equity-backed buyout deals totaled \$425.4 billion in Q1 2024, which was an increase on a capital basis of 70.8% compared to Q4 2023 and 102.9% higher than the five-year quarterly average. Deal value was driven by a large PIPE investment in Aramco by Public Investment Fund (estimated at \$163.3 billion of the quarter's total deal value).¹
 - By geography, deals in the Middle East accounted for the largest percentage of total deal value at an estimated 49.5% in Q1 2024, followed by North America (27.3%), while energy and utilities deals accounted for the largest percentage by industry at 52.2% of total deal value.
 - Of deals less than \$5.0 billion in size, deals valued between \$1.0 billion - \$4.9 billion accounted for an estimated 49.5% of Q1 2024 deal value compared to 54.1% in 2023. Deals valued between \$100.0 million to \$249.9 million accounted for the second largest weighting, representing 16.5% of total deal value through Q1 2024.
- On an LTM basis, the median North American PE buyout purchase price multiple ended Q1 2024 at 13.1x EBITDA, compared to 13.3x EBITDA in 2023.³
 - This was above the five-year average of 12.7x EBITDA but remained below the peak multiple seen in 2021 (13.8x).
- The median European PE buyout purchase price multiple ended the quarter at 11.7x EBITDA on an LTM basis compared to 10.2x EBITDA in 2023. This was also equal to the five-year average multiple.³
- The equity contribution for U.S. broadly-syndicated loan-funded buyout transactions stood at 54.9% through the end of the quarter as transactions were less reliant on debt financing to complete the deals. This was above the five- and ten-year average levels of 50.2% and 46.6%, respectively.³

Opportunity⁴

- Mid-market managers targeting growing companies operating within fragmented markets with value-creation expertise across business cycles.
- Managers focused on value-oriented strategies and/or corporate carve-outs.

Venture Capital

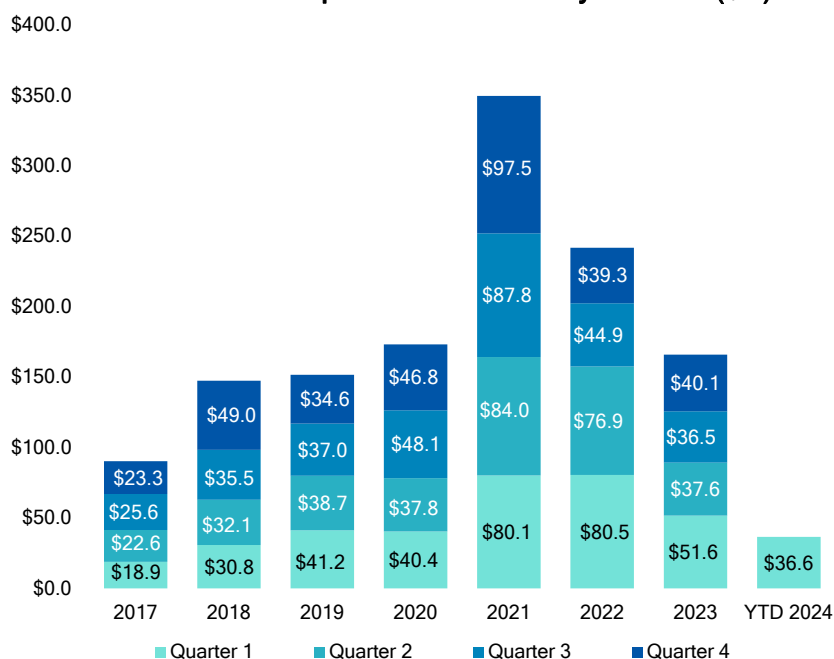


Fundraising

- \$26.1 billion of capital was raised by 254 funds in Q1 2024, lower, on both a capital raised and number of funds basis, from the prior quarter's total of \$32.9 billion raised by 407 funds. This was also lower than the \$32.4 billion of capital raised by 359 funds during Q1 2023.¹
 - Q1 2024 fundraising was 53.2% lower, on a capital basis, compared to the five-year quarterly average of \$55.7 billion.
 - Tiger Global Private Investments Partners XVI was the largest fund raised during the quarter with total commitments of \$2.2 billion.
- At the end of Q1 2024, there were an estimated 6,213 funds in market targeting \$414.4 billion.¹
 - A fund being raised by Zhongwan Capital was the largest fund in market, targeting an estimated \$14.9 billion.
 - The majority of funds in market are seeking commitments of \$200.0 million or less.
- Dry powder was estimated at \$563.1 billion at the end of Q1 2024, down from year-end 2023's total of \$567.4 billion.¹

Venture Capital

U.S. Venture Capital Investments by Quarter (\$B)



Source: Pitchbook / NVCA

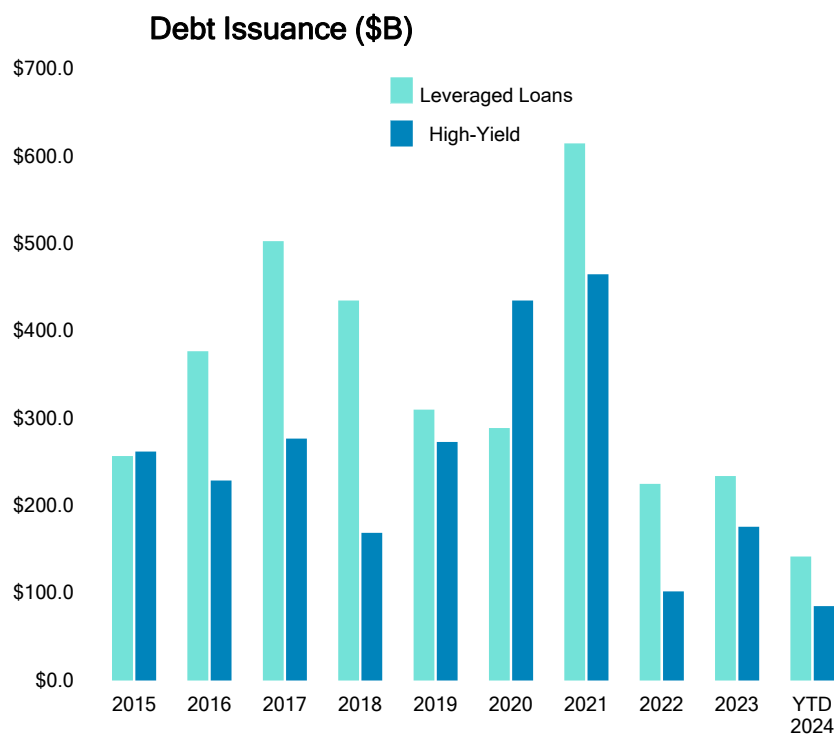
Activity

- During the quarter, an estimated 3,925 U.S. venture-backed transactions totaling \$36.6 billion were completed, which was a decrease on both a capital and deal count basis over the prior quarter, which saw an estimated 4,034 deals completed totaling \$40.1 billion. This was also a decrease of 32.4% compared to the five-year quarterly average of \$54.1 billion.⁷
 - In Q1 2024, there were 56 U.S.-based deals involving unicorn companies, representing roughly \$11.5 billion in deal value. This was up by both value and number of deals compared to the prior quarter, which saw 52 unicorn-related deals close at a deal value of \$11.3 billion. Deal value was also below the five-year quarterly average of \$18.0 billion.⁷
- Most median pre-money valuations increased relative to valuations seen at year-end 2023, with the exception of Series C and Series D and later. Compared to the prior quarter, seed valuations increased from a median pre-money valuation of \$12.5 million to \$14.1 million, Series A valuations increased from \$40.0 million to \$80.0 million, and Series B increased from \$105.0 million to \$157.2 million. Series C median pre-money valuations decreased from \$320.0 million to \$285.6 million during the quarter, while Series D and later decreased from \$585.0 million to \$250.0 million.⁸
- Total U.S. venture-backed exit value increased during the quarter, totaling approximately \$18.4 billion across an estimated 600 completed transactions. This compares to \$10.4 billion across 536 exits in Q4 2023. This was meaningfully below the five-year quarterly average of \$74.6 billion of exit value from 401 transactions.⁷
 - The number of U.S. venture-backed initial public offerings increased slightly over the prior quarter, with 22 IPOs completed in Q1 2024 at a value of \$13.3 billion. 149 exits occurred by acquisition, marking an increase over the prior quarter's 145 acquisitions, and accounted for \$4.5 billion in exit value.⁷

Opportunity⁴

- Early stage continues to be attractive, although we continue to monitor valuations
- Smaller end of growth equity
- Technology sector, with emerging AI, digital health, and potential for new energy & climate-related innovation

Leveraged Loans & Mezzanine



Leveraged Loans

Fundraising

- New U.S. CLO issuance totaled \$46.9 billion in Q1 2024, representing 38.8% of FY 2023's issuance total of \$120.7 billion.²
- High-yield debt issuance totaled \$85.2 billion in Q1 2024, compared to \$40.3 billion in Q1 2023 (+111.4%). Q1 2024's issuance accounted for 48.4% of 2023's total.²
- In Q1 2024, leveraged loan mutual fund net flows ended at a net inflow of \$2.9 billion, compared to a net outflow of \$14.0 billion during 2023.²

Activity

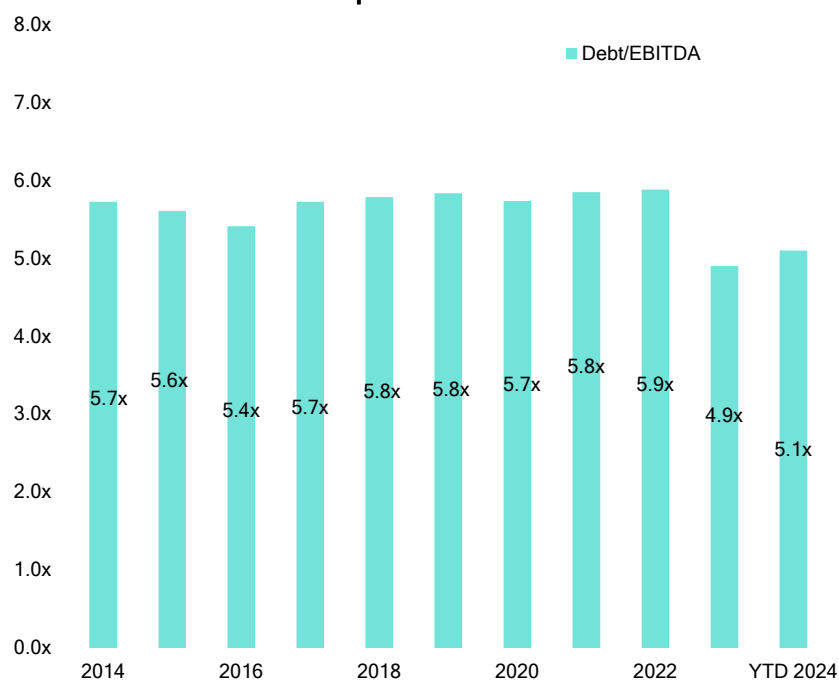
- U.S. institutional leveraged loan primary volume totaled \$141.9 billion in Q1 2024, compared to \$52.4 billion in Q1 2023 (+171.0%). Q1 2024's volume accounted for 60.6% of 2023's total.²
 - Loan issuance for M&A activity is expected to pickup throughout 2024 in addition to continued activity related to repricing and managing loan maturities.
- European institutional leveraged loan issuance totaled €22.7 billion during Q1 2024 compared to €32.5 billion during FY 2022. This total was more than double compared to Q1 2023.³

Opportunity⁴

- Funds with the ability to source deals directly and the capacity to scale for large transactions (both sponsored and non-sponsored)
- Funds with an extensive track record, experience through prior credit cycles, and staff with workout experience

Leveraged Loans & Mezzanine

Debt/EBITDA multiples on US BSL-funded LBOs



Sources: Pitchbook / LCD

Activity

- For U.S. broadly syndicated loan-funded transactions, debt comprised 45.1% of completed transactions, a slight decrease compared to the prior year's total of 45.7%. This compared to the five and ten-year averages of 50.2% and 46.6%, respectively.³
- UBS predicts junior capital to re-emerge as part of financing packages for M&A/LBO transactions, particularly if interest rates begin to compress in late 2024.²

Mezzanine Fundraising

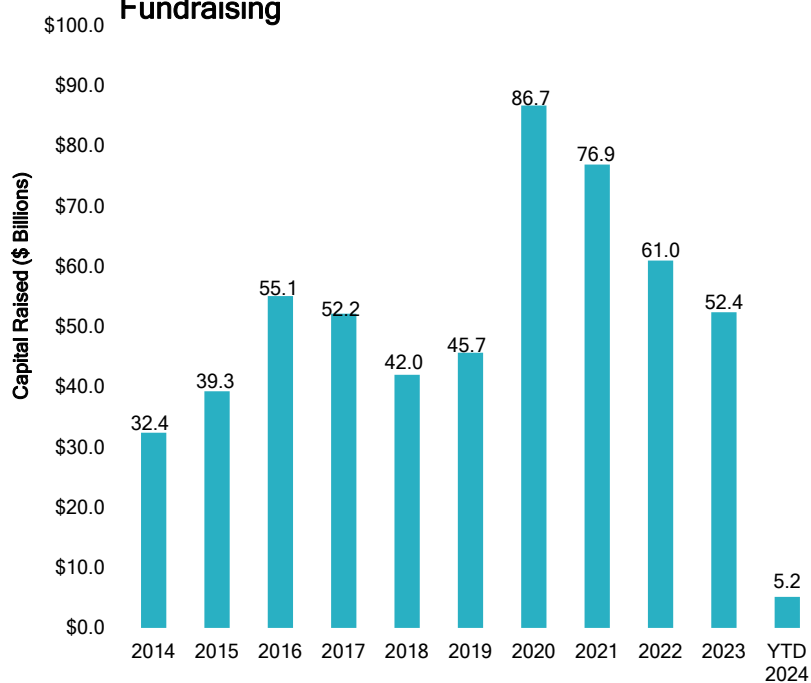
- 4 funds closed on \$2.1 billion during the quarter. This was an increase from the prior quarter's total of \$1.5 billion raised by 7 funds, but represented a decrease of 65.9% from the five-year quarterly average of \$6.1 billion.¹
- Estimated dry powder was \$61.7 billion at the end of Q1 2024, down from \$65.5 billion at the end of the prior year.¹
- An estimated 110 funds were in market targeting \$27.1 billion of commitments. ICG North American Credit Partners Fund III and North Haven Credit Partners IV were the largest funds in market targeting commitments of \$2.0 billion each.¹

Opportunity⁴

- Funds with the capacity to scale for large sponsored deals

Distressed Private Markets

Distressed Debt, Turnaround, & Special Situations Fundraising

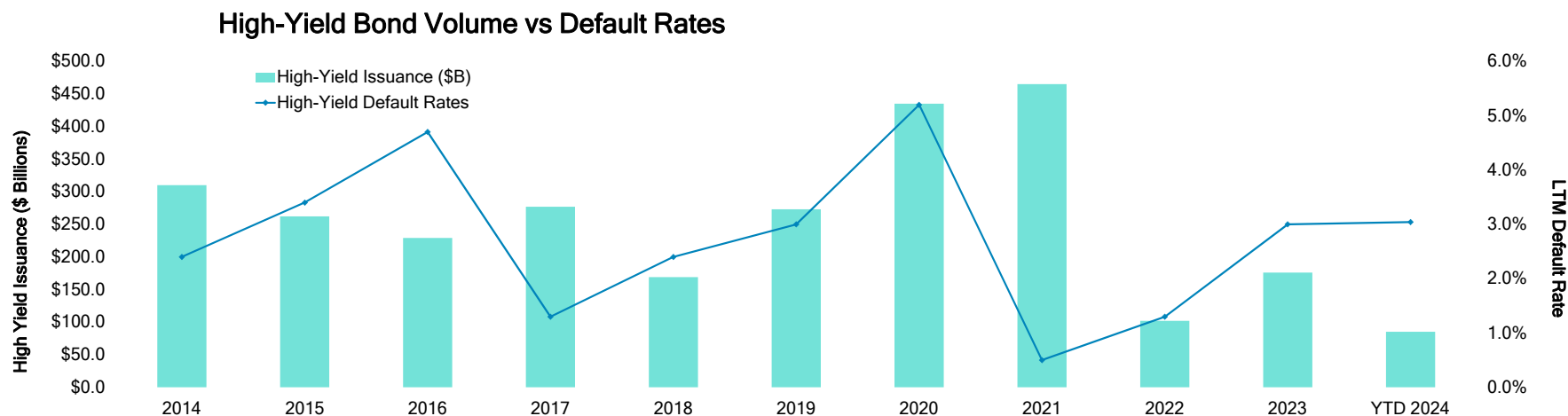


Source: Preqin

Fundraising

- During the quarter, \$5.2 billion was raised by 12 funds, down from the \$25.0 billion raised by 17 funds during Q4 2023.¹
 - Capital raised in Q1 2024 decreased compared to Q1 2023's total of \$12.1 billion and was the lowest quarterly total since Q1 2022.
 - Q1 2024's fundraising was 68.1% lower than the five-year quarterly average of \$16.1 billion.
 - The average closed fund size was \$644.0 million in Q1 2024, a decrease of 18.6% compared to the five-year quarterly average of \$790.8 million.
 - Atlantic Park Strategic Capital Fund II was the largest fund closed during the quarter with \$2.7 billion in commitments.
- Dry powder was estimated at \$145.2 billion at the end of Q1 2024, which was down 11.5% from Q4 2023. This was down from the five-year average level of \$152.7 billion.¹
- Roughly 255 funds were in the market at the end of Q1 2024 seeking \$132.5 billion in capital commitments.¹
 - Special situations managers were targeting the most capital, seeking \$74.8 billion in commitments, followed by distressed debt managers seeking \$55.8 billion.
 - Oaktree Opportunities Fund XII was the largest fund in market with a target fund size of \$18.0 billion.

Distressed Private Markets



Sources: UBS / Fitch Ratings

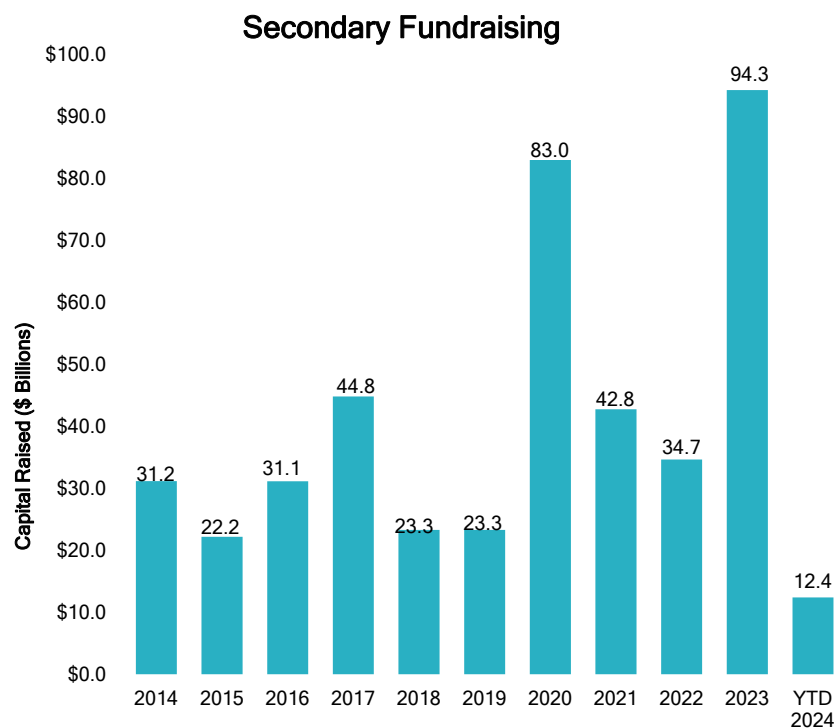
Activity

- The TTM U.S. high-yield default rate was 3.04% as of March 2024, which was up slightly from December 2023's TTM rate of 2.96%. Fitch expected the high-yield default rate to continue trending higher through 2024, with forecasted default rates of 5.0% to 5.5%.⁶
- Continued market dislocations caused by macroeconomic factors may supply additional distressed opportunities in the next several months, notably if the default rate continues to move higher.

Opportunity⁴

- Funds capable of performing operational turnarounds
- Funds with the flexibility to invest globally

Secondaries



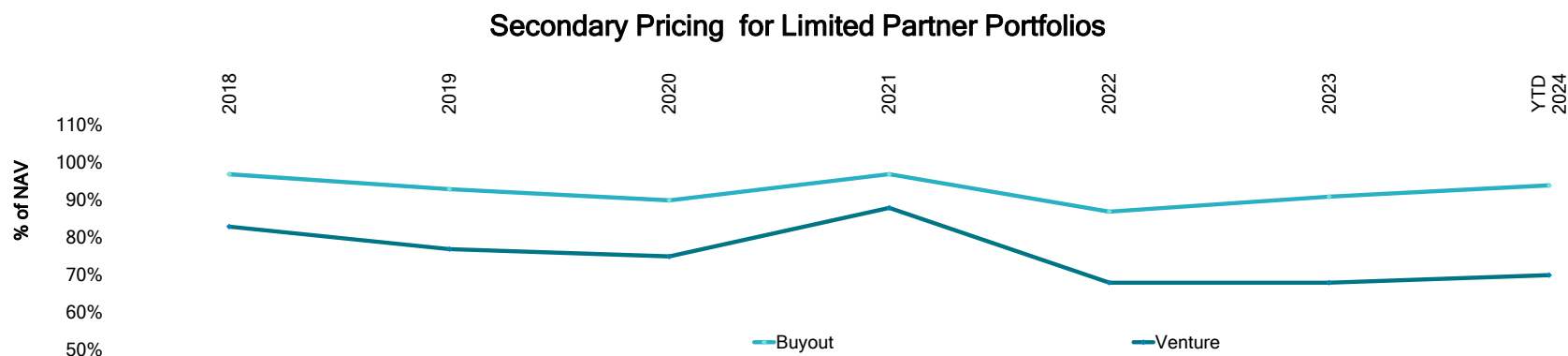
Fundraising

- 5 funds raised \$12.4 billion during Q1 2024, down substantially from the \$28.2 billion raised by 10 funds in Q4 2023. This was a slight decrease compared to the five-year quarterly average of \$13.9 billion.¹
 - Crown Global Secondaries VI was the largest fund closed during the quarter with total commitments of \$4.4 billion.
- At the end of Q1 2024, there were an estimated 182 secondary and direct secondary funds in market targeting roughly \$130.9 billion. The majority of secondary funds are targeting North American investments.¹
 - ASF IX is the largest fund being raised, seeking \$25.0 billion in commitments. There are currently five funds in market seeking \$10.0 billion or more in capital commitments.

Activity

- Limited Partner transactions continue to have participation from a broad base of buyers and sellers with selling activity spread across LP seller types. Given liquidity needs of Limited Partners, and the effects of slower distributions and longer hold periods, Jefferies expects continued adoption of secondaries transactions by Limited Partners.¹⁶
- Given the substantial amount of dry powder raised by the largest secondary buyers over the last 18 months, firms are writing larger checks to purchase sizable, diversified LP portfolios.¹⁴
- Jefferies noted continued demand for secondary transactions involving new vintage year exposure with well-regarded managers. Demand for transactions involving middle-market continues to be a highly sought after space.¹⁶

Secondaries



Source: Jefferies

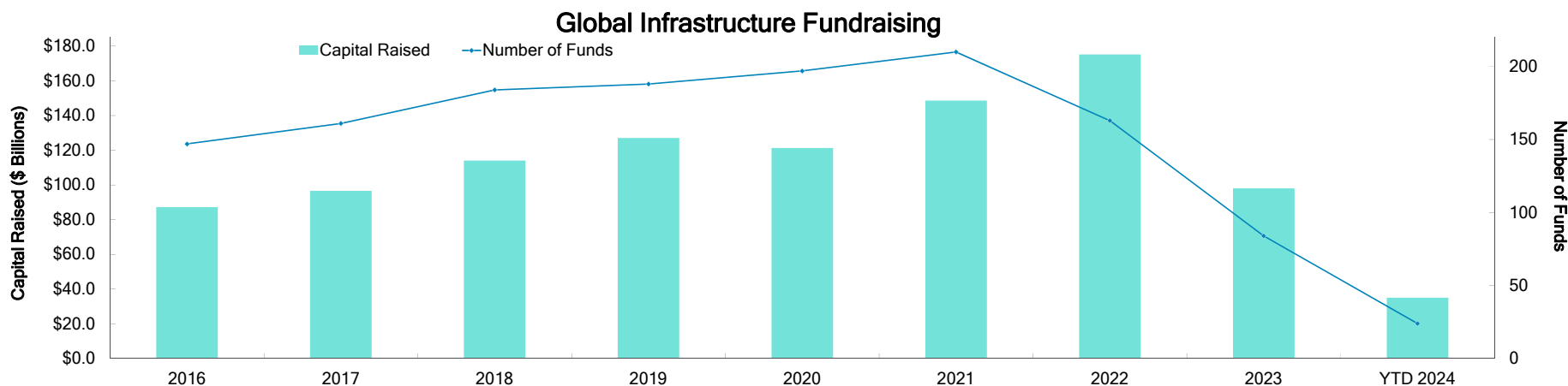
Activity

- Limited partner portfolio pricing has improved relative to the lows seen in H2 2022 given public market price momentum and more aggressive buyer activity. The average discount rate for LP buyout and venture capital portfolios finished the quarter at 6.0% and 29.0%, respectively.¹⁷
 - Jefferies expects pricing to improve as demand increases and markets stabilize. This, coupled with secondary dry powder available to invest, is expected to drive strong transaction volume in 2024.¹⁷
- Payment deferrals and structured equity solutions, notably mosaic structures, continue to be prevalent in the LP portfolio market and are used as a means to improve pricing and deal returns in an increasingly competitive environment.¹⁶
- GP-led volume is expected to increase in 2024, according to Jefferies, and may reach north of \$65.0 billion in transaction volume. Numerous factors support a healthy GP-led market including Limited Partner's desire for increased liquidity, an increase in investment strategies and capital targeting GP-led transactions, and a growing universe of potential syndicate investors.
- Campbell Lutyens suggests GP-led secondaries pricing may improve given the robust fundraising environment, causing increased competition in transactions completed in 2024.¹⁴

Opportunity⁴

- Funds that are able to execute complex and structured transactions
- Niche strategies

Infrastructure

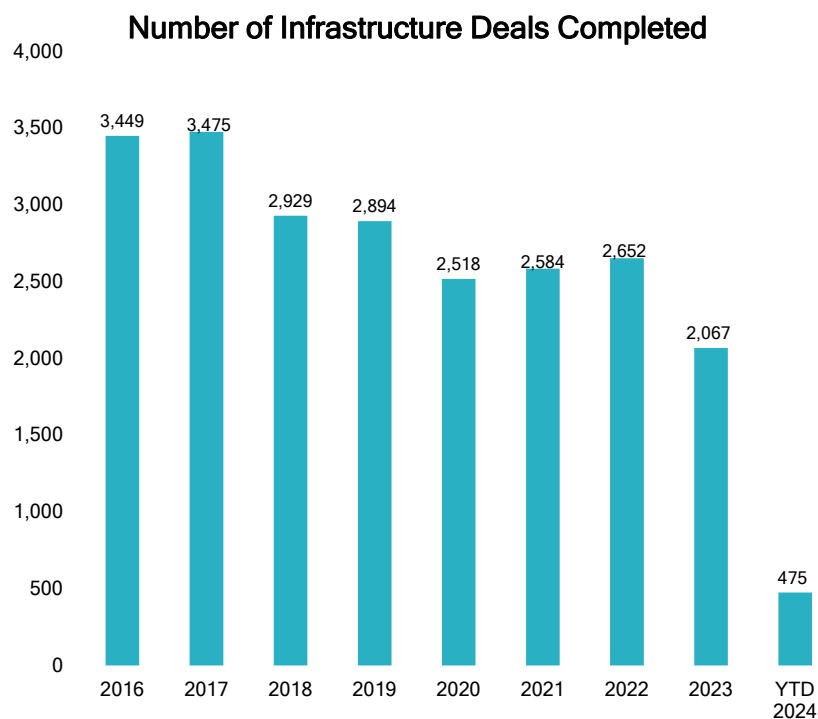


Source: Preqin

Fundraising

- \$35.1 billion of capital was raised by 24 funds in Q1 2024 compared to \$68.7 billion of capital raised by 31 funds in Q4 2023. This was an increase of 4.5% compared to the five-year quarterly average of \$33.6 billion. By primary region focus, approximately 70.8% of funds closed in Q1 2024 were targeting Europe.¹
 - KKR Asia Pacific Infrastructure Investors II was the largest fund closed with \$6.4 billion of commitments.
- As of the end of Q1 2024, there were an estimated 409 funds in the market seeking roughly \$525.5 billion.¹
 - The largest funds in market, Global Infrastructure Partners V and ALTÉRRRA Acceleration, each had target fund sizes of \$25.0 billion.
 - The 10 largest funds in market are currently seeking a combined \$167.2 billion in capital.
- Concerns surrounding the relative availability and pricing of assets remain. Although fundraising has slowed it remains competitive given the number of funds and aggregate target level of funds in market. Investor appetite for the asset class persists despite the strong levels of dry powder and increased investment activity from strategic and corporate buyers as well as institutional investors.

Infrastructure



Source: Preqin

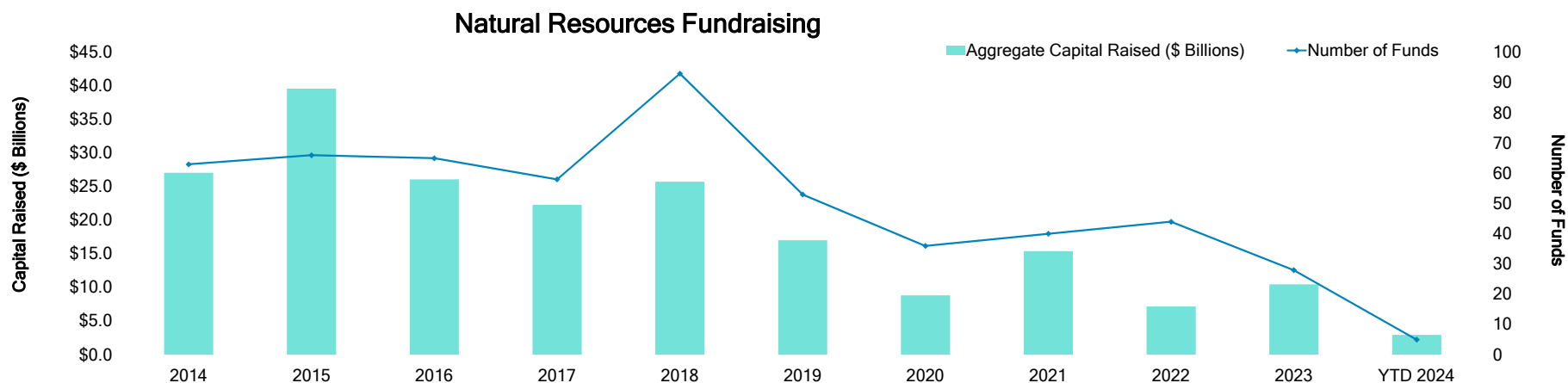
Activity

- Infrastructure managers completed 475 deals for an aggregate deal value of \$58.4 billion in Q1 2024, compared to 599 deals totaling \$109.2 billion in Q4 2023. Q1 2024's total was significantly lower than the five-year quarterly average of \$106.0 billion in deal value.¹
 - By region, Europe saw the largest number of deals, with 42.9% of deals being completed in the region, followed by North America at 31.5%. APAC amassed 12.1% of activity through the end of Q1 2024.

Opportunity⁴

- Mid-market core+ and value-add infrastructure as well as a platform investing approach continue to offer the best relative value.
- Assess funds with pre-specified assets with caution due to possible lag in and uncertainty around valuation impact.
- Blind-pool funds may be better positioned to take advantage of the market dislocation in certain sub-sectors, however careful review of such strategies is required.
- Build-to-core greenfield strategies particularly in the social / PPP infrastructure space offer a premium for investors willing to take on construction / development risk.

Natural Resources



Source: Preqin

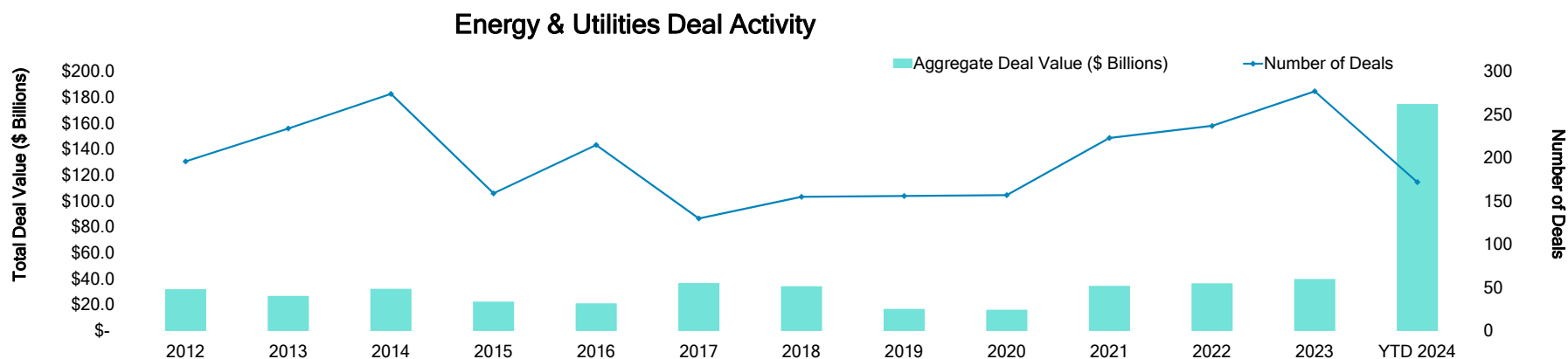
Fundraising

- During Q1 2024, 5 funds closed on \$2.9 billion compared to 9 funds closing on \$3.5 billion during the prior quarter. This was equal to the five-year quarterly average of \$2.9 billion.¹
- Dry powder stood at roughly \$35.6 billion at the end of Q1 2024, which was slightly lower than Q4 2023's level of \$35.9 billion. This was also lower than the five-year average of \$38.2 billion.¹

Activity

- Crude oil prices increased during the quarter, while natural gas prices decreased.
 - WTI crude oil prices increased 13.0% during the quarter to \$81.28 per bbl. This was also an increase of 10.9% compared to Q1 2023.¹⁰
 - Brent crude oil prices ended the quarter at \$85.41/bbl, up 10.0% compared to the prior year. This was also an increase of 8.9% from Q1 2023.¹⁰
 - Natural gas prices (Henry Hub) finished Q1 2024 at \$1.49 per MMBtu, which was down 40.9% compared to the prior quarter and down 35.5% from Q1 2023.¹⁰

Natural Resources



Source: Preqin

Activity

- 172 energy and utilities deals were completed in Q1 2024 totaling \$174.9 billion, an increase, on a capital basis, compared to 829 completed deals totaling \$54.6 billion in FY 2023. Energy and utilities deals accounted for the largest percentage of private equity deal value during the quarter. The quarter's total was materially impacted by Public Investment Fund's investment into Aramco, which was valued at approximately \$163.6 billion.¹
- A total of 621 crude oil and natural gas rotary rigs were in operation in the U.S. at the end of the quarter. This was down by 0.2% from the prior quarter and down 17.7% over Q1 2023.¹³
 - Crude oil rigs represented 81.5% of the total rigs in operation. 61.3% of the 506 active oil rigs were in the Permian basin.
 - At the end of Q1 2024, 32.1% and 25.9% of natural gas rigs were operating in the Haynesville and Marcellus basins, respectively.
- The price of iron ore (Tianjin Port) ended the quarter at \$109.79 per dry metric ton, down from \$137.05 at the end of Q4 2023.¹⁰

Opportunity⁴

- Acquire and exploit existing oil and gas strategies over early-stage exploration in core U.S. and Canadian basins
- Select midstream opportunities

Notes

1. Preqin
2. UBS
3. Pitchbook / LCD
4. Aon Investments USA Inc.
5. Moody's
6. Fitch Ratings
7. PitchBook/National Venture Capital Association Venture Monitor
8. Cooley Venture Financing Report
9. U.S. Energy Information Administration
10. Bloomberg
11. Setter Capital Volume Report: Secondary Market
12. KPMG and CB Insights
13. Baker Hughes
14. Evercore
15. Campbell Lutyens
16. PJT Partners
17. Jefferies

Notes:

FY: Fiscal year ended 12/31

YTD: Year to date

YE: Year end

LTM: Last twelve months (aka trailing twelve months or TTM)

PPM: Purchase Price Multiples: Total Purchase Price / EBITDA

/bbl: Price per barrel

MMBtu: Price per million British thermal units

AON

Q1 2024 Real Estate Market Overview

July 2024



United States Real Estate Market Update (1Q24)

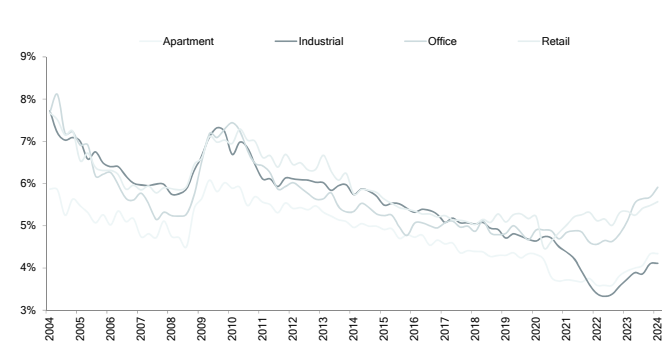
General

- The economy remained fast paced in the first quarter, leading the Fed to indicate its intentions to maintain a steady pace, keeping interest rates within the 5.25%-5.00% target. The S&P 500 continued along with a strong first quarter coming in at 10.5%, its greatest first quarter return since 2019. The MSCI US REIT index fell off its fourth quarter highs and returned a relatively flat -0.3% during the first quarter of 2024.
- During the first quarter, GDP increased at an annualized rate of 1.3%, coming down from 3.4% in the fourth quarter. This growth was primarily due to increases in consumer spending, residential and nonresidential fixed investments, as well as state and local spending which was partially offset by a decrease in private inventory investment. The Fed continues to fight inflation, maintaining its target and announcing a plan involving quantitative tightening to reduce its balance sheet.
- 10-year treasury bond yields continued to increase, ending the quarter at 4.2%. As economists expected, rates moved significantly higher throughout 2023, but have since plateaued after the Fed paused its dramatic rate increases spanning from early 2022 until mid 2023.

Commercial Real Estate

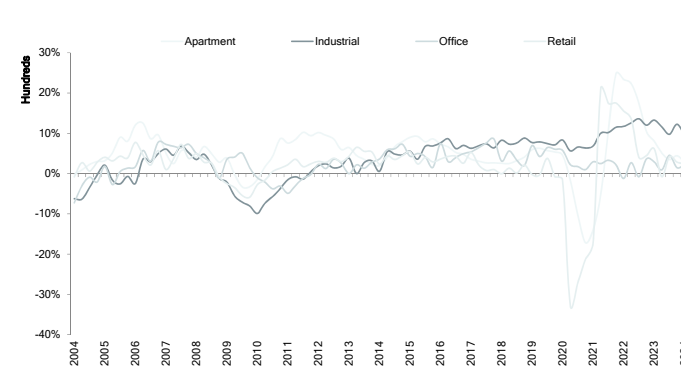
- First quarter 2024 CRE transaction activity continued to decline, falling to -24% YoY. The apartment sector transaction volumes continued to lead the plummeting of transactions in the U.S., largely due to the sizeable amount of transaction volume during and post-pandemic. Although apartment fundamentals remain intact, the increase in cost of debt has contributed to a YoY decrease in transaction volume by 49% YoY.
- Transaction cap rates (6.3%) expanded, moving out 58 bps during the quarter. This increase continues the upward trend on cap rates beginning in 4Q21. Current valuation cap rates expanded for all major property sectors, led by office (+23 bps), and followed by retail (+9 bps), industrial (+1 bps), and apartment (+1 bps).
- NOI growth has continued to diverge between property sectors. The industrial sector continues to outperform the compared to the other three main categories of commercial real estate. Industrial outperformance is largely due to high demand for quality products and efficient logistics centers, driving rents upwards. Industrial NOI continued to expand (9.5%) YoY with the continued investments into direct-to-customer distribution by companies.
- Commercial Real Estate fundraising activity has remained steady after seeing a slow year. In the first quarter, the number of funds in the market decreased (40%) although there was a (1%) increase in aggregate capital raised over the previous quarter.

Current Value Cap Rates by Property Type



Source: NCREIF

4 Qtr Rolling NOI Growth



Source: NCREIF

United States Property Matrix (1Q24)



INDUSTRIAL	MULTIFAMILY
<ul style="list-style-type: none"> In 1Q24, industrial properties returned 0.13% and outperformed the NPI by 111 bps. Transaction volumes decreased to \$17 billion in the first quarter of the year, resulting in an 19% decrease year-over-year. Individual asset sales decreased 70% year-over-year, while portfolio purchases turned in a year-over-year volume decrease of 1%. At \$17 billion, the industrial sector decreased by \$5 billion quarter-over-quarter. The industrial sector turned in NOI growth of 9.5% over the past year. NOI continues to reach all time highs for the sector. Vacancy increased by 113 bps year-over-year to 2.6%. Vacancy in the sector increased 32 bps from the prior quarter. E-commerce continues to drive demand across the sector. Industrial cap rates expanded approximately 50 bps from a year ago, to 4.0%. Industrial overall fundamentals still top all property sectors. 	<ul style="list-style-type: none"> The apartment sector delivered a -0.97% return during the quarter, outperforming the NPI by 1 bps. Transaction volume in the first quarter of 2024 decreased to \$21 billion, resulting in a decrease of 30% year-over-year. Transaction volume for the sector decreased from the fourth quarter by \$6 billion. This volume continues to make multifamily the most actively traded sector for the twenty fourth straight quarter. Cap rates increased to 4.2% quarter-over-quarter, increasing 45 bps year-over-year. Multifamily cap rates remain at low levels relative to prior years, driven by continued increases in valuation. The multifamily sector saw increasing vacancy rates throughout the entirety of 2020 due to the global pandemic. Throughout 2021 and 2022, the sector appeared to have shaken that trend although vacancy rates remained steady. Vacancy rates slightly decreased quarter over quarter to 6.4% as of the first quarter of 2024. The aging millennials have begun shifting their desires to suburban living, but continued home price appreciation has deterred the full effect of this migratory trend.
OFFICE	RETAIL
<ul style="list-style-type: none"> The office sector returned -3.80% in 1Q24, 282 bps below the NPI return over the period. Transaction volumes increased by 25% year-over-year in the first quarter. Transaction volume equated to \$15 billion for the quarter, slightly increasing quarter-over-quarter. Office transaction levels have regressed since 4Q21 and are at levels seen during the COVID-19 pandemic. Office sector vacancy rates have expanded since the beginning of the pandemic due to work from home orders and uncertainty revolving around the future of office space. Office continues to be the highest vacancy property type at 14.3%, increasing by 5 bps from last quarter. NOI growth in the office sector increased quarter-over-quarter by 430 bps to 2.3% and is still experiencing volatility given the current market environment. Office cap rates expanded from a year ago, sitting at approximately 5.7%. Office-using job growth was stunted significantly through out 2020 due to work from home orders. Though we are observing a slow but steady flow back to in-office work, there is still uncertainty in the sector. 	<ul style="list-style-type: none"> As of 1Q24, the retail sector delivered a quarterly return of 0.64%, outperforming 162 bps compared to the NPI. Transaction volumes totaled \$16 billion in the first quarter, decreasing 14% year-over-year. Single asset transactions accounted for just over 60% of all sales volume for the quarter. Cap rates have remained fairly steady within the sector over the last year at 5.4%. Current valuation cap rates expanded quarter-over-quarter by 6 bps due to valuation adjustments made across the sector in general. NOI growth decreased from the prior quarter to 1.0% as of the first quarter. Retail has begun its slow recovery but has continued to experience volatility due to the current market environment. Retail vacancy rates remained steady over the quarter at 7.9%, up 6 bps over the past year. Many big box stores have closed as the need for retail space shrinks, translating to a negative outlook for rent growth. Paired with the global economic crisis, which has had a significant negative impact on this sector.

Sources: Real Capital Analytics, Green Street, NCREIF

Global Real Estate Market Update (1Q24)

- The global real estate market has endured its seventh consecutive quarter of negative deal volume. This is an irreverent shift from the previous cycle characterized as buoyant with lower interest rates. While at a reduced rate of decline, deal volume and participants are mirroring levels seen in 2011. The pronounced illiquidity is multifaceted with price uncertainty with elevated interest rates, structural headwinds in certain sectors, and pending wave of debt maturities accumulated during the previous cycle of cheaper financing.
- US markets produced \$60B in deal volume in the first quarter, showing to be the slowest quarter since late 2020. Outside of continued lagging demand in office, Industrial pricing has increased 5.7% year over year with positive dynamics in the occupier market outweigh the negative impact of higher yields.

Global Total Commercial Real Estate Volume - 2023 - 2024

\$ US Billions	Q1 2024	Q1 2023	% Change		% Change Full	
			Q1 24 - Q1 23	2024	2023	Year
Americas	68	85	-20%	317	587	-46%
EMEA	37	47	-22%	175	278	-37%
Asia Pacific	91	106	-14%	686	817	-16%
Total	196	238	-18%	1178	1681	-30%

Source: Real Capital Analytics, Inc., Q1' 24

- Higher borrowing costs, wide bid-ask spreads and persistent global headwinds remain major factors hindering investment sentiment in the Asia. Japan emerged as the top performing market in the Asia Pacific this quarter, benefiting from its central bank's monetary policy, ending negative interest rates and yield curve control which provides more clarity for pricing. India saw a spike in transactions with industrial and logistics investment. Office holdings in China still face headwinds, while an uptick in consumer spending in the region presented a surge in hotel and retail growth.
- European markets are expected to remain close to recession levels in the first half of 2024 as investors await rate cuts from the European Central Bank (ECB). The UK was the leader in transaction activity, doubling the volume of Germany and tripling that of France. As the fastest major global market to reprice assets during this down cycle, the resilience in deal making points to an assumed end to price correction. In contrast, Germany and France have been slower to react as office sales were at their lowest on record.
- All three global regions registered moderating industrial fundamentals during the first quarter, with a recovery in demand anticipated to begin in the second half of 2024. While absorption figures fell sharply over the quarter in the U.S. and Asia Pacific regions, both noted an increase in inquiries. Rental growth in all three regions remained positive, albeit at a slowing pace. Supply chains will continue to pivot in the post-pandemic world as occupiers aim for more localized distribution networks. All three regions will feel the impacts of shipping routes under stress by both geopolitical tensions and climate-related hurdles.
- Global housing markets showed tentative signs of improvement as spring leasing momentum and large-scale M&A deals in the multifamily space have driven renewed investor conviction. Investors went forward to begin the year with business plans as the significant undersupply of housing and constrained affordability globally acted as incentives for investment. Asia Pacific housing transactions rose 10% year over year as European investment is slowly rebounding, although at reduced levels compared to the last 5-10 years.

Global Outlook - GDP (Real) Growth % pa, 2024-2026

	2024	2025	2026
Global	3.0	3.0	3.0
Asia Pacific	4.3	4.1	3.9
Australia	1.3	2.2	2.5
China	4.9	4.5	4.2
India	7.8	6.8	6.5
Japan	0.4	1.1	0.9
North America	2.3	1.8	2.0
US	2.4	1.8	2.0
Middle East	2.3	3.8	4.0
European Union	1.0	1.7	1.8
France	0.9	1.3	1.5
Germany	0.2	1.2	1.3
UK	0.6	1.2	1.4

Source: Bloomberg

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REPORT

Meketa Capital Markets Outlook & Risk Metrics

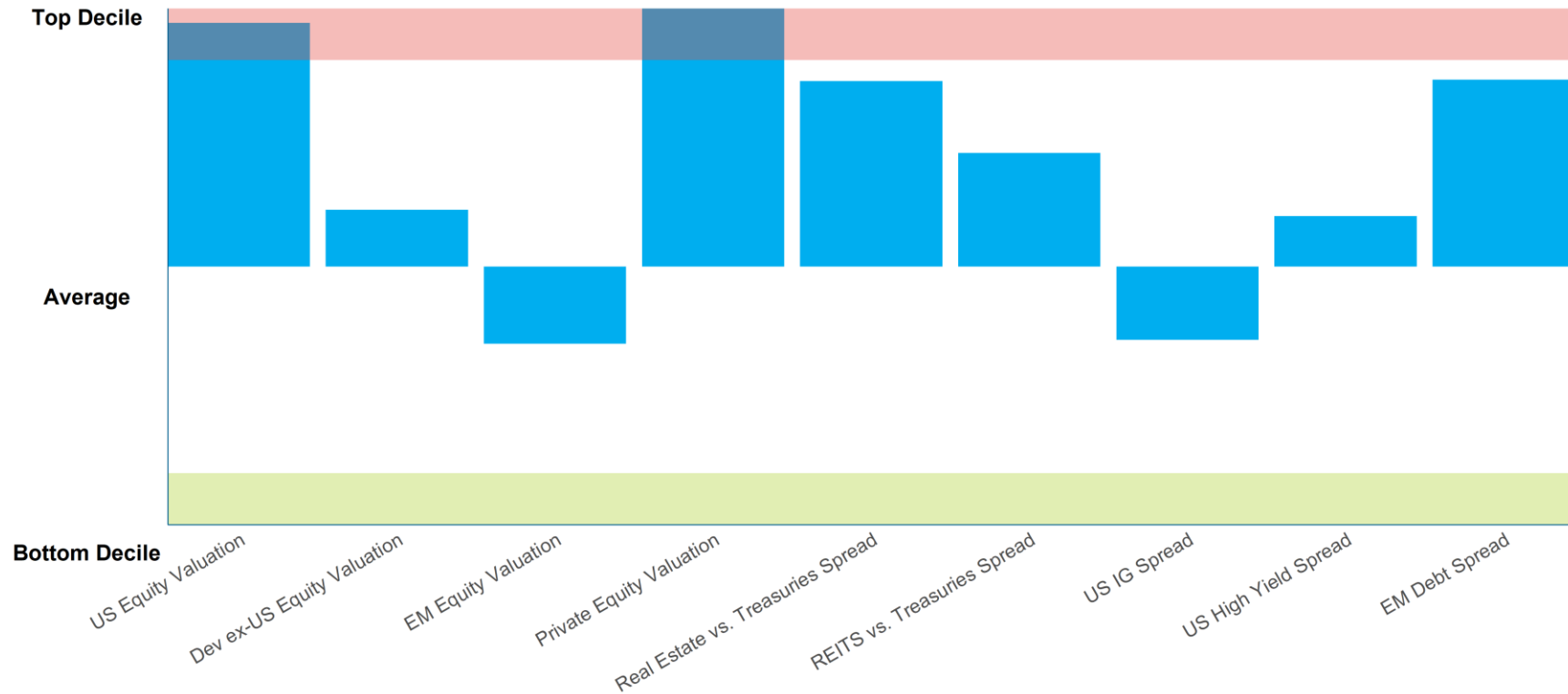
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Capital Markets Outlook & Risk Metrics
As of June 30, 2024

Capital Markets Outlook

- In June, the Fed held policy rates steady at 5.25%. Inflation continued to moderate, albeit at a slow pace, and the US economy showed some signs of slowing.
- Global growth and inflation dynamics continued to diverge, as has central bank policy. In China, the PBoC continued to ease to support the economy and the troubled real estate market. The European Central Bank cut its policy rate but warned of possible inflation pressures ahead. The Bank of Japan reduced the amount of its asset purchases but has stepped in to support a weakening yen.
- US large cap and growth stocks outperformed small cap and value stocks, as the Russell 3000 gained 3.1%. Large cap growth stocks were the best performing stocks for the first half of 2024, powered by a select number of technology-related companies, especially Nvidia.
- Outside the US, emerging market equities outperformed developed market equities despite the underperformance of China's stocks in June. The strengthening dollar continued to negatively impact the returns of US-based investors.
- After several strong months, Chinese equities reversed course in June. There is a substantial year-to-date gap between onshore and offshore Chinese stocks, with Hong Kong listed stocks up over 17% while on-shore markets are down 3.3% for the first half of the year.
- Bonds generally produced modest gains in June as cooling inflation and the potential for future rate cuts supported performance.
- Public real estate enjoyed positive returns, while commodities, infrastructure, and natural resource stocks sold off on the prospect of slowing growth, particularly in China.

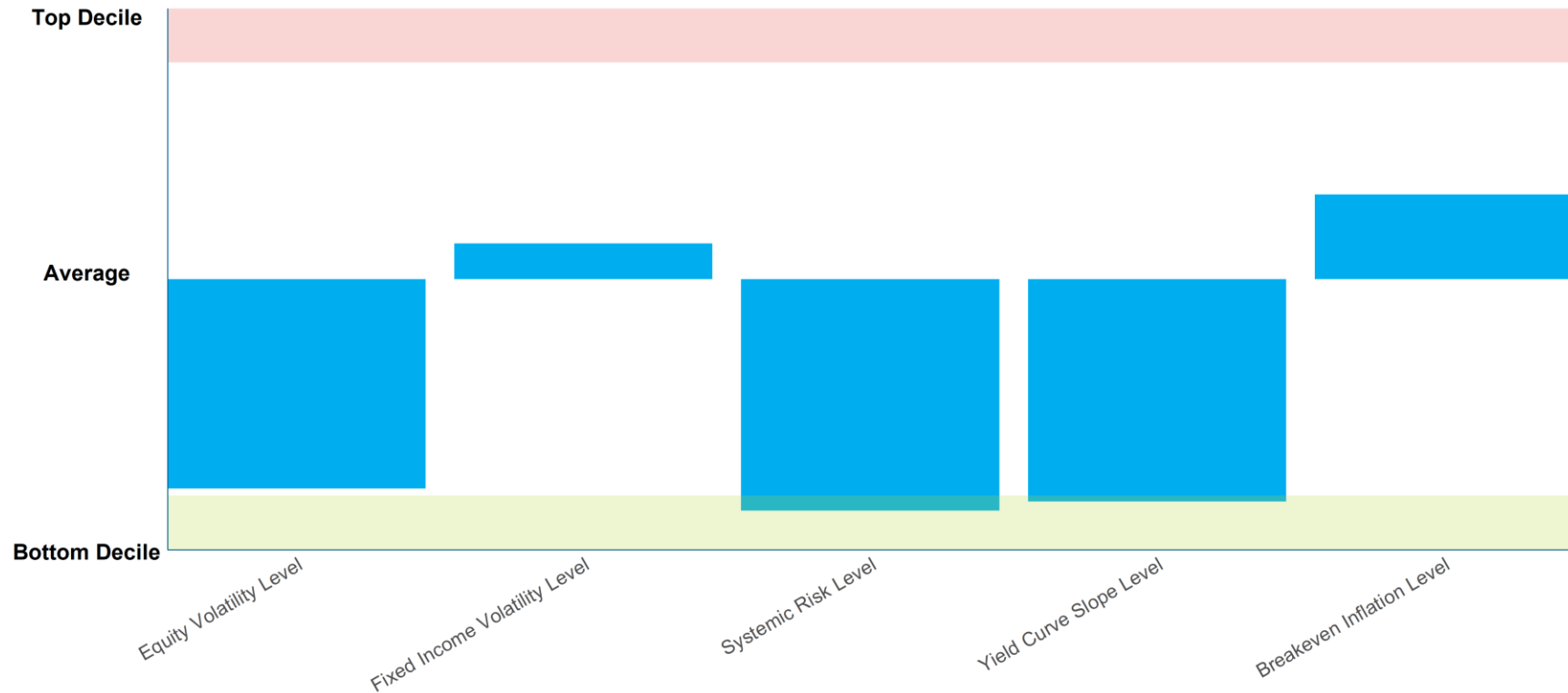
Risk Overview/Dashboard (1) (As of June 30, 2024)¹



→ Dashboard (1) summarizes the current state of the different valuation metrics per asset class relative to their own history.

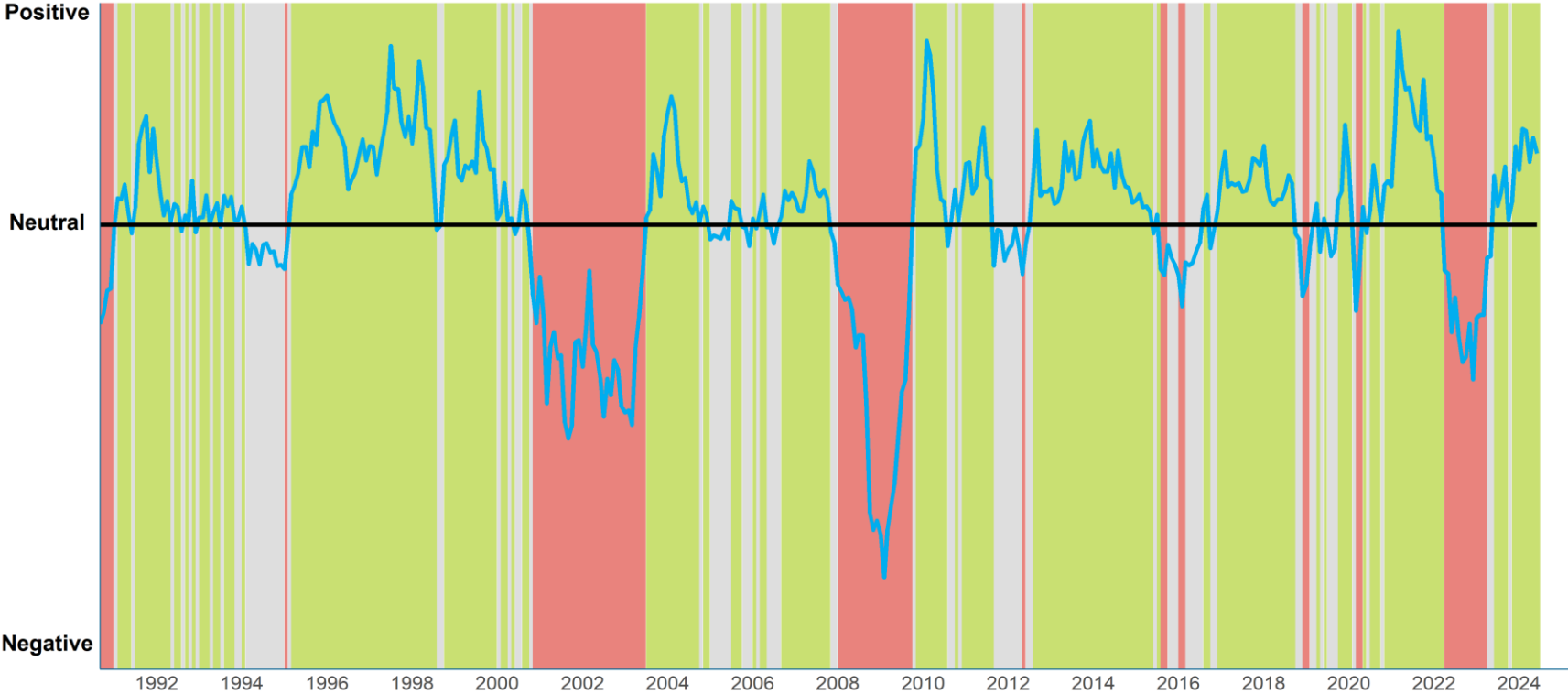
¹ With the exception of Private Equity Valuation, that is YTD as of December 30, 2023.

Risk Overview/Dashboard (2) (As of June 30, 2024)

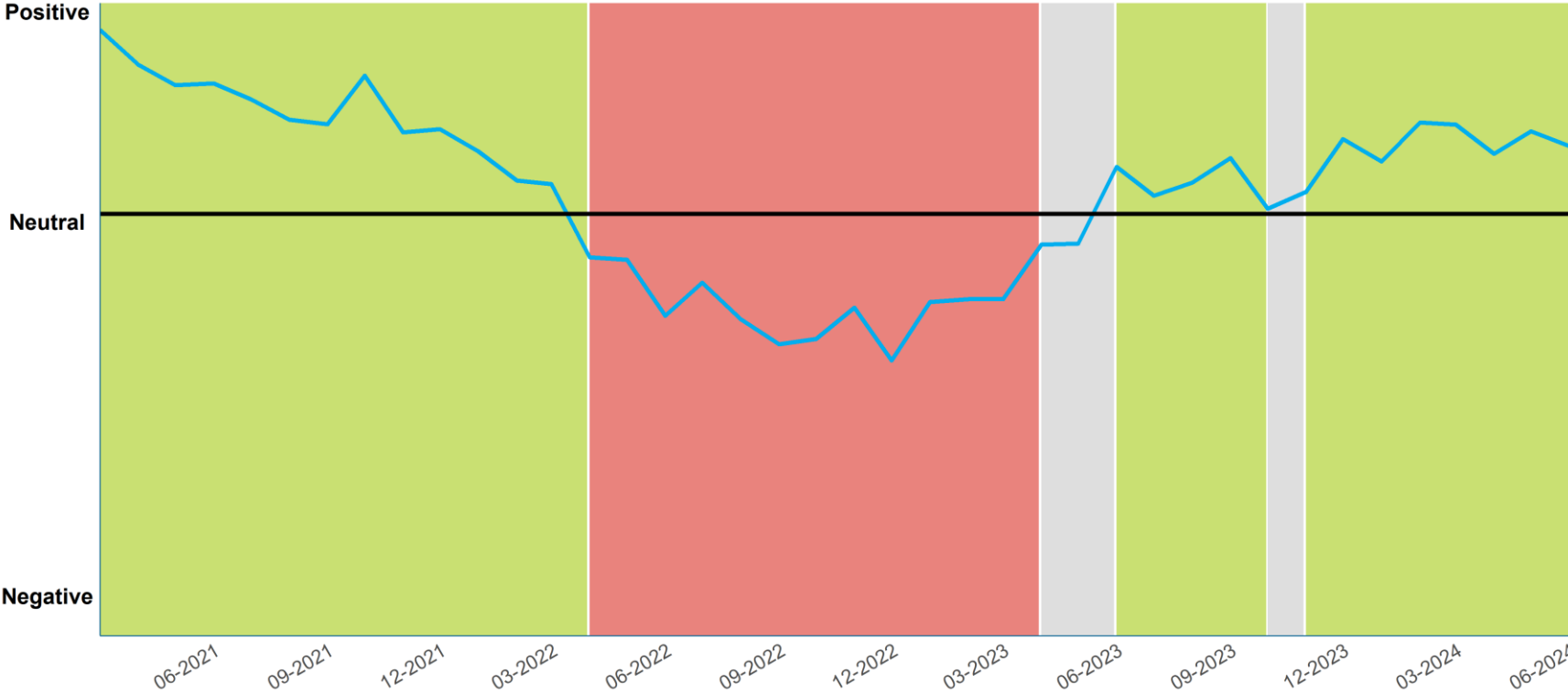


→ Dashboard (2) shows how the current level of each indicator compares to its respective history.

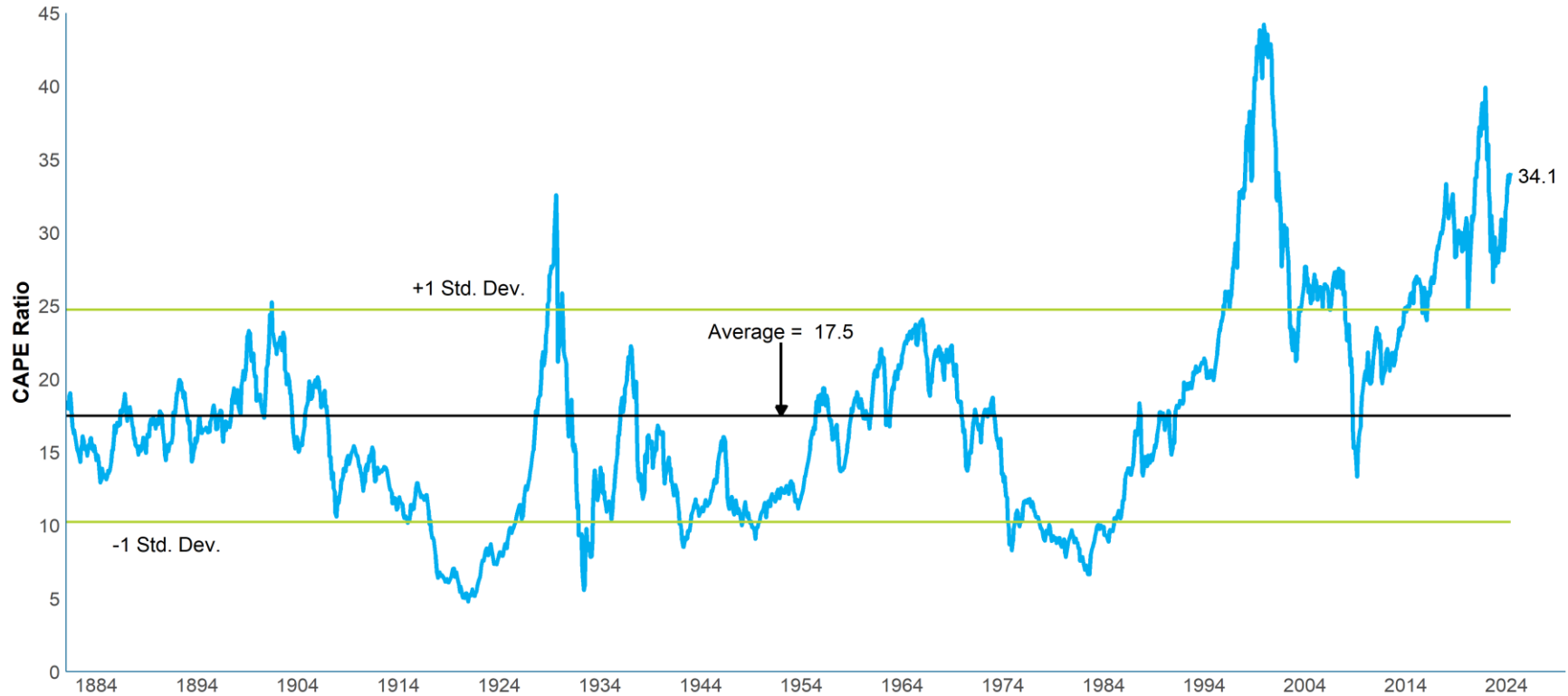
Market Sentiment Indicator (All History)
(As of June 30, 2024)



Market Sentiment Indicator (Last Three Years)
(As of June 30, 2024)



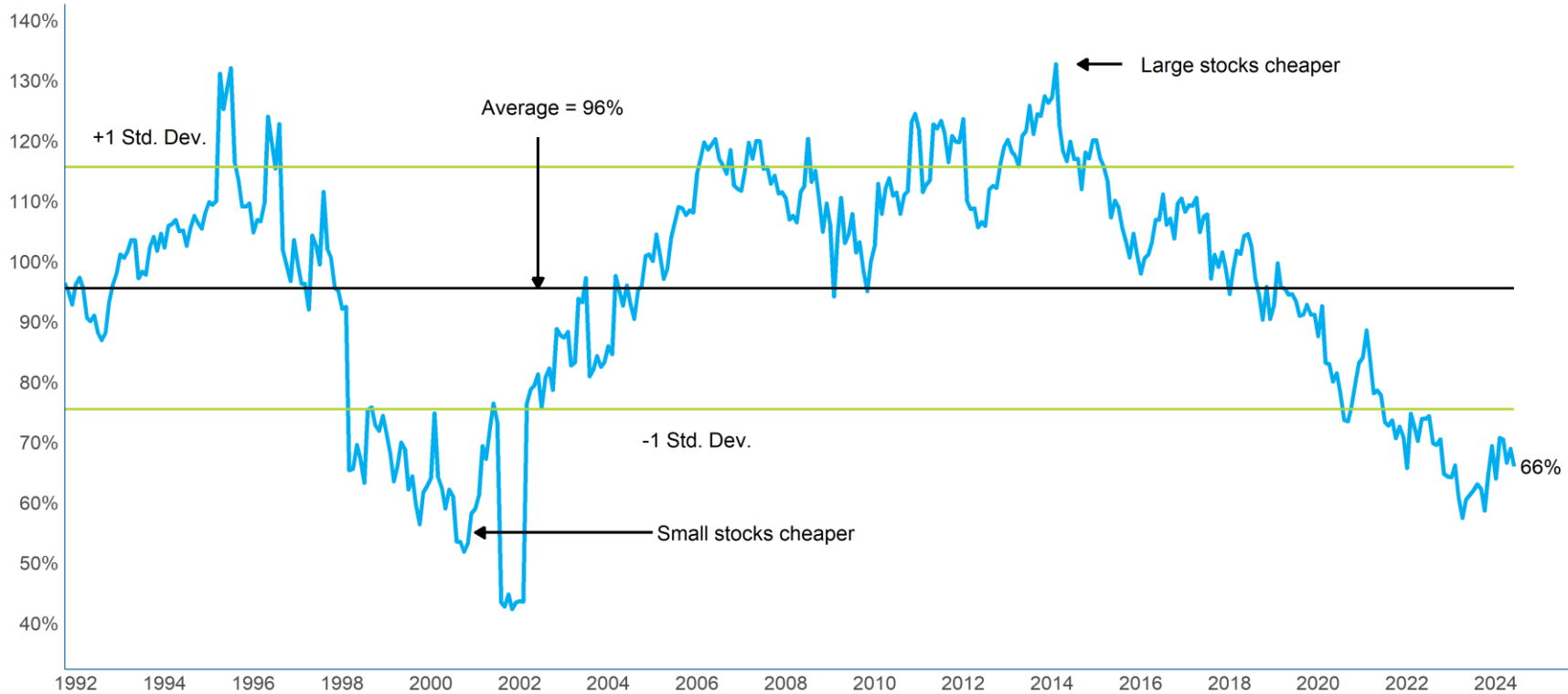
US Equity Cyclically Adjusted P/E¹
(As of June 30, 2024)



→ This chart details one valuation metric for US equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group.

Small Cap P/E vs. Large Cap P/E¹ (As of June 30, 2024)



→ This chart compares the relative attractiveness of small cap US equities vs. large cap US equities on a valuation basis. A higher (lower) figure indicates that large cap (small cap) is more attractive.

¹ Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments and Bloomberg. Prior months unavailable on Bloomberg are backfilled with last reported earnings. Earnings figures represent 12-month "as reported" earnings.

Growth P/E vs. Value P/E¹ (As of June 30, 2024)



→ This chart compares the relative attractiveness of US growth equities vs. US value equities on a valuation basis. A higher (lower) figure indicates that value (growth) is more attractive.

¹ Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.

Developed International Equity Cyclically Adjusted P/E¹ (As of June 30, 2024)



→ This chart details one valuation metric for developed international equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ Developed International Equity (MSCI EAFE Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.

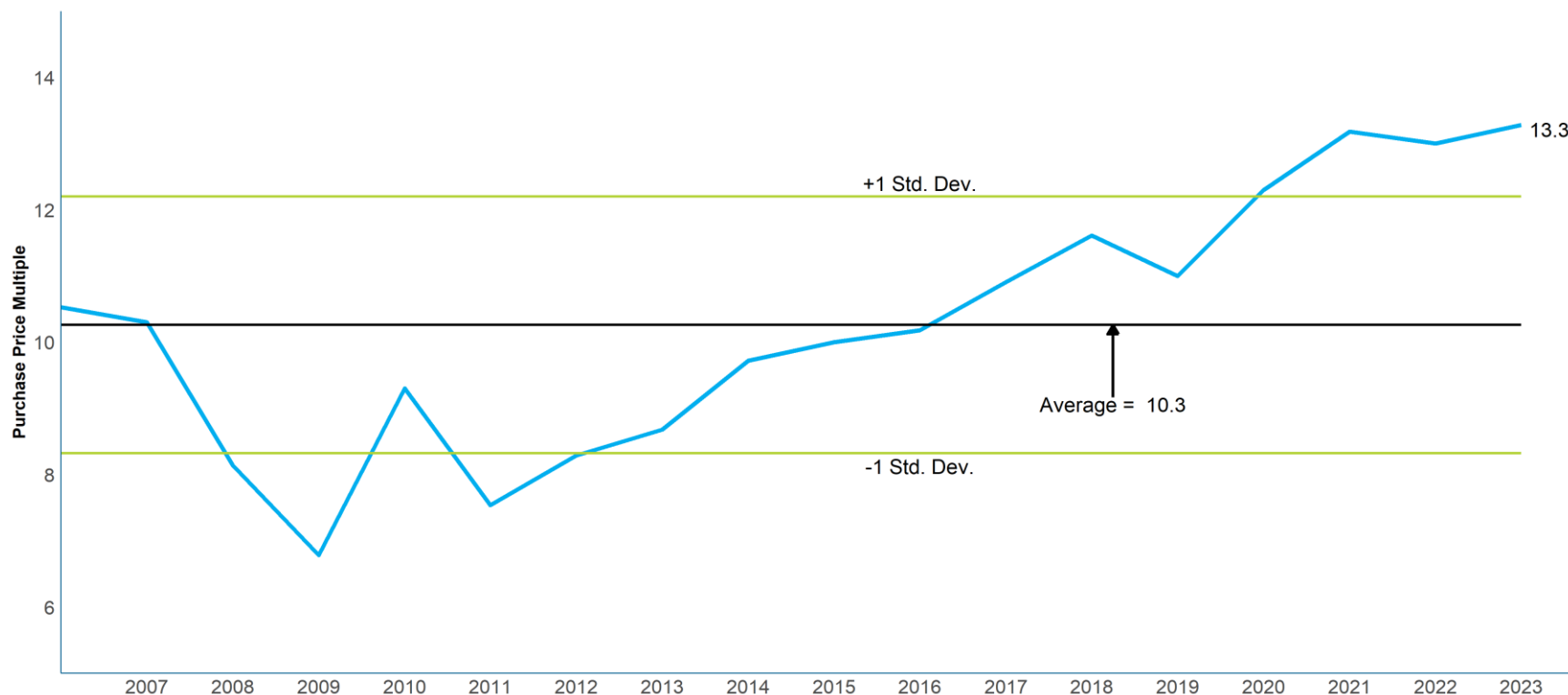
Emerging Market Equity Cyclically Adjusted P/E¹
(As of June 30, 2024)



→ This chart details one valuation metric for emerging markets equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.

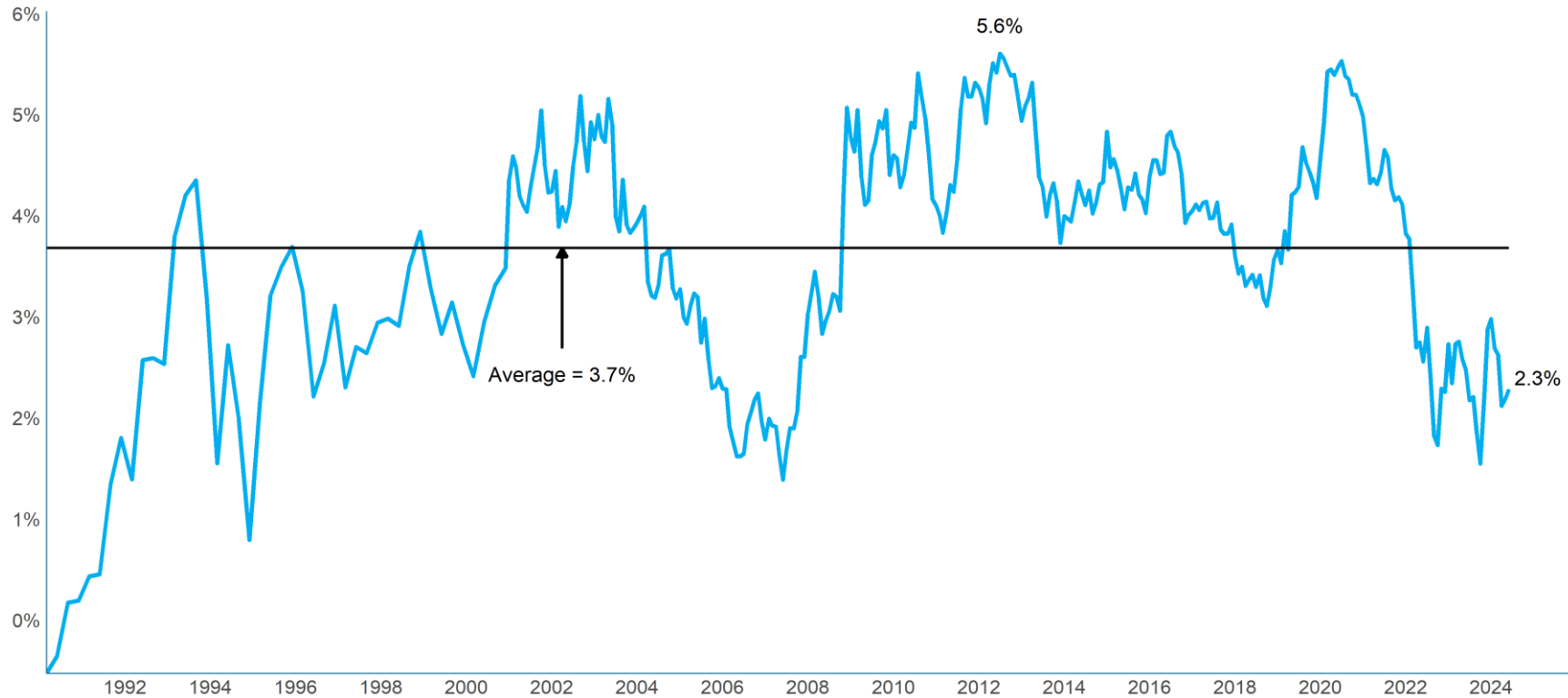
Private Equity Multiples¹ (As of December 31, 2023)



→ This chart details one valuation metric for the private equity market. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ Private Equity Multiples – Source: Preqin Median EBITDA Multiples Paid in All LBOs. Accessed July 1, 2023.

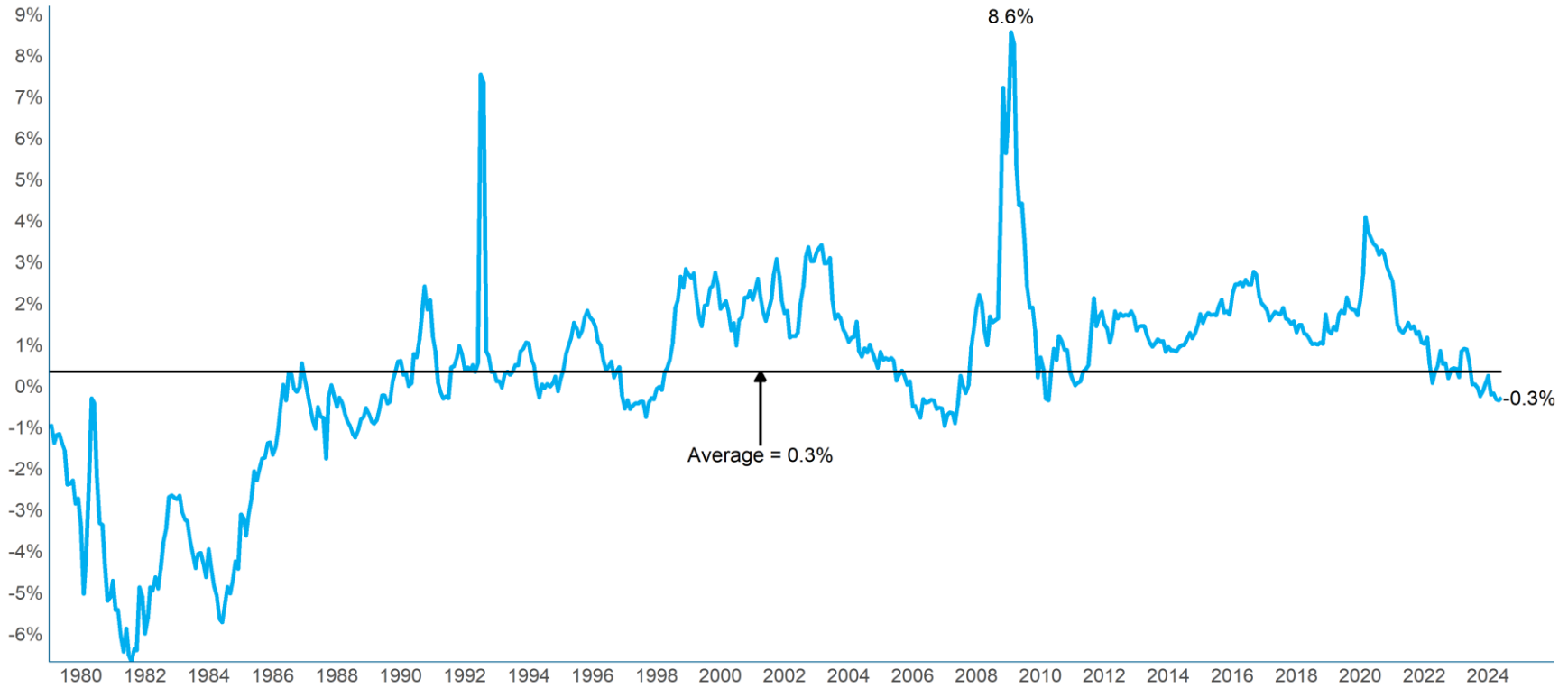
Core Real Estate Spread vs. Ten-Year Treasury¹
(As of June 30, 2024)



→ This chart details one valuation metric for the private core real estate market. A higher (lower) figure indicates cheaper (more expensive) valuation.

¹ Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, FRED, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.

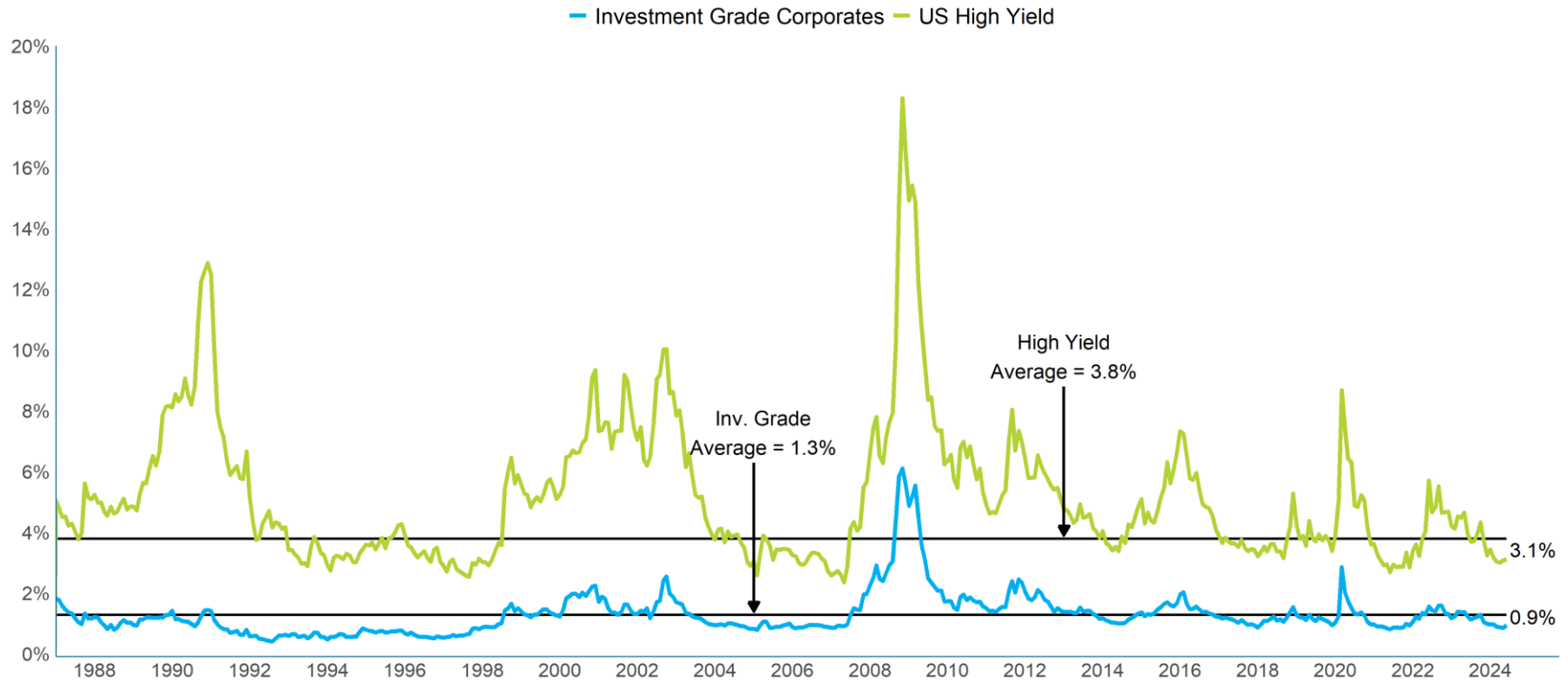
REITs Dividend Yield Spread vs. Ten-Year Treasury¹
 (As of June 30, 2024)



→ This chart details one valuation metric for the public REITs market. A higher (lower) figure indicates cheaper (more expensive) valuation.

¹ REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, Bloomberg, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.

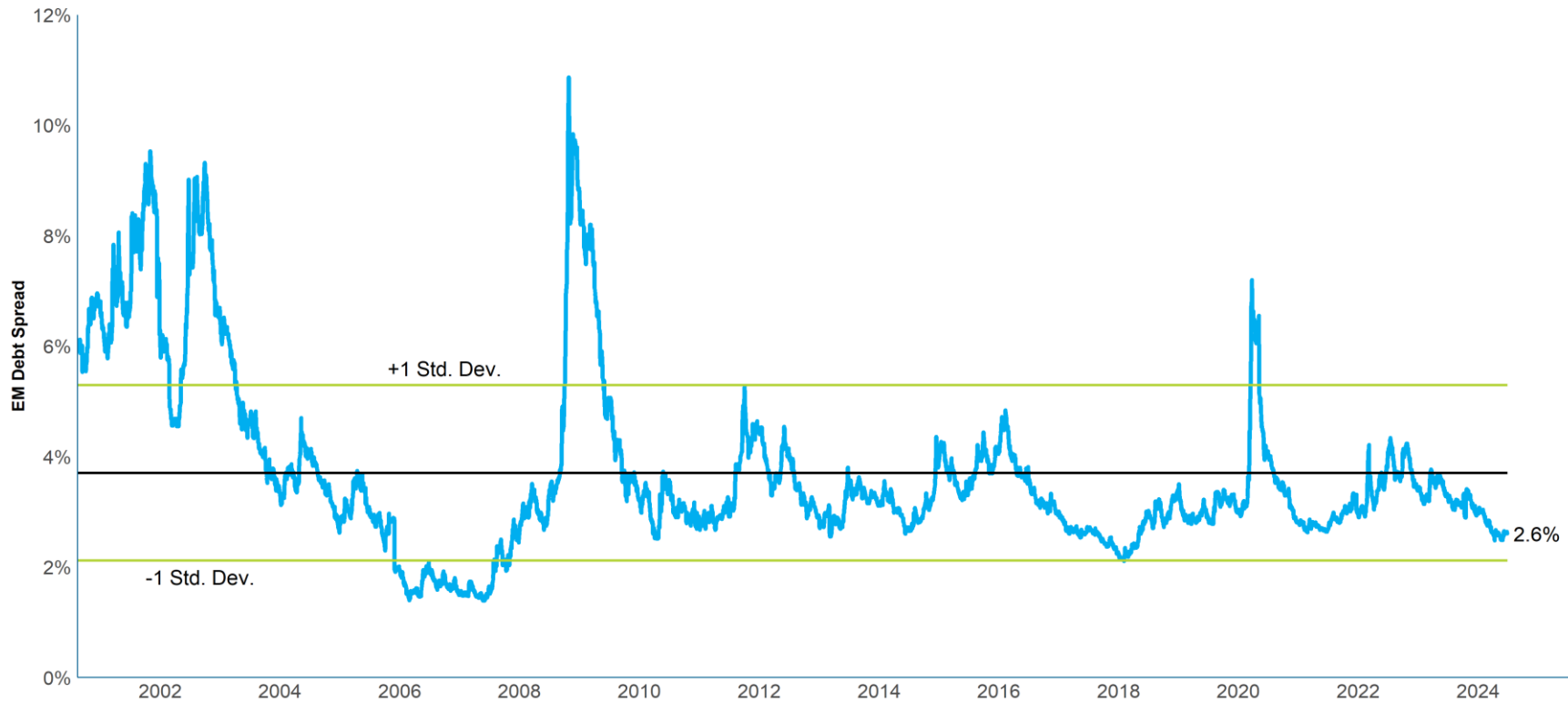
Credit Spreads¹
(As of June 30, 2024)



→ This chart details one valuation metric for the US credit markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

¹ Credit Spreads – Source: Bloomberg. High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year US Treasury yield.

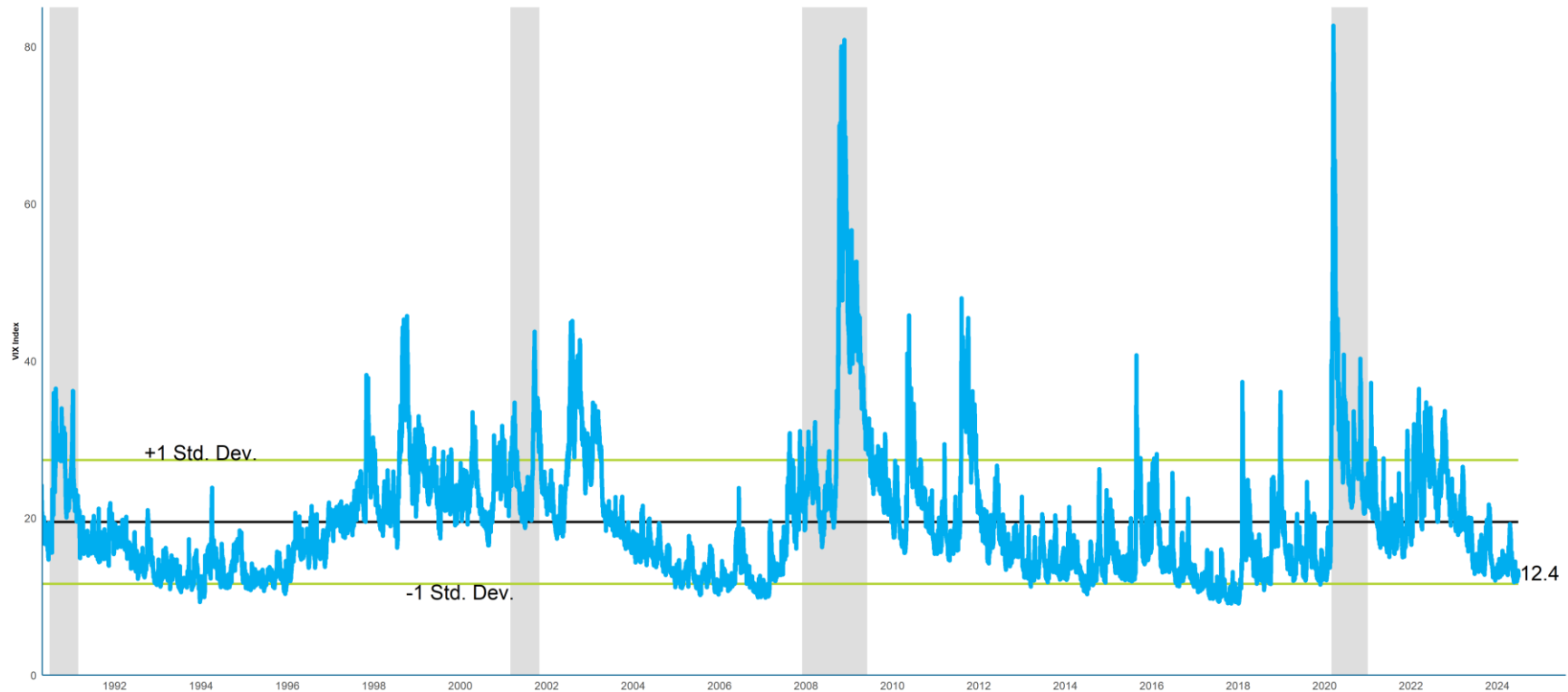
Emerging Market Debt Spreads¹
(As of June 30, 2024)



→ This chart details one valuation metric for the EM debt markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

¹ EM Spreads – Source: Bloomberg. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.

Equity Volatility¹ (As of June 30, 2024)

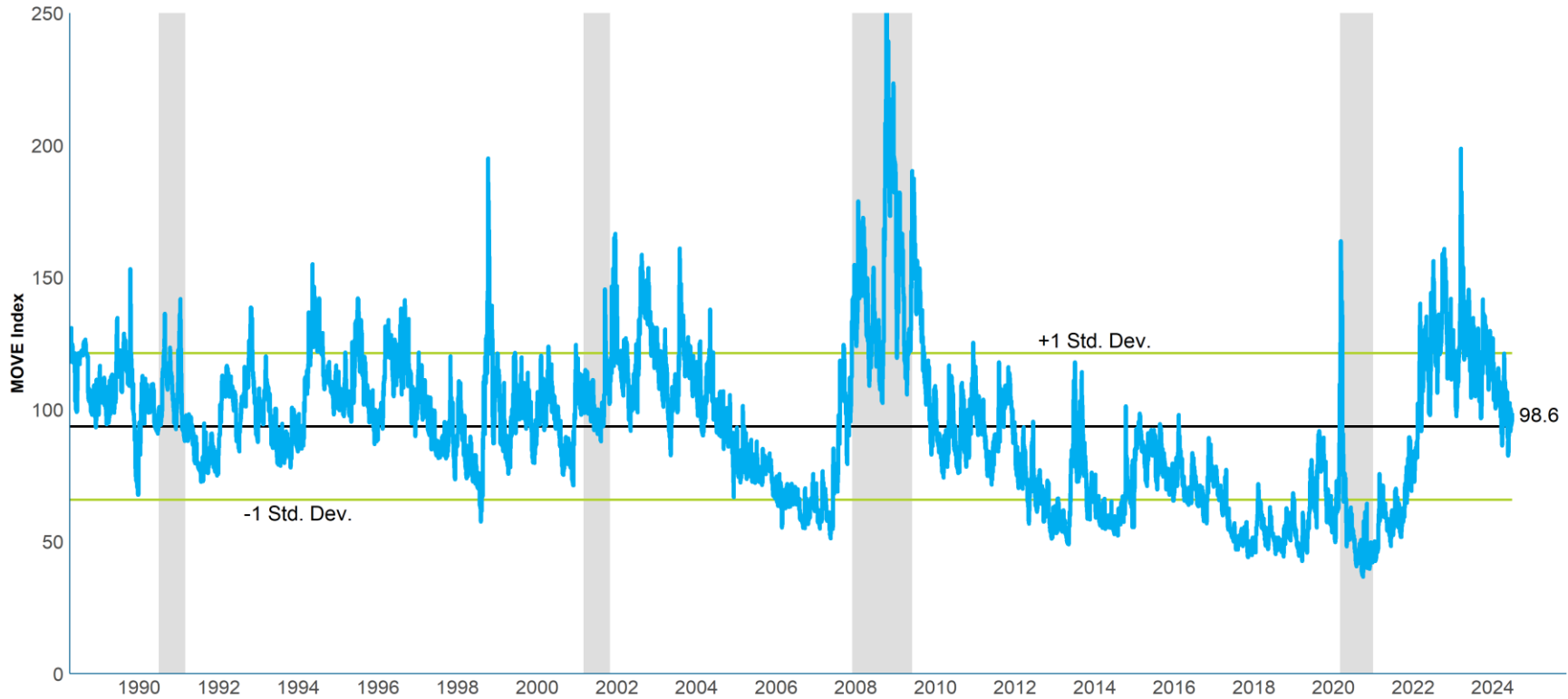


→ This chart details historical implied equity market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

¹ Equity Volatility – Source: FRED, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.

² Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Fixed Income Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.

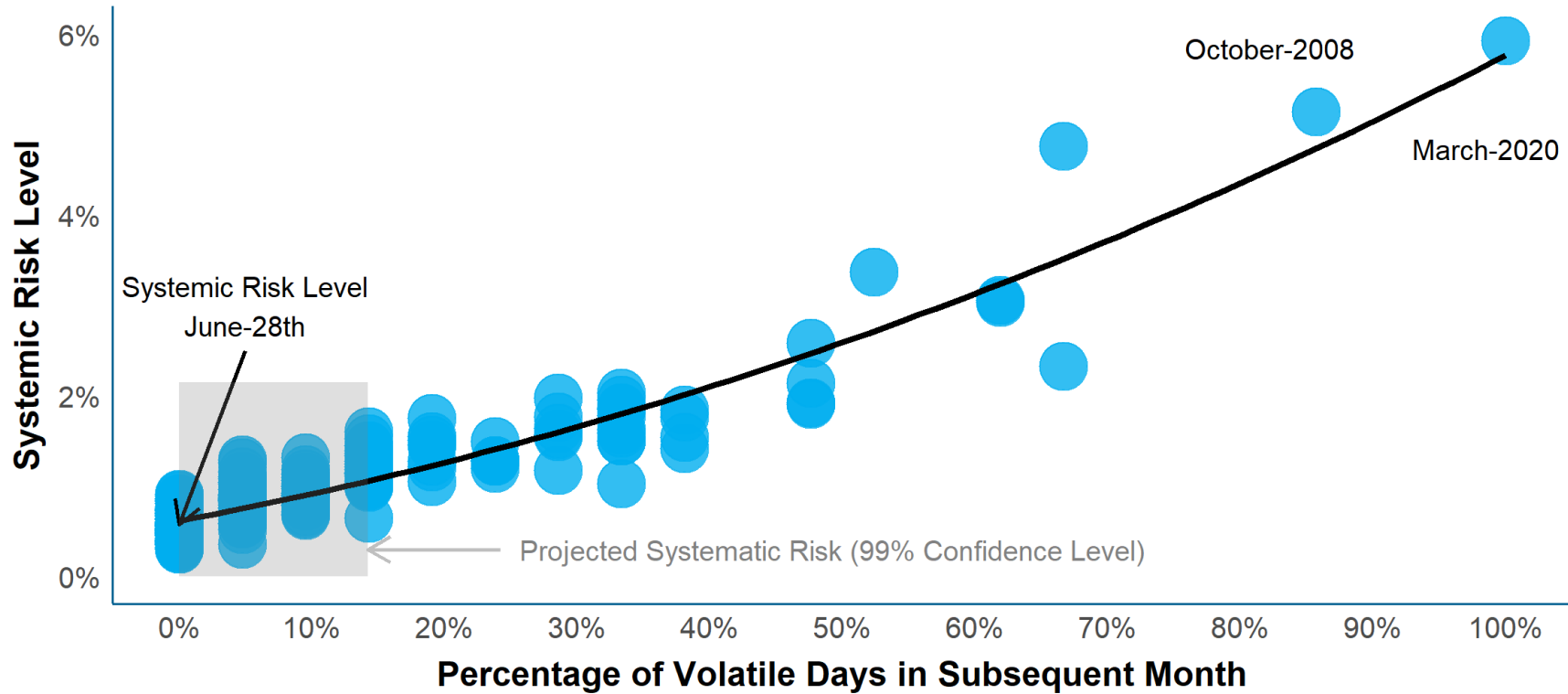
Fixed Income Volatility¹
(As of June 30, 2024)



→ This chart details historical implied fixed income market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

¹ Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Fixed Income Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.

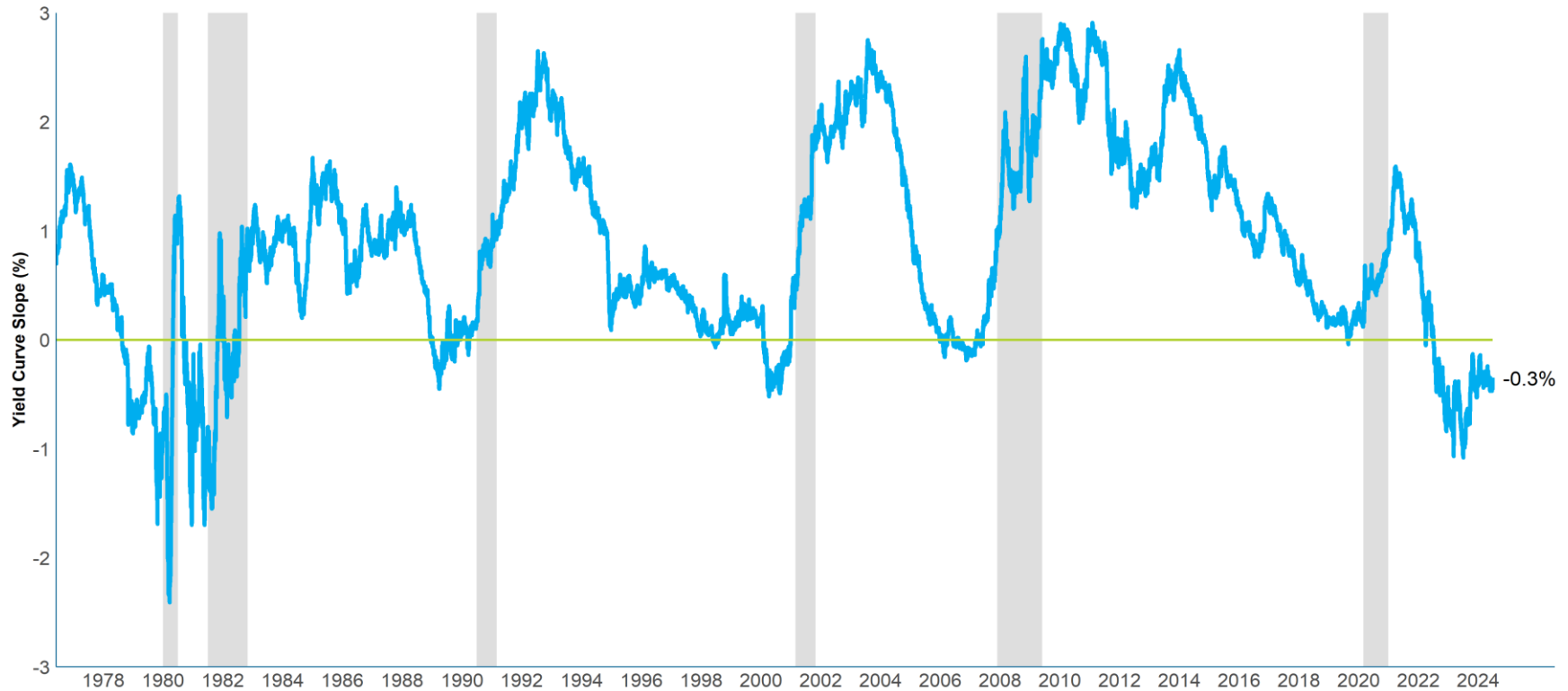
Systemic Risk and Volatile Market Days¹
(As of June 30, 2024)



→ Systemic Risk is a measure of 'System-wide' risk, which indicates herding type behavior.

¹ Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.

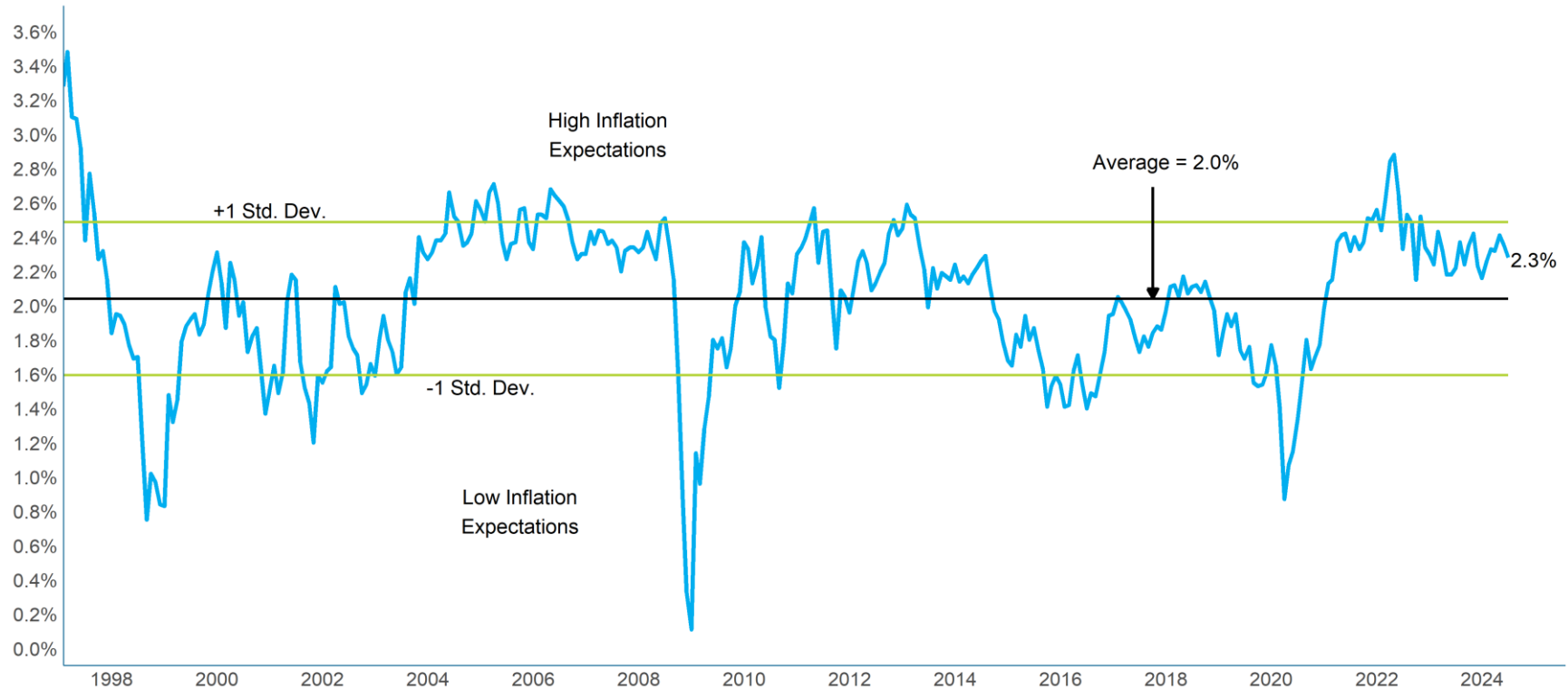
Yield Curve Slope (Ten Minus Two)¹
(As of June 30, 2024)



→ This chart details the historical difference in yields between ten-year and two-year US Treasury bonds/notes. A higher (lower) figure indicates a steeper (flatter) yield curve slope.

¹ Yield Curve Slope (Ten Minus Two) – Source: FRED. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.

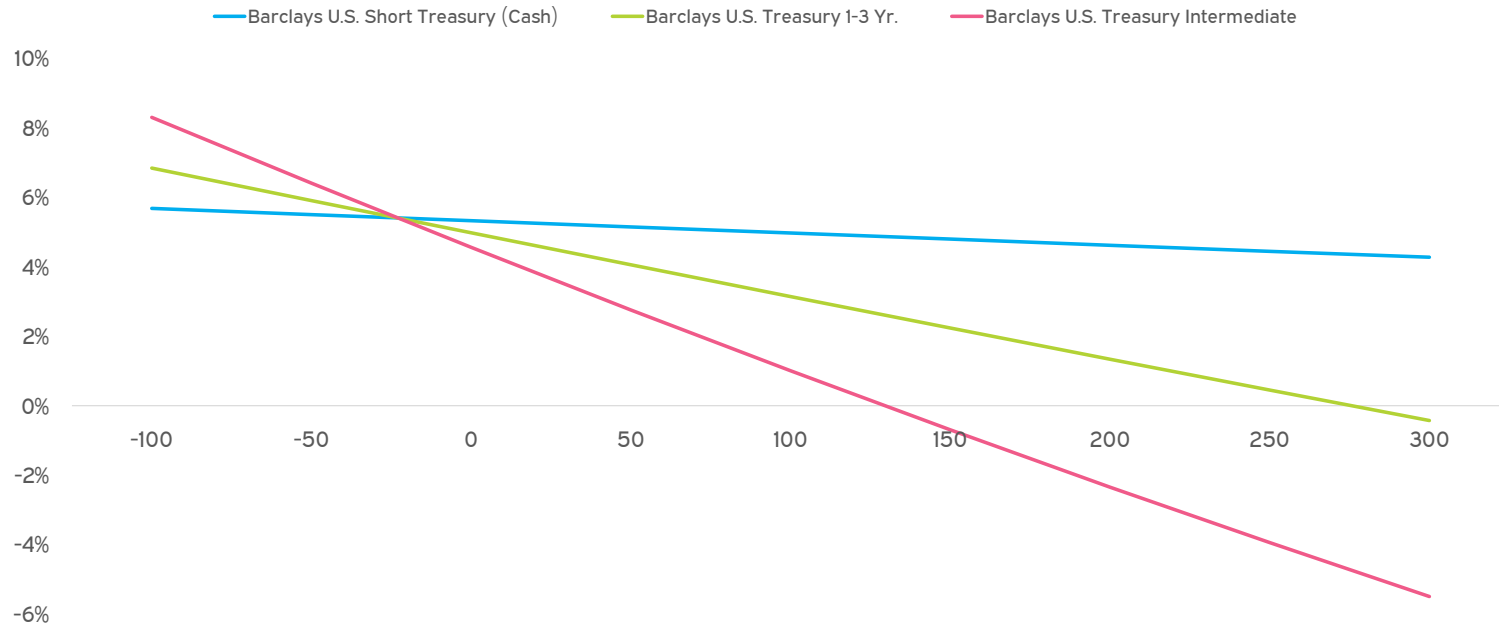
Ten-Year Breakeven Inflation¹
(As of June 30, 2024)



→ This chart details the difference between nominal and inflation-adjusted US Treasury bonds. A higher (lower) figure indicates higher (lower) inflation expectations.

¹ Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).

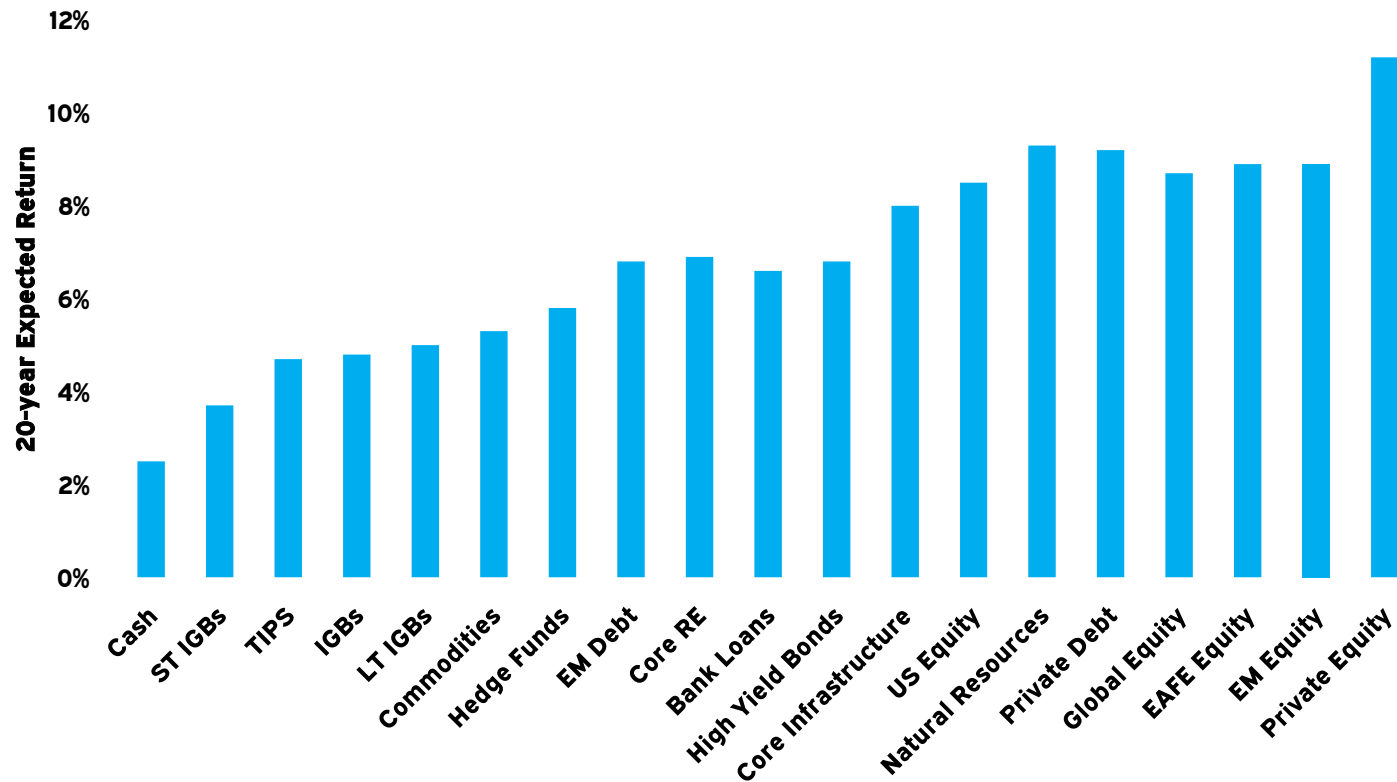
Total Return Given Changes in Interest Rates (bps)¹ (As June 30, 2024)



	Total Return for Given Changes in Interest Rates (bps)									Statistics	
	-100	-50	0	50	100	150	200	250	300	Duration	YTW
Barclays US Short Treasury (Cash)	5.7%	5.5%	5.3%	5.2%	5.0%	4.8%	4.6%	4.5%	4.3%	0.36	5.33%
Barclays US Treasury 1-3 Yr.	6.8%	5.9%	5.0%	4.1%	3.1%	2.2%	1.3%	0.5%	-0.4%	1.85	4.98%
Barclays US Treasury Intermediate	8.3%	6.4%	4.6%	2.8%	1.0%	-0.7%	-2.3%	-3.9%	-5.5%	3.65	4.56%
Barclays US Treasury Long	21.2%	12.5%	4.6%	-2.5%	-8.9%	-14.6%	-19.5%	-23.6%	-27.0%	15.07	4.61%

¹ Data represents the expected total return from a given change in interest rates (shown in basis points) over a 12-month period assuming a parallel shift in rates. Source: Bloomberg, and Meketa Investment Group.

Long-Term Outlook – 20-Year Annualized Expected Returns¹



→ This chart details Meketa’s long-term forward-looking expectations for total returns across asset classes.

¹ Source: Meketa Investment Group’s 2024 Asset Study.

Appendix

Data Sources and Explanations¹

- US Equity Cyclically Adjusted P/E on S&P 500 Index – Source: Robert Shiller and Yale University.
- Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month “as reported” earnings.
- Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month “as reported” earnings.
- Developed International Equity (MSCI EAFE) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.
- Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.
- Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.
- Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.

¹ All Data as of June 30, 2024, unless otherwise noted.

Appendix

Data Sources and Explanations¹

- REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.
- Credit Spreads – Source: Bloomberg High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index.
 - Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year Treasury Yield.
- EM Debt Spreads – Source: Bloomberg, and Meketa Investment Group. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.
- Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.
- Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.
- Systemic Risk and Volatile Market Days – Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.
- Systemic Risk, which measures risk across markets, is important because the more contagion of risk that exists between assets, the more likely it is that markets will experience volatile periods.

¹ All Data as of June 30, 2024, unless otherwise noted.

Appendix

Data Sources and Explanations¹

- Yield Curve Slope (Ten Minus Two) – Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.
- Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).

¹ All Data as of June 30, 2024, unless otherwise noted.

Meketa Market Sentiment Indicator Explanation, Construction and Q&A

Meketa has created the MIG Market Sentiment Indicator (MIG-MSI) to complement our valuation-focused Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long-lived market trends of economic growth risk, either towards a risk-seeking trend or a risk-aversion trend.

This appendix explores:

- What is the Meketa Market Sentiment Indicator?
- How do I read the indicator graph?
- How is the Meketa Market Sentiment Indicator constructed?
- What do changes in the indicator mean?

Meketa has created a market sentiment indicator for monthly publication (the MIG-MSI – see below) to complement Meketa's Risk Metrics.

→ Meketa's Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market correction take place. The MIG-MSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation-based concerns. Once the MIG-MSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, Meketa believes the Risk Metrics and MIG-MSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the Meketa MIG-MSI:

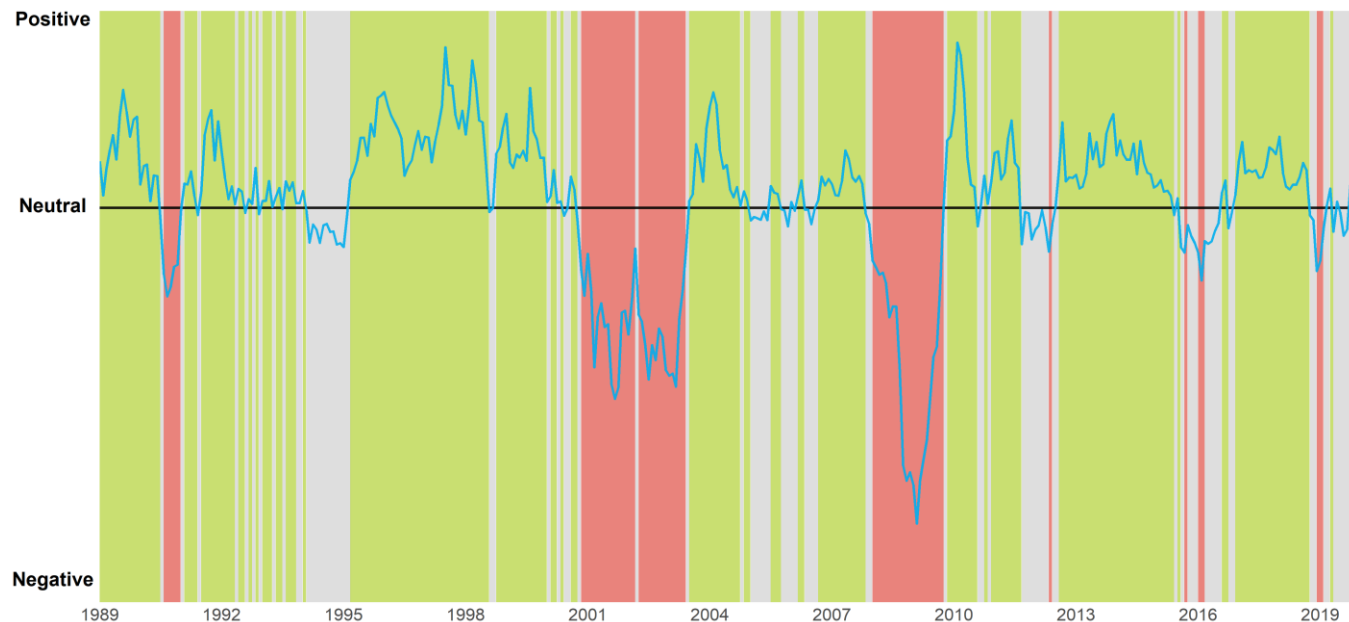
What is the Meketa Market Sentiment Indicator (MIG-MSI)?

→ The MIG-MSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets and is the largest risk exposure that most portfolios bear. The MIG-MSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

How do I read the Meketa Market Sentiment Indicator graph?

→ Simply put, the MIG-MSI is a color-coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the MIG-MSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the MIG-MSI. The degree of the signal above or below the neutral reading is an indication of the signal's current strength.

→ Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



How is the Meketa Market Sentiment Indicator (MIG-MSI) Constructed?

- The MIG-MSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:
- Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months).
 - Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration US Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight).
 - Both measures are converted to Z-scores and then combined to get an “apples to apples” comparison without the need of re-scaling.
- The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure¹. The color reading on the graph is determined as follows:
- If both stock return momentum and bond spread momentum are positive = GREEN (positive).
 - If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive).
 - If both stock return momentum and bond spread momentum are negative = RED (negative).

¹ Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.
“Time Series Momentum” Moskowitz, Ooi, Pedersen, August 2010. <http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>

What does the Meketa Market Sentiment Indicator (MIG-MSI) mean? Why might it be useful?

→ There is strong evidence that time series momentum is significant and persistent. Across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12-month period. The MIG-MSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

Disclaimer Information

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REPORT

SBI Comprehensive Performance Report

June 30, 2024

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Quarterly Report

Comprehensive Performance Report

June 30, 2024



Description of SBI Investment Programs

The Minnesota State Board of Investment is responsible for the investment management of various retirement funds, trust funds and cash accounts.

Combined Funds

The Combined Funds represent the assets for both the active and retired public employees in the statewide retirement systems, the biggest of which are the Public Employees Retirement Association (PERA), the Teachers Retirement Association (TRA), and the Minnesota State Retirement System (MSRS). The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

Fire Plans + Other Retirement Plans

Fire Plans and Other Retirement Plans include assets from volunteer fire relief plans and other public retirement plans with authority to invest with the SBI, if they so choose. Fire Plans that are not eligible to be consolidated with Public Employees Retirement Association (PERA) or elect not to be administered by PERA may invest their assets with the SBI using the same asset pools as the Combined Funds. The Statewide Volunteer Firefighter Retirement Plan is administered by PERA and has its own investment vehicle called the Volunteer Firefighter Account.

Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. Investment goals among the PDIP's many participants are varied. In order to meet the variety of goals, participants may allocate their investments among one or more accounts that are appropriate for their needs within statutory requirements and rules established by the participating organizations.

Non-Retirement Funds

The Non-Retirement Funds are funds established by the State of Minnesota and other government entities for various purposes which include the benefit of public schools, the environment, other post-employment benefits, workers compensation insurance, and other purposes.

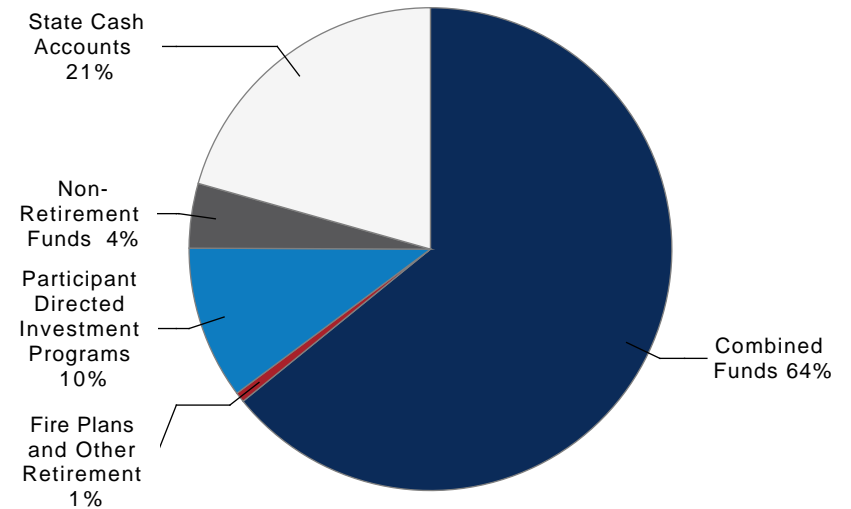
State Cash

The State Cash accounts are cash balances of state government funds including the State General Fund. Most accounts are invested by SBI staff through a short-term pooled fund referred to as the Treasurer's Cash Pool. It contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury. Because of special legal restrictions, a small number of cash accounts cannot be commingled.



Funds Under Management

	<u>\$ Millions</u>
COMBINED FUNDS	\$93,679
Fire Plans + Other Retirement Plans	982
Participant Directed Investment Program	14,967
State Deferred Compensation Plan	10,139
Health Care Savings Plan	2,075
Unclassified Employees Retirement Plan	402
Hennepin County Supplemental Retirement Plan	179
PERA Defined Contribution Plan	102
Minnesota College Savings Plan	2,022
Minnesota Achieving a Better Life Experience Plan	47
Non-Retirement Funds	6,322
Assigned Risk Plan	277
Permanent School Fund	2,130
Environmental Trust Fund	1,879
Closed Landfill Investment Fund	151
Miscellaneous Trust Funds	1,006
Other Postemployment Benefits Accounts	878
State Cash	30,093
Invested Treasurer's Cash	29,161
Other State Cash Accounts	933
TOTAL SBI AUM	146,043



Note: Differentials within column amounts may occur due to rounding



Quarterly Report

Table of Contents

Performance Reporting Legend

Combined Funds	5
Domestic Equity	
International Equity	
Fixed Income	
Private Markets	
Treasuries	
Participant Directed Investment Program	89
Supplemental Investment Fund	
Deferred Compensation Program	
Minnesota College Savings Plan	
Minnesota Achieve a Better Life Experience	
Non-Retirement Funds	105
Assigned Risk Plan	
Permanent School Fund	
Environmental Trust Fund	
Closed Landfill Investment Fund	
Non-Retirement Managers	
State Cash Accounts	113
Invested Treasurer's Cash	
Other State Cash Accounts	
Addendum	115

Manager Level Data
Aggregate Level Data
Sub-Asset Class Level Data
Asset Class Level Data

Note:
 Throughout this report performance is calculated net of investment management fees, gross of administrative fees. Aggregates include terminated managers, and returns for all periods greater than one year are annualized. Inception Date and Since Inception Returns refer to the date of retention by the SBI. FYTD refers to the return generated by an account since July 1 of the most recent year. For historical benchmark details, please refer to the addendum of this report. Some aggregate inception to date return are based portfolio management decisions to re-group manager accounts in different or newly created aggregates.



Quarterly Report

Combined Funds

June 30, 2024



Combined Funds Summary

Combined Funds Change in Market Value (\$Millions)

	<u>One Quarter</u>
COMBINED FUNDS	
Beginning Market Value	\$92,762
Net Contributions	-630
Investment Return	1,547
Ending Market Value	93,679

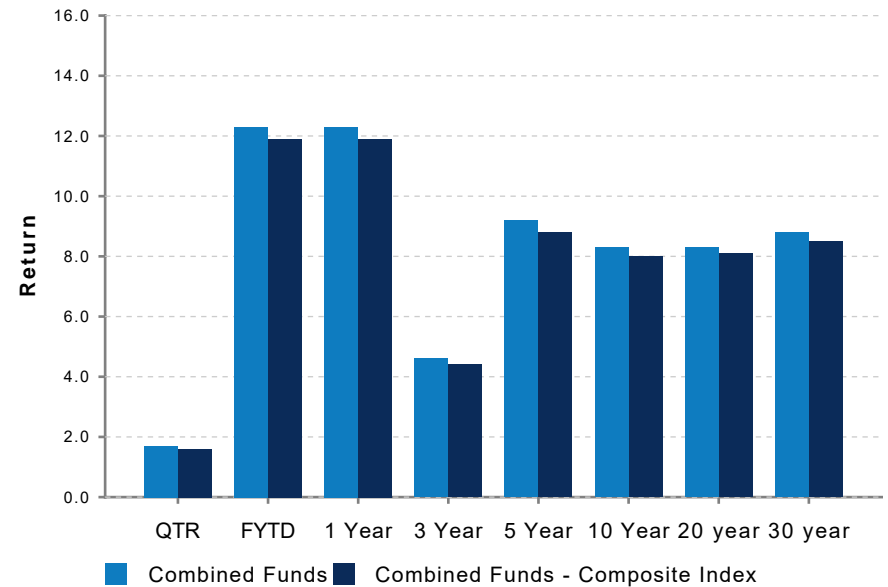
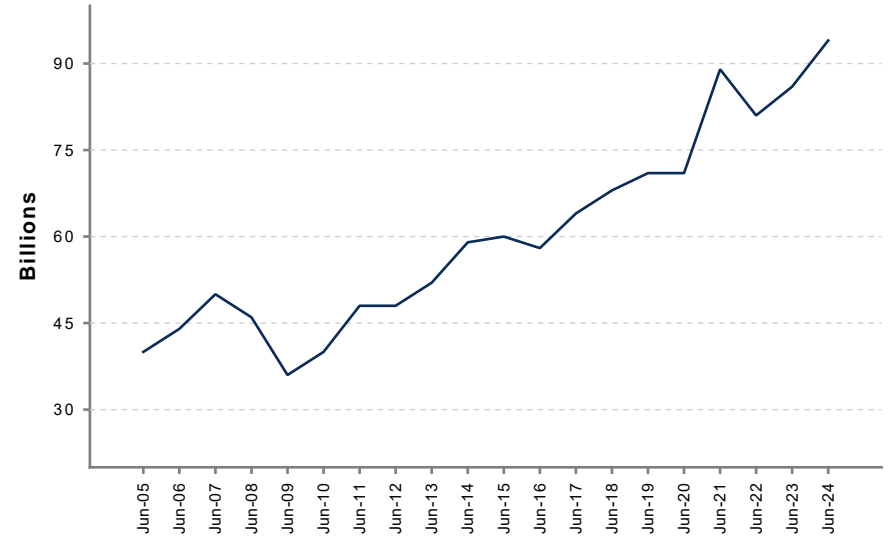
The change in market value of the Combined Funds since the end of last quarter is due to net contributions and investment returns.

Performance (Net of Fees)

The Combined Funds' performance is evaluated relative to a composite of public market index and private market investment returns. The Composite performance is calculated by multiplying the beginning of month Composite weights and the monthly returns of the asset class benchmarks.

	<u>QTR</u>	<u>FYTD</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>20 Yr</u>	<u>30 Yr</u>
Combined Funds	1.7%	12.3%	12.3%	4.6%	9.2%	8.3%	8.3%	8.8%
Combined Funds - Composite Index	1.6%	11.9%	11.9%	4.4%	8.8%	8.0%	8.1%	8.5%
Excess	0.1%	0.5%	0.5%	0.2%	0.4%	0.2%	0.3%	0.3%

Asset Growth



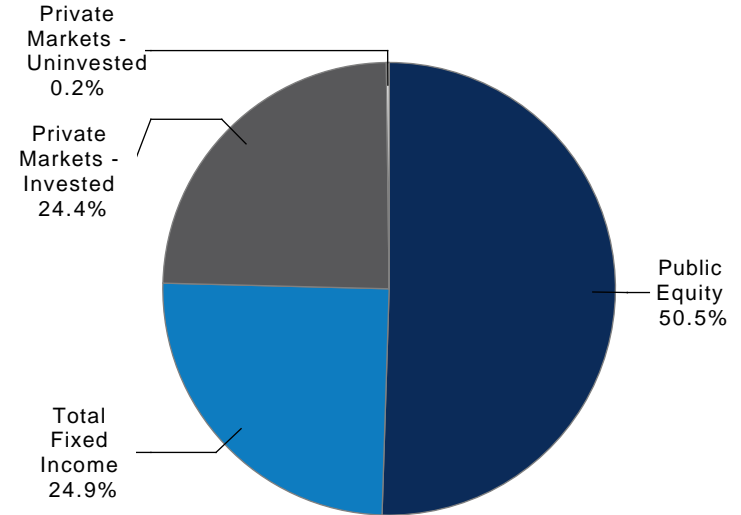


Combined Funds Summary

Asset Mix

The Combined Funds actual asset mix relative to the Strategic Asset Allocation Policy Target is shown below. Any uninvested portion of the Private Markets allocation is held in cash.

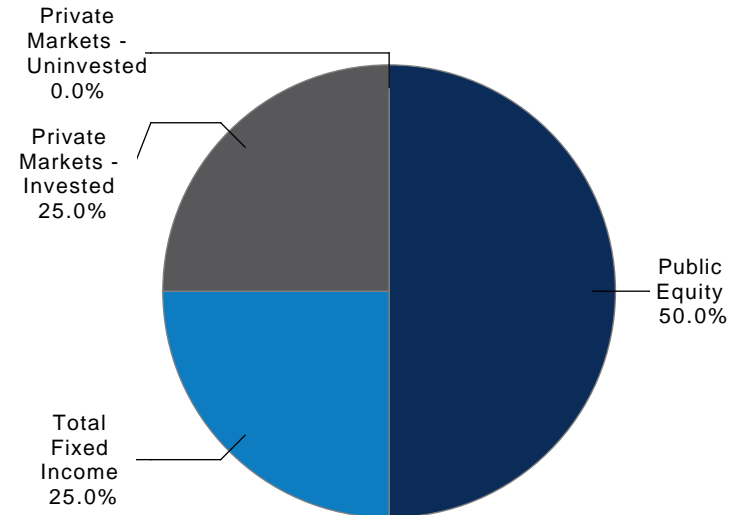
	<u>(Millions)</u>	<u>Actual Mix</u>	<u>Policy Target</u>
Public Equity	\$47,340	50.5%	50.0%
Total Fixed Income	23,284	24.9	25.0
Private Markets - Total	23,055	24.6	25.0
Private Markets - Invested	22,833	24.4	
Private Markets - Uninvested	222	0.2	
TOTAL	93,679	100.0	



Composite Index Comparison

The Combined Funds Composite is set as the Strategic Asset Allocation Policy Target. The Combined Funds Composite weighting shown below is as of the first day of the quarter.

	<u>Policy Weight</u>	<u>Market Index</u>
Public Equity	50.0%	Public Equity Benchmark
Total Fixed Income	25.0	Total Fixed Income Benchmark
Private Markets - Invested	24.9	Private Markets
Private Markets - Uninvested	0.1	ICE BofA US 3-Month Treasury Bill





Combined Funds Asset Class Performance Summary

Public Equity

The Combined Funds Public Equity includes Domestic Equity, International Equity and Global Equity.

The Public Equity benchmark is 67% Russell 3000 and 33% MSCI ACWI ex US (net).

	<u>Market Value</u>	<u>Actual Weight</u>	<u>Policy Weight</u>	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>30 Year</u>
Public Equity	\$47.3	50.5%	50.0%	2.5%	19.8%	19.8%	5.9%	11.7%	9.8%	9.0%	9.5
Public Equity Benchmark				2.5	19.3	19.3	5.6	11.3			
Excess				0.0	0.5	0.5	0.3	0.4			
Domestic Equity	31.5	33.6	33.5	3.2	23.5	23.5	8.0	14.2	12.1	10.1	10.4
Domestic Equity Benchmark				3.2	23.1	23.1	8.1	14.1	12.1	10.2	10.5
Excess				-0.0	0.4	0.4	-0.0	0.1	-0.0	-0.0	-0.1
International Equity	14.8	15.8	16.5	1.5	12.8	12.8	2.0	6.8	4.7	6.3	5.9
International Equity Benchmark				1.0	11.6	11.6	0.5	5.5	3.8	5.8	5.1
Excess				0.5	1.2	1.2	1.6	1.3	0.8	0.6	0.8
Global Equity	1.0	1.1	0.0	-1.8	12.0	12.0	-1.8				
MSCI AC World Index (net)				2.9	19.4	19.4	5.4				
Excess				-4.7	-7.4	-7.4	-7.2				

Note:

Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a Total Public Equity return. For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



Combined Funds Asset Class Performance Summary

Total Fixed Income

The Combined Funds Fixed Income program includes Core/Core Plus, Return Seeking Fixed Income, Treasuries and Laddered Bond + Cash.

The Total Fixed Income benchmark is 40% Bloomberg U.S. Aggregate Index/ 40% Bloomberg Treasury 5+ Years Index/ 20% ICE BofA US 3-Month Treasury Bill.

	<u>Market Value</u>	<u>Actual Weight</u>	<u>Policy Weight</u>	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>30 Year</u>
Total Fixed Income	\$23.3	24.9%	25.0%	0.3%	2.7%	2.7%	-2.8%	0.5%	2.1%	3.7%	5.0%
Total Fixed Income Benchmark				-0.0%	1.5%	1.5%	-3.2%	-0.1%	1.5%	3.2%	4.6%
Excess				0.3%	1.2%	1.2%	0.5%	0.6%	0.5%	0.4%	0.4%
Core/Core Plus	\$5.3	5.7%	5.0	0.2%	3.6%	3.6%	-2.8%	0.5%	1.9%	3.6%	4.9%
Core Bonds Benchmark				0.1%	2.6%	2.6%	-3.0%	-0.2%	1.3%	3.1%	4.5%
Excess				0.2%	1.0%	1.0%	0.2%	0.7%	0.6%	0.5%	0.4%
Return Seeking Fixed Income	\$4.5	4.8%	5.0	0.7%	7.1%	7.1%	-0.4%				
Bloomberg U.S. Aggregate				0.1%	2.6%	2.6%	-3.0%				
Excess				0.6%	4.5%	4.5%	2.6%				
Treasury Protection	\$8.9	9.5%	10.0	-0.7%	-1.6%	-1.6%	-6.6%	-2.3%			
Bloomberg Treasury 5+ Year				-0.8%	-1.7%	-1.7%	-6.6%	-2.3%			
Excess				0.1%	0.2%	0.2%	0.0%	0.0%			
Laddered Bond + Cash	\$4.7	5.0%	5.0	1.3%	5.5%	5.5%	3.0%	2.1%	1.6%	1.8%	3.1%
ICE BofA US 3-Month Treasury Bill				1.3%	5.4%	5.4%	3.0%	2.2%	1.5%	1.6%	2.5%
Excess				-0.0%	0.1%	0.1%	-0.1%	-0.0%	0.1%	0.2%	0.6%

Note:

Since 12/1/2020 the Total Fixed Income includes allocations to Core/Core Plus Bonds, Return Seeking Bonds, Treasuries and Laddered Bond + Cash. From 7/1/2020 to 11/30/2020 Total Fixed Income was Core Bonds, Treasuries and Cash. From 2/1/2018-6/30/20 Total Fixed Income was Core Bonds and Treasuries. Prior to 2/1/2018, Total Fixed Income was Core Bonds. For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



Combined Funds Asset Class Performance Summary

Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>25 Year</u>	<u>30 Year</u>
Private Markets - Invested	1.4%	7.7%	7.7%	11.0%	12.9%	11.6%	13.6%	12.7%	13.5%
Private Markets -Uninvested(1)	1.8%	5.7%	5.7%	0.1%					
Private Equity	1.8%	9.8%	9.8%	10.8%	16.1%	15.2%	15.7%	14.0%	15.5%
Private Credit	-0.2%	9.8%	9.8%	13.2%	11.5%	12.3%	12.6%	12.3%	
Resources	1.8%	4.4%	4.4%	12.8%	4.6%	1.3%	12.6%	13.3%	12.8%
Real Estate	-1.0%	-6.7%	-6.7%	9.0%	8.9%	10.1%	8.7%	8.9%	9.4%

Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

Private Equity Investments - The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

Private Credit Investments - The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

Resource Investments - The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

Real Estate Investments - The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the Combined Funds Performance Report.

(1) The Uninvested Private Markets is currently cash. Prior to 11/02/2022. The Uninvested portion of the Private Markets allocation was invested in a combination of a passively managed S&P 500 Index strategy and a cash overlay strategy invested in equity derivatives and cash.

Source: State Street Bank



Quarterly Report

Asset Class & Manager Performance

June 30, 2024

The assets of the Combined Funds are allocated to public equity, fixed income, private markets, and cash. Each asset class may be further differentiated by geography, management style, and/or strategy. Managers are hired to manage the assets accordingly. This diversification is intended to reduce wide fluctuations in investment returns on a year-to-year basis and enhances the Funds' ability to meet or exceed the actuarial return target over the long-term.

The Combined Funds consist of the assets of active employees and retired members of the statewide retirement plans. The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. This sharing is accomplished by grouping managers by asset class, geography, and management style, into several Investment Pools. The individual funds participate in the Investment Pools by purchasing units which function much like the shares of a mutual fund.

While the vast majority of the units of these pools are owned by the Combined Funds, the Supplemental Investment Fund also owns units of these pools. The Supplemental Investment Funds are mutual fund-like investment vehicles which are used by investors in the Participant Directed Investment Program. Please refer to the Participant Directed Investment Program report for more information.

The performance information presented on the following pages for Public Equity and Fixed Income includes both the Combined Funds and Supplemental Investment Fund. The Private Markets is Combined Funds only. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

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Domestic Equity

June 30, 2024



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Domestic Equity										
ACTIVE DOMESTIC EQUITY AGGREGATE (1)	\$3,042,386,375	9.5%	-1.0%	17.1%	17.1%	1.6%	10.6%	9.9%	8.4%	06/1996
Active Domestic Equity Benchmark			-0.5	15.7	15.7	2.1	10.1	9.6	8.9	06/1996
Excess			-0.5	1.4	1.4	-0.5	0.5	0.3	-0.5	
SEMI PASSIVE DOMESTIC EQUITY AGGREGATE (2)	4,058,255,286	12.6	4.2	26.6	26.6	10.1	15.6	13.0	9.6	06/1996
Semi Passive Domestic Equity Benchmark			3.6	23.9	23.9	8.7	14.6	12.5	9.4	06/1996
Excess			0.7	2.7	2.7	1.4	1.0	0.5	0.2	
PASSIVE DOMESTIC EQUITY AGGREGATE (3)	25,014,336,069	77.9	3.5	23.8	23.8	8.7	14.5	12.4	9.6	06/1996
Passive Domestic Equity Benchmark			3.5	23.8	23.8	8.7	14.5	12.4	9.7	06/1996
Excess			-0.0	0.0	0.0	-0.0	0.0	0.0	-0.1	
TRANSITION AGGREGATE DOMESTIC EQUITY (4)	62	0.0								
TOTAL DOMESTIC EQUITY (5)	32,114,977,792	100.0	3.2	23.5	23.5	8.0	14.2	12.1	10.9	01/1984
Domestic Equity Benchmark			3.2	23.1	23.1	8.1	14.1	12.1	11.0	01/1984
Excess			-0.0	0.4	0.4	-0.0	0.1	-0.0	-0.2	

(1) The Active Domestic Equity Benchmark is a weighted composite each of the individual active domestic equity manager's benchmarks.

(2) The current Semi-Passive Domestic Equity Benchmark is the Russell 1000 index.

(3) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.

(4) The Transition Domestic Equity Aggregate will periodically contain residual Domestic Equity securities from transitions.

(5) The current Domestic Equity Benchmark is the Russell 3000.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Total Domestic Equity					
ACTIVE DOMESTIC EQUITY AGGREGATE (1)	20.9%	-21.3%	18.5%	27.3%	27.6%
Active Domestic Equity Benchmark	19.4	-19.4	20.3	19.8	28.2
Excess	1.5	-1.9	-1.7	7.5	-0.6
SEMI PASSIVE DOMESTIC EQUITY AGGREGATE (2)	27.5	-18.7	28.8	21.0	30.9
Semi Passive Domestic Equity Benchmark	26.5	-19.1	26.5	21.0	31.4
Excess	1.0	0.4	2.3	0.0	-0.5
PASSIVE DOMESTIC EQUITY AGGREGATE (3)	26.5	-19.2	26.5	20.8	31.3
Passive Domestic Equity Benchmark	26.5	-19.1	26.4	20.8	31.3
Excess	0.0	-0.0	0.1	0.0	0.0
TRANSITION AGGREGATE DOMESTIC EQUITY (4)					
TOTAL DOMESTIC EQUITY (5)	26.0	-19.4	25.8	21.7	30.7
Domestic Equity Benchmark	26.0	-19.2	25.7	20.8	30.8
Excess	0.1	-0.2	0.1	0.9	-0.1

(1) The Active Domestic Equity Benchmark is a weighted composite each of the individual active domestic equity manager's benchmarks.

(2) The current Semi-Passive Domestic Equity Benchmark is the Russell 1000 index.

(3) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.

(4) The Transition Domestic Equity Aggregate will periodically contain residual Domestic Equity securities from transitions.

(5) The current Domestic Equity Benchmark is the Russell 3000.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Large Cap Growth										
SANDS	\$234,891,985	0.7%	0.3%	30.6%	30.6%	-4.8%	10.9%	12.2%	11.4%	01/2005
Russell 1000 Growth			8.3	33.5	33.5	11.3	19.3	16.3	12.3	01/2005
Excess			-8.0	-2.9	-2.9	-16.0	-8.4	-4.1	-0.9	
WINSLOW	260,810,206	0.8	7.6	39.4	39.4	10.3	17.8	15.9	12.7	01/2005
Russell 1000 Growth			8.3	33.5	33.5	11.3	19.3	16.3	12.3	01/2005
Excess			-0.7	5.9	5.9	-1.0	-1.6	-0.5	0.3	
RUSSELL 1000 GROWTH AGGREGATE (1)	495,702,191	1.5	4.0	35.0	35.0	1.9	17.2	16.2	12.0	11/2003
Russell 1000 Growth			8.3	33.5	33.5	11.3	19.3	16.3	12.2	11/2003
Excess			-4.4	1.5	1.5	-9.4	-2.2	-0.1	-0.1	

(1) Prior to 1/1/2021 the Russell 1000 Growth Aggregate included returns from Zevenbergen, which moved to the Russell 3000 Growth benchmark and is now reported separately.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active Large Cap Growth					
SANDS	52.0%	-49.3%	5.2%	71.0%	33.5%
Russell 1000 Growth	42.7	-29.1	27.6	38.5	36.4
Excess	9.3	-20.2	-22.4	32.5	-2.8
WINSLOW	43.7	-31.0	24.8	37.6	34.2
Russell 1000 Growth	42.7	-29.1	27.6	38.5	36.4
Excess	1.0	-1.8	-2.8	-0.9	-2.2
RUSSELL 1000 GROWTH AGGREGATE (1)	47.7	-41.3	12.8	81.3	37.3
Russell 1000 Growth	42.7	-29.1	27.6	38.5	36.4
Excess	5.1	-12.1	-14.8	42.8	0.9

(1) Prior to 1/1/2021 the Russell 1000 Growth Aggregate included returns from Zevenbergen, which moved to the Russell 3000 Growth benchmark and is now reported separately.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Semi-Passive Large Cap										
BLACKROCK	\$2,023,370,371	6.3%	4.4%	26.9%	26.9%	9.7%	15.1%	13.2%	10.9%	01/1995
Semi Passive Domestic Equity Benchmark			3.6	23.9	23.9	8.7	14.6	12.5	10.4	01/1995
Excess			0.9	3.0	3.0	0.9	0.5	0.7	0.5	
J.P. MORGAN	2,034,884,916	6.3	4.0	26.3	26.3	10.6	16.1	13.3	10.9	01/1995
Semi Passive Domestic Equity Benchmark			3.6	23.9	23.9	8.7	14.6	12.5	10.4	01/1995
Excess			0.5	2.4	2.4	1.8	1.5	0.8	0.5	
SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE	4,058,255,286	12.6	4.2	26.6	26.6	10.1	15.6	13.0	9.6	06/1996
Semi Passive Domestic Equity Benchmark			3.6	23.9	23.9	8.7	14.6	12.5	9.4	06/1996
Excess			0.7	2.7	2.7	1.4	1.0	0.5	0.2	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Semi-Passive Large Cap					
BLACKROCK	26.9%	-19.2%	28.3%	20.7%	30.4%
Semi Passive Domestic Equity Benchmark	26.5	-19.1	26.5	21.0	31.4
Excess	0.4	-0.1	1.8	-0.3	-1.0
J.P. MORGAN					
J.P. MORGAN	28.1	-18.1	29.3	21.2	31.3
Semi Passive Domestic Equity Benchmark	26.5	-19.1	26.5	21.0	31.4
Excess	1.6	1.0	2.8	0.3	-0.1
SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE					
SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE	27.5	-18.7	28.8	21.0	30.9
Semi Passive Domestic Equity Benchmark	26.5	-19.1	26.5	21.0	31.4
Excess	1.0	0.4	2.3	0.0	-0.5



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Large Cap Value										
BARROW HANLEY	\$406,119,982	1.3%	-1.6%	17.6%	17.6%	9.8%	12.0%	9.8%	9.0%	04/2004
Russell 1000 Value			-2.2	13.1	13.1	5.5	9.0	8.2	8.1	04/2004
Excess			0.6	4.5	4.5	4.3	3.0	1.6	1.0	
LSV	354,382,900	1.1	-3.2	15.0	15.0	5.3	9.7	8.6	9.0	04/2004
Russell 1000 Value			-2.2	13.1	13.1	5.5	9.0	8.2	8.1	04/2004
Excess			-1.1	1.9	1.9	-0.2	0.7	0.4	0.9	
RUSSELL 1000 VALUE AGGREGATE	760,502,882	2.4	-2.4	16.3	16.3	7.6	11.0	9.4	9.1	10/2003
Russell 1000 Value			-2.2	13.1	13.1	5.5	9.0	8.2	8.7	10/2003
Excess			-0.2	3.2	3.2	2.0	2.0	1.2	0.4	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active Large Cap Value					
BARROW HANLEY	12.0%	1.1%	27.7%	2.4%	26.9%
Russell 1000 Value	11.5	-7.5	25.2	2.8	26.5
Excess	0.5	8.6	2.5	-0.4	0.4
LSV					
LSV	10.5	-6.3	29.7	-1.3	26.9
Russell 1000 Value	11.5	-7.5	25.2	2.8	26.5
Excess	-0.9	1.3	4.5	-4.1	0.4
RUSSELL 1000 VALUE AGGREGATE					
RUSSELL 1000 VALUE AGGREGATE	11.3	-2.6	28.8	1.6	27.4
Russell 1000 Value	11.5	-7.5	25.2	2.8	26.5
Excess	-0.2	4.9	3.7	-1.2	0.9



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Small Cap Growth										
ARROWMARK	\$184,581,022	0.6%	-3.9%	6.0%	6.0%	-4.3%	5.4%		9.5%	11/2016
Russell 2000 Growth			-2.9	9.1	9.1	-4.9	6.2		9.4	11/2016
Excess			-1.0	-3.2	-3.2	0.6	-0.8		0.2	
HOOD RIVER	209,132,938	0.7	2.8	24.6	24.6	2.2	15.9		16.2	11/2016
Russell 2000 Growth			-2.9	9.1	9.1	-4.9	6.2		9.4	11/2016
Excess			5.7	15.5	15.5	7.1	9.7		6.9	
RICE HALL JAMES	185,652,437	0.6	-1.8	7.8	7.8	-3.0	6.0		9.6	11/2016
Russell 2000 Growth			-2.9	9.1	9.1	-4.9	6.2		9.4	11/2016
Excess			1.1	-1.3	-1.3	1.8	-0.1		0.2	
WELLINGTON	212,782,732	0.7	-1.5	11.1	11.1	-3.8	6.5		9.7	11/2016
Russell 2000 Growth			-2.9	9.1	9.1	-4.9	6.2		9.4	11/2016
Excess			1.5	2.0	2.0	1.1	0.3		0.3	
RUSSELL 2000 GROWTH AGGREGATE	792,149,129	2.5	-1.0	12.4	12.4	-2.2	8.6	8.0%	7.8	11/2003
Russell 2000 Growth			-2.9	9.1	9.1	-4.9	6.2	7.4	8.4	11/2003
Excess			1.9	3.2	3.2	2.6	2.4	0.6	-0.6	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active Small Cap Growth					
ARROWMARK	19.9%	-23.3%	6.1%	21.9%	20.1%
Russell 2000 Growth	18.7	-26.4	2.8	34.6	28.5
Excess	1.3	3.1	3.2	-12.8	-8.4
HOOD RIVER	21.9	-27.7	24.2	61.7	24.3
Russell 2000 Growth	18.7	-26.4	2.8	34.6	28.5
Excess	3.3	-1.4	21.4	27.0	-4.2
RICE HALL JAMES	14.3	-24.4	15.6	23.8	18.0
Russell 2000 Growth	18.7	-26.4	2.8	34.6	28.5
Excess	-4.3	2.0	12.8	-10.8	-10.5
WELLINGTON	18.5	-28.5	4.3	33.1	35.6
Russell 2000 Growth	18.7	-26.4	2.8	34.6	28.5
Excess	-0.1	-2.1	1.4	-1.5	7.1
RUSSELL 2000 GROWTH AGGREGATE	18.7	-26.3	12.4	35.4	24.6
Russell 2000 Growth	18.7	-26.4	2.8	34.6	28.5
Excess	0.1	0.0	9.5	0.8	-3.9



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Small Cap Value										
GOLDMAN SACHS	\$180,184,220	0.6%	-3.5%	10.0%	10.0%	0.3%	5.7%	6.0%	8.3%	01/2004
Russell 2000 Value			-3.6	10.9	10.9	-0.5	7.1	6.2	7.4	01/2004
Excess			0.2	-0.9	-0.9	0.9	-1.4	-0.3	0.9	
HOTCHKIS AND WILEY	204,736,384	0.6	-5.4	11.5	11.5	9.1	12.2	7.7	8.8	01/2004
Russell 2000 Value			-3.6	10.9	10.9	-0.5	7.1	6.2	7.4	01/2004
Excess			-1.8	0.6	0.6	9.6	5.1	1.5	1.4	
MARTINGALE	174,664,949	0.5	-3.2	14.3	14.3	6.7	10.2	8.0	8.1	01/2004
Russell 2000 Value			-3.6	10.9	10.9	-0.5	7.1	6.2	7.4	01/2004
Excess			0.4	3.4	3.4	7.2	3.1	1.7	0.6	
PEREGRINE	209,597,192	0.7	-2.1	9.4	9.4	0.4	7.3	6.1	9.2	07/2000
Russell 2000 Value			-3.6	10.9	10.9	-0.5	7.1	6.2	8.7	07/2000
Excess			1.6	-1.5	-1.5	1.0	0.2	-0.1	0.5	
RUSSELL 2000 VALUE AGGREGATE	769,182,745	2.4	-3.5	11.0	11.0	3.3	8.2	6.6	8.7	10/2003
Russell 2000 Value			-3.6	10.9	10.9	-0.5	7.1	6.2	8.1	10/2003
Excess			0.1	0.1	0.1	3.8	1.1	0.4	0.5	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active Small Cap Value					
GOLDMAN SACHS	11.9%	-14.4%	27.0%	2.4%	23.2%
Russell 2000 Value	14.6	-14.5	28.3	4.6	22.4
Excess	-2.8	0.1	-1.3	-2.3	0.8
HOTCHKIS AND WILEY	18.8	3.1	36.5	-0.2	19.7
Russell 2000 Value	14.6	-14.5	28.3	4.6	22.4
Excess	4.2	17.6	8.2	-4.8	-2.7
MARTINGALE	20.7	-8.0	41.3	-4.6	21.1
Russell 2000 Value	14.6	-14.5	28.3	4.6	22.4
Excess	6.1	6.4	13.0	-9.2	-1.3
PEREGRINE	9.2	-12.5	28.6	7.3	21.1
Russell 2000 Value	14.6	-14.5	28.3	4.6	22.4
Excess	-5.4	2.0	0.3	2.7	-1.3
RUSSELL 2000 VALUE AGGREGATE	14.2	-9.4	31.8	1.5	21.3
Russell 2000 Value	14.6	-14.5	28.3	4.6	22.4
Excess	-0.5	5.1	3.5	-3.1	-1.1



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active All Cap										
ZEVENBERGEN (1)	\$224,849,429	0.7%	2.2%	25.3%	25.3%	-8.6%	12.1%	13.2%	11.5%	04/1994
Zevenbergen Custom Benchmark			7.8	32.2	32.2	10.3	19.9	16.6		04/1994
Excess			-5.6	-6.9	-6.9	-18.9	-7.8	-3.4		
ACTIVE RUSSELL 3000 GROWTH (2)										
ACTIVE RUSSELL 3000 GROWTH (2)	224,849,429	0.7	2.2	25.3	25.3	-8.6			-7.4	01/2021
Russell 3000 Growth TR			7.8	32.2	32.2	10.3			12.6	01/2021
Excess			-5.6	-6.9	-6.9	-18.9			-20.0	

(1) Effective 1/1/2021, the SBI changed the Zevenbergen Benchmark to the Russell 3000 Growth. Prior to this date it was the Russell 1000 Growth.

(2) Prior to 1/1/2021, Zevenbergen returns were reported as part of the Russell 1000 Growth Aggregate.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active All Cap					
ZEVENBERGEN (1)	66.6%	-55.7%	-9.7%	126.2%	43.0%
Zevenbergen Custom Benchmark	41.2	-29.0	32.3	38.5	36.4
Excess	25.4	-26.8	-42.0	87.7	6.7
ACTIVE RUSSELL 3000 GROWTH (2)					
ACTIVE RUSSELL 3000 GROWTH (2)	66.6	-55.7	-9.7		
Russell 3000 Growth TR	41.2	-29.0	25.8		
Excess	25.4	-26.8	-35.6		

(1) Effective 1/1/2021, the SBI changed the Zevenbergen Benchmark to the Russell 3000 Growth. Prior to this date it was the Russell 1000 Growth.

(2) Prior to 1/1/2021, Zevenbergen returns were reported as part of the Russell 1000 Growth Aggregate.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Passive Domestic Equity										
BLACKROCK RUSSELL 1000	\$24,007,495,002	74.8%	3.6%	23.9%	23.9%	8.7%	14.6%		14.8%	11/2016
RUSSELL 1000 (DAILY)			3.6	23.9	23.9	8.7	14.6		14.8	11/2016
Excess			-0.0	0.0	0.0	-0.0	-0.0		-0.0	
BLACKROCK RUSSELL 2000	68,047,025	0.2	-3.3	10.0	10.0	-2.4	7.4		7.4	11/2018
RUSSELL 2000 (DAILY)			-3.3	10.1	10.1	-2.6	6.9		7.0	11/2018
Excess			0.0	-0.1	-0.1	0.2	0.5		0.4	
BLACKROCK RUSSELL 3000 (1)	938,794,042	2.9	3.2	23.2	23.2	8.1	14.3	12.3%	10.2	07/1995
Passive Manager Benchmark			3.2	23.1	23.1	8.1	14.1	12.1	10.1	07/1995
Excess			0.0	0.1	0.1	0.1	0.2	0.1	0.1	
PASSIVE DOMESTIC EQUITY AGGREGATE (2)	25,014,336,069	77.9	3.5	23.8	23.8	8.7	14.5	12.4	9.6	06/1996
Passive Domestic Equity Benchmark			3.5	23.8	23.8	8.7	14.5	12.4	9.7	06/1996
Excess			-0.0	0.0	0.0	-0.0	0.0	0.0	-0.1	

(1) The current Passive Manager Benchmark is the Russell 3000. For historical benchmark details please refer to the addendum of this report.

(2) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Total Passive Domestic Equity					
BLACKROCK RUSSELL 1000	26.6%	-19.2%	26.5%	20.9%	31.4%
RUSSELL 1000 (DAILY)	26.5	-19.1	26.5	21.0	31.4
Excess	0.0	-0.0	0.1	-0.0	0.0
BLACKROCK RUSSELL 2000	16.7	-19.9	16.0	20.8	25.2
RUSSELL 2000 (DAILY)	16.9	-20.4	14.8	20.0	25.5
Excess	-0.3	0.6	1.2	0.8	-0.3
BLACKROCK RUSSELL 3000 (1)	26.0	-19.2	26.2	21.2	31.1
Passive Manager Benchmark	26.0	-19.2	25.7	20.9	31.0
Excess	0.1	0.0	0.5	0.3	0.0
PASSIVE DOMESTIC EQUITY AGGREGATE (2)	26.5	-19.2	26.5	20.8	31.3
Passive Domestic Equity Benchmark	26.5	-19.1	26.4	20.8	31.3
Excess	0.0	-0.0	0.1	0.0	0.0

(1) The current Passive Manager Benchmark is the Russell 3000. For historical benchmark details please refer to the addendum of this report.

(2) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.

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International Equity

June 30, 2024



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total International Equity										
DEVELOPED MARKETS (1)	\$10,681,860,858		0.4%	13.3%	13.3%	5.0%	8.3%	5.4%	5.7%	01/1997
BENCHMARK DM			-0.6	11.2	11.2	2.8	6.6	4.3	2.8	01/1997
Excess			1.0	2.1	2.1	2.2	1.7	1.2	3.0	
EMERGING MARKETS (2)	3,791,889,605	25.3%	5.1	12.8	12.8	-4.9	3.5	2.8	5.4	11/1996
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1	2.8	5.6	11/1996
Excess			0.1	0.3	0.3	0.2	0.4	0.0	-0.2	
ACWI EX-US AGGREGATE	415,498,040	2.8	-0.1	11.0	11.0	3.0			5.9	01/2021
MSCI AC WORLD ex US (NET) - DAILY			1.0	11.6	11.6	0.5			2.9	01/2021
Excess			-1.0	-0.6	-0.6	2.5			3.0	
CHINA ONLY AGGREGATE	123,836,879	0.8	-5.2	-13.5	-13.5	-15.8			-14.0	01/2021
MSCI China A			-2.1	-8.8	-8.8	-14.6			-11.5	01/2021
Excess			-3.1	-4.8	-4.8	-1.2			-2.5	
TRANSITION AGGREGATE INTERNATIONAL EQUITY (3)	1,833,706	0.0								
TOTAL INTERNATIONAL EQUITY (4)	15,014,919,089	100.0	1.5	12.8	12.8	2.0	6.8	4.7	6.5	10/1992
International Equity Benchmark			1.0	11.6	11.6	0.5	5.5	3.8	5.9	10/1992
Excess			0.5	1.2	1.2	1.6	1.3	0.8	0.6	

(1) The current benchmark for Developed Markets, Benchmark DM, is the Standard (large + mid) MSCI World ex USA (net).

(2) The current benchmark for Emerging Markets, Benchmark EM, is the Standard (large + mid) MSCI Emerging Markets Free (net).

(3) The Transition Aggregate International Equity contains International Equity securities that are being transitioned to a different manager.

(4) The current International Equity Benchmark is the MSCI ACWI ex USA (net). Does not includes impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00. This impact is included in the return for the Combined Funds portion of the International Equity portfolio.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Total International Equity					
DEVELOPED MARKETS (1)	17.8%	-10.7%	13.5%	8.9%	23.3%
BENCHMARK DM	17.9	-14.3	12.6	7.6	22.5
Excess	-0.1	3.6	0.9	1.3	0.8
EMERGING MARKETS (2)	10.2	-21.1	-1.5	17.9	20.3
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	0.4	-1.0	1.1	-0.4	1.9
ACWI EX-US AGGREGATE	17.9	-12.6	12.8		
MSCI AC WORLD ex US (NET) - DAILY	15.6	-16.0	7.8		
Excess	2.3	3.4	4.9		
CHINA ONLY AGGREGATE	-10.0	-24.5	-2.9		
MSCI China A	-13.5	-25.9	3.2		
Excess	3.5	1.4	-6.1		
TRANSITION AGGREGATE INTERNATIONAL EQUITY (3)					
TOTAL INTERNATIONAL EQUITY (4)	15.6	-13.7	8.9	11.4	22.4
International Equity Benchmark	15.6	-16.0	7.8	10.5	21.5
Excess	-0.1	2.3	1.1	0.8	0.9

(1) The current benchmark for Developed Markets, Benchmark DM, is the Standard (large + mid) MSCI World ex USA (net).

(2) The current benchmark for Emerging Markets, Benchmark EM, is the Standard (large + mid) MSCI Emerging Markets Free (net).

(3) The Transition Aggregate International Equity contains International Equity securities that are being transitioned to a different manager.

(4) The current International Equity Benchmark is the MSCI ACWI ex USA (net). Does not includes impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00. This impact is included in the return for the Combined Funds portion of the International Equity portfolio.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Developed Markets										
ACADIAN	\$588,911,113	3.9%	0.8%	15.7%	15.7%	2.6%	7.5%	6.7%	6.7%	07/2005
BENCHMARK DM			-0.6	11.2	11.2	2.8	6.6	4.3	5.3	07/2005
Excess			1.4	4.5	4.5	-0.3	0.9	2.4	1.4	
COLUMBIA	526,691,993	3.5	1.0	14.5	14.5	5.1	9.5	7.2	4.4	03/2000
BENCHMARK DM			-0.6	11.2	11.2	2.8	6.6	4.3	4.0	03/2000
Excess			1.7	3.3	3.3	2.3	2.9	3.0	0.3	
FIDELITY	505,188,692	3.4	0.4	10.9	10.9	2.0	7.6	5.6	6.7	07/2005
BENCHMARK DM			-0.6	11.2	11.2	2.8	6.6	4.3	5.3	07/2005
Excess			1.1	-0.3	-0.3	-0.8	1.0	1.3	1.4	
JP MORGAN	374,514,743	2.5	-0.9	9.5	9.5	1.3	6.4	4.7	5.5	07/2005
BENCHMARK DM			-0.6	11.2	11.2	2.8	6.6	4.3	5.3	07/2005
Excess			-0.3	-1.8	-1.8	-1.5	-0.1	0.4	0.2	
MARATHON	431,026,096	2.9	-0.8	12.1	12.1	3.5	7.6	5.4	7.9	11/1993
BENCHMARK DM			-0.6	11.2	11.2	2.8	6.6	4.3	5.3	11/1993
Excess			-0.2	0.9	0.9	0.7	1.1	1.1	2.6	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active Developed Markets					
ACADIAN	12.4%	-12.5%	13.6%	11.7%	19.1%
BENCHMARK DM	17.9	-14.3	12.6	7.6	22.5
Excess	-5.5	1.8	0.9	4.2	-3.4
COLUMBIA	21.1	-15.0	14.2	15.0	28.9
BENCHMARK DM	17.9	-14.3	12.6	7.6	22.5
Excess	3.2	-0.7	1.6	7.4	6.4
FIDELITY	18.0	-17.4	13.0	15.4	27.1
BENCHMARK DM	17.9	-14.3	12.6	7.6	22.5
Excess	0.1	-3.2	0.4	7.8	4.6
JP MORGAN	17.1	-19.0	13.3	14.2	28.5
BENCHMARK DM	17.9	-14.3	12.6	7.6	22.5
Excess	-0.9	-4.7	0.7	6.6	6.0
MARATHON	18.2	-12.1	12.8	7.6	23.5
BENCHMARK DM	17.9	-14.3	12.6	7.6	22.5
Excess	0.3	2.2	0.2	0.1	1.0



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>1 Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Developed Markets										
Active Developed Markets Aggregate (1)	\$2,430,105,793	16.2%	0.2%	13.0%	13.0%	3.0%	7.5%	5.3%	5.8%	06/1996
BENCHMARK DM			-0.6%	11.2%	11.2%	2.8%	6.6%	4.3%	2.7%	06/1996
Excess			0.8%	1.8%	1.8%	0.1%	0.9%	1.0%	3.1%	
SSgA DEVELOPED MARKETS PASSIVE										
SSgA DEVELOPED MARKETS PASSIVE	\$8,150,975,709	54.3%	-0.3%	11.7%	11.7%	3.3%	7.1%	4.7%		
BENCHMARK DM			-0.6%	11.2%	11.2%	2.8%	6.6%	4.3%		
Excess			0.3%	0.5%	0.5%	0.5%	0.5%	0.4%		
RECORD CURRENCY (2)	\$100,779,356	0.7%	0.3%	1.3%	1.3%	1.9%				10/2020
DEVELOPED MARKETS TOTAL (3)										
DEVELOPED MARKETS TOTAL (3)	\$10,681,860,858		0.4%	13.3%	13.3%	5.0%	8.3%	5.4%	5.7%	01/1997
BENCHMARK DM			-0.6%	11.2%	11.2%	2.8%	6.6%	4.3%	2.8%	01/1997
Excess			1.0%	2.1%	2.1%	2.2%	1.7%	1.2%	3.0%	

(1) Includes the historical returns of AQR and terminated managers previously classified as "Semi-Passive Developed Markets."

(2) Return for Record Currency is the difference between the DM Equity with Currency Management and without.

(3) The current International Equity Benchmark is the MSCI ACWI ex USA (net). Does not includes impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00. This impact is included in the return for the Combined Funds portion of the International Equity portfolio.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Total Developed Markets					
Active Developed Markets Aggregate	17.6%	-15.2%	12.5%	12.2%	24.4%
BENCHMARK DM	17.9%	-14.3%	12.6%	7.6%	22.5%
Excess	-0.4%	-0.9%	-0.1%	4.6%	1.9%
SSgA DEVELOPED MARKETS PASSIVE	18.5%	-13.8%	13.0%	8.2%	23.0%
BENCHMARK DM	17.9%	-14.3%	12.6%	7.6%	22.5%
Excess	0.5%	0.5%	0.4%	0.6%	0.5%
DEVELOPED MARKETS TOTAL	17.8%	-10.7%	13.5%	8.9%	23.3%
BENCHMARK DM	17.9%	-14.3%	12.6%	7.6%	22.5%
Excess	-0.1%	3.6%	0.9%	1.3%	0.8%



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Emerging Markets										
MARTIN CURRIE	\$540,146,614	3.6%	4.0%	4.9%	4.9%	-9.5%	2.5%		4.8%	04/2017
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1		4.3	04/2017
Excess			-1.0	-7.7	-7.7	-4.4	-0.6		0.5	
MACQUARIE	551,408,905	3.7	8.1	24.9	24.9	-3.1	6.4		6.6	04/2017
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1		4.3	04/2017
Excess			3.1	12.4	12.4	2.0	3.3		2.3	
MORGAN STANLEY	622,074,652	4.1	6.5	15.6	15.6	-3.8	3.9	3.2%	8.1	01/2001
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1	2.8	7.7	01/2001
Excess			1.5	3.0	3.0	1.2	0.8	0.4	0.4	
NEUBERGER BERMAN	955,999	0.0	-35.5	-30.9	-30.9	-20.6	-8.5		-3.8	04/2017
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1		4.3	04/2017
Excess			-40.5	-43.5	-43.5	-15.5	-11.6		-8.1	
PZENA	616,584,984	4.1	2.5	13.6	13.6	3.4	7.9		6.8	04/2017
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1		4.3	04/2017
Excess			-2.5	1.0	1.0	8.5	4.8		2.5	
ROCK CREEK	328,794,613	2.2	2.7	8.0	8.0	-7.6	2.5		3.0	04/2017
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1		4.3	04/2017
Excess			-2.3	-4.5	-4.5	-2.5	-0.6		-1.3	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active Emerging Markets					
MARTIN CURRIE	5.8%	-25.7%	-3.5%	26.5%	27.3%
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	-4.1	-5.6	-1.0	8.2	8.8
MACQUARIE	16.0	-26.5	-2.2	24.2	23.2
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	6.1	-6.4	0.3	5.9	4.7
MORGAN STANLEY	10.8	-23.8	3.5	15.7	20.4
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	1.0	-3.7	6.0	-2.6	1.9
NEUBERGER BERMAN	5.9	-22.1	-5.6	14.2	19.7
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	-3.9	-2.0	-3.1	-4.1	1.3
PZENA	19.7	-7.4	9.3	7.7	13.4
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	9.9	12.7	11.8	-10.6	-5.1
ROCK CREEK	5.0	-19.4	-5.2	22.0	22.3
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	-4.9	0.7	-2.7	3.7	3.9



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Emerging Markets										
ACTIVE EMERGING MARKETS AGGREGATE	\$2,659,965,767	17.7%	4.9%	13.4%	13.4%	-4.6%	3.8%	2.7%	3.9%	01/2012
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1	2.8	3.9	01/2012
Excess			-0.1	0.8	0.8	0.4	0.7	-0.1	0.0	
SSGA EMERGING MARKETS PASSIVE	1,131,923,838	7.5	5.4	11.7	11.7	-5.5	2.8	2.7	3.8	01/2012
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1	2.8	3.9	01/2012
Excess			0.4	-0.9	-0.9	-0.5	-0.3	-0.1	-0.1	
EMERGING MARKETS TOTAL	3,791,889,605	25.3	5.1	12.8	12.8	-4.9	3.5	2.8	5.4	11/1996
BENCHMARK EM			5.0	12.5	12.5	-5.1	3.1	2.8	5.6	11/1996
Excess			0.1	0.3	0.3	0.2	0.4	0.0	-0.2	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Total Emerging Markets					
ACTIVE EMERGING MARKETS AGGREGATE	10.6%	-21.4%	-0.9%	17.6%	21.4%
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	0.8	-1.3	1.6	-0.7	3.0
SSGA EMERGING MARKETS PASSIVE	9.4	-20.4	-2.9	18.3	18.1
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	-0.4	-0.3	-0.3	0.0	-0.3
EMERGING MARKETS TOTAL	10.2	-21.1	-1.5	17.9	20.3
BENCHMARK EM	9.8	-20.1	-2.5	18.3	18.4
Excess	0.4	-1.0	1.1	-0.4	1.9



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active ACWI ex-US										
EARNEST PARTNERS ACWI EX US	\$415,498,040	2.8%	-0.1%	11.0%	11.0%	3.0%			5.9%	01/2021
MSCI AC WORLD ex US (NET) - DAILY			1.0%	11.6%	11.6%	0.5%			2.9%	01/2021
Excess			-1.0%	-0.6%	-0.6%	2.5%			3.0%	
TOTAL ACWI EX-US AGGREGATE										
	\$415,498,040	2.8%	-0.1%	11.0%	11.0%	3.0%			5.9%	01/2021
MSCI AC WORLD ex US (NET) - DAILY			1.0%	11.6%	11.6%	0.5%			2.9%	01/2021
Excess			-1.0%	-0.6%	-0.6%	2.5%			3.0%	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active ACWI ex-US					
EARNEST PARTNERS ACWI EX US	17.9%	-12.6%	12.8%		
MSCI AC WORLD ex US (NET) - DAILY	15.6	-16.0	7.8		
Excess	2.3	3.4	4.9		
TOTAL ACWI EX-US AGGREGATE					
MSCI AC WORLD ex US (NET) - DAILY	15.6	-16.0	7.8		
Excess	2.3	3.4	4.9		



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
China Only Managers										
EARNEST PARTNERS CHINA	\$123,836,879	0.8%	-5.2%	-13.5%	-13.5%	-15.8%			-14.0%	01/2021
MSCI China A			-2.1	-8.8	-8.8	-14.6			-11.5	01/2021
Excess			-3.1	-4.8	-4.8	-1.2			-2.5	
CHINA ONLY AGGREGATE	123,836,879	0.8	-5.2	-13.5	-13.5	-15.8			-14.0	01/2021
MSCI China A			-2.1	-8.8	-8.8	-14.6			-11.5	01/2021
Excess			-3.1	-4.8	-4.8	-1.2			-2.5	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
China Only Managers					
EARNEST PARTNERS CHINA	-10.0%	-24.5%	-2.9%		
MSCI China A	-13.5	-25.9	3.2		
Excess	3.5	1.4	-6.1		
CHINA ONLY AGGREGATE					
	-10.0	-24.5	-2.9		
MSCI China A	-13.5	-25.9	3.2		
Excess	3.5	1.4	-6.1		

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Global Equity

June 30, 2024



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Global Equity Managers										
ARIEL INVESTMENTS	\$390,427,700	37.7%	-2.7%	8.5%	8.5%	4.7%			6.8%	01/2021
MSCI AC WORLD NET USD DAILY			2.9	19.4	19.4	5.4			8.2	01/2021
Excess			-5.5	-10.8	-10.8	-0.8			-1.4	
BAILLIE GIFFORD	256,831,567	24.8	3.6	21.8	21.8	-8.4			-4.2	01/2021
MSCI AC WORLD NET USD DAILY			2.9	19.4	19.4	5.4			8.2	01/2021
Excess			0.8	2.4	2.4	-13.8			-12.4	
MARTIN CURRIE INVESTMENTS - GLOBAL EQ	386,989,106	37.4	-4.4	9.5	9.5	-2.9			0.6	01/2021
MSCI AC WORLD NET USD DAILY			2.9	19.4	19.4	5.4			8.2	01/2021
Excess			-7.2	-9.9	-9.9	-8.4			-7.6	
GLOBAL EQUITY	1,034,248,373	100.0	-1.8	12.0	12.0	-1.8			1.4	01/2021
MSCI AC WORLD NET USD DAILY			2.9	19.4	19.4	5.4			8.2	01/2021
Excess			-4.7	-7.4	-7.4	-7.2			-6.7	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Global Equity Managers					
ARIEL INVESTMENTS	14.1%	-5.6%	12.1%		
MSCI AC WORLD NET USD DAILY	22.2	-18.4	18.5		
Excess	-8.1	12.8	-6.5		
BAILLIE GIFFORD	38.0	-46.9	3.1		
MSCI AC WORLD NET USD DAILY	22.2	-18.4	18.5		
Excess	15.8	-28.5	-15.5		
MARTIN CURRIE INVESTMENTS - GLOBAL EQ	23.8	-32.9	12.8		
MSCI AC WORLD NET USD DAILY	22.2	-18.4	18.5		
Excess	1.6	-14.5	-5.8		
GLOBAL EQUITY	22.6	-27.7	9.6		
MSCI AC WORLD NET USD DAILY	22.2	-18.4	18.5		
Excess	0.4	-9.4	-8.9		

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Core/Core Plus Bonds

June 30, 2024



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Bonds										
CORE (1)	\$2,394,362,522	43.2%	0.4%	4.0%	4.0%	-2.0%			-1.4%	11/2020
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0			-2.6	11/2020
Excess			0.3	1.4	1.4	1.0			1.2	
CORE PLUS (1)	3,146,298,140	56.8	0.2	3.3	3.3	-3.4			-2.5	11/2020
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0			-2.6	11/2020
Excess			0.1	0.7	0.7	-0.3			0.1	
TRANSITION AGGREGATE CORE BONDS (2)	20,715	0.0								
TOTAL CORE/CORE PLUS BONDS (3)	5,540,681,377	100.0	0.2	3.6	3.6	-2.8	0.4%	1.9%	6.6	07/1984
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0	-0.2	1.3	6.3	07/1984
Excess			0.2	1.0	1.0	0.2	0.7	0.6	0.4	

(1) Prior to 12/1/2020 the Core and Core Plus managers were categorized as Active or Semi-Passive. For historical performance of each manager, see the following pages in this report. For information on the historical performance of the previous groupings refer to the 9/30/2020 Comprehensive Performance Report.

(2) The Transition Aggregate Core Bonds includes core bonds securities that are being transition to a different manager.

(3) The current Core Bonds Benchmark is the Bloomberg U.S. Aggregate calculated daily. For historical benchmark details please refer to the addendum of this report.

Note: All aggregates include the performance of terminated managers. Inception refers to the date of retention by the SBI.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Bonds					
CORE (1)	7.3%	-12.3%	-1.0%		
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5		
Excess	1.7	0.7	0.5		
CORE PLUS (1)	6.8	-15.2	-1.1		
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5		
Excess	1.3	-2.2	0.4		
TRANSITION AGGREGATE CORE BONDS (2)					
TOTAL CORE/CORE PLUS BONDS (3)	7.0	-14.1	-1.1	9.7%	9.7%
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5	7.5	8.7
Excess	1.5	-1.1	0.5	2.2	1.0

(1) Prior to 12/1/2020 the Core and Core Plus managers were categorized as Active or Semi-Passive. For historical performance of each manager, see the following pages in this report. For information on the historical performance of the previous groupings refer to the 9/30/2020 Comprehensive Performance Report.

(2) The Transition Aggregate Core Bonds includes core bonds securities that are being transition to a different manager.

(3) The current Core Bonds Benchmark is the Bloomberg U.S. Aggregate calculated daily. For historical benchmark details please refer to the addendum of this report.

Note: All aggregates include the performance of terminated managers. Inception refers to the date of retention by the SBI.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Core										
DODGE & COX	\$1,219,814,701	22.0%	0.5%	4.7%	4.7%	-1.4%	1.4%	2.4%	5.1%	02/2000
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0	-0.2	1.3	4.0	02/2000
Excess			0.4	2.1	2.1	1.6	1.6	1.0	1.1	
BLACKROCK	1,174,547,821	21.2	0.2	3.2	3.2	-2.8	0.1	1.6	4.3	04/1996
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0	-0.2	1.3	4.2	04/1996
Excess			0.2	0.6	0.6	0.3	0.4	0.3	0.1	
CORE	2,394,362,522	43.2	0.4	4.0	4.0	-2.0			-1.4	11/2020
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0			-2.6	11/2020
Excess			0.3	1.4	1.4	1.0			1.2	

(1) Prior to 12/1/2020 the Core managers were categorized as Active or Semi-Passive. For information on the historical performance of the previous groupings refer to the 9/30/2020 Comprehensive Performance Report.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Active Core					
DODGE & COX	8.0%	-11.3%	-0.7%	9.4%	9.6%
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5	7.5	8.7
Excess	2.5	1.7	0.8	1.8	0.9
BLACKROCK					
BLACKROCK	6.4	-13.4	-1.3	8.3	9.3
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5	7.5	8.7
Excess	0.9	-0.4	0.2	0.8	0.6
CORE					
CORE	7.3	-12.3	-1.0		
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5		
Excess	1.7	0.7	0.5		



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Core Plus Bonds										
GOLDMAN SACHS	\$1,027,625,088	18.5%	0.3%	3.2%	3.2%	-2.8%	0.2%	1.7%	4.7%	07/1993
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0	-0.2	1.3	4.3	07/1993
Excess			0.3	0.5	0.5	0.2	0.4	0.3	0.3	
NEUBERGER	1,108,123,914	20.0	0.4	4.4	4.4	-2.6	0.7	1.9	5.6	07/1988
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0	-0.2	1.3	5.3	07/1988
Excess			0.4	1.7	1.7	0.5	0.9	0.5	0.3	
WESTERN	1,010,549,139	18.2	-0.3	2.5	2.5	-4.5	-0.2	1.9	7.2	07/1984
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0	-0.2	1.3	6.3	07/1984
Excess			-0.3	-0.2	-0.2	-1.5	0.0	0.5	1.0	
CORE PLUS	3,146,298,140	56.8	0.2	3.3	3.3	-3.4			-2.5	11/2020
Bloomberg U.S. Aggregate			0.1	2.6	2.6	-3.0			-2.6	11/2020
Excess			0.1	0.7	0.7	-0.3			0.1	

(1) Prior to 12/1/2020 the Core managers were categorized as Active or Semi-Passive. For information on the historical performance of the previous groupings refer to the 9/30/2020 Comprehensive Performance Report.



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Core Plus Bonds					
GOLDMAN SACHS	6.3%	-13.9%	-1.5%	9.0%	9.6%
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5	7.5	8.7
Excess	0.8	-0.9	0.0	1.5	0.9
NEUBERGER					
NEUBERGER	6.7	-13.8	-0.6	9.9	9.0
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5	7.5	8.7
Excess	1.2	-0.8	1.0	2.4	0.3
WESTERN					
WESTERN	7.4	-17.6	-1.3	10.9	11.1
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5	7.5	8.7
Excess	1.8	-4.6	0.3	3.4	2.4
CORE PLUS					
CORE PLUS	6.8	-15.2	-1.1		
Bloomberg U.S. Aggregate	5.5	-13.0	-1.5		
Excess	1.3	-2.2	0.4		

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Return Seeking Bonds

June 30, 2024



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Return Seeking Bonds Managers										
COLUMBIA CREDIT PLUS	\$892,388,708	20.0%	0.2%	4.9%	4.9%	-2.6%			-1.6%	12/2020
Credit Plus Benchmark			0.3	5.4	5.4	-2.0			-1.7	12/2020
Excess			-0.1	-0.6	-0.6	-0.6			0.1	
PIMCO CREDIT PLUS	921,311,562	20.6	0.4	5.7	5.7	-1.8			-1.2	12/2020
Credit Plus Benchmark			0.3	5.4	5.4	-2.0			-1.7	12/2020
Excess			0.1	0.2	0.2	0.2			0.5	
CREDIT PLUS	1,813,700,271	40.6	0.3	5.2	5.2	-2.2			-1.4	12/2020
Credit Plus Benchmark			0.3	5.4	5.4	-2.0			-1.7	12/2020
Excess			0.0	-0.2	-0.2	-0.2			0.3	
BLACKROCK OPPORTUNISTIC	522,750,036	11.7	0.7	6.6	6.6	1.1			1.2	12/2020
ICE BofA US 3-Month Treasury Bill			1.3	5.4	5.4	3.0			2.5	12/2020
Excess			-0.6	1.2	1.2	-1.9			-1.4	
ASHMORE EMERGING MARKETS	324,235,653	7.3	-0.1	4.4	4.4	-6.0			-5.7	01/2021
JPM JEMB Sovereign-only 50-50			-0.7	4.9	4.9	-2.9			-3.1	01/2021
Excess			0.6	-0.5	-0.5	-3.1			-2.6	
TCW SECURITIZED CREDIT	428,113,604	9.6	1.1	7.3	7.3	2.2			2.2	07/2021
ICE BofA US 3-Month Treasury Bill			1.3	5.4	5.4	3.0			3.0	07/2021
Excess			-0.3	1.9	1.9	-0.9			-0.9	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Return Seeking Bonds Managers					
COLUMBIA CREDIT PLUS	9.0%	-15.3%	1.1%		
Credit Plus Benchmark	8.6	-13.7	0.0		
Excess	0.5	-1.6	1.1		
PIMCO CREDIT PLUS	8.4	-13.6	0.8		
Credit Plus Benchmark	8.6	-13.7	0.0		
Excess	-0.1	0.1	0.7		
CREDIT PLUS	8.7	-14.5	0.9		
Credit Plus Benchmark	8.6	-13.7	0.0		
Excess	0.2	-0.7	0.9		
BLACKROCK OPPORTUNISTIC	7.7	-5.4	0.3		
ICE BofA US 3-Month Treasury Bill	5.0	1.5	0.0		
Excess	2.7	-6.8	0.2		
ASHMORE EMERGING MARKETS	10.9	-17.2	-10.1		
JPM JEMB Sovereign-only 50-50	11.9	-14.8	-5.3		
Excess	-1.0	-2.4	-4.8		
TCW SECURITIZED CREDIT	7.1	-4.6			
ICE BofA US 3-Month Treasury Bill	5.0	1.5			
Excess	2.1	-6.1			



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Return Seeking Bonds Managers										
PAYDEN RYGEL	\$320,325,370	7.2%	1.1%	9.8%	9.8%	1.4%			1.8%	01/2021
Multi-Asset Credit Benchmark			1.1	10.1	10.1	1.6			2.0	01/2021
Excess			-0.0	-0.4	-0.4	-0.2			-0.1	
PGIM	372,578,917	8.3	0.9	10.5	10.5	1.5			1.6	01/2021
Multi-Asset Credit Benchmark			1.1	10.1	10.1	1.6			2.0	01/2021
Excess			-0.2	0.4	0.4	-0.1			-0.3	
MULTI-ASSET CREDIT	692,904,287	15.5	1.0	10.2	10.2	1.5			1.7	01/2021
Multi-Asset Credit Benchmark			1.1	10.1	10.1	1.6			2.0	01/2021
Excess			-0.1	0.0	0.0	-0.2			-0.2	
KKR	343,077,027	7.7	1.4	11.0	11.0	2.3			2.7	01/2021
ICE BofA US Cash Pay HY Constrained			1.0	10.4	10.4	1.7			2.4	01/2021
Excess			0.3	0.7	0.7	0.6			0.3	
OAKTREE	337,694,727	7.6	1.4	10.7	10.7	2.1			2.6	01/2021
ICE BofA US Cash Pay HY Constrained			1.0	10.4	10.4	1.7			2.4	01/2021
Excess			0.4	0.3	0.3	0.5			0.2	
HIGH YIELD	680,771,754	15.3	1.4	10.9	10.9	2.2			2.7	01/2021
ICE BofA US Cash Pay HY Constrained			1.0	10.4	10.4	1.7			2.4	01/2021
Excess			0.3	0.5	0.5	0.5			0.2	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Return Seeking Bonds Managers					
PAYDEN RYGEL	11.7%	-9.6%	2.6%		
Multi-Asset Credit Benchmark	12.3	-10.0	2.7		
Excess	-0.6	0.4	-0.1		
PGIM	12.3	-11.5	3.2		
Multi-Asset Credit Benchmark	12.3	-10.0	2.7		
Excess	-0.0	-1.5	0.5		
MULTI-ASSET CREDIT	12.0	-10.6	2.9		
Multi-Asset Credit Benchmark	12.3	-10.0	2.7		
Excess	-0.3	-0.6	0.2		
KKR	13.9	-11.0	4.7		
ICE BofA US Cash Pay HY Constrained	13.4	-11.1	5.3		
Excess	0.5	0.1	-0.6		
OAKTREE	12.4	-9.5	4.5		
ICE BofA US Cash Pay HY Constrained	13.4	-11.1	5.3		
Excess	-1.0	1.6	-0.8		
HIGH YIELD	13.2	-10.3	4.6		
ICE BofA US Cash Pay HY Constrained	13.4	-11.1	5.3		
Excess	-0.2	0.8	-0.7		



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Return Seeking Bonds										
CREDIT PLUS	\$1,813,700,271	40.6%	0.3%	5.2%	5.2%	-2.2%			-1.4%	12/2020
Credit Plus Benchmark			0.3	5.4	5.4	-2.0			-1.7	12/2020
Excess			0.0	-0.2	-0.2	-0.2			0.3	
OPPORTUNISTIC FI	522,750,036	11.7	0.7	6.6	6.6	1.1			1.2	12/2020
ICE BofA US 3-Month Treasury Bill			1.3	5.4	5.4	3.0			2.5	12/2020
Excess			-0.6	1.2	1.2	-1.9			-1.4	
EMERGING MARKET DEBT	324,235,653	7.3	-0.1	4.4	4.4	-6.0			-5.7	01/2021
JPM JEMB Sovereign-only 50-50			-0.7	4.9	4.9	-2.9			-3.1	01/2021
Excess			0.6	-0.5	-0.5	-3.1			-2.6	
SECURITIZED CREDIT	428,113,604	9.6	1.1	7.3	7.3	2.2			2.1	06/2021
ICE BofA US 3-Month Treasury Bill			1.3	5.4	5.4	3.0			2.9	06/2021
Excess			-0.3	1.9	1.9	-0.9			-0.8	
MULTI-ASSET CREDIT	692,904,287	15.5	1.0	10.2	10.2	1.5			1.7	01/2021
Multi-Asset Credit Benchmark			1.1	10.1	10.1	1.6			2.0	01/2021
Excess			-0.1	0.0	0.0	-0.2			-0.2	
HIGH YIELD	680,771,754	15.3	1.4	10.9	10.9	2.2			2.7	01/2021
ICE BofA US Cash Pay HY Constrained			1.0	10.4	10.4	1.7			2.4	01/2021
Excess			0.3	0.5	0.5	0.5			0.2	
RETURN SEEKING BONDS	4,462,475,769	100.0	0.7	7.1	7.1	-0.4			0.1	12/2020
Return Seeking Fixed Income Benchmark			0.7	6.9	6.9	0.1			0.4	12/2020
Excess			-0.0	0.3	0.3	-0.5			-0.3	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Return Seeking Bonds					
CREDIT PLUS	8.7%	-14.5%	0.9%		
Credit Plus Benchmark	8.6	-13.7	0.0		
Excess	0.2	-0.7	0.9		
OPPORTUNISTIC FI					
ICE BofA US 3-Month Treasury Bill	5.0	1.5	0.0		
Excess	2.7	-6.8	0.2		
EMERGING MARKET DEBT					
JPM JEMB Sovereign-only 50-50	11.9	-14.8	-5.3		
Excess	-1.0	-2.4	-4.8		
SECURITIZED CREDIT					
ICE BofA US 3-Month Treasury Bill	5.0	1.5			
Excess	2.1	-6.1			
MULTI-ASSET CREDIT					
Multi-Asset Credit Benchmark	12.3	-10.0	2.7		
Excess	-0.3	-0.6	0.2		
HIGH YIELD					
ICE BofA US Cash Pay HY Constrained	13.4	-11.1	5.3		
Excess	-0.2	0.8	-0.7		
RETURN SEEKING BONDS					
Return Seeking Fixed Income Benchmark	9.3	-9.8	0.8		
Excess	0.5	-1.6	0.1		

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Treasuries

June 30, 2024



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Treasuries Managers										
BLACKROCK	\$2,946,189,456	33.2%	-0.7%	-1.7%	-1.7%	-6.7%	-2.4%		-0.3%	02/2018
Bloomberg Treasury 5+ Year			-0.8	-1.7	-1.7	-6.6	-2.3		-0.2	02/2018
Excess			0.1	0.0	0.0	-0.0	-0.1		-0.1	
GOLDMAN SACHS	2,664,973,095	30.1	-0.7	-1.5	-1.5	-6.6	-2.2		-0.2	02/2018
Bloomberg Treasury 5+ Year			-0.8	-1.7	-1.7	-6.6	-2.3		-0.2	02/2018
Excess			0.1	0.3	0.3	0.1	0.1		0.0	
NEUBERGER	3,250,809,656	36.7	-0.7	-1.5	-1.5	-6.6	-2.2		-0.2	02/2018
Bloomberg Treasury 5+ Year			-0.8	-1.7	-1.7	-6.6	-2.3		-0.2	02/2018
Excess			0.1	0.2	0.2	0.0	0.1		0.0	
TOTAL TREASURIES	8,861,972,206	100.0	-0.7	-1.6	-1.6	-6.6	-2.3		-0.2	02/2018
Bloomberg Treasury 5+ Year			-0.8	-1.7	-1.7	-6.6	-2.3		-0.2	02/2018
Excess			0.1	0.2	0.2	0.0	0.0		0.0	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Treasuries Managers					
BLACKROCK	4.1%	-20.6%	-4.0%	12.5%	10.4%
Bloomberg Treasury 5+ Year	3.7	-20.3	-3.8	12.8	10.4
Excess	0.5	-0.3	-0.2	-0.3	-0.1
GOLDMAN SACHS	4.4	-20.6	-3.9	12.7	10.6
Bloomberg Treasury 5+ Year	3.7	-20.3	-3.8	12.8	10.4
Excess	0.7	-0.3	-0.1	-0.1	0.1
NEUBERGER	4.1	-20.5	-3.4	12.8	10.4
Bloomberg Treasury 5+ Year	3.7	-20.3	-3.8	12.8	10.4
Excess	0.4	-0.2	0.4	-0.1	-0.0
TOTAL TREASURIES	4.2	-20.6	-3.7	12.7	10.4
Bloomberg Treasury 5+ Year	3.7	-20.3	-3.8	12.8	10.4
Excess	0.5	-0.3	0.0	-0.2	0.0

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Laddered Bonds + Cash

June 30, 2024



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Laddered Bond and Cash Managers									
Neuberger Berman Ladder Bond	\$1,651,933,711	35.5%	1.3%	5.4%	2.8%			2.4%	11/2020
ICE BofA US 3-Month Treasury Bill			1.3	5.4	3.0			2.5	11/2020
Excess			-0.0	0.0	-0.2			-0.1	
Goldman Sachs Ladder Bond	1,653,598,039	35.6	1.3	5.4	2.9			2.4	11/2020
ICE BofA US 3-Month Treasury Bill			1.3	5.4	3.0			2.5	11/2020
Excess			-0.1	0.0	-0.2			-0.1	
Treasury Ladder Aggregate	3,305,531,750	71.1	1.3	5.4	2.9			2.4	11/2020
ICE BofA US 3-Month Treasury Bill			1.3	5.4	3.0			2.5	11/2020
Excess			-0.1	0.0	-0.2			-0.1	
Combined Funds STIF	1,283,669,159	27.6	1.4	5.6	3.3	2.3%	1.6%	1.7	01/2004
iMoneyNet Money Fund Average-All Taxable			1.2	5.1	2.9	2.0	1.3	1.4	01/2004
Excess			0.1	0.5	0.4	0.3	0.3	0.4	
TEACHERS RETIREMENT CD REPO	62,081,035	1.3	1.4	5.6	3.2	2.3	1.7	1.4	02/2012
ICE BofA US 3-Month Treasury Bill			1.3	5.4	3.0	2.2	1.5	1.2	02/2012
Excess			0.0	0.2	0.1	0.2	0.2	0.2	
Laddered Bond + Cash	4,651,528,738	100.0	1.3	5.5	3.0	2.1	1.6	4.2	12/1977
ICE BofA US 3-Month Treasury Bill			1.3	5.4	3.0	2.2	1.5	4.4	12/1977
Excess			-0.0	0.1	-0.1	-0.0	0.1	-0.2	



	<u>2023 Calendar Return</u>	<u>2022 Calendar Return</u>	<u>2021 Calendar Return</u>	<u>2020 Calendar Return</u>	<u>2019 Calendar Return</u>
Laddered Bond and Cash Managers					
Neuberger Berman Ladder Bond	5.2%	0.8%	0.0%		
ICE BofA US 3-Month Treasury Bill	5.0	1.5	0.0		
Excess	0.2	-0.6	-0.0		
Goldman Sachs Ladder Bond	5.2	0.9	0.1		
ICE BofA US 3-Month Treasury Bill	5.0	1.5	0.0		
Excess	0.2	-0.5	0.0		
Treasury Ladder Aggregate	5.2	0.9	0.0		
ICE BofA US 3-Month Treasury Bill	5.0	1.5	0.0		
Excess	0.2	-0.6	-0.0		
Combined Funds STIF	5.3	1.7	0.1	0.5%	2.3%
iMoneyNet Money Fund Average-All Taxable	4.8	1.4	0.0	0.3	1.9
Excess	0.5	0.4	0.1	0.2	0.5
TEACHERS RETIREMENT CD REPO	5.2	1.5	0.1	1.0	2.5
ICE BofA US 3-Month Treasury Bill	5.0	1.5	0.0	0.7	2.3
Excess	0.2	0.1	0.0	0.4	0.2
Laddered Bond + Cash	5.2	1.1	0.0	0.6	2.3
ICE BofA US 3-Month Treasury Bill	5.0	1.5	0.0	0.7	2.3
Excess	0.2	-0.4	-0.0	-0.1	0.1

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Private Markets

June 30, 2024



Combined Funds Asset Class Performance Summary

Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>25 Year</u>	<u>30 Year</u>
Private Markets - Invested	1.4%	7.7%	7.7%	11.0%	12.9%	11.6%	13.6%	12.7%	13.5%
Private Markets -Uninvested(1)	1.8%	5.7%	5.7%	0.1%					
Private Equity	1.8%	9.8%	9.8%	10.8%	16.1%	15.2%	15.7%	14.0%	15.5%
Private Credit	-0.2%	9.8%	9.8%	13.2%	11.5%	12.3%	12.6%	12.3%	
Resources	1.8%	4.4%	4.4%	12.8%	4.6%	1.3%	12.6%	13.3%	12.8%
Real Estate	-1.0%	-6.7%	-6.7%	9.0%	8.9%	10.1%	8.7%	8.9%	9.4%

Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

Private Equity Investments - The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

Private Credit Investments - The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

Resource Investments - The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

Real Estate Investments - The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the Combined Funds Performance Report.

(1) The Uninvested Private Markets is currently cash. Prior to 11/02/2022. The Uninvested portion of the Private Markets allocation was invested in a combination of a passively managed S&P 500 Index strategy and a cash overlay strategy invested in equity derivatives and cash.

Source: State Street Bank

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Private Equity	26,127,270,958	20,242,123,800	15,868,270,544	8,117,085,065	16,519,531,363	1.60	14.0	
Adams Street Partners, LLC	465,355,000	284,367,684	156,859,556	181,796,675	245,108,613	1.41	12.0	
Adams Street Global Secondary Fund 5 LP	100,000,000	77,114,692	80,333,805	22,885,308	25,373,497	1.37	6.3	2012
Adams Street Global Secondary Fund 6	100,000,000	80,400,008	76,525,751	19,599,992	52,965,787	1.61	19.1	2017
Adams Street Global Secondary Fund 7	265,355,000	126,852,984	0	139,311,375	166,769,330	1.31	32.8	2021
Advent International Group	505,000,000	409,284,452	378,390,358	98,799,502	321,245,534	1.71	15.2	
Advent International GPE VI-A, L.P.	50,000,000	52,993,313	103,400,194	0	4,218,304	2.03	16.4	2008
Advent International GPE VII, L.P.	90,000,000	86,490,641	146,622,935	3,600,000	9,789,270	1.81	13.3	2012
Advent International GPE VIII-B	100,000,000	100,000,000	116,871,821	0	91,321,839	2.08	16.8	2016
Advent International GPE IX	115,000,000	107,532,348	11,495,408	7,467,652	149,036,702	1.49	14.9	2019
Advent International GPE X	150,000,000	62,268,150	0	87,731,850	66,879,418	1.07	7.8	2022
Affinity Ventures	5,000,000	5,000,000	2,048,042	0	313,386	0.47	-12.3	
Affinity Ventures V, L.P.	5,000,000	5,000,000	2,048,042	0	313,386	0.47	-12.3	2008
Apax Partners	600,000,000	549,203,192	571,884,780	142,703,246	309,187,629	1.60	14.7	
APAX VIII - USD	200,000,000	240,451,261	364,650,169	7,966,190	21,347,009	1.61	13.1	2013
Apax IX USD L.P.	150,000,000	162,660,807	190,842,594	14,436,164	118,229,124	1.90	19.0	2016
Apax X USD L.P.	150,000,000	143,859,275	16,392,016	22,532,741	166,931,096	1.27	12.5	2019
Apax XI	100,000,000	2,231,849	0	97,768,151	2,680,400	1.20	26.3	2022
Arsenal Capital Partners	175,000,000	112,791,038	14,029,857	71,662,825	111,786,223	1.12	4.1	
Arsenal Capital Partners V, L.P.	75,000,000	73,622,160	13,742,826	10,563,735	79,629,889	1.27	7.1	2019
Arsenal Capital Partners VI LP	100,000,000	39,168,878	287,031	61,099,090	32,156,334	0.83	-13.4	2021
Asia Alternatives	649,000,000	230,009,786	29,625,026	437,024,844	221,310,473	1.09	4.1	
Asia Alternatives Capital Partners V	99,000,000	107,888,911	28,409,461	9,139,680	107,277,331	1.26	7.5	2017
MN Asia Investors	550,000,000	122,120,875	1,215,565	427,885,164	114,033,142	0.94	-4.4	2020
Banc Fund	178,551,387	187,460,477	73,007,187	0	166,778,224	1.28	4.5	
Banc Fund IX, L.P.	107,205,932	107,205,932	65,681,790	0	83,874,637	1.40	5.1	2014
Banc Fund X, L.P.	71,345,455	80,254,545	7,325,397	0	82,903,587	1.12	2.8	2018
BlackRock	950,000,000	954,617,522	491,202,825	0	1,531,775,864	2.12	29.7	
BlackRock Long Term Capital, SCSP	950,000,000	954,617,522	491,202,825	0	1,531,775,864	2.12	29.7	2019
Blackstone Group L.P.	1,685,000,000	953,050,592	760,366,735	848,672,024	596,311,512	1.42	13.9	
Blackstone Capital Partners IV, L.P.	70,000,000	84,481,419	201,562,974	1,765,384	58,902	2.39	37.0	2002
Blackstone Capital Partners V L.P.	140,000,000	152,431,082	246,495,819	7,026,873	558,306	1.62	8.0	2006
Blackstone Capital Partners VI, L.P.	100,000,000	106,951,296	169,463,307	10,975,597	25,644,852	1.82	12.3	2008
Blackstone Capital Partners VII	130,000,000	140,281,981	104,295,331	9,306,402	117,817,332	1.58	12.1	2015
Blackstone Capital Partners VIII LP	150,000,000	123,340,535	11,341,702	44,910,551	132,011,081	1.16	8.4	2019
Blackstone Capital Partners Asia II	270,000,000	67,509,678	997	202,490,322	79,835,932	1.18	14.8	2021
Blackstone Capital Partners IX	150,000,000	0	0	150,000,000	0	0.0	0.0	2022
Blackstone Energy Transition Partners IV L.P.	150,000,000	0	0	150,000,000	0	0.0	0.0	2024
Blackstone Growth	250,000,000	212,501,688	26,372,335	61,673,795	177,055,785	0.96	-1.8	2020
Blackstone Growth Equity II	150,000,000	0	0	150,000,000	0	0.0	0.0	2022
Blackstone Supplemental Account - M	125,000,000	65,552,913	834,272	60,523,099	63,329,322	0.98	-0.9	2021

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Blackstone Strategic Partners	790,500,000	622,756,397	747,705,923	217,180,626	221,759,445	1.56	14.1	
Strategic Partners IV VC, L.P.	40,500,000	42,325,414	63,954,747	1,084,828	70,044	1.51	9.0	2008
Strategic Partners IV-B	100,000,000	99,541,961	155,239,588	3,156,298	74,260	1.56	12.1	2008
Strategic Partners V, LP	100,000,000	87,497,031	141,091,599	1,706,005	156,262	1.61	18.2	2011
Strategic Partners VI, L.P.	150,000,000	104,575,316	138,161,009	22,338,416	19,899,101	1.51	13.7	2014
Strategic Partners VII, L.P.	150,000,000	124,810,944	149,791,406	43,100,796	59,825,358	1.68	17.0	2016
Strategic Partners VIII	150,000,000	125,735,508	95,151,365	79,871,490	101,382,060	1.56	25.4	2018
Strategic Partners IX	100,000,000	38,270,223	4,316,209	65,922,794	40,352,361	1.17	13.8	2022
Blue Owl Capital	775,000,000	514,270,306	416,800,197	573,351,887	477,005,540	1.74	27.7	
Blue Owl GP Stakes III	175,000,000	215,743,153	219,434,359	108,261,804	182,161,092	1.86	25.0	2015
Blue Owl GP Stakes IV	250,000,000	204,433,623	160,013,166	173,924,162	222,382,772	1.87	37.5	2018
Blue Owl GP Stakes V	200,000,000	94,093,530	37,352,672	141,165,921	72,461,676	1.17	12.7	2020
Blue Owl GP Stakes VI	150,000,000	0	0	150,000,000			0.0	2024
Bridgepoint	372,695,326	180,900,016	19,928,898	199,586,728	253,448,007	1.51	16.2	
Bridgepoint Development Capital V, L.P.	107,175,048	0	0	107,175,048			0.0	2024
Bridgepoint Europe VI L.P.	160,762,572	161,699,396	17,634,108	6,648,831	239,077,742	1.59	16.7	2018
Bridgepoint Europe VII	104,757,706	19,200,620	2,294,791	85,762,850	14,370,265	0.87	-17.8	2022
Brookfield Asset Management Inc.	500,000,000	446,450,803	265,764,695	113,460,873	467,043,142	1.64	26.6	
Brookfield Capital Partners Fund IV	100,000,000	115,775,619	221,896,539	6,076,556	50,602,022	2.35	41.9	2015
Brookfield Capital Partners V L.P.	250,000,000	262,731,200	41,976,499	23,712,045	332,360,452	1.42	13.3	2018
Brookfield Capital Partners Fund VI	150,000,000	67,943,984	1,891,657	83,672,272	84,080,668	1.27	26.5	2022
Canyon Partners	125,000,000	146,475,843	45,287,279	0	144,581,467	1.30	11.7	
Canyon Distressed Opportunity Fund III	125,000,000	146,475,843	45,287,279	0	144,581,467	1.30	11.7	2020
Cardinal Partners	10,000,000	10,000,000	39,196,082	0	118,565	3.93	10.6	
DSV Partners IV	10,000,000	10,000,000	39,196,082	0	118,565	3.93	10.6	1985
Carlyle Group	400,000,000	358,928,675	81,683,716	115,499,046	337,548,609	1.17	6.2	
Carlyle Strategic Partners IV, L.P.	100,000,000	119,848,374	53,429,269	32,306,465	81,370,751	1.12	4.9	2016
Carlyle Partners VII, L.P.	150,000,000	159,096,809	21,252,760	6,263,341	178,482,178	1.26	7.0	2017
Carlyle Partners VIII	150,000,000	79,983,492	7,001,687	76,929,240	77,695,680	1.06	5.5	2021
CarVal Investors	600,000,000	532,109,760	433,005,415	49,810,591	286,816,259	1.35	8.1	
CVI Credit Value Fund A II	150,000,000	142,500,000	200,538,622	7,500,000	3,017,925	1.43	8.3	2012
CVI Credit Value Fund A III	150,000,000	142,500,000	168,545,561	7,500,000	27,512,135	1.38	8.4	2015
CVI Credit Value Fund IV	150,000,000	104,609,760	63,766,666	27,310,591	95,145,347	1.52	7.7	2017
CVI Credit Value Fund V	150,000,000	142,500,000	154,566	7,500,000	161,140,853	1.13	7.2	2020
Clearlake Capital	100,000,000	57,849,852	268,947	42,308,461	63,808,631	1.11	5.9	
Clearlake Capital Partners VII	100,000,000	57,849,852	268,947	42,308,461	63,808,631	1.11	5.9	2022
Court Square	589,419,132	508,115,702	672,208,128	141,281,437	290,301,881	1.89	15.0	
Court Square Capital Partners II, L.P.	164,419,132	170,270,247	298,783,330	5,656,060	239,670	1.76	12.3	2006
Court Square Capital Partners III, L.P.	175,000,000	190,475,727	325,596,774	5,769,184	132,624,678	2.41	20.7	2012
Court Square Capital Partners IV, L.P.	150,000,000	147,369,728	47,828,024	29,856,193	157,437,533	1.39	15.8	2018
Court Square Capital Partners V, L.P.	100,000,000	0	0	100,000,000			0.0	2024

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
CVC Capital Partners	455,493,954	445,190,280	671,906,910	123,020,863	218,597,456	2.00	16.4	
CVC Capital Partners VI	241,143,858	291,306,182	376,348,683	14,315,099	215,545,181	2.03	16.2	2013
CVC Capital Partners IX	107,175,048	0	0	107,175,048			0.0	2023
CVC European Equity Partners V, L.P.	107,175,048	153,884,098	295,558,227	1,530,716	3,052,274	1.94	16.7	2008
Goldman, Sachs & Co.	449,800,000	386,656,407	360,350,846	162,064,817	227,981,140	1.52	10.9	
GS Capital Partners VI, L.P.	100,000,000	110,368,097	143,690,972	2,551,356	1,266,029	1.31	7.1	2007
GS China-US Cooperation Fund	99,800,000	42,125,012	523,330	58,083,600	52,770,038	1.27	7.6	2018
GS Vintage VII	100,000,000	90,015,713	87,697,948	61,537,139	58,775,732	1.63	14.3	2016
West Street Capital Partners VII, L.P.	150,000,000	144,147,585	128,438,596	39,892,722	115,169,341	1.69	17.2	2016
Goldner Hawn Johnson & Morrison	150,510,266	84,447,006	77,218,463	66,695,227	81,996,865	1.89	20.8	
GHJM TrailHead Fund	20,000,000	17,572,130	55,500,283	2,894,486	945,837	3.21	19.6	2012
Goldner Hawn Fund VII, L.P.	57,755,138	48,781,366	21,716,280	9,139,123	60,949,392	1.69	25.0	2018
Goldner Hawn VIII	72,755,128	18,093,510	1,900	54,661,618	20,101,636	1.11	23.4	2023
Green Equity Investors	325,000,000	350,566,016	283,296,310	20,809,744	347,041,606	1.80	13.2	
Green Equity Investors VI, L.P.	200,000,000	232,647,779	273,693,677	4,125,348	205,473,341	2.06	13.6	2012
Green Equity Investors VIII	125,000,000	117,918,237	9,602,633	16,684,396	141,568,265	1.28	9.8	2020
GTCR	110,000,000	108,893,534	263,126,262	10,416,556	83,563,259	3.18	31.6	
GTCR XI	110,000,000	108,893,534	263,126,262	10,416,556	83,563,259	3.18	31.6	2013
HarbourVest	21,240,880	20,948,171	27,826,579	787,452	3,620,666	1.50	11.5	
Dover Street VII Cayman Fund L.P.	2,198,112	2,074,270	1,856,658	132,416	3,670	0.90	-4.5	2014
HarbourVest Intl PE Partners V-Cayman US	3,327,002	3,346,199	4,530,727	171,480	5,120	1.36	13.5	2014
Harbourvest Intl PE Partners VI-Cayman	4,018,158	4,040,737	6,117,317	187,556	1,649,027	1.92	14.3	2014
HarbourVest Partners VIII Cayman Buyout	4,506,711	4,395,883	6,132,214	156,000	55,346	1.41	12.9	2014
HarbourVest Partners VIII-Cayman Venture	7,190,898	7,091,082	9,189,664	140,000	1,907,503	1.56	10.8	2014
Hellman & Friedman	575,000,000	415,482,800	204,048,047	196,561,629	448,811,687	1.57	18.3	
Hellman & Friedman Capital Partners VII, L.P.	50,000,000	49,914,704	161,459,211	2,183,886	4,321,937	3.32	24.8	2009
Hellman & Friedman Investors IX, L.P.	175,000,000	178,793,854	18,070,338	11,601,355	249,372,823	1.50	12.9	2018
Hellman & Friedman Capital Partners X	250,000,000	186,774,242	24,518,498	82,776,388	195,116,927	1.18	7.9	2021
Hellman & Friedman Capital Partners XI	100,000,000	0	0	100,000,000			0.0	2023
IK Limited	570,969,165	506,421,336	560,239,017	125,785,828	271,503,593	1.64	14.4	
IK Fund VII	160,762,572	179,393,652	322,286,061	8,128,447	8,418,144	1.84	13.9	2013
IK Fund VIII	160,762,572	179,209,717	237,952,956	8,227,805	97,435,620	1.87	18.0	2016
IK Fund IX	144,686,315	147,817,968	0	4,671,870	165,649,829	1.12	5.3	2019
IK Fund X	104,757,706	0	0	104,757,706			0.0	2022

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Kohlberg, Kravis, Roberts & Co.	1,597,000,000	1,088,459,944	637,720,685	583,554,592	995,428,857	1.50	16.0	
KKR Americas Fund XII L.P.	150,000,000	148,323,988	110,101,607	17,313,238	175,061,928	1.92	18.9	2016
KKR Ascendant Strategy	150,000,000	0	0	150,000,000			0.0	2023
KKR Asian Fund III	100,000,000	97,315,330	64,840,484	14,720,463	125,925,407	1.96	21.6	2017
KKR Asian Fund IV	150,000,000	80,461,496	7,285,172	84,004,798	88,361,576	1.19	9.5	2020
KKR Core Investments Partnership	97,000,000	105,175,332	7,001,708	24,319	126,281,174	1.27	10.6	2021
KKR Core Investments Fund II	100,000,000	25,505,468	0	74,614,532	25,793,260	1.01	1.1	2022
KKR Europe V	100,000,000	95,183,147	22,023,961	11,833,465	107,369,112	1.36	11.6	2018
KKR European Fund VI (USD) SCSp	100,000,000	25,315,429	0	77,289,620	16,539,220	0.65	-39.0	2022
KKR Millennium Fund	200,000,000	205,167,570	425,091,742	0	0	2.07	16.4	2002
KKR MN Partnership L.P.	150,000,000	130,288,007	1,021,516	21,720,344	140,437,489	1.09	5.8	2021
KKR North America Fund XIII	300,000,000	175,724,177	354,495	132,033,813	189,659,692	1.08	5.9	2021
Lexington Partners	1,645,000,000	1,220,787,754	848,776,546	508,706,960	998,976,285	1.51	13.0	
Lexington Capital Partners VI-B, L.P.	100,000,000	98,374,022	145,958,371	1,634,703	514,324	1.49	7.9	2005
Lexington Capital Partners VII, L.P.	200,000,000	173,297,773	271,584,849	30,670,593	18,266,164	1.67	14.3	2009
Lexington Capital Partners VIII, L.P.	150,000,000	139,025,292	150,375,469	30,024,932	81,730,710	1.67	15.2	2014
Lexington Capital Partners IX, L.P.	150,000,000	132,581,385	44,353,343	32,501,540	153,020,413	1.49	19.5	2018
Lexington Capital Partners X	100,000,000	40,172,158	1,401,245	61,081,034	47,313,143	1.21	36.1	2021
Lexington Co-Investment Partners IV	200,000,000	219,567,445	171,795,958	3,830,263	216,109,919	1.77	15.7	2017
Lexington Co-Investment Partners V	300,000,000	297,528,884	24,141,513	22,900,084	349,482,489	1.26	14.7	2020
Lexington Co-Investment Partners V Overage	45,000,000	36,342,900	1,805,011	9,961,706	42,931,339	1.23	10.9	2021
Lexington Co-Investment Partners VI	300,000,000	0	0	300,000,000			0.0	2023
Lexington Middle Market Investors IV	100,000,000	83,897,895	37,360,787	16,102,105	89,607,786	1.51	16.9	2016
Madison Dearborn Capital Partners LLC	200,000,000	200,129,026	83,332,039	33,278,268	187,915,801	1.36	9.9	
Madison Dearborn Capital Partners VII, L.P.	100,000,000	101,451,673	66,192,167	15,855,532	89,042,698	1.53	9.9	2015
Madison Dearborn Capital Partners VIII-A, L.P.	100,000,000	98,677,353	17,139,872	17,422,736	98,873,103	1.18	9.9	2019
Marathon	400,000,000	218,183,481	47,022,674	187,722,690	215,953,267	1.21	9.8	
Marathon Distressed Credit Fund	200,000,000	161,906,171	43,653,419	44,000,000	163,033,827	1.28	10.1	2020
Marathon Distressed Credit Fund II	200,000,000	56,277,310	3,369,255	143,722,690	52,919,440	1.00	0.0	2023
Merced Capital	178,737,500	184,266,287	170,420,389	0	52,167,694	1.21	3.6	
Merced Partners IV	125,000,000	124,968,390	126,847,539	0	12,099,209	1.11	2.2	2013
Merced Partners V	53,737,500	59,297,897	43,572,850	0	40,068,485	1.41	6.4	2017
MHR Institutional Partners	75,000,000	83,547,509	26,558,416	11,210,519	94,340,149	1.45	8.7	
MHR Institutional Partners IV LP	75,000,000	83,547,509	26,558,416	11,210,519	94,340,149	1.45	8.7	2014
Nordic Capital	570,969,165	568,048,720	384,095,760	179,209,521	460,445,854	1.49	13.4	
Nordic Capital Fund VIII	160,762,572	228,229,426	296,912,142	12,440,078	49,665,961	1.52	11.8	2013
Nordic Capital IX Beta, L.P.	160,762,572	186,930,398	87,130,766	68,629,932	222,429,033	1.66	16.7	2017
Nordic Capital Fund X	144,686,315	120,307,140	0	25,794,639	158,574,032	1.32	15.6	2020
Nordic Capital Fund XI	104,757,706	32,581,755	52,852	72,344,872	29,776,828	0.92	-19.9	2022
Oak Hill Capital Management, Inc.	250,000,000	248,779,868	279,404,746	9,877,179	155,086,477	1.75	27.4	
Oak Hill Capital Partners IV Onshore LP	150,000,000	154,205,648	260,295,639	3,825,809	41,048,576	1.95	32.1	2016
Oak Hill Capital Partners V	100,000,000	94,574,220	19,109,107	6,051,370	114,037,901	1.41	14.1	2018

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Oaktree Capital Management, LLC	400,000,000	250,542,508	68,970,664	202,737,553	246,954,643	1.26	7.7	
Oaktree Special Situations Fund, L.P.	100,000,000	103,629,411	22,391,423	7,741,294	75,949,334	0.95	-1.0	2014
Oaktree Special Situations Fund II, L.P.	100,000,000	99,330,115	46,579,241	42,579,241	118,670,690	1.66	32.9	2018
Oaktree Special Situations Fund III	200,000,000	47,582,982	0	152,417,018	52,334,619	1.10	7.2	2022
Paine & Partners, LLC	325,000,000	254,228,638	88,839,960	94,382,141	250,357,110	1.33	10.5	
Paine Schwartz Food Chain Fund IV	75,000,000	71,963,700	35,397,971	11,894,921	64,210,510	1.38	7.0	2014
Paine Schwartz Food Chain Fund V, L.P.	150,000,000	129,965,584	53,257,921	34,461,313	135,203,197	1.45	17.2	2018
Paine Schwartz Food Chain VI	100,000,000	52,299,354	184,068	48,025,907	50,943,404	0.98	-3.0	2023
Permal PE	5,337,098	4,406,696	4,794,251	1,090,000	233,305	1.14	4.4	
Glouston Private Equity Opportunities IV	5,337,098	4,406,696	4,794,251	1,090,000	233,305	1.14	4.4	2014
Permira	594,821,516	518,455,198	501,260,317	154,341,137	503,461,487	1.94	18.3	
Permira V, L.P.	160,762,572	185,587,455	398,046,251	4,511,839	120,255,707	2.79	21.0	2013
Permira VI, L.P.	128,610,058	130,906,122	90,833,042	26,031,714	167,795,180	1.98	16.2	2016
Permira VII L.P.1	144,686,315	150,182,979	12,381,023	14,723,222	161,477,106	1.16	5.3	2019
Permira VIII	160,762,572	51,778,643	0	109,074,362	53,933,494	1.04	4.6	2022
Public Pension Capital Management	285,000,000	212,009,055	181,661,183	102,173,143	199,068,169	1.80	21.6	
Public Pension Capital, LLC	285,000,000	212,009,055	181,661,183	102,173,143	199,068,169	1.80	21.6	2014
Silver Lake Partners	335,000,000	350,937,622	463,998,536	26,930,862	311,083,030	2.21	18.8	
Silver Lake Partners III, L.P.	100,000,000	94,827,530	215,152,014	8,601,796	20,382,188	2.48	18.7	2007
Silver Lake Partners IV	100,000,000	118,069,760	167,842,825	1,424,693	150,510,276	2.70	21.8	2012
Silver Lake Partners V, L.P.	135,000,000	138,040,332	81,003,697	16,904,373	140,190,566	1.60	13.3	2017
Siris Capital Group	67,875,000	0	0	67,875,000	0		0.0	
Siris V	67,875,000	0	0	67,875,000			0.0	2022
Split Rock	110,000,000	107,055,906	125,392,564	2,944,094	27,062,237	1.42	4.8	
Split Rock Partners LP	50,000,000	47,890,906	58,794,192	2,109,094	2,785,462	1.29	3.0	2005
Split Rock Partners II, LP	60,000,000	59,165,000	66,598,372	835,000	24,276,774	1.54	7.0	2008
Stellex Capital Management	200,000,000	0	0	200,000,000	0		0.0	
Stellex Capital Partners III	200,000,000	0	0	200,000,000			0.0	2024
Summit Partners	600,000,000	462,917,685	436,405,047	267,291,023	405,922,687	1.82	24.2	
Summit Partners Growth Equity Fund VIII	100,000,000	116,727,192	256,409,402	13,270,529	27,766,678	2.43	25.9	2011
Summit Partners Growth Equity Fund IX	100,000,000	134,554,799	146,949,457	32,610,000	129,180,007	2.05	26.0	2015
Summit Partners Growth Equity Fund X-A	150,000,000	142,351,520	33,046,188	40,694,668	170,273,337	1.43	15.0	2019
Summit Partners Growth Equity Fund XI	250,000,000	69,284,174	0	180,715,826	78,702,665	1.14	10.2	2021
TA Associates	80,000,000	0	0	80,000,000	0		0.0	
TA XV	80,000,000	0	0	80,000,000			0.0	2023
Thoma Bravo LLC	525,000,000	539,981,928	339,723,510	77,278,115	555,967,856	1.66	21.6	
Thoma Cressey Fund VII, L.P.	50,000,000	50,000,000	107,057,940	0	391,111	2.15	23.6	2000
Thoma Bravo Fund XII, L.P.	75,000,000	81,949,004	84,992,456	18,452,144	94,058,861	2.18	16.4	2016
Thoma Bravo Fund XIII, L.P.	150,000,000	184,783,234	128,118,668	12,475,387	218,425,858	1.88	24.7	2018
Thoma Bravo Fund XIV	150,000,000	151,866,214	19,534,890	17,668,639	159,673,223	1.18	6.4	2020
Thoma Bravo Fund XV LP	100,000,000	71,383,476	19,556	28,681,945	83,418,803	1.17	10.3	2021

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Thomas H. Lee Partners	400,000,000	336,785,055	301,774,973	93,370,784	230,935,212	1.58	21.7	
Thomas H. Lee Equity Fund VII, LP.	100,000,000	99,998,423	137,891,993	10,163,734	38,032,259	1.76	19.1	2015
Thomas H. Lee Equity Fund VIII, L.P.	150,000,000	151,125,149	163,882,980	18,868,533	103,236,796	1.77	30.3	2018
Thomas H. Lee Equity Fund IX	150,000,000	85,661,483	0	64,338,517	89,666,157	1.05	3.4	2021
TPG Capital	800,000,000	505,534,021	228,075,402	340,197,921	497,696,840	1.44	17.4	
TPG Growth V	150,000,000	139,821,283	15,935,738	25,096,939	169,747,307	1.33	15.8	2021
TPG Growth VI, L.P.	150,000,000	0	0	150,000,000			0.0	2023
TPG Partners VII, L.P.	100,000,000	102,579,118	164,371,185	9,719,169	33,638,132	1.93	18.8	2015
TPG Partners VIII	150,000,000	149,632,881	35,728,113	18,880,774	181,296,989	1.45	18.6	2018
TPG Partners IX, L.P.	100,000,000	31,777,652	2,430,514	68,224,126	31,377,268	1.06	8.7	2022
TPG Tech Adjacencies II, L.P.	150,000,000	81,723,087	9,609,852	68,276,913	81,637,144	1.12	8.1	2021
Vance Street Capital Partners	85,000,000	0	0	85,000,000	0		0.0	
Vance Street Capital IV, L.P.	85,000,000	0	0	85,000,000			0.0	2024
Varde Fund	531,286,710	526,571,585	534,176,069	12,075,850	209,878,251	1.41	7.2	
Varde Fund X, LP	150,000,000	150,000,000	253,807,303	0	4,997,057	1.73	9.9	2010
Varde Fund XI, LP	200,000,000	200,000,000	232,219,414	0	30,970,584	1.32	4.4	2013
Varde Fund XIII, L.P.	150,000,000	144,000,000	48,149,352	6,000,000	138,082,453	1.29	8.5	2018
Varde Fund XIV	31,286,710	32,571,585	0	6,075,850	35,828,157	1.10	9.4	2022
Vestar Capital Partners	250,000,000	254,247,677	244,536,564	18,709,766	175,904,082	1.65	19.8	
Vestar Capital Partners VI, LP	100,000,000	109,951,730	184,386,129	29,638	51,362,583	2.14	23.7	2011
Vestar Capital Partners VII, L.P.	150,000,000	144,295,947	60,150,435	18,680,127	124,541,499	1.28	9.9	2017
Vista Equity Partners	200,000,000	160,333,183	77,223	40,879,720	210,682,093	1.31	8.5	
Vista Equity Partners Perennial	200,000,000	160,333,183	77,223	40,879,720	210,682,093	1.31	8.5	2020
Warburg Pincus	1,316,000,000	1,101,783,044	1,030,292,354	220,555,000	751,131,763	1.62	10.9	
Warburg Pincus China, L.P.	45,000,000	46,935,000	19,177,200	0	40,481,123	1.27	5.4	2016
Warburg Pincus China-Southeast Asia II	50,000,000	29,000,000	4,097,500	21,000,000	27,283,401	1.08	3.6	2019
Warburg Pincus Financial Sector	90,000,000	90,496,274	59,957,820	3,555,000	106,174,473	1.84	16.9	2017
Warburg Pincus Global Growth, L.P.	250,000,000	236,230,722	50,491,934	14,500,000	294,365,298	1.46	12.2	2018
Warburg Pincus Global Growth 14, L.P.	300,000,000	117,778,596	2,313,000	181,500,000	124,992,738	1.08	6.8	2022
Warburg Pincus Private Equity IX, L.P.	100,000,000	100,000,000	172,072,950	0	117,504	1.72	9.6	2005
Warburg Pincus Private Equity X, LP	150,000,000	150,000,000	266,806,541	0	2,757,465	1.80	9.5	2007
Warburg Pincus Private Equity XI, LP	200,000,000	200,342,452	292,889,821	0	56,357,580	1.74	11.7	2012
Warburg Pincus Private Equity XII, LP	131,000,000	131,000,000	162,485,588	0	98,602,182	1.99	15.9	2015
Wayzata Investment Partners	150,000,000	68,415,000	67,166,327	0	6,178,396	1.07	1.4	
Wayzata Opportunities Fund III	150,000,000	68,415,000	67,166,327	0	6,178,396	1.07	1.4	2012
Wellspring Capital Partners	125,000,000	153,842,297	100,741,552	10,722,723	125,305,516	1.47	14.5	
Wellspring Capital Partners VI, L.P.	125,000,000	153,842,297	100,741,552	10,722,723	125,305,516	1.47	14.5	2016
Welsh, Carson, Anderson & Stowe	650,000,000	543,325,561	505,990,983	106,674,439	422,514,075	1.71	16.8	
Welsh, Carson, Anderson & Stowe XI, L.P.	100,000,000	100,000,000	165,834,341	0	539,168	1.66	11.5	2008
Welsh, Carson, Anderson & Stowe XII, L.P.	150,000,000	150,000,000	250,367,938	0	117,579,674	2.45	24.8	2014
Welsh, Carson, Anderson & Stowe XIII, L.P.	250,000,000	240,414,462	89,788,704	9,585,538	259,014,071	1.45	19.0	2018
Welsh, Carson, Anderson & Stowe XIV	150,000,000	52,911,099	0	97,088,901	45,381,162	0.86	-16.8	2022



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Whitehorse Capital	400,000,000	301,178,212	184,179,421	167,694,014	175,828,199	1.20	12.8	
Whitehorse Liquidity Partners III	100,000,000	105,874,278	92,905,803	11,820,010	44,053,919	1.29	13.7	2019
Whitehorse Liquidity Partners IV	100,000,000	103,332,513	61,383,626	21,113,916	62,342,988	1.20	12.3	2020
Whitehorse Liquidity Partners V	100,000,000	72,220,354	27,751,870	50,681,163	52,184,244	1.11	11.1	2021
Whitehorse Liquidity Partners VI, LP	100,000,000	19,751,067	2,138,122	84,078,925	17,247,048	0.98	-5.6	2024
Wind Point Partners	200,000,000	138,446,639	41,972,235	81,233,754	156,573,584	1.43	17.1	
Wind Point Partners IX	100,000,000	100,130,099	40,494,100	19,550,294	111,826,072	1.52	17.8	2019
Wind Point Partners X	100,000,000	38,316,540	1,478,135	61,683,460	44,747,511	1.21	13.1	2022
Windjammer Capital Investors	441,708,861	256,676,052	293,634,074	210,087,417	167,113,170	1.80	12.1	
Windjammer Capital Fund VI	175,000,000	3,687,015	0	171,312,985	1,929,706	0.52	-86.4	2023
Windjammer Mezzanine & Equity Fund II	66,708,861	55,215,684	85,949,062	10,139,363	222,878	1.56	9.0	2000
Windjammer Senior Equity Fund IV, L.P.	100,000,000	94,848,115	166,983,745	21,060,527	72,116,990	2.52	17.2	2012
Windjammer Senior Equity Fund V, L.P.	100,000,000	102,925,238	40,701,267	7,574,542	92,843,595	1.30	12.6	2017

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Private Credit	4,215,010,084	3,483,607,746	2,557,675,001	1,281,159,675	2,071,392,576	1.33	10.3	
Audax Group	350,000,000	251,284,801	235,599,181	126,876,324	80,591,435	1.26	10.2	
Audax Mezzanine Fund III, L.P.	100,000,000	105,485,676	133,977,984	0	5,588,303	1.32	9.7	2010
Audax Mezzanine Fund IV-A, L.P.	100,000,000	94,498,024	88,014,468	21,979,770	28,948,960	1.24	10.6	2015
Audax Mezzanine Fund V	150,000,000	51,301,101	13,606,729	104,896,554	46,054,172	1.16	15.2	2020
Avenue Capital Partners	200,000,000	200,977,328	267,727,424	0	92,546,776	1.79	10.3	
Avenue Energy Opportunities Fund, L.P.	100,000,000	100,977,328	117,719,235	0	41,848,611	1.58	7.0	2014
Avenue Energy Opportunities Fund II	100,000,000	100,000,000	150,008,189	0	50,698,165	2.01	15.1	2017
BlackRock	97,500,000	94,266,552	38,697,495	3,233,448	91,078,268	1.38	8.8	
BlackRock Middle Market Senior Fund	97,500,000	94,266,552	38,697,495	3,233,448	91,078,268	1.38	8.8	2018
Brookfield Asset Management Inc.	200,000,000	111,376,381	40,933,266	120,371,217	82,190,735	1.11	10.5	
Brookfield Real Estate Finance Fund VI	200,000,000	111,376,381	40,933,266	120,371,217	82,190,735	1.11	10.5	2021
Castlelake L.P.	100,000,000	0	0	100,000,000	0		0.0	
Castlelake Aviation V Stable Yield	100,000,000	0	0	100,000,000			0.0	2023
Energy Capital Partners	28,087,500	39,604,317	21,241,350	9,096,100	23,377,582	1.13	7.3	
Energy Capital Credit Solutions II-A	28,087,500	39,604,317	21,241,350	9,096,100	23,377,582	1.13	7.3	2018
Gold Hill	25,852,584	25,852,584	48,393,297	0	2,536,736	1.97	14.3	
Gold Hill 2008	25,852,584	25,852,584	48,393,297	0	2,536,736	1.97	14.3	2008
HPS Investment Partners	200,000,000	152,728,086	53,092,466	75,938,227	140,596,411	1.27	11.8	
HPS Mezzanine Partners 2019, L.P.	100,000,000	102,754,406	47,472,727	20,439,266	87,660,117	1.32	11.0	2019
HPS Strategic Investment Partners V	100,000,000	49,973,680	5,619,739	55,498,961	52,936,294	1.17	16.9	2022
Kohlberg, Kravis, Roberts & Co.	274,000,000	382,759,212	362,111,028	80,601,499	98,554,017	1.20	9.9	
KKR Lending Partners II L.P.	75,000,000	87,059,946	85,209,374	8,802,924	4,622,700	1.03	1.5	2015
KKR Lending Partners III L.P.	199,000,000	295,699,266	276,901,654	71,798,575	93,931,317	1.25	13.7	2017
LBC Credit Partners	200,000,000	208,799,264	182,946,913	62,241,479	76,568,033	1.24	10.9	
LBC Credit Partners IV, L.P.	100,000,000	120,040,574	126,106,791	24,251,243	19,122,870	1.21	9.0	2016
LBC Credit Partners V, L.P.	100,000,000	88,758,690	56,840,123	37,990,236	57,445,163	1.29	15.1	2019
Marathon	200,000,000	142,022,008	21,392,092	64,000,000	165,075,132	1.31	10.2	
Marathon Secured Private Strategies Fund II	100,000,000	96,022,008	21,209,395	10,000,000	116,591,040	1.44	10.6	2019
Marathon Secured Private Strategies Fund III	100,000,000	46,000,000	182,698	54,000,000	48,484,092	1.06	6.1	2022
Merit Capital Partners	275,000,000	209,967,037	220,333,199	64,966,164	114,020,033	1.59	12.4	
Merit Mezzanine Fund V, LP	75,000,000	72,306,122	114,022,067	2,693,878	10,950,826	1.73	10.4	2009
Merit Mezzanine Fund VI	100,000,000	92,629,096	105,492,950	7,304,104	53,699,429	1.72	16.7	2016
Merit Mezzanine Fund VII	100,000,000	45,031,818	818,182	54,968,182	49,369,778	1.11	10.4	2020
Oaktree Capital Management, LLC	650,000,000	528,445,972	99,514,166	135,100,000	568,513,621	1.26	9.8	
Oaktree Opportunities Fund X, L.P.	50,000,000	46,500,021	44,944,660	8,500,000	24,951,526	1.50	9.0	2015
Oaktree Opportunities Fund Xb, L.P.	100,000,000	75,003,445	10,100,000	25,000,000	106,896,141	1.56	11.8	2015
Oaktree Real Estate Debt III	200,000,000	151,940,899	33,460,281	56,600,000	135,441,288	1.11	7.2	2020
Oaktree Opportunities Fund XI	300,000,000	255,001,607	11,009,225	45,000,000	301,224,667	1.22	10.0	2020
PIMCO BRAVO	5,000,000	4,501,479	5,714,432	0	263,213	1.33	5.9	
PIMCO Bravo Fund OnShore Feeder II	5,000,000	4,501,479	5,714,432	0	263,213	1.33	5.9	2014

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Prudential Global Investment Mgmt	600,000,000	555,454,681	597,905,815	105,783,091	178,363,247	1.40	10.2	
Prudential Capital Partners II, L.P.	100,000,000	97,930,132	145,671,152	10,940,748	420,893	1.49	9.0	2005
Prudential Capital Partners III, L.P.	100,000,000	102,894,352	174,862,733	13,563,659	2,356,084	1.72	14.1	2009
Prudential Capital Partners IV	100,000,000	114,854,058	143,030,415	1,948,707	15,929,997	1.38	9.0	2012
Prudential Capital Partners V, L.P.	150,000,000	160,137,856	120,568,854	5,763,442	77,472,862	1.24	6.9	2016
PGIM Capital Partners VI, L.P.	150,000,000	79,638,283	13,772,661	73,566,536	82,183,411	1.20	14.8	2020
Summit Partners	95,000,000	100,002,497	137,062,090	11,539,099	2,335,093	1.39	9.1	
Summit Subordinated Debt Fund III, L.P.	45,000,000	44,088,494	62,804,226	2,250,000	552,965	1.44	8.6	2004
Summit Subordinated Debt Fund IV, L.P.	50,000,000	55,914,003	74,257,864	9,289,099	1,782,128	1.36	9.8	2008
TCW	189,570,000	174,519,135	163,335,833	62,214,056	60,011,044	1.28	8.3	
TCW Direct Lending LLC	89,570,000	83,599,652	90,921,109	14,899,409	18,016,278	1.30	8.1	2014
TCW Direct Lending VII	100,000,000	90,919,484	72,414,724	47,314,647	41,994,766	1.26	8.5	2018
Torchlight Investors	150,000,000	60,000,000	0	90,000,000	60,084,120	1.00	0.2	
Torchlight Debt Fund VIII	150,000,000	60,000,000	0	90,000,000	60,084,120	1.00	0.2	2023
TSSP	375,000,000	241,046,412	61,674,954	169,198,971	234,687,079	1.23	9.9	
TSSP Opportunities Partners IV (A), L.P.	50,000,000	40,386,311	18,556,106	6,664,466	37,151,247	1.38	10.5	2018
Sixth Street Opportunities Partners V	75,000,000	47,450,751	712,372	28,252,422	48,679,539	1.04	3.5	2021
Sixth Street TAO Partners (B), L.P.	50,000,000	55,760,727	24,582,130	22,227,810	46,726,427	1.28	8.7	2018
Sixth Street TAO Partners (D), L.P.	100,000,000	69,929,760	17,824,346	39,573,136	74,252,349	1.32	12.6	2018
Sixth Street TAO Partners (B) Vintage 2023	100,000,000	27,518,863	0	72,481,137	27,877,516	1.01	5.6	2023

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Real Assets	4,397,571,518	4,093,890,998	3,114,060,891	650,484,939	2,057,434,490	1.26	5.1	
BlackRock	198,500,000	187,124,470	103,809,359	28,538,251	122,212,512	1.21	6.9	
BlackRock Global Renewable Power Fund II	98,500,000	108,982,081	100,944,099	4,886,616	33,996,555	1.24	6.1	2017
BlackRock Global Renewable Power Infrastructure III	100,000,000	78,142,388	2,865,259	23,651,635	88,215,957	1.17	9.5	2019
EIG Global Energy Partners	450,000,000	473,254,572	401,007,878	75,356,663	105,830,633	1.07	1.6	
EIG Energy Fund XIV	100,000,000	113,459,470	95,309,310	2,761,129	3,476,130	0.87	-5.0	2007
EIG Energy Fund XV	150,000,000	161,570,371	159,449,534	22,871,323	9,932,175	1.05	1.1	2010
EIG Energy Fund XVI	200,000,000	198,224,731	146,249,034	49,724,211	92,422,328	1.20	4.1	2013
Encap Energy	300,000,000	323,112,088	363,969,931	7,533,693	123,799,729	1.51	8.6	
EnCap Energy Capital Fund VIII, L.P.	100,000,000	103,367,281	68,667,631	0	37,570,682	1.03	0.5	2010
Encap Energy Fund IX	100,000,000	113,725,245	150,576,908	3,890,055	23,281,520	1.53	11.0	2012
EnCap Energy Capital Fund X, L.P.	100,000,000	106,019,562	144,725,392	3,643,638	62,947,526	1.96	15.7	2015
Energy & Minerals Group	680,000,000	700,837,252	432,421,026	39,717,205	530,889,570	1.37	6.2	
NGP Midstream & Resources, L.P.	100,000,000	103,590,296	179,705,647	17,857	2,247,557	1.76	13.1	2007
The Energy & Minerals Group Fund II, L.P.	100,000,000	109,697,789	111,493,210	170,365	104,876,638	1.97	11.4	2011
The Energy & Minerals Group Fund III, L.P.	200,000,000	208,719,926	39,535,987	952,518	104,455,570	0.69	-4.8	2014
The Energy & Minerals Group Fund IV, LP	150,000,000	166,160,582	96,476,407	12,889,682	150,928,338	1.49	8.1	2015
The Energy & Minerals Group Fund V	112,500,000	95,435,275	3,658,916	20,097,080	143,002,438	1.54	10.8	2019
The Energy & Minerals Group Fund V Accordion, LP	17,500,000	17,233,384	1,550,859	5,589,703	25,379,029	1.56	11.2	2019
Energy Capital Partners	500,000,000	468,200,984	380,087,071	134,302,795	302,213,947	1.46	12.5	
Energy Capital Partners III, L.P.	200,000,000	239,038,835	314,765,322	30,959,867	56,931,329	1.55	11.7	2013
Energy Capital Partners IV-A, LP	150,000,000	167,260,945	61,140,016	13,766,164	177,739,193	1.43	14.8	2017
Energy Capital Partners V	150,000,000	61,901,204	4,181,733	89,576,764	67,543,425	1.16	16.6	2023
Enervest Management Partners	100,000,000	99,986,083	111,388,723	4,938,479	51,031,104	1.62	10.1	
EnerVest Energy Institutional Fund XIV-A, L.P.	100,000,000	99,986,083	111,388,723	4,938,479	51,031,104	1.62	10.1	2015
First Reserve	500,000,000	554,780,495	319,425,509	11,058,656	82,025,145	0.72	-6.9	
First Reserve Fund XI, L.P.	150,000,000	150,292,121	100,059,903	0	36,526	0.67	-8.8	2006
First Reserve Fund XII, L.P.	150,000,000	165,617,044	85,669,271	0	98,469	0.52	-18.0	2008
First Reserve Fund XIII, L.P.	200,000,000	238,871,330	133,696,335	11,058,656	81,890,151	0.90	-2.8	2013
Kohlberg, Kravis, Roberts & Co.	449,850,000	206,748,720	51,854,892	262,322,875	216,964,028	1.30	10.9	
KKR Global Infrastructure Investors III	149,850,000	142,807,803	49,648,595	21,194,959	148,561,433	1.39	11.7	2018
KKR Global Infrastructure Investors IV	100,000,000	63,940,917	2,206,297	41,127,916	68,402,595	1.10	6.6	2021
KKR Global Infrastructure Investors V	200,000,000	0	0	200,000,000	0	0.0	0.0	2024
Merit Energy Partners	519,721,518	440,294,912	233,881,445	38,949,467	326,190,993	1.27	3.9	
Merit Energy Partners F-II, L.P.	100,000,000	59,522,861	36,375,957	0	1,426,279	0.64	-6.6	2006
Merit Energy Partners H	100,000,000	100,000,000	31,202,786	0	39,486,576	0.71	-4.5	2011
Merit Energy Partners I, L.P.	169,721,518	169,721,518	126,639,060	0	149,194,735	1.63	8.5	2014
Merit Energy Partners K, L.P.	150,000,000	111,050,533	39,663,642	38,949,467	136,083,403	1.58	23.9	2019
NGP	599,500,000	605,198,417	680,190,057	34,246,854	173,995,830	1.41	9.1	
Natural Gas Partners IX, LP	150,000,000	174,005,353	249,411,654	605,481	90,845	1.43	12.0	2007
NGP Natural Resources X, L.P.	150,000,000	149,697,949	135,778,600	302,051	12,603,645	0.99	-0.2	2011
NGP Natural Resources XI, L.P.	150,000,000	157,334,624	175,061,007	4,736,941	77,811,652	1.61	10.3	2014
NGP Natural Resources XII, L.P.	149,500,000	124,160,491	119,938,796	28,602,381	83,489,688	1.64	14.8	2017
Sheridan	100,000,000	34,353,005	36,025,000	13,520,000	22,281,000	1.70	11.6	
Sheridan Production Partners III-B, L.P.	100,000,000	34,353,005	36,025,000	13,520,000	22,281,000	1.70	11.6	2014

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Real Estate	4,598,147,868	3,304,911,034	2,068,374,601	1,655,772,504	2,132,839,459	1.27	7.9	
Angelo, Gordon & Co.	750,000,000	505,882,945	319,282,407	296,030,000	338,970,550	1.30	8.7	
AG Asia Realty Fund III, L.P.	50,000,000	47,587,261	47,125,000	6,196,250	14,625,170	1.30	8.8	2016
AG Asia Realty Fund IV, L.P.	100,000,000	88,789,286	65,750,000	27,047,500	55,906,307	1.37	13.0	2018
AG Asia Realty Fund V	100,000,000	17,177,470	0	81,750,000	17,285,944	1.01	0.9	2023
AG Europe Realty Fund II, L.P.	75,000,000	68,635,121	33,769,976	12,768,750	62,038,225	1.40	8.0	2018
AG Europe Realty Fund III	75,000,000	56,328,427	3,750,000	19,312,500	63,988,334	1.20	8.7	2020
AG Europe Realty Fund IV	100,000,000	0	0	100,000,000			0.0	2024
AG Realty Fund IX	100,000,000	92,141,126	91,250,000	11,650,000	26,075,831	1.27	5.5	2014
AG Realty Fund X, L.P.	150,000,000	135,224,254	77,637,431	37,305,000	99,050,739	1.31	11.6	2018
Blackstone	1,224,500,000	985,652,038	923,679,258	423,220,702	591,099,170	1.54	12.2	
Blackstone Real Estate Partners Asia II	74,500,000	72,544,518	17,497,041	12,885,561	66,613,217	1.16	4.6	2017
Blackstone Real Estate Partners Asia III	100,000,000	20,325,284	2,368	82,371,606	15,417,934	0.76	-18.1	2021
Blackstone Real Estate Partners Europe Fund VII	100,000,000	9,202,119	0	91,560,381	7,732,936	0.84	-44.4	2023
Blackstone Real Estate Partners V	100,000,000	104,217,981	209,143,624	4,174,052	120,951	2.01	10.8	2006
Blackstone Real Estate Partners VI, L.P.	100,000,000	109,582,860	220,260,491	4,907,906	75,245	2.01	13.1	2007
Blackstone Real Estate Partners VII, LP	100,000,000	115,642,883	183,195,356	7,605,961	15,472,712	1.72	14.4	2011
Blackstone Real Estate VIII, TE, 1 L.P.	150,000,000	177,561,238	182,835,498	19,186,562	104,416,868	1.62	13.8	2015
Blackstone Real Estate Partners IX, L.P.	300,000,000	325,336,627	110,744,880	47,616,957	332,884,647	1.36	14.2	2018
Blackstone Real Estate Partners X	200,000,000	51,238,528	0	152,911,716	48,364,659	0.94	-20.5	2022
Blackstone Strategic Partners	50,000,000	51,507,991	50,981,752	907,704	68,306	0.99	-0.1	
Strategic Partners IV RE, L.P.	50,000,000	51,507,991	50,981,752	907,704	68,306	0.99	-0.1	2008
Brookfield Asset Management Inc.	400,000,000	203,488,087	20,592,071	216,053,865	196,417,032	1.07	5.5	
Brookfield Strategic Real Estate Partners IV	300,000,000	203,488,087	20,592,071	116,053,865	196,417,032	1.07	5.5	2021
Brookfield Strategic Real Estate Partners V	100,000,000	0	0	100,000,000			0.0	2023
Carlyle Group	450,000,000	225,784,837	121,099,529	300,960,763	158,411,927	1.24	16.7	
Carlyle Realty Partners VIII, L.P.	150,000,000	129,337,438	119,891,303	96,199,936	70,751,004	1.47	22.2	2017
Carlyle Realty Partners IX	300,000,000	96,447,399	1,208,226	204,760,827	87,660,923	0.92	-9.7	2021
Kohlberg, Kravis, Roberts & Co.	125,000,000	90,960,062	9,045,432	45,255,284	77,310,509	0.95	-2.8	
KKR Real Estate Partners Americas III	125,000,000	90,960,062	9,045,432	45,255,284	77,310,509	0.95	-2.8	2021
Landmark Partners	249,500,000	121,692,493	69,637,848	150,022,118	84,295,930	1.26	11.3	
Landmark Real Estate Partners VIII, L.P.	149,500,000	118,787,176	69,637,848	52,927,435	83,093,431	1.29	11.8	2016
Landmark Real Estate Partners IX	100,000,000	2,905,317	0	97,094,683	1,202,499	0.41	-58.6	2021
Lubert Adler	174,147,868	154,920,244	96,628,217	25,194,886	106,290,064	1.31	12.9	
Lubert-Adler Real Estate Fund VII-B, L.P.	74,147,868	67,585,213	86,651,406	7,414,787	17,358,692	1.54	14.9	2017
Lubert-Adler Recovery and Enhancement Capital Fund	100,000,000	87,335,030	9,976,811	17,780,099	88,931,372	1.13	8.0	2021
Oaktree Capital Management, LLC	200,000,000	160,475,519	37,690,052	74,000,000	135,088,036	1.08	6.2	
Oaktree Real Estate Opportunities Fund VIII	200,000,000	160,475,519	37,690,052	74,000,000	135,088,036	1.08	6.2	2020
Rockpoint	200,000,000	195,384,572	69,882,159	27,603,294	129,841,280	1.02	0.7	
Rockpoint Real Estate Fund V, L.P.	100,000,000	103,791,812	58,755,434	14,217,829	36,721,425	0.92	-2.3	2014
Rockpoint Real Estate Fund VI, L.P.	100,000,000	91,592,760	11,126,725	13,385,465	93,119,855	1.14	5.7	2019

Minnesota State Board of Investment
Quarter Ending June 30, 2024
Private Markets Investments



Investments	Commitments	Contributions	Distributions	Remaining Commitment	Market Value	Investment Multiple	IRR	Vintage Year
Rockwood	200,000,000	182,652,872	61,784,022	21,527,831	111,801,483	0.95	-1.7	
Rockwood Capital RE Partners X, L.P.	100,000,000	99,845,593	57,507,174	1,838,936	38,898,467	0.97	-1.0	2015
Rockwood Capital RE Partners XI	100,000,000	82,807,279	4,276,848	19,688,895	72,903,016	0.93	-2.9	2019
Silverpeak Real Estate Partners	225,000,000	144,009,375	109,295,624	7,496,058	3,182,336	0.78	-3.9	
Silverpeak Legacy Pension Partners II, L.P.	75,000,000	73,069,012	92,033,940	7,496,058	428,081	1.27	4.2	2005
Silverpeak Legacy Pension Partners III, L.P.	150,000,000	70,940,363	17,261,685	0	2,754,255	0.28	-12.0	2008
TA Associates Realty	350,000,000	282,500,000	178,776,229	67,500,000	200,062,835	1.34	10.4	
Realty Associates Fund XI	100,000,000	100,000,000	159,525,391	0	727,960	1.60	10.8	2015
Realty Associates Fund XII	100,000,000	100,000,000	19,250,838	0	126,122,478	1.45	12.6	2018
Realty Associates Fund XIII	150,000,000	82,500,000	0	67,500,000	73,212,398	0.89	-31.6	2023
Fund Total	39,338,000,428	31,124,533,577	23,608,381,037	11,704,502,182	22,781,197,888	1.49	11.7	
		<i>Difference**</i>			<i>52,007,392</i>			
Private Markets Total with Difference					22,833,205,280			

Private Markets Portfolio Status	Managers	Funds
Private Equity	61	193
Private Credit	19	41
Real Assets	11	33
Real Estate	13	37
Total	104	304

Notes

None of the data presented herein has been reviewed or approved by either the general partner or investment manager. The performance and valuation data presented herein is not a guarantee or prediction of future results and may slightly differ from final fiscal year-end report. Ultimately, the actual performance and value of any investment is not known until final liquidation. Because there is no industry-standardized method for valuation or reporting comparisons of performance and valuation data among different investments is difficult.

Data presented in this report is made public pursuant to Minn. Stat. Chs. 13 and 13D, and Minn. Stat. § 11A.24, subd. 6(c). Additional information on private markets investments may be classified as non-public and not subject to disclosure.

Arsenal Capital Partners V, L.P. performance and valuation data may differ from final year-end reporting.

*Partnership interests transferred to the MSBI during 1Q2015. All data presented as of the transfer date.

** Difference is from an in-kind stock distribution liquidating account, cash transactions posted to next day and distributions received in foreign currency during the month.



Quarterly Report

Participant Directed Investment Program

June 30, 2024



Quarterly Report

Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. The objective of the Plan is to be competitive in the marketplace by providing quality investment options with low fees to its participants. Investment goals among the PDIP's many participants are varied.

- The Supplemental Investment Fund (SIF) is an investment platform that provides participants with the option to invest in many of the same pools as the Combined Funds in addition to a Stable Value Account and a Money Market Fund. The Volunteer Firefighter Account is an option in the SIF for local firefighter entities that join the Statewide Voluntary Firefighter Plan administered by PERA. The investment vehicles are structured much like a family of mutual funds where participating entities buy or sell units in each fund. Participants may allocate their investments among one or more funds that are appropriate for their needs and are within statutory requirements and rules established by the participating organizations.
- The Mutual Fund Line-up is an investment platform that offers participants three sets of investment options. The first is a set of actively and passively managed mutual funds, a Stable Value Account and a Money Market Fund. The second is a set of target date funds called Minnesota Target Date Retirement Funds. The third is a self-directed brokerage account window which offers thousands of mutual funds. The SBI has no direct management responsibilities for funds within the self-directed brokerage account window. Participants may allocate their investments among one or more accounts that are appropriate for their needs within the statutory requirements and rules established by the participating organizations.
- The SBI is responsible for the investment options provided in the two State Sponsored Savings Plans established under provisions of the Internal Revenue Code 529, the Minnesota College Savings Plan and Minnesota Achieving a Better Life Experience Plan (ABLE). The Minnesota College Savings Plan is an educational savings plan designed to help families save for qualified nationwide college costs. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan. The SBI and OHE have contracted jointly with TIAA-CREF Tuition Financing, Inc. to provide administrative, marketing, communication, recordkeeping and investment management services. The ABLE Plan is a savings plan designed to help individuals save for qualified disability expenses without losing eligibility for certain assistance programs. The plan is administered by the Department of Human Services (DHS). The SBI and DHS have jointly contracted with Ascensus to provide recordkeeping, administrative, and investment management services for the plan.

The investment returns shown in this report are calculated using a time-weighted rate of return formula. These returns are net of investment management fees and transaction costs. They do not, however, reflect administrative expenses that may be deducted by the retirement systems or other agencies to defray administrative costs.



Supplemental Investment Fund Summary

The Minnesota Supplemental Investment Fund (SIF) is a multi-purpose investment platform that offers a range of investment options to state and local public employees. This investment platform provides some or all of the investment options to the Public Employees Retirement Association (PERA) Defined Contribution Plan, local pension plans and the Statewide Volunteer Firefighter plan.

A wide diversity of investment goals exists among the Fund's participants. In order to meet those needs, the Fund has been structured much like a "family of mutual funds." Participants may allocate their investments among one or more accounts that are appropriate for their needs, within the statutory requirements and rules established by the participating organizations. Participation in the Fund is accomplished through the purchase or sale of shares in each account. All returns are net of investment management fees.

Investment Option Descriptions

- Balanced Fund - a balanced portfolio utilizing both common stocks and bonds
- U.S. Equity Actively Managed Fund - an actively managed, U.S. common stock portfolio.
- U.S. Equity Index Fund - a passively managed, common stock portfolio designed to broadly track the performance of the U.S. stock market.
- Broad International Equity Fund - a portfolio of non-U.S. stocks that incorporates both active and passive management.
- Bond Fund - an actively managed, bond portfolio.
- Money Market Fund - a portfolio utilizing short-term, liquid debt securities.
- Stable Value Account - a portfolio of stable value instruments, including security backed contracts and insurance company and bank investment contracts.
- Volunteer Firefighter Account - a balanced portfolio only used by the Statewide Volunteer Firefighter Plan.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Option Since</u>
BALANCED FUND	\$120,891,011	2.1%	15.2%	4.1%	9.1%	8.3%	01/1980
U.S. EQUITY ACTIVELY MANAGED FUND	100,797,514	2.9	25.0	7.4	14.5	12.5	07/1986
U.S. EQUITY INDEX FUND	403,767,466	3.2	23.2	8.1	14.3	12.3	07/1986
BROAD INTERNATIONAL EQUITY FUND	150,375,133	1.5	12.8	2.0	6.8	4.7	09/1994
BOND FUND	107,226,410	0.2	3.6	-2.8	0.5	1.9	07/1986
MONEY MARKET FUND	825,550,525	1.4	5.7	3.4	2.4	1.7	07/1986
STABLE VALUE ACCOUNT	1,536,856,097	0.8	3.1	2.5	2.5	2.3	11/1994
VOLUNTEER FIREFIGHTER ACCOUNT	183,899,358	1.5	11.7	2.0	6.5	6.1	01/2010

Note:

The Market Values for the Money Market Fund, the Stable Value Fund, and the Total Supplemental Investment Fund also include assets held through other plans.



Supplemental Investment Fund Performance

Balanced Fund

The primary investment objective of the Balanced Fund is to gain exposure to publicly traded U.S. equities, bond and cash in a diversified investment portfolio. The Fund seeks to maximize long-term real rates of return, while limiting short-run portfolio return volatility. The Balanced Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification. The benchmark is a blend of 60% Russell 3000/35% Bloomberg U.S. Aggregate/5% 3 Month T-Bills.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
BALANCED FUND	\$120,891,011	2.1%	15.2%	4.1%	9.1%	8.3%
SIF BALANCED FUND BENCHMARK		2.0%	14.8%	4.1%	8.7%	8.0%
Excess		0.0%	0.4%	0.0%	0.4%	0.3%

U.S. Equity Actively Managed Fund

The U.S. Equity Actively Managed Fund's investment objective is to generate above-average returns from capital appreciation on common stocks. The U.S. Stock Actively Managed Fund is invested primarily in the common stocks of U.S. companies. The managers in the account also hold varying levels of cash.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
U.S. EQUITY ACTIVELY MANAGED FUND	100,797,514	2.9	25.0	7.4	14.5	12.5
Russell 3000		3.2	23.1	8.1	14.1	12.1
Excess		-0.3	1.8	-0.7	0.4	0.4



Supplemental Investment Fund Performance

U.S. Equity Index Fund

The investment objective of the U.S. Equity Index Fund is to generate returns that track those of the U.S. stock market as a whole. The Fund is designed to track the performance of the Russell 3000 Index, a broad-based equity market indicator. The Fund is invested 100% in common stock.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
U.S. EQUITY INDEX FUND	\$403,767,466	3.2%	23.2%	8.1%	14.3%	12.3%
Russell 3000		3.2%	23.1%	8.1%	14.1%	12.1%
Excess		0.0%	0.1%	0.1%	0.2%	0.1%

Broad International Equity Fund

The investment objective of the Broad International Equity Fund is to earn a high rate of return by investing in the stock of companies outside the U.S. Portions of the Fund are passively managed and semi-passively managed. These portions of the Fund are designed to track and modestly outperform, respectively, the return of developed markets included in the MSCI World ex USA Index. A portion of the Fund is "actively managed" by several international managers and emerging markets specialists who buy and sell stocks in an attempt to maximize market value. The International Equity Benchmark is currently the MSCI ACWI ex USA (net).

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
BROAD INTERNATIONAL EQUITY FUND	150,375,133	1.5	12.8	2.0	6.8	4.7
International Equity Benchmark		1.0	11.6	0.5	5.5	3.8
Excess		0.5	1.2	1.6	1.3	0.8



Supplemental Investment Fund Performance

Bond Fund

The investment objective of the Bond Fund is to exceed the return of the broad domestic bond market by investing in fixed income securities. The Bond Fund invests primarily in high-quality, government and corporate bonds that have intermediate to long-term maturities, usually 3 to 20 years. The Bond Fund benchmark is the Bloomberg U.S. Aggregate.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
BOND FUND	\$107,226,410	0.2%	3.6%	-2.8%	0.5%	1.9%
Bloomberg U.S. Aggregate		0.1%	2.6%	-3.0%	-0.2%	1.3%
Excess		0.2%	1.0%	0.2%	0.7%	0.6%

Money Market Fund

The investment objective of the Money Market Fund is to protect principal by investing in short-term, liquid U.S. Government securities. The Fund is invested entirely in high-quality, short-term U.S. Treasury and Agency securities. The average maturity of the portfolios is less than 90 days. Please note that the Market Value for the Money Market Fund reflects assets held through the Deferred Compensation Plan as well.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
MONEY MARKET FUND	825,550,525	1.4	5.7	3.4	2.4	1.7
ICE BofA US 3-Month Treasury Bill		1.3	5.4	3.0	2.2	1.5
Excess		0.1	0.3	0.3	0.2	0.2



Supplemental Investment Fund Performance

Stable Value Account

The investment objectives of the Stable Value Account are to protect investors from loss of their original investment and to provide competitive interest rates using somewhat longer-term investments than typically found in a money market fund. The Fund is invested in a well-diversified portfolio of high-quality fixed income securities with strong credit ratings. The Fund also invests in contracts issued by highly rated insurance companies and banks which are structured to provide principal protection for the Fund's diversified bond portfolios, regardless of daily market changes. The Stable Value Account Benchmark is the 3-year Constant Maturity Treasury Bill +45 basis points. Please note that the Market Value for the Stable Value Account reflects assets held through the Deferred Compensation Plan as well.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
STABLE VALUE ACCOUNT	\$1,536,856,097	0.8%	3.1%	2.5%	2.5%	2.3%
Fixed Interest Blended Benchmark		1.2%	5.0%	3.7%	2.7%	2.3%
Excess		-0.4%	-1.9%	-1.3%	-0.2%	-0.0%

Volunteer Firefighter Account

The Volunteer Firefighter Account is different than other SIF program options. It is available only to the local entities that participate in the Statewide Volunteer Firefighter Plan (administered by PERA) and have all of their assets invested in the Volunteer Firefighter Account. There are other volunteer firefighter plans that are not eligible to be consolidated that may invest their assets through other SIF program options. The investment objective of the Volunteer Firefighter Account is to maximize long-term returns while limiting short-term portfolio return volatility. The account is invested in a balanced portfolio of domestic equity, international equity, fixed income and cash. The benchmark for this account is 35% Russell 3000, 15% MSCI ACWI ex USA (net), 45% Bloomberg U.S. Aggregate, 5% 3 Month T-Bills.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
VOLUNTEER FIREIGHTER ACCOUNT	183,899,358	1.5	11.7	2.0	6.5	6.1
SIF Volunteer Firefighter Account		1.4	11.1	1.8	6.0	5.7
Excess		0.2	0.6	0.2	0.6	0.4



Mutual Funds

The mutual fund investment line-up provides investment options to the Minnesota Deferred Compensation Plan (MNDCP), Unclassified Retirement Plan, Health Care Savings Plan, and the Hennepin County Retirement Plan. The MNDCP is a tax-sheltered retirement savings plan that is supplemental to public employees primary retirement plan. (In most cases, the primary plan is a defined benefit plan administered by TRA, PERA, or MSRS.) Participants can choose from active and passively managed stock and bond funds, a Stable Value Account, a Money Market Fund, a set of 10 target date retirement fund options, and a brokerage window where participants can choose from hundreds of mutual funds.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Option Since</u>
VANGUARD TOTAL STOCK MARKET INDEX FUND	\$982,929,649	3.2%	23.2%	7.9%	14.1%		07/2019
VANGUARD INSTITUTIONAL INDEX	2,190,879,431	4.3	24.5	10.0	15.0	12.8%	07/1999
VANGUARD DIVIDEND GROWTH FUND	1,007,240,917	-1.6	8.9	6.4	10.2		10/2016
VANGUARD MID-CAP INDEX FUND	786,086,107	-2.7	11.8	2.2	9.4	9.1	01/2004
T.ROWE PRICE SMALL CAP STOCKS FUND	873,122,089	-4.6	8.8	-2.5	7.4	9.0	04/2000
FIDELITY DIVERSIFIED INTERNATIONAL TRUST	365,799,604	0.3	12.4	1.2	7.9	5.7	07/1999
VANGUARD TOTAL INTERNATIONAL STOCK INDEX FUND	408,195,272	0.8	11.0	0.4	5.8	4.1	07/2011
VANGUARD BALANCED INDEX FUND	1,498,334,249	2.0	14.9	3.6	8.5	7.9	12/2003
DODGE & COX INCOME	296,457,744	0.5	4.5	-1.4	1.4	2.3	07/1999
VANGUARD TOTAL BOND MARKET INDEX FUND	326,952,617	0.2	2.8	-3.0	-0.2	1.3	12/2003
2025 MN TARGET DATE RETIREMENT FUND	210,183,495	1.1	8.6	1.1	5.2	4.9	07/2011
2030 MN TARGET DATE RETIREMENT FUND	246,564,211	1.2	10.2	1.3	6.4	5.9	07/2011
2035 MN TARGET DATE RETIREMENT FUND	219,205,060	1.2	11.8	1.6	7.3	6.5	07/2011
2040 MN TARGET DATE RETIREMENT FUND	182,724,219	1.2	12.6	1.8	7.8	6.9	07/2011
2045 MN TARGET DATE RETIREMENT FUND	183,230,720	1.3	13.4	2.1	8.3	7.2	07/2011
2050 MN TARGET DATE RETIREMENT FUND	160,449,766	1.2	14.0	2.3	8.7	7.5	07/2011
2055 MN TARGET DATE RETIREMENT FUND	110,367,912	1.2	14.6	2.5	9.0	7.7	07/2011
2060 MN TARGET DATE RETIREMENT FUND	83,458,216	1.2	14.7	2.5	9.1	7.7	07/2011
2065 MN TARGET DATE RETIREMENT FUND	20,598,645	1.2	14.7	2.5			04/2020
INCOME ACCOUNT	207,662,136	1.1	8.3	1.2	4.5	3.9	07/2011
Charles Schwab SDB	93,126,249						08/2017
Charles Schwab SDB Roth	4,970,960						08/2017



Mutual Funds

LARGE CAP EQUITY

Vanguard Total Stock Market Institutional Index Fund (passive)

A passive domestic stock portfolio of large and small companies that tracks the CRSP US Total Market Index.

Vanguard Index Institutional Index Fund (passive)

A passive domestic stock portfolio that tracks the S&P 500.

Vanguard Dividend Growth Fund (active) (1)

A fund of large cap stocks which is expected to outperform the S&P U.S. Dividend Growers Index, over time.

MID CAP EQUITY

Vanguard Mid-Cap Index Fund (passive) (2)

A fund that passively invests in companies with medium market capitalizations that tracks the CRSP US Mid-Cap Index.

SMALL CAP EQUITY

T Rowe Price Small Cap Stocks Fund (active)

A fund that invests primarily in companies with small market capitalizations and is expected to outperform the Russell 2000 Index.

INTERNATIONAL EQUITY

Fidelity Diversified International Trust (active)

A fund that invests primarily in stocks of companies located outside of the United States and is expected to outperform the MSCI index of Europe, Australasia and the Far East (EAFE), over time.

Vanguard Total International Stock Index Fund (passive) (3)

A fund that seeks to track the investment performance of the FTSE Global All Cap ex US Index, an index designed to measure equity market performance in developed and emerging markets, excluding the United States.

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
Large Cap US Equity						
VANGUARD TOTAL STOCK MARKET INSTITUTIONAL INDEX FUND	\$982,929,649	3.2%	23.2%	7.9%	14.1%	07/2019
CRSP US Total Market Index		3.2	23.2	7.9	14.1	07/2019
Excess		-0.0	0.0	0.0	0.0	
VANGUARD INSTITUTIONAL INDEX FUND	2,190,879,431	4.3	24.5	10.0	15.0	07/1999
S&P 500		4.3	24.6	10.0	15.0	07/1999
Excess		-0.0	-0.0	-0.0	-0.0	
VANGUARD DIVIDEND GROWTH FUND	1,007,240,917	-1.6	8.9	6.4	10.2	10/2016
VANGUARD DIVIDEND GROWTH INDEX		0.4	14.6	7.8	11.8	10/2016
Excess		-2.0	-5.8	-1.4	-1.6	
Mid Cap US Equity						
VANGUARD MID CAP INDEX FUND	786,086,107	-2.7	11.8	2.2	9.4	01/2004
CRSP US Mid Cap Index		-2.7	11.8	2.2	9.4	01/2004
Excess		-0.0	0.0	0.0	0.0	
Small Cap US Equity						
T. ROWE PRICE SMALL-CAP STOCKS FUND	873,122,089	-4.6	8.8	-2.5	7.4	04/2000
Russell 2000		-3.3	10.1	-2.6	6.9	04/2000
Excess		-1.3	-1.2	0.1	0.4	
International Equity						
FIDELITY DIVERSIFIED INTERNATIONAL	365,799,604	0.3	12.4	1.2	7.9	07/1999
MSCI EAFE FREE (NET)		-0.4	11.5	2.9	6.5	07/1999
Excess		0.7	0.8	-1.7	1.5	
VANGUARD TOTAL INTERNATIONAL STOCK INDEX FUND	408,195,272	0.8	11.0	0.4	5.8	07/2011
FTSE Global All Cap ex US Index Net		0.8	11.5	0.3	5.7	07/2011
Excess		0.0	-0.5	0.1	0.1	



Mutual Funds

BALANCED

Vanguard Balanced Index Fund (passive) (4)

A fund that passively invests in a mix of domestic stocks and bonds. The fund is expected to track a weighted benchmark of 60% CRSP US Total Market Index/40% Bloomberg U.S. Aggregate.

FIXED INCOME

Dodge & Cox Income Fund (active)

A fund that invests primarily in investment grade securities in the U.S. bond market which is expected to outperform the Bloomberg U.S. Aggregate, over time.

Vanguard Total Bond Market Index Fund (passive)

A fund that passively invests in a broad, market weighted bond index that is expected to track the Bloomberg U.S. Aggregate.

Money Market Fund (5)

A fund that invests in short-term debt instruments which is expected to outperform the return on 3 Month T-Bills.

STABLE VALUE

Stable Value Account (5)

A portfolio composed of stable value instruments which are primarily investment contracts and security backed contracts. The fund is expected to outperform the return of the 3 year Constant Maturity Treasury +45 basis points, over time.

(1) Prior to 09/20/2021 the benchmark was the NASDAQ US Dividend Achievers Select Index.

(2) Prior to 02/01/2013 the benchmark was the MSCI US Mid-Cap 450 Index.

(3) Prior to 06/01/2013 the benchmark was MSCI ACWI ex USA IMI.

(4) Prior to 01/01/2013 the benchmark was 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate.

(5) Money Market and Stable Value are Supplemental Investment Fund options which are also offered to eligible plans that invest through other plans.

Ending Market Value Last Qtr 1 Year 3 Year 5 Year Option Since

Balanced Funds

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
VANGUARD BALANCED INDEX FUND	\$1,498,334,249	2.0%	14.9%	3.6%	8.5%	12/2003
Vanguard Balanced Fund Benchmark		2.0	14.7	3.7	8.5	12/2003
Excess		0.0	0.2	-0.0	-0.0	

Fixed Income

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
DODGE & COX INCOME FUND	296,457,744	0.5	4.5	-1.4	1.4	07/1999
Bloomberg U.S. Aggregate		0.1	2.6	-3.0	-0.2	07/1999
Excess		0.4	1.9	1.6	1.7	

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
VANGUARD TOTAL BOND MARKET INDEX FUND	326,952,617	0.2	2.8	-3.0	-0.2	12/2003
Bloomberg U.S. Aggregate		0.1	2.6	-3.0	-0.2	12/2003
Excess		0.1	0.1	0.0	0.0	

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
MONEY MARKET FUND	825,550,525	1.4	5.7	3.4	2.4	07/1986
ICE BofA US 3-Month Treasury Bill		1.3	5.4	3.0	2.2	07/1986
Excess		0.1	0.3	0.3	0.2	

Stable Value

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
STABLE VALUE ACCOUNT	1,536,856,097	0.8	3.1	2.5	2.5	11/1994
Fixed Interest Blended Benchmark		1.2	5.0	3.7	2.7	11/1994
Excess		-0.4	-1.9	-1.3	-0.2	



Mutual Funds

MN TARGET DATE RETIREMENT FUNDS

Target retirement funds offer a mix of investments that are adjusted over time to reduce risk and become more conservative as the target retirement date approaches. A participant only needs to make one investment decision by investing their assets in the fund that is closest to their anticipated retirement date.

Target Date Retirement Funds

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since		Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since	
SSgA														
2025 MN TARGET DATE RETIREMENT FUND	\$210,183,495	1.1%	8.6%	1.1%	5.2%	07/2011		2050 MN TARGET DATE RETIREMENT FUND	\$160,449,766	1.2%	14.1%	2.3%	8.7%	07/2011
2025 FUND BENCHMARK		1.1%	8.6%	1.1%	5.2%	07/2011		2050 FUND BENCHMARK		1.2%	14.2%	2.3%	8.7%	07/2011
Excess		0.0%	-0.1%	-0.0%	0.0%			Excess		0.0%	-0.1%	0.0%	0.0%	
2030 MN TARGET DATE RETIREMENT FUND	\$246,564,211	1.2%	10.2%	1.3%	6.4%	07/2011		2055 MN TARGET DATE RETIREMENT FUND	\$110,367,912	1.2%	14.7%	2.5%	9.0%	07/2011
2030 FUND BENCHMARK		1.2%	10.3%	1.3%	6.4%	07/2011		2055 FUND BENCHMARK		1.2%	14.8%	2.5%	9.0%	07/2011
Excess		0.0%	-0.1%	-0.0%	0.0%			Excess		-0.0%	-0.1%	0.0%	-0.0%	
2035 MN TARGET DATE RETIREMENT FUND	\$219,205,060	1.2%	11.9%	1.6%	7.3%	07/2011		2060 MN TARGET DATE RETIREMENT FUND	\$83,458,216	1.2%	14.8%	2.5%	9.1%	07/2011
2035 FUND BENCHMARK		1.2%	11.9%	1.7%	7.3%	07/2011		2060 FUND BENCHMARK		1.2%	14.9%	2.5%	9.1%	07/2011
Excess		0.0%	0.0%	-0.0%	0.0%			Excess		-0.0%	-0.1%	0.0%	-0.0%	
2040 MN TARGET DATE RETIREMENT FUND	\$182,724,219	1.2%	12.6%	1.8%	7.8%	07/2011		2065 MN TARGET DATE RETIREMENT FUND	\$20,598,645	1.2%	14.8%	2.5%		04/2020
2040 FUND BENCHMARK		1.2%	12.7%	1.8%	7.8%	07/2011		2065 FUND BENCHMARK		1.2%	14.9%	2.5%		04/2020
Excess		0.0%	-0.1%	-0.0%	0.0%			Excess		-0.0%	-0.1%	0.0%		
2045 MN TARGET DATE RETIREMENT FUND	\$183,230,720	1.3%	13.4%	2.1%	8.3%	07/2011		INCOME ACCOUNT	\$207,662,136	1.1%	8.3%	1.2%	4.5%	07/2011
2045 FUND BENCHMARK		1.2%	13.5%	2.1%	8.3%	07/2011		INCOME ACCOUNT BENCHMARK		1.1%	8.4%	1.2%	4.5%	07/2011
								Excess		0.0%	-0.1%	-0.0%	0.0%	

Note: Each SSgA Fund benchmark is the aggregate of the returns of the Fund's underlying index funds weighted by the Fund's asset allocation



MN College Savings Plan Options

The Minnesota College Savings Plan is an education savings plan designed to help families set aside funds for future college costs. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan.

The SBI and OHE contract jointly with TIAA to provide administrative, marketing, communication, recordkeeping and investment management services. Please see the next page for the performance as reported by TIAA.

ENROLLMENT-BASED MANAGED ALLOCATIONS - The Enrollment Year Investment Option is a set of single fund options representing the date your future student needs their college savings. The asset allocation adjusts automatically to a more conservative investment objective and level of risk as the enrollment year approaches. The managed allocation changed from Age-Based to Enrollment-Based on October 28, 2019.

RISK BASED ALLOCATIONS - The Risk Based Allocation Option offers three separate allocation investment options - Aggressive, Moderate and Conservative, each of which has a fixed risk level that does not change as the Beneficiary ages.

ASSET CLASS BASED ALLOCATIONS

U.S. LARGE CAP EQUITY INDEX - A passive domestic stock portfolio that tracks the S&P 500.

INTERNATIONAL EQUITY INDEX - A fund that passively invests in a mix of developed and emerging market equities. The fund is expected to track a weighted benchmark of 80% MSCI ACWI World ex USA and 20% MSCI Emerging Markets Free Index.

U.S. AND INTERNATIONAL EQUITY INDEX - A fund that invests in a mix of equities, both U.S. and international, across all capitalization ranges and real estate-related securities. The fund is expected to track a weighted benchmark of 60% Russell 3000, 24% International, 6% Emerging Markets, and 10% Real Estate Securities Fund.

PRINCIPAL PLUS INTEREST OPTION - A passive fund where contributions are invested in a Funding Agreement issued by TIAA-CREF Life. The funding agreement provides for a return of principal plus a guaranteed rate of interest which is made by the insurance company to the policyholder, not the account owners. The account is expected to outperform the return of the 3-month T-Bill.

EQUITY AND INTEREST ACCUMULATION - A fund that passively invests half of the portfolio in U.S. equities across all capitalization ranges and the other half in the same Funding Agreement issued by TIAA-CREF Life as described above. The fund is expected to track a weighted benchmark of 50% Russell 3000 and 50% 3-month T-Bill.

100% FIXED INCOME - A fund that passively invests in fixed income holdings that tracks the Bloomberg U.S. Aggregate and two active funds that invest in inflation-linked bonds and high yield securities. The fund is expected to track a weighted benchmark of 70% Bloomberg U.S. Aggregate, 20% inflation-linked bond, and 10% high yield.

MONEY MARKET - An active fund that invests in high-quality, short-term money market instruments of both domestic and foreign issuers that tracks the iMoneyNet Average All Taxable benchmark.

SOCIAL CHOICE EQUITY ALLOCATION – An actively managed fund that seeks to provide a favorable long-term total return that reflects the investment performance of the overall U.S. equity market while giving special consideration to companies whose activities are consistent with certain environmental, social and governance criteria.

MINNESOTA COLLEGE SAVINGS PLAN

Performance Statistics for the Period Ending: June 30, 2024

Total = \$2,022 Million

Fund Name	Ending Market	3 Months	1 Year	Annualized				Inception Date
				3 Years	5 Years	10 Years	Since Inception	
2040/2041 Enrollment Option	\$15,816,438	1.79%	14.88%				17.18%	5/12/2023
2040-2041 Custom Benchmark		1.81%	15.15%				18.09%	
2038/2039 Enrollment Option	\$45,048,649	1.73%	14.45%	3.79%			3.69%	6/11/2021
2038-2039 Custom Benchmark		1.76%	14.78%	3.93%			3.81%	
2036/2037 Enrollment Option	\$100,792,088	1.67%	13.92%	3.48%			8.50%	10/28/2019
2036-2037 Custom Benchmark		1.69%	14.21%	3.66%			8.47%	
2034/2035 Enrollment Option	\$80,191,399	1.63%	13.24%	3.18%			8.05%	10/28/2019
2034-2035 Custom Benchmark		1.58%	13.51%	3.35%			8.03%	
2032/2033 Enrollment Option	\$84,679,172	1.45%	12.07%	2.63%			7.48%	10/28/2019
2032-2033 Custom Benchmark		1.42%	12.36%	2.82%			7.47%	
2030/2031 Enrollment Option	\$94,533,976	1.28%	10.57%	1.95%			6.62%	10/28/2019
2030-2031 Custom Benchmark		1.29%	10.95%	2.20%			6.65%	
2028/2029 Enrollment Option	\$114,855,046	1.10%	9.03%	1.41%			5.62%	10/28/2019
2028-2029 Custom Benchmark		1.11%	9.57%	1.74%			5.66%	
2026/2027 Enrollment Option	\$145,221,209	0.90%	7.27%	0.90%			4.68%	10/28/2019
2026-2027 Custom Benchmark		0.99%	8.25%	1.37%			4.83%	
2024/2025 Enrollment Option	\$182,499,468	0.76%	5.65%	0.62%			3.90%	10/28/2019
2024-2025 Custom Benchmark		1.11%	7.31%	1.43%			4.21%	
In School Option	\$281,517,554	0.79%	5.03%	1.34%			2.99%	10/28/2019
In School Custom Benchmark		1.17%	6.98%	2.06%			3.08%	

MINNESOTA COLLEGE SAVINGS PLAN
Performance Statistics for the Period Ending: June 30, 2024

Fund Name	Ending Market	3 Months	1 Year	Annualized				Inception Date
				3 Years	5 Years	10 Years	Since Inception	
U.S. and International Equity Option	\$304,964,936	2.12%	17.77%	5.17%	10.63%	9.15%	7.82%	10/1/2001
BB: U.S. and International Equity Option		2.18%	18.12%	5.42%	10.65%	9.17%	8.48%	
Moderate Allocation Option	\$109,736,934	1.48%	12.06%	2.52%	6.91%	6.33%	5.82%	8/2/2007
BB: Moderate Allocation Option		1.50%	12.41%	2.80%	6.95%	6.42%	6.29%	
100% Fixed-Income Option	\$18,214,227	0.51%	3.86%	-1.58%	0.72%	1.64%	2.78%	8/16/2007
BB: 100% Fixed-Income Option		0.45%	4.04%	-1.49%	0.94%	1.90%	3.29%	
International Equity Index Option	\$11,306,694	0.87%	11.45%	1.62%	5.99%	4.10%	5.16%	6/18/2013
BB: International Equity Index Option		0.68%	11.83%	1.36%	5.89%	4.11%	5.23%	
Money Market Option	\$29,579,750	1.29%	5.29%	2.98%	2.04%	1.36%	0.97%	11/1/2007
BB: Money Market Option		1.24%	5.10%	2.86%	1.92%	1.26%	0.90%	
Principal Plus Interest Option	\$94,387,436	0.71%	2.67%	1.81%	1.82%	1.66%	2.35%	10/10/2001
Citigroup 3-Month U.S. Treasury Bill		1.37%	5.64%	3.17%	2.22%	1.53%	1.52%	
Aggressive Allocation Option	\$110,969,479	1.81%	14.86%	3.88%	8.77%		8.01%	8/12/2014
BB: Aggressive Allocation Option		1.84%	15.25%	4.13%	8.84%		8.01%	
Conservative Allocation Option	\$19,261,941	1.09%	7.65%	1.44%	4.13%		4.04%	8/18/2014
BB: Conservative Allocation Option		1.22%	8.67%	1.94%	4.39%		4.22%	
Equity and Interest Accumulation Option	\$10,828,057	2.00%	12.51%	5.07%	8.06%		6.96%	8/18/2014
BB: Equity and Interest Accumulation Option		2.35%	14.37%	6.00%	8.49%		7.18%	
U.S. Large Cap Equity Option	\$163,222,723	4.26%	24.34%	9.85%	14.88%		12.95%	8/12/2014
BB: U.S. Large Cap Equity Option		4.28%	24.56%	10.01%	15.05%		13.07%	
Large Cap Responsible Equity Option	\$3,164,566	1.48%	21.49%	6.95%			7.24%	6/11/2021
BB: Social Choice Equity Option		4.28%	24.39%	8.42%			8.67%	
Matching Grant	\$1,066,915	0.71%	2.67%	1.81%	1.82%	1.66%	2.35%	3/22/2002
Citigroup 3-Month U.S. Treasury Bill		1.37%	5.64%	3.17%	2.22%	1.53%	1.52%	

MINNESOTA^{plan}

A member of The National ABL Alliance

Performance as of
06/30/24

Total Market Value: **\$47,255,674**

<u>Fund Name</u>	<u>Market Value</u>	<u>% of Plan</u>	<u>1 Month</u>	<u>3 Months</u>	<u>YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Inception</u>	<u>Inception Date</u>
Aggressive Option	\$3,764,692	7.97%	1.02	0.70	6.47	14.52	2.05	8.31		8.71	12/15/16
ABLE Aggressive Custom Benchmark			1.20	0.77	6.59	14.99	2.29	8.59		9.10	
Variance			(0.18)	(0.07)	(0.12)	(0.47)	(0.24)	(0.28)		(0.39)	
Moderately Aggressive Option	\$4,195,080	8.88%	0.93	0.64	5.32	12.61	1.64	7.23		7.63	12/15/16
ABLE Moderately Aggressive Custom Benchmark			1.11	0.69	5.45	13.09	1.91	7.48		8.00	
Variance			(0.18)	(0.05)	(0.13)	(0.48)	(0.27)	(0.25)		(0.37)	
Growth Option	\$6,072,379	12.85%	0.81	0.63	4.41	10.81	1.25	6.09		6.51	12/15/16
ABLE Growth Custom Benchmark			1.00	0.73	4.65	11.41	1.53	6.36		6.88	
Variance			(0.19)	(0.10)	(0.24)	(0.60)	(0.28)	(0.27)		(0.37)	
Moderate Option	\$5,558,725	11.76%	0.82	0.68	3.49	9.12	0.85	4.94		5.37	12/15/16
ABLE Moderate Custom Benchmark			0.94	0.75	3.67	9.63	1.10	5.17		5.71	
Variance			(0.12)	(0.07)	(0.18)	(0.51)	(0.25)	(0.23)		(0.34)	
Moderately Conservative Option	\$4,973,905	10.53%	0.66	0.74	2.94	7.65	1.25	3.96		4.21	12/15/16
ABLE Moderately Conservative Custom Benchmark			0.81	0.90	3.21	8.25	1.58	4.20		4.53	
Variance			(0.15)	(0.16)	(0.27)	(0.60)	(0.33)	(0.24)		(0.32)	
Conservative Option	\$8,535,462	18.06%	0.58	1.00	2.28	5.58	1.68	2.51		2.56	12/15/16
ABLE Conservative Custom Benchmark			0.60	1.10	2.60	6.31	2.14	2.78		2.85	
Variance			(0.02)	(0.10)	(0.32)	(0.73)	(0.46)	(0.27)		(0.29)	
Checking Account Option	\$14,155,433	29.95%									03/30/17

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Quarterly Report

Non-Retirement

June 30, 2024



Quarterly Report

Non-Retirement Funds

The SBI manages funds for trusts and programs created by the Minnesota State Constitution and Legislature.

- The Minnesota Workers Compensation Assigned Risk Plan provides worker compensation insurance for companies unable to obtain coverage through private carriers.
- The Permanent School Fund is a trust established for the benefit of Minnesota public schools.
- The Environmental Trust Fund is a trust established for the protection and enhancement of Minnesota's environment. It is funded with a portion of the proceeds from the state's lottery.
- The Closed Landfill Investment Fund is a trust created by the Legislature to invest money to pay for the long-term costs of maintaining the integrity of landfills in Minnesota once they are closed.
- Other Post-Employment Benefits Accounts (OPEB) are the assets set aside by local units of government for the payment of retiree benefits trusted by the Public Employees Retirement Association.
- Miscellaneous Trust Accounts are other small funds managed by the SBI for a variety of purposes.

All equity, fixed income, and cash assets for these accounts are managed externally by investment management firms retained by the SBI.

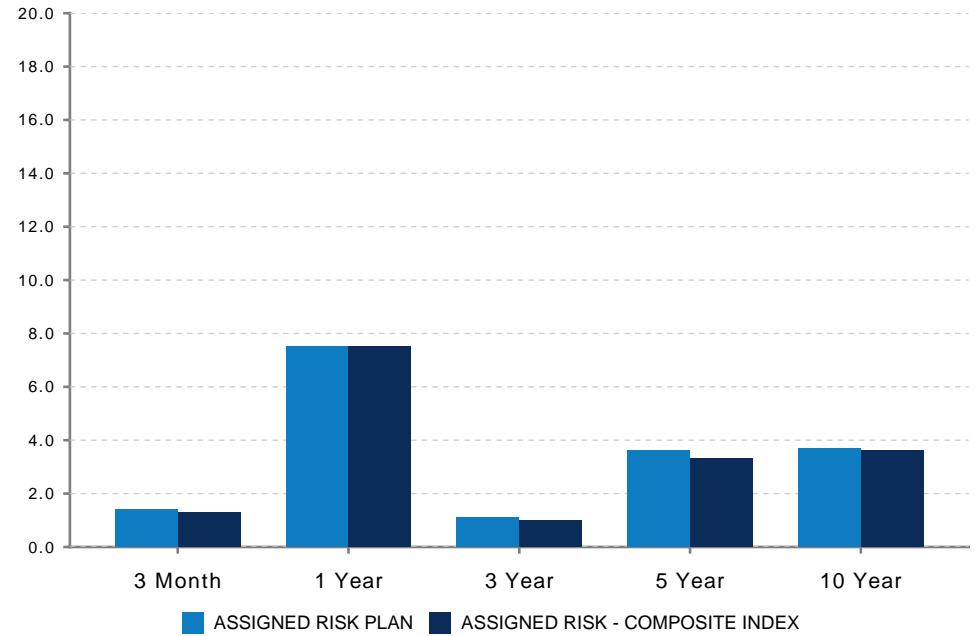


Non-Retirement

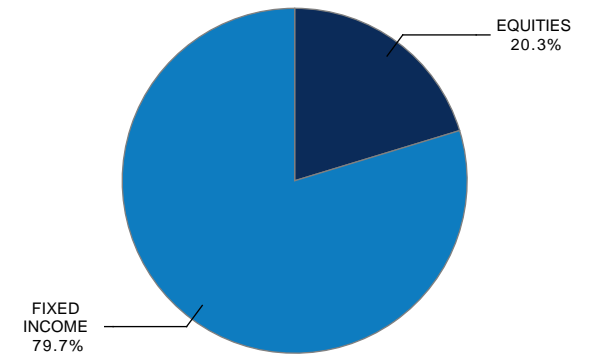
Assigned Risk Plan

The Assigned Risk plan has two investment objectives: to minimize the mismatch between assets and liabilities and to provide sufficient liquidity for the payment of ongoing claims and operating expenses.

The Assigned Risk Plan is invested in a portfolio of common stocks and bonds. The equity segment is passively managed to track the performance of the S&P 500. The fixed income benchmark is the Bloomberg U.S. Government Intermediate Index. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 80% fixed income and 20% equities. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
ASSIGNED RISK PLAN	\$277,431,972	1.4%	7.5%	1.1%	3.6%	3.7%
EQUITIES	\$56,316,765	4.3%	24.5%	10.0%	15.0%	12.4%
FIXED INCOME	\$221,115,207	0.6%	3.4%	-1.3%	0.4%	1.2%
ASSIGNED RISK - COMPOSITE INDEX		1.3%	7.5%	1.0%	3.3%	3.6%
Excess		0.1%	0.0%	0.1%	0.3%	0.1%
S&P 500		4.3%	24.6%	10.0%	15.0%	12.9%
Bloomberg U.S. Government: Intermediate		0.6%	3.4%	-1.4%	0.3%	1.1%



Note: Since 12/1/2017 the Assigned Risk equity segment has been managed by Mellon. From 1/17/2017-11/30/2017 it was managed internally by SBI staff. Prior to 1/17/2017 the equity segment was managed by SSgA (formerly GE Investment Mgmt.). RBC manages the fixed income segment of the Fund.



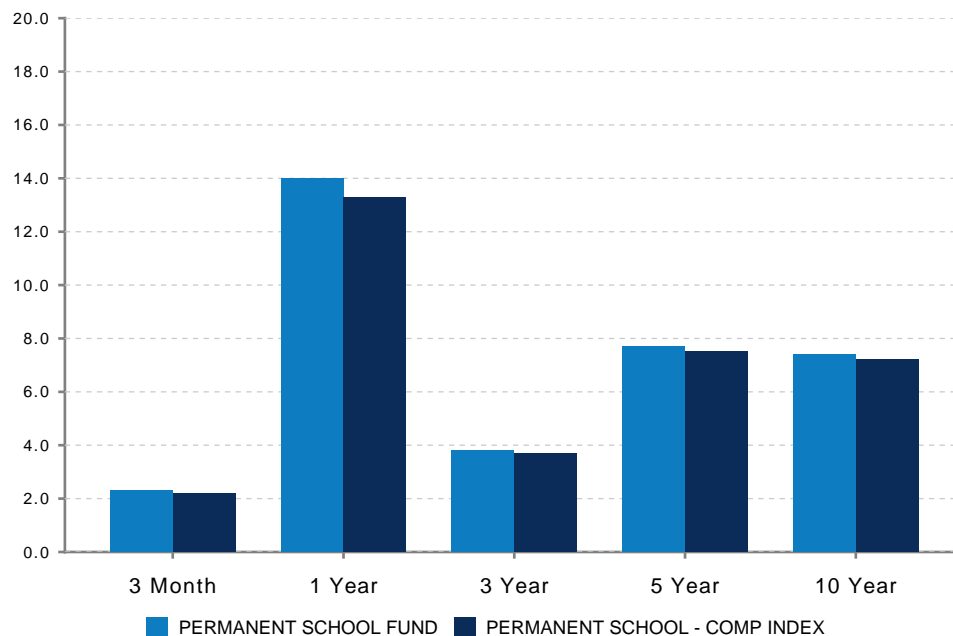
Non-Retirement

Permanent School Fund

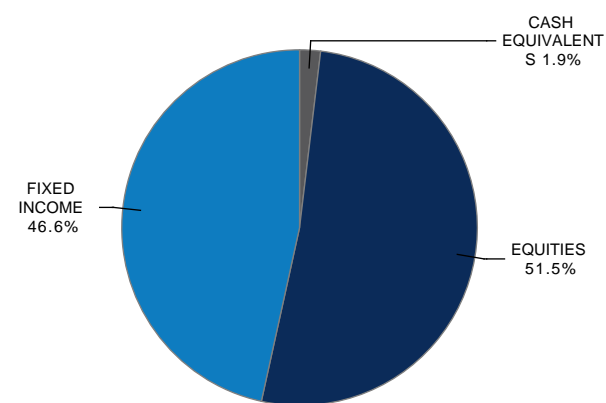
The investment objective of the Permanent School Fund is to produce a growing level of spendable income, within the constraints of maintaining adequate portfolio quality and liquidity. The income from the portfolio is transferred to the school endowment fund and distributed to Minnesota's public schools.

The Permanent School Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds provide portfolio diversification and a more stable stream of current income.

The stock segment is passively managed to track the performance of the S&P 500. The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The fixed income benchmark is the Bloomberg U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 2% cash, 50% equity, and 48% fixed income. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
PERMANENT SCHOOL FUND	\$2,130,202,809	2.3%	14.0%	3.8%	7.7%	7.4%
CASH EQUIVALENTS	40,216,329	1.4	5.6	3.3	2.3	1.6
EQUITIES	1,098,123,949	4.3	24.5	10.0	15.0	12.9
FIXED INCOME	991,862,531	0.3	3.6	-2.9	0.1	1.7
PERMANENT SCHOOL - COMP INDEX		2.2	13.3	3.7	7.5	7.2
Excess		0.1	0.7	0.1	0.2	0.2
S&P 500		4.3	24.6	10.0	15.0	12.9
Bloomberg U.S. Aggregate		0.1	2.6	-3.0	-0.2	1.3



Note: Since 12/1/2017 the equity segment has been managed by Mellon and the fixed income segment by Prudential. Prior to 12/1/2017 both segments were managed internally by SBI staff. Prior to 7/1/97 the Fund allocation was 100% fixed income.



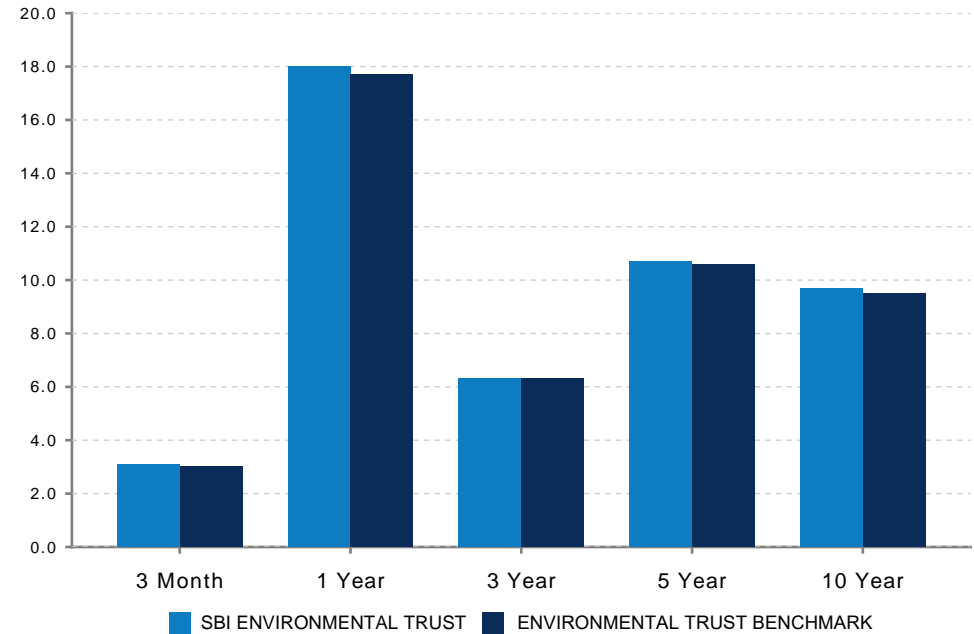
Non-Retirement

Environmental Trust Fund

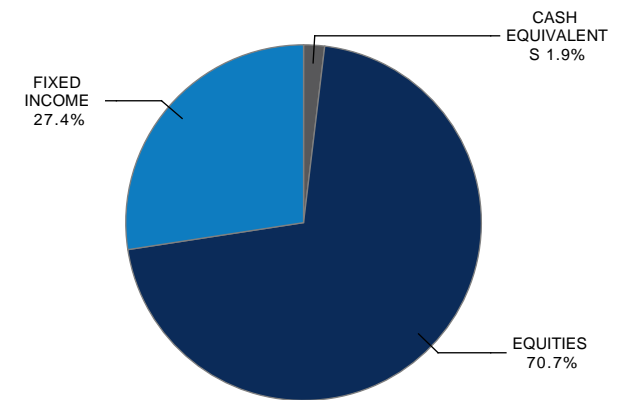
The objective of the Environmental Trust Fund is to increase the market value of the Fund over time in order to increase the annual amount made available for spending within the constraints of maintaining adequate portfolio quality and liquidity.

The Environmental Trust Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification.

The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The stock segment is passively managed to track the performance of the S&P 500. The fixed income benchmark is the Bloomberg U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 2% cash, 70% equities, and 28% fixed income. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
SBI ENVIRONMENTAL TRUST	\$1,878,656,317	3.1%	18.0%	6.3%	10.7%	9.7%
CASH EQUIVALENTS	36,611,569	1.4	5.6	3.3	2.3	1.6
EQUITIES	1,327,185,356	4.3	24.5	10.0	15.0	12.9
FIXED INCOME	514,859,391	0.3	3.6	-2.9	0.1	1.7
ENVIRONMENTAL TRUST BENCHMARK		3.0	17.7	6.3	10.6	9.5
Excess		0.0	0.3	-0.0	0.2	0.1
S&P 500		4.3	24.6	10.0	15.0	12.9
Bloomberg U.S. Aggregate		0.1	2.6	-3.0	-0.2	1.3



Note: Since 12/1/2017 the equity segment has been managed by Mellon and the fixed income segment by Prudential. Prior to 12/1/2017 both segments were managed internally by SBI staff. From 7/1/94 to 7/1/99, the Fund's target allocation and benchmark was 50% fixed income and 50% stock. Prior to 7/1/94 the Fund was invested entirely in short-term instruments as part of the Invested Treasurer's Cash pool.

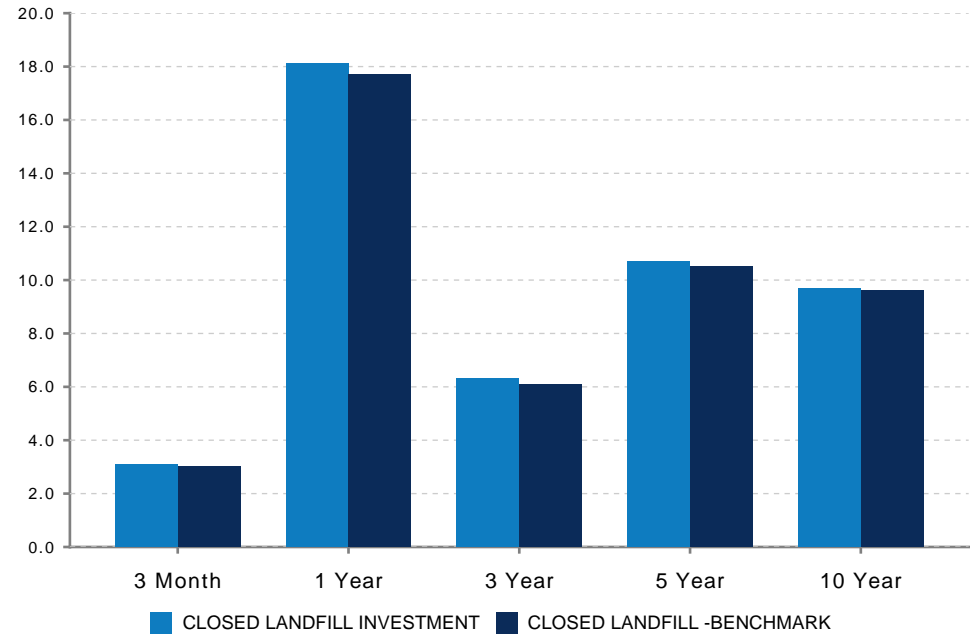


Non-Retirement

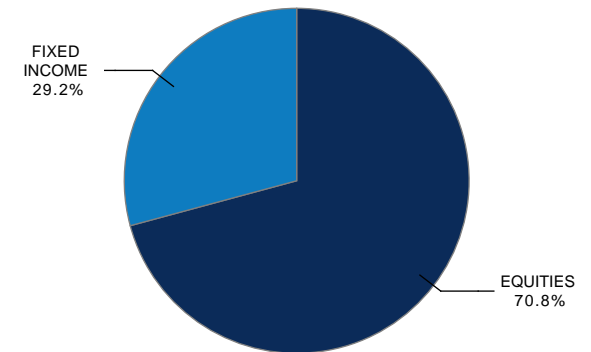
Closed Landfill Investment Fund

The investment objective of the Closed Landfill Investment Fund is to increase the market value of the Fund and to reduce volatility to meet future expenditures. By statute, the assets of the Fund were unavailable for expenditure until after the fiscal year 2020 to pay for long-term costs of maintaining the integrity of landfills in Minnesota once they are closed. In FY 2011, \$48 million was transferred out of the general fund leaving a balance of \$1 million in the account. Legislation was enacted in 2013 to replenish the principal and earnings back into the fund and in FY 2014 a repayment was made in the amount of \$64.2 million. In 2015, legislation was passed which repealed any further repayments.

The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The stock segment is managed to passively track the performance of the S&P 500. The fixed income benchmark is the Bloomberg U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 70% equities and 30% fixed income. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
CLOSED LANDFILL INVESTMENT	\$150,867,730	3.1%	18.1%	6.3%	10.7%	9.7%
EQUITIES	106,804,364	4.3	24.5	10.0	15.0	12.9
FIXED INCOME	44,063,367	0.3	3.6	-2.9	0.1	
CLOSED LANDFILL -BENCHMARK		3.0	17.7	6.1	10.5	9.6
Excess		0.1	0.4	0.2	0.1	0.1
S&P 500		4.3	24.6	10.0	15.0	12.9
Bloomberg U.S. Aggregate		0.1	2.6	-3.0	-0.2	1.3



Note: Since 12/1/2017 the equity segment has been managed by Mellon and the fixed income segment by Prudential. Prior to 12/1/2017 both segments were managed internally by SBI staff. Prior to 9/10/14 the Fund's target allocation and benchmark was 100% domestic equity.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
NON RETIREMENT EQUITY INDEX - MELLON	3,511,114,765	4.3	24.5	24.5	10.0	15.0	12.9	10.5	07/1993
S&P 500 INDEX (DAILY)		4.3	24.6	24.6	10.0	15.0	12.9	10.5	07/1993
Excess		-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.1	
NON RETIREMENT FIXED INCOME - PRUDENTIAL	1,726,418,919	0.3	3.6	3.6	-2.9	0.1	1.7	5.0	07/1994
Bloomberg U.S. Aggregate		0.1	2.6	2.6	-3.0	-0.2	1.3	4.5	07/1994
Excess		0.2	1.0	1.0	0.1	0.3	0.4	0.5	
ASSIGNED RISK FIXED INCOME - RBC	221,115,120	0.6	3.4	3.4	-1.3	0.4	1.2	4.2	07/1991
RBC Custom Benchmark		0.6	3.4	3.4	-1.4	0.3	1.1	4.2	07/1991
Excess		0.0	-0.0	-0.0	0.0	0.1	0.1	-0.1	
MET COUNCIL LADDERED FIXED INCOME FUND	120,765,954	0.7	4.0	4.0	-0.5	0.6			02/2009
DULUTH LADDERED FIXED INCOME FUND	113,701,545								
NON RETIREMENT CASH ACCOUNT	732,395,134	1.4	5.6	5.6	3.3	2.3		2.2	12/2017
ICE BofA US 3-Month Treasury Bill		1.3	5.4	5.4	3.0	2.2		2.1	12/2017
Excess		0.1	0.2	0.2	0.2	0.1		0.1	

Note:

RBC is the manager for the fixed income portion of the Assigned Risk Account. RBC changed its name from Voyager Asset Management on 1/1/10. The current benchmark is the Bloomberg U.S. Government Intermediate Index. Prior to 7/1/11 the Voyager Custom Index was 10% 90 day T-Bill, 25% Merrill 1-3 Government, 15% Merrill 3-5 Government, 25% Merrill 5-10 Government, 25% Merrill Mortgage Master.

Prior to 12/1/17 the Non Retirement Equity Index and Non Retirement Fixed Income accounts were managed internally by SBI staff.

Duluth Laddered Fixed Income Fund fully funded on 6/10/24. Performance will be reported with first full month of performance history.

In addition to the Non-Retirement Funds listed on the previous pages, the Non Retirement Equity Index and the Non Retirement Fixed Income accounts also include the assets of various smaller Miscellaneous Trust Accounts and Other Post Employment Benefits.

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Quarterly Report

State Cash

June 30, 2024



State Cash Accounts

Invested Treasurer's Cash

The Invested Treasurer's Cash Pool (ITC) represents the balances in more than 400 separate accounts that flow through the Minnesota State Treasury. These accounts vary greatly in size. The ITC contains the cash balances of certain State agencies and non-dedicated cash in the State Treasury.

The investment objectives of the ITC, in order of priority, are as follows:

- Safety of Principal. To preserve capital.
- Liquidity. To meet cash needs without the forced sale of securities at a loss.
- Competitive Rate of Return. To provide a level of current income consistent with the goal of preserving capital.

The SBI seeks to provide safety of principal by investing all cash accounts in high quality, liquid, short term investments. These include U.S. Treasury and Agency issues, repurchase agreements, bankers acceptances, commercial paper, and certificates of deposit.

Beginning in January 2003, the Treasurer's Cash Pool is measured against the iMoneyNet, All Taxable Money Fund Report Average.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Treasurer's Cash	29,160,640,723	1.3	5.7	2.7	2.1	1.5
iMoneyNet Money Fund Average-All Taxable		1.2	5.1	2.9	2.0	1.3

Other State Cash Accounts

Due to differing investment objectives, strategies, and time horizons, some State agencies' accounts are invested separately. These agencies direct the investments or provide the SBI with investment guidelines and the SBI executes on their behalf. Consequently, returns are shown for informational purposes only and there are no benchmarks for these accounts.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Debt Service	114,874,646	-0.5	1.3	0.9	1.8	1.6
Housing Finance	817,649,356	1.2	5.1			

Note: Ending market values are unaudited and may differ from the final fiscal year-end report.



Addendum

Benchmark Definitions

Active Domestic Equity Benchmark:

A weighted composite each of the individual active domestic equity managers' benchmarks. Effective 3/1/2017 the calculation uses the average weight of the manager relative to the total group of active managers during the month. Prior to 3/1/2017 the beginning of the month weight relative to the total group was used.

Benchmark DM:

Since 6/1/08 the developed markets managers' benchmark, "Benchmark DM," is the Standard (large + mid) MSCI World ex USA (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI World ex USA (net). From 10/1/03 to 9/30/07 the benchmark was the MSCI World ex USA (net). Prior to that date, it was the MSCI EAFE Free (net), including from 10/1/01 to 5/31/02 when it was the Provisional MSCI EAFE Free (net).

Benchmark EM:

Since 6/1/08 the emerging markets managers' benchmark, "Benchmark EM," is the Standard (large + mid) MSCI Emerging Markets Free (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI Emerging Markets Free (net). From 1/1/01 to 9/30/07 the benchmark was the MSCI Emerging Markets Free (net), including from 10/1/01 to 5/31/02 when it was the Provisional MSCI Emerging Markets Free (net). Prior to 1/1/01, it was the MSCI Emerging Markets Free (gross).

Combined Funds Composite Index:

The Composite Index performance is calculated by multiplying the beginning of month Composite weights by the monthly returns of the asset class benchmarks. Asset class weights for Private Markets - Invested and Private Markets - Uninvested are reset at the start of each month. From 1/1/2018-2/28/2019 the Transitional Policy Target was used to reflect the addition of Treasuries to the Fixed Income portfolio. From 7/1/2016-12/31/2016 the composite weights were set to match actual allocation as the portfolio was brought into line with the new Strategic Asset Allocation Policy Target. 7/1/2016 to 12/1/2020 the uninvested portion of Private Markets allocated to Public Equity. Prior to 7/1/2016 the uninvested portion of the Private Markets was invested in Fixed Income and the Composite Index was adjusted accordingly. When the Strategic Asset Allocation Policy Target changes, so does the Composite Index.

Core Bonds Benchmark:

The Core Bonds Benchmark is the Bloomberg U.S. Aggregate. Prior to 2016 this index was called the Barclays Agg. Prior to 9/18/2008 this index was called the Lehman Brothers Aggregate Bond Index. From 7/1/84-6/30/94 the asset class benchmark was the Salomon Brothers Broad Investment Grade Index. The SBI name for this benchmark changed from Fixed Income to Core Bonds on March 31, 2020.

Credit Plus Benchmark:

40% Bloomberg US Corporate Bond Index, 30% Bloomberg US Mortgage Backed Index, 20% BofA ML US High Yield BB-B Cash Pay Constrained Index, and 10% JPM EMBI Global Diversified Index.



Addendum

Domestic Equity Benchmark:

Since 12/1/2020 the benchmark is the Russell 3000. From 1/1/2019-11/30/2020 the benchmark was 90% Russell 1000 and 10% Russell 2000. From 10/1/2003 to 12/31/2018 it was the Russell 3000. From 7/1/1999 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/1999, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.

Fixed Interest Blended Benchmark: Since 6/1/2002, equals 3 Year Constant Maturity Treasury Yield + 45 bps. Prior to this change it was the 3 Year Constant Maturity Treasury Yield + 30 bps.

International Equity Benchmark:

Since 12/1/2020 equals the MSCI ACWI ex-US(Net). From 1/1/2018 to 1/1/2019 it was 75% MSCI World ex USA Index (net) and 25% MSCI Emerging Markets Index (net). From 6/1/08 to 12/31/2018 the International Equity asset class target was the Standard (large + mid) MSCI ACWI ex U.S. (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI ACWI ex U.S. (net). From 10/1/03 to 9/30/07 the target was MSCI ACWI ex U.S. (net). From 1/1/01 to 9/30/03, the target was MSCI EAFE Free (net) plus Emerging Markets Free (net), and from 7/1/99 to 12/31/00 the target was MSCI EAFE Free (net) plus Emerging Markets Free (gross). From 7/1/99 to 9/30/03, the weighting of each index fluctuated with market capitalization. From 10/1/01 to 5/31/02 all international benchmarks being reported were the MSCI Provisional indices. From 12/31/96 to 6/30/99 the benchmark was fixed at 87% EAFE Free (net)/13% Emerging Markets Free (gross). On 5/1/96, the portfolio began transitioning from 100% EAFE Free (net) to the 12/31/96 fixed weights. Prior to 5/1/96 it was 100% the EAFE Free (net).

Multi-Asset Credit Benchmark:

33.33% ICE BofA High Yield, 33.33% S&P LSTA Leveraged Loan, and 33.33% JPM EMBI Global Diversified Index.

Passive Domestic Equity Benchmark:

A weighted average of the Russell 1000, Russell 2000 and Russell 3000 effective 11/1/2018. From 10/1/2016 to 11/1/2018 it was a weighted average of the Russell 1000 and Russell 3000. From 10/1/2003 to 10/1/2016 it was equal to the Russell 3000. From 7/1/2000 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/2000, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.

Passive Manager Benchmark:

Russell 3000 effective 10/1/2003. From 7/1/2000 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/2000, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.



Addendum

Public Equity Benchmark:

Since 12/1/2020 it is 67% Russell 3000 and 33% MSCI ACWI ex-US(net). From 1/1/2019 to 12/1/2020 it was 60.3% Russell 1000, 6.7% Russell 2000, 24.75% MSCI World Ex US (net), and 8.25% MSCI EM (net). From 7/1/2017 thru 12/31/2018 it was 67% Russell 3000 and 33% MSCI ACWI ex USA. Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a total Public Equity return. From 6/30/16-6/30/17 the Public Equity benchmark adjusted by 2% each quarter from 75% Russell 3000 and 25% MSCI ACWI ex USA until it reached 67% and 33%.

Return Seeking BM:

A weighted composite of each individual return seeking fixed income managers' benchmarks. The calculation uses the average weight of the manager relative to the total group of active managers during the month.

Semi-Passive Domestic Equity Benchmark: Russell 1000 index effective 1/1/2004. Prior to 1/1/2004 it was the Completeness Fund benchmark.

Total Fixed Income Benchmark:

Since 7/1/2020 the Total Fixed Income benchmark is 40% Bloomberg U.S. Aggregate Index/ 40% Bloomberg Treasury 5+ Years Index/ 20% ICE BofA US 3-Month Treasury Bill. From 4/1/2019-6/30/2020 it was 50% Bloomberg Aggregate and 50% Bloomberg Treasury 5+ Years Index. From 2/1/2018-3/31/19 the weighting of this benchmark reflected the relative weights of the Core Bonds and Treasuries allocations in the Combined Funds Composite.

Zevenbergen Benchmark: Russell 3000 Growth index effective 1/1/2021. Prior to 1/1/2021 it was the Russell 1000 Growth Index.

