### NYC Board of Education Retirement System Investment Meeting (Public)

ScheduleFriday, June 21, 2024 9:30 AM — 1:00 PM EDTVenueThe Public may attend this meeting via livestream. Please click this link to join: https://vimeo.com/nycpensionmeetingOrganizerWilfredo Suarez						
Agenda						
	PUBLIC AGENDA -	1				
9:30 AM	Welcome and Opening	2				
9:45 AM	STAR Recommendation:	3				
	2024_05 BERS STAR Implementation Presentation.pdf	4				
	BAM Trustee Service Compact — BERS.pdf	31				
10:05 AM	Quarterly Presentation (Public): -Market Overview -Performance Update -Risk Update	52				
	BERS 1Q2024 Quarterly Presentation (Public)_vf.pdf	53				
	IQ2024 Quarterly Risk Update (BERS).pdf	97				
	NON-INVESTMENT MATERIAL - QUARTERLY PERFORMANCE REPORTING SECTION (Public Reports):	111				
	State Street Quarterly Fund Performance Overview (Public):	112				
	BERS 1Q24 Quarterly Report Overview (Public).pdf	113				

ETI Quarterly Report (Public):	175
ETI 1Q Qtrly Rpt (Public)_06.21.2024 (BERS).pdf	176
Private Equity Quarterly Report (Public):	182
PE 4Q Qtrly Rpt (Public)_06.21.2024 (BERS).pdf	183
Real Estate Quarterly Report (Public):	208
NE 4Q Qtrly Rpt (Public)_06.21.2024 (BERS).pdf	209
Infrastructure Quarterly Report (Public):	237
Infra 4Q Qtrly Rpt (Public)_06.21.2024 (BERS).pdf	238
Risk Quarterly Report (Public):	268
Risk 4Q Qrtly Report (Public)_06.21.2024 (BERS).pdf	269
APPENDICES: -Basket Clause -Liquidity Analysis	294
🔎 Basket Clause Rpt_06.21.2024 (BERS).pdf	295
🔎 Liquidity Report_06.21.2024 (BERS).pdf	296

### PUBLIC AGENDA -

Welcome and Opening

STAR Recommendation:



### **BERS INVESTMENT MEETING** PUBLIC SESSION



May 15, 2024

# **STAR Implementation**

### How We Got Here

1. Strategic & Tactical Accountability Review (STAR) — McKinsey

- 2. BAM Compensation Study Mercer
- 3. Economically Targeted Investments (ETI) Review David Ehrenberg



## Today's Agenda

- 1. Update on Ongoing STAR Implementation Work
  - Investment Procurement
  - Consultants
- 2. Draft Trustee Service Compact
  - BAM's Mission, Service Aspiration Statement, and Service Commitments
  - BAM's Annual Workplan & Trustee Annual Calendar
  - Joint Manager Meeting Pilot
  - BAM's Investment Advisory Delegation
  - An Annual Corpus Budget & Resource Update



### **Investment Procurement Update**

Under the current system there are 20+ handoffs, taking 24 to 36 months per contract

BAM aims to remove ~12 handoffs and reduce the process to 7-12 months by

- 1. Hiring a **BAM ACCO** and a dedicated **BAM Legal Resource**, and shifting Chief ACCO responsibility to CIO
- 2. Exploring changes to the Procurement Policy Board rules to align public market procurement process with private market procurement process

BAM has received internal approval to move forward



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### Consultants

Consultants are hired by trustees, but work closely with BAM to support trustees

With input from consultants, STAR provided recommendations to

- Standardize level of support across consultants
- Improve collaboration between consultants and BAM
- Improve coordination between specialty and general consultants

In 2025, we will be putting out an RFP for general and specialty consultants on your behalf

BAM will propose updates to the RFPs to align with STAR recommendations. Trustees will edit and approve as always



Page 10 of 298

# Trustee Service Compact

## In Your Draft Trustee Service Compact

Each year, as part of the Trustee Service Compact review process, there will be an opportunity to review and approve

- The BERS IPS, including in particular the sections on
  - Investment Beliefs (new)
  - Role of Comptroller
- Trustee Service Compact
  - BAM's Mission, Service Aspiration Statement, and Service Commitments
  - BAM's Annual Workplan & Trustee Annual Calendar
  - Joint Manager Meeting Pilot
  - BAM's Investment Advisory Delegation
  - An Annual Corpus Budget & Resource Update



## **Establishing Your Investment Beliefs**

A central component of STAR implementation will be to work together to establish your system-specific Investment Beliefs. This process will

- 1. Align BAM and Trustees on codified & fact-based fund-level investment beliefs
- 2. Formally codify and update system-specific asset class-level strategies

These Investment Beliefs will reflect the unique preferences of your individual fund and will enable BAM to better customize your investment options

Once complete, these Investment Beliefs will live within your Investment Policy Statement and will inform your Trustee Service Compact



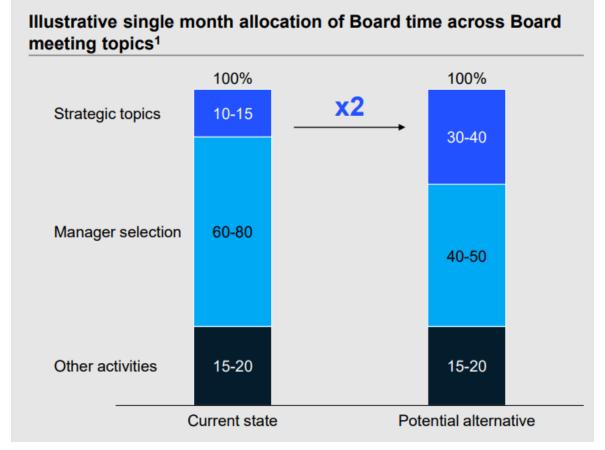
## Joint Manager Meeting Proposal

#### Allocate Board time to strategy —

Adjust Board agendas to increase time allocation towards high-impact strategic topics

### **Consolidate repetitive meetings** —

Create a single forum that allows managers to present to all Boards





## Joint Manager Meeting Structure

BAM is proposing to pilot a Joint Manager Meeting from September to December

- 1. A Joint Manager Meeting (1hr)
  - Presentations from new managers
  - All trustees invited, not required
  - Allows for reallocation of BAM time toward investment management by limiting repetitive manager presentations and condensing presentation timelines

- 2. System-specific Investment Meetings (1.5hrs)
  - Focus on System-specific strategic topics, including portfolio construction, performance reviews, fee analysis, risk updates, etc.
  - Systems vote on both new and re-up manager recommendations
- **3. Ongoing Education Sessions** 
  - Weekly Thought Leadership Speaker Series
  - Quarterly cross-system deep dives



### Sample Monthly Calendar

### November

**Joint Manager Meeting** 

Manager Presentations

BAM Cross-System Updates

System-Specific Investment Meetings

#### **Standing Topics**

- Preliminary performance update
- Consultant presentations
- Voting on managers

**Strategic Discussion** — Review of service compact, annual budget, and strategic priorities

### **Education Sessions**

Thought Leadership

Investment risk

Takes place at the start of the month

Tacks on to board Regular Meetings

Follows recurring cadence



## Joint Manager Meeting Process

- 1. BAM sends trustees a list of managers expected to be recommended to the boards in the next month, identifying which investments will be presented at the joint manager meeting
  - 1. Trustees can request that additional managers present at the JMM as needed
- 2. BAM sends trustees system-specific **monthly packages** with new cover note
- 3. Joint Manager Meeting takes place at the beginning of the month
- 4. Individual board meetings take place immediately after Regular Board Meetings



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### **Current State of Corpus**

BAM's current budgeted corpus headcount is **70** 

With an annual budget of **\$11.1M** at current compensation levels



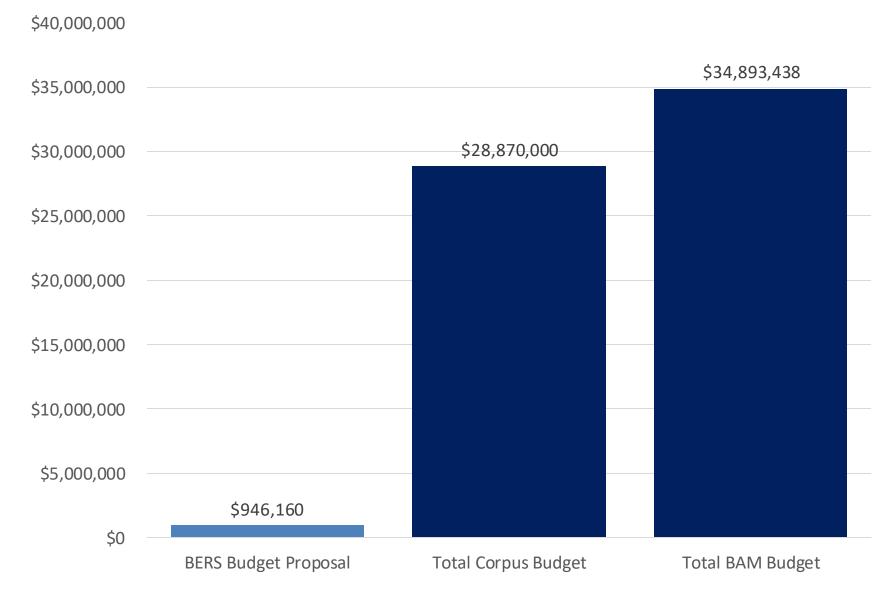
## This resourcing proposal would

- 1. Increase headcount based on STAR recommendations to 127, reflecting
  - 1. Increase in AUM
  - 2. New Asset Allocation
  - **3**. Improved System-specific Customization
- 2. Raise current team member salaries based on market comparisons from Mercer study
- 3. Reallocate team members to corpus funding

BAM corpus funding would be approximately one basis point (0.01%) of the AUM of the five combined systems



### **BERS Corpus Budget Proposal**





### **BERS Corpus Budget Proposal**

#### \$10,000,000,000

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\$9,000,000,000					
\$8,000,000,000					_
\$7,000,000,000					
\$6,000,000,000					
\$5,000,000,000					_
\$4,000,000,000					_
\$3,000,000,000					
\$2,000,000,000					_
\$1,000,000,000					-
ćo	\$946,160	\$28,870,000	\$34,893,438		
\$0	BERS Budget Proposal	Total Corpus Budget	Total BAM Budget	<b>BERS AUM</b>	



# Proposed Total Corpus Headcount by Team

Team	<b>Current Corpus</b>	<b>New Resources</b>	Shift to Corpus	<b>Proposed Corpus</b>
CIO	1	-	-	1
Investment Team	39	14	(2)	51
ETIs	-	3	3	6
Risk Management	6	2	1	9
Compliance	4	-	-	4
Operations	10	-	8	18
Financial Reporting	2	1	2	5
Technology Support	3	-	1	4
Contracts	3	-	6	9
Corporate Governance	2	-	6	8
DEI & EM Strategy	-	1	1	2
ESG Integration	-	-	4	4
Private Market Legal Team	-	-	6	6
Total	70	21	36	127

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## **Compensation Study Recommendations**

The Mercer study produced market comparisons for the 75th and 50th percentiles, comparing BAM to

- 1. Government/Not-for-Profits
- 2. Financial Services
- 3. Public Pensions
- 4. Endowments and Foundations

Mercer recommends that we pursue compensation at their 75<sup>th</sup> percentile level given that

- 1. Our AUM is the third largest in the country
- 2. Our structure is uniquely complex
- We do not have an incentive program but compete for talent with funds that do



## **BAM's Compensation Principles**

- 1. Competitive Compensation Seeking competitive salaries that enable BAM to attract and retain diverse talent
- 2. Flattened Distribution Flattening the significant spread between the highestand lowest-compensated employees in the Mercer study
- **3.** Public Sector Context Aiming for compensation that is appropriate given the public sector context and New York City and State government context

On average, BAM is proposing salaries that are 3% lower than Mercer's 50<sup>th</sup> percentile total compensation and 22% lower than the 75<sup>th</sup> percentile



## **Compensation Study Mapping**

The Mercer Compensation Study proposed suggested salaries for 25 standardized roles within the Bureau of Asset Management

BAM has mapped each of the unique roles across the organization to one of these 25 standardized roles

BAM will be creating compensation ranges, with the proposed salaries at the top of the range

Compensation ranges will be structured based on pre-defined education and experience qualifications



## Proposed Salary by Role

	Current	Estimated		50% -	Proposed	75% -	Proposed
Compensation Study Title	Current Salary	May 2024 Salary	Proposal	Proposed	Compared to 50% %	75% - Proposed	Compared to 75%
Chief Investment Officer	350K	394K	550K	-223K	-29%	-560K	-50%
Deputy Chief Investment Officer	300K	338K	475K	17K	4%	-159K	-25%
Asset Class Head	250K	281K	400K	-69K	-15%	-83K	-17%
Chief Operating Officer	200K	225K	400K	-58K	-13%	-358K	-47%
Chief Risk Officer	250K	281K	400K	20K	5%	-273K	-41%
Chief Compliance Officer	177K	199K	300K	-29K	-9%	-212K	-41%
Senior Investment Officer	175K	197K	300K	34K	13%	-60K	-17%
Investment Officer	134K	151K	200K	13K	7%	-21K	-10%
Senior Investment Analyst	95K	107K	125K	4K	3%	-14K	-10%
Investment Analyst	60K	68K	85K	-2K	-2%	-1K	-1%
Senior Investment Operations Manager	120K	135K	200K	-34K	-15%	-57K	-22%
Investment Operations Manager	97K	109K	150K	-8K	-5%	-68K	-31%
Senior Investment Operations Officer	96K	108K	125K	21K	20%	-7K	-5%
Investment Operations Officer	83K	94K	100K	-19K	-16%	-50K	-33%
Investment Operations Analyst	60K	68K	85K	-16K	-16%	-43K	-34%
Compliance Officer	115K	129K	150K	-8K	-5%	-37K	-20%
Senior Compliance Analyst	95K	107K	110K	36K	49%	26K	31%
Compliance Analyst	70K	79K	85K	-13K	-13%	-26K	-23%
Director of Contracts	140K	158K	200K	-2K	-1%	-28K	-12%
Deputy Director of Contracts	110K	124K	150K	-19K	-11%	-31K	-17%
Senior Contract Analyst	86K	97K	125K	7К	6%	-17K	-12%
Contract Analyst	69K	78K	85K	7К	9%	-5K	-6%
OGC Counsel	165K	186K	300K	-88K	-23%	-184K	-38%



### Proposed Total Corpus Cost by Team

Team	<b>Current Corpus</b>	<b>New Resources</b>	Shift to Corpus	Proposed Corpus
CIO	550,000	-	-	550,000
Investment Team	10,325,000	3,175,000	-	13,500,000
ETIs	-	900,000	700,000	1,600,000
Risk Management	1,485,000	500,000	125,000	2,110,000
Compliance	645,000	-	-	635,000
Operations	1,650,000	-	1,075,000	2,725,000
Financial Reporting	425,000	300,000	500,000	1,225,000
Technology Support	625,000	-	200,000	825,000
Contracts	250,000	-	780,000	1,030,000
Corporate Governance	425,000	-	1,235,000	1,545,000
DEI & EM Strategy	-	125,000	200,000	325,000
ESG Integration	-	-	900,000	900,000
Private Market Legal Team	-	-	1,800,000	1,800,000
Total	16,380,000	5,000,000	7,515,000	28,870,000

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Page 27 of 298

Appendix – BAM Resourcing Proposal

### **STAR Recommendations**

Directional			Potential					
Functions		FTE as ofincrementalJan '24hiring needs1			Additional resourcing may be needed to accommodate	BAM's investment team		
Investment roles	Private Equity	5	+9-12	•	Growing private markets allocation (29% from 24%) and need to	may need to hire +13-29 FTEs to address		
	Real Estate	5	+0-5	    	<ul> <li>source/diligence more deals (i.e, 47 deals in 2024 vs. 33 in 2023)</li> <li>Asset class strategy with greater complexity (e.g., infra co-invest)</li> <li>Trustee customization (e.g., type of manager, climate solutions) requires diligencing of more managers</li> </ul>	current and future workload needs		
	Infrastructure	4	+0-5					
E Tr Non- Investment roles Pr (A HI	Alt. Credit	3	+2-5			Enhancing services providing to Trustees may require an		
	ETI	2	+2 <sup>2</sup>					
	Trustee service	3-4	+1-2			additional 1-2 FTEs		
	IT/IS	5 <sup>4</sup>	+2-4			Such an increase may		
	Procurement (ACCO/Legal)	14 <sup>4</sup>	+1-3			have additional implications on back- office staffing (e.g.,		
	HR	<14	+1			operations)		
	de		scale to meet future for a corresponding on back-office			oporations)		

+18-39 priority positions to be filled (against BAM's 24 vacancies<sup>3</sup> as of 1/24)

### Mercer Findings – 50<sup>th</sup> Percentile

CurrentCurrentCurrentCompensation Study Title*Salary**Chief Investment Officer350KDeputy Chief Investment Officer300KAsset Class Head250KChief Operating Officer200KChief Strategy Officer200KChief of Staff125KChief Risk Officer250KChief Compliance Officer177KSenior Investment Officer134KSenior Investment Analyst95KInvestment Analyst60KSenior Investment Operations Manager120K	May 2024 Salary 394K 338K	50% Comparison 773K	Comparison - May 2024
Chief Investment Officer350KDeputy Chief Investment Officer300KAsset Class Head250KChief Operating Officer200KChief Strategy Officer200KChief of Staff125KChief Risk Officer250KChief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K	394K		May 2024
Deputy Chief Investment Officer300KAsset Class Head250KChief Operating Officer200KChief Strategy Officer200KChief of Staff125KChief Risk Officer250KChief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K		773K	_
Asset Class Head250KChief Operating Officer200KChief Strategy Officer200KChief of Staff125KChief Risk Officer250KChief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K	338K	7751	96%
Chief Operating Officer200KChief Strategy Officer200KChief of Staff125KChief Risk Officer250KChief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K		458K	36%
Chief Strategy Officer200KChief of Staff125KChief Risk Officer250KChief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K	281K	469K	67%
Chief of Staff125KChief Risk Officer250KChief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K	225K	458K	103%
Chief Risk Officer250KChief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K	225K	385K	71%
Chief Compliance Officer177KSenior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K	141K	210K	49%
Senior Investment Officer175KInvestment Officer134KSenior Investment Analyst95KInvestment Analyst60K	281K	380K	35%
Investment Officer134KSenior Investment Analyst95KInvestment Analyst60K	199K	329K	65%
Senior Investment Analyst95KInvestment Analyst60K	197K	266K	35%
Investment Analyst 60K	151K	187K	24%
	107K	121K	13%
Senior Investment Operations Manager 120K	68K	87K	29%
zen operations manager zen	135K	234K	73%
Investment Operations Manager 97K	109K	158K	45%
Senior Investment Operations Officer 96K	108K	104K	-3%
Investment Operations Officer 83K	94K	119K	27%
Investment Operations Analyst 60K	68K	101K	50%
Compliance Officer 115K	129K	158K	22%
Senior Compliance Analyst 95K	107K	74K	-31%
Compliance Analyst 70K	79K	98K	24%
Director of Contracts 140K	158K	202K	28%
Deputy Director of Contracts 110K	124K	169K	37%
Senior Contract Analyst 86K	97K	118K	22%
Contract Analyst 69K	78K	78K	0%
OGC Counsel 165K		388K	109%



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### Mercer Findings – 75<sup>th</sup> Percentile

		Estimated		75%
	Current	May 2024	75%	Comparison -
Compensation Study Title*	Salary**	Salary	Comparison	May 2024
Chief Investment Officer	350K	394K	1.11 M	182%
Deputy Chief Investment Officer	300K	338K	634K	88%
Asset Class Head	250K	281K	483K	72%
Chief Operating Officer	200K	225K	758K	237%
Chief Strategy Officer	200K	225K	513K	128%
Chief of Staff	125K	141K	290K	106%
Chief Risk Officer	250K	281K	673K	139%
Chief Compliance Officer	177K	199K	512K	157%
Senior Investment Officer	175K	197K	360K	83%
Investment Officer	134K	151K	221K	47%
Senior Investment Analyst	95K	107K	139K	30%
Investment Analyst	60K	68K	86K	27%
Senior Investment Operations Manager	120K	135K	257K	90%
Investment Operations Manager	97K	109K	218K	100%
Senior Investment Operations Officer	96K	108K	132K	23%
Investment Operations Officer	83K	94K	150K	60%
Investment Operations Analyst	60K	68K	128K	90%
Compliance Officer	115K	129K	187K	44%
Senior Compliance Analyst	95K	107K	84K	-21%
Compliance Analyst	70K	79K	111K	41%
Director of Contracts	140K	158K	228K	45%
Deputy Director of Contracts	110K	124K	181K	46%
Senior Contract Analyst	86K	97K	142K	47%
Contract Analyst	69K	78K	90K	16%
OGC Counsel	165K	186K	484K	161%



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New York City Board of Education Retirement System

### BAM Trustee Service Compact May 15, 2024

1

### Introduction

#### Overview

This Trustee Service Compact aims to define BAM's service aspirations and specify services that BAM commits to provide for the New York City Board of Education Retirement System (BERS). It is intended to align Trustees and BAM around a core set of service expectations, focus BAM leadership and BAM team members on these commitments, and provide the necessary capacity to deliver on these commitments. This Trustee Service Compact will be approved by the New York City Board of Education Retirement System annually and is designed to be a tool for accountability that will remain in place across Comptroller's Office administrations.

#### **Annual Review**

Each year, as part of the Trustee Service Compact review process, there will be an opportunity to review and approve

- The New York City Board of Education Retirement System IPS, including in particular the sections on
  - Investment Beliefs
  - Role of Comptroller
- Trustee Service Compact
  - BAM's Mission, Service Aspiration Statement, and Service Commitments
  - BAM's Annual Workplan & Trustee Annual Calendar
  - Joint Manager Meeting Pilot
  - BAM's Investment Advisory Delegation
  - An annual corpus budget & resource update

#### **Trustee Survey**

In addition to the Trustee Service Compact, BAM will provide Trustees with an annual survey to assess BAM service performance.

### **BAM Mission**

Achieve exceptional investment outcomes for all stakeholders.

Deliver outstanding support to plan Trustees.

Serve as a responsible steward of the resources of plan beneficiaries & the City of New York.

Do this while instilling an organizational culture of collaboration, individual development, and teamwork that leverages diverse talent and strives for continuous improvement.

### **BAM Service Aspiration Statement**

The Bureau of Asset Management (BAM) aims to deliver outstanding support to Trustees and their funds to enable them to meet their fiduciary obligations.

BAM will support Trustees in achieving the Teachers' Retirement System's investment objectives by providing access to investment options in line with stated investment beliefs.

BAM will provide transparency for Trustees into how it conducts the investment process and arrives at recommendations for Trustees.

BAM will collaborate effectively and efficiently with Trustees and Consultants.

BAM will provide reporting, education, and communication at a level that allows the Trustees to knowledgeably carry out their responsibilities.

### **Trustee Service Commitments**

#### **Investment Outcomes**

BAM will provide visibility on investment performance

BAM will provide objective, robust, and timely advice on all key aspects of the investment process, from Strategic Asset Allocation through to manager selection

BAM will provide transparency on the manager sourcing process including information on which managers have been considered

BAM will customize investment options based on System-specific needs and investment beliefs

#### **Reporting & Communication**

BAM will produce timely quarterly updates on investment performance and market events

BAM will produce accessible and comprehensible reporting materials that are Trustee-oriented

BAM will provide Trustees with its strategic priorities and solicit input from Trustees

BAM will provide proactive communication on important updates and respond to Trustee enquiries in a prompt manner

#### Education

BAM will provide onboarding training to ensure new Trustees understand the roles and obligations of BAM

BAM will deliver training sessions on topics such as market themes, investment strategy, and risks, as necessary to uphold Trustee obligations and responsibilities

## **BAM Fiscal Year 2025 Workplan** STAR Implementation

#### **Investment Beliefs**

Align BAM and Trustees on codified & fact-based fund-level investment beliefs Formally codify and update system-specific asset class-level strategies

#### **Trustee Service Compact**

Propose Trustee Service Compact (this document)

#### Joint Manager Meeting

Pilot Joint Manager Meeting structure to double the amount of time spent on strategy and other high-value topics in Board meetings — *More information provided below* 

#### **BAM Team**

Implement new resourcing and compensation structure — More information provided below

#### **Procurement Review**

Remove ~12 handoffs and reduce the process to 7-12 months by

Hire a BAM ACCO and a dedicated BAM Legal Resource, and shifting Chief ACCO role to CIO

Exploring changes to propose to the Procurement Policy Board to align public market procurement process with private market procurement process

#### Consultants

Draft new consultant RFP in 2025 that will

Improve collaboration between consultants and BAM

Improve coordination between specialty and general consultants

## **Investment Outcomes**

#### Portfolio Contextualization

Update reporting and presentations to BAM will frame recommendations in a complete view of each System's overall portfolio, including

Trustee investment beliefs

Investment strategy

Portfolio-level performance

Peer analysis

Fees

#### **Investment Customization**

Provide trustees with access to customized investment strategies, portfolio construction, and bespoke managers in line with areas identified in investment beliefs and, across dimensions including

Parameters based on size

Additional prioritization of MWBE and diverse managers MWBE status

Broader focus on ESG determinants in the due diligence process

Impact investing

#### **Due Diligence Pipeline**

Create transparency on investment process by sharing pipeline of managers considered

#### **Strategic Asset Allocation Implementation**

Implement Strategic Asset Allocation changes to Private Equity, Alt Credit and Infrastructure

Initiate public search for fixed income

Initiate public search for the public equity developing manager program

Recommend a Direct Emerging Manager Program in Real Estate

#### **BAM Investment Committee Enhancement**

Enhance the BAM Investment Committee including by establishing subcommittees on the Watchlist and Securities Lending

#### **Risk Review**

Increase the role of the Risk team in portfolio construction:

Finalize the review of active v. passive allocation in the Public Equity portfolio

Review the active v passive allocation in the Fixed Income portfolio

Re-evaluate parking places/placeholders for allocated but uncommitted alternative asset classes

Establish uniform watchlist protocol and criteria to share with boards

Restructuring risk reporting to trustees and internally

#### **Economically Targeted Investments**

Implement recommendations for the new ETI program

Transfer administrative management of the PPAR program to CPC

Hire a new Asset Class Head for the ETI program and transfer management of the team to the investment side of the office

Increase ETI investments

#### Procurement

Upcoming Consultant Searches — Initiate consultant searches for General Consultants and specialty consultants on your behalf

Award the ongoing Master Custodian RFP

#### ESG

Continue to expand our ESG integration work during manager due diligence

Make recommendations to boards consistent with our MWBE aspirational goals

Engage with portfolio companies consistent with annual proxy voting and shareholder initiatives plan

Implement Net Zero by 2040 plan

Propose Responsible Property Management Standards to the boards

Propose Private Equity Worker Rights Standards to the boards

## **Reporting & Communications**

#### **Reporting Review**

Restructuring monthly and quarterly reporting to trustees to ensure they are receiving the information they need in a digestible format

Restructure monthly, quarterly, and annual reporting to trustees to ensure they are receiving the information they need in a digestible format, including

Ar	nnual
	Pacing Plans
	Manager Pipeline Report
Q	uarterly
	Market Trends & Themes
	Asset Class Reports
	Fee Reports
	Basket Clause Reports
	Hires & Terminations Reports

Monthly

**CIO Presentations** 

AUM & Performance Webpage

Daily

AUM Dashboard in Convene-equivalent trustee portal

#### **Trustee Cover Letter**

Translate investment materials into specific fund-focused key messages in a digestible format including a draft cover letter that will accompany all monthly board meeting packages

#### **Trustee Portal**

Shift reporting and data sharing with trustees from Convene portal to a Trustee SharePoint site or other user-friendly tool

Enhance two-way communication channels between BAM and trustees by assessing the feasibility of moving from Convene to a customizable board management portal in SharePoint, to potentially include

Daily audited AUM

**BAM University Materials** 

Key documents including board Investment Policy Statements

#### **Reporting Team**

Improve reporting capability by restructuring the BAM Reporting team, integrating reporting expertise from disparate BAM teams

#### Website Updates

Continue to update the Asset Allocation and Asset Performance website to provide trustees, beneficiaries, and the public with more detailed information about pension fund investments Update the BAM website to include public pension fund information that we have not previously made easily accessible like IPS statements, asset allocation documents, responsible contractor policies, etc.

#### **Trustee Service**

Ensure ad-hoc questions and collaboration needs are addressed between Trustees, BAM, and Consultants, including by hiring new team members dedicated to trustee service

## **Education**

#### **Trustee Onboarding**

Deliver standardized onboarding training to trustees

- Develop a full onboarding curriculum, delivered to trustees within the first month of joining
- Conduct BAM University yearly
  - Build onboarding materials into Convene or equivalent

#### **Trustee Education Sessions**

Provide additional education sessions on topics to support Trustee in their responsibilities and fiduciary duties, on topics including

Trustee risk, ethics, fiduciary duties

Understanding investment reporting

Strategic asset allocation and portfolio construction

Investment risk

## **BAM Internal Operations**

#### **BAM Hiring Process**

Implement new hiring process across BAM and continue the work to improve culture and diversity in the bureau

Implement panel hiring

Expand outreach efforts for open positions

#### **Staff Resources**

Enhance staff capacity challenges including by addressing organizational structure, compensation, and diversity

## Joint Manager Meeting Pilot

Based on STAR recommendations, BAM is seeking to revise the board investment meeting structures to increase time allocation towards high-impact strategic topics and consolidate repetitive meetings.

To achieve these goals, BAM is proposing a new structure whereby monthly meetings take the form of

- 1. A Joint Manager Meeting (1hr)
  - Presentations from new managers
  - All trustees invited, not required
  - Allows for reallocation of BAM time toward investment management by limiting repetitive manager presentations and condensing presentation timelines
- 2. A BERS-specific Investment Meetings (1.5hrs)
  - Focus on BERS-specific strategic topics, including portfolio construction, performance reviews, fee analysis, risk updates, etc.
  - Systems vote on both new and re-up manager recommendations
- 3. Ongoing Education Sessions, including
  - Weekly Thought Leadership Speaker Series
  - Quarterly cross-system deep dives

This new meeting structure would follow the Annual Calendar provided below.

The monthly process for implementing this new meeting structure would be as follows.

- 1. BAM sends trustees a list of managers expected to be recommended to the boards in the next month, identifying which investments will be presented at the joint manager meeting.
  - Trustees can request that additional managers present at the JMM as needed.
- 2. BAM sends trustees system-specific monthly packages with new cover note.
- 3. Joint Manager Meeting takes place at the beginning of the month.
- 4. Individual board meetings take place immediately after Regular Board Meetings.

BAM is proposing to pilot a Joint Manager Meeting structure from September to December 2024.

## **Annual Calendar**

## July

### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

**Standing Topics** 

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Risk deep dive

### **Education Sessions**

Thought Leadership Speaker Series Speaker Series

## September

#### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

Standing Topics

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Investment Beliefs and Benchmarks

**Education Sessions** Thought Leadership Speaker Series

## October

Joint Manager Meeting Manager Presentations BAM Cross-System Updates

**BERS-Specific Investment Meeting** Standing Topics

11

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Private Equity & Real Estate Annual Plans

#### **Education Sessions**

Thought Leadership Speaker Series Strategic Asset Allocation & Portfolio Construction

#### Annual Diverse & Emerging Managers Conference

## November

#### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

Standing Topics

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Alternative Credit, Infrastructure & Hedge Funds Annual Plans

#### **Education Sessions**

**Thought Leadership Speaker Series** 

## December

#### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

#### **BERS-Specific Investment Meeting**

Standing Topics

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Public Equity & Public Fixed Income Annual Plans

### Education Sessions

Thought Leadership Speaker Series

## January

### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

**Standing Topics** 

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Private Equity & Real Estate Deep Dives

### **Education Sessions**

Thought Leadership Speaker Series Understanding Investment Reporting

## February

### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

**Standing Topics** 

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Alternative Credit, Infrastructure & Hedge Funds Deep Dives

### **Education Sessions**

Thought Leadership Speaker Series

## March

### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

Standing Topics

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Public Equity & Public Fixed Income Deep Dives

#### **Education Sessions**

Thought Leadership Speaker Series

## April

#### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

#### **BERS-Specific Investment Meeting**

Standing Topics

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — TBD

### Education Sessions

Thought Leadership Speaker Series

#### **BAM University**

## May

### Joint Manager Meeting Manager Presentations

BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

Standing Topics

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — BAM service performance review & feedback

#### **Education Sessions**

Thought Leadership Speaker Series

## June

### Joint Manager Meeting

Manager Presentations BAM Cross-System Updates

### **BERS-Specific Investment Meeting**

Standing Topics

- Preliminary performance update
- Consultant presentations
- Voting on managers

Strategic Discussion — Review of service compact, annual budget, and strategic priorities

### **Education Sessions**

Thought Leadership Speaker Series Investment Risk

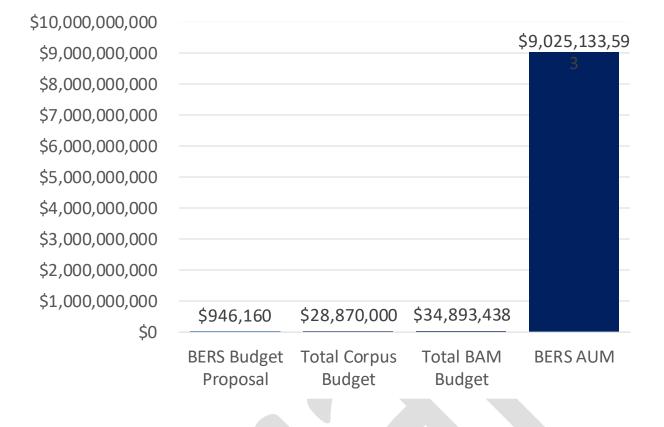
## **Budget Proposal**

## Proposed Salary by Role

		Estimated			Proposed		Proposed
	Current	May 2024		50% -	Compared	75% -	Compared
Compensation Study Title	Salary	Salary	Proposal	Proposed	to 50% %	Proposed	to 75%
Chief Investment Officer	350K	394K	550K	-223K	-29%	-560K	-50%
Deputy Chief Investment Officer	300K	338K	475K	17K	4%	-159K	-25%
Asset Class Head	250K	281K	400K	-69K	-15%	-83K	-17%
Chief Operating Officer	200K	225K	400K	-58K	-13%	-358K	-47%
Chief Risk Officer	250K	281K	400K	20K	5%	-273K	-41%
Chief Compliance Officer	177K	199K	300K	-29K	-9%	-212K	-41%
Senior Investment Officer	175K	197K	300K	34K	13%	-60K	-17%
Investment Officer	134K	151K	200K	13K	7%	-21K	-10%
Senior Investment Analyst	95K	107K	125K	4K	3%	-14K	-10%
Investment Analyst	60K	68K	85K	-2K	-2%	-1K	-1%
Senior Investment Operations Manager	120K	135K	200K	-34K	-15%	-57K	-22%
Investment Operations Manager	97K	109K	150K	-8K	-5%	-68K	-31%
Senior Investment Operations Officer	96K	108K	125K	21K	20%	-7K	-5%
Investment Operations Officer	83K	94K	100K	-19K	-16%	-50K	-33%
Investment Operations Analyst	60K	68K	85K	-16K	-16%	-43K	-34%
Compliance Officer	115K	129K	150K	-8K	-5%	-37K	-20%
Senior Compliance Analyst	95K	107K	110K	36K	49%	26K	31%
Compliance Analyst	70K	79K	85K	-13K	-13%	-26K	-23%
Director of Contracts	140K	158K	200K	-2K	-1%	-28K	-12%
Deputy Director of Contracts	110K	124K	150K	-19K	-11%	-31K	-17%
Senior Contract Analyst	86K	97K	125K	7K	6%	-17K	-12%
Contract Analyst	69K	78K	85K	7K	9%	-5K	-6%
OGC Counsel	165K	186K	300K	-88K	-23%	-184K	-38%

## **BERS Corpus Budget**





## Appendix — Review Fund-Level Investment Beliefs for IPS Update

## **Investment Horizon**

We choose a long-term investment horizon to align with the long-term nature of the System's pension liabilities. We believe that taking a through-cycle view of markets advantages our investment returns on behalf of beneficiaries.

## Strategic Asset Allocation

We believe in strategic asset allocation as the primary driver of investment returns. Portfolio construction and manager selection, as part of holistic portfolio management, are also important in generating value.

## Active vs. Passive Management

We believe the ability to consistently generate excess returns from skill versus an appropriate benchmark (net of fees) is rare, and where the ability exists it is hard to access. We use cost effective, lower risk passive strategies except in areas where we have conviction that active management can reap incremental benefits on a net-of-fees basis

## Internal vs. External Implementation

We believe in the use of external managers to benefit from their scale, resources, and flexibility in pursuing the best investment opportunities.

## **Role of Risk**

Risk and return are strongly related. We believe that taking on an appropriate level of investment risk is a necessary requirement to earn long-term returns above the rate of return on a minimum-risk investment. We take risk into account when making decisions at the portfolio and investment selection levels.

## **Cost Approach**

We believe that managing fees and ensuring efficient implementation can prevent unnecessary cost. We leverage our combined scale to achieve optimal net returns.

## **Manager Selection**

We believe that partnering with the highest quality investment managers is fundamental to generating investment outperformance. We believe in generating differentiated exposure through emergent managers.

## ESG

We consider environmental, social and governance factors in our investment process because they can influence both risk and return

# Appendix — Draft Investment Advisory Delegation

### New York City Board of Education Retirement System Board of Trustees Resolution

June 2024

### **Comptroller as Custodian of Funds**

**RESOLVED**, that the Trustees of the New York City Board of Education Retirement System, Article 2 ("Fund"), pursuant of the provisions of Administrative Code of the City of New York § 13-702, hereby authorize and request the Comptroller of the City of New York, as custodian of the funds of the Fund, to invest said funds for the period commencing July 1, 2024 and ending June 30, 2025 provided that such funds shall be invested in the manner set forth herein:

The Comptroller shall have the power:

- a. To make any investment which the Trustees of the Fund have authorized the Office of the Comptroller to make.
- b. To hold, sell, assign, transfer or dispose of any of the properties, securities, or investments, including mortgages, in which any of the funds of the Fund shall have been invested, including the proceeds of such investments and any monies belonging to such fund, subject to the terms and conditions, limitations and restrictions imposed by law upon such Trustees of the Fund.
- c. In his name as agent of such Trustees to foreclose mortgages upon default or to take title of real properties in any such proceedings in lieu thereof, or to lease and sell such property so acquired.
- d. That the Comptroller of the City of New York be granted authority to exercise, personally or by proxy the voting rights conferred upon the Fund by reason of its ownership of common shares of any corporation. The Comptroller when exercising these voting rights shall confer in advance with the Trustees of the Fund wherever time permits, in all cases wherein he is contemplating a vote against the management of the corporation.
- e. The Comptroller shall exercise the aforesaid delegated powers from July 1, 2024 and ending June 30, 2025 or any renewal thereof, unless the Trustees of the Fund shall sooner elect to reassume such power by filing a written revocation of the delegation in the office of the Trustees of the Fund, and in the office of the Comptroller. The Trustees of the Fund hereby ratify the exercise by the Comptroller of these delegated powers prior to the term thereof.
- f. Any termination, expiration or revocation of the Comptroller's delegated powers shall not affect any binding commitment previously made by the Comptroller pursuant to such delegation and the Comptroller shall have the power to discharge fully any binding commitment according to its terms.

The foregoing is a true copy of a resolution adopted by the Board of Trustees on June X, 2024

#### **Proposed Additions**

- a. Proposing to add a section on Trustee Service Compact
- b. Proposing to add a section on Joint Manager Meeting

Quarterly Presentation (Public):

- -Market Overview
- -Performance Update
- -Risk Update



# **BERS INVESTMENT MEETING** PUBLIC SESSION



June 21, 2024

## **US AND GLOBAL INFLATION**

ECONOMY

Fed Chair's Confidence in Slowing Inflation Is 'Not as High' as Before

Source: New York Times

BoE governor predicts 'quite a drop' in UK inflation in April figure

Source: Financial Times

## US Inflation Ebbs for First Time in Six Months in Relief for Fed

Source: Bloomberg

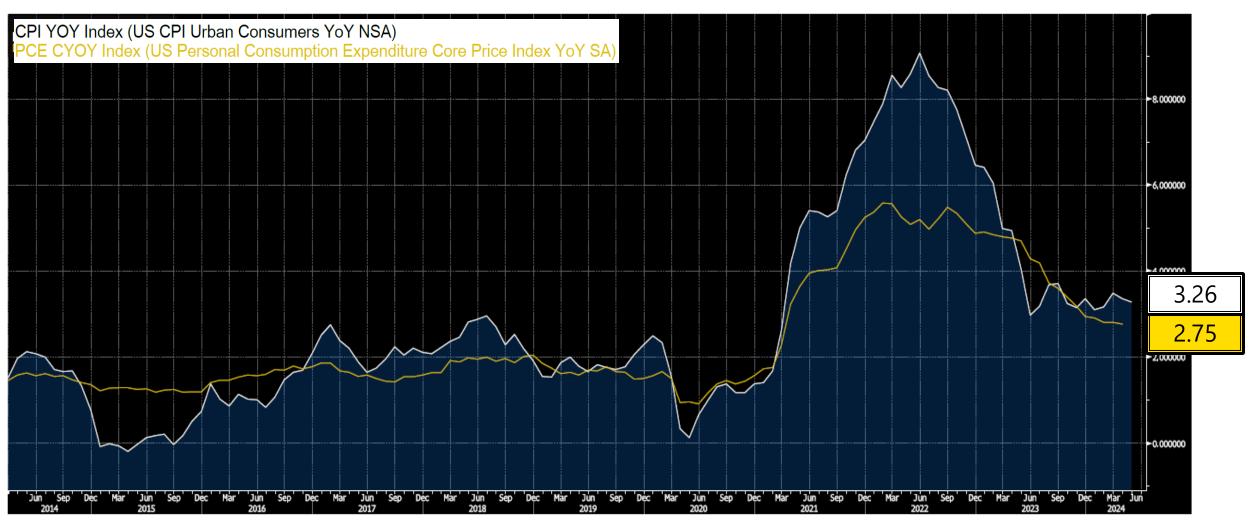
## Canada Inflation Up 2.7% in April, Rises at Slowest Pace in Three Years

Canadian inflation eased last month, resuming its decline to advance at the slowest pace in three years and leaving open the door for interest rates to be cut before summer.

Source: The Wall Street Journal



## **INFLATION**

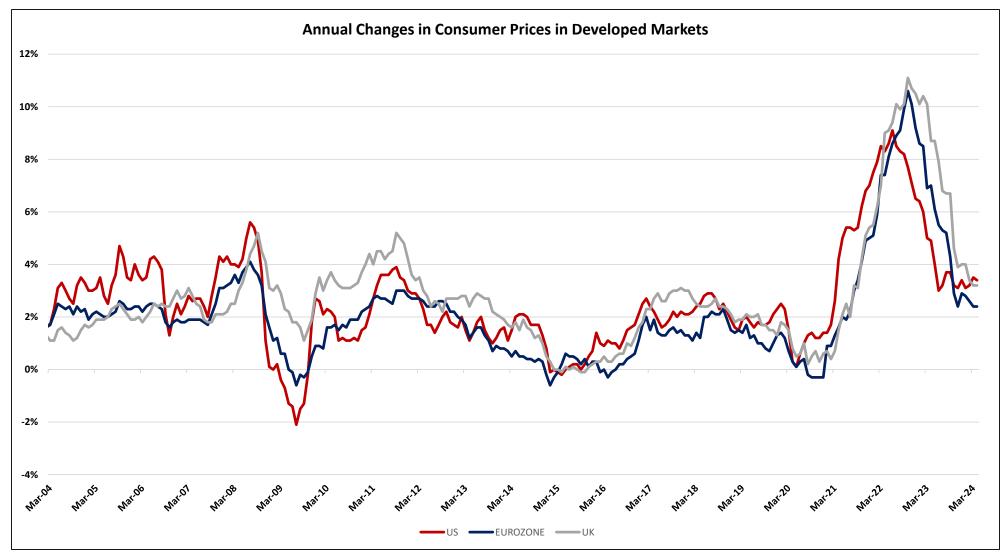


CPI values as of 5/31/24 PCE values as of 4/30/24



## **INFLATION AROUND THE WORLD**

## Inflation still above long-run average





### Page 57 of 298

## **US EMPLOYMENT**

## U.S. Job Market Eases, but Hiring Remains Firm

Employers added 175,000 jobs in April, a milder pace than in the winter months, though layoffs have remained low and most sectors appear stable.

Source: New York Times

## Labor Market Advantage Shrinks for Recent US College Graduates

Source: Bloomberg

## Layoffs in 2024: A List of Companies Cutting Jobs This Year

The layoffs are expected to be smaller and more targeted than those in 2023.

Source: The Wall Street Journal

America's class of 2024 graduates into an uncertain job market

US employers say they will cut their hiring of freshly minted graduates by 5.8% this year

Source: Financial Times



## UNEMPLOYMENT



Values as of 5/31/2024



## **US AND NON-US ECONOMIC GROWTH**

ECONOMY

Data shows a healthy economy, but consumers feel gloomy.

Source: New York Times

BUSINESS

## Britain Shakes Off Recession as Economy Grows Faster Than Expected

Gross domestic product increased 0.6 percent in the first quarter, after shrinking the two previous quarters.

Source: New York Times

## Mix of Slowing Growth, Firm Inflation Worries Investors

## China Industrial Profits Drop as Demand From Overseas Stalls

Earnings fell on weakening exports and fading momentum

Year-to-date profits rose 4.3%, slowing from rebound

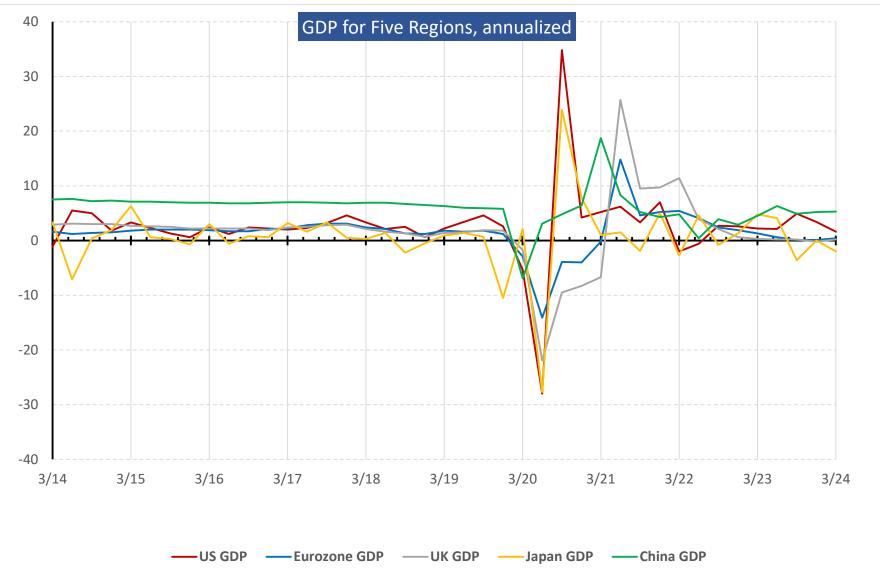
Source: Bloomberg

Another high inflation reading will continue to make it difficult for the Fed to cut rates in the near term.

Source: The Wall Street Journal



## **ECONOMIC GROWTH**





## **US AND GLOBAL INTEREST RATES**

### ECONOMY

# What Forecasters Say About Interest Rates (and Why They Disagree)

Source: New York Times

## America Is Still Headed for a Soft Landing

Don't rule out a surprise rate cut this summer as signs of an economic slowdown are piling up.

Source: The Wall Street Journal

# BoE could be close to cutting rates as inflation eases says deputy governor

Source: Financial Times

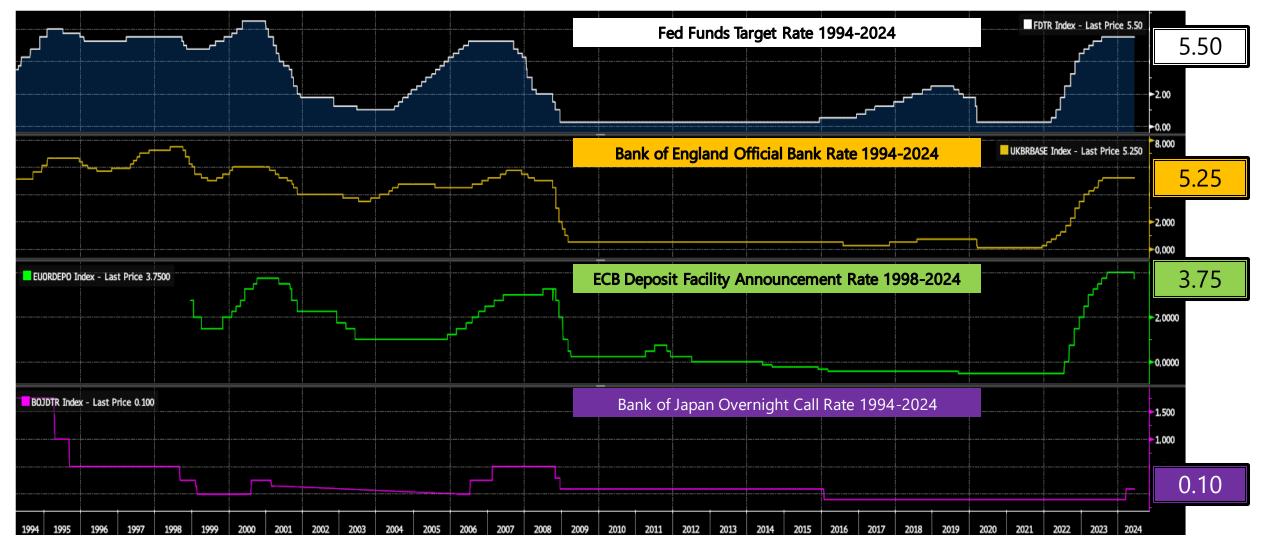
High debt levels put Europe at risk of 'adverse shocks', ECB warns

'Fiscal slippage' leaves countries vulnerable to geopolitical tensions and higher interest rates, says central bank

Source: Financial Times



## **GLOBAL RATE TARGETS**





## **US CREDIT SPREADS AND US TREASURY YIELDS**

US companies find borrowing conditions improving as markets rally

Chicago Fed's index of financial conditions falls to lowest level since January 2022

Source: Financial Times

## **Cooling CPI Drives Down Treasury Yields**

Source: The Wall Street Journal

## Bond Traders Trim Fed Rate Cut Bets With Treasury Shorts Revived

Front-end shorts have rebuilt, longs unwound in recent daysSwaps price in less than 50 basis points of rate cuts for year

Source: Bloomberg

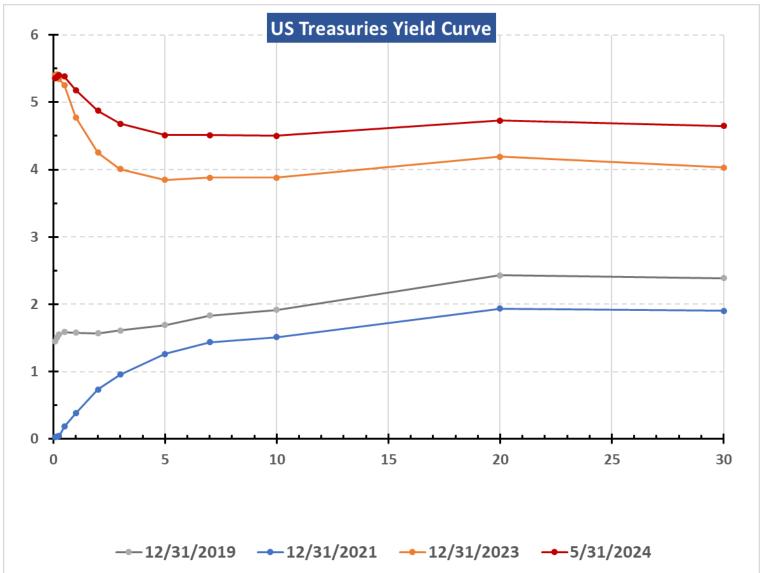
## Can spreads ever be too tight?

Unlike stocks, corporate bonds are never simply cheap or expensive

Source: Financial Times

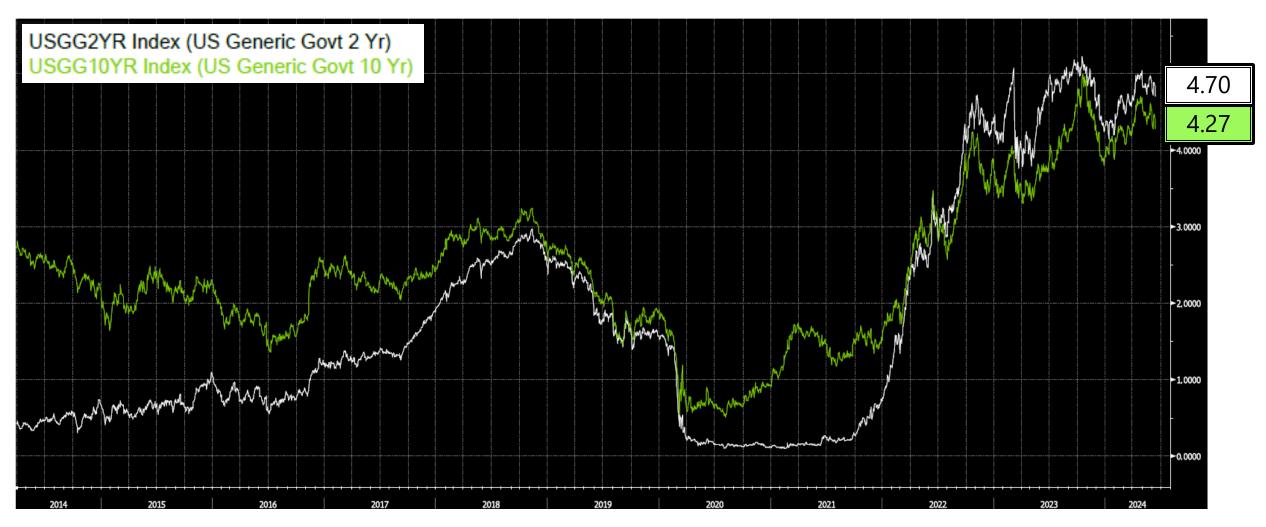


## **U.S. TREASURY YIELDS**





## **U.S. TREASURY YIELD HISTORY**



## 10 Years Ended June 12, 2024



## **CREDIT SPREADS**





## **US STOCK AND BOND MARKET RETURNS**

Markets Wrap S&P 500 Hits Fresh Highs in Countdown to Nvidia

Wall Street traders have also kept a close eye on a handful of Federal Reserve speakers.

Source: Bloomberg

US stocks close at record high on slower pace of inflation

Investors increase bets on Fed's interest rate cuts this year as price growth moderates

## Source: Financial Times

S&P 500, Nasdaq Hit New Records

Source: The Wall Street Journal

## **Investors Are Striking Gold All Over**

Investors have rarely had it this good, with prices of everything from homes to stocks and cryptocurrencies soaring.

### Source: The Wall Street Journal



## **BENCHMARK RETURNS, Q1-2024**

Asset Class	Index	Q1-24	1 Year	3 Year	5 Year	Expected*
Equities - U.S.	Russell 3000	10.0%	29.3%	9.8%	14.3%	6.7%
Equities - Developed Intl	MSCI World ex USA IMI Net	5.2%	14.6%	4.1%	7.2%	7.0%
Equities - Emerging Intl	MSCI EMERGING MARKETS	2.4%	8.2%	-5.1%	2.2%	8.1%
Debt - US Government	NYC Treas/Agency +5	-2.2%	-2.9%	-5.1%	-1.3%	3.9%
Debt - Investment Grade	Bloomberg U.S. Corporate IG	-0.4%	4.4%	-1.9%	1.4%	4.4%
Debt - High Yield	Bloomberg U.S. HY -2% Issuer Cap	1.5%	11.2%	2.2%	4.2%	5.2%

\*Average of consultant long-term arithmetic expected market returns as of 1H '23



16

## WORLD EQUITY MARKETS

World Equity Indices Index	%Ytd	%YtdCur	P/E
	76 F CU	76Ttucur	P/C
1) Americas	0.4.4%	0.4.49/	20.50
DOW JONES INDUS. AVG	2.14%	2.14%	20.60
S&P 500 INDEX	13.45%	13.45%	23.73
NASDAQ COMPOSITE	17.56%	17.56%	37.97
S&P/TSX COMPOSITE INDEX	3.66%		15.45
S&P/BMV IPC			15.26
BRAZIL IBOVESPA INDEX			8.95
2) EMEA			
Euro Stoxx 50 Pr	9.04%	6.29%	13.83
FTSE 100 INDEX	5.42%	5.65%	11.76
CAC 40 INDEX	1.99%		13.29
DAX INDEX	8.99%	6.23%	13.73
IBEX 35 INDEX	9.45%	6.68%	11.15
FTSE MIB INDEX	10.61%	7.81%	8.24
OMX STOCKHOLM 30 INDEX	7.97%	3.81%	14.48
SWISS MARKET INDEX	8.47%	2.08%	14.81
3) Asia/Pacific			
NIKKEI 225	15.71%	4.04%	24.78
HANG SENG INDEX	6.25%	6.26%	9.48
CSI 300 INDEX	2.77%	0.62%	13.84
S&P/ASX 200 INDEX	2.09%		17.49
4) Global			
BBG World Lrg/Mid Cap PR	9.64%	9.64%	19.56

As of 6/13/24

## WORLD BOND MARKETS

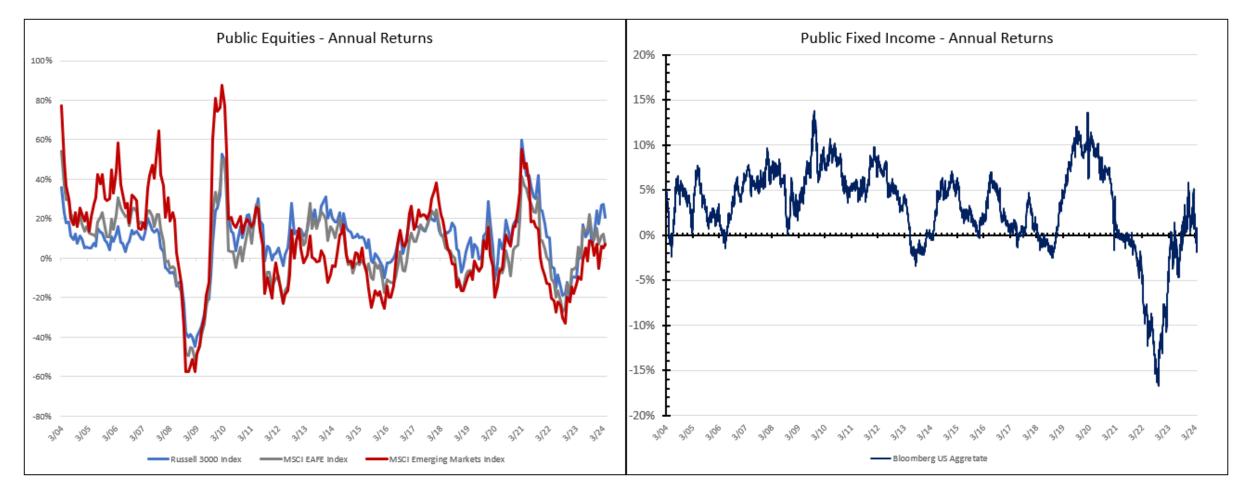
						Wo	orld Bond	Markets
Maturity 10 Year					Data Range		YTD	
Region	RMI	Security		Yld	Low	Range	High	YTD Ch
1) Americas						Avg Now		
10) United States	53	T 4 <sup>3</sup> <sub>8</sub> 05/34	$\otimes$	4.265	3.879		4.704	+38.
11) Canada	[]	CAN3 06/01/34	0	3.341	3.105		3.866	+23.
12) Brazil (USD)	[]	BRAZIL6 1 34	$\otimes$	6.418	5.962		6.846	+45.
13) Argentina (USD)	63	ARGENT8.28 33	$\odot$	N.A				
14) Mexico (USD)	[]	MEX3 12 02/34	0	5.936	5.413		6.227	+52.
2) EMEA								
20) United Kingdom	[]	UKT4 58 01/34	8	4.131	3.522		4.398	+60.
21) France		FRTR 3 1 33	$\otimes$	3.165	2.554		3.225	+61
22) Germany	23	DBR 2.2 02/34	$\otimes$	2.487	2.019		2.689	+46.
23) Italy	[]	BTPS 3.85 34	$\otimes$	3.945	3.574		4.071	+26.
24) Spain	53	SPGB 3 14 34	0	3.324	2.970		3.439	+35.
25) Portugal	53	PGB2 78 10/34		3.175	2.595		3.300	+58
26) Sweden	[]	SGB2 <sup>1</sup> <sub>4</sub> 05/35	$\odot$	2.215	2.007		2.568	+20
27) Netherlands	[]	NETHER2 12 34	0	2.825	2.313		2.981	+51
28) Switzerland	[]	SWISS 0 06/34	0	0.686	.550		.880	+8.
29) Greece	[]	GGB3 <sup>3</sup> / <sub>8</sub> 06/34	0	3.637	3.042		3.750	+59.
3) Asia/Pacific								
30) Japan	23	JGB 0.8 03/34	$\odot$	0.959	.557		1.074	+35.
1) Australia	[]	ACGB 3 34 34		4.186	3.941		4.517	+23.
2) New Zealand	[]	NZGB 4 14 34		4.647	4.302		4.977	+34
33) South Korea	[]	KTB3 12 06/34		3.322	3.272		3.696	+14.
34) China	[]	CGB2.35 02/34		2.298	2.218		2.559	-25.

As of 6/13/24



### **MARKET RETURNS**

#### Trailing 12-month returns over the last 20 years



Values through 6/13/24

### **RECENT NEWS**

#### European private equity groups forced to keep assets longer

Some firms are struggling to exit investments made when the industry boomed while interest rates were low

Source: Financial Times

#### Banks Are Now Targeting Some of Private Credit's Riskiest Debt

Source: Bloomberg

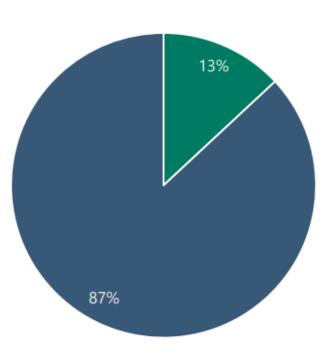
#### Toll Brothers boosts full-year outlook amid tight home inventory

Source: Financial Times



#### US: 87% of firms with revenues greater than \$100mn are private

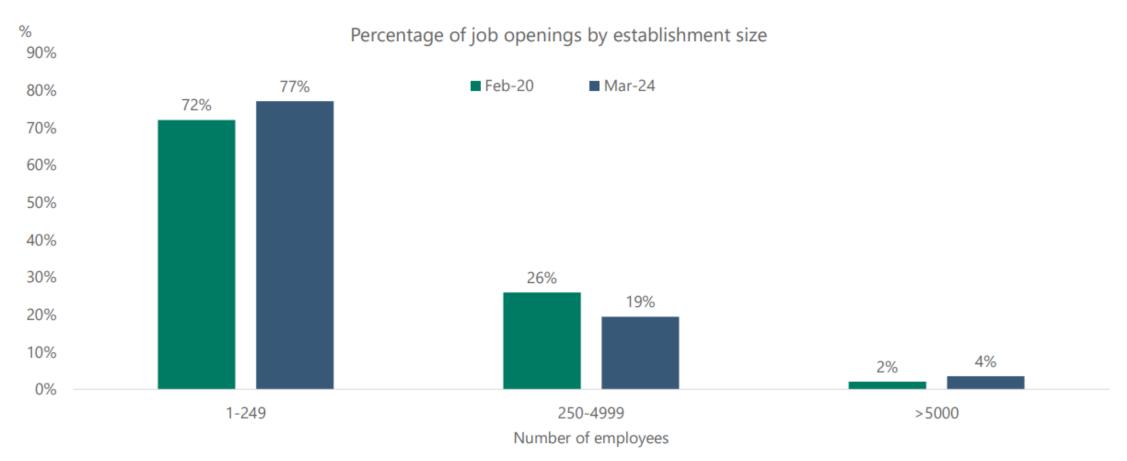
Share of public and private companies in the US, with revenue greater than \$100mn



Public companies
 Private companies



Small businesses, i.e. privately-owned firms, account for almost 80% of job openings

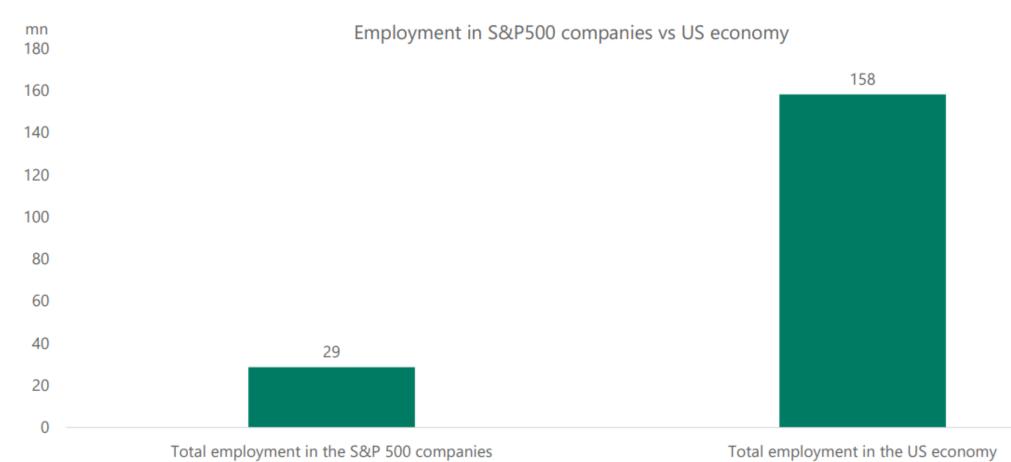




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Source: Apollo

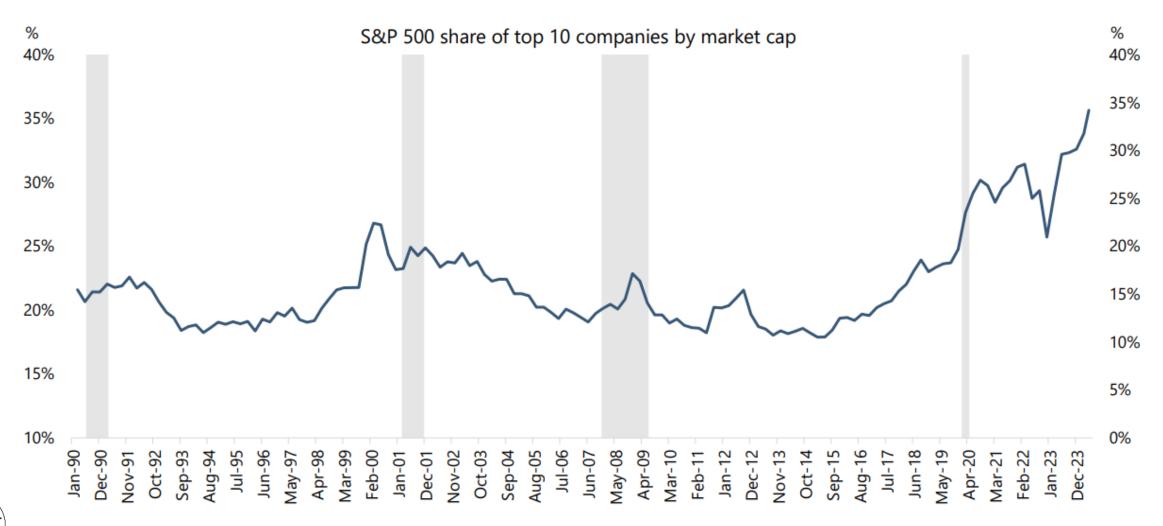
Employment in S&P500 companies is 18% of total US employment





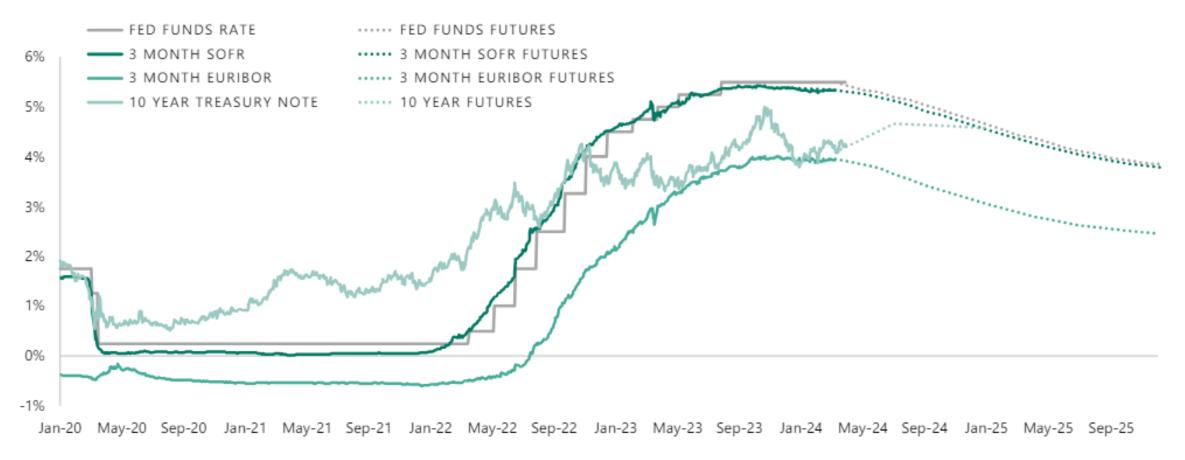
BYTHE OFFICE OF NEW YORK CITY COMPTROLLER BRAD LANDER | Bureau of Asset Management

The concentration in the S&P 500 is more and more extreme





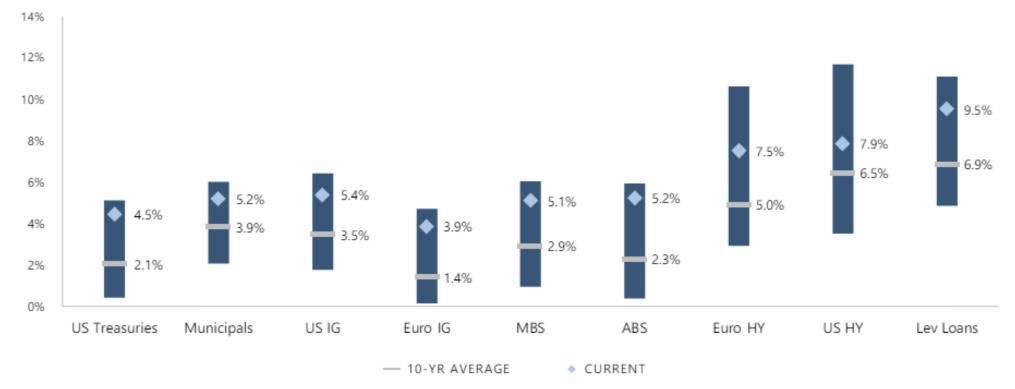
Markets coming to terms with possibility that rates could remain higher for longer



Data as of March 27, 2024.

/ PREPARED BY THE OFFICE OF NEW YORK CITY COMPTROLLER BRAD LANDER | Bureau of Asset Management

#### Yields are attractive across the board, even if valuations appear rich



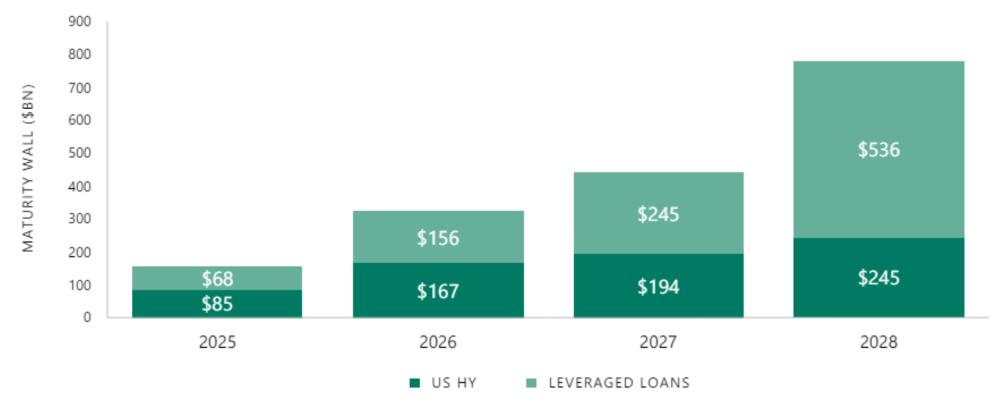
Data as of February 28,2024.



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#### \$1.6 trillion maturity wall will create opportunities for private lenders

Companies are expected to roll over debt in coming years



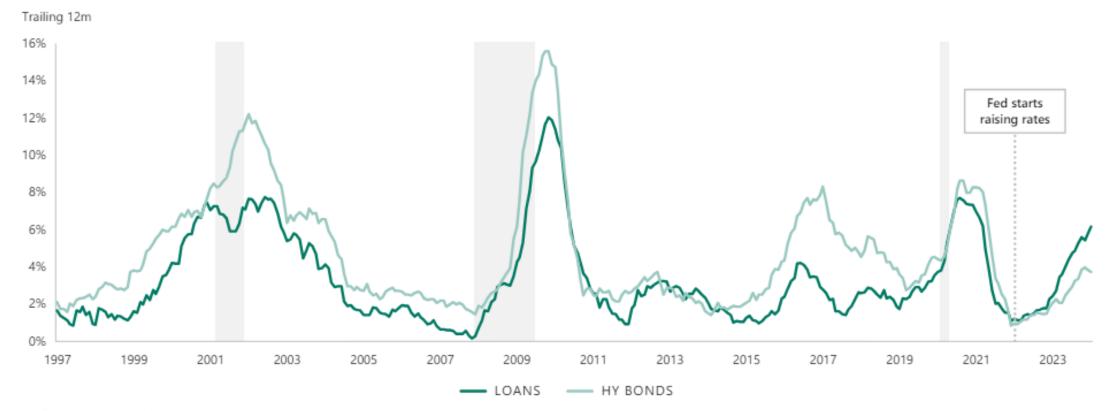
Data as of February, 2024.



PREPARED BYTHE OFFICE OF NEW YORK CITY COMPTROLLER BRAD LANDER | Bureau of Asset Management

#### Default rates have climbed since the Fed started raising rates

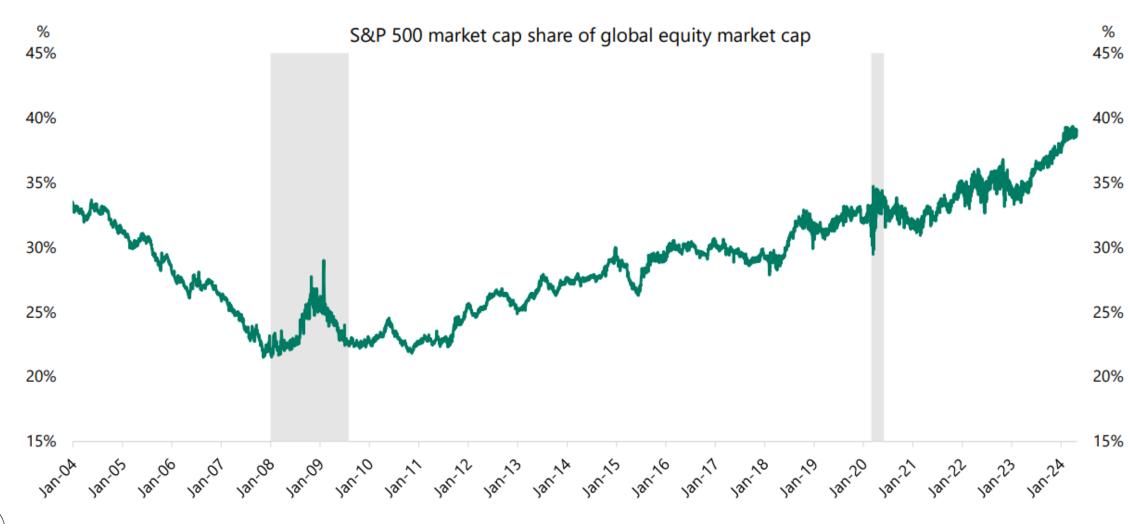
#### US speculative grade default rates



Data as of January 31, 2024.

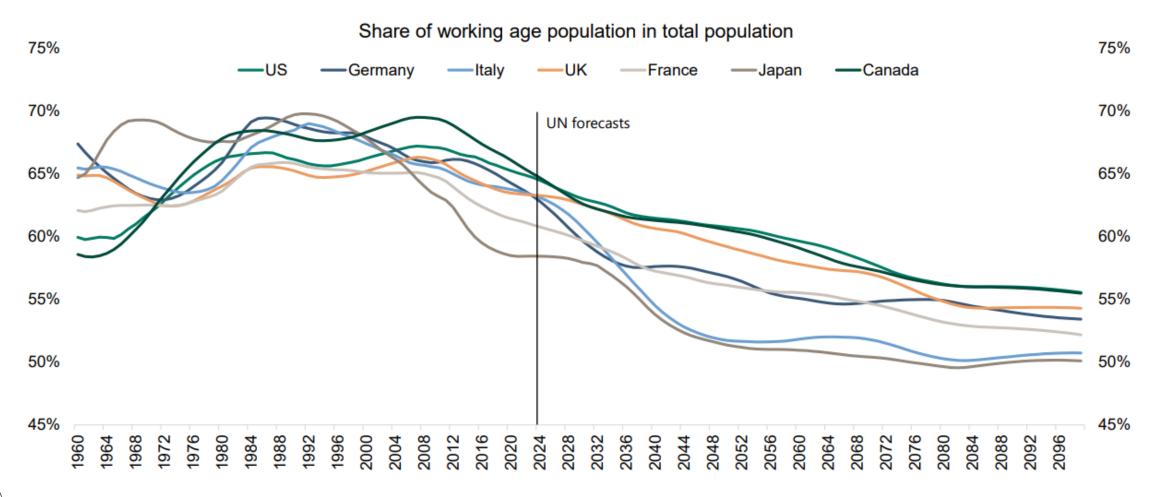


#### S&P 500 is almost 40% of the global equity market cap





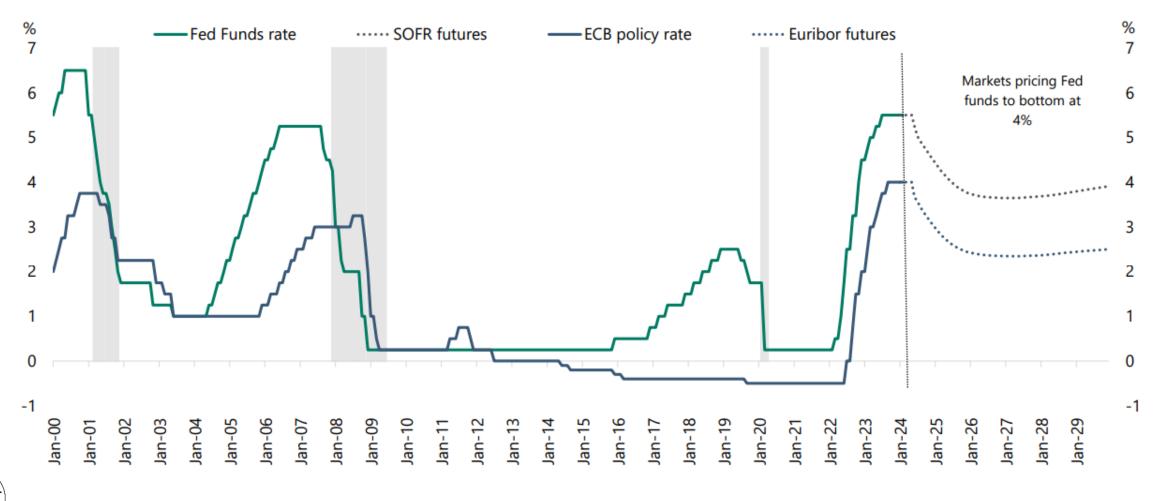
Secular stagnation driving interest rates lower over the coming decades



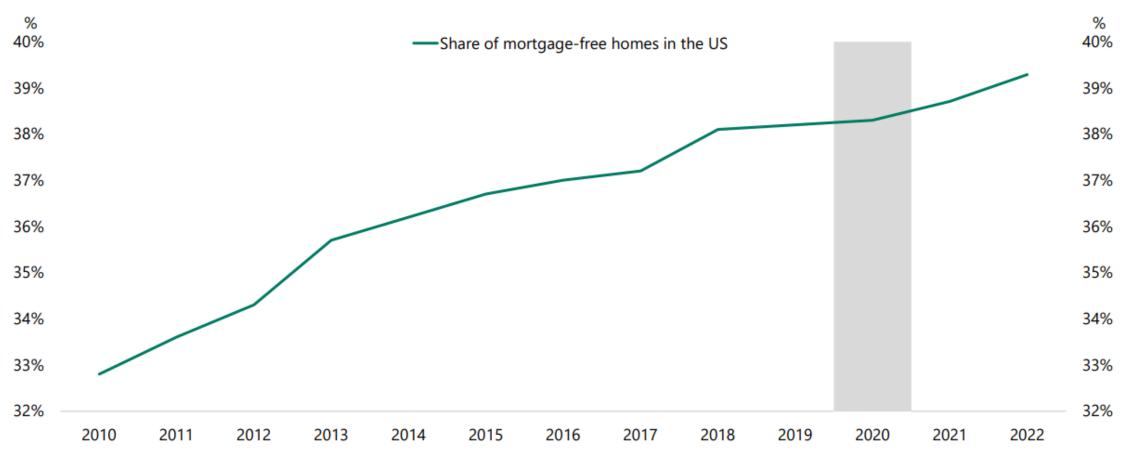


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#### Interest rates will remain permanently higher



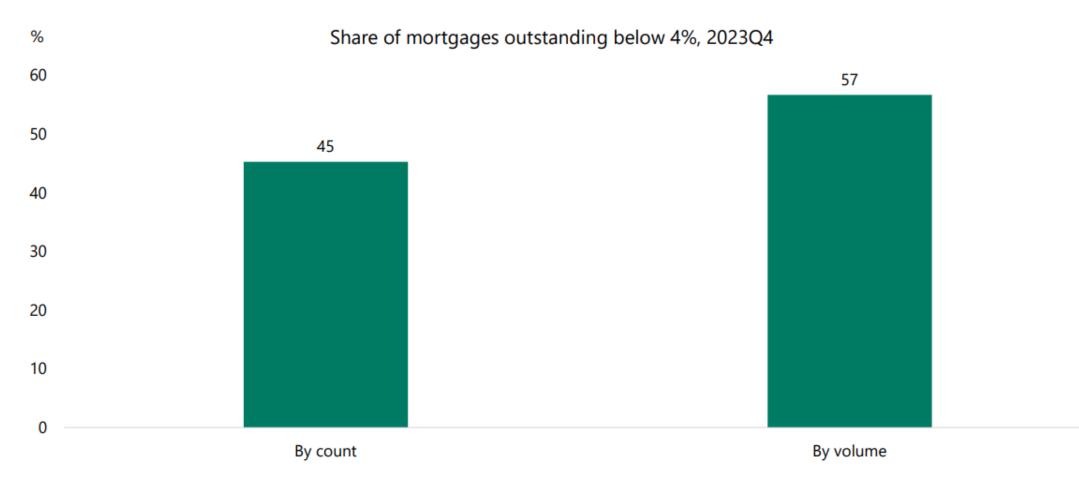
#### Almost 40% of US homes don't have a mortgage



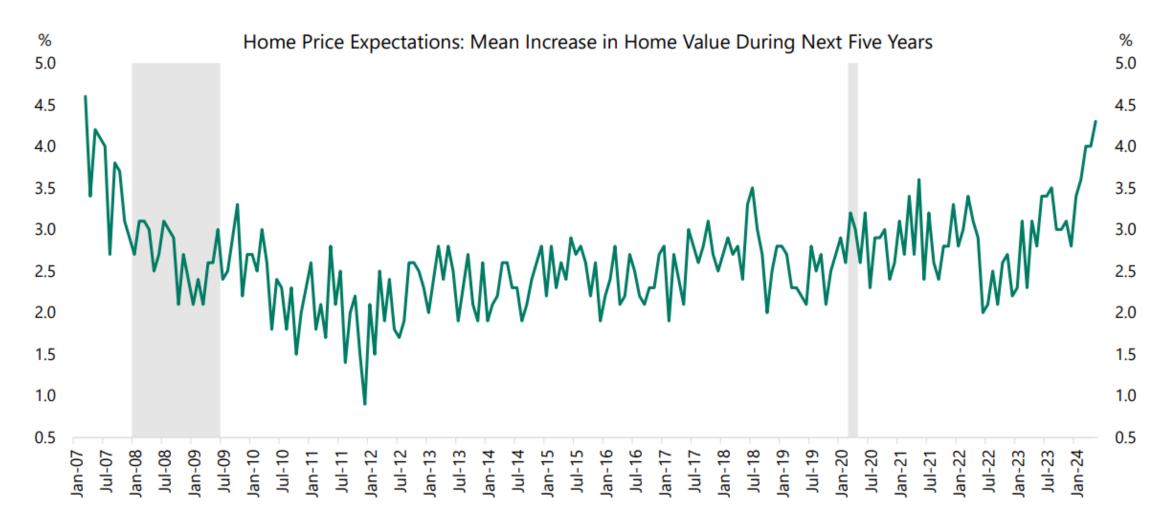


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About half of all mortgages outstanding have an interest rate below 4%



Household expectations to home price appreciation at 2007 levels

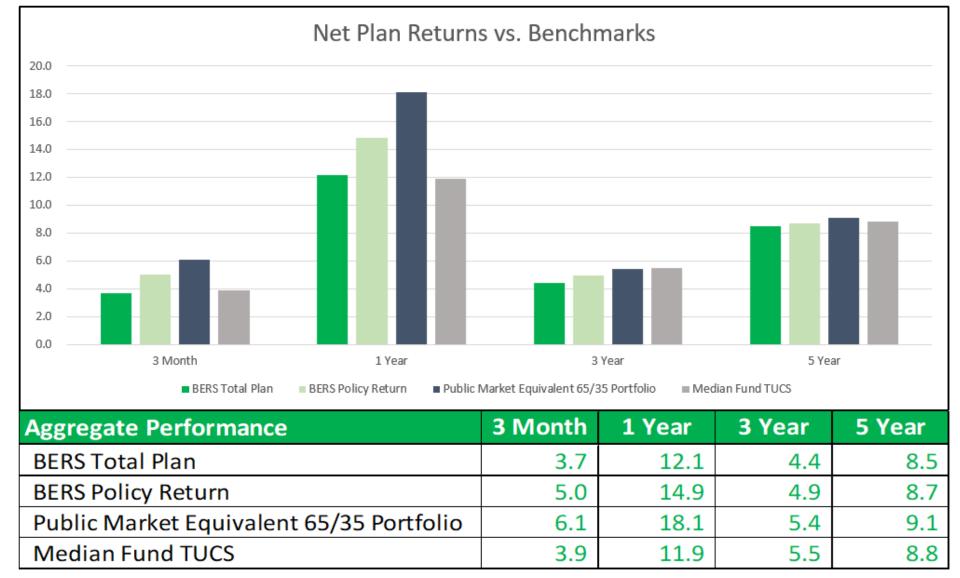




Page 87 of 298

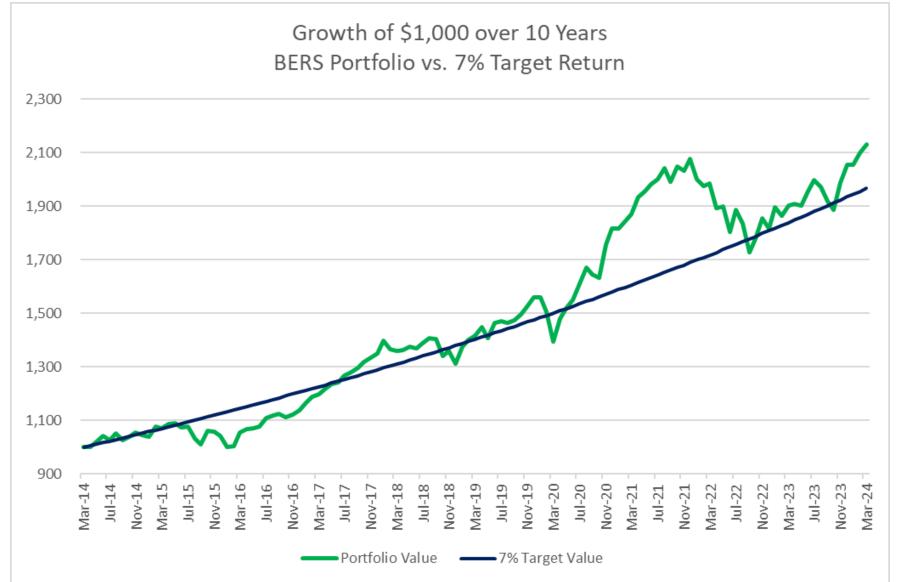
### BERS PERFORMANCE REPORTING Q1-2024

# BERS NET PLAN RETURNS AS OF 3/31/24





### BERS NET PLAN RETURNS AS OF 3/31/24





# BERS NET PUBLIC MARKET RETURNS BY STRATEGY AS OF 3/31/24

	AUM				
Investment Strategy	(Millions)	3 Month	1 Year	3 Year	5 Year
U.S. Equity	2,692	10.0	29.4	9.2	14.0
World ex-U.S.	734	4.0	10.4	(2.4)	7.3
Emerging Markets	330	3.7	13.5	(3.1)	2.6
Core Fixed Income	1,919	(0.6)	2.1	(2.2)	1.0
TIPS	10	(0.1)	0.3	(0.5)	2.5
High Yield	570	1.5	10.5	2.8	4.9
ETI	41	0.1	2.2	(1.4)	1.1
Cash	55	1.3	5.5	2.9	2.4



# BERS PUBLIC MARKETS EXCESS RETURNS IN BP AS OF 3/31/24

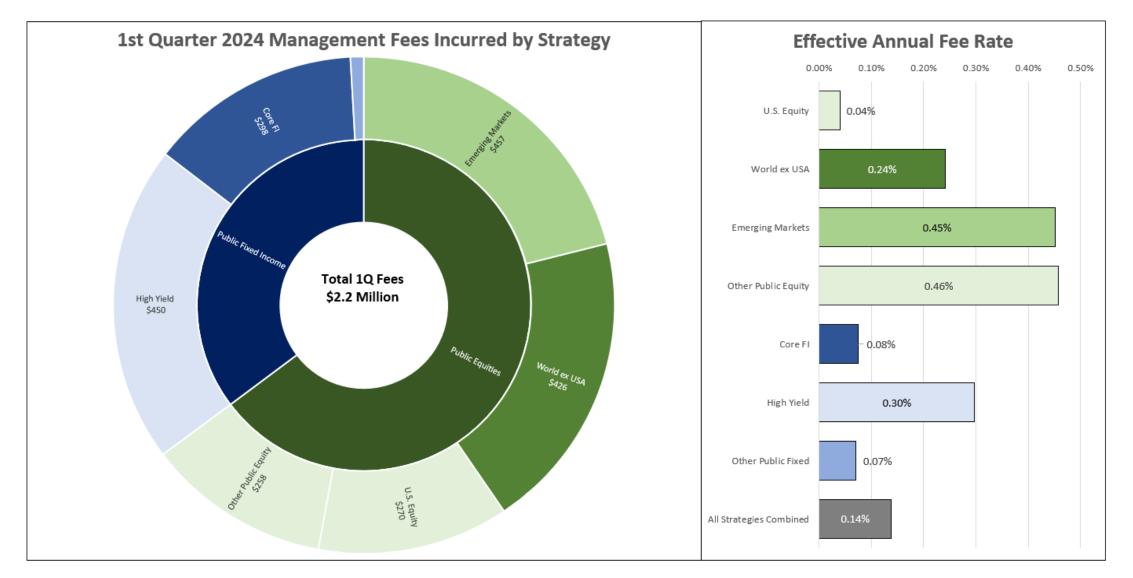
		3 Month	1 Year	3 Year	5 Year
Investment Strategy	Benchmark	Excess	Excess	Excess	Excess
U.S. Equity	Russell 3000	0	6	(60)	(30)
World ex-U.S.	MSCI World ex-U.S. IMI	(120)	(418)	(648)	11
Emerging Markets	MSCI Emerging Markets	128	539	200	35
Core Fixed Income	NYC Custom Structured Index	23	36	20	(29)
TIPS	BB Global Inflation Linked TIPS	(2)	(13)	2	(2)
High Yield	NYC Custom High Yield Benchmark	7	(65)	64	68
ETI	NYC Custom ETI Benchmark	63	3	46	54



Source: State Street

Page 91 of 298

#### **BERS PUBLIC MARKETS FEES**





# BERS NET PRIVATE MANAGER RETURNS BY STRATEGY

Investment Strategy	1 Year	3 Year	5 Year	10 Year	Since Inception
Private Equity	6.9	12.9	15.8	15.2	13.5
Private Real Estate Core	(9.6)	5.7	4.6	6.6	7.0
Private Real Estate Non-Core (Opp.)	(3.4)	7.4	7.1	10.9	10.8
Infrastructure	11.3	11.5	11.6	12.0	12.0
Opportunistic Fixed*	10.9	8.4	0.0	0.0	11.6

Returns for periods ended December 31, 2023, unless otherwise noted.

\* Returns through March 31, 2024.

Source: Aksia, State Street



# BERS PRIVATE MARKETS EXCESS RETURNS IN BP AS OF 12/31/23

		1 Year	3 Year	5 Year	10 Year	Since Inception
Investment Strategy	Benchmark	Excess	Excess	Excess	Excess	Excess
Private Equity	Russell 3000	(1910)	370	60	320	180
Private Real Estate Core	NCREIF ODCE Net	315	168	125	28	114
Private Real Estate Non-Core (Opp.)	NCREIF ODCE Net	937	343	374	455	252
Infrastructure	5-year Rolling CPI +400bp	316	336	349	393	392
Opportunistic Fixed*	50% JPM Glbl HY/50% CS Levered Loan	(137)	189	0	0	431

Returns vs. benchmark for periods ended December 31, 2023, unless otherwise noted.

\* Returns through March 31, 2024.

Source: Aksia, State Street

Page 94 of 298



# BERS PRIVATE MARKETS EXPOSURE SUMMARY AS OF 3/31/24

Investment Strategy			AUM 1illions)	Unfunded Commitments (\$ Millions)		Total Exposure (\$ Millions)	
Private Equity		1,116		691			1,807
Private Real Estate			738		372		1,110
Infrastructure			379		396		775
Opportunistic Fixed			387		256		643
All Strategies Combined			2,621		1,715		4,336
Private Equity Total Exposure: \$1,807 Million				d AUM \$379		Opportunistic Fixed Total Exposure: \$643 Million	



Source: BAM Risk, State Street

## **BERS SUMMARY OF REBALANCING ACTIVITIES**

• Activities between January 1, 2024 and March 31, 2024

From		Amount (\$MM)	То		Amount (\$MM)
U.S. Equity	Large & Mid Cap	190	Cash Desk		56
	Large Cap	36			
	Mid Cap	15	World ex USA		9
	Small Cap	25	Emerging Markets		8
Emerging Marke	ets	130	International FoF		13
Global Equity		85			
			Core Fixed Income	Short Term Treasury	120
				Intermediate Term Treasury	140
High Yield		180		Long Intermediate TreasuryC	80
TIPS		230		Long Term Treasury	40
				Mortgages	160
				Credit	165
				Developing Managers	100
Total Outflow		891	Total Inflow		891



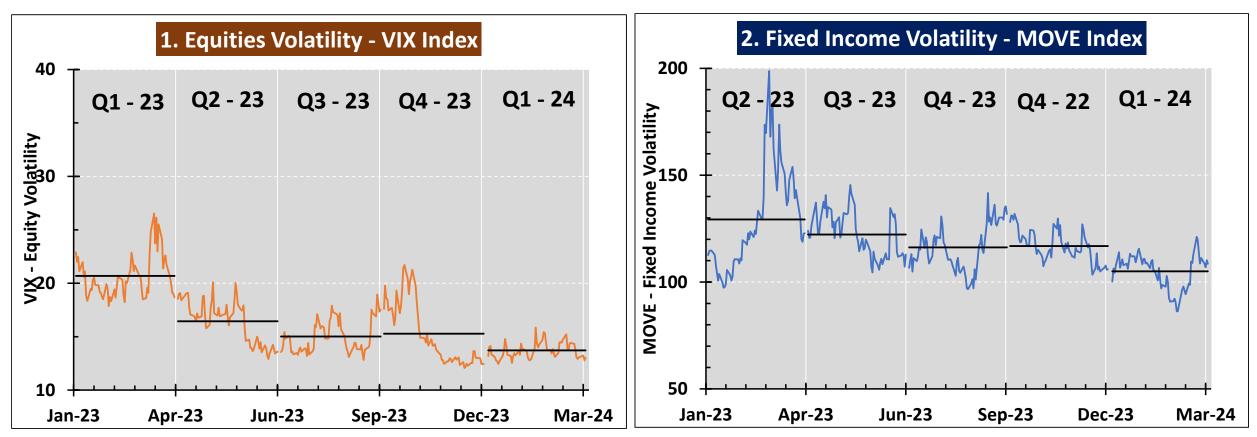
Page 97 of 298

#### **RISK MANAGEMENT**

# **QUARTERLY REVIEW**

### **RISK SUMMARY: MARKET CONTEXT**

- Equity Volatility is within the "low" range
- Fixed Income Volatility remains elevated, normalizing





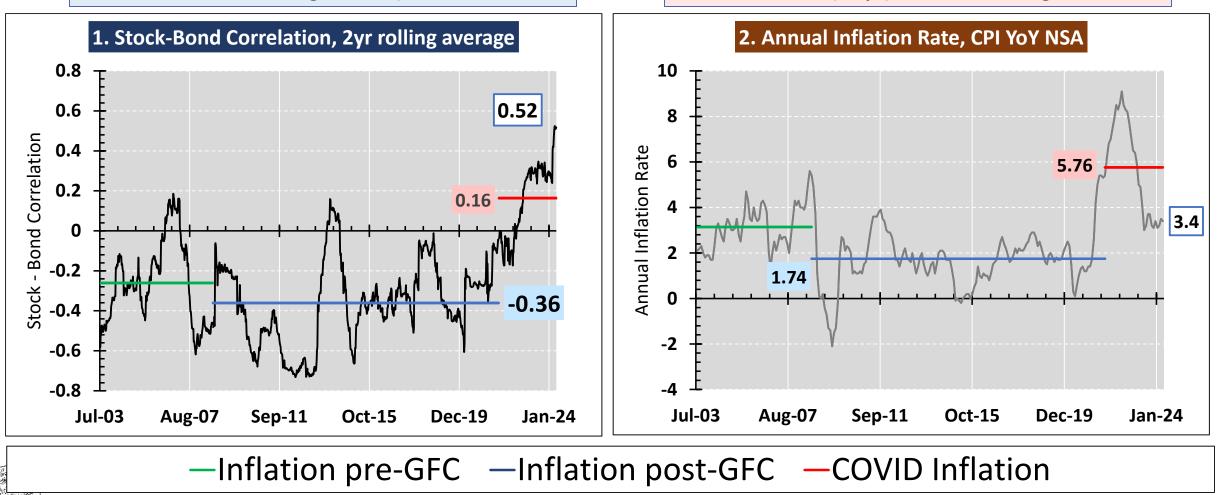
#### **RISK SUMMARY: MARKET CONTEXT**

#### **Negative Stock-Bond Correlation**:

- Strong diversification
- Bonds act as a hedge for Equities

#### **Positive Stock-Bond Correlation**:

- Weaker diversification
- Bond and Equity prices move together

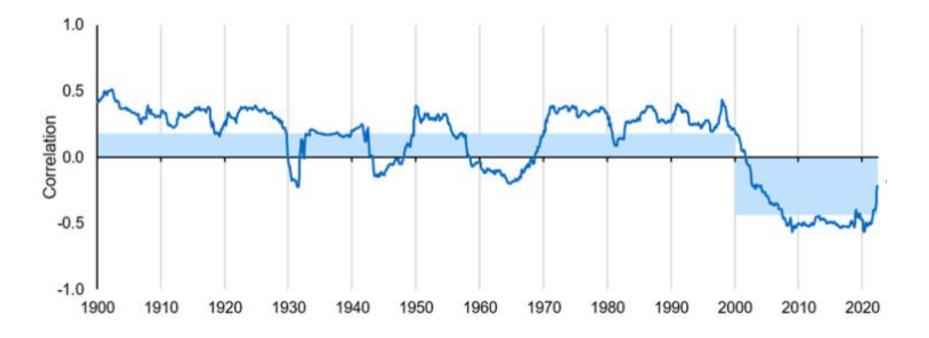


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# RISK SUMMARY: LONG TERM STOCK-BOND CORRELATION of 298

#### Where next?

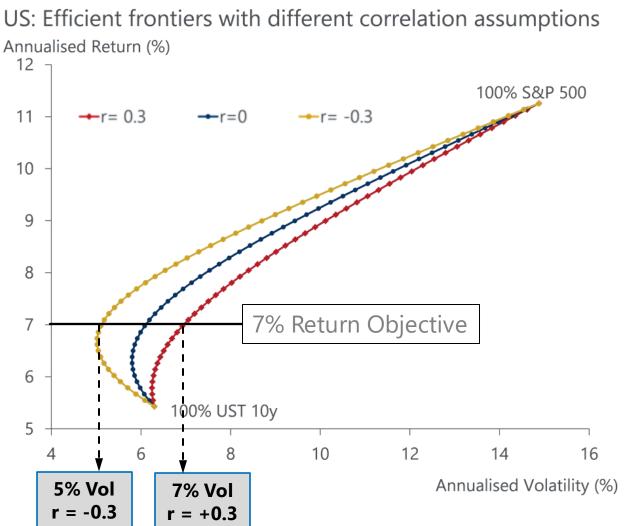
#### Rolling 10-year correlation between US Equity and Treasury returns



Source: A.Brixton, et al, 2023. "A Changing Stock-Bond Correlation: Drivers and Implications" *Journal of Portfolio Management*, 40 (4)



## **RISK SUMMARY: IMPACT ON RETURNS**



Impact of Positive **Stock-Bond Correlation** on Returns

- If Stock-Bond Correlation increases from -0.3 to +0.3
- Then Portfolio Volatility increases from 5% to 7%
- Need to decrease Equity Allocation to maintain same risk level
- Which leads to lower returns

Source: Oxford Economics/Macrobond.

Based on historical returns for the S&P 500 and 10y USTs (data from 1990-2024)

## **BERS: TOTAL PLAN SUMMARY**

	1. Market	Portfolio	2. Policy Benchmark		3. BERS	
Summary	Q1 '24	Change	Q1 '24	Change	Q1 '24	Change
Portfolio Construction						
Equity Allocation	65.0%	+0.0%	68.0%	-0.0%	67.5%	-3.6%
Interest Rates Duration (*)	2.1	-0.04	1.4	+0.04	1.5	+0.25
Credit Spread Duration (*)	1.3	-0.02	0.8	-0.01	1.0	+0.22
Portfolio Risks						
Total Risk (Forecast of Total Return)	10.6%	-0.6%	10.4%	-0.6%	11.1%	-1.2%
Active Risk (Forecast of Excess Return )	n/a	n/a	n/a	n/a	2.1%	-0.3%
Beta to S&P 500	0.63	-0.01	0.63	-0.01	0.65	-0.04

Notes

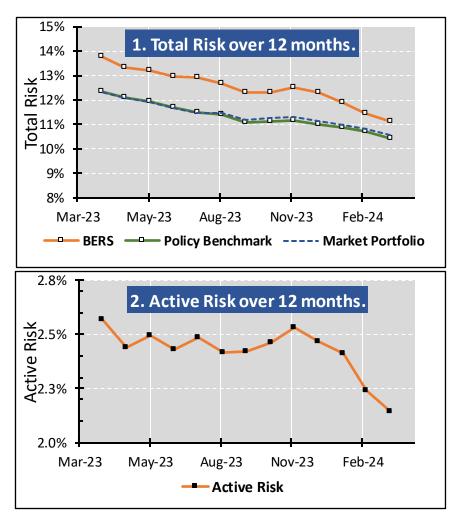
(\*) - Public Markets Only

**Market Portfolio:** 

65% MSCI ACWI + 35% Barclays US Agg

**Policy Benchmark:** 

31% US Equity + 10% Developed Equity + 6% EM Equity + 16% Core FI + 8% HY + 3% Inflation Linked Bonds + 9% Private Equity + 4% RE Core + 4% RE Opportunistic + 4% Infrastructure + 5% Private Credit

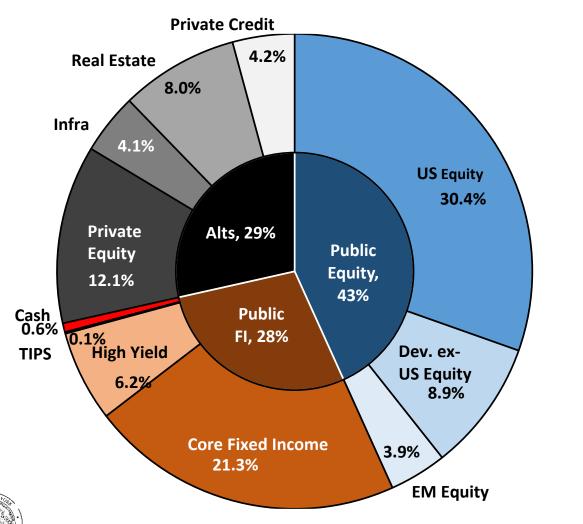


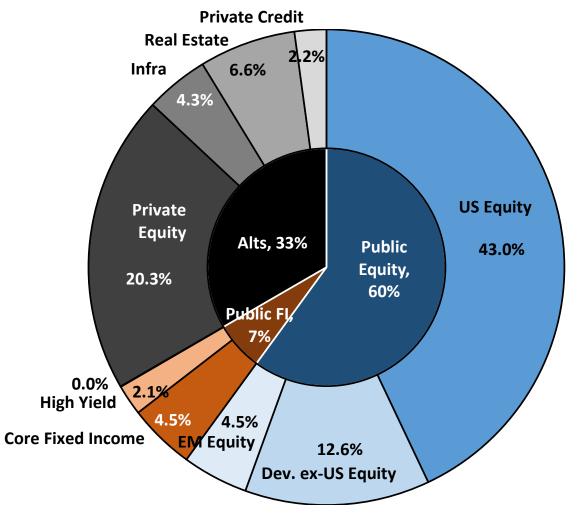


### **BERS: TWO VIEWS OF ALLOCATION**

# 1. Asset Allocation (exposure by Market Value)



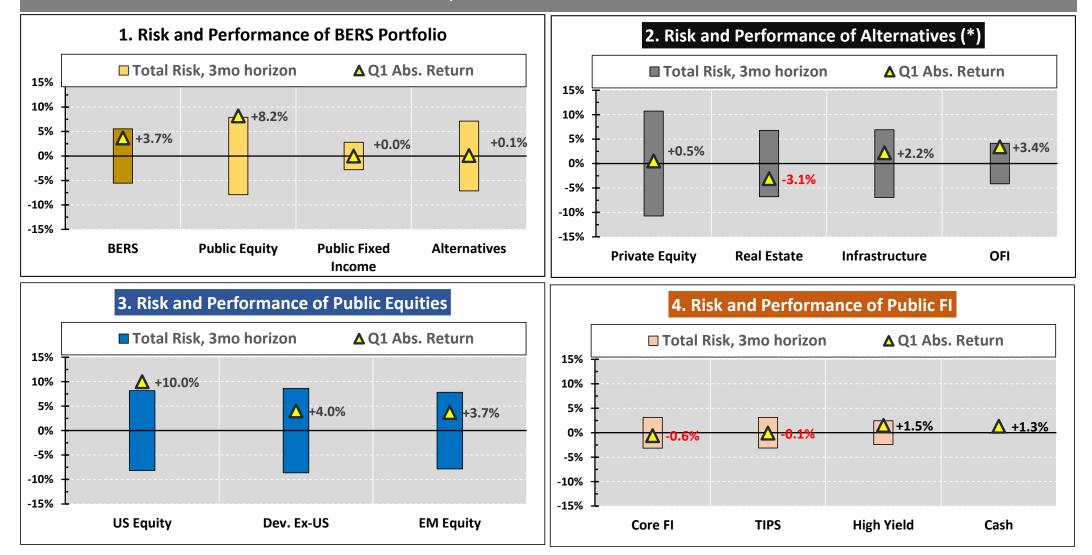




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### **BERS: TOTAL RISK AND RETURN**

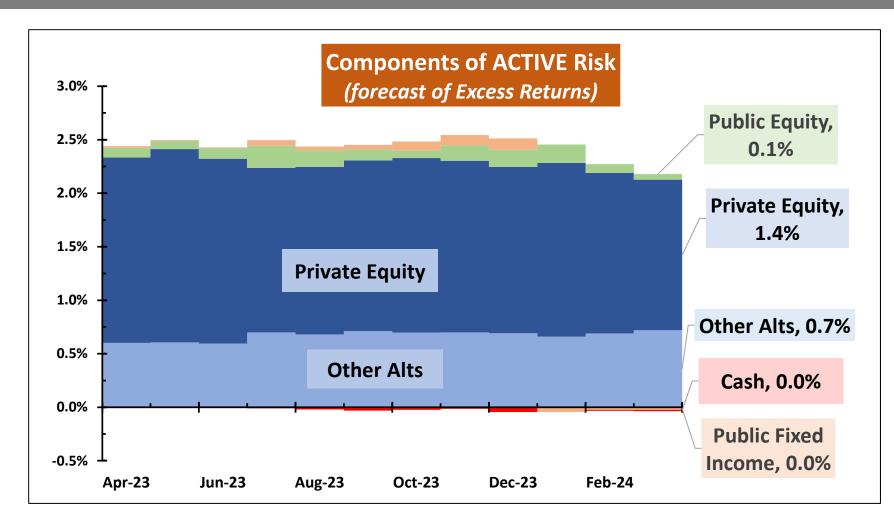
How does 3mo **Total Risk** forecast compare to the Q1 **Total Returns**?



Source: MSCI BarraOne (\*) Based on State Street Accounting returns

#### **BERS: ACTIVE RISK**

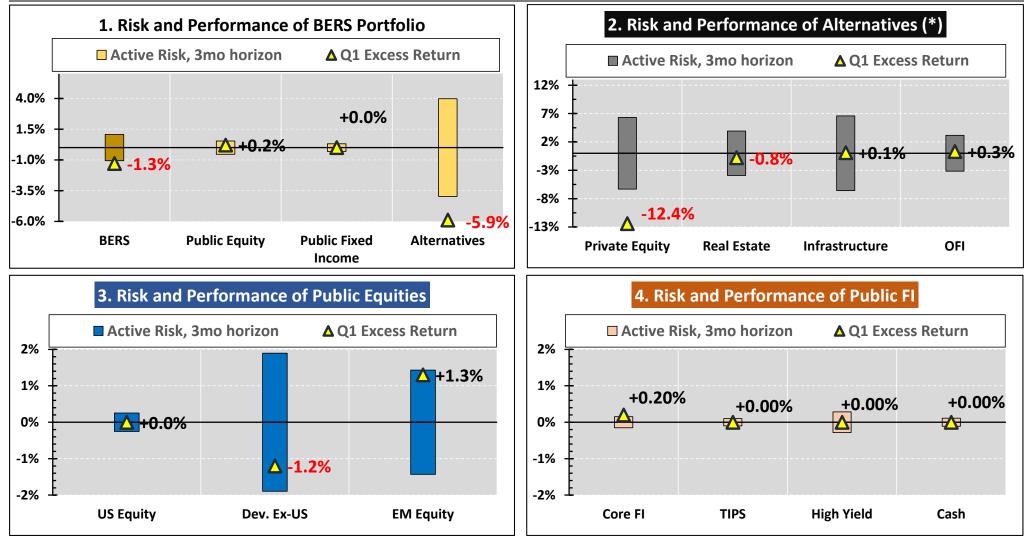
What are the contributors to **Active Risk**? Which is the forecast of Excess Returns.





### **BERS: ACTIVE RISK AND EXCESS RETURN**

#### How does 3mo **Active Risk** forecast compare to the Q1 **Excess Returns**?



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Source: MSCI BarraOne, State Street (\*) Based on State Street Accounting returns

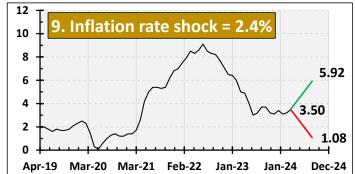
## FORWARD-LOOKING MARKETS: WORST MONTHLY SHOCK











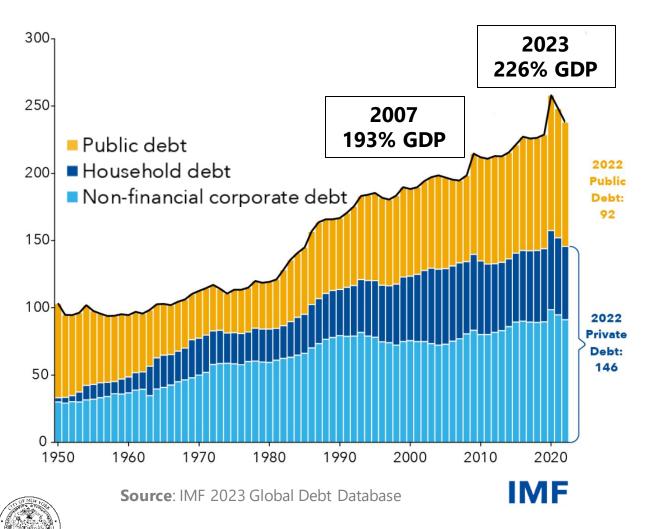
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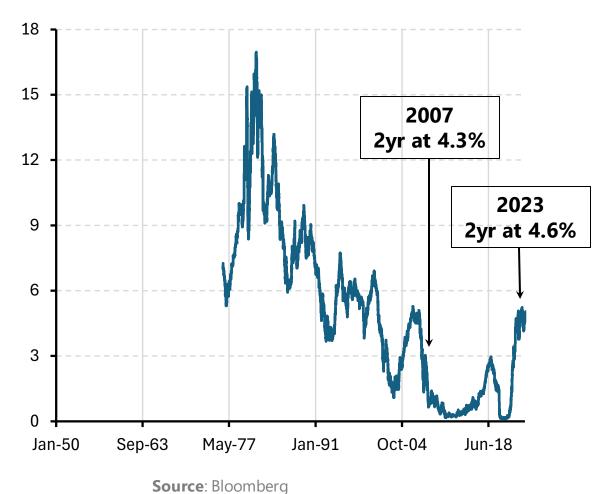
**Source**: MSCI BarraOne (For illustrative purposes only) Bloomberg (market prices as of 3/31/24)

## FORWARD-LOOKING MARKETS: GLOBAL STRESS

## 1. Global Debt as % of GDP

## 2. Two-year Treasury Note





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## **BERS: FORWARD-LOOKING PERFORMANCE**

How will the portfolio perform under the worst expected monthly market shock?

				1. Absolute	e Return	2. Excess I	Return
M	arket Factors		Shock, %	Risk On	Risk Off	Risk On	Risk Off
	1. S&P 500	Price	+22.5%	14.7%	-14.5%	+0.6%	-0.4%
Equities	2. MSCI EM	Price	+23.3%	12.2%	-12.0%	+0.5%	-0.4%
	3. Euro STOXX 50	Price	+26.9%	13.8%	-13.6%	+0.7%	-0.6%
	4. 2yr Treasury	Yield	-1.6%	1.8%	-1.5%	+0.2%	-0.0%
Rates	5. 10yr Treasury	Yield	-1.5%	3.6%	-3.3%	+0.3%	-0.1%
	6. EUR/USD	Rate	+9.7%	6.5%	-6.3%	+0.5%	-0.4%
	7. Copper	Price	+28.4%	5.6%	-5.4%	+0.2%	-0.1%
Commodities	8. Oil	Price	+47.5%	4.1%	-3.9%	+0.1%	+0.0%
	9. Inflation	Rate	+2.4%	4.2%	-4.1%	+0.0%	+0.1%





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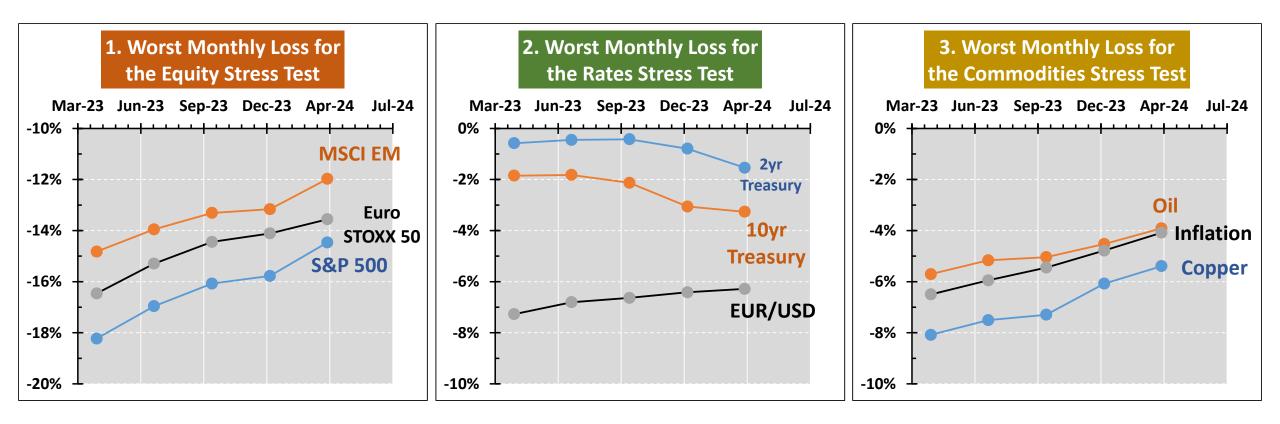
Source: MSCI BarraOne

For illustrative purposes only. Portfolio positions as of 3/31/24

57

## **BERS: FORWARD-LOOKING PERFORMANCE**

## How did the "Worst Monthly Loss" evolve over time?





## NON-INVESTMENT MATERIAL -QUARTERLY PERFORMANCE REPORTING SECTION (Public Reports):

State Street Quarterly Fund Performance Overview (Public):





New York City Board of Education Retirement System Performance Overview as of March 31, 2024

# **Total Fund Overview**



## New York City Board of Education Retirement System

**Table of Contents:** 

<b>Consultant's Commentary &amp; Performance Charts</b>	<b>p.3</b>
Appendix A - Consolidated Performance Report	<b>p.34</b>
<b>Appendix B - Public Markets Manager Performance Detail</b>	<b>p.40</b>
<b>Appendix C - Alternative Assets Manager Performance Detail</b>	<b>p.48</b>
Appendix D - Footnotes	<b>p.58</b>





#### <u>New York City Board of Education Retirement System (BERS)</u> Consultant's Commentary – Through March 31, 2024

#### **Total Fund Performance**

The Board of Education Retirement System (BERS) Total Fund returned +3.69% net of fees for the quarter ended March 31, 2024, versus the policy benchmark's return of +4.99%. For the fiscal year to date as of March 31, 2024, the Total Fund returned +8.89% net of fees, below the benchmark return of +10.82%. However, the fiscal year to date return was in excess of its actuarial assumed rate of return of 7%.

#### **Total Fund Asset Allocation**

As of March 31, 2024, the BERS Total Fund had \$9.2 billion, up from \$8.8 billion as of December 31, 2023. During the quarter, the Total Fund benefited from asset allocation differences versus Policy weights, while manager selection effects eroded the allocation benefit. Most of the negative manager selection effect came from Privat Equity.

#### **U.S. Equity Commentary**

As of March 31, 2024, U.S. Equity was \$2.70 billion or represented 29.3% of the BERS Total Fund. The U.S. equity composite was positive in the first quarter of 2024 returning +10.02%. This performance was flat to the Russell 3000 index return of +10.02%.

#### Active U.S. Equity Managers

*Wellington* returned +8.83% during the quarter, below the S&P Midcap 400 Index return of +9.95%. For the fiscal year to date as of March 31, 2024, Wellington returned +15.06% versus +17.63% for the S&P Midcap 400 Index.

- Security selection was the primary driver of relative underperformance. Weak selection in information
  technology and industrials was partially offset by selection in materials, energy, and consumer
  discretionary. Sector allocation, a result of bottom-up stock selection process, contributed to returns.
  Allocation effect was driven by an underweight to real estate and overweight to information
  technology, but partially offset by an underweight to consumer staples and consumer discretionary
  and overweight to health care.
- At the issuer level, the top two relative contributors were an out of benchmark allocation to Targa Resources and an overweight to Shockwave Medical, while the top two relative detractors were not owning Super Micro Computer and an overweight to Inari Medical.

*Wasatch* returned +5.14% during the quarter, below the Russell 2000 Growth Index return of +7.58%. For the fiscal year to date as of March 31, 2024, Wasatch returned +21.47% versus +12.42% for the Russell 2000 Growth Index.



#### Xegal Marco Advisors

- Stock selection in Healthcare, Industrials, and Consumer Staples were additive to overall fund performance in the first quarter, as well as zero weight in Utilities and Communication Services. Conversely, selection in Information Technology (IT), Financials, and Consumer Discretionary underperformed their benchmark counterparts.
- The top contributor to strategy performance during the first quarter was HealthEquity, Inc. (HQY), the largest U.S. non-bank custodian for health savings accounts; the company facilitates employer-sponsored lifestyle and commuter benefits. Saia, Inc. (SAIA) was also a meaningful contributor; the freight company creates efficiency by combining shipments from multiple customers that would alone fill "less than a full truckload" and their specialized logistics capabilities serve as important competitive advantage. Another substantial contributor was Medpace Holdings, Inc. (MEDP), continuing its positive trend from previous quarters; the company is a contract research organization supplying clinical development services to small biotechnology companies. The largest detractor from strategy performance during the quarter was MarketAxess Holdings, Inc. (MKTX), an electronic trading platform that offers efficiency, liquidity, and cost savings to clients operating in global fixed-income markets. The stock declined at the beginning of they year after a strong 2023 due to concerns about potential market-share losses. Additional detractors included Clearwater Analytics Holdings, Inc. (CWAN) (a developer of cloud-native software that allows clients to simplify investment accounting operations) and YETI Holdings, Inc. (YETI) (an American manufacturer specializing in outdoor products such as drinkware and coolers).

*Legato* returned +5.30% during the quarter, above the Russell 2000 (Daily) return of +5.18%. For the fiscal year to date as of March 31, 2024, Legato returned +10.63% versus +13.79% for the Russell 2000 (Daily).

- The largest contributor to performance was Small Cap Growth manager Nicholas Investment Partners, who outperformed its style benchmark by 824 basis points. The largest detractor from performance was Small Cap Value manager, Dean Capital Management, who lagged its style benchmark by 422 basis points. Both sector allocation and stock selection were positive in the first quarter. Sector allocation was positive primarily because of the overweight in Industrials. Stock selection was strong in the quarter, particularly in Health Care.
- In the first quarter of 2024, top contributors came from Industrials (+2.39%), Health Care (+1.63%), and Consumer Discretionary (+0.53%). Of the top ten holdings, IES Holdings, UFP Technologies, BGC Group, Argan, Inc., and LSI Industries outperformed. Top detractors came from Basic Materials (-0.09%), Telecommunications (-0.07%), and Utilities 9-0.06%). Of the top ten holdings, ePlus Inc., Agilysys, Inc., StoneX Group, Winmark Corporation, and Triumph Financial underperformed.

#### World ex-USA Commentary

As of March 31, 2024, World ex-USA Equity was \$733.6 million (8.0% of assets) of the BERS Total Fund. World ex-USA Equity returned +3.98% in the first quarter of 2024 versus +5.18% for the NYC Developed Equity benchmark.





#### Active World ex-USA Equity Managers

**Sprucegrove** returned +2.35% during the quarter versus +5.59% for NYC Developed Value Benchmark. For the fiscal year to date as of March 31, 2024, Sprucegrove returned +6.51% versus +11.90% for the NYC Developed Value Benchmark.

- Regarding country/region allocation, there were no significant positive contributors to the Fund's performance during the first quarter. Top detractors during the quarter included an overweight to Emerging Markets (Banco Bradesco, HDFC Bank), stock selection in the UK (Smiths Group, Travis Perkins), a combination of stock selection and an underweight to Japan (Omron, Nihon Kohden), and an overweight to Hong Kong (AIA Group, Johnson Electric). Overall, the strong performance of Japanese stocks was a headwind against the Fund. Many of the companies that outperformed the quarter were lower quality businesses that don't meet Sprucegrove's investment criteria.
- Regarding sector attribution, top contributors included stock selection in Materials (CRH, Nitto Denko) and stock selection in Consumer Staples (Bakkafrost, AIN Holdings). Top detractors included stock selection in Financials (AIA Group, Banco Bradesco), stock selection in Healthcare (Nihon Kohden, Roche Holding), and stock selection in Industrials (Smiths Group, Travis Perkins).
- The portfolio remains well-diversified across sectors and geographies, a residual of their bottom-up stock selection process built on quality and valuation. The portfolio represents higher quality and was more attractively valued relative to the index, as measured by the projected ROE of 15.8% and normalized P/E of 15.5x versus the projected ROE and normalized P/E for the benchmark of 11.0% and 17.6x, respectively.

**Baillie Gifford** returned +4.97% in the quarter versus +5.59% for NYC Developed Growth Benchmark. For the fiscal year to date as of March 31, 2024, Baillie Gifford returned +5.66% versus +11.90% for the NYC Developed Growth Benchmark.

- In the first quarter, top contributors came from stock selection in Communication Services, an underweight allocation to Consumer Staples, and an overweight allocation to Europe ex UK. Of the top 10 holdings, Asml Holding, Ferrari, Spotify Technology, Adyen, Taiwan Semiconductor Manufacturing, and Argenx posted positive returns and contribution.
- Top detractors during the quarter were stock selection in Europe ex UK, stock selection in Consumer Discretionary, and stock selection in Technology. Of the top 10 holdings, Mercadolibre, Atlas Copco, L'oreal, and Genmab posted negative returns and contribution.

**Acadian** performed above the index for the quarter, +6.07% versus +1.84% for the S&P EPAC Small Cap Index. For the fiscal year to date as of March 31, 2024, Acadian returned +14.94% versus +8.95% for the S&P EPAC Small Cap Index.

• Key sources of positive active return included a combination of stock selection and an overweight position in Italy (+55 bps), a combination of stock selection and an overweight position in Spain (+42 bps), and a combination of stock selection and an underweight position in France (+37 bps). Leading





advances within these markets respectively included a position in Iveco Group, a holding in Banco de Sabadelli, and an investment in Criteo. Detractors included stock selection in Germany (-11 bps), a combination of stock selection and an underweight position in Denmark (-11 bps), and an opportunistic exposure to Candada (-6 bps). Leading declines within these markets in turn included a position in Hugo Boss, a holding in Zealand Pharma, and an investment in H&R Real Estate Investment Trust.

From a sector perspective, key sources of positive active return included stock selection in information technology (+153 bps), a combination of stock selection and an overweight position in industrials (+82 bps), and a combination of stock selection and an underweight position in real estate (+56 bps). Leading advances within these sectors respectively included a position in SCREEN Holdings, a holding in lveco Group, and a lack of exposure to Aroundtown. Detractors included stock selection in utilities (-9 bps), a combination of stock selection and an underweight position in materials (-9 bps), and stock selection in energy (-2 bps). Leading declines within these sectors in turn included a position in A2A, a holding in Sims, and an investment in New Hope

**Algert** outperformed for the quarter, +4.28% versus +2.40% for the MSCI EAFE Small Cap Index. For the fiscal year to date as of March 31, 2024, Algert returned +10.33% versus +9.81% for the MSCI EAFE Small Cap Index.

- Relative Value-related exposures generated modest gains for the quarter, continuing its positive trend from previous quarters. All three regions posted positive results, led by Europe, which was the largest contributor for the quarter. The team believes the strong performance within Europe in recent quarters is the result of investors repricing growth in lieu of the higher interest rates that are now prevalent. Within Japan, Relative Value insights were positive however did not generate as strong of a return as previous quarters. Asia ex-Japan exposures ended the quarter relatively flat though there was some dispersion in results across countries.
- Quality related insights were a slight detractor for the quarter driven primarily by Europe exposures. Within Europe, despite the continued weak economic data and recessionary environment in a subset of countries, the Strategy's Quality insights were not rewarded. This performance contrasts with what was observed in other regions. In Japan, where the economic data and overall sentiment continues to trend in a positive direction, Quality insights were slightly negative which is expected as investors tend to gravitate towards riskier and lower quality features as market momentum builds. Within Asia ex-Japan, performance was mixed across countries and ended up as a slight detractor for the quarter.

#### **Emerging Markets Equity Commentary**

As of March 31, 2024, Emerging Markets Equity was \$330.3 million or represented 3.6% of the BERS Total Fund. Emerging Markets returned +3.65% for the quarter versus +2.37% for the MSCI Emerging Markets, Net Index.





#### Emerging Markets Equity Managers

**Acadian** returned +5.23% for the quarter versus +2.37% for the MSCI Emerging Markets, Net Index. For the fiscal year to date as of March 31, 2024, Acadian returned +16.12% versus +7.19% for the MSCI Emerging Markets, Net Index.

• Key sources of positive active return included a combination of stock selection and an underweight position in South Korea (+71 bps), a combination of stock selection and an overweight position in Taiwan (+50 bps), and stock selection in China (+48 bps). Leading advances within these markets respectively included a position in Hana Financial Group, a holding in Evergreen Marine, and an investment in PetroChina. Detractors included a combination of stock selection and an overweight position in Thailand (-26 bps), an underweight position in Kuwait (-4 bps), and an underweight position in Peru (-4 bps). Leading declines within these markets in turn included a position in Bangkok Bank, a holding in Kuwait Finance House KSCP, and a lack of exposure to Southern Copper.

• From a sector perspective, key sources of positive active return included stock selection in industrials (+91 bps), a combination of stock selection and an overweight position in energy (+85 bps), and stock selection in financials (+46 bps). Leading advances within these sectors respectively included a position in Evergreen Marine, a holding in PetroChina, and an investment in Hana Financial Group. Detractors included stock selection in consumer discretionary (-21 bps), stock selection in communication services (-12 bps), and stock selection in information technology (-11 bps). Leading declines within these sectors in turn included a position in LG Electronics, a holding in G-bits Network Tec A CNY1, and an investment in Taiwan Semiconductor Manufacturing.

**CONY GT EM BlackRock** returned +2.31% versus +2.37% for the MSCI Emerging Markets Net Index during the quarter. For the fiscal year to date as of March 31, 2024, CONY GT EM BlackRock returned +7.21% versus +7.19% for the MSCI Emerging Markets, Net Index.

**JP Morgan** returned +0.22% versus +2.37% for the MSCI Emerging Markets Net Index during the quarter. For the fiscal year to date as of March 31, 2024, JP Morgan returned +2.63% versus +7.19% for the MSCI Emerging Markets Net Index.

- Stock selection in India was a key detractor of returns, primarily led by the overweight exposure to HDFC Bank. Additionally, lack of exposure to reliance Industries, a multinational conglomerate, hurt as the company continues to report a moderation in capex. Stock selection in healthcare detracted from returns for a second quarter in a row, led by an overweight exposure to Wuxi AppTec, a Chinese R&D biotech player. The portfolio's holding in AIA (Hong Kong, Financials) detracted from returns during the quarter as well.
- Stock selection in Financials contributed to returns, primarily led by Latin American names. An offbenchmark exposure to one of the fastest growing digital banks in Brazil, Nu Holdings, and Spanish bank, BBVA, which derives most of its profits from Mexico, added to returns. Additionally, an overweight exposure to Qualitas Controladora, a Mexican insurance player, helped as the company reported strong top line growth in its 4Q results. The portfolio's holding in NetEase (Hong Kong,





Communication Services) contributed to returns during the quarter, as the company is one of China's leading internet and online gaming service providers.

#### **Global Equity Managers**

**Morgan Stanley** returned +12.52% versus +8.20% for the MSCI AC World Index, during the quarter. For the fiscal year to date as of March 31, 2024, Morgan Stanley outperformed returning +25.53% versus +16.05% for the MSCI AC World Index.

- Global equities advanced, led by outperformance in information technology, communication services, energy and financials. The real estate sector declined, while utilities, materials and consumer staples also underperformed the benchmark.
- Stock selection in consumer discretionary, communication services and industrials contributed positively during the quarter. Top contributors included global mobility platform Uber Technologies, social network Meta Platforms, online food delivery platform DoorDash, Swedish audio streaming platform Spotify Technology SA and entertainment leader Walt Disney.
- Stock selection in information technology and financials and a sector overweight allocation to consumer discretionary detracted from relative performance. Top detractors included Indian private sector bank HDFC Bank Ltd., creative software developer Adobe, Danish freight forwarder DSV A/S, Korean search leader Naver Corp. and Southeast Asian consumer super-app Grab Holdings.

*Fiera* returned +8.02 % versus +8.88%% for the MSCI World Index, during the quarter. For the fiscal year to date as of March 31, 2024, Fiera returned +13.20% versus +17.11% for the MSCI World Index.

- The Strategy's underperformance versus the benchmark can be attributed to security selection in Financials as well as Consumer Staples and Industrials. As for contributors, security selection within Information Technology and Consumer Discretionary aided relative performance.
- Individual detractors over the quarter included HDFC Bank Limited and Moody's. HDFC Bank Limited underperformed after reporting results which showed underwhelming growth in deposits versus prior periods. As for Moody's, the stock underperformed after reporting quarterly earnings with missed consensus estimates. As for contributors to relative performance, Taiwan Semiconductor (TSMC), and AutoZone helped. TSMC's financial results showed strong revenues and margins. AutoZone outperformed as the auto parts retailer showed strong margin expansion as price increases benefited amidst abated cost inflation.

International Fund of Fund Manager





**Xponance** returned +4.56% versus +4.33% for the MSCI ACWI Ex USA IMI Net, during the quarter. For the fiscal year to date as of March 31, 2024, Xponance returned +10.81% versus +10.56% for the MSCI ACWI Ex USA IMI Net.

- Developed Markets: Euro Core (+42bps): relative outperformance from stock selection in Industrials (+29bps) and Energy (+11bps), coupled with an underweight to the Utilities (+10bps; sector down 7%) sector was muted by an overweight to the Consumer Staples (-14bps; sector down 5%) sector. Best performing countries: Germany (+12bps), Switzerland (+12bps) and Spain (+9bps). Pacific Rim (-57bps): relative underperformance from an underweight (country up 9%) and stock selection in Japan (+71bps). The worst performing sectors in the country were I.T. (-25bps), Industrials (-17bps), Financials (-12bps) and Consumer Staples (-10bps). Canada (+13bps): stock selection in the Financials (+8bps) sector.
- Emerging Markets: Pacific Rim (+53bps): stock selection in Korea (+31bps), Taiwan (+19bps) and China (+8bps). South Asia (+49bps): stock selection in India. Best performing sectors: Consumer Discretionary (+26bps), I.T. (+18bps) and REITs (+10bps). LatAm (-32bps): overweight (country down 6.8%) and stock selection in Brazil (-23 bps), primarily in the Consumer Discretionary sector (-15 bps).
- On a sector basis, 9 out of 11 sectors outperformed the index on a relative basis. The top performing sectors were Materials (+22 bps), Industrials (+21 bps), and Communication Services (+16 bps) while bottom performance sectors were Consumer Discretionary (-31 bps) and Consumer Staples (-16 bps) during the quarter.

#### Fixed Income – Structured Manager Composite Commentary

As of March 31, 2024, the Total Structured Portfolio was \$1.7 Billion (18.5% of assets) of the BERS Total Fund. Structured Fixed Income returned -0.55% in the first quarter versus -0.81% for the NYC Custom Structured Index. For the fiscal year to date as of March 31, 2024, Structured Fixed Income returned +2.95% versus +2.59% for the benchmark.

#### Fixed Income – Structured Manager Composite Managers

**BlackRock (mortgages)** returned -0.87% for the quarter versus the NYC Custom Mortgage Benchmark return of -1.04%. For the fiscal year to date as of March 31, 2024, BlackRock (mortgages) returned +2.36% versus +2.05% for the NYC Custom Mortgage Benchmark.

 Security selection in the commercial mortgage-backed security (CMBS) and non-agency residential mortgage-backed security (MBS) sectors contributed to performance. The fund's short duration profile (low interest rate sensitivity), relative to its benchmark, was also additive to returns. Allocations to agency MBS detracted modestly from performance during the quarter.





• The fund's exposure to conventional agency MBS was lowered during the quarter, as was the allocation to non-agency residential MBS. Reductions in the latter were achieved primarily via non-performing/re-performing assets, non-qualified mortgages, and single-family rental holdings.

**T. Rowe Price** returned -0.10% in the quarter versus the Bloomberg U.S. Corporate Investment Grade Index return of -0.40%. For the fiscal year to date as of March 31, 2024, T. Rowe Price returned +5.19% versus +4.73% for the Bloomberg U.S. Corporate Investment Grade Index.

- The banking sector was the largest absolute contributor. In addition to its position as the largest sector weight in the benchmark, the sector benefited from strong risk sentiment as expectations for rate cuts were maintained. The securitized sector aided performance on an absolute basis as market participants continued to turn less risk averse and sought areas of the market with above-average spread levels. Cash Holdings also contributed on an absolute basis; though the allocation to cash is small, it was not hurt by rising interest rates and benefited from current elevated short-term yields.
- Holdings of the consumer noncyclical sector detracted from absolute performance because of the sector's large weight in the benchmark, its longer-duration nature while rates rose, and its lower-beta nature as higher-beta segments outperformed. Treasuries were an absolute detractor. Though overall exposure was low, their relatively long duration hurt as rates rose. The electric utility sector was an absolute detractor. The market's risk-on sentiment, as well as the sector's longer-duration nature, hindered the risk-off sector's performance.
- Positioning in the consumer noncyclical sector contributed to relative performance, especially driven by names in the pharmaceutical industry. The portfolio's overweight holdings of Pfizer Inc, AbbVie Inc, and Bristol-Myers Squibb Co all boosted relative returns. Sector allocation aided the account's relative results in the first quarter. Out-of-benchmark allocations to securitized debt was a large contributor as the sector benefited from high demand and strong risk-on market sentiment. An underweight in capital goods also boosted returns. Credit selection in the banking sector helped relative performance. Overweight holdings of Wells Fargo, a leading domestic bank that benefits from strong capital and liquidity positioning, performed well over the period. Other overweight holdings of large banks, such as Barclays, Bank of America, and Goldman Sachs also contributed.
  - Interest rate management detracted modestly from results. A slightly longer duration than the benchmark near the beginning of the period detracted after interest rates rose in response to hotter-than-expected economic data. An out-of-benchmark allocation to Treasuries, which is used for duration and liquidity management purposes, detracted over the quarter as yield-seeking buyers chased yields and flocked toward corporates. Positioning within the insurance sector was a small headwind to relative performance because of idiosyncratic cross currents.





**SSgA LI Treasury (governments)** returned -1.78% in the quarter versus the -2.19% return for the NYC - Treasury Agency Plus Five. For the fiscal year to date as of March 31, 2024, SSgA (governments) returned -0.67% versus -1.02% for the NYC - Treasury Agency Plus Five.

**S5gA 1-10 Yr. Treasury/ Agency** returned -0.29% in the quarter, above the -0.37% return for the USBIG Treasury/ Agency 1- 10 Yr. Index. For the fiscal year to date as of March 31, 2024, the S5gA 1-10 Yr. Treasury Index returned +2.82% versus the +2.75% for the USBIG Treasury/Agency 1-10Yr. Index.

**S5gA 1 -3 Yr. Treasury Index** returned +0.30% in the quarter, matching the FTSE USBIG Treasury 1 -3 Yr. Index return of +0.28%. For the fiscal year to date as of March 31, 2024, the SSgA 1-3 Yr. Treasury Index returned +3.58% versus the FTSE USBIG Treasury 1 -3 Yr. Index return of +3.56%.

**SSgA LT Treasury 10Y Plus** returned -2.90% in the quarter versus the FTSE Treasury 10+ return of -3.42% For the fiscal year to date as of March 31, 2024, the SSgA LT Treasury 10Y Plus returned -3.86%, below the FTSE Treasury 10+ return of -4.05%.

#### Enhanced Yield Fixed Income & Bank Loans Commentary

As of March 31, 2024, Enhanced Yield Fixed Income was \$569.7 million or 6.20% of the BERS Total Fund. Enhanced Yield Fixed Income returned +1.55% in the first quarter versus +1.47 for the High Yield Custom Benchmark. For the fiscal year to date as of March 31, 2024, Enhanced Yield Fixed Income returned +8.87% versus +9.24% for the benchmark.

#### Enhanced Yield Fixed Income & Bank Loans Managers

*Mackay Shields* returned +1.61% in the quarter versus +1.47% for Bloomberg U.S. High Yield – 2% Issuer Cap Index. For the fiscal year to date as of March 31, 2024, Mackay Shields returned +8.34% versus +9.24% for the Bloomberg US High Yield – 2% Issuer Cap Index.

- Security selection in Telecommunications was the most significant contributor to relative performance, as the portfolio did not hold Altice France. An underweight position in DISH/Echostar was beneficial for returns in the Media sector due to renewed concerns about liquidity needs and restructuring activities. Additionally, a position in First Quantum Minerals was favorable for returns in the Metals/Mining (excluding steel) sector.
- The portfolio's underweight position to CCC-rated and stressed names detracted from its relative
  performance for the quarter. However, security selection across sectors, coupled with a focus on
  higher coupon, shorter maturity bonds, mitigated this effect. In the Retail sector, selection was a
  detractor, as the portfolio did not own Carvana and QVC. Additionally, the portfolio's position in WW





International negatively impacted performance in the Services sector after the company reported lower earnings and guidance.

**Nomura** returned +1.49% in the quarter versus +1.47% for Bloomberg U.S. High Yield – 2% Issuer Cap Index. For the fiscal year to date as of March 31, 2024, Nomura returned +9.40% versus +9.24% for the Bloomberg US High Yield – 2% Issuer Cap Index.

- Portfolio performance in Q1 was driven by strong sector allocation, dampened by idiosyncratic credit events. Sectors that contributed the most to positive relative performance included Restaurants, Gas Distribution, and Recreation & Travel. Outperformance in Restaurants was driven by the overweight in Carrols Restaurant Group, a fast-food chain operator, which gained as the company was acquired by Burger King. In Gas Distribution, Plains All American reported Q4 earnings that beat expectations, while Summit Midstream announced a credit positive asset sale. In Recreation & Travel, the overweight in Carnival continued to trade well as bookings and demand remained strong.
- Key sector detractors included Health Services, Cable & Satellite TV, and Specialty Retail. The most significant detractor in Cable was Charter, which was negatively impacted by headlines that the company was considering a takeover of Altice USA, which could increase the leverage in its capital structure above a threshold considered critical by ratings agencies. They modestly reduced exposure during the quarter, reflecting our more conservative view of the cable industry, and positioning is slightly higher quality than the index. In Specialty Retail, Carvana reported better-than-expected earnings, while the portfolio continues to be underweighted the name as they are cautious on the company's ability to be sustainably profitable in a competitive and mature industry.

#### TIPS, ETI, Cash Commentary

As of March 31, 2024, Fixed Income – TIPS, ETI and Cash was \$106.7 million or 1.2% of the BERS Total Fund.

#### <u> Fixed Income – TIPS Manager</u>

**SSgA (TIPS)** returned -0.11% in the quarter, slightly below the -0.08% return for the Bloomberg Global Inflation Linked U.S. TIPS Index. For the fiscal year to date as of March 31, 2024, SSgA (TIPS) returned +1.78% versus the +1.90% return for the Bloomberg Global Inflation Linked U.S. TIPS Index.

#### <u>Fixed Income – Core Manager</u>

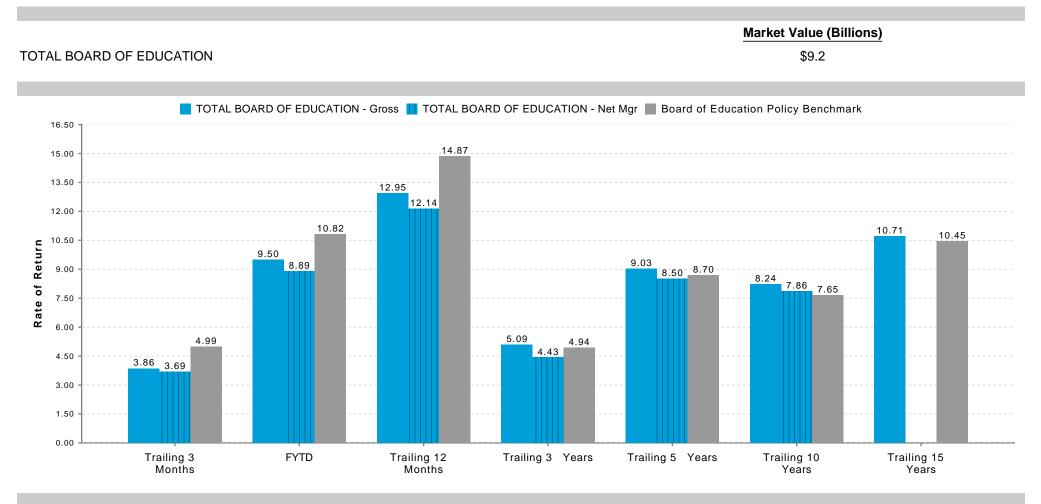
**Pugh** returned -0.79% in the quarter, versus the -0.78% return for Bloomberg U.S. Aggregate Index. For the fiscal year to date as of March 31, 2024, Pugh returned +2.70% versus the +2.56% return for the Bloomberg U.S. Aggregate.





- In the first quarter, selection and allocation added to performance but were more than offset by
  negative impacts to invest the additional contribution on January 31, 2024. Selection was the largest
  positive contributor, driven by overweight positioning to lower-rated securities within Corporates and
  AA-rated securities within ABS. Overweight allocations to Corporates and ABS added modestly to the
  positive outperformance as most spread sectors generated positive excess returns in the quarter. The
  negative performance impact to invest the additional funds was due to timing of the contribution,
  which occurred on a FOMC announcement date with significant interest rate volatility.
- Duration and curve positioning were neutral to performance. At quarter end, the portfolio duration was 6.18 versus the Index duration of 6.14.

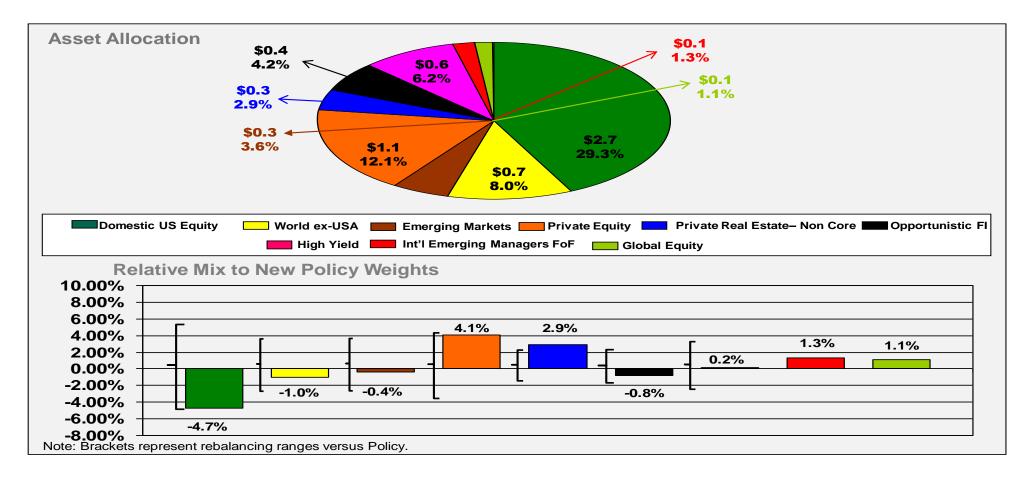




	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 10 Years	Benchmark 10 Years
Standard Deviation						
TOTAL BOARD OF EDUCATION	10.0	10.3	9.0	10.7	8.8	8.9

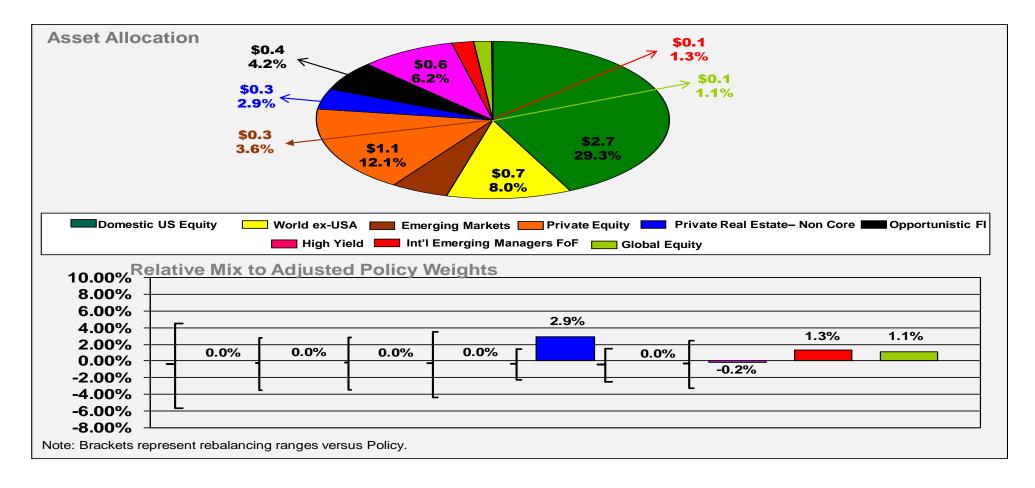


### **Portfolio Asset Allocation – Growth**



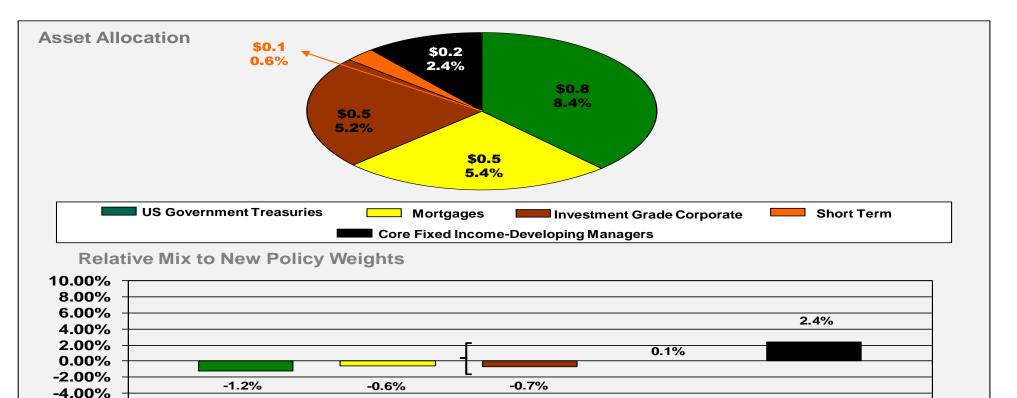


### **Portfolio Asset Allocation – Growth**





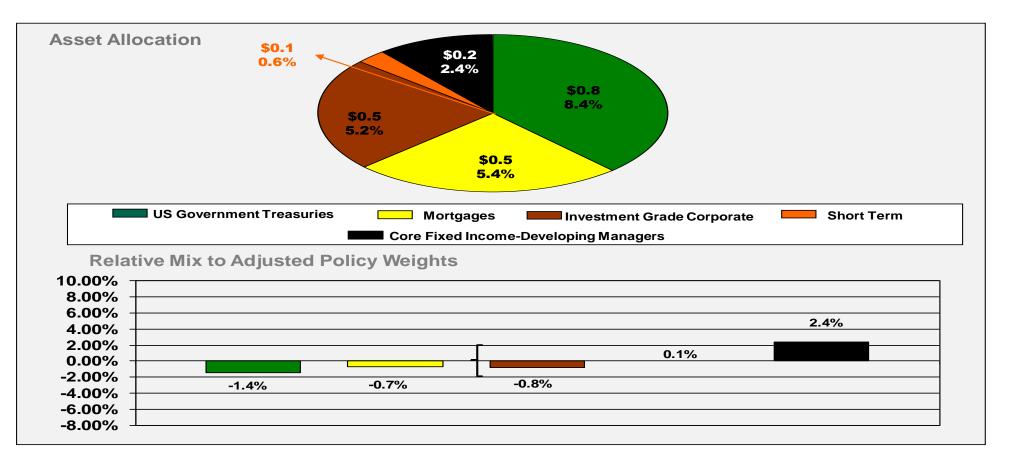
## **Portfolio Asset Allocation – Deflation Protection**



-6.00% -8.00%

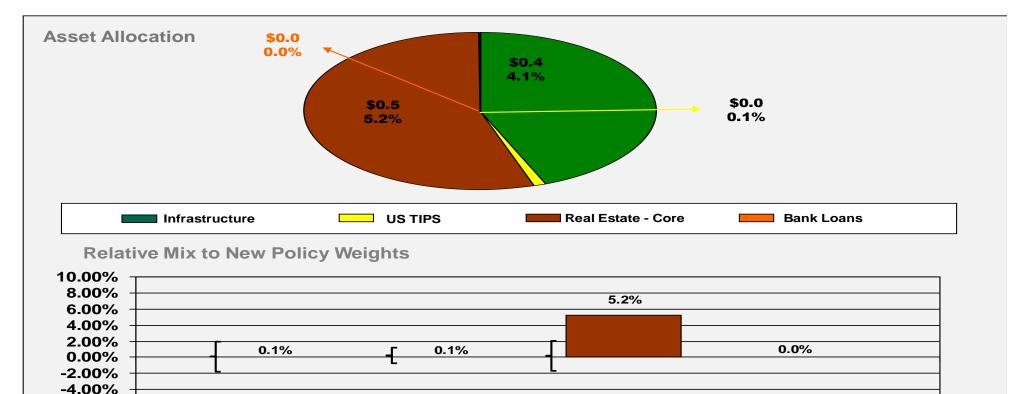


## **Portfolio Asset Allocation – Deflation Protection**





## **Portfolio Asset Allocation – Inflation Protection**

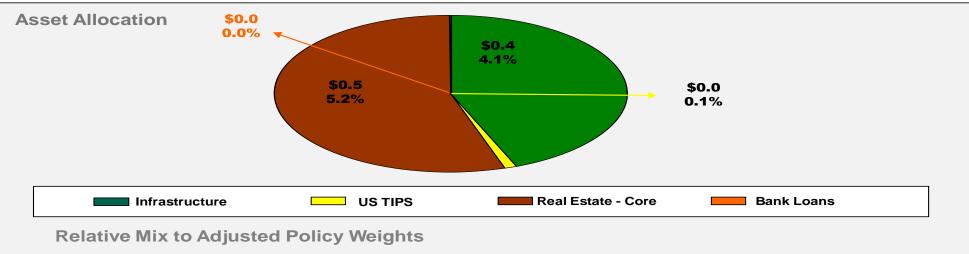


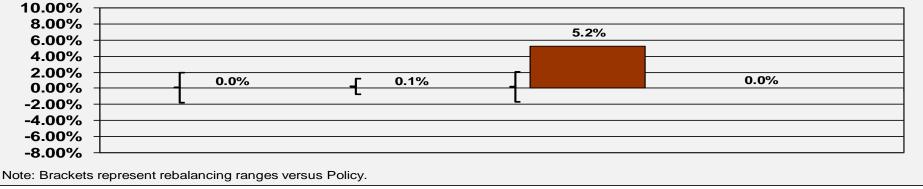
Note: Brackets represent rebalancing ranges versus Policy.

-6.00% -8.00%



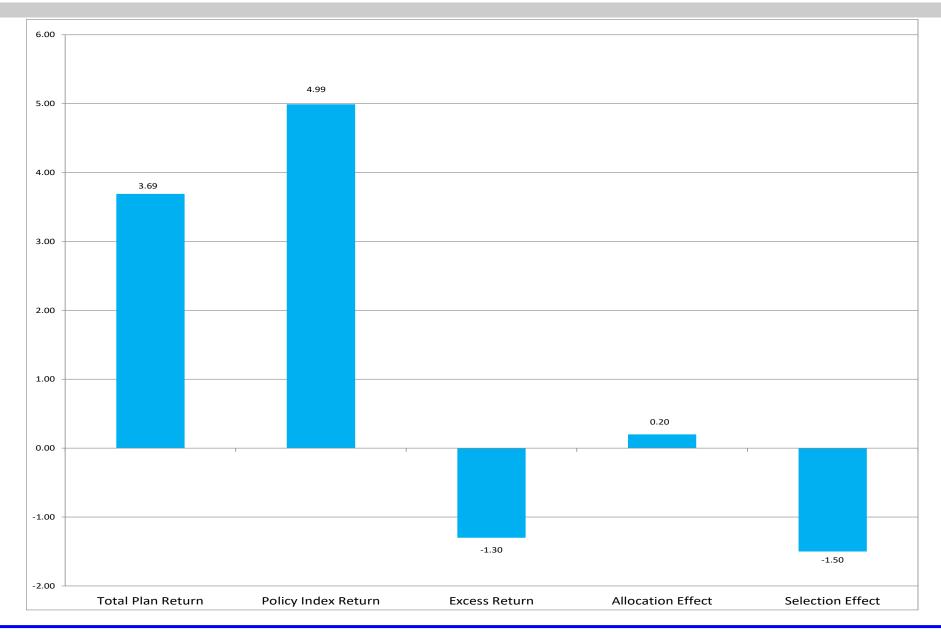
## **Portfolio Asset Allocation – Inflation Protection**





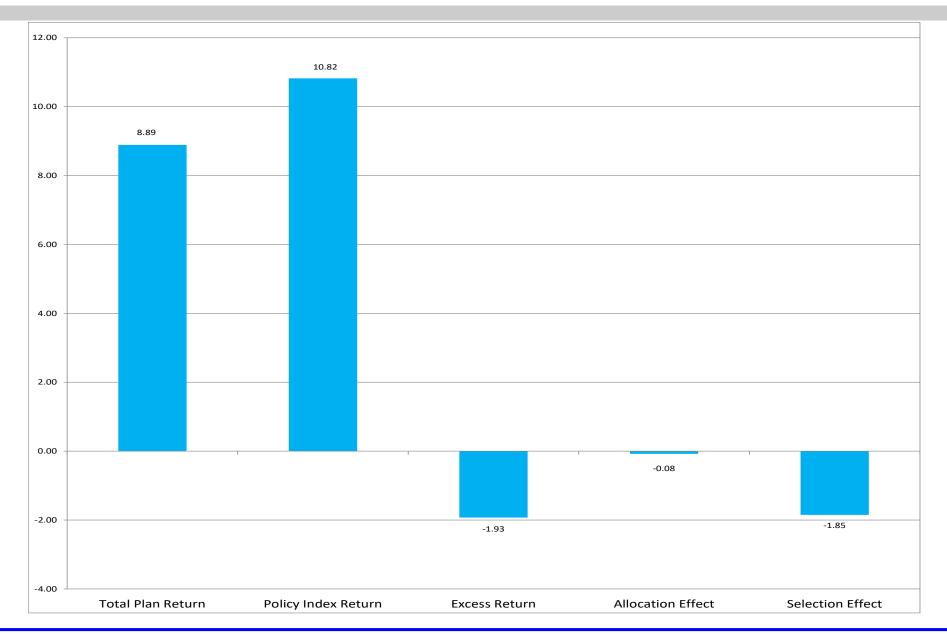
### Performance Attribution: Total Plan - Quarter Ending: March 31, 2024





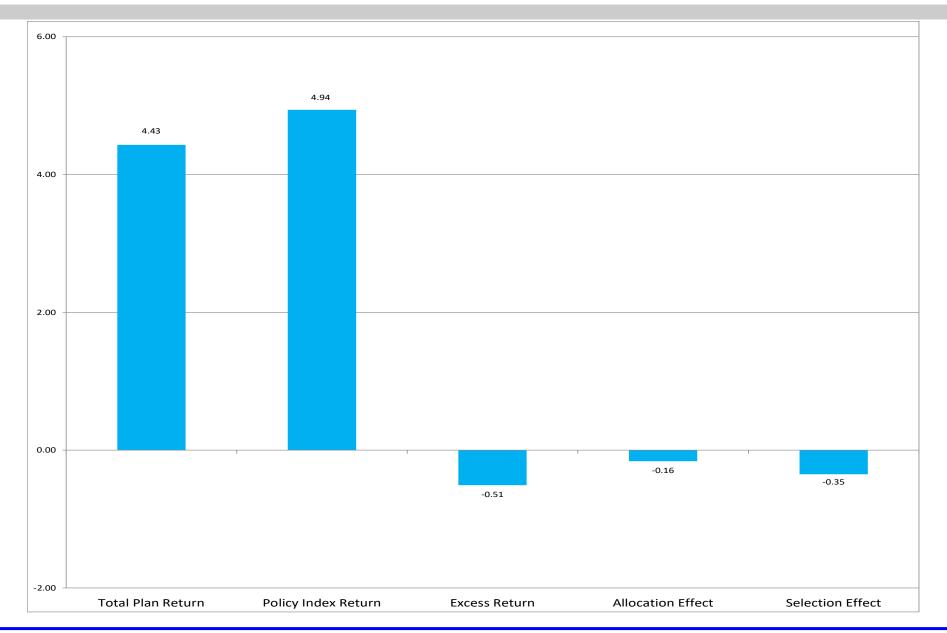
### Performance Attribution: Total Plan - Fiscal Year To Date: March 31, 2024





### Performance Attribution: Total Plan - 3 Years Ending: March 31, 2024



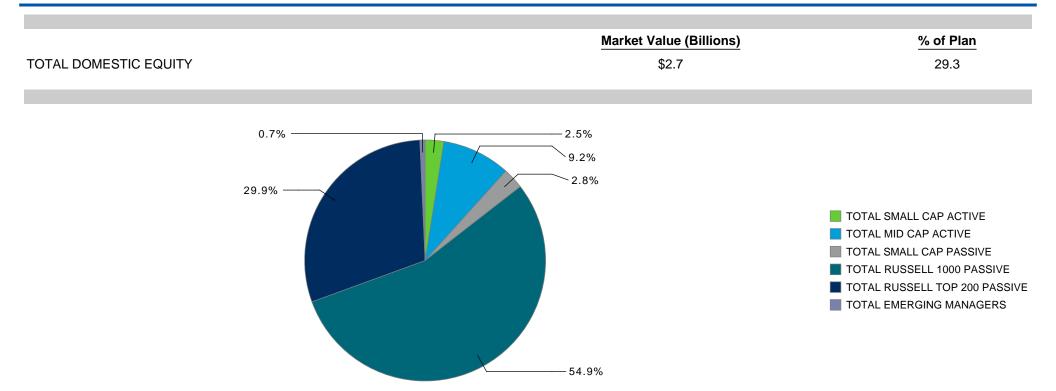




	Allocation Effect - Asset Class Breakdown								
	Quarter	FYTD	3 Years	Benchmark					
TOTAL BOARD OF EDUCATION	0.20	-0.08	-0.16	Board of Education Policy Benchmark					
TOTAL DOMESTIC EQUITY	-0.04	-0.09	-0.10	RUSSELL 3000 (DAILY)					
TOTAL WORLD ex-USA	0.00	-0.03	-0.04	NYC Developed Equity Benchmark					
TOTAL GLOBAL EQUITY	-0.01	0.00	-0.01	MSCI AC WORLD (Daily Const)					
TOTAL EMERGING MARKETS	0.00	-0.01	-0.01	MSCI EMERGING MARKETS					
TOTAL INTERNATIONAL FOF	0.00	0.00	0.00	MSCI ACWI ex USA IMI Net					
TOTAL PRIVATE EQUITY	0.27	0.28	0.03	NYC R3000 +3% Lagged					
TOTAL PRIVATE REAL ESTATE - CORE	-0.10	-0.35	-0.22	NCREIF ODCE NET					
TOTAL PRIVATE REAL ESTATE NON-CORE	0.00	-0.01	0.01	NCREIF ODCE NET +200					
TOTAL INFRASTRUCTURE	0.00	-0.02	0.00	CPI + 4%					
TOTAL US TREASURY SHORT TERM	-0.03	-0.01	0.02	FTSE US Government Bond 1-3 Years Index					
TOTAL US TREASURY INTERMEDIATE	-0.03	-0.02	0.00	USBIG TSY AGN 1-10					
TOTAL ACTIVE GOVERNMENT	0.04	0.08	0.07	NYC - Treasury Agency Plus Five					
TOTAL US TREASURY LONG DURATION	-0.01	0.00	0.00	FTSE US Government Bond 10+ Years Index					
TOTAL IG CORPORATE	0.02	0.03	0.06	NYC Custom IGC Benchmark					
TOTAL MORTGAGE	0.01	0.04	0.05	NYC Custom Mortgage Benchmark					
TOTAL CORE FI- DEVELOPING MGRS	-0.14	-0.18	-0.13	Bloomberg U.S. Aggregate					
TOTAL ETI	0.00	0.00	0.00	BERS Custom Benchmark (No Cash)					
TOTAL HIGH YIELD	0.08	0.08	0.04	High Yield Custom Benchmark					
TOTAL BANK LOANS	0.00	0.00	0.00	CSFB LEVERAGED LOAN INDEX					
TOTAL TIPS MANAGERS	0.16	0.17	0.04	Bloomberg Global Infl-Linked: U.S. TIPS					
TOTAL OPPORTUNISTIC FIXED	0.00	0.01	0.00	Opportunistic Fixed Income JPMGHY / CSFB 50/50 Blend Plus 300					
TOTAL CASH	-0.03	-0.05	-0.01						

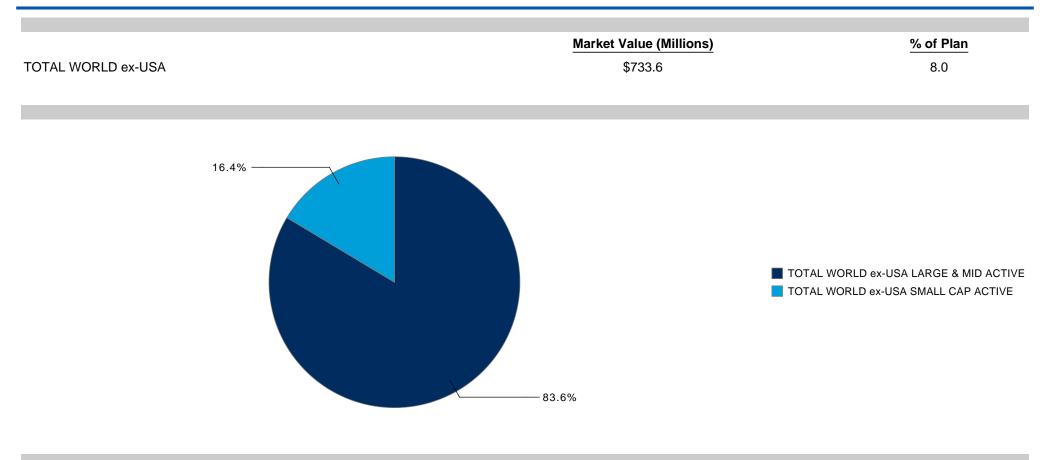
	Selecti	on Effect - Ass	set Class Break	down
	Quarter	FYTD	<u>3 Years</u>	Benchmark_
OTAL BOARD OF EDUCATION	-1.50	-1.85	-0.35	Board of Education Policy Benchmark
TOTAL DOMESTIC EQUITY	0.00	0.14	-0.18	RUSSELL 3000 (DAILY)
TOTAL WORLD ex-USA	-0.09	-0.33	-0.59	NYC Developed Equity Benchmark
TOTAL GLOBAL EQUITY	0.04	0.06	-0.04	MSCI AC WORLD (Daily Const)
TOTAL EMERGING MARKETS	0.08	0.25	0.12	MSCI EMERGING MARKETS
TOTAL INTERNATIONAL FOF	0.00	0.00	0.01	MSCI ACWI ex USA IMI Net
TOTAL PRIVATE EQUITY	-1.51	-2.16	-0.08	NYC R3000 +3% Lagged
TOTAL PRIVATE REAL ESTATE - CORE	-0.07	0.14	0.26	NCREIF ODCE NET
TOTAL PRIVATE REAL ESTATE NON-CORE	0.00	0.13	0.09	NCREIF ODCE NET +200
TOTAL INFRASTRUCTURE	0.01	0.04	0.03	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.00	0.00	0.00	FTSE US Government Bond 1-3 Years Index
TOTAL US TREASURY INTERMEDIATE	0.00	0.00	0.00	USBIG TSY AGN 1-10
TOTAL ACTIVE GOVERNMENT	0.00	0.00	-0.01	NYC - Treasury Agency Plus Five
TOTAL US TREASURY LONG DURATION	0.00	0.00	0.00	FTSE US Government Bond 10+ Years Index
TOTAL IG CORPORATE	0.01	0.01	-0.01	NYC Custom IGC Benchmark
TOTAL MORTGAGE	0.01	0.01	0.01	NYC Custom Mortgage Benchmark
TOTAL CORE FI- DEVELOPING MGRS	0.00	0.00	0.00	Bloomberg U.S. Aggregate
TOTAL ETI	0.00	0.00	0.00	BERS Custom Benchmark (No Cash)
TOTAL HIGH YIELD	0.01	-0.03	0.06	High Yield Custom Benchmark
TOTAL BANK LOANS	0.00	0.00	0.00	CSFB LEVERAGED LOAN INDEX
TOTAL TIPS MANAGERS	0.00	0.00	0.00	Bloomberg Global Infl-Linked: U.S. TIPS
TOTAL OPPORTUNISTIC FIXED	0.01	-0.13	-0.04	Opportunistic Fixed Income JPMGHY / CSFB 50/50 Blend Plus 300
TOTAL CASH	0.00	0.00	0.00	





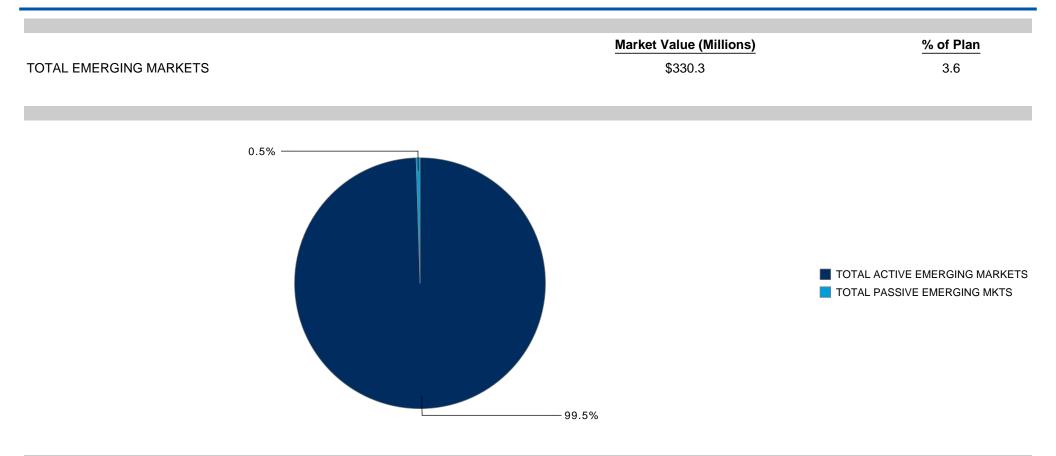
				Quarterly Returns			
	Policy Weight	Actual Weight	Under/Over Weight	Fund	Benchmark	Excess	
TOTAL SMALL CAP ACTIVE	2.9	2.5	(0.4)	5.1	5.2	(0.0)	
TOTAL MID CAP ACTIVE	10.0	9.2	(0.8)	8.8	8.6	0.2	
TOTAL SMALL CAP PASSIVE	2.9	2.8	(0.1)	2.9	5.2	(2.3)	
TOTAL RUSSELL 1000 PASSIVE	55.0	55.0	(0.0)	10.5	10.3	0.2	
TOTAL RUSSELL TOP 200 PASSIVE	28.7	29.9	1.2	10.9	10.8	0.1	
TOTAL EMERGING MANAGERS	0.5	0.7	0.2	5.3	5.2	0.1	





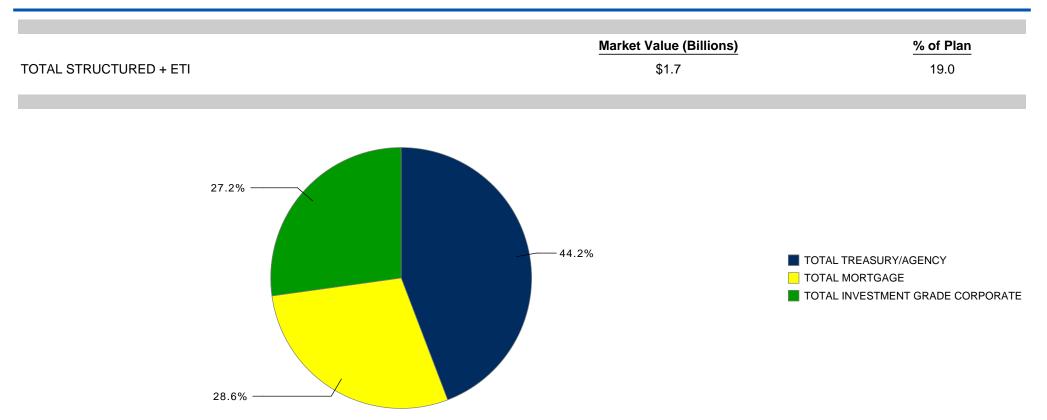
		Quarterly Returns				
	Asset Weight	Fund	Benchmark	Excess		
TOTAL WORLD ex-USA LARGE & MID ACTIVE	83.59	3.64	5.59	(1.95)		
TOTAL WORLD ex-USA SMALL CAP ACTIVE	16.41	5.74	1.84	3.90		
TOTAL WORLD ex-USA	100.00	3.98	5.18	(1.20)		





			Quarterly Returns			
	Asset Weight	Fund	Benchmark	Excess		
TOTAL ACTIVE EMERGING MARKETS	99.48	3.65	2.37	1.29		
TOTAL PASSIVE EMERGING MARKETS	0.52	2.31	2.37	(0.06)		
TOTAL EMERGING MARKETS	100.00	3.65	2.37	1.28		



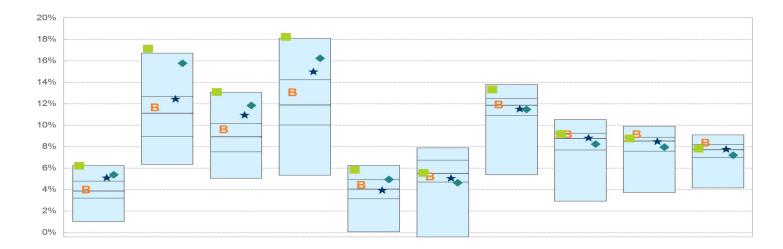


				G	uarterly Returns	
	Policy Weight	Asset Weight	Under/Over Weight	Fund	Benchmark	Excess
TOTAL TREASURY/AGENCY	40.81	44.15	3.34	(0.63)	(0.93)	0.30
TOTAL MORTGAGE	29.94	28.64	(1.30)	(0.76)	(1.04)	0.28
TOTAL INVESTMENT GRADE CORPORATE	29.25	27.21	(2.04)	(0.10)	(0.40)	0.30



## W Wilshire





Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	6.24	16.73	13.08	18.12	6.27	7.89	13.80	10.54	9.91	9.09
25th	4.80	12.68	10.18	14.25	4.92	6.75	12.50	9.25	8.88	8.20
50th	3.86	11.13	8.93	11.90	4.05	5.52	11.87	8.77	8.52	7.71
75th	3.20	8.95	7.52	10.02	3.14	4.71	10.92	7.69	7.59	6.99
95th	1.00	6.35	5.05	5.34	0.06	-0.42	5.38	2.92	3.71	4.15
No. Of Obs	76	76	76	76	70	70	70	63	63	63
3 Total System - BOE	3.86 (50)	11.54 (40)	9.50 (34)	12.95 (38)	4.30 (41)	5.09 (66)	11.81 (58)	9.03 (35)	9.03 (18)	8.24 (21)
Board of Ed Policy Ben	4.99 (21)	12.33 (31)	10.83 (19)	14.87 (14)	3.82 (58)	4.94 (69)	11.41 (63)	8.70 (55)	8.38 (53)	7.65 (51)
Public Mkt Equiv 25	6.09 (5)	17.02 (3)	12.96 (6)	18.11 (5)	5.72 (9)	5.43 (51)	13.20 (6)	9.06 (32)	8.63 (39)	7.68 (50)
Public Mkt Equiv 35	5.26 (14)	15.65 (7)	11.71 (10)	16.12 (11)	4.82 (26)	4.51 (75)	11.33 (66)	8.10 (66)	7.82 (66)	7.08 (68)

Wilshire Trust Universe Comparison Service® (TUCS®)



## W Wilshire



Consecutive Time Periods: March 31, 2024



Quarter Ending

Year Ending

Percentile Rankings	Mar 24	Dec 23	Sep 23	Jun 23	Mar 23	Mar 24	Mar 23	Mar 22	Mar 21	Mar 20
5th	6.24	10.52	-0.08	4.89	5.71	18.12	-0.47	14.83	41.12	2.87
25th	4.80	7.71	-1.10	3.36	4.59	14.25	-2.26	11.91	35.70	-0.74
50th	3.86	6.80	-1.84	2.84	3.92	11.90	-3.95	8.67	31.67	-2.75
75th	3.20	5.47	-2.56	2.34	3.20	10.02	-5.28	6.17	27.52	-4.62
95th	1.00	3.90	-3.40	0.44	2.65	5.34	-8.62	1.83	19.75	-8.30
No. Of Obs	76	76	76	76	72	76	70	74	74	67
Total System - BOE	3.86 (50)	7.40 (34)	-1.84 (50)	3.15 (35)	4.80 (19)	12.95 (38)	-3.69 (47)	6.68 (70)	34.64 (29)	-1.42 (35)
Board of Ed Policy Ben	4.99 (21)	6.99 (47)	-1.34 (30)	3.65 (18)	5.02 (10)	14.87 (14)	-6.18 (83)	7.23 (59)	33.32 (37)	-1.50 (36)
Public Mkt Equiv 25	6.09 (5)	10.30 (6)	-3.47 (97)	4.55 (6)	6.48 (2)	18.11 (5)	-5.36 (77)	4.85 (84)	40.10 (9)	-6.04 (90)
Public Mkt Equiv 35	5,26 (14)	9,88 (9)	-3.41 (95)	3.95 (9)	5,98 (2)	16.12 (11)	-5.38 (79)	3,88 (89)	34,58 (29)	-3.90 (65)

Wilshire Trust Universe Comparison Service® (TUCS®)



	Avg. Net Asset Value FY 2023 (\$MM)	Base Mgmt. Fees (\$M)	Partnership Fees (\$M)	Base Mgmt. Fees & Partnership Fees in BPS	Performance / Carry Fees in ( (\$M)	Performance / Carry Fees in BPS	Total Investment Mgmt. Fees in (\$M)	Total Investment Mgmt. Fees in BPS
INVESTMENT STYLE (EQUITIES) Total US Equities	2,403.81	972.71	-	4.05	11.91	0.05	984.63	4.10
Small Cap Active:	71.16	176.53		24.81	-	-	176.53	24.81
Small Cap Growth	71.16	176.53	-	24.81	-	-	176.53	24.81
Small Cap Value	-	-	-	-	-	-	-	-
Small Cap Core	-	-	-	-	-	-	-	-
Small Cap Fundamental Index	-	-	-	-	-	-	-	-
Mid Cap Active:	219.13	654.45		29.87		-	654.45	29.87
Mid Cap Growth	-	034:45					-	
Mid Cap Value	-	-	-	-	-	-	-	-
Mid Cap Core	219.13	654.45	-	29.87	-	-	654.45	29.87
Other Active:	16.08	78.85	-	49.02	11.91	7.41	90.76	56.43
Russell 1000 Fundamental Legato (Emerging Manager- Equity)	16.08	78.85	-	49.02	11.91	7.41	90.76	56.43
U.S. Environmental Managers	-	-	-		-	-	-	-
Total US Active Equities	306.38	909.83	-	29.70	11.91	0.39	921.74	30.08
Small Cap Passive:								
Small Cap Passive	65.24	2.82	-	0.43	-	-	2.82	0.43
Mid Cap Passive:								
Mid Cap Passive	-	-	-	-	-	-	-	-
Russell / S&P Passive:	2,032.18	60.07	-	0.30	-	-	60.07	0.30
Russell 1000 Growth Passive	-	-	-	-	-	-	-	-
Russell 1000 Value Passive			-		-	-		
Russell 1000 Core Passive Passive Russell 3000	1,409.77	28.22	-	0.20	-	-	28.22	0.20
Passive Kussell 5000 Passive S&P 500	-	-					-	
Passive Russell Top 200	622.41	31.85		0.51	-	-	31.85	0.51
Total US Passive Equities	2,097.42	62.89	-	0.30	-	-	62.89	0.30
Total International Equities	1,158.02	3,747.89	-	32.36	136.42	1.18	3,884.31	33.54
Global Equity	140.64	744.20	-	52.92	-	-	744.20	52.92
Active Total Global Equities	140.64	744.20	-	52.92	-	-	744.20	52.92
Active Total World Ex USA:	683.07	1,703.17	-	24.93	-	_	1,703.17	24.93
World Ex-USA Large & Mid Developed Growth Active	279.41	713.86	-	25.55	-	-	713.86	25.55
World Ex-USA Large & Mid Developed Value Active	291.46	616.26	-	21.14	-	-	616.26	21.14
World Ex-USA Developed Small Cap Active	112.19	373.05	-	33.25	-	-	373.05	33.25
Total World Ex USA NON-U.S. Activist	-	-	-	-	-	-	-	-
NON-0.3. Activist	-	-	-	-	-	-	-	-
NON-U.S. Environmental Managers	=	=	-	-	-	=	=	-
Active Emerging Markets	401.21	1,812.98	-	45.19	-	-	1,812.98	45.19
International Fund of Funds	72.20	231.31	-	32.04	136.42	18.89	367.73	50.93
Total Active International Equities	1,156.47	3,747.46	-	32.40	136.42	-	3,883.88	33.58
Int'l Passive Equities:	1.55	0.43	-	2.77	-	-	0.43	2.77
World Ex-USA Small Cap Passive	-	-	-	-	-	-	-	-
World Ex-USA Large & Mid Cap Passive Passive Global	-	-	-	-	-	-	-	-
Passive Global Passive Emerging Markets	1.55	0.43	-	2.77		-	0.43	2.77
Total Int'l Passive Equities	1.55	0.43	-	2.77	-	-	0.43	2.77
Real Estate Equity Securities					-			
	-	-	-	-		-	-	-
Total Public Equities	3,702.46	5,464.80	-	14.76	148.33	0.40	5,613.14	15.16

#### BOARD OF EDUCATION RETIREMENT SYSTEM INVESTMENT MANAGEMENT FEES INCURRED FOR FISCAL YEAR ENDED JUNE 30, 2023



				ATION RETIREMENT SYSTE				
INVESTMENT STYLE (FIXED INCOME)	Avg. Net Asset Value FY 2023 (\$MM)		Partnership Fees (\$M)	Base Mgmt. Fees & Partnership Fees in BPS		Performance / Carry Fees in BPS	Total Investment Mgmt. Fees in (\$M)	Total Investment Mgmt. Fees in BPS
Total Fixed Income	2,261.79	3,058.83	-	13.52	-	-	3,058.83	13.52
Structured Program:	1,032.50	617.06	-	5.98	-	-	617.06	5.98
Government Treas/Agency Sector Long Duration Treasury	406.04	113.07	-	2.78	-	-	113.07	2.78
Mortgage Sector	45.11 278.89	4.38 166.27		0.97 5.96	-	-	4.38 166.27	0.97 5.96
Investment Grade Credit Sector	302.46	333.35		11.02	-	1	333.35	11.02
Developing Managers	113.23	235.62	-	20.81	-	-	235.62	20.81
Emerging Managers	-	-	-	-	-	-	-	-
TIPS:	278.39	14.06	-	0.50	-	-	14.06	0.50
Active TIPS Managers	-	-	-	-	-	-	-	-
Passive TIPS Managers	278.39	14.06	-	0.50	-	=	14.06	0.50
High Yield	730.82	2,121.05	-	29.02	-	-	2,121.05	29.02
Bank Loans	0.38	0.00	-	0.00	-	-	0.00	0.00
Convertible Bonds	-	-	-	-	-	-	-	-
ETI - Access - RBC	9.48	17.54	-	18.51	-	-	17.54	18.51
ETI - AFL-CIO HIT	16.08	53.50	-	33.27	-	-	53.50	33.27
Other ETI Programs (Internally Managed)	14.15	-	-	-	-	-	-	-
Short Term (Internally Managed & Other)	66.76	-	-	-	-	-	-	-
Total Public Markets	5,964.25	8,523.63	-	14.29	148.33	0.25	8,671.97	14.54
INVESTMENT STYLE (PRIVATE MARKETS)								
Hedge Funds	-	-	-	-	-	-	-	-
Private Equity	943.37	12,290.03	5,966.35	193.52	8,094.29	85.80	26,350.66	279.32
Private Real Estate	745.61	6,359.02	3,995.01	138.87	4,530.86	60.77	14,884.89	199.63
Infrastructure	258.30	4,146.05	2,790.59	268.55	2,160.00	83.62	9,096.64	352.18
Opportunistic Fixed Income	243.06	2,585.33	1,535.29	169.53	(46.32)	(1.91)	4,074.30	167.62
Total Private Markets	2,190.35	25,380.42	14,287.24	181.10	14,738.82	67.29	54,406.49	248.39
Total Overall	8,154.60	33,904.06	14,287.24	59.10	14,887.16	18.26	63,078.45	77.35

The overall carried interest and performance incentive fees paid by BERS for the Fiscal Year: 18.26 BPS

General Footnotes:



#### NYC BOARD OF EDUCATION RETIREMENT SYSTEM SECURITIES LENDING INCOME March 31, 2024

	U. S.	U. S.	INTERNATIONAL	
	FIXED INCOME	EQUITY	EQUITY	TOTAL
1989	70,000	-	-	70,000
1990	79,000	-	-	79,000
1991	111,000	-	-	111,000
1992	122,000	11,000	-	133,000
1993	79,000	32,000	15,000	126,000
1994	93,000	77,000	20,000	190,000
1995	112,000	93,000	12,000	217,000
1996	99,000	76,000	27,000	202,000
1997	101,000	126,000	40,000	267,000
1998	111,000	170,000	60,000	341,000
1999	159,000	263,000	100,000	522,000
2000	193,000	310,000	97,000	600,000
2001	295,000	208,000	159,000	662,000
2002	209,000	143,000	152,000	504,000
2003	153,000	158,000	195,000	506,000
2004	226,000	255,000	174,000	655,000
2005	384,000	479,000	217,000	1,080,000
2006	303,000	734,000	246,000	1,283,000
2007	593,000	1,208,000	272,000	2,073,000
2008	2,514,000	2,266,000	451,000	5,231,000
2009	698,000	1,416,000	367,000	2,481,000
2010	246,000	729,000	326,000	1,301,000
2011	340,000	943,000	599,000	1,882,000
2012	516,000	1,144,000	495,000	2,155,000
2013	349,000	1,325,000	446,000	2,120,000
2014	287,000	512,000	1,387,000	2,186,000
2015	338,000	429,000	1,985,000	2,752,000
2016	418,000	1,585,000	1,685,000	3,688,000
2017	686,000	1,015,000	1,215,000	2,916,000
2018	582,738	682,039	954,109	2,218,886
2019	319,440	712,602	788,647	1,820,689
2020	360,464	392,674	356,478	1,109,617
2021	672,093	566,378	92,881	1,331,351
2022	979,471	770,306	77,445	1,827,222
2023	779,247	464,944	180,256	1,424,447
2024 (3 months)	229,979	123,255	5,081	358,314
Since Inception	13,807,432	19,419,198	13,196,896	46,423,525
•				



New York City Board of Education Retirement System

# **Appendix A**

# **Consolidated Performance Report**



		Market Value (\$MM)	% of Total	2 Month	FYTD	СҮТД	FYE 2023	CYE 2023	CYE 2022	CYE 2021	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	SYSTEM RETURN SUMMARY	(Şivilvi)	7001 10tal	5 1001111	1110	CIID	2025	2023	1011	2021	Treat	5 1681	5 1681	10 1001	110	inception Date
5	BERS-TOTAL PORTFOLIO - GROSS	9,192	100.00	3.86	9.50	3.86	9.26	13.97	(12.05)	15.00	12.95	5.09	9.03	8.24	0 04	07/01/1987
5	BERS - ESTIMATED INVESTMENT FEES	5,152	100.00	(0.17)	(0.61)	(0.17)	(0.70)	(0.78)	(0.53)	(0.59)	(0.81)	(0.66)	(0.52)	(0.38)	0.01	07/01/1987
	EST MANAGEMENT FEES - PUBLIC MARKET (ACCRUAL)			(0.02)	(0.08)	(0.02)	(0.11)	(0.08)	(0.12)	(0.03)	(0.11)	(0.12)	(0.12)	(0.00)		
	EST MANAGEMENT FEES - ALTERNATIVE MARKETS (CASH) EST INCENTIVE FEES EST OTHER FEES			(0.15)	(0.53)	(0.15)	(0.59)	(0.70)	(0.41)	(0.46)	(0.70)	(0.54)	(0.40)			
	EST FEE OFFSETS BERS-TOTAL PORTFOLIO - NET MGR			3.69	8.89	3.69	8.55	13.20	(12.57)	14.41	12.14	4.43	8.50	7.86		
	BOARD OF EDUCATION POLICY BENCHMARK			4.99	10.82	4.99	7.93	14.90	(12.37)	14.19	14.87	4.94	8.70	7.65		
	EXCESS RETURN			(1.30)	(1.93)	(1.30)	0.62	(1.71)	0.74	0.22	(2.73)	(0.51)	(0.20)	0.21		
	EQUITY RETURN DETAIL															
18	BERS-TOTAL EQUITY (INCLUDES ALTERNATIVES) - GROSS	6,209	67.54	5.31	11.30	5.31	12.10	16.42	(12.90)	21.72	16.31	7.21	11.97	10.56	9.69	08/01/1993
	ESTIMATED INVESTMENT FEES			(0.23)	(0.77)	(0.23)	(0.95)	(1.00)	(0.70)	(0.85)	(1.05)	(0.88)	(0.70)	(0.50)		
	EST MANAGEMENT FEES EST INCENTIVE FEES EST OTHER FEES EST FEE OFFSETS			(0.23)	(0.77)	(0.23)	(0.95)	(1.00)	(0.70)	(0.85)	(1.05)	(0.88)	(0.70)	(0.50)		
	BERS-TOTAL EQUITY (INCLUDES ALTERNATIVES) - NET MGR			5.08	10.54	5.08	11.16	15.43	(13.60)	20.88	15.26	6.32	11.27	10.06		
26	BERS-TOTAL EQUITY - GROSS	3,975	43.25	8.28	16.66	8.28	17.56	23.86	(21.59)	17.30	23.97	5.53	11.48	9.84	9.07	04/01/2004
	ESTIMATED INVESTMENT FEES	-,		(0.04)	(0.13)	(0.04)	(0.18)	(0.20)	(0.14)	(0.22)	(0.19)	(0.18)	(0.19)	(0.18)		
	EST MANAGEMENT FEES EST INCENTIVE FEES EST OTHER FEES EST FEE OFFSETS			(0.04)	(0.13)	(0.04)	(0.18)	(0.20)	(0.14)	(0.22)	(0.19)	(0.18)	(0.19)	(0.18)		
	BERS-TOTAL EQUITY - NET MGR			8.24	16.53	8.24	17.38	23.67	(21.72)	17.08	23.77	5.34	11.30	9.67		
34	BERS-TOTAL DOMESTIC EQUITY - GROSS	2,692	29.29	10.03	19.82	10.03	18.51	26.30	(20.37)	25.13	29.41	9.26	14.13	12.24	10.53	09/01/1991
	ESTIMATED INVESTMENT FEES			(0.01)	(0.04)	(0.01)	(0.05)	(0.05)	(0.07)	(0.13)	(0.05)	(0.08)	(0.09)	(0.09)		
	BERS-TOTAL DOMESTIC EQUITY - NET MGR			10.02	19.79	10.02	18.47	26.25	(20.44)	25.00	29.35	9.18	14.04	12.15	40.40	
	RUSSELL 3000 (DAILY) EXCESS RETURN			10.02	19.29 0.50	10.02	18.95 (0.49)	25.96 0.29	(19.21) (1.23)	25.66 (0.66)	29.29	9.78 (0.60)	14.34 (0.30)	12.33 (0.18)	10.43 0.10	
		110	4.55	4.00	10.75	4.00	10.01	04.04	(00.70)	00.00	04.00	0.00	10.00	0.50	7.00	04/04/0004
44	BERS-TOTAL SMALL CAP - GROSS ESTIMATED INVESTMENT FEES	143	1.55	4.32 (0.04)	18.75 (0.12)	4.32 (0.04)	12.21 (0.15)	24.84 (0.17)	(22.70) (0.71)	23.03 (0.68)	24.80 (0.17)	3.68 (0.55)	10.96 (0.40)	8.58 (0.22)	7.88	04/01/2004
	BERS-TOTAL SMALL CAP - NET MGR			4.29	18.63	4.29	12.07	24.67	(23.41)	22.35	24.63	3.12	10.56	8.35		
	RUSSELL 2000 (DAILY)			5.18	13.79	5.18	12.31	16.93	(20.44)	14.82	19.71	(0.10)	8.10	7.58	8.05	
	EXCESS RETURN			(0.89)	4.84	(0.89)	(0.24)	7.75	(2.98)	7.53	4.92	3.23	2.45	0.78	(0.17)	
54	BERS-TOTAL MID CAP - GROSS	247	2.68	8.91	15.32	8.91	12.15	12.83	(22.30)	10.77	17.83	0.11	8.24	9.98	12.12	10/01/2010
54	ESTIMATED INVESTMENT FEES	2	2.00	(0.08)	(0.26)	(0.08)	(0.34)	(0.34)	(0.23)	(0.70)	(0.35)	(0.41)	(0.66)	(0.59)		10/01/2010
	BERS-TOTAL MID CAP - NET MGR			8.83	15.06	8.83	11.81	12.49	(22.53)	10.07	17.48	(0.30)	7.57	9.39		
	RUSSELL MIDCAP (DAILY)			8.60	16.79	8.60	14.92	17.23	(17.32)	22.58	22.35	6.07	11.10	9.95	12.15	
	EXCESS RETURN			0.23	(1.72)	0.23	(3.11)	(4.74)	(5.22)	(12.52)	(4.87)	(6.36)	(3.53)	(0.56)	(0.03)	
64	BERS-TOTAL RUSSELL 1000 - GROSS	1,480	16.10	10.46	20.19	10.46	19.00	26.89	(19.95)	26.64	30.46	10.27	14.65		13.81	04/01/2018
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		(0.00)	
	BERS-TOTAL RUSSELL 1000 - NET MGR			10.46	20.18	10.46	19.00	26.89	(19.95)	26.64	30.46	10.27	14.65		13.81	
	RUSSELL 1000 (DAILY) EXCESS RETURN			10.30 0.16	19.61 0.58	10.30 0.16	19.36 (0.36)	26.53 0.36	(19.13) (0.82)	26.45 0.18	29.87 0.59	10.45 (0.19)	14.76 (0.11)		13.83 (0.02)	
74	BERS-TOTAL RUSSELL TOP 200 PASSIVE - GROSS	804	8.75	10.89	21.10	10.89	21.19	30.62	(20.15)	27.51	32.69	11.95	16.03		15.21	05/01/2018
/4	ESTIMATED INVESTMENT FEES	504	0.75	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)		(0.01)	00/01/2010
	BERS-TOTAL RUSSELL TOP 200 PASSIVE - NET MGR			10.89	21.09	10.89	21.19	30.61	(20.15)	27.50	32.68	11.94	16.02		15.20	
	RUSSELL TOP 200 INDEX (DAILY)			10.84	20.52	10.84	20.88	29.85	(19.77)	27.90	32.44	12.00	16.07		15.23	
	EXCESS RETURN			0.05	0.58	0.05	0.31	0.76	(0.39)	(0.40)	0.24	(0.06)	(0.04)		(0.03)	



		Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2023	CYE 2023	CYE 2022	CYE 2021	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	EQUITY RETURN DETAIL															
86	BERS-TOTAL EMERGING MANAGER - GROSS	19	0.20	5.43	11.04	5.43	13.95	14.34	(15.72)	25.72	14.38	3.21	10.66		9.64	05/01/2017
	ESTIMATED INVESTMENT FEES			(0.13)	(0.41)	(0.13)	(0.64)	(0.64)	(0.48)	(0.70)	(0.64)	(0.58)	(0.59)		(0.55)	
	BERS-TOTAL EMERGING MANAGER - NET MGR			5.30	10.63	5.30	13.31	13.70	(16.20)	25.02	13.73	2.63	10.06		9.09	
	RUSSELL 2000 (DAILY)			5.18	13.79	5.18	12.31	16.93	(20.44)	14.82	19.71	(0.10)	8.10		7.66	
	EXCESS RETURN			0.12	(3.16)	0.12	1.01	(3.23)	4.23	10.20	(5.97)	2.73	2.55		1.43	
96	BERS-TOTAL WORLD ex-USA EQUITY - GROSS	734	7.98	4.04	7.50	4.04	19.59	18.53	(24.63)	3.28	10.66	(2.18)	7.55	6.07	7.65	11/01/1992
	ESTIMATED INVESTMENT FEES			(0.06)	(0.20)	(0.06)	(0.30)	(0.29)	(0.18)	(0.25)	(0.27)	(0.24)	(0.26)	(0.26)		
	BERS-TOTAL WORLD ex-USA EQUITY - NET MGR			3.98	7.30	3.98	19.29	18.24	(24.81)	3.02	10.38	(2.42)	7.28	5.81		
	NYC DEVELOPED EQUITY BENCHMARK			5.18	11.58	5.18	16.35	17.18	(15.26)	12.39	14.56	4.06	7.18	4.72	6.13	
	EXCESS RETURN			(1.20)	(4.28)	(1.20)	2.95	1.05	(9.55)	(9.37)	(4.18)	(6.48)	0.11	1.09	1.52	
106	BERS-TOTAL WORLD ex-USA LARGE & MID ACTIVE - GROSS	613	6.67	3.70	6.25	3.70	20.48	18.72	(25.88)	0.34	9.77	(3.39)	6.99	5.82	5.94	11/01/2013
	ESTIMATED INVESTMENT FEES			(0.06)	(0.18)	(0.06)	(0.28)	(0.27)	(0.17)	(0.23)	(0.25)	(0.22)	(0.25)	(0.25)	(0.25)	
	BERS-TOTAL WORLD ex-USA LARGE & MID ACTIVE - NET MGR			3.64	6.06	3.64	20.20	18.45	(26.05)	0.11	9.52	(3.61)	6.74	5.58	5.69	
	NYC CUSTOM WORLD EX-USA LG & MID ACT INDEX			5.59	11.90	5.59	17.41	17.94	(14.29)	12.62	15.29	4.93	7.48	4.89	4.99	
	EXCESS RETURN			(1.95)	(5.83)	(1.95)	2.78	0.51	(11.76)	(12.51)	(5.77)	(8.55)	(0.74)	0.69	0.70	
126	BERS-TOTAL WORLD ex-USA SMALL CAP ACTIVE - GROSS	120	1.31	5.83	14.35	5.83	15.09	17.40	(18.57)	19.51	15.21	3.79	9.53	7.56	8.84	05/01/2013
	ESTIMATED INVESTMENT FEES			(0.08)	(0.28)	(0.08)	(0.38)	(0.38)	(0.27)	(0.39)	(0.38)	(0.34)	(0.36)	(0.35)		
	BERS-TOTAL WORLD ex-USA SMALL CAP ACTIVE - NET MGR			5.74	14.07	5.74	14.71	17.02	(18.83)	19.12	14.84	3.45	9.17	7.21		
	S&P EPAC SMALL CAP USD NET			1.84	8.95	1.84	10.76	14.16	(22.69)	8.06	9.14	(2.15)	4.46	4.29	5.60	
	EXCESS RETURN			3.90	5.12	3.90	3.95	2.86	3.86	11.06	5.70	5.60	4.71	2.92	3.24	
136	BERS-TOTAL EMERGING MARKETS - GROSS	330	3.59	3.77	12.25	3.77	5.23	16.42	(22.41)	1.55	14.12	(2.60)	2.95	3.88	6.76	11/01/1997
	ESTIMATED INVESTMENT FEES			(0.12)	(0.44)	(0.12)	(0.47)	(0.58)	(0.34)	(0.41)	(0.57)	(0.45)	(0.38)	(0.35)		
	BERS-TOTAL EMERGING MARKETS - NET MGR			3.65	11.81	3.65	4.76	15.83	(22.75)	1.13	13.54	(3.05)	2.57	3.53		
	MSCI EMERGING MARKETS			2.37	7.19	2.37	1.75	9.83	(20.09)	(2.54)	8.15	(5.05)	2.22	2.95		
	EXCESS RETURN			1.28	4.62	1.28	3.01	6.00	(2.66)	3.68	5.39	2.00	0.35	0.58		
146	BERS-TOTAL ACTIVE EMERGING MARKETS - GROSS	329	3.57	3.77	12.26	3.77	5.24	16.44	(22.42)	1.69	14.14	(2.59)	2.59	3.63	6.81	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.12)	(0.44)	(0.12)	(0.48)	(0.59)	(0.34)	(0.43)	(0.58)	(0.45)	(0.42)	(0.39)		
	BERS-TOTAL ACTIVE EMERGING MARKETS - NET MGR			3.65	11.82	3.65	4.77	15.85	(22.76)	1.26	13.56	(3.04)	2.17	3.24		
	MSCI EMERGING MARKETS			2.37	7.19	2.37	1.75	9.83	(20.09)	(2.54)	8.15	(5.05)	2.22	2.95	6.47	
	EXCESS RETURN			1.29	4.64	1.29	3.02	6.02	(2.67)	3.80	5.41	2.01	(0.05)	0.29	0.35	
156	BERS-TOTAL PASSIVE EMERGING MARKETS - GROSS	2	0.02	2.32	7.22	2.32	2.13	10.14	(19.57)	(2.08)	8.15	(4.75)	2.36		5.24	12/01/2016
	ESTIMATED INVESTMENT FEES			(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)		(0.03)	
	BERS-TOTAL PASSIVE EMERGING MARKETS - NET MGR			2.31	7.21	2.31	2.10	10.13	(19.57)	(2.10)	8.14	(4.77)	2.34		5.21	
	MSCI EMERGING MARKETS			2.37	7.19	2.37	1.75	9.83	(20.09)	(2.54)	8.15	(5.05)	2.22		5.12	
	EXCESS RETURN			(0.06)	0.02	(0.06)	0.36	0.30	0.52	0.44	(0.01)	0.28	0.12		0.09	
166	BERS-TOTAL INTERNATIONAL FUND OF FUNDS - GROSS	115	1.26	4.64	11.07	4.64	15.41	18.13	(17.16)	9.43	14.44	3.33	7.88		6.93	05/01/2017
100	ESTIMATED INVESTMENT FEES	110	1.20	(0.08)	(0.27)	(0.08)	(0.59)	(0.60)	(0.27)	(0.53)	(0.57)	(0.46)	(0.43)		(0.41)	00/01/2011
	BERS-TOTAL INTERNATIONAL FUND OF FUNDS - NET MGR			4.56	10.81	4.56	14.82	17.53	(17.43)	8.90	13.87	2.87	7.44		6.52	
	MSCI ACWI EX USA IMI NET			4.33	10.56	4.33	12.47	15.62	(16.58)	8.53	13.20	1.72	6.00		5.58	
	EXCESS RETURN			0.23	0.24	0.23	2.35	1.91	(0.85)	0.37	0.67	1.15	1.88		0.94	
176	BERS-TOTAL GLOBAL EQUITY - GROSS	104	1.13	10.28	19.31	10.28	28.03	33.10	(28.80)	12.70	29.30	5.44	13.87		12.18	06/01/2018
1/6	ESTIMATED INVESTMENT FEES	104	1.13	(0.15)	(0.47)	(0.15)	28.03 (0.68)	(0.70)	(28.80) (0.37)	(0.60)	29.30 (0.68)	5.44 (0.56)	(0.61)		(0.60)	00/01/2010
	BERS-TOTAL GLOBAL EQUITY - NET MGR			10.14	18.84	10.14	27.34	32.40	(29.17)	12.10	28.62	4.88	13.26		11.58	
	MSCI AC WORLD (DAILY CONST)			8.20	16.05	8.20	16.53	22.20	(18.36)	12.10	23.22	6.96	10.92		9.57	
	EXCESS RETURN			1.94	2.79	1.94	10.53	10.20	(10.30)	(6.44)	5.40	(2.07)	2.35		2.01	
				1.04	2.10	1.04	10.02	10.20	(10.01)	(0.44)	5.40	(2.07)	2.55		2.01	



		Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	FYE 2023	CYE 2023	CYE 2022	CYE 2021	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	ALTERNATIVE EQUITY RETURN DETAIL															
188	BERS-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - GROSS ESTIMATED INVESTMENT FEES BERS-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - NET MGR	1,116	12.14	1.22 (0.71) 0.51	5.43 (2.26) 3.17	1.22 (0.71) 0.51	2.07 (2.32) (0.25)	8.87 (2.72) 6.15	5.77 (2.25) 3.52	52.85 (4.14) 48.72	8.60 (2.88) 5.72	17.15 (2.96) 14.19	19.20 (2.33) 16.87	18.20 (1.85) 16.35	10.69	07/01/2006
	NYC R3000 +3% LAGGED EXCESS RETURN			12.87 (12.36)	20.11 (16.93)	12.87 (12.36)	(5.81) 5.56	24.02 (17.87)	(15.11) 18.63	35.74 12.97	29.67 (23.95)	11.78 2.41	18.58 (1.71)	14.80 1.55	13.54 (2.85)	
198	BERS-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - GROSS ESTIMATED INVESTMENT FEES BERS-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - NET MGR NCREIF NFI-ODCE NET + 100 BP EXCESS RETURN	738	<b>8.03</b>	(2.86) (0.28) (3.15) (2.33) (0.82)	(5.01) (1.01) (6.02) (8.71) 2.69	(2.86) (0.28) (3.15) (2.33) (0.82)	(0.08) (1.49) (1.57) (9.83) 8.26	(5.90) (1.25) (7.15) (11.85) 4.69	19.46 (2.06) 17.40 7.61 9.79	24.29 (1.90) 22.39 22.21 0.18	(6.62) (1.24) (7.85) (11.12) 3.26	9.34 (1.71) 7.63 3.49 4.14	7.53 (1.30) 6.23 3.58 2.64	10.23 (1.04) 9.19 6.87 2.32	10.35 8.76 1.58	12/01/2010
208	BERS-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - GROSS ESTIMATED INVESTMENT FEES BERS-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - NET MGR CPI + 4% EXCESS RETURN	379	4.12	2.89 (0.68) 2.21 2.13 0.09	8.83 (2.06) 6.77 5.77 1.00	2.89 (0.68) 2.21 2.13 0.09	11.00 (3.83) 7.17 7.18 (0.00)	12.96 (3.18) 9.78 7.46 2.33	13.73 (3.44) 10.30 10.67 (0.37)	17.75 (3.31) 14.44 11.46 2.98	12.44 (3.51) 8.93 7.61 1.31	14.03 (3.41) 10.62 9.86 0.76	13.95 (2.66) 11.28 8.36 2.93	16.27 (2.67) 13.60 6.95 6.65	14.55 (2.94) 11.62 6.94 4.68	12/01/2013



Table Model Attribution private         Tribution prib			Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	FYE 2023	CYE 2023	CYE 2022	CYE 2021	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
ESTIMATE DWCSTINUT FEES       (0.3)       (0.24)       (0.3)       (0.49)       (0.19) <t< th=""><th></th><th>FIXED INCOME RETURN DETAIL</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>		FIXED INCOME RETURN DETAIL															
EST MANAGEMENT FEES EST OTHER FEES EST OTHE	220	BERS-TOTAL FIXED INCOME - GROSS	2,983	32.45	0.64	5.36	0.64	2.90	8.40	(10.53)	2.00	5.49	0.40	2.83	3.01	7.11	02/01/1980
EST WCRIVE FRES BUT FE OFRET 0FERS STITE OFRET 75         EVALUATION FRES STITE OFRET 755         EVALUATION FREE STITE OFRET 755         EVAL					(0.03)												
EST OTHER FEES BERS-TOTAL FIXED INCOME - NET MGR         6.61         6.11         0.61         2.11         6.10         (1.16)         (1.17)         5.20         0.20         2.68         2.87           23         BERS-TOTAL FIXED INCOME (NO FIS ACSH) - INGOSS         2.44         2.44         2.44         2.44         2.61         (0.03)         0.11         (0.03)         0.14         0.12         (0.12)         (0.13)         0.12         0.13         0.13         (0.13)         (0.13)         0.12         0.13         0.13         (0.13)         (0.13)         (0.12)         (0.13)         0.12         0.13         (0.13) </td <td></td> <td></td> <td></td> <td></td> <td>(0.03)</td> <td>(0.24)</td> <td>(0.03)</td> <td>(0.19)</td> <td>(0.30)</td> <td>(0.15)</td> <td>(0.13)</td> <td>(0.29)</td> <td>(0.19)</td> <td>(0.16)</td> <td>(0.14)</td> <td></td> <td></td>					(0.03)	(0.24)	(0.03)	(0.19)	(0.30)	(0.15)	(0.13)	(0.29)	(0.19)	(0.16)	(0.14)		
BERS-FYCD INCOME - RT MOR         0.61         5.11         0.61         2.71         6.50         7.50         0.20         2.68         2.97           228         BERS-FYCD INCOME (or OF IS CASH) - GROSS         2.641         2.74         0.50         0.71         0.52 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>																	
BERR-TOTAL FIXED INCOME - NET MOR         0.61         5.11         0.61         5.71         0.61         5.71         0.61         2.71         8.10         (10.7)         1.87         5.20         0.20         2.88         2.87           228         BERR-FIXED INCOME (ox CPI & CASH) - GROSS         2,541         2,541         2,541         0.10         4.75         0.10         2,74         8.35         (11.44)         1.32         4.69         0.27         2,46         2,90         2,57         1,102131           EST MANAGEMENT FEES         EST MANAGEMENT FEES         0.01         4.75         0.10         0.71         0.033         0.14         0.10         0.72         0.15         0.13 <td></td>																	
ESTIMATED INVESTMENT FEES         (0.03)         (0.11)         (0.03)         (0.14)         (0.15)         (0.12)         (0.13)					0.61	5.11	0.61	2.71	8.10	(10.67)	1.87	5.20	0.20	2.68	2.87		
ESTIMATED INVESTMENT FEES         (0.03)         (0.11)         (0.03)         (0.14)         (0.15)         (0.12)         (0.13)																	
EST MANGEMENT FEES EST OWNE (R. OF) & CASH) - NET MOR         (0.03)         (0.11)         (0.03)         (0.14)         (0.16)         (0.12)         (0.13) </td <td>228</td> <td></td> <td>2,541</td> <td>27.64</td> <td></td> <td>11/01/2013</td>	228		2,541	27.64													11/01/2013
EST INCENTIVE FEES EST OTHER FEES         EST INCENTIVE FEES EST OTHER FEES         EST INCENTIVE																	
EST OTHER FIES         EST PEE OFSON         0.6         4.64         0.60         2.60         8.20         (11.75)         1.20         4.54         (0.41)         2.34         2.77         2.84           235         BERS-TOTAL STRUCTURED FIXED INCOME - GROSS         1,702         15.22         (0.64)         0.06         (0.67)         6.56         (11.75)         (1.48)         2.21         (2.13)         1.07         2.13         6.00         0101/1985           ESTIMUTED INVESTMENT FEES         0.621         (0.65)         (0.67)         6.56         (13.15)         (14.4)         1.28         1.02         2.07         1.12         2.26         1.12         2.26         1.12         2.26         1.12         2.26         1.12         2.26         1.12 </td <td></td> <td></td> <td></td> <td></td> <td>(0.03)</td> <td>(0.11)</td> <td>(0.03)</td> <td>(0.14)</td> <td>(0.16)</td> <td>(0.12)</td> <td>(0.12)</td> <td>(0.15)</td> <td>(0.13)</td> <td>(0.12)</td> <td>(0.13)</td> <td>(0.13)</td> <td></td>					(0.03)	(0.11)	(0.03)	(0.14)	(0.16)	(0.12)	(0.12)	(0.15)	(0.13)	(0.12)	(0.13)	(0.13)	
EST FEE OFFSETS         0.66         4.64         0.06         2.00         1.702         1.44         2.44         0.41         2.34         2.77         2.84           25         BERS-FIXED INCOME or OF & CASHS - NET MOR         1.702         18.52         (0.54)         3.00         (0.54)         (0.65)         (0.07)         (0.06)         (0.07)         <																	
236       BERS-TOTAL STRUCTURED FIXED INCOME - GROSS       1,702       18.52       (0.54)       3.00       (0.54)       (0.61)       6.03       (1.27)       (1.48)       2.21       (2.13)       1.07       2.13       6.60       01/01/1985         BERS-TOTAL STRUCTURED FIXED INCOME - NET MGR NYC CUSTOM STRUCTURED INEX-BERS       (0.65)       (0.67)       5.66       (13.01)       (1.53)       2.14       (2.16)       1.02       2.07         VIC STOM STRUCTURED INSCHEREN       (0.63)       1.65       0.637       (0.67)       5.66       (13.01)       (1.53)       2.14       (2.16)       1.02       2.07         VIC STOM STRUCTURED INSCHERT       0.633       1.65       0.637       6.60       0.14       (0.10)       0.36       0.20       (0.27)       0.041       (2.28)       1.31       2.22       6.18       05/01/1987         246       BERS-TOTAL GOVERNMENT - NET MGR       (0.63)       1.65       (0.63)       (1.62)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02) <td></td>																	
ESTIMATED INVESTMENT FEES <ul> <li></li></ul>		BERS-FIXED INCOME (ex OFI & CASH) - NET MGR			0.06	4.64	0.06	2.60	8.20	(11.75)	1.20	4.54	(0.41)	2.34	2.77	2.84	
ESTIMATED INVESTMENT FEES <ul> <li></li></ul>	236	BERS-TOTAL STRUCTURED FIXED INCOME - GROSS	1 702	18 52	(0.54)	3 00	(0.54)	(0.61)	6.03	(12 97)	(1.48)	2 21	(2 13)	1 07	2 13	6 60	01/01/1985
BERS-TOTAL STRUCTURED INDEX-BERS       (0.65)       2.95       (0.67)       5.96       (13.01)       (1.53)       2.14       (2.19)       1.02       2.07         246       BERS-TOTAL GOVERNMENT - GROSS       770       8.37       (0.63)       1.65       (0.63)       (1.92)       4.15       (11.57)       (2.05)       0.44       (2.25)       0.94       2.02       6.18       0501/1987         246       BERS-TOTAL GOVERNMENT - GROSS       770       8.37       (0.63)       1.65       (0.63)       (1.92)       4.15       (11.57)       (2.05)       0.44       (2.25)       0.94       2.02       6.18       0501/1987         268       DERS-TOTAL GOVERNMENT - NET MGR       (0.63)       1.65       (0.63)       (1.92)       4.15       (11.57)       (2.05)       0.44       (2.25)       0.94       2.02       6.18       0501/1987         2050       GOVERNMENT NET MERS       (0.63)       1.65       (0.63)       (1.92)       4.12       (11.59)       (2.07)       0.41       (2.26)       0.93       0.02       0.03       0.02       0.03       0.02       0.03       0.02       0.03       0.02       0.03       0.02       0.03       0.02       0.03       0.26       0.61 </td <td></td> <td></td> <td>-,=</td> <td></td> <td>. ,</td> <td></td> <td>. ,</td> <td>. ,</td> <td></td> <td>. ,</td> <td>. ,</td> <td></td> <td>. ,</td> <td></td> <td></td> <td></td> <td></td>			-,=		. ,		. ,	. ,		. ,	. ,		. ,				
NYC CUSTOM STRUCTURED INDEX-BERS EXCESS RETURN       (0.81)       2.59       (0.81)       (0.87)       5.80       (13.15)       (1.43)       1.78       (2.38)       1.31       2.28         246       BERS-TOTAL GOVERNMENT - GROSS       770       8.37       (0.63)       1.65       (0.63)       (1.92)       4.15       (11.57)       (2.05)       0.44       (2.25)       0.94       2.02       6.18       05/01/1987         EST-TOTAL GOVERNMENT - NET MGR       (0.01)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.03)       (0.02)       (0.04)       (0.29)       0.18       (2.46)       1.		BERS-TOTAL STRUCTURED FIXED INCOME - NET MGR															
246       BERS-TOTAL GOVERNMENT - GROSS       770       8.37       (0.63)       1.65       (0.63)       (1.92)       (0.03)       (0.02)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.03)       (0.03)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)       (0.02)       (0.03)		NYC CUSTOM STRUCTURED INDEX-BERS									. ,						
ESTIMATED INVESTMENT FEES       (0.01)       (0.02)       (0.03)       (0.02)       (0.03)		EXCESS RETURN			0.26	0.36	0.26	0.20	0.16	0.14	(0.10)	0.36	0.20	(0.29)	(0.21)		
ESTIMATED INVESTMENT FEES       (0.01)       (0.02)       (0.03)       (0.02)       (0.03)	246	BERS TOTAL COVERNMENT CROSS	770	8 37	(0.63)	1.65	(0.63)	(1.02)	4 15	(11 57)	(2.05)	0.44	(2.25)	0.94	2.02	6 18	05/01/1987
BERS-TOTAL GOVERNMENT - NET MGR       (0.63)       1.63       (0.63)       (1.95)       4.12       (11.59)       (2.07)       0.41       (2.27)       0.92       1.99         CUSTOM GOVERNMENT BENCHMARK - BOE       (0.93)       1.47       (0.93)       (2.14)       4.41       (12.29)       (2.09)       0.18       (2.46)       1.57       2.61         EXCESS RETURN       0.30       0.15       0.30       0.19       (0.29)       0.70       0.02       0.23       0.18       (0.63)       (0.63)         256       BERS-TOTAL MORTGAGE - GROSS       458       4.98       (0.85)       2.38       (0.85)       (1.50)       5.38       (1.77)       (0.74)       1.83       (2.55)       (0.02)       1.46       4.67       08/01/1993         ESTIMATED INVESTMENT FRES       (0.02)       (0.05)       (0.00)       (0.07)       (0.05)       (0.007)       1.41       (1.04)       1.39       (2.64)       (0.32)       1.15       4.22         EXCESS RETURN       (0.87)       2.33       (0.87)       (1.56)       5.31       (11.82)       (0.79)       1.77       (2.61)       (0.07)       1.41         NYC CUSTOM MORTGAGE EBENCHMARK       (0.18)       (0.10)       (1.04)       (1.52)<	240		110	0.57	. ,		. ,	. ,		. ,	. ,		. ,			0.10	03/01/1307
CUSTOM GOVERNMENT BENCHMARK - BOE       (0.93)       1.47       (0.93)       (2.14)       4.41       (12.29)       (2.09)       0.18       (2.46)       1.57       2.61         EXCESS RETURN       0.30       0.15       0.30       0.19       (0.29)       0.70       0.02       0.23       0.18       (0.65)       (0.63)         256       BERS-TOTAL MORTGAGE - GROSS       458       4.98       (0.85)       2.38       (0.85)       (1.50)       5.38       (11.77)       (0.74)       1.83       (2.55)       (0.02)       1.46       4.67       08/01/1993         ESTIMATED INVESTMENT FEES       (0.02)       (0.05)       (0.02)       (0.06)       (0.07)       (0.05)       (0.04)       (0.07)       (0.05)       (0.05)       (0.05)       (0.05)       (0.06)       (0.07)       (0.05)       (0.07) </td <td></td> <td></td> <td></td> <td></td> <td>· /</td> <td><u>/</u></td> <td>· /</td> <td>· /</td> <td>(1.1.1)</td> <td><u>/</u></td> <td></td> <td><i>`</i></td> <td></td> <td>· /</td> <td></td> <td></td> <td></td>					· /	<u>/</u>	· /	· /	(1.1.1)	<u>/</u>		<i>`</i>		· /			
EXCESS RETURN       0.30       0.15       0.30       0.19       (0.29)       0.70       0.02       0.23       0.18       (0.65)       (0.63)         256       BERS-TOTAL MORTGAGE - GROSS ESTIMATED INVESTMENT FEES BERS-TOTAL MORTGAGE - NET MGR       458       4.98       (0.85)       2.38       (0.95)       5.38       (11.77)       (0.74)       1.83       (2.55)       (0.02)       1.46       4.67       08/01/1993         BERS-TOTAL MORTGAGE - NET MGR       (0.02)       (0.05)       (0.02)       (0.06)       (0.07)       (0.05)       (0.04)       (0.07)       (0.05)       (0.05)       (0.05)         VC CUSTOM MORTGAGE BENCHMARK       (0.87)       2.33       (0.87)       (1.56)       5.31       (11.82)       (0.79)       1.77       (2.61)       (0.07)       1.41       4.22         (0.87)       2.33       (0.87)       (1.56)       5.31       (11.81)       (1.04)       1.39       (2.84)       (0.32)       1.15       4.22         (0.87)       2.33       (0.87)       1.86       0.26       (0.01)       0.26       0.38       0.23       0.25       0.25       0.45         266       BERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS       474       5.16       (0.07)       5.										. ,							
256       BERS-TOTAL MORTGAGE - GROSS       458       4.98       (0.85)       2.38       (0.95)       (1.50)       5.38       (11.77)       (0.74)       1.83       (2.55)       (0.02)       (0.05)         BERS-TOTAL MORTGAGE - NET MGR       (0.87)       2.33       (0.67)       (1.56)       5.31       (11.82)       (0.79)       1.77       (2.61)       (0.07)       1.41         NYC CUSTOM MORTGAGE BENCHMARK       (1.04)       2.05       (1.04)       (1.52)       5.05       (11.81)       (1.04)       1.39       (2.84)       (0.32)       1.15       4.22         EXCESS RETURN       0.18       0.29       0.18       (0.04)       0.26       (0.01)       0.26       0.38       0.23       0.25       0.45         266       BERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS       474       5.16       (0.07)       5.19       (0.07)       1.46       9.11       (16.67)       (1.36)       4.86       (1.86)       1.55       2.68       6.37       04/01/1987         ESTIMATED INVESTMENT GRADE CORPORATE - NET MGR       (0.01)       5.10       (0.01)       1.15       8.99       (16.75)       (1.46)       1.45       2.59					, <u> </u>			, <i>`</i> ,		<u>/</u>	<i>,</i>						
ESTIMATED INVESTMENT FEES       (0.02)       (0.05)       (0.07)       (0.07)       (0.06)       (0.07)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.06)       (0.07)       (0.07)					0.00	0.10	0.00	0.10	(0.23)	0.10	0.02	0.20	0.10	(0.00)	(0.00)		
BERS-TOTAL MORTGAGE - NET MGR       (0.87)       2.33       (0.87)       (1.56)       5.31       (11.82)       (0.79)       1.77       (2.61)       (0.07)       1.41         NYC CUSTOM MORTGAGE BENCHMARK       (1.04)       2.05       (1.04)       (1.52)       5.05       (11.81)       (1.04)       1.39       (2.84)       (0.32)       1.15       4.22         0.18       0.29       0.18       (0.04)       0.26       (0.01)       0.26       0.38       0.23       0.25       0.45         266       BERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS       474       5.16       (0.07)       5.19       (0.07)       1.46       9.11       (16.67)       (1.36)       4.86       (1.86)       1.55       2.68       6.37       04/01/1987         ESTIMATED INVESTMENT GRADE CORPORATE - GROSS       474       5.16       (0.07)       5.19       (0.07)       1.46       9.11       (16.67)       (1.36)       4.86       (1.86)       1.55       2.68       6.37       04/01/1987         ESTIMATED INVESTMENT GRADE CORPORATE - NET MGR       (0.10)       5.10       (0.10)       1.35       8.99       (16.75)       (1.45)       4.73       (1.96)       1.45       2.59         NYC CUSTOM IGC BENCHMARK	256	BERS-TOTAL MORTGAGE - GROSS	458	4.98	(0.85)	2.38	(0.85)	(1.50)	5.38	(11.77)	(0.74)	1.83	(2.55)	(0.02)	1.46	4.67	08/01/1993
NYC CUSTOM MORTGAGE BENCHMARK       (1.04)       2.05       (1.14)       (1.22)       5.05       (11.81)       (1.04)       1.39       (2.84)       (0.32)       1.15       4.22         EXCESS RETURN       0.18       0.29       0.18       (0.04)       0.26       (0.01)       0.26       0.38       0.23       0.25       0.45         266       BERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS       474       5.16       (0.07)       5.19       (0.07)       1.46       9.11       (16.67)       (1.36)       4.86       (1.86)       1.55       2.68       6.37       04/01/1987         ESTIMATED INVESTMENT FEES       (0.03)       (0.09)       (0.03)       (0.11)       (0.12)       (0.08)       (0.10)       (0.12)       (0.10)       (0.09)         NYC CUSTOM IGC BENCHMARK       (0.40)       4.73       (0.40)       1.55       8.52       (1.576)       (0.85)       4.43       (1.87)       1.41       2.47		ESTIMATED INVESTMENT FEES			(0.02)	(0.05)	(0.02)	(0.06)	(0.07)	(0.05)	(0.04)	(0.07)	(0.05)	(0.05)	(0.05)		
EXCESS RETURN       0.18       0.29       0.18       (0.04)       0.26       (0.01)       0.26       0.38       0.23       0.25       0.45         266       BERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS       474       5.16       (0.07)       5.19       (0.07)       1.46       9.11       (16.67)       (1.36)       4.86       (1.86)       1.55       2.68       6.37       04/01/1987         ESTIMATED INVESTMENT FEES       (0.03)       (0.09)       (0.03)       (0.11)       (0.12)       (0.04)       (0.10)       (0.12)       (0.10)       (0.10)       (0.12)       (0.10)       (0.10)       0.145       2.59         NYC CUSTOM IGC BENCHMARK       (0.40)       4.73       (0.40)       1.55       8.52       (15.76)       (0.85)       4.43       (1.87)       1.41       2.47		BERS-TOTAL MORTGAGE - NET MGR			(0.87)	2.33	(0.87)	(1.56)	5.31	(11.82)	(0.79)	1.77	(2.61)	(0.07)	1.41		
266       BERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS       474       5.16       (0.07)       5.19       (0.07)       1.46       9.11       (16.67)       (1.36)       4.86       (1.86)       1.55       2.68       6.37       04/01/1987         ESTIMATED INVESTMENT FRES       (0.03)       (0.09)       (0.03)       (0.11)       (0.12)       (0.08)       (0.10)       (0.12)       (0.10)       (0.09)         BERS-TOTAL INVESTMENT GRADE CORPORATE - NET MGR       (0.00)       5.10       (0.10)       1.35       8.99       (16.75)       (1.45)       4.73       (1.96)       1.45       2.59         NYC CUSTOM IGC BENCHMARK       (0.40)       4.73       (0.40)       1.55       8.52       (15.76)       (0.85)       4.43       (1.87)       1.41       2.47		NYC CUSTOM MORTGAGE BENCHMARK			(1.04)	2.05	(1.04)	(1.52)	5.05	(11.81)	(1.04)	1.39	(2.84)	(0.32)	1.15	4.22	
ESTIMATED INVESTMENT FEES         (0.03)         (0.09)         (0.03)         (0.11)         (0.12)         (0.03)         (0.10)         (0.12)         (0.10)		EXCESS RETURN			0.18	0.29	0.18	(0.04)	0.26	(0.01)	0.26	0.38	0.23	0.25	0.25	0.45	
ESTIMATED INVESTMENT FEES         (0.03)         (0.09)         (0.03)         (0.11)         (0.12)         (0.03)         (0.10)         (0.12)         (0.10)	266	BERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS	474	5.16	(0.07)	5.19	(0.07)	1.46	9.11	(16.67)	(1.36)	4.86	(1.86)	1.55	2.68	6.37	04/01/1987
BERS-TOTAL INVESTMENT GRADE CORPORATE - NET MGR         (0.10)         5.10         (0.10)         1.35         8.99         (16.75)         (1.45)         4.73         (1.96)         1.45         2.59           NYC CUSTOM IGC BENCHMARK         (0.40)         4.73         (0.40)         1.55         8.52         (15.76)         (0.85)         4.43         (1.87)         1.41         2.47					. ,		. ,			. ,	. ,						
NYC CUSTOM IGC BENCHMARK (0.40) 4.73 (0.40) 1.55 8.52 (15.76) (0.85) 4.43 (1.87) 1.41 2.47					, <u> </u>	<u>/</u>		, <i>,</i>		<i>`</i>				<i>`</i>	<i>/</i> /		
					. ,		. ,			. ,	. ,		. ,				
						0.37			0.47	. ,	. ,	0.31	· · ·				



		Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	FYE 2023	CYE 2023	CYE 2022	CYE 2021	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	FIXED INCOME RETURN DETAIL															
278	BERS-TOTAL CORE FI- DEVELOPING MGRS - GROSS ESTIMATED INVESTMENT FEES	217	2.36	(0.75) (0.05)	2.85 (0.16)	(0.75) (0.05)	0.10 (0.21)	6.52 (0.22)	(13.13) (0.18)	(1.12) (0.20)	2.35 (0.21)	(2.08) (0.20)			(2.35) (0.20)	09/01/2020
	BERS-TOTAL CORE FI- DEVELOPING MGRS - NET MGR BLOOMBERG U.S. AGGREGATE			(0.79) (0.78)	2.70 2.56	(0.79) (0.78)	(0.11) (0.94)	6.30 5.53	(13.31) (13.01)	(1.32) (1.54)	2.14 1.70	(2.28) (2.46)			(2.54) (2.83)	
	EXCESS RETURN		-	(0.02)	0.13	(0.73)	0.83	0.77	(0.30)	0.23	0.44	0.17			0.29	
288	BERS-TOTAL TIPS - GROSS	10	0.11	(0.11)	1.79	(0.11)	(1.43)	3.92	(11.91)	5.93	0.33	(0.51)	2.48	2.25	3.39	06/01/2005
	ESTIMATED INVESTMENT FEES		-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)		
	BERS-TOTAL TIPS - NET MGR			(0.11)	1.78	(0.11)	(1.43)	3.91	(11.92)	5.93	0.32	(0.52)	2.47	2.23		
	BLOOMBERG GLOBAL INFL-LINKED: U.S. TIPS		-	(0.08)	1.90	(0.08)	(1.40)	3.90	(11.85)	5.96	0.45	(0.53)	2.49	2.21	3.28	
	EXCESS RETURN			(0.02)	(0.12)	(0.02)	(0.03)	0.01	(0.07)	(0.03)	(0.13)	0.02	(0.02)	0.02	0.11	
298	BERS-TOTAL TARGETED INVESTMENTS (NO CASH) - GROSS	41	0.45	0.10	3.59	0.10	(0.20)	5.78	(10.99)	(0.72)	2.39	(1.22)	1.31	2.63	6.01	12/01/1984
	ESTIMATED INVESTMENT FEES		-	(0.04)	(0.14)	(0.04)	(0.18)	(0.19)	(0.16)	(0.17)	(0.18)	(0.17)	(0.18)	(0.23)	(0.13)	
	BERS-TOTAL TARGETED INVESTMENTS (NO CASH) - NET MGR			0.06	3.45	0.06	(0.38)	5.59	(11.15)	(0.89)	2.21	(1.40)	1.13	2.40	5.88	
	BERS CUSTOM BENCHMARK (NO CASH)		-	(0.57)	2.70	(0.57)	(0.47)	5.43	(10.76)	(0.96)	2.18	(1.85)	0.59	1.71		
	EXCESS RETURN			0.63	0.74	0.63	0.09	0.16	(0.39)	0.08	0.03	0.46	0.54	0.69		
308	BERS-TOTAL HIGH YIELD - GROSS	570	6.20	1.62	9.10	1.62	10.11	13.71	(9.33)	6.26	10.82	3.12	5.18	4.85	5.82	08/01/1997
	ESTIMATED INVESTMENT FEES		-	(0.07)	(0.24)	(0.07)	(0.32)	(0.33)	(0.26)	(0.31)	(0.32)	(0.30)	(0.31)	(0.33)		
	BERS-TOTAL HIGH YIELD - NET MGR			1.55	8.87	1.55	9.79	13.38	(9.59)	5.95	10.50	2.82	4.87	4.53		
	HIGH YIELD CUSTOM BENCHMARK EXCESS RETURN		-	1.47 0.07	9.24 (0.37)	1.47 0.07	9.07 0.71	13.44 (0.06)	(11.18) 1.59	5.26 0.69	11.15 (0.65)	2.19 0.64	4.19 0.68	4.28 0.25	5.64 0.19	
																10/01/0010
318	BERS- TOTAL BANK LOANS - GROSS ESTIMATED INVESTMENT FEES	-	-													12/01/2012
	BERS-TOTAL BANK LOANS - NET MGR CSFB LEVERAGED LOAN INDEX		-				10.10	13.04	(1.06)	5.40						
	EXCESS RETURN		-				10.10	13.04	(1.06)	5.40						
328	BERS-TOTAL OPPORTUNISTIC FIXED INCOME - GROSS	387	4.21	3.39	9.94	3.39	4.87	10.67	2.58	18.81	11.57	9.47			11.27	08/01/2020
	ESTIMATED INVESTMENT FEES			(0.03)	(1.15)	(0.03)	(0.74)	(1.31)	(0.60)	(0.47)	(1.31)	(0.80)			(0.67)	
	BERS-TOTAL OPPORTUNISTIC FIXED INCOME - NET MGR			3.36	8.79	3.36	4.13	9.36	1.98	18.34	10.26	8.67			10.60	
	OPPORTUNISTIC FIXED INCOME JPMGHY / CSFB 50/50 BLEND PLUS 300			3.14	11.90	3.14	13.02	16.55	(2.79)	8.29	15.50	7.32			8.88	
	EXCESS RETURN			0.22	(3.12)	0.22	(8.89)	(7.19)	4.77	10.05	(5.24)	1.35			1.72	
	CASH SUMMARY															
340	Short Term BERS - GROSS	55	0.60	1.28	4.05	1.28	3.80	5.17	1.41	0.07	5.35	2.62	1.94	1.45	1.99	10/01/2000
	ESTIMATED INVESTMENT FEES			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Short Term BERS - NET MGR		-	1.28	4.05	1.28	3.80	5.17	1.41	0.07	5.35	2.62	1.94	1.45		
344	Cash Account	0	0.00													
3/6	Securities Lending	0	0.00													
540		0	0.00													



New York City Board of Education Retirement System

# **Appendix B**

# Public Markets Manager Performance Detail



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2023	2022	2021	2020	2019
EQUITY SUMMARY										
US EQUITY										
Wasatch-US SCG	\$69	0.75	5.14	21.47	5.14	34.29	(31.14)	19.39	38.80	
RUSSELL 2000 GROWTH DAILY			7.58	12.42	7.58	18.66	(26.36)	2.83	34.63	
Excess			(2.44)	9.05	(2.44)	15.63	(4.78)	16.56	4.17	
BlackRock US SCG R2000	\$0	0.00	7.60	12.28	7.60	18.43	(26.38)	3.35	34.42	28.39
RUSSELL 2000 GROWTH DAILY			7.58	12.42	7.58	18.66	(26.36)	2.83	34.63	28.48
Excess			0.02	(0.14)	0.02	(0.23)	(0.02)	0.51	(0.21)	(0.09)
BlackRock US SCV R2000	\$74	0.81	2.86	14.82	2.86	14.51	(14.51)	28.48	4.87	22.60
RUSSELL 2000 VALUE DAILY			2.90	15.09	2.90	14.65	(14.48)	28.27	4.63	22.39
Excess			(0.04)	(0.27)	(0.04)	(0.14)	(0.03)	0.21	0.24	0.20
Wellington US MCC	\$247	2.68	8.83	15.06	8.83	12.49	(22.53)	10.07	25.12	32.68
S&P 400 MIDCAP INDEX (DAILY)			9.95	17.63	9.95	16.44	(13.06)	24.76	13.66	26.20
Excess			(1.13)	(2.56)	(1.13)	(3.95)	(9.47)	(14.69)	11.46	6.48
BlackRock US LMC R1000 Core	\$1,480	16.10	10.46	20.18	10.46	26.89	(19.95)	26.64	20.97	31.36
RUSSELL 1000 (DAILY)			10.30	19.61	10.30	26.53	(19.13)	26.45	20.96	31.43
Excess			0.16	0.58	0.16	0.36	(0.82)	0.18	0.00	(0.07)
SSGA-US LC Russell TOP 200 Core	\$804	8.75	10.89	21.09	10.89	30.61	(20.15)	27.50	22.40	31.66
RUSSELL TOP 200 INDEX (DAILY)			10.84	20.52	10.84	29.85	(19.77)	27.90	22.37	31.75
Excess			0.05	0.58	0.05	0.76	(0.39)	(0.40)	0.03	(0.09)
FUND OF FUNDS										
BERS-TOTAL FUNDS OF FUNDS	\$19	0.20	5.30	10.63	5.30	13.70	(16.20)	25.02	19.38	23.33
RUSSELL 2000 (DAILY)			5.18	13.79	5.18	16.93	(20.44)	14.82	19.96	25.52
Excess			0.12	(3.16)	0.12	(3.23)	4.23	10.20	(0.58)	(2.20)



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2023	2022	2021	2020	2019
BERS-TOTAL LEGATO	\$19	0.20	5.30	10.63	5.30	13.70	(16.20)	25.02	19.38	23.33
RUSSELL 2000 (DAILY)			5.18	13.79	5.18	16.93	(20.44)	14.82	19.96	25.52
Excess			0.12	(3.16)	0.12	(3.23)	4.23	10.20	(0.58)	(2.20)
NON - US EQUITY										
Sprucegrove WorldxUS LMCC	\$305	3.31	2.35	6.51	2.35	19.94	(14.43)	8.01	5.35	17.55
NYC Developed Value Benchmark [1]			5.59	11.90	5.59	17.94	(14.29)	12.62	7.59	22.49
Excess			(3.24)	(5.39)	(3.24)	2.00	(0.14)	(4.61)	(2.24)	(4.94)
Baillie Gifford WorldxUS LMCC	\$308	3.35	4.97	5.66	4.97	16.96	(38.20)	(7.53)	66.99	36.64
NYC Developed Growth Benchmark [2]			5.59	11.90	5.59	17.94	(14.29)	12.62	7.59	22.49
Excess			(0.62)	(6.24)	(0.62)	(0.98)	(23.91)	(20.15)	59.40	14.15
Acadian WorldxUS SCC	\$99	1.07	6.07	14.94	6.07	18.47	(17.95)	21.67	15.96	21.82
S&P EPAC Small Cap USD NET			1.84	8.95	1.84	14.16	(22.69)	8.06	13.78	23.71
Excess			4.23	5.99	4.23	4.31	4.74	13.61	2.18	(1.89)
Algert EAFE SCC	\$22	0.24	4.28	10.33	4.28	11.64	(21.66)	11.94	9.76	
MSCI EAFE SMALL CAP NET (DAILY)			2.40	9.81	2.40	13.16	(21.39)	10.10	12.34	
Excess			1.88	0.52	1.88	(1.52)	(0.27)	1.84	(2.59)	
EMERGING MARKETS										
Acadian EM	\$223	2.42	5.23	16.12	5.23	19.77	(20.75)	4.96	10.72	15.71
MSCI EMERGING MARKETS			2.37	7.19	2.37	9.83	(20.09)	(2.54)	18.31	18.42
Excess			2.87	8.93	2.87	9.94	(0.66)	7.50	(7.59)	(2.71)
JP Morgan AM-EM ACG	\$106	1.15	0.22	2.63	0.22	7.43	(27.80)			
MSCI EMERGING MARKETS			2.37	7.19	2.37	9.83	(20.09)			
Excess			(2.14)	(4.56)	(2.14)	(2.40)	(7.71)			
BlackRock MSCI EM Core	\$2	0.02	2.31	7.21	2.31	10.13	(19.57)	(2.10)	17.27	18.76
MSCI EMERGING MARKETS	•		2.37	7.19	2.37	9.83	(20.09)	(2.54)	18.31	18.42
Excess			(0.06)	0.02	(0.06)	0.30	0.52	0.44	(1.04)	0.34
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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2023	2022	2021	2020	2019
INTERNATIONAL FOF										
	\$44E	4.00	4.50	10.01	4.50	47.50	(47.40)	8.00	40.00	22.25
BERS-TOTAL INTERNATIONAL FOF MSCI ACWI ex USA IMI Net	\$115	1.26	4.56	10.81	4.56	17.53 15.62	(17.43)	8.90	16.60	22.25
Excess			4.33 0.23	0.24	4.33 0.23	13.62	(16.58)	0.37	5.48	21.63 0.62
EXCESS			0.23	0.24	0.23	1.91	(0.85)	0.37	5.40	0.02
BERS-TOTAL INTERNATIONAL XPONANCE	\$115	1.26	4.56	10.81	4.56	17.53	(17.43)	8.90	16.60	22.25
MSCI ACWI ex USA IMI Net			4.33	10.56	4.33	15.62	(16.58)	8.53	11.12	21.63
Excess			0.23	0.24	0.23	1.91	(0.85)	0.37	5.48	0.62
GLOBAL EQUITY										
Morgan Stanley-Global	\$52	0.56	12.52	25.53	12.52	50.25	(40.28)	0.63	58.66	38.03
MSCI AC WORLD (Daily Const)			8.20	16.05	8.20	22.20	(18.36)	18.54	16.25	26.60
Excess			4.32	9.48	4.32	28.05	(21.92)	(17.91)	42.41	11.44
Fiera-Global	\$52	0.57	8.02	13.20	8.02	19.60	(18.27)	26.21	20.57	33.97
MSCI World Index			8.88	17.11	8.88	23.79	(18.14)	21.82	15.90	27.67
Excess			(0.87)	(3.91)	(0.87)	(4.18)	(0.13)	4.39	4.66	6.30
FIXED INCOME SUMMARY										
STRUCTRED FIXED INCOME										
BlackRock Mortgages	\$423	4.61	(0.87)	2.36	(0.87)	5.33	(11.81)	(0.79)	4.42	6.93
NYC Custom Mortgage Benchmark [3]			(1.04)	2.05	(1.04)	5.05	(11.81)	(1.04)	3.91	6.68
Excess			0.17	0.31	0.17	0.29	0.01	0.26	0.52	0.25
Medalist-Mortgages - Bivium	\$35	0.38	(0.89)	2.12	(0.89)	4.98				
Bloomberg US Mortgage Backed Securities			(1.04)	2.05	(1.04)	5.05				
Excess			0.16	0.08	0.16	(0.06)				
						()				
T Rowe Price-Corporate	\$437	4.76	(0.10)	5.19	(0.10)	9.16	(16.68)			
Bloomberg U.S. Corporate Inv Grade			(0.40)	4.73	(0.40)	8.52	(15.76)			
Excess			0.30	0.46	0.30	0.64	(0.92)			



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2023	2022	2021	2020	2019
SSGA LI Treasury	\$88	0.96	(1.78)	(0.67)	(1.78)	4.22	(21.24)	(3.60)	12.59	10.57
NYC - Treasury Agency Plus Five			(2.19)	(1.02)	(2.19)	4.09	(20.58)	(3.78)	12.85	10.40
Excess			0.41	0.34	0.41	0.12	(0.66)	0.17	(0.26)	0.17
New Century-LI Treasury - Bivium	\$33	0.36	(1.88)	(1.25)	(1.88)	3.33				
NYC - Treasury Agency Plus Five			(2.19)	(1.02)	(2.19)	4.09				
Excess			0.31	(0.23)	0.31	(0.77)				
SSGA IT Treasury 1-10Y	\$303	3.29	(0.29)	2.82	(0.29)	4.38	(7.75)	(1.73)	5.73	
USBIG TSY AGN 1-10			(0.37)	2.75	(0.37)	4.42	(7.79)	(1.66)	5.72	
Excess			0.08	0.07	0.08	(0.04)	0.03	(0.07)	0.02	
SSGA ST Treasury 1-3Y	\$256	2.78	0.30	3.58	0.30	4.37	(3.66)	(0.60)	3.05	3.56
FTSE US Government Bond 1-3 Years Index			0.28	3.56	0.28	4.35	(3.74)	(0.58)	3.09	3.56
Excess			0.02	0.02	0.02	0.02	0.08	(0.02)	(0.04)	0.00
SSGA LT Treasury 10Y Plus	\$89	0.97	(2.90)	(3.86)	(2.90)	3.48	(29.51)			
FTSE US Government Bond 10+ Years Index			(3.42)	(4.05)	(3.42)	3.70	(29.75)			
Excess			0.52	0.19	0.52	(0.22)	0.24			
Integrity-Credit - Bivium	\$37	0.40	(0.14)	4.36	(0.14)	7.58				
Bloomberg U.S. Corporate Inv Grade			(0.40)	4.73	(0.40)	8.52				
Excess			0.26	(0.37)	0.26	(0.94)				
HIGH YIELD										
Mackay Shields High Yield	\$285	3.10	1.61	8.34	1.61	12.32	(8.60)	5.42	8.00	13.85
Bloomberg U.S. HY - 2% Issuer Cap			1.47	9.24	1.47	13.44	(11.18)	5.26	7.05	14.32
Excess			0.13	(0.90)	0.13	(1.12)	2.58	0.16	0.95	(0.47)
Nomura High Yield	\$285	3.10	1.49	9.40	1.49	14.46	(10.57)	6.49	8.22	13.74
Bloomberg U.S. HY - 2% Issuer Cap			1.47	9.24	1.47	13.44	(11.18)	5.26	7.05	14.32
Excess			0.01	0.16	0.01	1.01	0.61	1.23	1.17	(0.58)



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2023	2022	2021	2020	2019
	(¢1111)		o month	1110	0110	2020		2021	2020	2010
BANK LOANS										
Barings Bank Loans	\$0	0.00							1.12	7.82
CSFB LEVERAGED LOAN INDEX									2.78	8.17
Excess									(1.66)	(0.36)
TIPS										
SSGA TIPS	\$10	0.11	(0.11)	1.78	(0.11)	3.91	(11.92)	5.93	11.06	8.44
Bloomberg Global Infl-Linked: U.S. TIPS			(0.08)	1.90	(0.08)	3.90	(11.85)	5.96	10.99	8.43
Excess			(0.02)	(0.12)	(0.02)	0.01	(0.07)	(0.03)	0.07	0.02
CORE FI-DEVELOPING MANAGERS										
Pugh-CorePlus	\$217	2.36	(0.79)	2.70	(0.79)	6.30	(13.31)	(1.32)		
Bloomberg U.S. Aggregate			(0.78)	2.56	(0.78)	5.53	(13.01)	(1.54)		
Excess			(0.02)	0.13	(0.02)	0.77	(0.30)	0.23		
ECONOMICALLY TARGETED INVESTMENTS										
RBC Access MBS	\$9	0.10	(0.81)	1.91	(0.81)	4.58	(12.00)	(1.03)	6.14	7.21
Access RBC Benchmark			(0.84)	2.15	(0.84)	4.71	(10.38)	(1.46)	4.69	6.05
Excess			0.03	(0.24)	0.03	(0.13)	(1.61)	0.43	1.45	1.16
AFL-CIO Housing Investment Trust	\$17	0.18	(0.27)	2.88	(0.27)	5.17	(13.55)	(1.04)	6.20	7.78
Bloomberg U.S. Aggregate			(0.78)	2.56	(0.78)	5.53	(13.01)	(1.54)	7.51	8.72
Excess			0.51	0.32	0.51	(0.36)	(0.54)	0.50	(1.31)	(0.94)
CPC Construction Facility	\$4	0.05	4.13	7.47	4.13	8.19	3.80	3.89	0.67	6.87
CPC CONST BENCHMARK			1.56	4.75	1.56	6.16	3.75	2.42	2.73	4.09
Excess			2.57	2.72	2.57	2.03	0.04	1.47	(2.06)	2.78
BOA PPAR FNMA	\$1	0.01	(0.36)	3.60	(0.36)	5.65	(8.50)	(1.89)	6.12	13.54
FNMA Plus 85bps			(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)	5.14	7.80
Excess			0.51	1.03	0.51	(0.04)	2.78	(1.52)	0.98	5.74



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2023	2022	2021	2020	2019
Citibank PPAR FNMA	\$2	0.02	(0.32)	4.22	(0.32)	6.61	(11.34)	(1.56)	7.06	19.71
FNMA Plus 85bps			(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)	5.14	7.80
Excess			0.55	1.65	0.55	0.92	(0.06)	(1.19)	1.92	11.91
Citibank PPAR GNMA	\$0	0.00	0.23	4.73	0.23	6.40	(5.04)	(1.10)	8.31	5.33
GNMA Plus 65bps	ψΰ	0.00	(0.90)	2.79	(0.90)	6.09	(10.14)	(0.82)	4.31	6.73
Excess			1.14	1.94	1.14	0.31	5.10	(0.29)	4.00	(1.41)
CFSB PPAR FNMA	\$0	0.00	(0.44)	3.29	(0.44)	5.76	(12.29)	(2.05)		
FNMA Plus 85bps	φU	0.00	(0.44)	2.57	(0.44)	5.69	(12.29)	(0.37)		
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Excess			0.44	0.72	0.44	0.07	(1.01)	(1.67)		
CFSB PPAR GNMA	\$0	0.00	0.20	4.52	0.20	6.13	(5.29)	0.03	8.01	5.91
GNMA Plus 65bps			(0.90)	2.79	(0.90)	6.09	(10.14)	(0.82)	4.31	6.73
Excess			1.11	1.73	1.11	0.04	4.85	0.84	3.69	(0.82)
CPC PPAR FNMA	\$1	0.01	(0.20)	4.06	(0.20)	6.34	(10.21)	1.14	7.00	13.18
FNMA Plus 85bps			(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)	5.14	7.80
Excess			0.67	1.49	0.67	0.64	1.07	1.51	1.87	5.38
ECLF PPAR FNMA	\$0	0.00	(0.32)	3.16	(0.32)	5.58	(11.97)	(1.65)		
FNMA Plus 85bps			(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)		
Excess			0.55	0.59	0.55	(0.12)	(0.69)	(1.28)		
JPMC PPAR FNMA	\$3	0.04	(0.35)	4.10	(0.35)	6.23	(11.48)	(1.84)	8.33	14.68
FNMA Plus 85bps			(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)	5.14	7.80
Excess			0.52	1.53	0.52	0.54	(0.21)	(1.47)	3.19	6.88
LIIF PPAR FNMA	\$2	0.02	(0.29)	3.96	(0.29)	6.23	(9.29)	(1.75)	6.44	16.35
FNMA Plus 85bps			(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)	5.14	7.80
Excess			0.59	1.39	0.59	0.54	1.99	(1.37)	1.30	8.55



	Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	2023	2022	2021	2020	2019
LIIF PPAR GNMA	\$0	0.00	0.72	4.26	0.72	7.72	(2.79)	0.84	6.19	5.54
GNMA Plus 65bps			(0.90)	2.79	(0.90)	6.09	(10.14)	(0.82)	4.31	6.73
Excess			1.63	1.47	1.63	1.62	7.35	1.65	1.87	(1.19)
LISC PPAR FNMA	\$0	0.00	0.46	4.95	0.46	6.52	(16.45)	(1.69)	31.93	14.95
FNMA Plus 85bps			(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)	5.14	7.80
Excess			1.33	2.38	1.33	0.83	(5.17)	(1.32)	26.80	7.15
NCBCI PPAR FNMA	\$0	0.00	0.38	4.98	0.38	6.63	(4.39)	0.66	8.49	4.08
	φU	0.00				5.69	. ,			
FNMA Plus 85bps			(0.87)	2.57	(0.87)		(11.28)	(0.37)	5.14	7.80
Excess			1.25	2.41	1.25	0.93	6.89	1.03	3.36	(3.72)
NCBCI PPAR GNMA	\$0	0.00	0.40	4.81	0.40	6.38	(4.17)	0.95	8.16	3.69
GNMA Plus 65bps			(0.90)	2.79	(0.90)	6.09	(10.14)	(0.82)	4.31	6.73
Excess			1.30	2.02	1.30	0.29	5.97	1.77	3.85	(3.04)
Wells Fargo PPAR FNMA	\$1	0.01	(0.39)	3.97	(0.39)	6.38	(11.70)	(1.86)	28.61	21.71
FNMA Plus 85bps	<b>.</b>	0.01	(0.87)	2.57	(0.87)	5.69	(11.28)	(0.37)	5.14	7.80
Excess			0.48	1.40	0.48	0.69	(0.42)	(1.48)	23.48	13.91
CASH										
Short Term BERS	\$55	0.60	1.28	4.05	1.28	5.17	1.41	0.07	0.44	2.00
ICE BofA US 3-Month Treasury Bill			1.29	4.03	1.29	5.01	1.46	0.05	0.67	2.28
Excess			(0.01)	0.03	(0.01)	0.15	(0.05)	0.02	(0.23)	(0.28)
Cash Account	\$0	0.00								
Securities Lending	\$0	0.00								



New York City Board of Education Retirement System

# **Appendix C**

# **Alternative Assets Manager Performance Detail**



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
TOTAL PRIVATE EQUITY		1,878,383,110	1,229,111,760	828,884,250	1,099,522,826	1.57	13.5%
TOTAL ACTIVE							
Mesirow Financial Private Equity Partnership Fund III	2005	57,000,000	56,233,273	92,250,616	3,192,205	1.70	8.2%
Mesirow Financial Private Equity Partnership Fund IV	2006	25,000,000	24,342,233	43,716,368	3,166,442	1.93	10.9%
New York Fairview Private Equity Fund	2006	19,000,000	18,973,914	24,566,170	-	1.29	4.9%
Mesirow Financial Private Equity Partnership Fund V	2008	45,000,000	42,989,326	80,729,625	21,182,676	2.37	16.6%
Platinum Equity Capital Partners III	2011	15,000,000	14,629,146	28,783,568	2,148,505	2.11	35.8%
NYCBERS - 2012 Emerging Manager Program	<u>2012</u>	14,650,000	15,301,600	23,958,002	7,021,436	<u>2.02</u>	<u>15.4%</u>
Warburg Pincus Private Equity XI	2012	25,000,000	25,388,730	35,379,872	8,895,748	1.74	11.6%
Apollo Investment Fund VIII	2013	20,000,000	19,682,309	22,521,554	6,270,446	1.46	9.4%
ASF VI B	2013	15,000,000	12,510,530	16,134,382	2,083,166	1.46	11.9%
Carlyle Partners VI	2013	20,000,000	21,703,854	33,141,054	7,158,669	1.86	14.2%
Landmark - NYC Fund I	2013	6,000,000	5,497,541	6,733,836	2,952,498	1.76	14.9%
Landmark Equity Partners XV	2013	19,000,000	15,251,966	17,834,241	3,679,812	1.41	11.3%
ASF VI B NYC Co-Invest	2014	5,000,000	4,318,135	5,400,945	1,006,458	1.48	11.8%
Bridgepoint Europe V	2014	8,857,553	8,144,269	11,508,277	4,340,599	1.95	17.6%
Carlyle Partners VI - Side Car	2014	2,200,000	1,606,771	2,034,860	1,004,586	1.89	11.0%
Crestview Partners III	2014	15,000,000	15,922,461	8,571,446	9,993,370	1.17	4.8%
Crestview Partners III (Co-Investment B)	2014	5,000,000	5,181,674	250,760	2,750,453	0.58	-8.6%
CVC Capital Partners VI	2014	20,037,822	20,093,729	25,469,171	14,877,958	2.01	16.4%
Lexington Capital Partners VIII	2014	20,000,000	18,467,259	19,007,979	11,703,590	1.66	15.7%
Vista Equity Partners Fund V	2014	25,000,000	31,284,979	37,356,840	35,799,764	2.34	19.2%
ASF VII B	2015	10,000,000	7,146,391	7,227,510	4,183,843	1.60	15.3%
ASF VII B NYC Co-Invest	2015	6,000,000	4,301,106	4,925,845	2,682,766	1.77	17.8%
Centerbridge Capital Partners III	2015	2,500,000	3,342,353	3,187,128	2,408,924	1.67	17.1%
EQT VII	2015	17,715,106	20,001,569	28,407,835	9,251,295	1.88	21.2%
NYCBERS - 2015 Emerging Manager Program	<u>2015</u>	30,750,000	30,964,732	12,111,609	41,070,342	<u>1.72</u>	<u>17.5%</u>
Siris Partners III	2015	3,500,000	4,023,373	2,854,367	3,022,128	1.46	11.0%
Warburg Pincus Private Equity XII	2015	21,500,000	22,041,441	25,604,160	17,594,770	1.96	16.5%
Welsh, Carson, Anderson & Stowe XII	2015	10,000,000	9,472,914	15,342,881	8,144,118	2.48	25.7%
American Securities Partners VII	2016	8,000,000	7,847,181	6,790,665	8,010,759	1.89	14.1%
Apax IX	2016	13,000,000	14,077,948	16,535,021	11,021,429	1.96	20.6%
BCEC X Metro Co-Investment	2016	4,433,361	4,620,346	2,271,578	7,032,838	2.01	15.5%
Bridgepoint Europe V Co-Invest	2016	2,952,518	2,666,140	5,729,342	1,511,486	2.72	26.4%
Platinum Equity Capital Partners IV	2016	11,500,000	11,936,300	12,645,816	10,604,676	1.95	21.4%
Platinum Equity Capital Partners IV Co-Investment	2018	1,500,000	1,502,043	209,317	2,249,972	1.64	14.0%



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
Vista Equity Partners Fund VI	2016	16,000,000	20,129,039	23,286,298	18,538,312	2.08	18.4%
Ares Corporate Opportunities Fund V	2017	10,000,000	11,080,862	5,066,355	9,846,549	1.35	8.4%
BC European Capital X	2017	11,083,403	10,937,018	2,849,282	14,305,579	1.57	10.6%
CVC Capital Partners VII	2017	19,077,331	19,155,989	9,674,151	26,157,278	1.87	22.1%
Green Equity Investors VII	2017	10,000,000	10,664,028	10,570,343	11,240,485	2.05	20.8%
KKR Americas Fund XII	2017	16,000,000	15,615,199	10,361,190	21,645,945	2.05	22.8%
Palladium Equity Partners V	2017	10,000,000	9,149,288	1,844,279	10,946,286	1.40	13.6%
Warburg Pincus Financial Sector	2017	13,000,000	13,337,841	6,418,928	17,490,755	1.79	18.0%
Apollo Investment Fund IX	2018	32,000,000	29,723,714	12,098,045	32,983,799	1.52	21.8%
ASF VIII B	2018	21,000,000	13,078,900	3,328,554	15,382,385	1.43	18.7%
Bridgepoint Europe VI	2018	15,388,972	13,269,752	1,249,367	18,518,079	1.49	16.9%
EQT VIII	2018	14,145,141	14,172,033	10,813,939	13,459,840	1.71	22.6%
EQT VIII (Co-Invest)	2018	4,884,948	4,682,934	3,660,238	5,366,973	1.93	29.3%
ICG Strategic Equity Fund III	2018	13,340,000	9,672,379	3,564,106	16,681,942	2.09	33.9%
Lexington Capital Partners IX	2018	12,375,000	10,661,577	3,126,910	12,532,690	1.47	22.4%
Platinum Equity Small Cap Fund	2018	10,000,000	8,434,186	1,786,477	12,599,284	1.71	21.2%
Siris Partners IV	2018	10,000,000	9,287,697	1,662,860	11,497,934	1.42	12.5%
Vista Equity Partners Fund VII	2018	20,500,000	18,617,428	1,982,745	21,428,786	1.26	7.9%
Арах Х	2019	12,500,000	11,772,044	1,345,832	13,637,266	1.27	15.8%
ASF VIII B NYC Co-Invest	2019	10,500,000	5,284,404	1,163,773	6,768,672	1.50	26.0%
Bridgepoint Europe VI Co-Invest	2019	3,847,243	3,139,948	58,755	5,120,450	1.65	18.0%
NYCBERS - 2019 Emerging Manager Program	<u>2019</u>	33,366,666	19,603,894	1,826,271	<u>28,369,793</u>	<u>1.52</u>	<u>19.3%</u>
KKR European Fund V (USD)	2019	9,950,000	9,172,823	1,679,766	10,232,095	1.30	11.5%
Warburg Pincus Global Growth	2019	15,000,000	14,062,147	1,880,433	18,374,142	1.44	13.5%
WCAS XIII	2019	10,000,000	8,905,342	3,323,769	9,917,102	1.49	22.7%
Clearlake Capital Partners VI	2020	10,000,000	10,442,400	1,595,867	15,902,493	1.68	23.9%
Crestview IV Co-Invest	2020	2,666,667	2,097,231	545,838	2,486,278	1.45	31.3%
Crestview Partners IV	2020	8,000,000	6,285,962	1,428,834	6,730,991	1.30	21.5%
EQT IX	2020	19,643,000	20,656,924	2,554,498	20,785,255	1.13	6.7%
EQT IX (Co-Invest)	2020	5,357,000	5,424,769	89,323	6,015,454	1.13	5.0%
FTV VI	2020	3,500,000	3,488,546	402,005	5,224,088	1.61	20.0%
ICG Strategic Equity Co-Investment Fund III	2020	4,444,119	3,284,658	1,977,317	4,606,901	2.00	33.3%
KKR Asian Fund IV	2020	25,000,000	11,858,344	589,328	13,463,564	1.19	11.1%
Lexington IX Co-Invest	2020	4,125,000	2,879,027	1,358,555	3,082,261	1.54	28.4%
Lindsay Goldberg V	2020	10,500,000	7,532,360	1,443,117	9,460,838	1.45	27.4%
NYC-Northbound Emerging Managers Program	2020	25,000,000	12,938,877	143,372	16,276,535	1.27	20.0%
NYC-Northbound Emerging Managers Program II	2024	37,250,000	-	-	-	0.00	



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
Valor Equity Partners V	2020	3,500,000	2,970,201	8,424	4,259,060	1.44	16.1%
Clearlake Capital Partners VII	2021	30,000,000	17,354,956	80,684	19,399,859	1.12	9.5%
CVC Capital Partners VIII	2021	25,532,300	18,163,508	115,742	19,952,723	1.10	8.4%
Grain Communications Opportunity Fund III	2021	3,000,000	2,237,963	218,469	1,767,915	0.89	-7.2%
HarbourVest Centre Street Co-Investment Fund	2021	23,000,000	16,816,834	-	20,090,449	1.19	12.8%
ICG Strategic Equity Co-Investment Fund IV	2021	10,000,000	8,382,011	-	9,431,426	1.13	7.2%
ICG Strategic Equity Fund IV	2021	20,000,000	16,532,482	3,798,124	17,902,051	1.31	21.1%
Insight Partners XII	2021	18,750,000	14,541,558	20,729	13,419,313	0.92	-4.5%
Insight Partners XII Buyout Annex Fund	2021	6,250,000	4,731,250	11,241	5,713,010	1.21	11.8%
KKR Americas Fund XIII	2021	31,000,000	13,718,886	-	13,992,952	1.02	1.8%
One Rock Capital Partners III	2021	25,000,000	22,707,925	3,319,634	31,100,825	1.52	32.0%
Permira VIII	2021	23,700,600	5,950,610	-	6,381,406	1.07	11.0%
PSG V	2021	23,000,000	17,353,206	1,585,014	17,312,761	1.09	8.6%
Reverence Capital Partners Opportunities Fund V (FOO) (PE Fund III)	2021	7,000,000	2,134,494	27,644	2,604,432	1.23	17.1%
Reverence Capital Partners Opportunities Fund V (PE Fund III)	2021	18,000,000	6,123,929	71,084	6,724,768	1.11	8.6%
Stellex Capital Partners II	2021	25,000,000	17,128,517	1,250,241	18,360,668	1.14	9.2%
Vistria Fund IV	2021	13,000,000	10,794,655	265,285	11,612,359	1.10	6.5%
Apax XI	2022	25,000,000	-	-	131,682	0.00	
Apollo Investment Fund X	2022	20,250,000	3,882,266	317,407	3,571,104	1.00	0.2%
Apollo Fund X NYC Sidecar Co-Invest	2023	6,750,000	1,658,940	44,135	1,622,725	1.00	0.5%
ASF IX B	2022	10,000,000	788,051	315	1,249,254	1.59	611.9%
ASF IX B NYC Co-Invest	2023	15,000,000	2,240,269	48,669	2,585,731	1.18	59.5%
Bridgepoint Europe VII A	2022	17,504,850	-	-	(560,688)	0.00	
Bridgepoint Europe VII Co-Invest	2023	8,752,425	-	-	(15,661)	0.00	
EQT X	2022	18,750,000	3,241,520	487,423	2,641,813	0.97	-10.5%
EQT X (Co-Invest)	2022	6,250,000	1,228,885	-	1,470,299	1.20	19.4%
FTV VII	2022	23,831,980	10,962,711	-	10,962,806	1.00	0.0%
FTV VII Co-Invest	2022	5,362,200	1,660,485	-	2,032,155	1.22	12.6%
Green Equity Investors IX	2023	19,875,000	191,123	-	688,554	3.60	260.3%
Green Equity Investors IX Co-Invest	2022	6,625,000	1,559,401	-	1,866,724	1.20	19.7%
Hg Genesis 10	2022	11,363,339	2,151,344	-	2,357,888	1.10	22.6%
Hg NYC Co-Invest	2022	4,166,667	1,375,873	-	1,625,775	1.18	13.1%
Hg Saturn 3	2022	8,333,333	2,595,147	-	2,708,500	1.04	11.5%
KKR European Fund VI	2022	25,000,000	5,397,181	-	3,547,949	0.66	-41.0%
Lexington Capital Partners X	2022	22,500,000	6,750,000	-	8,216,858	1.22	53.9%
Lexington Capital Partners X Co-Invest	2022	7,500,000	2,845,149	-	3,771,474	1.33	38.4%
Nordic Capital XI	2022	14,130,300	1,446,788	-	1,130,360	0.78	-21.9%



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
Nordic N11 Co-Investment	2022	5,905,434	-	-	-	0.00	
Raine Partners IV	2022	5,333,333	1,255,910	-	1,442,832	1.15	23.0%
Thoma Bravo XV	2022	20,250,000	14,441,906	4,388	16,091,975	1.11	10.1%
Thoma Bravo XV Co-Invest	2022	6,750,000	4,351,436	-	4,665,919	1.07	6.4%
TPG Rise Climate	2021	8,333,334	4,039,240	206,994	4,718,681	1.22	29.0%
TPG Rise Climate Co-Invest	2022	16,666,666	9,894,549	424,525	12,295,855	1.29	38.0%
Valor Equity Partners VI	2022	7,500,000	2,557,330	-	2,558,222	1.00	0.0%
Vista Equity Partners Fund VIII	2022	20,250,000	2,272,721	21,158	2,944,643	1.30	26.7%
Vista Co-Invest Fund 2022-4	2023	6,750,000	1,413,898	-	1,746,643	1.24	23.7%
Welsh, Carson, Anderson & Stowe XIV	2022	30,000,000	7,825,621	-	6,334,261	0.81	-34.8%
Welsh, Carson, Anderson & Stowe XIV N Co-Invest	2022	10,000,000	-	-	-	0.00	
Amulet Capital Fund III	2023	3,250,000	622,046	-	546,302	0.88	-12.2%
Base10 Advancement Initiative II	2023	25,000,000	4,188,295	-	3,372,906	0.81	-23.5%
Clayton, Dubilier & Rice Fund XII	2023	25,000,000	-	-	(378,424)	0.00	
CVC Capital Partners IX	2023	24,486,000	-	-	-	0.00	
EQT Co-Invest Platform (No.15) SCSp	2023	8,184,750	2,857,669	-	3,038,255	1.06	6.3%
EQT Future	2021	8,184,750	3,805,926	613,559	3,418,671	1.06	6.9%
Lee Equity Partners Fund IV	2023	2,835,000	-	-	-	0.00	
LEP Fund IV Co-Invest	2023	1,485,000	-	-	-	0.00	
PSG VI	2023	25,000,000	-	-	-	0.00	



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							Total Value	
	Vintage Year	Style Sector	Original Commitment	<b>Total Contributions</b>	Total Distrubutions	Market Value	Multiple	Net IRR%
TOTAL PRIVATE REAL ESTATE			1,203,795,867	949,089,384	510,528,847	726,003,581	1.30	8.4%
TOTAL PRIVATE REAL ESTATE								
LaSalle Property Fund	2010	Core Portfolio	38,600,000	38,600,000	18,153,458	52,790,197	1.84	8.0%
Trumbull Property Fund	2011	Core Portfolio	41,400,000	64,505,798	83,165,577	19,424,440	1.59	7.0%
MetLife Core Property Fund	2013	Core Portfolio	15,000,000	15,000,000	6,384,947	20,256,054	1.78	7.6%
NYC Asset Investor #2	2013	Core Portfolio	11,798,387	12,338,733	4,748,101	3,129,478	0.64	-10.1%
USAA Eagle Real Estate Feeder 1	2013	Core Portfolio	18,000,000	20,863,051	2,866,903	23,829,900	1.28	4.6%
Brookfield Premier Real Estate Partners	2016	Core Portfolio	25,000,000	30,857,921	5,857,921	32,630,833	1.25	6.0%
Exeter Core Industrial Club Fund II	2016	Core Portfolio	10,000,000	9,739,474	5,049,908	18,152,090	2.38	18.6%
Jamestown Premier Property Fund	2016	Core Portfolio	6,246,307	7,377,629	3,007,518	2,189,145	0.70	-9.0%
NYCRS Artemis Mach II	2016	Core Portfolio	11,000,000	12,873,641	18,065,345	1,334,379	1.51	14.6%
Heitman Core Real Estate Debt Income Trust	2017	Core Portfolio	25,000,000	31,339,811	6,339,811	28,088,912	1.10	3.5%
Lion Industrial Trust	2017	Core Portfolio	18,000,000	25,907,009	6,382,702	48,632,764	2.12	16.7%
Almanac Realty Securities VIII	2018	Core Portfolio	10,500,000	7,297,110	1,833,925	6,777,115	1.18	8.4%
Almanac Realty Securities VIII (Sidecar II)	2018	Core Portfolio	7,000,000	4,911,817	1,368,378	4,880,447	1.27	12.2%
Cortland Growth and Income	2018	Core Portfolio	10,000,000	11,828,461	1,828,461	12,053,451	1.17	5.6%
Artemis Real Estate Partners Income and Growth Fund	2019	Core Portfolio	10,000,000	9,010,686	2,285,125	6,981,042	1.03	1.5%
Exeter Industrial Core Fund III	2019	Core Portfolio	12,700,000	12,480,346	2,003,844	12,729,253	1.18	7.0%
Harrison Street Core Property Fund	2019	Core Portfolio	80,000,000	85,524,047	5,075,718	79,755,650	0.99	-0.5%
HSRE-Centre Street Core Co-Investment	2019	Core Portfolio	5,000,000	4,909,525	543,553	5,895,827	1.31	8.5%
EQT Exeter Industrial Core-Plus Fund IV	2021	Core Portfolio	40,000,000	8,184,000	-	7,825,044	0.96	n.m.
LaSalle GPS Co-Investment Program – Core	2021	Core Portfolio	10,000,000	6,202,117	431,762	5,638,571	0.98	-1.2%
RREEF America REIT II	2021	Core Portfolio	17,000,000	17,000,000	1,298,360	17,017,806	1.08	3.1%
RREEF Core Plus Industrial Fund	2021	Core Portfolio	25,000,000	26,118,873	1,118,873	29,541,703	1.17	8.3%
Franklin Templeton Private Real Estate Fund	2010	Non-Core Portfolio	30,000,000	36,342,422	49,285,620	264,259	1.36	19.1%
Brookfield Strategic Real Estate Partners	2012	Non-Core Portfolio	10,000,000	12,382,947	21,839,505	1,388,660	1.88	17.9%
Blackstone Real Estate Partners Europe IV (USD)	2013	Non-Core Portfolio	32,500,000	33,048,192	41,650,823	4,455,627	1.40	10.8%
NYC Asset Investor #1	2013	Non-Core Portfolio	10,000,000	12,984,252	7,471,860	4,612,838	0.93	-1.4%
NYC Asset Investor #3	2013	Non-Core Portfolio	8,000,000	5,982,728	1,610,266	5,167,160	1.13	2.1%
Carlyle Realty Partners VII	2014	Non-Core Portfolio	20,203,697	23,515,405	27,959,942	5,590,933	1.43	11.8%
H/2 Special Opportunities III	2014	Non-Core Portfolio	15,000,000	15,577,770	15,714,547	4,291,311	1.28	7.6%
Blackstone Real Estate Partners VIII	2015	Non-Core Portfolio	16,500,000	19,066,536	19,662,243	11,613,698	1.64	14.6%
European Property Investors Special Opportunities 4	2015	Non-Core Portfolio	11,227,018	10,226,724	4,293,486	8,260,637	1.23	4.6%
PW Real Estate Fund III	2015	Non-Core Portfolio	11,203,575	8,751,528	21,504,174	3,582,072	2.87	29.5%
Westbrook Real Estate Co-Investment Partnership X	2015	Non-Core Portfolio	10,000,000	9,754,547	8,524,559	2,221,290	1.10	4.4%
DivcoWest Fund V	2016	Non-Core Portfolio	10,000,000	9,073,839	2,918,909	6,221,546	1.01	0.2%
DRA Growth and Income Fund IX	2016	Non-Core Portfolio	10,000,000	11,082,113	11,696,195	5,779,898	1.58	15.8%
H/2 Special Opportunities IV	2016	Non-Core Portfolio	10,000,000	10,076,908	2,660,873	11,713,227	1.43	9.4%
Lone Star Real Estate Fund V	2016	Non-Core Portfolio	9,198,190	7,903,789	4,030,003	2,575,422	0.84	-7.7%
Pramerica Real Estate Capital VI	2016	Non-Core Portfolio	10,325,370	11,241,284	9,151,068	2,506,261	1.04	1.9%
Exeter Industrial Value Fund IV	2017	Non-Core Portfolio	10,000,000	9,399,666	19,636,796	997,574	2.20	30.2%
NYCRS-KKR CMBS Retention Partners	2017	Non-Core Portfolio	13,000,001	12,141,813	5,841,081	10,421,076	1.34	6.8%
Aermont Capital Real Estate Fund IV	2017	Non-Core Portfolio	9,839,522	7,517,268	-	6,013,134	0.80	-8.6%
Brookfield Strategic Real Estate Partners III	2018	Non-Core Portfolio	12,000,000	12,066,377	3,248,071	12,978,118	1.34	11.9%
KKR Real Estate Partners Americas II	2018	Non-Core Portfolio	10,000,000	10,625,306	13,807,742	2,140,831	1.54	22.3%
Blackstone Real Estate Partners IX	2013	Non-Core Portfolio	15,000,000	16,128,729	5,437,096	16,722,688	1.30	17.1%
DivcoWest Fund VI	2015	Non-Core Portfolio	10,000,000	5,997,843	163,275	5,164,920	0.89	-6.9%
	2019		10,000,000	3,337,843	103,275	5,104,920	0.89	-0.9%

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							Total Value	
	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total Distrubutions	Market Value	Multiple	Net IRR%
Greenoak Asia (USD) III	2019	Non-Core Portfolio	10,000,000	12,062,411	7,234,811	6,649,944	1.15	13.7%
KKR Real Estate Partners Europe II	2019	Non-Core Portfolio	9,950,000	8,061,078	2,289,378	5,957,506	1.02	1.6%
Rialto Real Estate Fund IV - Debt	2019	Non-Core Portfolio	25,000,000	22,689,061	4,132,178	19,967,250	1.06	4.1%
Westbrook Real Estate Fund XI	2019	Non-Core Portfolio	10,000,000	9,284,609	3,195,734	7,180,542	1.12	13.7%
Exeter Industrial Value Fund V	2020	Non-Core Portfolio	5,000,000	4,923,176	-	7,375,227	1.50	20.2%
KKR Real Estate Securities Dislocation Opportunity Co-Investment Fund	2020	Non-Core Portfolio	10,000,000	5,990,633	6,821,904	673,230	1.25	31.5%
Mesirow Financial Real Estate Value Fund IV	2020	Non-Core Portfolio	25,000,000	18,606,575	773,333	19,578,116	1.09	7.8%
Almanac Realty Securities IX	2021	Non-Core Portfolio	23,330,000	4,517,501	12,141	4,069,888	0.90	n.m.
Artemis Real Estate Partners Healthcare Fund II	2021	Non-Core Portfolio	15,000,000	5,070,053	1,043,568	3,918,102	0.98	n.m.
BIG Real Estate Fund II	2021	Non-Core Portfolio	25,000,000	16,898,172	4,945,809	13,324,754	1.08	7.6%
Brookfield Strategic Real Estate Partners IV	2021	Non-Core Portfolio	39,000,000	25,587,876	2,071,525	25,192,606	1.07	n.m.
KKR Real Estate Partners Americas III	2021	Non-Core Portfolio	35,000,000	23,534,271	1,876,289	20,560,667	0.95	-3.0%
LaSalle GPS Co-investment Program - Non-Core	2021	Non-Core Portfolio	15,000,000	6,789,044	184,502	7,470,667	1.13	8.1%
Aermont Capital Real Estate Fund V	2022	Non-Core Portfolio	34,307,700	942,768	-	304,322	0.32	n.m.
Almanac Realty Securities IX (Sidecar II)	2022	Non-Core Portfolio	11,670,000	1,453,313	29,354	1,491,549	1.05	n.m.
Blackstone Real Estate Partners X	2022	Non-Core Portfolio	40,000,000	2,084,793	-	1,842,034	0.88	n.m.
EQT Exeter Industrial Value Fund VI	2022	Non-Core Portfolio	40,000,000	4,000,000	-	3,460,101	0.87	n.m.
Blackstone Real Estate Partners Europe VII (Cayman)	2023	Non-Core Portfolio	14,296,100	-	-	(44,597)	-	n.m.
Cortland Enhanced Value Fund VI	2023	Non-Core Portfolio	29,000,000	2,304,014	-	2,304,014	1.00	n.m.
KKR Real Estate Partners Americas IV	2023	Non-Core Portfolio	22,000,000	-	-	-	-	n.m.
Rialto Real Estate Fund V - Debt	2023	Non-Core Portfolio	14,000,000	532,000	-	490,379	0.92	n.m.

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		Original				Total Value	
	Vintage Year	Commitment	<b>Total Contributions</b>	<b>Total Distrubutions</b>	Market Value	Multiple	Net IRR%
TOTAL INFRASTRUCTURE		765,322,986	388,302,802	153,105,234	364,689,653	1.33	12.02%
TOTAL INFRASTRUCTURE							
Brookfield Infrastructure Fund II	2013	10,000,000	10,209,188	12,053,331	8,135,075	1.98	13.11%
Global Energy & Power Infrastructure Fund II	2014	15,000,000	16,435,322	16,545,654	3,741,619	1.23	11.08%
IFM Global Infrastructure Fund	2014	15,000,000	20,027,335	9,359,360	32,058,589	2.07	11.62%
KKR Global Infrastructure Investors II	2014	19,000,000	20,789,948	33,152,222	6,205,192	1.89	18.01%
Actis Energy 4	2016	10,600,000	11,095,628	14,355,455	1,378,377	1.42	13.65%
ASF VII Infrastructure	2016	12,000,000	9,497,489	4,061,661	10,111,613	1.49	13.96%
Brookfield Infrastructure Fund III	2016	10,000,000	8,113,741	3,612,162	8,673,597	1.51	11.14%
Global Infrastructure Partners III	2016	12,000,000	12,399,057	6,247,658	12,544,954	1.52	9.80%
Axium Infrastructure North America	2017	12,221,338	12,866,413	4,162,063	14,497,893	1.45	8.93%
EQT Infrastructure III	2017	9,214,756	10,897,594	17,216,688	2,913,678	1.85	20.40%
NYCRS EIG Energy Partners	2017	11,760,000	7,204,113	6,451,829	2,156,731	1.19	7.89%
Cardinal NR Sidecar Holdings	2018	1,880,001	1,893,004	832,104	3,371,039	2.22	18.92%
EQT Infrastructure IV - USD Fund	2018	18,000,000	17,409,034	3,028,256	20,624,445	1.36	11.10%
Global Infrastructure Partners IV	2018	22,600,000	19,639,118	1,078,468	20,716,665	1.11	6.18%
KKR Global Infrastructure Investors III	2018	15,600,000	14,187,346	4,195,582	14,264,589	1.30	10.34%
Ardian Infrastructure Fund V B	2019	14,737,491	11,380,829	1,609,004	13,101,248	1.29	14.73%
Brookfield Infrastructure Fund IV	2019	19,000,000	17,965,128	5,507,612	19,349,159	1.38	13.39%
Brookfield Infrastructure Fund IV (BIF IV): Co-Invest	2019	2,000,000	2,010,888	370,523	2,782,658	1.57	12.46%
Global Energy & Power Infrastructure Fund III F	2019	15,600,000	14,412,680	4,060,572	13,765,493	1.24	10.91%
Actis Energy 5	2020	27,000,000	9,979,809	14,241	8,833,603	0.89	-13.87%
EQT Infrastructure IV Co-Investment (Saber)	2020	1,600,000	1,616,000	97,112	1,991,593	1.29	7.22%
EQT Infrastructure V	2020	32,000,000	25,366,880	2,479,185	27,859,887	1.20	12.54%
Stonepeak Infrastructure Fund IV	2020	35,000,000	16,441,495	287,925	18,612,220	1.15	8.63%
ASF VIII Infrastructure B	2021	40,000,000	10,249,260	822,029	11,082,301	1.16	18.5%
InfraVia European Fund V	2021	37,825,000	13,823,206	495,223	14,911,459	1.11	n.m.
KKR Global Infrastructure Investors IV	2021	35,000,000	20,587,802	681,658	18,852,849	0.95	n.m.
Ardian Infra Fund V Co-Invest Lemon	2022	2,754,960	2,514,917	-	3,188,316	1.27	n.m.
Basalt Infrastructure Partners IV A	2022	45,000,000	5,104,649	-	5,008,984	0.98	n.m.
BlackRock Global Infrastructure Fund IV D	2022	25,000,000	7,301,343	31,058	7,403,151	1.02	n.m.
Brookfield Infrastructure Fund V-B	2022	45,000,000	13,089,316	205,660	13,174,703	1.02	n.m.



		Original				Total Value	
	Vintage Year	Commitment	<b>Total Contributions</b>	<b>Total Distrubutions</b>	Market Value	Multiple	Net IRR%
DIF Infrastructure VII	2022	45,535,600	11,207,146	11,623	11,148,047	1.00	n.m.
Ardian Infrastructure Fund VI B	2023	27,000,000	2,980,986	185	2,825,281	0.95	n.m.
Artemis Co-Invest Sidecar	2023	3,318,840	2,608,283	-	2,986,982	1.15	n.m.
BlackRock EM SMA II	2023	25,000,000	-	-	-	0.00	n.m.
Brookfield Project Elite	2023	3,675,000	3,612,226	73,031	3,745,105	1.06	n.m.
EQT Infrastructure VI	2023	32,000,000	-	-	(833 <i>,</i> 765)	0.00	n.m.
Global Infrastructure Partners V	2023	30,000,000	3,385,628	6,101	3,506,322	1.04	n.m.
Stonepeak Infrastructure Fund V	2023	26,400,000	-	-	-	0.00	n.m.



		Commitment -	Contributions	Distributions		3 Month	Inception
	Vintage Year	Closing (Base)	Cumulative (Local)	Cumulative	Final Market Value	Base%	IRR%
TOTAL OPPORTUNISTIC FIXED INCOME		582,000,000.00	368,960,268.09	49,398,734.80	385,468,595.72	2.41%	10.74%
Apollo Centre Street Partnership,L.P.	2020	30,000,000	28,615,775	14,824,201	18,967,888	1.42%	9.33%
KKR-NYC Credit C L.P.	2020	30,000,000	22,900,840	1,062,372	25,527,663	0.00%	6.94%
Marathon Centre Street Partnership, L.P Asset Class	2020	20,000,000	25,020,000	7,320,000	26,429,156	0.00%	12.70%
Marathon Centre Street Partnership, L.P Asset Class - Subsequent Commitmen	2020	10,000,000	9,150,000	2,200,000	4,205,272	0.00%	-13.85%
OHA Centre Street Partnership, L.P.	2020	30,000,000	30,000,000	-	58,621,477	2.29%	20.85%
400 Capital Centre Street LP	2021	40,000,000	40,435,994	-	46,050,807	0.00%	7.39%
Torchlight Debt Fund VII, LP	2021	30,000,000	18,018,342	1,775,504	17,967,575	1.09%	4.78%
Brightwood Capital Fund V, LP	2022	40,000,000	16,073,336	2,867,890	16,944,837	0.00%	10.79%
Centre Street CarVal Partnership LP	2022	40,000,000	17,000,000	-	18,922,577	2.27%	9.83%
ICG Centre Street Partnership, L.P.	2022	40,000,000	44,681,416	16,948,465	32,707,601	0.00%	9.72%
KLCP Domestic Fund III LP	2022	40,000,000	24,776,752	605,550	26,862,442	0.00%	9.83%
Ares Centre Street Partnership, L.P.	2023	30,000,000	30,000,000	-	30,000,000	0.00%	0.00%
Blackstone Green Private Credit Fund III LP	2023	32,000,000	2,240,000	-	2,218,997	0.00%	-6.95%
Crestline Opportunity Fund V Onshore T/STE, L.P.	2023	40,000,000	16,547,813	1,794,752	16,316,366	0.00%	15.69%
Maranon Centre-B Street Partnership, L.P.	2023	50,000,000	24,000,000	-	24,385,096	1.07%	3.97%
Torchlight Debt Fund VIII, LP	2023	40,000,000	8,000,000	-	7,840,842	1.75%	-3.06%
GoldenTree Distressed Fund IV	2024	40,000,000	11,500,000	-	11,500,000	0.00%	0.00%

Information provided by Alpha Frontier Above data is not final and subject to change



New York City Board of Education Retirement System

# **Appendix D**

Footnotes



### **General Notes**

- Estimated management fees for public market investments are calculated on an accrual basis without adjustment for management fee caps. Alternative investment (Private Market) fees are recorded on a cash basis and are not inclusive of carried interest paid. Since not all alternative managers currently provide detailed fee disclosure, the alternative investment fees noted here are not comprehensive.
- Returns greater than 1 year are annualized.
- Public Market returns are Net of Manager Fees for periods after January 2014 and Gross of investment advisory fees for other periods unless otherwise indicated.
- Public market excess returns for periods prior to 2014 are based on Gross performance.

### Page Specific

### Page 15 - 20 - Portfolio Asset Allocation

• Rebalancing Ranges: the minimum and maximum weights that actual Asset Allocation may reach before rebalancing between Asset Classes is necessary.

### Pages 21 - 23 - Performance Attribution: Total Plan

- Plan Return at Policy Weights: the return of the Total Plan assuming actual Asset Class results were maintained at target (Adjusted Policy) weights. *Figure = (Return of Asset Class 1\* Target Weight) plus (Return Of Asset Class 2\* Target Weight) plus (.....)*
- Allocation Effect = Total Plan Return minus Plan Return At Adjusted Policy Weights. Allocation is the Contribution to Performance resulting from an overweight or underweight to an asset class. E.g. an underweight to an Asset Class that under-performs results in a positive Allocation Effect and vice versa.
- Selection Effect = Equal to the Custom Benchmark (Adjusted Policy Index) Return minus Plan Return at Adjusted Policy Weights. This illustrates how the Managers have added or removed value based on their Security Selection decisions, e.g., If the manager's Actual Returns are higher than the Implied Return there will be a positive Selection Effect.
- Policy Index = Custom Benchmark

The "policy index" is a custom benchmark representing the weighted average return of the weighted benchmark indexes for each major investment program. Weights may reflect an adjustment of actual policy for outstanding commitments for new or revised programs, such as for private market programs, which are invested gradually, or for any new or updated program requiring the completion of RFPs and contracts. The policy index/custom benchmark is calculated monthly based on adjusted policy weights at the beginning of each month.



U.S. Equity: Russell 3000 \* 30.57% International Developed (EAFE) Markets: MSCI World ex USA IMI Net \* 8.60% International Active – Global Equity: MSCI ACWI \* 1.80% Emerging Markets: MSCI Emerging Markets \*5.43% International Emerging Managers FOF: MSCI ACWI Ex US IMI Net \* 1.24% Private Equity: Russell 3000 + 300 b.p. per annum \* 9.00% Private Real Estate - Core: NFI - ODCE Net \* 4.00% Private Real Estate – Non Core: NFI - ODCE Net + 200bps\* 2.93% Infrastructure: CPI + 4% \* 4.00% US Treasury Short Term: FTSE US Government Bond 1-3 Years Index\* 2.24% US Treasury Intermediate: USBIG TSY AGN 1-10\* 2.62% Active Government: NYC Treasury Agency + 5 \* 1.86% US Treasury Long Duration: FTSE US Government Bond 10+ Years Index \* 0.74% Core FI-Developing Managers : Bloomberg U.S. Aggregate \* 0.00% Mortgage: Bloomberg US Mortgage Backed Securities \* 4.29% ETI: ETI Custom Benchmark \* 0.45% Investment Grade Corporate: NYC Custom IGC Benchmark \* 4.63% High Yield: Bloomberg U.S. HY - 2% Issuer Cap \* 8.40%

The indexes and most recent policy weights are as follows:



Bank Loans: Credit Suisse Leveraged Loan \* 0.00%

TIPS: Bloomberg Global Infl-Linked: U.S. TIPS \* 3.00%

Opportunistic Fixed: OFI - JPMGHY / CSFB 50/50 Blend Plus 300 b.p. per annum \* 4.20%

### Page 24 – Allocation and Selection Effects - Asset Class Breakdown

• This chart aims to break down the Allocation and Selection Effects shown on the Performance Attribution pages. The aim of the Page is to show the asset classes where Managers are either out performing or underperforming their benchmark and to show the basis point effect that this is having on Plan performance.

### **Footnotes**

Through March 31, 2024



[1] NYC Developed Value Benchmark: Beginning 8.2017 benchmark changed from MSCI EAFE Value Net to MSCI World ex USA Net Index.

[2] NYC Developed Growth Benchmark: Beginning 8.2017 benchmark changed from MSCI EAFE Growth to MSCI World ex USA Net Index.

[3] NYC Custom Mortgage Benchmark: Beginning 9.2020 benchmark changed from FTSE Mortgage Index to Bloomberg US Mortgage Backed Securities.

ETI Quarterly Report (Public):

Lenders	Bank	of	Citi Community	Carver Federal	The Community	JP Morgan	Low Income	NCB Capital	Neighborhood	Wells	Local Initiatives	Enterprise	NYC
	Amer	ica	Development	Savings Bank	Preservation Corp	Chase	Investment Fund	Impact	Housing Service	Fargo	Support Corp	Cmty Loan Fund	HDC
Contractual Commitment	\$4.0	0	\$4.00	\$1.00	\$4.00	\$5.00	\$4.00	\$0.00	\$1.00	\$2.00	\$1.00	\$1.00	\$2.00
Current Market Value	\$0.5	7	\$2.14	\$0.14	\$1.31	\$3.46	\$1.70	\$0.08	\$0.00	\$0.76	\$0.43	\$0.18	\$0.00
	Dollars	Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units	Dollars Units
Commitments Q1													
(included in total)													
Bronx	\$0.00	0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0
Brooklyn	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Manhattan	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.08 70	0.00 0	0.00 0
Queens	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Staten Island	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Outside of NYC	0.00	0	0.00 0	0.00 0	0.06 48	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Total	\$0.00	0	\$0.00 0	\$0.00 0	\$0.06 48	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.08 70	\$0.00 0	\$0.00 0
Delivered Q1													
(included in total)													
Bronx	\$0.00	0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0
Brooklyn	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Manhattan	0.00	0	0.00 0	0.00 0	0.03 306	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Queens	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Staten Island	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Outside of NYC	0.00	0	0.00 0	0.00 0	0.02 42	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Total	\$0.00	0	\$0.00 0	\$0.00 0	\$0.05 348	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0	\$0.00 0
Total Commitments													
Bronx	\$0.00	0	\$0.00 0	\$0.00 0	\$0.24 559	\$0.17 53	\$0.24 75		\$0.00 0	\$0.00 0	\$0.00 0	\$0.11 101	\$0.00 0
Brooklyn	0.00	0		0.00 0	0.11 270	0.00 0	0.18 95		0.00 0	0.00 0	0.09 74		0.00 0
Manhattan	0.00	0	0.00 0	0.00 0	0.09 278	0.12 69	0.95 289		0.00 0	0.00 0	0.31 183		0.00 0
Queens	0.00	0	0.00 0	0.00 0	0.02 50	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0		0.00 0
Staten Island	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0		0.00 0
Outside of NYC	0.00	0	0.00 0	0.00 0	0.20 259	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
Total	\$0.00	0	\$0.00 0	\$0.00 0	\$0.66 1,416	\$0.29 122	\$1.38 459	\$0.00 0	\$0.00 0	\$0.00 0	\$0.40 257	\$0.16 127	\$0.00 0
Historical Investments		-			,	<b>*****</b>						<b>,</b>	
Bronx	\$0.26	60	\$1.37 802	\$0.00 0	\$0.55 2,030	\$2.99 1,733	\$0.51 178	\$0.00 0	\$0.00 0	\$0.11 90	\$0.11 48	\$0.00 0	\$0.00 0
Brooklyn	0.28	54	0.97 481	0.00 0	0.58 1,868	0.33 226	0.71 401	0.00 0	0.00 0	0.25 130			0.00 0
Manhattan	0.34	100	0.24 283	0.21 236		0.35 361	1.28 498		0.00 0	0.48 203	0.22 65		0.00 0
Queens	0.84	293	0.04 54	0.00 0	0.07 190	0.27 164	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0		0.00 0
Staten Island	0.00	0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.04 67	0.00 0	0.00 0	0.00 0
Outside of NYC	0.09	39	0.21 41	0.00 0	0.33 839	0.38 197	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0		0.00 0
Total	\$1.81	546	\$2.83 1,661	\$0.21 236	\$1.88 6,604	\$4.33 2,681	\$2.50 1,077	\$0.10 123	\$0.00 0	\$0.88 490	\$0.49 195	\$0.22 360	\$0.00 0

### Public/Private Apartment Rehabilitation Program (PPAR)

<sup>1</sup> Dollar amount listed in millions

<sup>2</sup> NCB Capital Impact's Buy-Sell Agreement terminated effective 7/29/2014.

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Collateral Benefits as of 3/31/2024

Current Commitments All PPAR Lend	lers	
	Manhattan \$1.53 (53%) 845 Units	
Brooklyn		Queens \$0.02 (1%) 50 Units
\$0.38 (13%) 439 Units	Staten Island \$0.00 (0%) 0 Units	
Bronx \$0.76 (26%) 788 Units	0 Units	Outside of NYC - \$0.20 (7%) 259 Units
Historical Investments Since Inception All F	PAR Lenders	
Brooklyn \$3.50 (23%) 3,602 Units	Manhattan \$3.56 (23%) 3,546 Units	Queens - \$1.23 (8%) 701 Units
Bronx \$5.91 (39%)	Staten Islanc \$0.04 (0%) 67 Units	1
4,941 Units		Outside of NYC \$1.01 (7%) 1,116 Units

	All Lenue			
Contractual Commitment	\$29.00			
Current Market Value	\$10	.77		
	Dollars	Units		
Commitments Q1				
(included in total)				
Bronx	\$0.00	0		
Brooklyn	0.00	0		
Manhattan	0.08	70		
Queens	0.00	0		
Staten Island	0.00	C		
Outside of NYC	0.06	48		
Total	\$0.14	118		
Delivered Q1				
(included in total)				
Bronx	\$0.00	C		
Brooklyn	0.00	C		
Manhattan	0.03	306		
Queens	0.00	C		
Staten Island	0.00	C		
Outside of NYC	0.02	42		
Total	\$0.05	348		
Total Commitments				
Bronx	\$0.76	788		
Brooklyn	0.38	439		
Manhattan	1.53	845		
Queens	0.02	50		
Staten Island	0.00	C		
Outside of NYC	0.20	259		
Total	\$2.89	2,381		
Historical Investments				
Bronx	\$5.91	4,941		
Brooklyn	3.50	3,602		
Manhattan	3.56	3,546		
Queens	1.23	701		
Staten Island	0.04	67		
Outside of NYC	1.01	1,116		
Total	\$15.26	13,973		

All Lender Totals

Lenders

<sup>1</sup> Dollar amount listed in millions

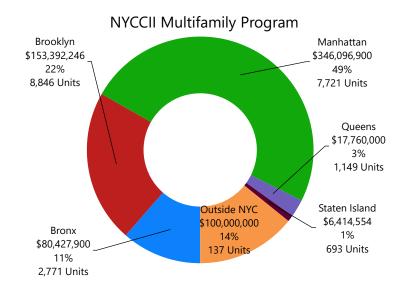
The City of New York - Office of the Comptroller

**Collateral Benefits as of 3/31/2024** 

### AFL-CIO Housing Investment Trust (HIT) Market Value \$16.57 million<sup>1</sup>

### NYC Community Investment Initiative (NYCCII)

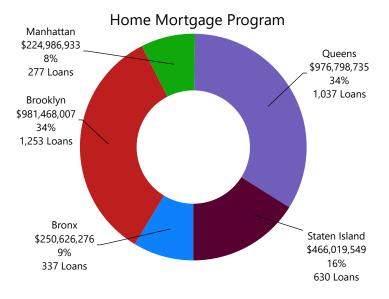
	NYCCII Phas 2002 - 200		NYCCII Phase 2006 - 201		Grand Total	
Borough	Investments	Units <sup>2</sup>	Investments	Units <sup>2</sup>	Investments	Units <sup>2</sup>
Bronx	\$27,600,000	2,010	\$52,827,900	761	\$80,427,900	2,771
Brooklyn	49,501,800	3,230	103,890,446	5,616	153,392,246	8,846
Manhattan	172,021,700	6,908	174,075,200	813	346,096,900	7,721
Queens	0	0	17,760,000	1,149	17,760,000	1,149
Staten Island	0	0	6,414,554	693	6,414,554	693
Outside NYC	0	0	100,000,000	137	100,000,000	137
Total	\$249,123,500	12,148	\$454,968,100	9,169	\$704,091,600	21,317



### HIT Home Mortgage Program

	NYCCII Phase	NYCCII Phase	e II:	Grand Total		
	2002 - 2005	2006 - 201	3			
Borough	\$ Amount	Loans	\$ Amount	Loans	\$ Amount	Loans
Bronx	\$32,544,168	41	\$218,082,108	296	\$250,626,276	337
Brooklyn	116,575,736	138	864,892,271	1,115	981,468,007	1,253
Manhattan	10,742,253	12	214,244,680	265	224,986,933	277
Queens	82,399,317	64	894,399,418	973	976,798,735	1,037
Staten Island	106,039,089	191	359,980,460	439	466,019,549	630
Total	\$348,300,563	446	\$2,551,598,937	3,088	\$2,899,899,500	3,534
BERS Loans	Phase I:	0	Phase II:	13	Total:	13

<sup>1</sup>Interest is reinvested <sup>2</sup>Low/Moderate Income Units

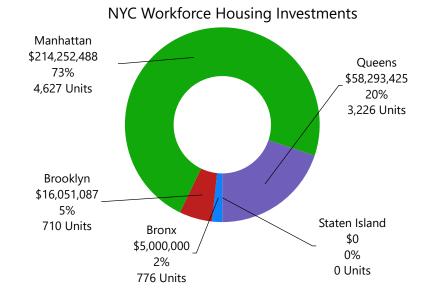


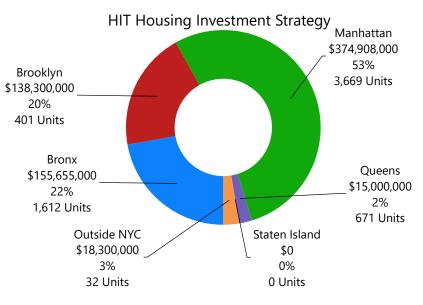
### **Collateral Benefits as of 3/31/2024**

# **BERS - Economically Targeted Investments Quarterly Report**

#### **AFL-CIO Housing Investment Trust (HIT)**

NYC Workforce Housing Investments: 2009 - 2015								
	Investments	LMI Units						
Borough	Since Inception	Since Inception						
Bronx	\$5,000,000	776						
Brooklyn	16,051,087	710						
Manhattan	214,252,488	4,627						
Queens	58,293,425	3,226						
Staten Island	0	0						
Total	\$293,597,000	9,339						





#### HIT Housing Investment Strategy: 2015 - Q1 2024

		Investments	Q1	LMI Units
Borough	Q1 Investments	Since Inception	Units	Since Inception
Bronx	\$0	\$155,655,000	0	1,612
Brooklyn	0	138,300,000	0	401
Manhattan	0	374,908,000	0	3,669
Queens	0	15,000,000	0	671
Staten Island	0	0	0	0
Outside NYC	0	18,300,000	0	32
Total	\$0	\$702,163,000	0	6,385

# Collateral Benefits as of 3/31/2024

**RBC ACCESS CAPITAL STRATEGIES (Since Inception 2/1/07)** 

\$10.5 million Allocated (2.34% of total account) Market Value \$9.43 million

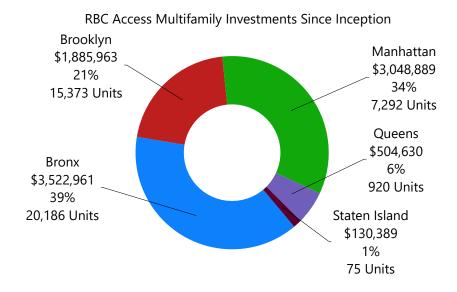
Multifamily Investments Detail	\$ Inve	ested <sup>1</sup>	Units <sup>2</sup>	
	Q1	Total	Q1	Total
Bronx	\$0	\$3,522,961	0	20,186
Brooklyn	0	1,885,963	0	15,373
Manhattan	0	3,048,889	0	7,292
Queens	0	504,630	0	920
Staten Island	0	130,389	0	75
Total BERS Multifamily Investments	\$0	\$9,092,832	0	43,846
Multifamily Total All Systems	\$0	\$388,582,572	0	43,846

Single Family Investments Detail	\$ Inv	ested	Units	
	Q1	Total	Q1	Total
Bronx	\$39,502	\$1,811,454	2	327
Brooklyn	52,503	4,503,314	4	744
Manhattan	0	408,039	0	67
Queens	138,965	6,987,887	10	1,074
Staten Island	51,045	4,675,262	5	725
Total BERS Single Family Investments	\$282,015	\$18,385,956	21	2,937
Single Family Total All Systems	\$12,051,924	\$785,724,604	21	2,937

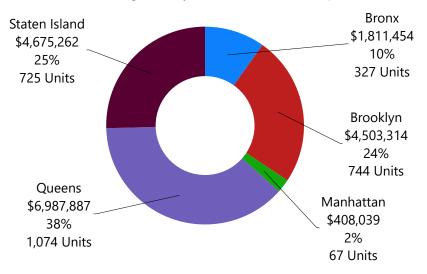
Other Investments Detail	\$ Inv	vested	Loans		
	Q1	Total	Q1	Total	
Bronx	\$0	\$15,795	0	1	
Brooklyn	0	126,135	0	8	
Manhattan	0	56,930	0	5	
Queens	0	12,716	0	3	
Staten Island	0	0	0	0	
Total BERS Other Investments	\$0	\$211,577	0	17	
Other Investments Total All Systems	\$0	\$9,041,740	0	17	
Grand Total BERS	\$282,015	\$27,690,365			
Grand Total All Systems	\$12,051,924	\$1,183,348,916			

' Certain bond investment amounts are allocated pro rata across boroughs based upon unit count.

<sup>2</sup> If not indicated otherwise, superintendent units are allocated based on building size.



RBC Access Single Family Investments Since Inception



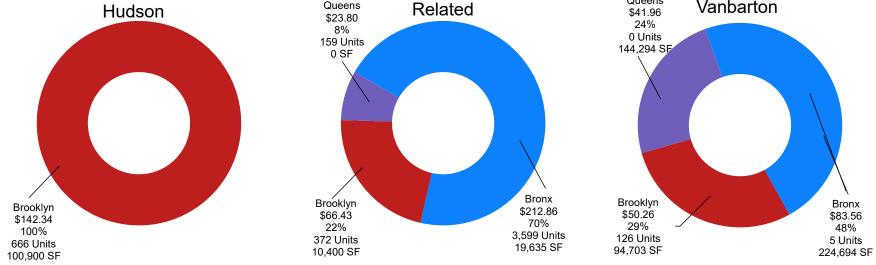
The City of New York - Office of the Comptroller

**Collateral Benefits as of 3/31/2024** 

#### **ETI Real Estate Equity Investments**

Total Market Value \$12.77 million

	Hudson				Related			Vanbarton (Emmes)				
	Market Valu	ıe \$4.98 ı	nillion		Market Valu	e \$3.13 ı	million		Market Value \$4.66 million			
	Gross				Gross				Gross			
	Capital	Total	Workforce		Capital	Total	Workforce		Capital	Total	Workforce	
<u>Borough</u>	Invested	Units	Units	Comm. SF	Invested	Units	Units	Comm. SF	Invested	Units	Units C	omm. SF
Bronx	\$0.00	0	0	0	\$212.86	3,599	3,356	19,635	\$83.56	5	2	224,694
Brooklyn	142.34	666	666	100,900	66.43	372	210	10,400	50.26	126	61	94,703
Manhattan	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0
Queens	0.00	0	0	0	23.80	159	151	0	41.96	0	0	144,294
Staten Island	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0
Outside NYC	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0
Totals	\$142.34	666	666	100,900	\$303.09	4,130	3,717	30,035	\$175.78	131	63	463,691



<sup>1</sup> All information is derived from reports submitted by individual managers and State Street Bank, and is reported on a quarter lag. Performance has not been reviewed by consultants or custodial bank. <sup>2</sup> Dollar amounts listed in millions.

# The City of New York - Office of the Comptroller

# **Collateral Benefits as of 3/31/2024**

Private Equity Quarterly Report (Public):

NYC Board of Education Retirement System

# NYCBERS - PE

# Portfolio Report

As Of December 2023

PRIVATE AND CONFIDENTIAL: These materials are strictly confidential, constitute trade secrets, are intended solely for the use of the individual or entity named herein ("Intended Recipient") and may not be reproduced, distributed, posted electronically or incorporated into other documents in whole or in part except for the personal reference of the Intended Recipient. If you are not the Intended Recipient you are hereby requested to either destroy or return these documents to Aksia LLC, or any of its affiliates.

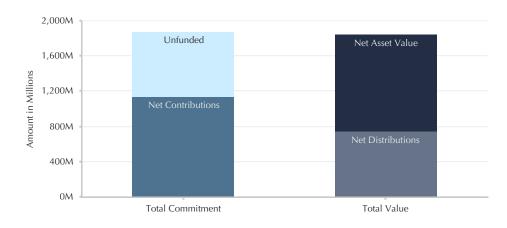


# Page 184 of 298 Table Of Contents

Portfolio Snapshot	3
Portfolio Overview	4
Performance Review	5
Portfolio QoQ Overview	7
TVPI Distribution	8
Portfolio Summary	9
Portfolio Summary by Strategy	12
Period Chart Analysis	21
Portfolio IRR vs Benchmark PME+	22
Portfolio Quartile Analysis by Total Exposure	23



#### Summary

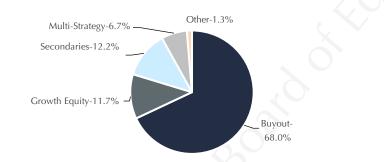


#### Portfolio Summary

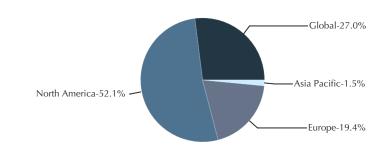
Total Pensio	n Assets			\$8.9 bn as of '	12/31/2023
GP Relations	ships				55
Holdings					147
# of New Inv	vestments withi	in the quarter*			4
# of Underly	ying Active Inv	estments			1732
% of Public	Companies				7.9%
Total Comm	itment Amount	t i i i i i i i i i i i i i i i i i i i			\$1.9 bn
Net Contribu	utions				\$1.1 bn
Net Distribut	tions			9	\$741.8 mm
Net Asset Va	lue				\$1.1 bn
Weighted Av	verage Age				7.0Y
Unfunded C	ommitment			9	\$738.5 mm
Minimum Ar	nnual Pacing				250.0 mm
Maximum A	nnual Pacing				420.0 mm
Portfolio Allo	ocation				12.4%
Minimum Ta	arget Allocation	1			5.0%
Maximum Ta	arget Allocatio	n			13.0%
1Y IRR	6.9%	2Y IRR	1.9%	3Y IRR	12.9%
5Y IRR	15.8%	7Y IRR	16.0%	10Y IRR	15.2%
ITD IRR**	13.5%	ITD TVPI**	1.6x		
* Oct-2023					
** lun_2006	- Llec-2023				

\*\* Jun-2006 - Dec-2023

# Total Exposure by Strategy



#### Total Exposure by Region



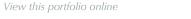
Position Analytics data based on GP provided information as of Dec-2023. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment. IRR not meaningful for investments held less than 24 months

Weighted Average Age (WAA) is based on net contributions

WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age

Total Exposure = Unfunded + NAV

Public companies are identified at the time of investment and reviewed at least annually.





# Strategy Portfolio Summary

Investment Type Po	rtfolio Summary	Ý								
NYCBERS - PE	147	7.0	1,099.5	1,878.4	738.5	1,838.1	1,229.1	828.9	13.5%	1.6x
Secondaries	21	6.4	131.9	236.7	93.1	225.0	151.2	95.6	16.5%	1.5x
Other	1	0.9	3.4	25.0	20.8	24.2	4.2	0.0	n.m. <sup>1</sup>	0.8x
Multi-Strategy	6	13.4	63.9	231.3	60.0	123.9	172.3	241.4	10.3%	1.8x
Growth Equity	18	6.0	150.3	213.3	64.6	214.9	153.6	86.7	13.8%	1.5x
Buyout	101	5.8	750.0	1,172.1	500.0	1,250.1	747.9	405.2	16.8%	1.5x
	# Of Funds	Weighted Average Age	NAV (\$mm)	Total Commitment (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Net IRR	TVPI

	# Of Funds	Weighted Average Age	NAV (\$mm)	Total Commitment (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Net IRR	TVPI
Direct Investments	111	7.3	972.5	1,648.5	624.2	1,596.7	1,112.1	791.5	13.4%	1.6x
Co-Investments	36	4.4	127.0	229.9	114.3	241.4	117.0	37.4	15.0%	1.4x
NYCBERS - PE	147	7.0	1,099.5	1,878.4	738.5	1,838.1	1,229.1	828.9	13.5%	1.6x

Fund Size Portfolio Summary

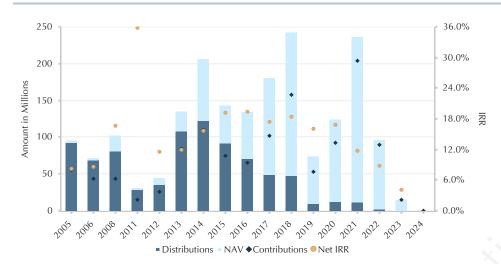
	# Of Funds	Weighted Average Age	NAV (\$mm)	Total Commitment (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Net IRR	TVPI
Up to 3 bn	61	8.6	335.9	610.6	211.1	547.0	415.7	335.1	11.6%	1.6x
3 - 10 bn	42	6.7	328.6	516.2	194.1	522.7	365.5	262.5	17.5%	1.6x
Above 10 bn	44	5.7	435.1	751.5	333.3	768.4	447.9	231.3	14.9%	1.5x
NYCBERS - PE	147	7.0	1,099.5	1,878.4	738.5	1,838.1	1,229.1	828.9	13.5%	1.6x

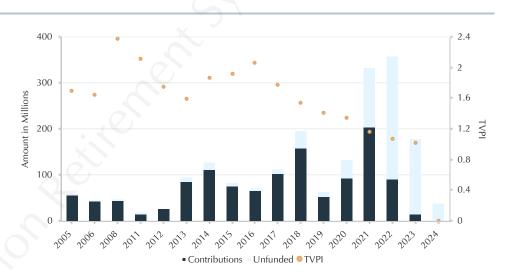
 $^{\rm t}$  IRR not meaningful for investments held less than 24 months Total Exposure = Unfunded + NAV



# Page 187 of 298 Portfolio Overview

#### Performance Review by Vintage Year



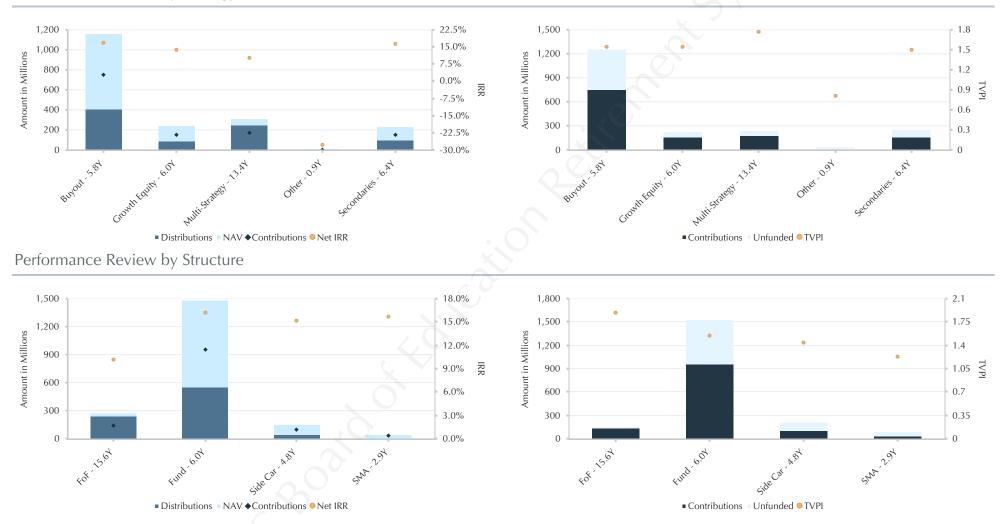


Total Exposure = Unfunded + NAV



# Page 188 of 298 Performance Review

#### Performance Review by Strategy



Weighted Average Age (WAA) is based on net contributions

WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age



#### **Performance Statistics**

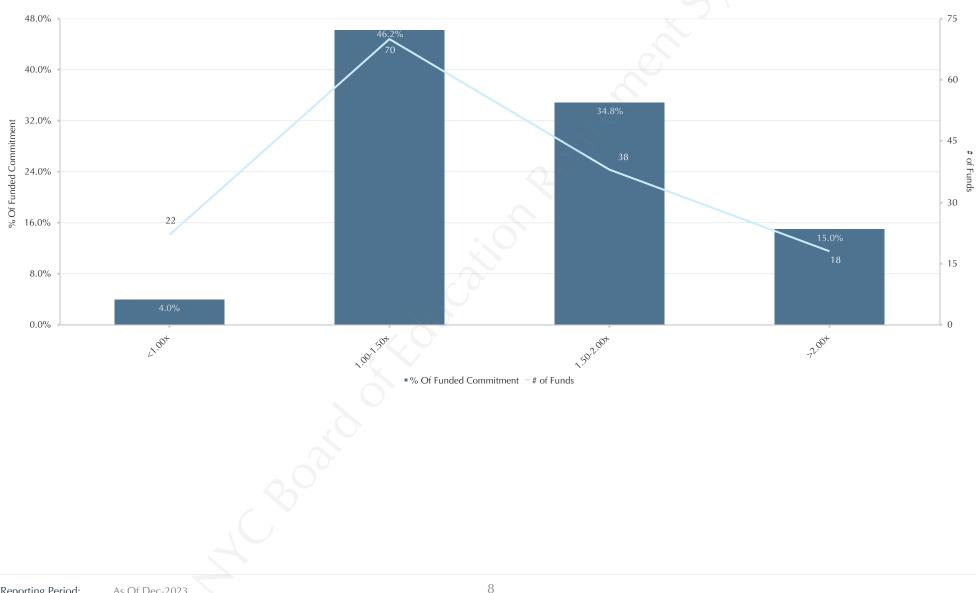
As Of Dec-2023Dec-2023Mar-2023Jun-2023Sep-2023(YTD)(Quarter)(Anual)ActiveLiquitCommitted Capital1,878.01,878.01,878.01,878.41,878.41,878.40.0%-0.0%1,859.41,859.41,8Unfunded Commitment903.1871.4829.7779.1738.5-18.2%-5.2%-18.2%738.5738.50Net Contributed Capital966.1999.61,042.51,089.21,135.017.5%4.2%17.5%1,116.019Net Distributed Capital662.7680.9696.2721.1741.811.9%2.9%11.9%718.627Recallable Capital73.576.878.681.687.118.5%6.7%18.5%85.81Net Asset Value939.3980.61,026.51,050.81,099.517.1%4.6%17.1%1,099.50Net Gain/Loss631.5657.4675.5676.1699.310.7%3.4%10.7%693.75Total Value1,602.01,661.51,722.71,771.91,841.314.9%3.9%14.9%1,818.12.5%DPI0.7x0.7x0.7x0.7x0.7x0.7x0.0x0.0x0.0x0.0x1.6x1.6xDPI1.6x1.6x1.6x1.6x1.6x0.0x0.0x0.0x1.6x1.6x1.5%											
As Of Dec-2023Dec-2022Mar-2023Jun-2023Sep-2023Dec-2023(YTD)(Quarter)(Annual)ActiveLiquitCommitted Capital1,878.01,878.01,878.41,878.41,878.40.0%-0.0%1,859.41Unfunded Commitment903.1871.4829.7779.1738.5-18.2%-5.2%-18.2%738.5116.01Net Contributed Capital966.1999.61,042.51,089.21,135.017.5%4.2%17.5%1,116.01Net Distributed Capital662.7680.9696.2721.1741.811.9%2.9%11.9%718.62.5Recallable Capital73.576.878.681.687.118.5%6.7%18.5%85.81Net Asset Value939.3980.61,026.51,050.81,099.517.1%4.6%17.1%1,099.50Net Gain/Loss631.5657.4675.5676.1699.310.7%3.4%10.7%693.75Total Value1,602.01,661.51,722.71,771.91,841.314.9%3.9%14.9%1,818.12Del Lexposure1,842.41,851.91,856.21,829.91,838.1-0.2%0.4%-0.2%1,838.10Del0.7x0.7x0.7x0.7x0.7x0.7x0.0x0.0x0.0x0.0x0.7x1	Net Internal Rate of Return (IRR)	14.2%	14.2%	14.0%	13.6%	13.5%	-0.7%	-0.1%	-0.7%	13.9%	4.9%
As Of Dec-2023Dec-2022Mar-2023Jun-2023Sep-2023Dec-2023(YTD)(Quarter)(Annual)ActiveLiquidCommitted Capital1,878.01,878.01,878.41,878.41,878.40.0%-0.0%1,859.419Unfunded Commitment903.1871.4829.7779.1738.5-18.2%-5.2%-18.2%738.500Net Contributed Capital966.1999.61,042.51,089.21,135.017.5%4.2%17.5%1,116.010Net Distributed Capital662.7680.9696.2721.1741.811.9%2.9%11.9%718.623Recallable Capital73.576.878.681.687.118.5%6.7%18.5%85.81Net Asset Value939.3980.61,026.51,050.81,099.517.1%4.6%17.1%1,099.50Net Gain/Loss631.5657.4675.5676.1699.310.7%3.4%10.7%693.75Total Value1,602.01,661.51,722.71,771.91,841.314.9%3.9%14.9%1,838.10Total Exposure1,842.41,851.91,856.21,829.91,838.1-0.2%0.4%-0.2%1,838.10	Total Value to Paid-In (TVPI)	1.6x	1.6x	1.6x	1.6x	1.6x	0.0x	0.0x	0.0x	1.6x	1.3x
As Of Dec-2023Dec-2022Mar-2023Jun-2023Sep-2023Dec-2023(YTD)(Quarter)(Annual)ActiveLiquidCommitted Capital1,878.01,878.01,878.41,878.41,878.40.0%-0.0%1,859.41Unfunded Commitment903.1871.4829.7779.1738.5-18.2%-5.2%-18.2%738.50Net Contributed Capital966.1999.61,042.51,089.21,135.017.5%4.2%17.5%1,116.019Net Distributed Capital662.7680.9696.2721.1741.811.9%2.9%11.9%718.623Recallable Capital73.576.878.681.687.118.5%6.7%18.5%85.81Net Asset Value939.3980.61,026.51,050.81,099.517.1%4.6%17.1%1,099.50Net Gain/Loss631.5657.4675.5676.1699.310.7%3.4%10.7%693.75Total Value1,602.01,661.51,722.71,771.91,841.314.9%3.9%14.9%1,818.12	DPI	0.7x	0.7x	0.7x	0.7x	0.7x	0.0x	0.0x	0.0x	0.7x	1.3x
As Of Dec-2023Dec-2022Mar-2023Jun-2023Sep-2023Dec-2023(YTD)(Quarter)(Annual)ActiveLiquitCommitted Capital1,878.01,878.01,878.41,878.41,878.40.0%-0.0%1,859.419Unfunded Commitment903.1871.4829.7779.1738.5-18.2%-5.2%-18.2%738.500Net Contributed Capital966.1999.61,042.51,089.21,135.017.5%4.2%17.5%1,116.019Net Distributed Capital662.7680.9696.2721.1741.811.9%2.9%11.9%718.623Recallable Capital73.576.878.681.687.118.5%6.7%18.5%85.81Net Asset Value939.3980.61,026.51,050.81,099.517.1%4.6%17.1%1,099.50Net Gain/Loss631.5657.4675.5676.1699.310.7%3.4%10.7%693.75	Total Exposure	1,842.4	1,851.9	1,856.2	1,829.9	1,838.1	-0.2%	0.4%	-0.2%	1,838.1	0.0
As Of Dec-2023Dec-2022Mar-2023Jun-2023Sep-2023Dec-2023(YTD)(Quarter)(Annual)ActiveLiquidCommitted Capital1,878.01,878.01,878.41,878.41,878.40.0%-0.0%1,859.41Unfunded Commitment903.1871.4829.7779.1738.5-18.2%-5.2%-18.2%738.50Net Contributed Capital966.1999.61,042.51,089.21,135.017.5%4.2%17.5%1,116.019Net Distributed Capital662.7680.9696.2721.1741.811.9%2.9%11.9%718.62.5%Recallable Capital73.576.878.681.687.118.5%6.7%18.5%85.81Net Asset Value939.3980.61,026.51,050.81,099.517.1%4.6%17.1%1,099.50	Total Value	1,602.0	1,661.5	1,722.7	1,771.9	1,841.3	14.9%	3.9%	14.9%	1,818.1	23.2
As Of Dec-2023         Dec-2022         Mar-2023         Jun-2023         Sep-2023         Dec-2023         (YTD)         (Quarter)         (Annual)         Active         Liquity           Committed Capital         1,878.0         1,878.0         1,878.4         1,878.4         1,878.4         0.0%         -         0.0%         1,859.4         1         90.0%         -         0.0%         1,859.4         1         90.0%         1,859.4         1         90.0%         -         0.0%         1,859.4         1         90.0%         -         0.0%         1,859.4         1         90.0%         1,859.4         1         90.0%         -         0.0%         1,859.4         1         90.0%         1,859.4         1         90.0%         -         0.0%         1,859.4         1         90.0%         1         90.0%         1,859.4         1         90.0%         1         90.0%         1,90.0%         1         1         90.0%         1         1         90.0%         1         1         90.0%         1         1         90.0%         1         1         1         1         1         1         1         1         1         1         1         1         1         1	Net Gain/Loss	631.5	657.4	675.5	676.1	699.3	10.7%	3.4%	10.7%	693.7	5.6
As Of Dec-2023         Dec-2022         Mar-2023         Jun-2023         Sep-2023         Dec-2023         (YTD)         (Quarter)         (Annual)         Active         Liquid           Committed Capital         1,878.0         1,878.0         1,878.4         1,878.4         1,878.4         0.0%         -         0.0%         1,859.4         1	Net Asset Value	939.3	980.6	1,026.5	1,050.8	1,099.5	17.1%	4.6%	17.1%	1,099.5	0.0
As Of Dec-2023         Dec-2022         Mar-2023         Jun-2023         Sep-2023         Dec-2023         (YTD)         (Quarter)         (Annual)         Active         Liquid           Committed Capital         1,878.0         1,878.0         1,878.4         1,878.4         1,878.4         0.0%          0.0%         1,859.4         1	Recallable Capital	73.5	76.8	78.6	81.6	87.1	18.5%	6.7%	18.5%	85.8	1.4
As Of Dec-2023         Dec-2022         Mar-2023         Jun-2023         Sep-2023         Dec-2023         (YTD)         (Quarter)         (Annual)         Active         Liquid           Committed Capital         1,878.0         1,878.0         1,878.4         1,878.4         1,878.4         0.0%         -         0.0%         1,859.4         1           Unfunded Commitment         903.1         871.4         829.7         779.1         738.5         -18.2%         -5.2%         -18.2%         738.5         0	Net Distributed Capital	662.7	680.9	696.2	721.1	741.8	11.9%	2.9%	11.9%	718.6	23.2
As Of Dec-2023         Dec-2022         Mar-2023         Jun-2023         Sep-2023         Dec-2023         (YTD)         (Quarter)         (Annual)         Active         Liquit           Committed Capital         1,878.0         1,878.0         1,878.4         1,878.4         0.0%         -         0.0%         1,859.4         1	Net Contributed Capital	966.1	999.6	1,042.5	1,089.2	1,135.0	17.5%	4.2%	17.5%	1,116.0	19.0
As Of Dec-2023 Dec-2023 Jun-2023 Sep-2023 Dec-2023 (YTD) (Quarter) (Annual) Active Liqui	Unfunded Commitment	903.1	871.4	829.7	779.1	738.5	-18.2%	-5.2%	-18.2%	738.5	0.0
	Committed Capital	1,878.0	1,878.0	1,878.4	1,878.4	1,878.4	0.0%	-	0.0%	1,859.4	19.0
/o Change /o Change /o Change Dec-2025 Dec	As Of Dec-2023	Dec-2022	Mar-2023	Jun-2023	Sep-2023	Dec-2023	(YTD)	(Quarter)	(Annual)	Active	Liquidated
% Change % Change Dec 2022 Dec							% Change	% Change	% Change	Dec-2023	Dec-2023

Total Exposure = Unfunded + NAV



# Page 190 of 298 **TVPI** Distribution

### **TVPI** Distribution





	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Strategy						X				
Buyout	68.2%	1,172.1	747.9	405.2	500.0	1,250.1	407.3	750.0	16.8%	1.5x
Growth Equity	13.7%	213.3	153.6	86.7	64.6	214.9	83.4	150.3	13.8%	1.5x
Multi-Strategy	5.8%	231.3	172.3	241.4	60.0	123.9	133.0	63.9	10.3%	1.8x
Other	0.3%	25.0	4.2	0.0	20.8	24.2	-0.8	3.4	n.m.1	0.8x
Secondaries	12.0%	236.7	151.2	95.6	93.1	225.0	76.4	131.9	16.5%	1.5x
NYCBERS - PE	100.0%	1,878.4	1,229.1	828.9	738.5	1,838.1	699.3	1,099.5	13.5%	1.6x





	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Vintage						X				
2024	-	37.3	0.0	0.0	37.3	37.3	0.0	0.0	n.m.	0.0x
2023	1.3%	177.3	14.5	0.1	163.3	177.9	0.3	14.6	n.m.1	1.0x
2022	8.6%	353.7	89.9	1.8	267.3	361.6	6.3	94.4	n.m.1	1.1x
2021	20.4%	323.3	203.3	11.6	129.1	353.5	32.7	224.4	11.8%	1.2x
2020	10.2%	124.7	92.7	12.1	39.3	151.2	31.4	111.9	16.9%	1.3x
2019	5.8%	61.8	52.3	9,5	10.6	74.6	21.2	64.0	16.1%	1.4x
2018	17.7%	182.8	157.8	47.2	37.9	232.6	84.1	194.7	18.4%	1.5x
2017	11.9%	101.2	101.5	49.2	9.3	140.7	79.0	131.4	17.5%	1.8x
2016	5.8%	59.4	65.3	70.7	4.4	68.0	69.0	63.7	19.3%	2.1x
2015	4.7%	75.2	74.3	91.5	7.2	58.4	68.4	51.2	19.1%	1.9x
2014	7.6%	106.3	110.5	121.8	15.6	99.7	95.3	84.0	15.6%	1.9x
2013	2.4%	89.4	84.5	108.1	9.7	36.3	50.3	26.6	12.0%	1.6x
2012	0.8%	25.0	25.4	35.4	0.0	8.9	18.9	8.9	11.6%	1.7x
2011	0.2%	15.0	14.6	28.8	3.3	5.4	16.3	2.1	35.8%	2.1x
2008	1.9%	45.0	43.0	80.7	2.5	23.7	58.9	21.2	16.6%	2.4x
2006	0.3%	44.0	43.3	68.3	0.9	4.0	28.1	3.2	8.6%	1.6x
2005	0.3%	57.0	56.2	92.3	1.1	4.3	39.2	3.2	8.2%	1.7x
NYCBERS - PE	100.0%	1,878.4	1,229.1	828.9	738.5	1,838.1	699.3	1,099.5	13.5%	1.6x



	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Structure						X				
FoF	2.5%	146.0	142.5	241.3	4.5	32.0	126.3	27.5	10.2%	1.9x
Fund	84.5%	1,440.2	956.6	550.1	570.4	1,499.1	522.2	928.7	16.2%	1.5x
Side Car	9.7%	206.9	100.2	37.4	108.2	215.1	44.1	106.9	15.2%	1.4x
SMA	3.3%	85.3	29.8	0.1	55.5	91.9	6.8	36.4	15.7%	1.2x
NYCBERS - PE	100.0%	1,878.4	1,229.1	828.9	738.5	1,838.1	699.3	1,099.5	13.5%	1.6x
Region				Q.C.	)					
Asia Pacific	1.2%	25.0	11.9	0.6	14.4	27.8	2.2	13.5	11.1%	1.2x
Europe	18.0%	343.9	198.4	107.2	158.8	357.1	107.1	198.3	16.9%	1.5x
Global	25.1%	492.7	285.0	159.4	220.3	496.3	150.3	276.0	16.0%	1.5x
North America	55.6%	1,016.7	733.8	561.7	345.1	956.9	439.6	611.8	12.7%	1.6x
NYCBERS - PE	100.0%	1,878.4	1,229.1	828.9	738.5	1,838.1	699.3	1,099.5	13.5%	1.6x



Buyout	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
		0.70/	0.0	7.0	( )	0.6	0.7	7.0	0.0	14.10/	1.0
American Securities Partners VII	USD	0.7%	8.0	7.8	6.8	0.6	8.7	7.0	8.0	14.1%	1.9x
Amulet Capital Fund III	USD	0.0%	3.3	0.6	0.0	2.6	3.2	-0.1	0.5	n.m. <sup>1</sup>	0.9x
Apax IX	USD	1.0%	13.0	14.1	16.5	1.2	12.3	13.5	11.0	20.6%	2.0x
Apax X	USD	1.2%	12.5	11.8	1.3	2.1	15.7	3.2	13.6	15.8%	1.3x
Apax XI	USD	0.0%	25.0	0.0	0.0	25.0	25.1	0.1	0.1	n.m.	0.0x
Apollo Fund X NYC Sidecar Co-Invest	USD	0.1%	6.8	1.7	0.0	5.1	6.7	0.0	1.6	n.m.1	1.0x
Apollo Investment Fund IX	USD	3.0%	32.0	29.7	12.1	8.7	41.6	15.4	33.0	21.8%	1.5x
Apollo Investment Fund VIII	USD	0.6%	20.0	19.7	22.5	2.1	8.3	9.1	6.3	9.4%	1.5x
Apollo Investment Fund X	USD	0.3%	20.3	3.9	0.3	16.5	20.0	0.0	3.6	n.m.1	1.0x
Ares Corporate Opportunities Fund V	USD	0.9%	10.0	11.1	5.1	0.7	10.6	3.8	9.8	8.4%	1.3x
BC European Capital X	USD	1.3%	11.1	10.9	2.8	1.2	15.5	6.2	14.3	10.6%	1.6x
BCEC X Metro Co-Investment	USD	0.6%	4.4	4.6	2.3	0.0	7.0	4.7	7.0	15.5%	2.0x
Bridgepoint Europe V	USD	0.4%	8.9	8.1	11.5	0.7	5.0	7.7	4.3	17.6%	1.9x
Bridgepoint Europe V Co-Invest	USD	0.1%	3.0	2.7	5.7	0.2	1.8	4.6	1.5	26.4%	2.7x
Bridgepoint Europe VI	USD	1.7%	15.4	13.3	1.2	0.8	19.3	6.5	18.5	16.9%	1.5x
Bridgepoint Europe VI Co-Invest	USD	0.5%	3.8	3.1	0.1	0.4	5.5	2.0	5.1	18.0%	1.6x
Bridgepoint Europe VII A	USD	-0.1%	17.5	0.0	0.0	18.2	17.7	-0.6	-0.6	n.m.	0.0x
Bridgepoint Europe VII Co-Invest	USD	0.0%	8.8	0.0	0.0	9.1	9.1	0.0	0.0	n.m.	0.0x
Carlyle Partners VI	USD	0.7%	20.0	21.7	33.1	1.1	8.2	18.6	7.2	14.2%	1.9x
Carlyle Partners VI - Side Car	USD	0.1%	2.2	1.6	2.0	0.0	1.0	1.4	1.0	11.0%	1.9x
Centerbridge Capital Partners III	USD	0.2%	2.5	3.3	3.2	0.2	2.6	2.3	2.4	17.1%	1.7x
Clayton, Dubilier & Rice Fund XII	USD	0.0%	25.0	0.0	0.0	25.0	24.6	-0.4	-0.4	n.m.	0.0x



	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Clearlake Capital Partners VI	USD	1.4%	10.0	10.4	1.6	0.5	16.4	7.1	15.9	23.9%	1.7x
Clearlake Capital Partners VII	USD	1.8%	30.0	17.4	0.1	12.7	32.1	2.1	19.4	n.m.1	1.1x
Crestview IV Co-Invest	USD	0.2%	2.7	2.1	0.5	1.1	3.6	0.9	2.5	31.3%	1.4x
Crestview Partners III	USD	0.9%	15.0	15.9	8.6	2.8	12.8	2.6	10.0	4.8%	1.2x
Crestview Partners III (Co-Investment B)	USD	0.3%	5.0	5.2	0.3	0.0	2.8	-2.2	2.8	-8.6%	0.6x
Crestview Partners IV	USD	0.6%	8.0	6.3	1.4	3.1	9.9	1.9	6.7	21.5%	1.3x
CVC Capital Partners IX	USD	-	24.5	0.0	0.0	24.3	24.3	0.0	0.0 <sup>2</sup>	n.m.	0.0x
CVC Capital Partners VI	USD	1.4%	20.0	20.1	25.5	1.3	16.1	20.3	14.9	16.4%	2.0x
CVC Capital Partners VII	USD	2.4%	19.1	19.2	9.7	1.0	27.2	16.7	26.2	22.1%	1.9x
CVC Capital Partners VIII	USD	1.8%	25.5	18.2	0.1	6.8	26.7	1.9	20.0	8.4%	1.1x
EQT Co-Invest Platform (No.15) SCSp	USD	0.3%	8.2	2.9	0.0	5.5	8.6	0.2	3.0	n.m.1	1.1x
EQT Future	USD	0.3%	8.2	3.8	0.6	5.1	8.5	0.2	3.4	n.m.1	1.1x
EQT IX	USD	1.9%	19.6	20.7	2.6	1.4	22.2	2.7	20.8	6.7%	1.1x
EQT IX (Co-Invest)	USD	0.5%	5.4	5.4	0.1	0.0	6.0	0.7	6.0	5.0%	1.1x
EQT VII	USD	0.8%	17.7	20.0	28.4	1.4	10.6	17.7	9.3	21.2%	1.9x
EQT VIII	USD	1.2%	14.1	14.2	10.8	1.3	14.8	10.1	13.5	22.6%	1.7x
EQT VIII (Co-Invest)	USD	0.5%	4.9	4.7	3.7	0.0	5.3	4.3	5.4	29.3%	1.9x
EQT X	USD	0.2%	18.8	3.2	0.5	16.0	18.6	-0.1	2.6	n.m.1	1.0x
EQT X (Co-Invest)	USD	0.1%	6.3	1.2	0.0	5.1	6.5	0.2	1.5	n.m.1	1.2x
Grain Communications Opportunity Fund II	USD	1.4%	11.9	9.7	0.1	2.4	17.2	5.3	14.9	17.5%	1.5x
Grain Communications Opportunity Fund III	USD	0.2%	3.0	2.2	0.2	1.0	2.7	-0.3	1.8	-7.2%	0.9x
Green Equity Investors IX	USD	0.1%	19.9	0.2	0.0	19.7	20.4	0.5	0.7	n.m.1	3.6x
Green Equity Investors IX Co-Invest	USD	0.2%	6.6	1.6	0.0	5.1	6.9	0.3	1.9	n.m.1	1.2x
Green Equity Investors VII	USD	1.0%	10.0	10.7	10.6	1.6	12.9	11.1	11.2	20.8%	2.0x



	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Heartwood Partners III	USD	0.2%	2.8	2.5	1.9	0.3	2.3	1.4	2.0	17.6%	1.6x
Hg Genesis 10	USD	0.2%	11.4	2.2	0.0	9.9	12.2	0.2	2.4	n.m.1	1.1x
Hg NYC Co-Invest	USD	0.1%	4.2	1.4	0.0	2.8	4.4	0.2	1.6	n.m.1	1.2x
Hg Saturn 3	USD	0.2%	8.3	2.6	0.0	5.7	8.4	0.1	2.7	n.m.1	1.0x
ICV Partners IV	USD	0.3%	3.0	3.0	1.2	0.1	3.4	1.5	3.3	21.0%	1.5x
Insight Partners XII Buyout Annex Fund	USD	0.5%	6.3	4.7	0.0	1.5	7.2	1.0	5.7	11.8%	1.2x
Integrum Capital Partners	USD	0.1%	2.8	1.0	0.5	2.1	2.9	0.4	0.9	n.m.¹	1.5x
Integrum NYC Co-Invest	USD	0.0%	1.7	0.4	0.0	1.2	1.7	0.0	0.4	n.m.¹	1.0x
KKR Americas Fund XII	USD	2.0%	16.0	15.6	10.4	1.9	23.6	16.4	21.6	22.8%	2.0x
KKR Americas Fund XIII	USD	1.3%	31.0	13.7	0.0	17.8	31.8	0.3	14.0	n.m.1	1.0x
KKR Asian Fund IV	USD	1.2%	25.0	11.9	0.6	14.4	27.8	2.2	13.5	11.1%	1.2x
KKR European Fund V (USD)	USD	0.9%	10.0	9.2	1.7	1.2	11.4	2.7	10.2	11.5%	1.3x
KKR European Fund VI	USD	0.3%	25.0	5.4	0.0	19.6	23.2	-1.8	3.5	n.m.¹	0.7x
Lee Equity Partners Fund IV	USD	-	2.8	0.0	0.0	2.8	2.8	0.0	0.0 <sup>2</sup>	n.m.	0.0x
LEP Fund IV Co-Invest	USD	-	1.5	0.0	0.0	1.5	1.5	0.0	0.0 <sup>2</sup>	n.m.	0.0x
LightBay Investment Partners II	USD	0.0%	4.5	0.8	0.0	3.7	4.2	-0.3	0.5	n.m.1	0.6x
Lindsay Goldberg V	USD	0.9%	10.5	7.5	1.4	3.1	12.6	3.4	9.5	27.4%	1.4x
Mill City Fund II	USD	0.1%	1.2	1.4	0.7	0.0	0.7	0.1	0.7	0.7%	1.0x
NMS Fund II	USD	0.1%	1.2	1.3	1.2	0.2	0.8	0.6	0.6	9.3%	1.5x
NMS Fund III	USD	0.2%	2.0	1.7	0.6	0.6	3.0	1.4	2.5	19.3%	1.8x
Nordic Capital XI	USD	0.1%	14.1	1.4	0.0	13.3	14.4	-0.3	1.1	n.m.1	0.8x
Nordic N11 Co-Investment	USD	-	5.9	0.0	0.0	6.5	6.5	0.0	0.0 <sup>2</sup>	n.m.	0.0x
One Rock Capital Partners III	USD	2.8%	25.0	22.7	3.3	5.6	36.7	11.7	31.1	32.0%	1.5x
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	Currency	NAV Weight	Total Commitment (mm)	t Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Patriot Financial Partners II	USD	0.1%	3.5	3.7	5.0	0.1	1.2	2.3	1.0	12.2%	1.6x
Patriot Financial Partners III	USD	0.3%	2.5	2.4	0.1	0.1	3.5	1.1	3.3	9.1%	1.4x
Permira VIII	USD	0.6%	23.7	6.0	0.0	17.1	23.4	0.4	6.4	n.m.1	1.1x
Platinum Equity Capital Partners III	USD	0.2%	15.0	14.6	28.8	3.3	5.4	16.3	2.1	35.8%	2.1x
Platinum Equity Capital Partners IV	USD	1.0%	11.5	11.9	12.6	0.7	11.3	11.3	10.6	21.4%	1.9x
Platinum Equity Capital Partners IV Co-Investment	USD	0.2%	1.5	1.5	0.2	0.0	2.2	1.0	2.2	14.0%	1.6x
Platinum Equity Small Cap Fund	USD	1.1%	10.0	8.4	1.8	2.4	15.0	6.0	12.6	21.2%	1.7x
Reverence Capital Partners Opportunities Fund II	USD	0.4%	3.0	2.5	0.8	0.6	4.8	2.5	4.2	25.0%	2.0x
Reverence Capital Partners Opportunities Fund II (Parallel)	USD	0.2%	1.5	1.2	0.4	0.4	2.9	1.7	2.5	33.7%	2.5x
Reverence Capital Partners Opportunities Fund V (FOO) (PE Fund III)	USD	0.2%	7.0	2.1	0.0	4.9	7.5	0.5	2.6	n.m.1	1.2x
Reverence Capital Partners Opportunities Fund V (PE Fund III)	USD	0.6%	18.0	6.1	0.1	11.9	18.6	0.7	6.7	n.m.1	1.1x
Siris Partners III	USD	0.3%	3.5	4.0	2.9	0.1	3.1	1.9	3.0	11.0%	1.5x
Siris Partners IV	USD	1.0%	10.0	9.3	1.7	1.8	13.2	3.9	11.5	12.5%	1.4x
Stellex Capital Partners	USD	0.4%	4.0	3.9	3.9	1.1	5.0	3.9	3.9	23.2%	2.0x
Stellex Capital Partners II	USD	1.7%	25.0	17.1	1.3	8.3	26.7	2.5	18.4	9.2%	1.1x
Thoma Bravo XV	USD	1.5%	20.3	14.4	0.0	5.8	21.9	1.7	16.1	n.m.1	1.1x
Thoma Bravo XV Co-Invest	USD	0.4%	6.8	4.4	0.0	2.4	7.1	0.3	4.7	n.m.1	1.1x
TPG Rise Climate	USD	0.4%	8.3	4.0	0.2	4.5	9.2	0.9	4.7	n.m.1	1.2x
TPG Rise Climate Co-Invest	USD	1.1%	16.7	9.9	0.4	6.8	19.1	2.8	12.3	n.m.1	1.3x
Vista Co-Invest Fund 2022-4	USD	0.2%	6.8	1.4	0.0	5.4	7.1	0.3	1.7	n.m.¹	1.2x
Vista Equity Partners Fund V	USD	3.3%	25.0	31.3	37.4	5.8	41.6	41.9	35.8	19.2%	2.3x
Vista Equity Partners Fund VI	USD	1.7%	16.0	20.1	23.3	1.6	20.1	21.7	18.5	18.4%	2.1x
Vista Equity Partners Fund VI	USD	1./%	16.0	20.1	23.3	1.6	20.1	21.7	18.5	18.4%	2.1)



	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Vista Equity Partners Fund VII	USD	1.9%	20.5	18.6	2.0	3.9	25.3	4.8	21.4	7.9%	1.3x
Vista Equity Partners Fund VIII	USD	0.3%	20.3	2.3	0.0	18.0	20.9	0.7	2.9	n.m.1	1.3x
Vistria Fund III	USD	0.3%	3.0	2.8	0.0	0.2	3.8	0.8	3.6	9.8%	1.3x
Vistria Fund IV	USD	1.1%	13.0	10.8	0.3	2.4	14.0	1.1	11.6	6.5%	1.1x
WCAS XIII	USD	0.9%	10.0	8.9	3.3	0.8	10.7	4.3	9.9	22.7%	1.5x
Webster Capital III	USD	0.0%	2.3	2.5	6.0	0.0	0.0	3.6	0.0	21.5%	2.5x
Welsh, Carson, Anderson & Stowe XII	USD	0.7%	10.0	9.5	15.3	0.0	8.1	14.0	8.1	25.7%	2.5x
Welsh, Carson, Anderson & Stowe XIV	USD	0.6%	30.0	7.8	0.0	22.2	28.5	-1.5	6.3	n.m.1	0.8x
Welsh, Carson, Anderson & Stowe XIV N Co-Invest	USD	-	10.0	0.0	0.0	10.0	10.0	0.0	0.0 <sup>3</sup>	n.m.	0.0x
Total Buyout	USD	68.2%	1,172.1	747.9	405.2	500.0	1,250.1	407.3	750.0	16.8%	1.5x



	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Growth Equity											
FTV V	USD	0.6%	3.5	4.0	3.4	0.0	6.9	6.3	6.9	26.8%	2.6x
FTV VI	USD	0.5%	3.5	3.5	0.4	0.1	5.3	2.1	5.2	20.0%	1.6x
FTV VII	USD	1.0%	23.8	11.0	0.0	12.9	23.8	0.0	11.0	n.m.1	1.0x
FTV VII Co-Invest	USD	0.2%	5.4	1.7	0.0	3.7	5.7	0.4	2.0	n.m.1	1.2x
Insight Partners XII	USD	1.2%	18.8	14.5	0.0	4.2	17.6	-1.1	13.4	-4.5%	0.9x
PSG V	USD	1.6%	23.0	17.4	1.6	7.2	24.5	1.5	17.3	8.6%	1.1x
PSG VI	USD	-	25.0	0.0	0.0	25.0	25.0	0.0	0.0 <sup>2</sup>	n.m.	0.0x
Raine Partners II	USD	0.2%	3.0	3.0	6.2	0.3	2.9	5.7	2.5	25.2%	2.9x
Raine Partners III	USD	0.8%	8.5	8.9	0.5	0.1	8.5	0.0	8.5	0.2%	1.0x
Raine Partners IV	USD	0.1%	5.3	1.3	0.0	4.1	5.5	0.2	1.4	n.m.¹	1.1x
Valor Equity Partners III	USD	0.2%	3.5	3.5	4.9	0.0	2.1	3.4	2.1	12.5%	2.0x
Valor Equity Partners IV	USD	1.0%	4.5	4.4	0.4	0.1	10.7	6.6	10.7	20.5%	2.5x
Valor Equity Partners V	USD	0.4%	3.5	3.0	0.0	0.5	4.8	1.3	4.3	16.1%	1.4x
Valor Equity Partners VI	USD	0.2%	7.5	2.6	0.0	4.9	7.5	0.0	2.6	n.m.¹	1.0x
Warburg Pincus Financial Sector	USD	1.6%	13.0	13.3	6.4	0.5	18.0	10.6	17.5	18.0%	1.8x
Warburg Pincus Global Growth	USD	1.7%	15.0	14.1	1.9	0.9	19.2	6.2	18.4	13.5%	1.4x
Warburg Pincus Private Equity XI	USD	0.8%	25.0	25.4	35.4	0.0	8.9	18.9	8.9	11.6%	1.7x
Warburg Pincus Private Equity XII	USD	1.6%	21.5	22.0	25.6	0.0	17.6	21.2	17.6	16.5%	2.0x
Total Growth Equity	USD	13.7%	213.3	153.6	86.7	64.6	214.9	83.4	150.3	13.8%	1.5x



Multi-Strategy	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
HarbourVest Centre Street Co-Investment Fund	USD	1.8%	23.0	16.8	0.0	6.2	26.3	3.3	20.1	12.8%	1.2x
Mesirow Financial Private Equity Partnership Fund III	USD	0.3%	57.0	56.2	92.3	1,1	4.3	39.2	3.22	8.2%	1.7x
Mesirow Financial Private Equity Partnership Fund IV	USD	0.3%	25.0	24.3	43.7	0.9	4.0	22.5	3.22	10.9%	1.9x
Mesirow Financial Private Equity Partnership Fund V	USD	1.9%	45.0	43.0	80.7	2.5	23.7	58.9	21.2 <sup>2</sup>	16.6%	2.4x
NYC-Northbound Emerging Managers Program	USD	1.5%	25.0	12.9	0.1	12.1	28.3	3.5	16.3 <sup>3</sup>	20.0%	1.3x
NYC-Northbound Emerging Managers Program II	USD	-	37.3	0.0	0.0	37.3	37.3	0.0	0.0 <sup>2</sup>	n.m.	0.0x
Liquidated Holdings (1)	USD	-	19.0	19.0	24.6	0.0	0.0	5.6	-	4.9%	1.3x
Total Multi-Strategy	USD	5.8%	231.3	172.3	241.4	60.0	123.9	133.0	63.9	10.3%	1.8x
Other				N N							
Base10 Advancement Initiative II	USD	0.3%	25.0	4.2	0.0	20.8	24.2	-0.8	3.4	n.m.1	0.8x
Total Other	USD	0.3%	25.0	4.2	0.0	20.8	24.2	-0.8	3.4	n.m. <sup>1</sup>	0.8x
Reporting Pariod: As Of Dec. 2023				18							



Secondarias	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Secondaries							_				
ASF IX B	USD	0.1%	10.0	0.8	0.0	9.2	10.5	0.5	1.2	n.m.1	1.6x
ASF IX B NYC Co-Invest	USD	0.2%	15.0	2.2	0.0	12.8	15.3	0.4	2.6	n.m.1	1.2x
ASF VI B	USD	0.2%	15.0	12.5	16.1	2.0	4.1	5.7	2.1	11.9%	1.5x
ASF VI B NYC Co-Invest	USD	0.1%	5.0	4.3	5.4	0.7	1.7	2.1	1.0	11.8%	1.5x
ASF VII B	USD	0.4%	10.0	7.1	7.2	2.7	6.9	4.3	4.2	15.3%	1.6x
ASF VII B NYC Co-Invest	USD	0.2%	6.0	4.3	4.9	1.7	4.4	3.3	2.7	17.8%	1.8x
ASF VIII B	USD	1.4%	21.0	13.1	3.3	7.9	23.3	5.6	15.4	18.7%	1.4x
ASF VIII B NYC Co-Invest	USD	0.6%	10.5	5.3	1.2	5.2	12.0	2.6	6.8	26.0%	1.5x
ICG Strategic Equity Co-Investment Fund III	USD	0.4%	4.4	3.3	2.0	1.2	5.8	3.3	4.6	33.3%	2.0x
ICG Strategic Equity Co-Investment Fund IV	USD	0.9%	10.0	8.4	0.0	1.6	11.0	1.0	9.4	7.2%	1.1x
ICG Strategic Equity Fund III	USD	1.5%	13.3	9.7	3.6	4.6	21.3	10.6	16.7	33.9%	2.1x
ICG Strategic Equity Fund IV	USD	1.6%	20.0	16.5	3.8	6.7	24.6	5.2	17.9	21.1%	1.3x
Landmark - NYC Fund I	USD	0.3%	6.0	5.5	6.7	0.5	3.5	4.2	3.0	14.9%	1.8x
Landmark Equity Partners XV	USD	0.3%	19.0	15.3	17.8	3.7	7.4	6.3	3.7	11.3%	1.4x
Lexington Capital Partners IX	USD	1.1%	12.4	10.7	3.1	2.8	15.3	5.0	12.5	22.4%	1.5x
Lexington Capital Partners VIII	USD	1.1%	20.0	18.5	19.0	4.0	15.8	12.2	11.7	15.7%	1.7x
Lexington Capital Partners X	USD	0.7%	22.5	6.8	0.0	15.8	24.0	1.5	8.2	n.m.1	1.2x
Lexington Capital Partners X Co-Invest	USD	0.3%	7.5	2.8	0.0	4.7	8.4	0.9	3.8	n.m.1	1.3x
Lexington IX Co-Invest	USD	0.3%	4.1	2.9	1.4	1.6	4.7	1.6	3.1	28.4%	1.5x
New 2ND Capital Fund III	USD	0.1%	3.3	0.8	0.0	2.6	3.4	0.1	0.8 <sup>2</sup>	n.m.1	1.1x
New 2ND Capital N Sidecar	USD	0.1%	1.7	0.5	0.0	1.1	1.7	0.1	0.6 <sup>2</sup>	n.m.1	1.1x
Total Secondaries	USD	12.0%	236.7	151.2	95.6	93.1	225.0	76.4	131.9	16.5%	1.5x



	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
NYCBERS - PE	USD	100.0%	1,878.4	1,229.1	828.9	738.5	1,838.1	699.3	1,099.5	13.5%	1.6x
<sup>1</sup> IRR not meaningful for investments held less than 24 months											

<sup>2</sup> Adjusted for additional contributions and distributions since last valuation, which is prior to the report date.

<sup>3</sup> NÁV is not up-to-date:Welsh, Carson, Anderson & Stowe XIV N Co-Invest as of Sep-2022,NYC-Northbound Emerging Managers Program as of Sep-2023

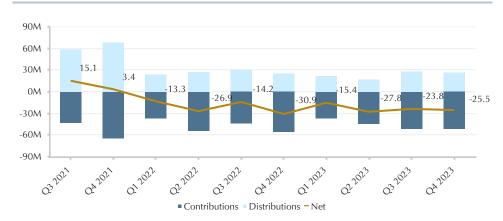
\* Total figures take into account all current and closed portfolio positions as at Dec-2023

Total Exposure = Unfunded + NAV

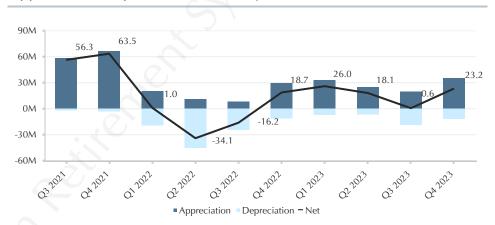


# Page 203 of 298 Period Chart Analysis

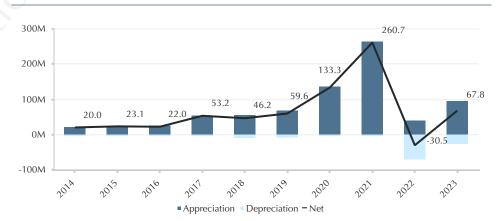
# Cash Flows Quarterly



#### Appreciation/Depreciation Quarterly



## Appreciation/Depreciation Yearly



## Cash Flows Yearly

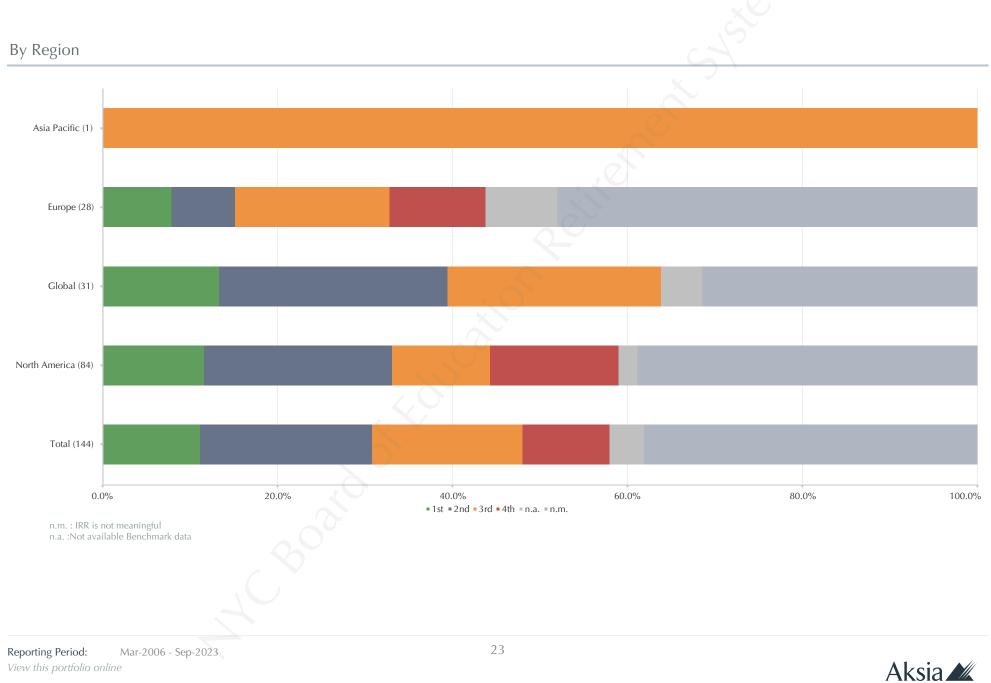


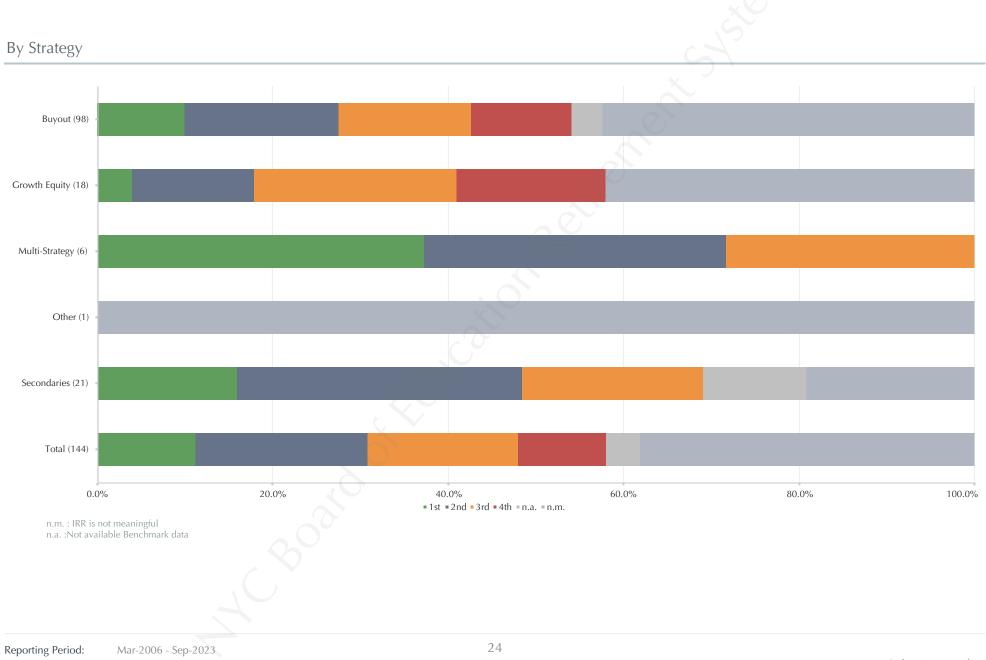


## Portfolio IRR vs Benchmark PME+

PERFORMANCE VERSUS BENCHMARKS						
12/31/2023	1 QTR	1 YEAR	3 YEAR	5 YEAR	10 YEAR	INCEPTION
Program IRR	2.2%	6.9%	12.9%	15.8%	15.2%	13.5%
Russell 3000 PME+	12.0%	26.0%	9.2%	15.2%	12.0%	11.7%
Difference	-9.8%	-19.0%	3.7%	0.5%	3.1%	1.8%
Russell 3000 +300bps PME+	12.8%	29.7%	12.5%	19.1%	15.4%	14.8%
Difference	-10.7%	-22.8%	0.4%	-3.3%	-0.2%	-1.3%
9/30/2023	1 QTR	1 YEAR	3 YEAR	5 YEAR	10 YEAR	INCEPTION
Program IRR	0.1%	6.8%	17.2%	15.8%	15.7%	13.6%
Cambridge Associates	-0.6%	3.5%	15.8%	15.6%	15.4%	12.5%
Difference	0.6%	3.3%	1.4%	0.2%	0.3%	1.2%









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Real Estate Quarterly Report (Public):

NYC Board of Education Retirement System

# NYCBERS - RE

Public Report

As Of December 2023

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#### Tailwinds

- In our view, the industrial sector fundamentals remain strong, stemming from a secular trend toward more e-commerce, supply chain reconfiguration and "near-shoring" impacts, which have been accelerated by the pandemic, though increased supply could dampen rental rate growth, particularly for mid-size and bigbox distribution warehouses.
- We observed that overall performance of market-rate multifamily assets remains steady in most markets, buoyed by higher mortgage rates. Though concerns are emerging in certain markets with high supply that came online in 2023 and is continuing into 2024, which is starting to cause upticks in vacancy rates and slower rental rate growth.
- Hotel occupancy rates and RevPAR continue to be strong on the backs of a resilient consumer spendings. Though hospitality's correlation to economic conditions are cause for concern as the impact of higher interest rates erode disposable incomes.

#### Figure 1: Gross Quarterly Returns | %



Headwinds

The historically-sharp increase in base rates has

due to severely reduced transaction volumes.

Increases in interest have resulted in higher cost of

debt for many real estate owners, leading to higher

yield-requirements (cap rates) for investors as well as

non-accretive (negative) leverage at deal origination.

many traditional lenders pull back due to DSCR / debt

"trophy" properties as the flight to quality trend persists

Debt availability for new acquisitions is limited as

yield thresholds and higher capital requirements.

Office leasing continues to be focused primarily on

amongst tenants. Recovery in office utilization has

plateaued, leading to long-term demand concerns.

Many office owners in downtrodden financial center

markets such as San Francisco, Seattle and New York

are deciding to give back assets to lenders as opposed

to re-investing capital in hopes of equity recovery.

From market observations we concluded that:

resulted in strong downward pressure on real estate

valuations, albeit slower to manifest in private markets

NCREIF Property Index
Open Ended Diversified Core

#### Performance at a Glance

- The NCREIF Open End Diversified Core ("ODCE") and NCREIF Property Index ("NPI") reported Q4 2023 gross returns of -4.8% and -3.0%, respectively.<sup>1,2</sup>
- Transaction volumes during Q4 2023 were down quarter-over-quarter and yearover-year. The NPI reported 126 property transactions during the quarter, a 17% decrease from Q4 2022 (153). Industrial was again the most active sector for transactions during the quarter at 48, followed by apartments (41), office (22), and retail (15).<sup>2</sup>
- Most property sectors produced negative returns during the quarter according to NPI, with hotels as the only positive sector. Office continued to be the lowest performance property sector, the result of continued headwinds in both operating fundamentals and capital markets.<sup>2</sup>
- The ODCE index reported the fourth consecutive quarter of negative appreciation during Q4 2023 (-5.8%), with a consistently-positive income return of 1.0%. The overall appreciation return for the trailing 1-year is -15.2%.<sup>1</sup>

#### Figure 2: Property Index Returns by Component | %



# Property Index Returns by Component | %



Source: NCREIF, as of December 31, 2023. Past performance is not indicative of future results. The above represents Aksia's market observations. Observations are subject to change. All references to Aksia herein refer to Aksia LLC, together with its wholly owned subsidiaries (collectively, "Aksia")

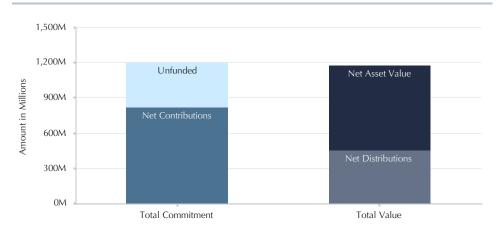
SOURCES:

<sup>1</sup> NATIONAL COUNCIL OF REAL ESTATE INVESTMENT FIDUCIARIES ("NCREIF") OPEN-ENDED DIVERSIFIED CORE EQUITY INDEX ("ODCE").

WWW.NCREIF.ORG

<sup>2</sup> NATIONAL COUNCIL OF REAL ESTATE INVESTMENT FIDUCIARIES ("NCREIF") PROPERTY INDEX ("NPI"). <u>WWW.NCREIF.ORG</u>





#### Portfolio Summary

T. I.D. 1				*****	0 /0 1 /0 0 0 0				
Total Pensio		\$8.9 bn as of 1							
GP Relations	hips		33						
Holdings					66				
# of New Inv	vestments wi	thin the quarter*			2				
# of Underl	ying Active I	nvestments			3058				
% of Public	Companies				0.5%				
Total Comm	itment Amou	int			\$1.2 bn				
Net Contribu	itions			\$	819.1 mm				
Net Distribut	ions			\$451.9 mm					
Net Asset Va	lue			\$726.0 mm					
Weighted Av	/erage Age			6.7Y					
Unfunded C	ommitment			\$	383.9 mm				
Minimum A	nnual Pacing				135.0 mm				
Maximum A	nnual Pacing				135.0 mm				
Portfolio Alle	ocation				8.2%				
Minimum Ta	arget Allocatio	on			8.0%				
Maximum T	arget Allocati	on			8.0%				
1Y IRR	-7.4%	2Y IRR	-1.5%	3Y IRR	6.3%				
5Y IRR	5.5%	7Y IRR	7.0%	10Y IRR	8.2%				
ITD IRR**	8.4%	ITD TVPI**	1.3x						

\* Oct-2023 - Dec-2023 \*\* Dec-2010 - Dec-2023

PERFORMANCE VERSUS BENCHMARKS										
12/31/2023	1 QUARTER	1 YEAR	3 YEAR	5 YEAR	INCEPTION					
Total Real Estate TWRR	-2.7%	-7.4%	7.9%	6.3%	10.0%					
NFI-ODCE +100 bps	-4.8%	-11.9%	5.1%	4.4%	9.0%					
Difference	2.0%	4.5%	2.8%	1.9%	1.0%					
Core / Core-Plus Real Estate TWRR	-3.7%	-9.6%	7.7%	5.5%	8.9%					
NFI-ODCE	-5.0%	-12.7%	4.0%	3.3%	8.0%					
Difference	1.3%	3.2%	3.7%	2.1%	0.9%					
Non-Core Real Estate TWRR	-1.1%	-3.3%	8.2%	7.4%	8.3%					
NFI-ODCE +200 bps	-4.5%	-11.0%	6.1%	5.4%	10.1%					
Difference	3.4%	7.7%	2.1%	2.0%	-1.8%					

IRR not meaningful for investments held less than 24 months Weighted Average Age (WAA) is based on net contributions



Aksia 🜌

# Summary

#### Performance Statistics

						% Change	% Change	% Change	Dec-2023	Dec-2023
As Of Dec-2023	Dec-2022	Mar-2023	Jun-2023	Sep-2023	Dec-2023	(YTD)	(Quarter)	(Annual)	Active	Liquidated
Committed Capital	1,130.3	1,128.5	1,128.5	1,157.6	1,203.8	6.5%	4.0%	6.5%	1,203.8	-
Unfunded Commitment	383.2	366.9	344.6	354.0	383.9	0.2%	8.4%	0.2%	383.9	-
Net Contributed Capital	745.0	760.0	782.6	800.5	819.1	10.0%	2.3%	10.0%	819.1	-
Net Distributed Capital	418.5	426.8	434.2	442.7	451.9	8.0%	2.1%	8.0%	451.9	-
Recallable Capital	53.5	55.2	56.3	57.5	58.6	9.4%	1.8%	9.4%	58.6	-
Net Asset Value	727.6	723.8	734.2	733.4	726.0	-0.2%	-1.0%	-0.2%	726.0	-
Net Gain/Loss	342.9	329.5	321.7	307.6	287.4	-16.2%	-6.6%	-16.2%	287.4	-
Total Value	1,146.1	1,150.6	1,168.4	1,176.1	1,178.0	2.8%	0.2%	2.8%	1,178.0	-
Total Exposure	1,110.8	1,090.8	1,078.9	1,087.4	1,109.9	-0.1%	2.1%	-0.1%	1,109.9	-
DPI	0.6x	0.5x	0.5x	0.5x	0.5x	0.0x	0.0x	0.0x	0.5x	-
Total Value to Paid-In (TVPI)	1.4x	1.4x	1.4x	1.3x	1.3x	-0.1x	0.0x	-0.1x	1.3x	-
Net Internal Rate of Return (IRR)	11.0%	10.3%	9.8%	9.1%	8.4%	-2.6%	-0.8%	-2.6%	8.4%	_



Region	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Asia Pacific	0.9%	10.0	12.1	7.2	1.8	8.4	1.8	6.6	13.7%	1.2x
Europe	4.3%	133.6	79.8	78.9	63.8	94.8	30.1	31.0	11.1%	1.4x
Global	15.1%	255.2	197.3	138.5	82.5	192.2	50.9	109.7	13.0%	1.3x
North America	79.7%	804.9	659.9	285.9	235.8	814.4	204.6	578.6	7.4%	1.3x
NYCBERS - RE	100.0%	1,203.8	949.1	510.5	383.9	1,109.9	287.4	726.0	8.4%	1.3x

#### Strategy

Core / Core-plus	60.5%	447.2	462.9	177.8	45.8	485.4	154.5	439.6	7.0%	1.3x
Non-Core	39.5%	756.6	486.2	332.7	338.1	624.5	132.9	286.4	10.8%	1.3x
NYCBERS - RE	100.0%	1,203.8	949.1	510.5	383.9	1,109.9	287.4	726.0	8.4%	1.3x

Note: The portfolio allocation is based on the fund's strategy. Current portfolio exposure is generally in line with targets, and Aksia is continually working with Staff to strategically add new investments.

<sup>1</sup> IRR not meaningful for investments held less than 24 months

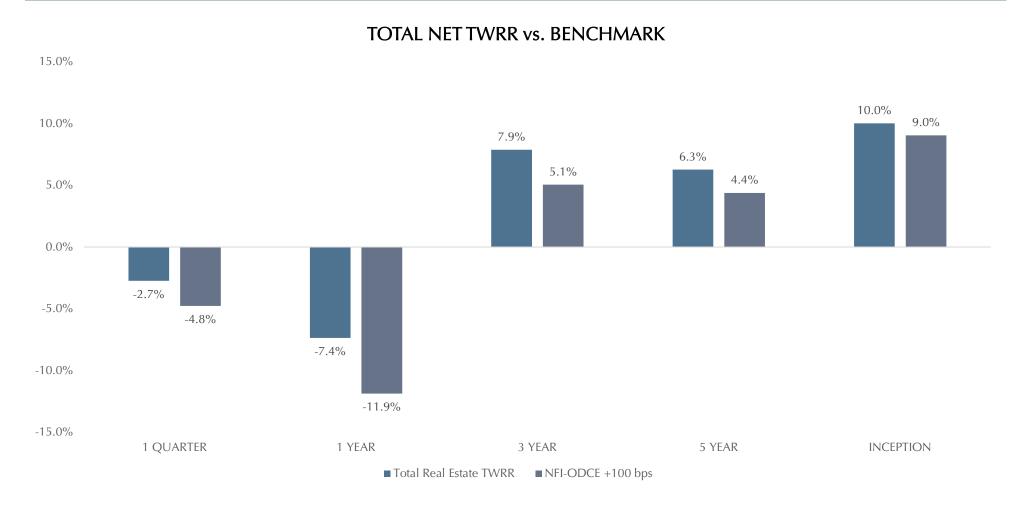
\* Total figures take into account all current and closed portfolio positions as at Dec-2023

Total Exposure = Unfunded + NAV

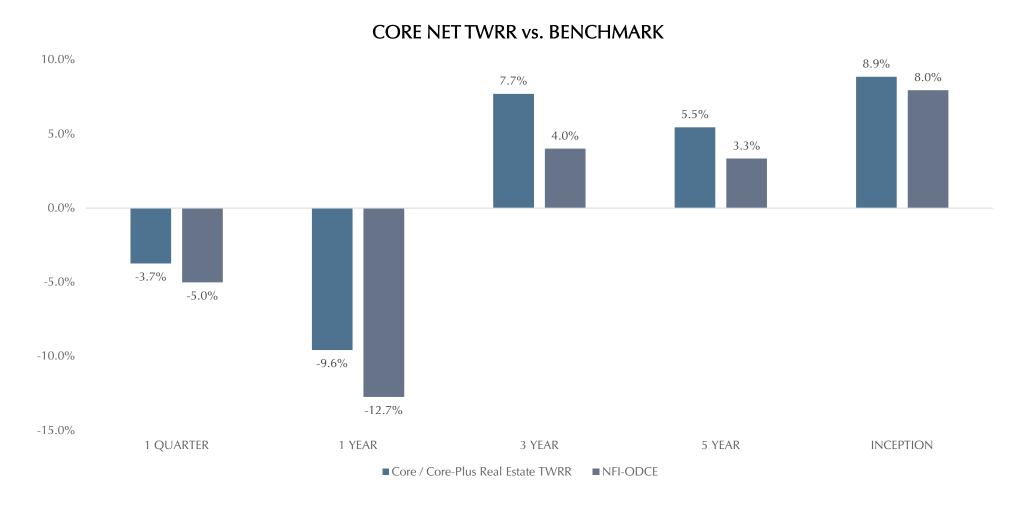


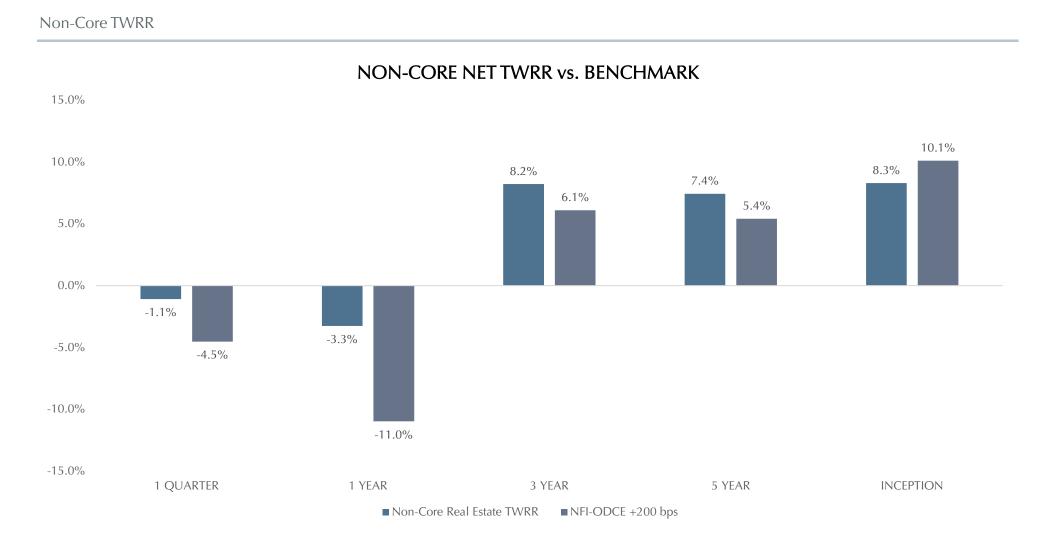


Total RE Portfolio TWRR



Core/Core Plus TWRR







NYCBERS - RE

Category	Requirement	Portfolio Status
Benchmark	Comprised of NFI-ODCE +100 bps	Portfolio returns outperformed the benchmark over all periods.
Portfolio Construction	Core / Core-Plus (4%) Non-Core (4%)	Market value plus unfunded commitment place the Portfolio at 44% Core/Core-Plus and 56% Non-Core. Based on market value, the Portfolio is 61% Core/Core-Plus and 39% Non-Core.
Real Estate Allocation	Target 8%	Market value plus unfunded commitment place the Portfolio at 12.5% o total plan assets.
Property Type Diversification	Up to 40% Multifamily Up to 35% Industrial Up to 45% Office Up to 35% Retail Up to 25% Hotel Up to 20% Other	All property type allocations are compliant.
Geographic Diversification	Diversified geographically; Max 25% Ex-U.S.	All geographic allocations are compliant.
_TV	65.0%	The leverage (43.8%) is compliant.
Manager Exposure	15% of real estate allocation	All manager allocations are compliant, with EQT Partners AB being the highest at 10.8%
rting Period: As Of Dec-2023	10	



#### New Investment Commitments

Fund Name	Month Closed	Strategy	Geographic Focus	Committed capital (\$mil)
Cortland Enhanced Value Fund VI	Nov-23	Non-Core	North America	29.0
KKR Real Estate Partners Americas IV	Dec-23	Non-Core	North America	22.0

#### Subsequent Investment Commitments

Fund Name	Month Closed	Strategy	Geographic Focus	Committed capital (\$mil)
Mesirow Financial Real Estate Value Fund V	Apr-24	Non-Core	North America	20.0

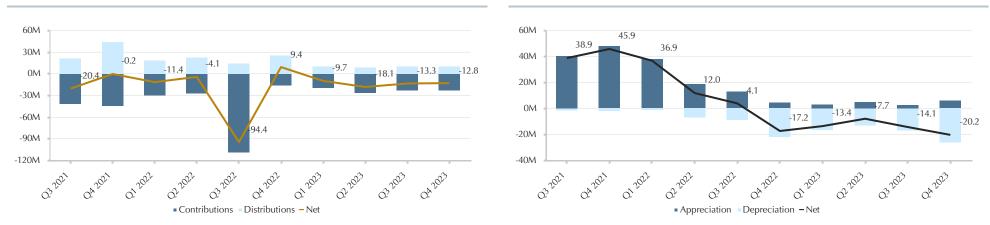
- During the quarter, there was a 29.0m commitment in Cortland Enhanced Value Fund VI and a 22.0m commitment to KKK Real Estate Partners Americas IV.
- After quarter-end, there was a 20.0m commitment in Mesirow Financial Real Estate Value Fund V.



	(	Gain		Loss	Net Gain/	Net Gain/Loss		Distributions		Contributions	
	Total Millions	# Of Funds	Total Millions	# Of Funds	Net Millions	% Of Total Net	Total Millions	%	Total Millions	%	
Core / Core-plus	0.3	3	-17.4	19	-17.1	84.8%	5.5	53.1%	4.5	19.4%	439.6
Non-Core	5.6	17	-8.7	25	-3.1	15.2%	4.8	46.9%	18.6	80.6%	286.4
Total	5.9	20	-26.1	44	-20.2	100.0%	10.3	100.0%	23.1	100.0%	726.0

Appreciation/Depreciation Quarterly

#### Cash Flows Quarterly

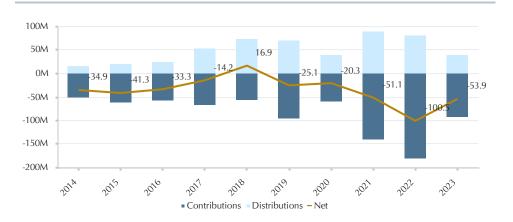


• During the quarter, \$23.1 million was contributed and \$10.3 million was distributed for a net cash outflow of \$12.8 million. 20 funds appreciated (\$5.9 million) and 44 funds depreciated during the quarter (\$26.1 million) for a total net depreciation of \$20.2 million.

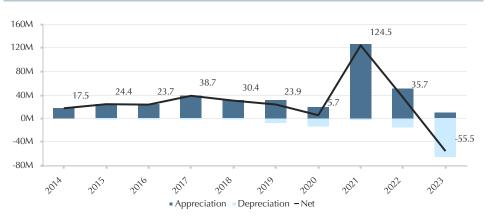


	(	Gain		Loss	Net Gain/	Loss	Distribut	ions	Contribu	tions	NAV (mm)
	Total Millions	# Of Funds	Total Millions	# Of Funds	Net Millions	% Of Total Net	Total Millions	%	Total Millions	%	
Core / Core-plus	0.7	5	-47.3	17	-46.5	83.9%	20.4	52.9%	19.4	21.0%	439.6
Non-Core	9.2	14	-18.1	28	-9.0	16.1%	18.1	47.1%	73.0	79.0%	286.4
Total	9.9	19	-65.4	45	-55.5	100.0%	38.5	100.0%	92.4	100.0%	726.0

#### Cash Flows Yearly



#### Appreciation/Depreciation Yearly



• During the last twelve months, the portfolio contributed \$92.4 million and distributed \$38.5 million for a net cash outflow of \$53.9 million. 19 funds appreciated (\$9.9 million) and 45 funds depreciated during the last twelve months (\$65.4 million) for a total net depreciation of \$55.5 million.



	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Vintage										
2023	0.4%	79.3	2.8	0.0	76.5	79.3	-0.1	2.7	n.m.1	1.0x
2022	1.0%	126.0	8.5	0.0	117.8	124.9	-1.4	7.1	n.m.1	0.8x
2021	18.5%	244.3	139.9	13.0	114.2	248.8	7.6	134.6	3.7%	1.1x
2020	3.8%	40.0	29.5	7.6	7.1	34.7	5.7	27.6	15.0%	1.2x
2019	23.0%	187.7	186.1	32.4	19.3	186.3	13.2	167.0	4.1%	1.1x
2018	6.2%	59.3	54.2	22.1	13.2	58.0	12.7	44.8	9.3%	1.2x
2017	12.1%	66.0	78.8	38.2	2.0	90.1	47.6	88.1	13.5%	1.6x
2016	11.4%	101.8	110.2	62.4	5.2	88.3	35.3	83.1	8.2%	1.3x
2015	3.5%	48.9	47.8	54.0	7.1	32.8	31.9	25.7	14.9%	1.7x
2014	1.4%	35.2	39.1	43.7	7.2	17.1	14.5	9.9	10.1%	1.4x
2013	8.5%	95.3	100.2	64.7	10.5	71.9	26.0	61.5	4.8%	1.3x
2012	0.2%	10.0	12.4	21.8	1.1	2.5	10.8	1.4	17.9%	1.9x
2011	2.7%	41.4	64.5	83.2	0.0	19.4	38.1	19.4	7.0%	1.6x
2010	7.3%	68.6	74.9	67.4	2.7	55.8	45.6	53.1	10.0%	1.6x
NYCBERS - RE	100.0%	1,203.8	949.1	510.5	383.9	1,109.9	287.4	726.0	8.4%	1.3x

The strong performance of the 2012 vintage year is the result of one non-core investment (Brookfield Strategic Real Estate Partners), while the vintage year with the greatest underperformance (2021) is driven by KKR Real Estate Partners Americas III. The 2019 vintage year also underperformed. The underperformance of the 2019 vintage year was driven by the performance of DivcoWest Fund VI.



	Contributions (mm)	Distributions (mm)	NAV (mm)	Gain/Loss (mm)	Net TVPI	DPI	RVPI	Net IRR
Vintage								
2023	2.8	0.0	2.7	-0.1	1.0x	0.0x	1.0x	n.m.1
2022	8.5	0.0	7.1	-1.4	0.8x	0.0x	0.8x	n.m. <sup>1</sup>
2021	139.9	13.0	134.6	7.6	1.1x	0.1x	1.0x	3.7%
2020	29.5	7.6	27.6	5.7	1.2x	0.3x	0.9x	15.0%
2019	186.1	32.4	167.0	13.2	1.1x	0.2x	0.9x	4.1%
2018	54.2	22.1	44.8	12.7	1.2x	0.4x	0.8x	9.3%
2017	78.8	38.2	88.1	47.6	1.6x	0.5x	1.1x	13.5%
2016	110.2	62.4	83.1	35.3	1.3x	0.6x	0.8x	8.2%
2015	47.8	54.0	25.7	31.9	1.7x	1.1x	0.5x	14.9%
2014	39.1	43.7	9.9	14.5	1.4x	1.1x	0.3x	10.1%
2013	100.2	64.7	61.5	26.0	1.3x	0.6x	0.6x	4.8%
2012	12.4	21.8	1.4	10.8	1.9x	1.8x	0.1x	17.9%
2011	64.5	83.2	19.4	38.1	1.6x	1.3x	0.3x	7.0%
2010	74.9	67.4	53.1	45.6	1.6x	0.9x	0.7x	10.0x

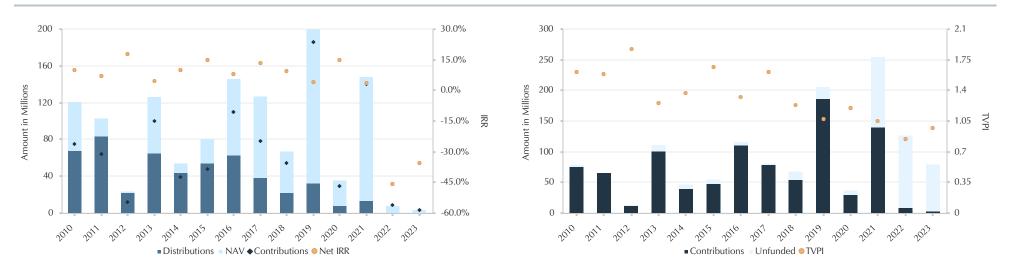
The strong performance of the 2012 vintage year is the result of one non-core investment (Brookfield Strategic Real Estate Partners), while the vintage year with the greatest underperformance (2021) is driven by KKR Real Estate Partners Americas III. The 2019 vintage year also underperformed. The underperformance of the 2019 vintage year was driven by the performance of DivcoWest Fund VI.



#### NYCBERS - RE

### Page 224 of 298 Portfolio Overview

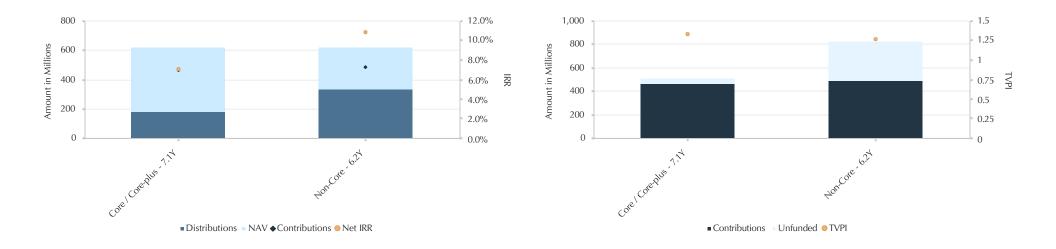
#### Performance Review by Vintage Year



Total Exposure = Unfunded + NAV



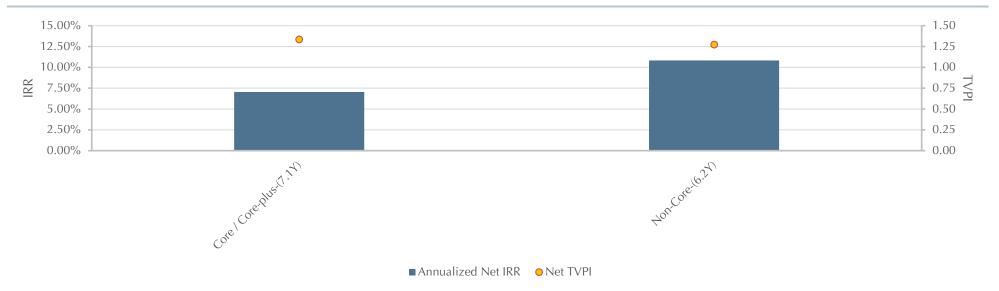
Strategy	Contributions (mm)	Distributions (mm)	NAV (mm)	Gain/Loss (mm)	Net TVPI	DPI	RVPI	Net IRR
Juacegy								
Non-Core	486.2	332.7	286.4	132.9	1.3x	0.7x	0.6x	10.8%
Core / Core-plus	462.9	177.8	439.6	154.5	1.3x	0.4x	0.9x	7.0%
EM/Debt								
Emerging	29.8	23.0	14.7	7.9	1.3x	0.8x	0.5x	13.1%
Debt	128.4	52.8	93.4	17.8	1.1x	0.4x	0.7x	5.2%





#### NYCBERS - RE

#### By Strategy



Weighted Average Age (WAA) is based on net contributions

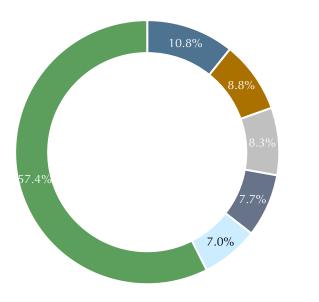
WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age

Reporting Period: As Of Dec-2023 View this portfolio online



	Total	Total Exposure	% of Portfolio	Contributions	Distributions	Number of	Net
	Commitments (\$mm)	(\$mm)	(Total Exposure)	(\$mm)	(\$mm)	Holdings	TVPI
EQT Partners AB	117.7	119.5	10.8%	48.7	26.7	6	1.6x
Blackstone Group LP	118.3	97.5	8.8%	70.3	66.8	5	1.4x
Brookfield Asset Management	86.0	91.7	8.3%	80.9	33.0	4	1.3x
Harrison Street Advisors LLC	85.0	85.8	7.7%	90.4	5.6	2	1.0x
KKR Financial	100.0	80.8	7.3%	60.4	30.6	6	1.2x
GP Relationships Top(5)	506.9	475.3	42.8%	350.7	162.7	23	1.3x
GP Relationships Remaining(28)	696.8	634.6	57.2%	598.4	347.8	43	1.3x
Total Portfolio (33)	1,203.8	1,109.9	100.0%	949.1	510.5	66	1.3x

### EXPOSURE BY MANAGER



#### EQT Partners AB

- Blackstone Group LP
- Brookfield Asset Management
- Harrison Street Advisors LLC
- LaSalle Investment Management
- Others



### NYCBERS - RE

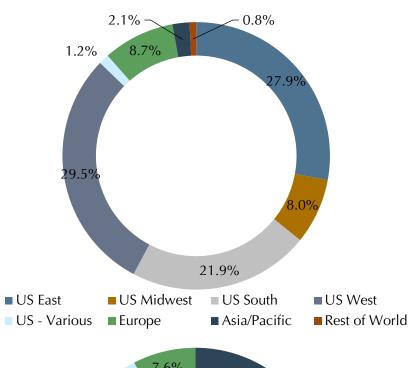
### Page 228 of 298 Exposure Details

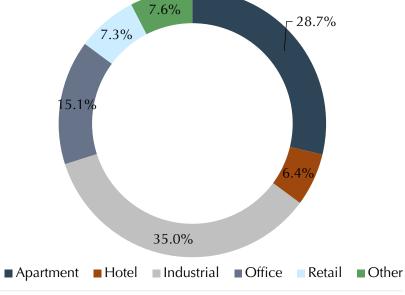
#### Geographic Exposure by NAV

	NAV	NFI ODCE
US East North Central	6.3%	5.1%
US Mid East	8.9%	8.2%
US Mountain	6.9%	7.5%
US North East	19.0%	20.6%
US Pacific	22.5%	36.5%
US South East	13.3%	12.1%
US South West	8.6%	9.3%
US West North Central	1.7%	0.8%
US – Various	1.2%	N/A
Europe	8.7%	N/A
Asia/Pacific	2.1%	N/A
Rest of World	0.8%	N/A

#### Property Type Exposure by NAV

	NAV	NFI ODCE
Apartment	28.7%	29.1%
Hotel	6.4%	0.0%
Industrial	35.0%	33.1%
Office	15.1%	18.1%
Retail	7.3%	10.5%
Other	7.6%	9.2%







	Currency	NAV Weight	Total Commitment (mm)	Contributions I (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Core/ Core-plus											
Almanac Realty Securities VIII	USD	0.9%	10.5	7.3	1.8	4.1	10.8	1.3	6.8	8.4%	1.2x
Almanac Realty Securities VIII (Sidecar II)	USD	0.7%	7.0	4.9	1.4	2.3	7.2	1.3	4.9	12.2%	1.3x
Artemis Real Estate Partners Income and Growth Fund	USD	1.0%	10.0	9.0	2.3	2.4	9.4	0.3	7.0	1.5%	1.0x
Brookfield Premier Real Estate Partners	USD	4.5%	25.0	30.9	5.9	0.0	32.6	7.6	32.6	6.0%	1.2x
Cortland Growth and Income	USD	1.7%	10.0	11.8	1.8	0.0	12.1	2.1	12.1	5.6%	1.2x
EQT Exeter Industrial Core-Plus Fund IV	USD	1.1%	40.0	8.2	0.0	31.8	39.6	-0.4	7.8	n.m.1	1.0x
Exeter Core Industrial Club Fund II	USD	2.5%	10.0	9.7	5.0	0.3	18.4	13.5	18.2	18.6%	2.4x
Exeter Industrial Core Fund III	USD	1.8%	12.7	12.5	2.0	0.2	12.9	2.3	12.7	7.0%	1.2x
Harrison Street Core Property Fund	USD	11.0%	80.0	85.5	5.1	0.0	79.8	-0.7	79.8	-0.5%	1.0x
Heitman Core Real Estate Debt Income Trust	USD	3.9%	25.0	31.3	6.3	0.0	28.1	3.1	28.1	3.5%	1.1x
HSRE-Centre Street Core Co-Investment	USD	0.8%	5.0	4.9	0.5	0.2	6.1	1.5	5.9	8.5%	1.3x
Jamestown Premier Property Fund	USD	0.3%	6.2	7.4	3.0	0.0	2.2	-2.2	2.2	-9.0%	0.7x
LaSalle GPS Co-Investment Program – Core	USD	0.8%	10.0	6.2	0.4	3.8	9.5	-0.1	5.6	-1.2%	1.0x
LaSalle Property Fund	USD	7.3%	38.6	38.6	18.2	0.0	52.8	32.3	52.8	8.0%	1.8x
Lion Industrial Trust	USD	6.7%	18.0	25.9	6.4	0.0	48.6	29.1	48.6	16.7%	2.1x
MetLife Core Property Fund	USD	2.8%	15.0	15.0	6.4	0.0	20.3	11.6	20.3	7.6%	1.8x
NYC Asset Investor #2	USD	0.4%	11.8	12.3	4.7	0.0	3.1	-4.5	3.1	-10.1%	0.6x
NYCRS Artemis Mach II	USD	0.2%	11.0	12.9	18.1	0.8	2.2	6.5	1.3	14.6%	1.5x
RREEF America REIT II	USD	2.3%	17.0	17.0	1.3	0.0	17.0	1.3	17.0	3.1%	1.1x
RREEF Core Plus Industrial Fund	USD	4.1%	25.0	26.1	1.1	0.0	29.5	4.5	29.5	8.3%	1.2x
Trumbull Property Fund	USD	2.7%	41.4	64.5	83.2	0.0	19.4	38.1	19.4	7.0%	1.6x
USAA Eagle Real Estate Feeder 1	USD	3.3%	18.0	20.9	2.9	0.0	23.8	5.8	23.8	4.6%	1.3x



otal Core / Core-plus	Currency USD	NAV Weight 60.5%	Total Commitmen (mm) 447.2	Contributions (mm) 462.9	Distributions (mm) 177.8	Unfunded Commitment (mm) 45.8	Total Exposure (mm) 485.4	Gain/Loss (mm) 154.5	NAV (mm) 439.6	Net IRR 7.0%	TVPI 1.3x
lon-Core											
ermont Capital Real Estate Fund IV	USD	0.8%	9.8	7.5	0.0	2.5	8.5	-1.5	6.0	-8.6%	0.8x
ermont Capital Real Estate Fund V	USD	0.0%	34.3	0.9	0.0	33.2	33.5	-0.6	0.3	n.m.1	0.3x
Imanac Realty Securities IX	USD	0.6%	23.3	4.5	0.0	18.8	22.9	-0.4	4.1	n.m.1	0.9x
Imanac Realty Securities IX (Sidecar II)	USD	0.2%	11.7	1.5	0.0	10.2	11.7	0.1	1.5	n.m.1	1.0x
rtemis Real Estate Partners Healthcare Fund II	USD	0.5%	15.0	5.1	1.0	11.0	14.9	-0.1	3.9	n.m.1	1.0x
IG Real Estate Fund II	USD	1.8%	25.0	16.9	4.9	12.0	25.3	1.4	13.3	7.6%	1.1x
lackstone Real Estate Partners Europe IV (USD)	USD	0.6%	32.5	33.0	41.7	5.6	10.1	13.1	4.5	10.8%	1.4x
lackstone Real Estate Partners Europe VII Cayman)	USD	0.0%	14.3	0.0	0.0	14.4	14.3	0.0	0.0	n.m.	0.0x
lackstone Real Estate Partners IX	USD	2.3%	15.0	16.1	5.4	2.4	19.1	6.0	16.7	17.1%	1.4x
lackstone Real Estate Partners VIII	USD	1.6%	16.5	19.1	19.7	2.2	13.8	12.2	11.6	14.6%	1.6x
lackstone Real Estate Partners X	USD	0.3%	40.0	2.1	0.0	38.3	40.2	-0.2	1.8	n.m.1	0.9x
rookfield Strategic Real Estate Partners	USD	0.2%	10.0	12.4	21.8	1.1	2.5	10.8	1.4	17.9%	1.9x
rookfield Strategic Real Estate Partners III	USD	1.8%	12.0	12.1	3.2	3.0	16.0	4.2	13.0	11.9%	1.3x
rookfield Strategic Real Estate Partners IV	USD	3.5%	39.0	25.6	2.1	15.5	40.7	1.7	25.2	n.m.1	1.1x
arlyle Realty Partners VII	USD	0.8%	20.2	23.5	28.0	7.2	12.8	10.0	5.6	11.8%	1.4x
ortland Enhanced Value Fund VI	USD	0.3%	29.0	2.3	0.0	26.7	29.0	0.0	2.3 <sup>2</sup>	n.m.1	1.0x
VivcoWest Fund V	USD	0.9%	10.0	9.1	2.9	0.9	7.1	0.1	6.2	0.2%	1.0x
VivcoWest Fund VI	USD	0.7%	10.0	6.0	0.2	4.1	9.2	-0.7	5.2	-6.9%	0.9x
RA Growth and Income Fund IX	USD	0.8%	10.0	11.1	11.7	0.9	6.6	6.4	5.8	15.8%	1.6x
QT Exeter Industrial Value Fund VI	USD	0.5%	40.0	4.0	0.0	36.0	39.5	-0.5	3.5	n.m.1	0.9x



	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
European Property Investors Special Opportunities 4	USD	1.1%	11.2	10.2	4.3	1.5	9.8	2.3	8.3	4.6%	1.2x
Exeter Industrial Value Fund IV	USD	0.1%	10.0	9.4	19.6	0.6	1.6	11.2	1.0	30.2%	2.2x
Exeter Industrial Value Fund V	USD	1.0%	5.0	4.9	0.0	0.1	7.5	2.5	7.4	20.2%	1.5x
Franklin Templeton Private Real Estate Fund	USD	0.0%	30.0	36.3	49.3	2.7	3.0	13.2	0.3	19.1%	1.4x
Greenoak Asia (USD) III	USD	0.9%	10.0	12.1	7.2	1.8	8.4	1.8	6.6	13.7%	1.2x
H/2 Special Opportunities III	USD	0.6%	15.0	15.6	15.7	0.0	4.3	4.4	4.3	7.6%	1.3x
H/2 Special Opportunities IV	USD	1.6%	10.0	10.1	2.7	0.0	11.7	4.3	11.7	9.4%	1.4x
KKR Real Estate Partners Americas II	USD	0.3%	10.0	10.6	13.8	1.3	3.5	5.3	2.1	22.3%	1.5x
KKR Real Estate Partners Americas III	USD	2.8%	35.0	23.5	1.9	13.1	33.7	-1.1	20.6	-3.0%	1.0x
KKR Real Estate Partners Americas IV	USD	-	22.0	0.0	0.0	22.0	22.0	0.0	0.0 <sup>2</sup>	n.m.	0.0x
KKR Real Estate Partners Europe II	USD	0.8%	10.0	8.1	2.3	3.1	9.1	0.2	6.0	1.6%	1.0x
KKR Real Estate Securities Dislocation Opportunity Co-Investment Fund	USD	0.1%	10.0	6.0	6.8	0.1	0.7	1.5	0.7	31.5%	1.3x
LaSalle GPS Co-investment Program - Non-Core	USD	1.0%	15.0	6.8	0.2	8.2	15.7	0.9	7.5	8.1%	1.1x
Lone Star Real Estate Fund V	USD	0.4%	9.2	7.9	4.0	1.5	4.1	-1.3	2.6	-7.7%	0.8x
Mesirow Financial Real Estate Value Fund IV	USD	2.7%	25.0	18.6	0.8	7.0	26.6	1.7	19.6	7.8%	1.1x
NYC Asset Investor #1	USD	0.6%	10.0	13.0	7.5	2.9	7.5	-0.9	4.6	-1.4%	0.9x
NYC Asset Investor #3	USD	0.7%	8.0	6.0	1.6	2.0	7.2	0.8	5.2	2.1%	1.1x
NYCRS-KKR CMBS Retention Partners	USD	1.4%	13.0	12.1	5.8	1.4	11.8	4.1	10.4	6.8%	1.3x
Pramerica Real Estate Capital VI	USD	0.3%	10.3	11.2	9.2	0.9	3.4	0.4	2.5	1.9%	1.0x
PW Real Estate Fund III	USD	0.5%	11.2	8.8	21.5	2.6	6.1	16.3	3.6	29.5%	2.9x
Rialto Real Estate Fund IV - Debt	USD	2.8%	25.0	22.7	4.1	2.4	22.4	1.4	20.0	4.1%	1.1x
Rialto Real Estate Fund V - Debt	USD	0.1%	14.0	0.5	0.0	13.5	14.0	0.0	0.5	n.m.1	0.9x



	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
Westbrook Real estate Co-Investment Partnership >	X USD	0.3%	10.0	9.8	8.5	0.8	3.0	1.0	2.2	4.4%	1.1x
Westbrook Real Estate Fund XI	USD	1.0%	10.0	9.3	3.2	2.7	9.9	1.1	7.2	13.7%	1.1x
Total Non-Core	USD	39.5%	756.6	486.2	332.7	338.1	624.5	132.9	286.4	10.8%	1.3x
NYCBERS - RE	USD	100.0%	1,203.8	949.1	510.5	383.9	1,109.9	287.4	726.0	8.4%	1.3x

<sup>1</sup> IRR not meaningful for investments held less than 24 months

<sup>2</sup> Adjusted for additional contributions and distributions since last valuation, which is prior to the report date.

\* Total figures take into account all current and closed portfolio positions as at Dec-2023

Total Exposure = Unfunded + NAV



	Currency	Vintage	Contributions (mm)	Distributions (mm)	NAV (mm)	Gain/Loss (mm)	TVPI	DPI	RVPI	IRR
Core / Core-plus										
Almanac Realty Securities VIII	USD	2018	7.3	1.8	6.8	1.3	1.2x	0.3x	0.9x	8.4%
Almanac Realty Securities VIII (Sidecar II)	USD	2018	4.9	1.4	4.9	1.3	1.3x	0.3x	1.0x	12.2%
Artemis Real Estate Partners Income and Growth Fund	USD	2019	9.0	2.3	7.0	0.3	1.0x	0.3x	0.8x	1.5%
Brookfield Premier Real Estate Partners	USD	2016	30.9	5.9	32.6	7.6	1.2x	0.2x	1.1x	6.0%
Cortland Growth and Income	USD	2018	11.8	1.8	12.1	2.1	1.2x	0.2x	1.0x	5.6%
EQT Exeter Industrial Core-Plus Fund IV	USD	2021	8.2	0.0	7.8	-0.4	1.0x	0.0x	1.0x	n.m.1
Exeter Core Industrial Club Fund II	USD	2016	9.7	5.0	18.2	13.5	2.4x	0.5x	1.9x	18.6%
Exeter Industrial Core Fund III	USD	2019	12.5	2.0	12.7	2.3	1.2x	0.2x	1.0x	7.0%
Harrison Street Core Property Fund	USD	2019	85.5	5.1	79.8	-0.7	1.0x	0.1x	0.9x	-0.5%
Heitman Core Real Estate Debt Income Trust	USD	2017	31.3	6.3	28.1	3.1	1.1x	0.2x	0.9x	3.5%
HSRE-Centre Street Core Co-Investment	USD	2019	4.9	0.5	5.9	1.5	1.3x	0.1x	1.2x	8.5%
Jamestown Premier Property Fund	USD	2016	7.4	3.0	2.2	-2.2	0.7x	0.4x	0.3x	-9.0%
LaSalle GPS Co-Investment Program – Core	USD	2021	6.2	0.4	5.6	-0.1	1.0x	0.1x	0.9x	-1.2%
LaSalle Property Fund	USD	2010	38.6	18.2	52.8	32.3	1.8x	0.5x	1.4x	8.0%
Lion Industrial Trust	USD	2017	25.9	6.4	48.6	29.1	2.1x	0.2x	1.9x	16.7%
MetLife Core Property Fund	USD	2013	15.0	6.4	20.3	11.6	1.8x	0.4x	1.4x	7.6%
NYC Asset Investor #2	USD	2013	12.3	4.7	3.1	-4.5	0.6x	0.4x	0.3x	-10.1%
NYCRS Artemis Mach II	USD	2016	12.9	18.1	1.3	6.5	1.5x	1.4x	0.1x	14.6%
RREEF America REIT II	USD	2021	17.0	1.3	17.0	1.3	1.1x	0.1x	1.0x	3.1%
RREEF Core Plus Industrial Fund	USD	2021	26.1	1.1	29.5	4.5	1.2x	0.0x	1.1x	8.3%
Trumbull Property Fund	USD	2011	64.5	83.2	19.4	38.1	1.6x	1.3x	0.3x	7.0%
USAA Eagle Real Estate Feeder 1	USD	2013	20.9	2.9	23.8	5.8	1.3x	0.1x	1.1x	4.6%
Total Core / Core-plus	USD		462.9	177.8	439.6	154.5	1.3x	0.4x	0.9x	7.0%



	Currency	Vintage	Contributions (mm)	Distributions (mm)	NAV (mm)	Gain/Loss (mm)	TVPI	DPI	RVPI	IRR
Non-Core										
Aermont Capital Real Estate Fund IV	USD	2018	7.5	0.0	6.0	-1.5	0.8x	0.0x	0.8x	-8.6%
Aermont Capital Real Estate Fund V	USD	2022	0.9	0.0	0.3	-0.6	0.3x	0.0x	0.3x	n.m.1
Almanac Realty Securities IX	USD	2021	4.5	0.0	4.1	-0.4	0.9x	0.0x	0.9x	n.m.1
Almanac Realty Securities IX (Sidecar II)	USD	2022	1.5	0.0	1.5	0.1	1.0x	0.0x	1.0x	n.m.1
Artemis Real Estate Partners Healthcare Fund II	USD	2021	5.1	1.0	3.9	-0.1	1.0x	0.2x	0.8x	n.m.1
BIG Real Estate Fund II	USD	2021	16.9	4.9	13.3	1.4	1.1x	0.3x	0.8x	7.6%
Blackstone Real Estate Partners Europe IV (USD)	USD	2013	33.0	41.7	4.5	13.1	1.4x	1.3x	0.1x	10.8%
Blackstone Real Estate Partners Europe VII (Cayman)	USD	2023	0.0	0.0	0.0	0.0	0.0x	0.0x	0.0x	n.m.
Blackstone Real Estate Partners IX	USD	2019	16.1	5.4	16.7	6.0	1.4x	0.3x	1.0x	17.1%
Blackstone Real Estate Partners VIII	USD	2015	19.1	19.7	11.6	12.2	1.6x	1.0x	0.6x	14.6%
Blackstone Real Estate Partners X	USD	2022	2.1	0.0	1.8	-0.2	0.9x	0.0x	0.9x	n.m.1
Brookfield Strategic Real Estate Partners	USD	2012	12.4	21.8	1.4	10.8	1.9x	1.8x	0.1x	17.9%
Brookfield Strategic Real Estate Partners III	USD	2018	12.1	3.2	13.0	4.2	1.3x	0.3x	1.1x	11.9%
Brookfield Strategic Real Estate Partners IV	USD	2021	25.6	2.1	25.2	1.7	1.1x	0.1x	1.0x	n.m.1
Carlyle Realty Partners VII	USD	2014	23.5	28.0	5.6	10.0	1.4x	1.2x	0.2x	11.8%
Cortland Enhanced Value Fund VI	USD	2023	2.3	0.0	2.3 <sup>2</sup>	0.0	1.0x	0.0x	1.0x	n.m.1
DivcoWest Fund V	USD	2016	9.1	2.9	6.2	0.1	1.0x	0.3x	0.7x	0.2%
DivcoWest Fund VI	USD	2019	6.0	0.2	5.2	-0.7	0.9x	0.0x	0.9x	-6.9%
DRA Growth and Income Fund IX	USD	2016	11.1	11.7	5.8	6.4	1.6x	1.1x	0.5x	15.8%
EQT Exeter Industrial Value Fund VI	USD	2022	4.0	0.0	3.5	-0.5	0.9x	0.0x	0.9x	n.m.1
European Property Investors Special Opportunities 4	USD	2015	10.2	4.3	8.3	2.3	1.2x	0.4x	0.8x	4.6%
Exeter Industrial Value Fund IV	USD	2017	9.4	19.6	1.0	11.2	2.2x	2.1x	0.1x	30.2%
Exeter Industrial Value Fund V	USD	2020	4.9	0.0	7.4	2.5	1.5x	0.0x	1.5x	20.2%



	Currency	Vintage	Contributions (mm)	Distributions (mm)	NAV (mm)	Gain/Loss (mm)	TVPI	DPI	RVPI	IRR
Franklin Templeton Private Real Estate Fund	USD	2010	36.3	49.3	0.3	13.2	1.4x	1.4x	0.0x	19.1%
Greenoak Asia (USD) III	USD	2019	12.1	7.2	6.6	1.8	1.2x	0.6x	0.6x	13.7%
H/2 Special Opportunities III	USD	2014	15.6	15.7	4.3	4.4	1.3x	1.0x	0.3x	7.6%
H/2 Special Opportunities IV	USD	2016	10.1	2.7	11.7	4.3	1.4x	0.3x	1.2x	9.4%
KKR Real Estate Partners Americas II	USD	2018	10.6	13.8	2.1	5.3	1.5x	1.3x	0.2x	22.3%
KKR Real Estate Partners Americas III	USD	2021	23.5	1.9	20.6	-1.1	1.0x	0.1x	0.9x	-3.0%
KKR Real Estate Partners Americas IV	USD	2023	0.0	0.0	0.0 <sup>2</sup>	0.0	0.0x	0.0x	0.0x	n.m.
KKR Real Estate Partners Europe II	USD	2019	8.1	2.3	6.0	0.2	1.0x	0.3x	0.7x	1.6%
KKR Real Estate Securities Dislocation Opportunity Co-In	USD	2020	6.0	6.8	0.7	1.5	1.3x	1.1x	0.1x	31.5%
LaSalle GPS Co-investment Program - Non-Core	USD	2021	6.8	0.2	7.5	0.9	1.1x	0.0x	1.1x	8.1%
Lone Star Real Estate Fund V	USD	2016	7.9	4.0	2.6	-1.3	0.8x	0.5x	0.3x	-7.7%
Mesirow Financial Real Estate Value Fund IV	USD	2020	18.6	0.8	19.6	1.7	1.1x	0.0x	1.1x	7.8%
NYC Asset Investor #1	USD	2013	13.0	7.5	4.6	-0.9	0.9x	0.6x	0.4x	-1.4%
NYC Asset Investor #3	USD	2013	6.0	1.6	5.2	0.8	1.1x	0.3x	0.9x	2.1%
NYCRS-KKR CMBS Retention Partners	USD	2017	12.1	5.8	10.4	4.1	1.3x	0.5x	0.9x	6.8%
Pramerica Real Estate Capital VI	USD	2016	11.2	9.2	2.5	0.4	1.0x	0.8x	0.2x	1.9%
PW Real Estate Fund III	USD	2015	8.8	21.5	3.6	16.3	2.9x	2.5x	0.4x	29.5%
Rialto Real Estate Fund IV - Debt	USD	2019	22.7	4.1	20.0	1.4	1.1x	0.2x	0.9x	4.1%
Rialto Real Estate Fund V - Debt	USD	2023	0.5	0.0	0.5	0.0	0.9x	0.0x	0.9x	n.m.1
Westbrook Real Estate Co-Investment Partnership X	USD	2015	9.8	8.5	2.2	1.0	1.1x	0.9x	0.2x	4.4%
Westbrook Real Estate Fund XI	USD	2019	9.3	3.2	7.2	1.1	1.1x	0.3x	0.8x	13.7%
Total Non-Core	USD		486.2	332.7	286.4	132.9	1.3x	0.7x	0.6x	10.8%
NYCBERS - RE	USD		949.1	510.5	726.0	287.4	1.3x	0.5x	0.8x	8.4%
<sup>1</sup> IRR not meaningful for investments held less than 24 months										

Reporting Period: As Of Dec-2023 View this portfolio online



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Infrastructure Quarterly Report (Public):

NYC Board of Education Retirement System

# NYCBERS - INFRA

# Portfolio Report

As Of December 2023 Report created: April 2024

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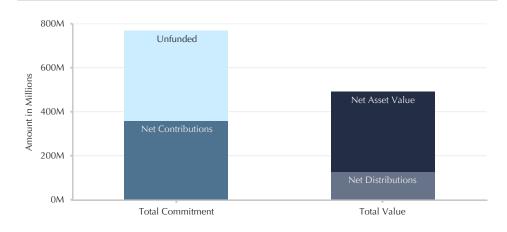


## Page 239 of 298 Table Of Contents

Portfolio Snapshot	
Portfolio QoQ Overview	
Capital Account Change	
Portfolio Summary	
Movement By Strategy - QTD	
Movement by Fund - QTD	<u></u>
Movement By Strategy - LTM	
Movement by Fund - LTM	
Portfolio Top 20 Investments by FMV	
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#### Summary



#### Portfolio Summary

Total Pensio	n Assets			\$8.9 bn as of 1	2/31/2023
GP Relation:	ships				14
Holdings					39
# of New In	vestments with	in the quarter*			3
# of Underl	ying Active Inv	vestments			307
% of Public	Companies				9.1%
Total Comm	itment Amoun	t		9	\$768.3 mm
Net Contribu	utions			9	\$358.9 mm
Net Distribu	tions			9	\$126.9 mm
Net Asset Va	alue			4	\$364.7 mm
Weighted Av	verage Age				4.9Y
Unfunded C	ommitment			4	\$411.0 mm
Minimum A	nnual Pacing				100.0 mm
Maximum A	nnual Pacing				150.0 mm
Portfolio All	ocation				4.1%
Minimum Ta	arget Allocatio	n			2.0%
Maximum T	arget Allocatio	n			6.0%
1Y IRR	11.3%	2Y IRR	9.6%	3Y IRR	11.5%
5Y IRR	11.6%	7Y IRR	12.4%	10Y IRR	12.0%
ITD IRR**	12.0%	ITD TVPI**	1.3x		

\* Oct-2023 - Dec-2023 \*\* Nov-2013 - Dec-2023

Position Analytics data based on GP provided information as of Dec-2023. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment. IRR not meaningful for investments held less than 24 months

Weighted Average Age (WAA) is based on net contributions

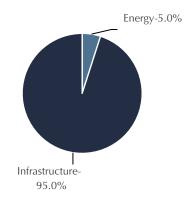
WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age

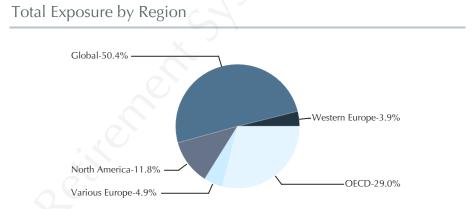
Total Exposure = Unfunded + NAV

Public companies are identified at the time of investment and reviewed at least annually.



Total Exposure by Strategy





Position Analytics data based on GP provided information as of Dec-2023. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment. IRR not meaningful for investments held less than 24 months

Weighted Average Age (WAA) is based on net contributions

WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age

Total Exposure = Unfunded + NAV

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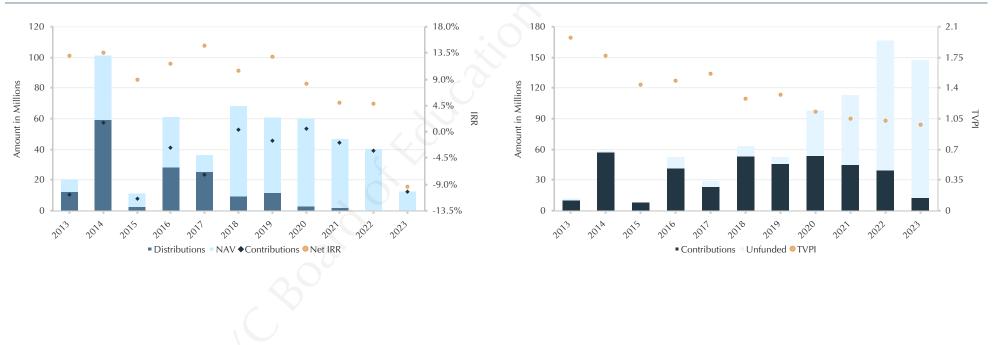
Public companies are identified at the time of investment and reviewed at least annually.



#### Strategy Portfolio Summary

	# Of Funds	Weighted Average Age	NAV (\$mm)	Total Commitment (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Net IRR	TVPI
Energy	3	5.3	12.4	52.3	26.1	38.5	28.3	20.8	8.8%	1.2x
Infrastructure	36	4.9	352.3	716.0	384.9	737.2	360.0	132.3	12.2%	1.3x
NYCBERS - INFRA	39	4.9	364.7	768.3	411.0	775.7	388.3	153.1	12.0%	1.3x

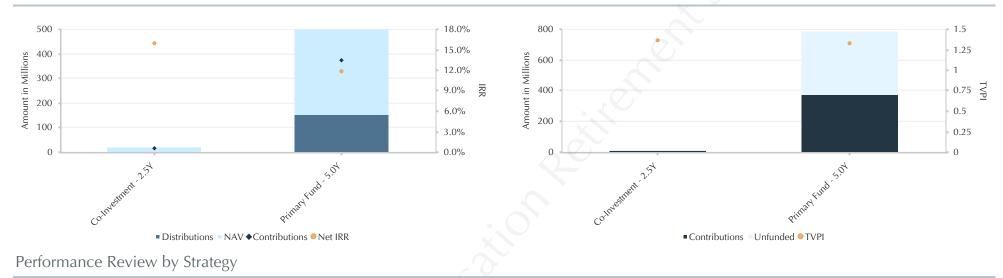
#### Performance Review by Vintage Year

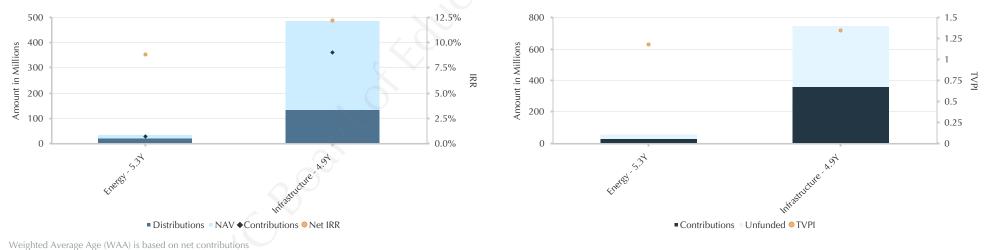


Total Exposure = Unfunded + NAV



Performance Review by Structure

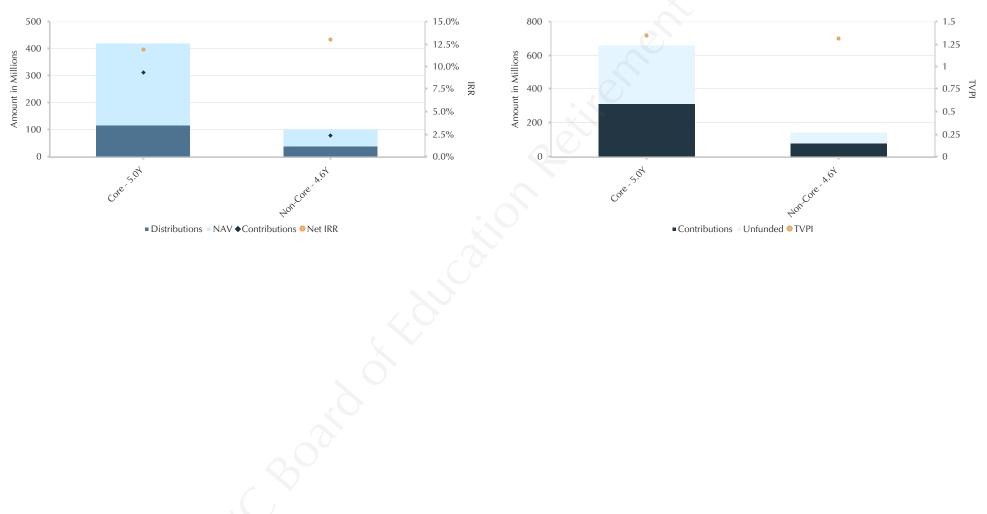




WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age



Performance Review by Sub-Strategy



Weighted Average Age (WAA) is based on net contributions WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age



#### **Performance Statistics**

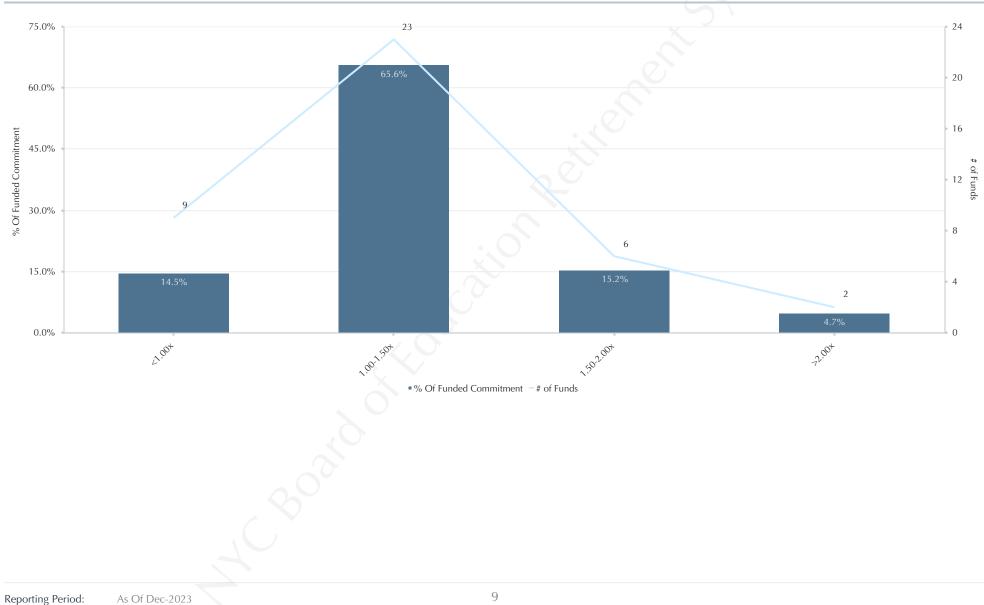
						% Change	% Change	% Change	Dec-2023	Dec-2023
As Of Dec-2023	Dec-2022	Mar-2023	Jun-2023	Sep-2023	Dec-2023	(YTD)	(Quarter)	(Annual)	Active	Liquidated
Committed Capital	620.9	682.9	709.9	713.5	768.3	23.7%	7.7%	23.7%	765.3	2.9
Unfunded Commitment	359.7	402.4	398.4	368.0	411.0	14.3%	11.7%	14.3%	411.0	0.0
Net Contributed Capital	260.6	280.9	312.2	344.3	358.9	37.7%	4.2%	37.7%	355.9	2.9
Net Distributed Capital	102.2	106.1	112.6	117.5	126.9	24.2%	7.9%	24.2%	126.9	0.0
Recallable Capital	23.4	23.8	24.7	25.7	26.2	12.1%	2.0%	12.1%	26.2	0.0
Net Asset Value	256.5	280.7	314.4	343.9	364.7	42.2%	6.0%	42.2%	364.7	0.0
Net Gain/Loss	96.1	103.9	112.2	114.3	129.5	34.7%	13.3%	34.7%	129.5	0.0
Total Value	358.7	386.8	426.9	461.4	491.5	37.0%	6.5%	37.0%	491.5	0.0
Total Exposure	616.2	683.1	712.8	711.9	775.7	25.9%	9.0%	25.9%	775.7	0.0
DPI	0.4x	0.4x	0.4x	0.4x	0.4x	0.0x	0.0x	0.0x	0.4x	0.0x
Total Value to Paid-In (TVPI)	1.3x	1.3x	1.3x	1.3x	1.3x	0.0x	0.0x	0.0x	1.3x	0.0x
Net Internal Rate of Return (IRR)	12.2%	12.2%	12.2%	11.6%	12.0%	-0.2%	0.4%	-0.2%	12.0%	-

Total Exposure = Unfunded + NAV



## Page 246 of 298 **TVPI** Distribution

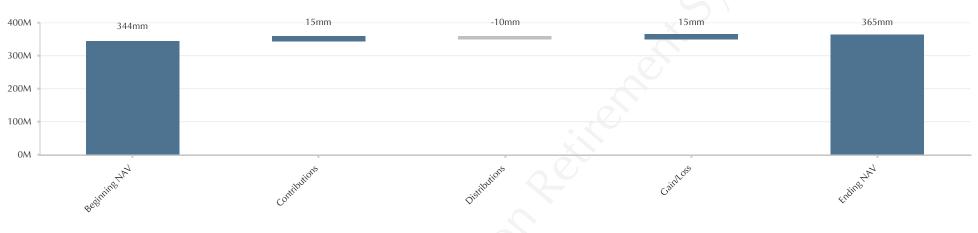
#### **TVPI** Distribution



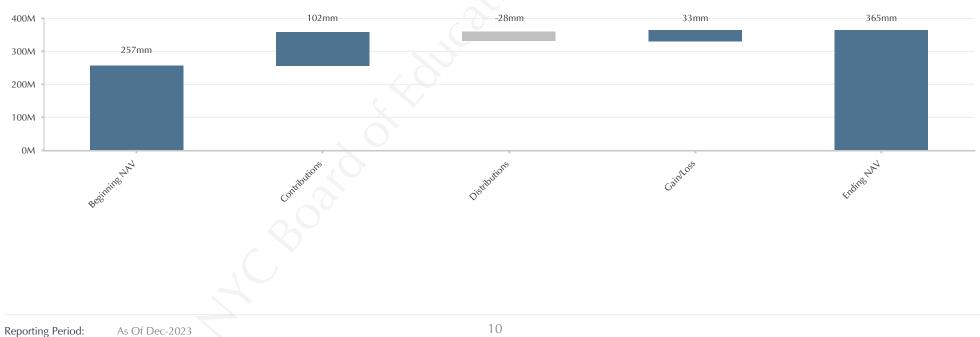




Quarterly Valuation Bridge (Oct-2023 to Dec-2023)



YTD Valuation Bridge (Jan-2023 to Dec-2023)

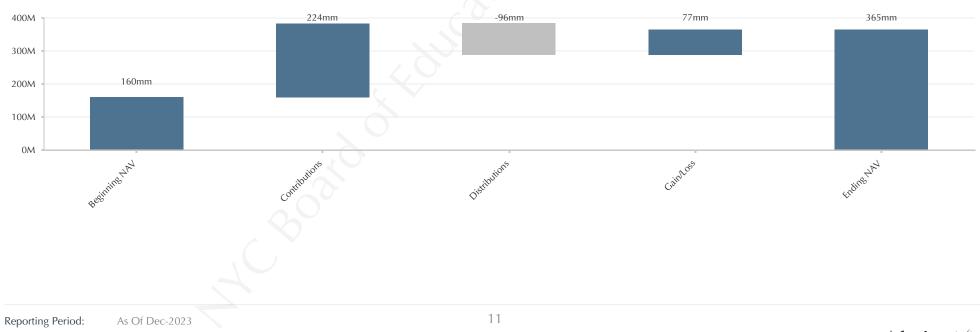




### Last 12 Months Valuation Bridge (Jan-2023 to Dec-2023)

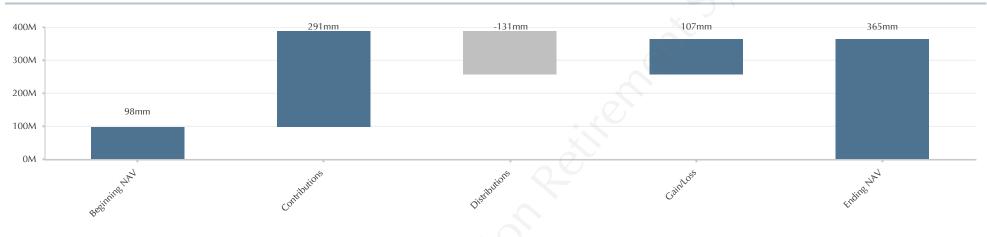


Last 3 Years Valuation Bridge (Jan-2021 to Dec-2023)

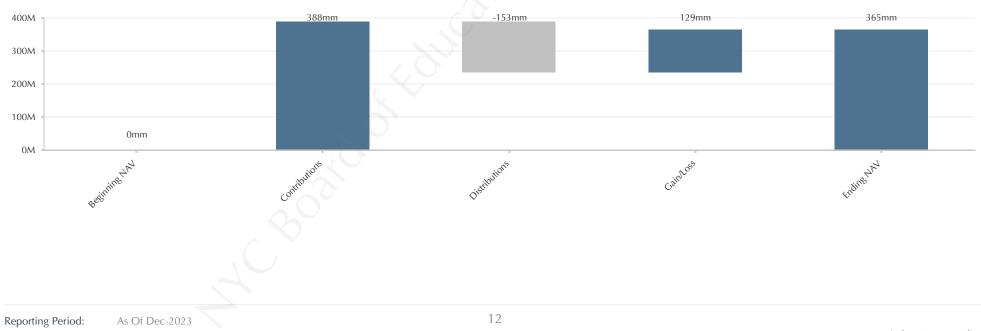




#### Last 5 Years Valuation Bridge (Jan-2019 to Dec-2023)



#### LTD Valuation Bridge (Nov-2013 to Dec-2023)





	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Strategy										
Energy	3.4%	52.3	28.3	20.8	26.1	38.5	4.9	12.4	8.8%	1.2x
Infrastructure	96.6%	716.0	360.0	132.3	384.9	737.2	124.6	352.3	12.2%	1.3x
NYCBERS - INFRA	100.0%	768.3	388.3	153.1	411.0	775.7	129.5	364.7	12.0%	1.3x
Sub Strategy				•						
Core	82.8%	637.8	311.9	115.9	346.3	648.3	105.9	301.9	11.8%	1.3x
Non-Core	17.2%	130.4	76.4	37.2	64.6	127.4	23.6	62.8	13.0%	1.3x
NYCBERS - INFRA	100.0%	768.3	388.3	153.1	411.0	775.7	129.5	364.7	12.0%	1.3x



## Page 251 of 298 Portfolio Summary

NYCBERS - INFRA			Portfolio S				) Sumr	ummary		
Vintage	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
2023	3.4%	147.4	12.6	0.1	134.9	147.1	-0.3	12.2	n.m.1	1.0x
2022	10.9%	163.3	39.2	0.2	126.9	166.8	1.0	39.9	n.m.1	1.0x
2021	12.3%	112.8	44.7	2.0	68.2	113.0	2.2	44.8	5.0%	1.0x
2020	15.7%	95.6	53.4	2.9	44.4	101.7	6.8	57.3	8.2%	1.1x
2019	13.4%	51.3	45.8	11.5	6.6	55.6	14.8	49.0	12.9%	1.3x
2018	16.2%	61.0	53.1	9.1	10.2	69.2	15.0	59.0	10.5%	1.3x
2017	3.0%	25.8	23.2	25.2	5.5	16.6	13.0	11.0	14.7%	1.6x
2016	9.0%	44.6	41.1	28.3	11.2	43.9	19.9	32.7	11.7%	1.5x
2015	2.3%	7.4	7.8	2.7	0.0	8.5	3.4	8.5	9.0%	1.4x
2014	11.5%	49.0	57.3	59.1	1.3	43.3	43.8	42.0	13.6%	1.8x
2013	2.2%	10.0	10.2	12.1	1.8	9.9	10.0	8.1	13.1%	2.0x
NYCBERS - INFRA	100.0%	768.3	388.3	153.1	411.0	775.7	129.5	364.7	12.0%	1.3x
Structure			N N							
Co-Investment	5.0%	18.2	14.3	1.4	1.1	19.2	5.2	18.1	16.0%	1.4x
Primary Fund	95.0%	750.1	374.0	151.7	409.9	756.5	124.3	346.6	11.9%	1.3x
NYCBERS - INFRA	100.0%	768.3	388.3	153.1	411.0	775.7	129.5	364.7	12.0%	1.3x
Region		6.								
Global	31.5%	393.3	132.2	50.9	275.9	390.9	33.7	115.0	13.0%	1.3x
North America	11.4%	92.2	40.4	12.1	50.2	91.6	13.1	41.4	9.9%	1.3x
OECD	51.4%	215.1	196.3	89.6	37.3	224.6	80.6	187.3	12.0%	1.4x
Various Europe	4.1%	37.8	13.8	0.5	23.3	38.2	1.6	14.9	n.m.1	1.1x
Western Europe	1.6%	29.8	5.5	0.0	24.3	30.3	0.5	6.0	n.m.1	1.1x
NYCBERS - INFRA	100.0%	768.3	388.3	153.1	411.0	775.7	129.5	364.7	12.0%	1.3x

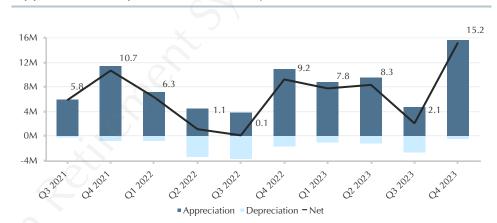
View this portfolio online

## Page 252 of 298 Period Chart Analysis

### Cash Flows Quarterly



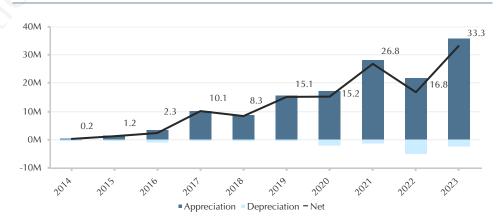
### Appreciation/Depreciation Quarterly



### Cash Flows Yearly



### Appreciation/Depreciation Yearly





	(	Gain		Loss	Net Gain	/Loss	Distrib	utions	Contrib	utions	NAV (mm)
	Total Millions	# Of Funds	Total Millions	# Of Funds	Net Millions	% Of Total Net	Total Millions	%	Total Millions	%	
Energy	1.3	3	0.0	0	1.3	8.4%	2.7	27.2%	0.8	4.9%	12.4
Infrastructure	14.3	30	-0.4	4	13.9	91.6%	7.2	72.8%	14.7	95.1%	352.3
Total	15.6	33	-0.4	4	15.2	100.0%	9.8	100.0%	15.4	100.0%	364.7

Above reporting references both active and closed funds



### Gain

	Strategy	Vintage Year	Region	Appreciation (mm)
EQT Infrastructure V	Infrastructure	2020	Global	1.4
IFM Global Infrastructure Fund	Infrastructure	2014	OECD	1.3
InfraVia European Fund V	Infrastructure	2021	Various Europe	1.3
KKR Global Infrastructure Investors III	Infrastructure	2018	OECD	1.2
Actis Energy 5	Energy	2020	Global	1.2
Total				6.5

#### Loss

	Strategy	Vintage Year	Region	Depreciation (mm)
Global Energy & Power Infrastructure Fund II	Infrastructure	2014	OECD	-0.2
Ardian Infrastructure Fund VI B	Infrastructure	2023	Western Europe	-0.2
Brookfield Infrastructure Fund IV (BIF IV): Co-Invest	Infrastructure	2019	North America	0.0
EQT Infrastructure IV Co-Investment (Saber)	Infrastructure	2020	OECD	0.0
Total				-0.4

### Contributions

	Strategy	Vintage Year	Region	Contributions (mm)
Basalt Infrastructure Partners IV A	Infrastructure	2022	Global	5.1
Ardian Infrastructure Fund VI B	Infrastructure	2023	Western Europe	3.0
Artemis Co-Invest Sidecar	Infrastructure	2023	Global	2.6
InfraVia European Fund V	Infrastructure	2021	Various Europe	2.3
DIF Infrastructure VII	Infrastructure	2022	Global	1.9
Total				14.9

### Distributions

	Strategy	Vintage Year	Region	Distributions (mm)
KKR Global Infrastructure Investors II	Infrastructure	2014	OECD	3.4
NYCRS EIG Energy Partners	Energy	2017	North America	1.6
Actis Energy 4	Energy	2016	Global	1.0
Global Energy & Power Infrastructure Fund III F	Infrastructure	2019	OECD	0.9
Brookfield Infrastructure Fund IV	Infrastructure	2019	OECD	0.9
Total				7.8

Above reporting references both active and closed funds Each category displays maximum 5 positions



	(	Gain		Loss	Net Gain/	/Loss	Distrib	outions	Contribu	utions	NAV (mm)
	Total Millions	# Of Funds	Total Millions	# Of Funds	Net Millions	% Of . Total Net	Total Millions	%	Total Millions	%	
Energy	1.2	2	0.0	1	1.2	3.5%	3.9	14.2%		6.7%	12.4
Infrastructure	34.5	30	-2.3	4	32.2	96.5%	23.6	85.8%	95.5	93.3%	352.3
Total	35.7	32	-2.3	5	33.3	100.0%	27.5	100.0%	102.3	100.0%	364.7

Above reporting references both active and closed funds



### Gain

	Strategy	Vintage Year	Region	Appreciation (mm)
EQT Infrastructure V	Infrastructure	2020	Global	4.2
IFM Global Infrastructure Fund	Infrastructure	2014	OECD	3.4
KKR Global Infrastructure Investors III	Infrastructure	2018	OECD	3.2
Brookfield Infrastructure Fund IV	Infrastructure	2019	OECD	2.3
InfraVia European Fund V	Infrastructure	2021	Various Europe	2.2
Total				15.4

#### Loss

	Strategy	Vintage Year	Region	Depreciation (mm)
Global Energy & Power Infrastructure Fund II	Infrastructure	2014	OECD	-1.2
EQT Infrastructure VI	Infrastructure	2023	Global	-0.8
Ardian Infrastructure Fund VI B	Infrastructure	2023	Western Europe	-0.2
Basalt Infrastructure Partners IV A	Infrastructure	2022	Global	-0.1
Actis Energy 4	Energy	2016	Global	0.0
Total				-2.3

### Contributions

	Strategy	Vintage Year	Region	Contributions (mm)
Brookfield Infrastructure Fund V-B	Infrastructure	2022	Global	13.1
DIF Infrastructure VII	Infrastructure	2022	Global	11.2
InfraVia European Fund V	Infrastructure	2021	Various Europe	9.8
EQT Infrastructure V	Infrastructure	2020	Global	8.2
Actis Energy 5	Energy	2020	Global	6.3
Total				48.6

### Distributions

	Strategy	Vintage Year	Region	Distributions (mm)
KKR Global Infrastructure Investors II	Infrastructure	2014	OECD	5.1
NYCRS EIG Energy Partners	Energy	2017	North America	2.7
EQT Infrastructure III	Infrastructure	2017	Global	2.7
Brookfield Infrastructure Fund IV	Infrastructure	2019	OECD	2.5
Brookfield Infrastructure Fund II	Infrastructure	2013	Global	1.8
Total				14.8

Above reporting references both active and closed funds Each category displays maximum 5 positions



## Page 257 of 298 Top 5 GP Relationships

	Total	Total Exposure	% of Portfolio	Contributions	Distributions	Number of	Net
	Commitments (\$mm)	(\$mm)	(Total Exposure)	(\$mm)	( <b>\$mm</b> )	Holdings	TVPI
Brookfield Asset Management	94.9	101.8	13.1%	59.5	22.7	8	1.4x
ARDIAN Investment UK Limited	96.5	99.8	12.9%	36.6	6.5	5	1.3x
EQT Partners AB	92.8	96.3	12.4%	55.3	22.8	5	1.4x
BlackRock Inc	80.6	70.2	9.1%	38.1	20.6	4	1.2x
Global Infrastructure Management LLC	64.6	69.8	9.0%	35.4	7.3	3	1.2x
GP Relationships Top(5)	429.4	438.0	56.5%	225.0	79.9	25	1.3x
GP Relationships Remaining(9)	338.9	337.7	43.5%	163.3	73.2	15	1.4x
Total Portfolio (14)	768.3	775.7	100.0%	388.3	153.1	40	1.3x

Top managers by exposure (NAV + Unfunded) and reflective of both current and closed holdings. Total Exposure = Unfunded + NAV



	First Cash Flow Date	QTD	1Y	3Y	5Y	10Y	ITD
Brookfield Asset Management	Nov-2013	4.2%	13.0%	13.8%	13.6%	13.1%	13.1%
ARDIAN Investment UK Limited	May-2017	3.9%	12.9%	15.2%	14.4%	14.9%	14.9%
EQT Partners AB	Oct-2017	4.8%	12.8%	12.9%	13.5%	14.1%	14.1%
BlackRock Inc	Dec-2014	1.0%	-0.5%	2.0%	3.3%	10.6%	10.6%
Global Infrastructure Management LLC	May-2016	3.3%	6.0%	11.3%	9.9%	8.7%	8.7%
GP Relationships Top(5)		3.7%	9.9%	11.8%	11.6%	12.5%	12.5%
GP Relationships Remaining(9)		5.3%	13.2%	11.0%	11.6%	11.6%	11.6%
Total Portfolio (14)		4.3%	11.3%	11.5%	11.6%	12.0%	12.0%

Above reporting references both active and closed funds



Portfolio IRR vs Benchmarks

PERFORMANCE VERSUS BENCHMARKS		×	/		
12/31/2023	1 QTR	1 YEAR	3 YEAR	5 YEAR	INCEPTION
Program IRR	4.3%	11.3%	11.5%	11.6%	12.0%
50% Russell 3000 & 50% Barclays U.S. Aggregate PME+	9.4%	15.7%	3.9%	8.0%	7.0%
Difference	-5.1%	-4.4%	7.5%	3.6%	5.0%
5 - Year CPI +400bps	8.2%	8.2%	8.2%	8.2%	8.2%
Difference	-3.9%	3.0%	3.2%	3.4%	3.8%
CPI +400bps PME+	1.0%	7.1%	9.5%	8.2%	7.8%
Difference	3.4%	4.2%	2.0%	3.4%	4.3%

Per BERS' Investment Policy Statement, the performance benchmark for the Infrastructure Portfolio is to meet or exceed the Consumer Price Index ("CPI") plus 4% net of fees over a 5-year rolling period. To be consistent with this definition, the 5Y return is used across all time periods.



	Contributions (mm)	Distributions (mm)	NAV (mm)	Gain/Loss (mm)	Net TVPI	DPI	RVPI	Net IRR
Strategy					$\mathbf{C}$			
Energy	28.3	20.8	12.4	4.9	1.2x	0.7x	0.4x	8.8%
Infrastructure	360.0	132.3	352.3	124.6	1.3x	0.4x	1.0x	12.2%
Sub Strategy								
Non-Core	76.4	37.2	62.8	23.6	1.3x	0.5x	0.8x	13.0%
Core	311.9	115.9	301.9	105.9	1.3x	0.4x	1.0x	11.8%
Vintage			20					
2023	12.6	0.1	12.2	-0.3	1.0x	0.0x	1.0x	n.m. <sup>1</sup>
2022	39.2	0.2	39.9	1.0	1.0x	0.0x	1.0x	n.m.1
2021	44.7	2.0	44.8	2.2	1.0x	0.0x	1.0x	5.0%
2020	53.4	2.9	57.3	6.8	1.1x	0.1x	1.1x	8.2%
2019	45.8	11.5	49.0	14.8	1.3x	0.3x	1.1x	12.9%
2018	53.1	9.1	59.0	15.0	1.3x	0.2x	1.1x	10.5%
2017	23.2	25.2	11.0	13.0	1.6x	1.1x	0.5x	14.7%
2016	41.1	28.3	32.7	19.9	1.5x	0.7x	0.8x	11.7%
2015	7.8	2.7	8.5	3.4	1.4x	0.3x	1.1x	9.0%
2014	57.3	59.1	42.0	43.8	1.8x	1.0x	0.7x	13.6%
2013	10.2	12.1	8.1	10.0	2.0x	1.2x	0.8x	13.1%

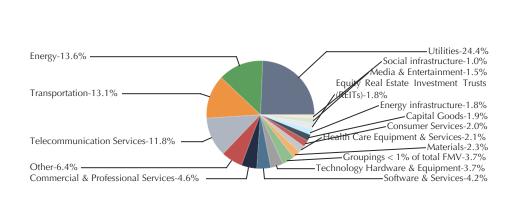
	Contributions (mm)	Distributions (mm)	NAV (mm)	Gain/Loss (mm)	Net TVPI	DPI	RVPI	Net IRR		
Structure					<u>)</u>					
Co-Investment	14.3	1.4	18.1	5.2	1.4x	0.1x	1.3x	16.0%		
Primary Fund	374.0	151.7	346.6	124.3	1.3x	0.4x	0.9x	11.9%		
Region										
Western Europe	5.5	0.0	6.0	0.5	1.1x	0.0x	1.1x	n.m.1		
Various Europe	13.8	0.5	14.9	1.6	1.1x	0.0x	1.1x	n.m.1		
North America	40.4	12.1	41.4	13.1	1.3x	0.3x	1.0x	9.9%		
Global	132.2	50.9	115.0	33.7	1.3x	0.4x	0.9x	13.0%		
OECD	196.3	89.6	187.3	80.6	1.4x	0.5x	1.0x	12.0%		
NYCBERS - INFRA	388.3	153.1	364.7	129.5	1.3x	0.4x	0.9x	12.0%		
LIPP not manningful for investments hold loss than 24 menths										

<sup>1</sup> IRR not meaningful for investments held less than 24 months \* Total figures take into account all current and closed portfolio positions as at Dec-2023



## Page 262 of 298 Portfolio Composition - Industry Group

### Industry Group Exposure by FMV



	Total Invested Capital	% of Total	Fair Market Value	% of Total
Utilities	95,729,616	27.0%	93,585,652	24.4%
Energy	54,921,066	15.5%	52,216,265	13.6%
Transportation	40,307,663	11.4%	50,355,966	13.1%
Telecommunication Services	40,800,689	11.5%	45,355,203	11.8%
Other	21,861,393	6.2%	24,712,419	6.4%
Commercial & Professional Services	16,097,098	4.5%	17,748,502	4.6%
Software & Services	13,477,391	3.8%	16,036,119	4.2%
Technology Hardware & Equipment	9,003,464	2.5%	14,376,669	3.7%
Materials	7,474,726	2.1%	8,995,463	2.3%
Health Care Equipment & Services	7,179,584	2.0%	8,154,687	2.1%
Consumer Services	5,863,216	1.7%	7,642,885	2.0%
Capital Goods	6,857,192	1.9%	7,461,324	1.9%
Energy infrastructure	6,059,546	1.7%	6,912,168	1.8%
Equity Real Estate Investment Trusts (REITs)	6,062,083	1.7%	6,741,023	1.8%
Media & Entertainment	7,852,151	2.2%	5,721,303	1.5%
Social infrastructure	3,215,247	0.9%	3,999,298	1.0%
Groupings < 1% of total FMV	11,777,256	3.3%	14,154,864	3.7%

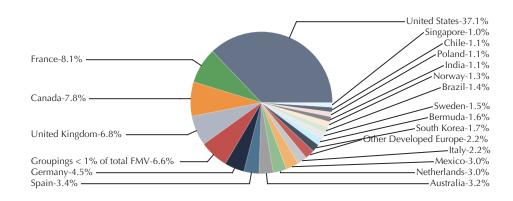
Total Invested Capital represents all investments made since inception and includes any recycled capital.

Position Analytics data based on GP provided information as of Dec-2023. Displaying Position Analytics data for 97.4% of total portfolio allocations. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment.



## Page 263 of 298 Portfolio Composition - Country

### Country Exposure by FMV



	Total Invested Capital	% of Total	Fair Market Value	% of Total
United States	133,751,122	37.7%	142,628,699	37.1%
France	29,347,013	8.3%	31,269,951	8.1%
Canada	24,243,529	6.8%	30,072,706	7.8%
United Kingdom	23,005,769	6.5%	26,282,889	6.8%
Germany	19,978,712	5.6%	17,289,581	4.5%
Spain	15,403,040	4.3%	13,228,088	3.4%
Australia	10,412,148	2.9%	12,484,553	3.2%
Netherlands	11,283,738	3.2%	11,567,897	3.0%
Mexico	11,359,094	3.2%	11,431,933	3.0%
Italy	5,509,030	1.6%	8,468,218	2.2%
Other Developed Europe	6,121,434	1.7%	8,305,511	2.2%
South Korea	5,258,888	1.5%	6,719,183	1.7%
Bermuda	5,504,040	1.6%	6,182,810	1.6%
Sweden	3,969,095	1.1%	5,885,399	1.5%
Brazil	6,194,350	1.7%	5,313,775	1.4%
Norway	4,143,774	1.2%	5,125,893	1.3%
India	5,202,993	1.5%	4,371,382	1.1%
Poland	3,427,855	1.0%	4,223,241	1.1%
Chile	4,324,286	1.2%	4,089,517	1.1%
Singapore	2,227,538	0.6%	3,944,653	1.0%
Groupings < 1% of total FMV	23,871,932	6.7%	25,283,934	6.6%

Total Invested Capital represents all investments made since inception and includes any recycled capital.

Position Analytics data based on GP provided information as of Dec-2023. Displaying Position Analytics data for 97.4% of total portfolio allocations. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment.



## Page 264 of 298 Portfolio Top 20 Investments by FMV

Investment Name	Investment Date	e Holding Period	Country	Region	Sector	Public Company at Exit / Current	Total Invested Capital	Distributed Capital	Current Cost	Fair Market Value	TVPI	GICS Sector	GICS Sub-Sector
EdgeConneX Inc.	Nov-2020	2.7	United States	North America	Information Technology	No	\$3.6mm	\$0.2mm	\$3.6mm	\$7.7mm	2.2x	Telecom	Internet Services and Infrastructure
Saur S.A.S.	Nov-2018	1.8	France	Europe	Industrials	No	\$6.7mm	\$1.5mm	\$0.9mm	\$6.7mm	1.2x	Utilities	Water Utilities
Aleatica S.A.	Apr-2015	8.7	Mexico	Latin America	Industrials	Yes	\$4.2mm	\$0.0mm	\$4.2mm	\$6.5mm	1.5x	Transportation	Highways and Railtracks
CyrusOne LLC	Mar-2022	1.7	United States	North America	Communication Services	n No	\$4.5mm	\$0.0mm	\$4.5mm	\$5.8mm	1.3x	Telecom	Diversified Telecommunicati on Services
Sydney Airport Corporation Limited	Mar-2022	1.8	Australia	Asia Australia	Industrials	No	\$5.1mm	\$0.3mm	\$5.1mm	\$5.7mm	1.2x	Transportation	Airport Services
Fatbeam, LLC	May-2023	0.3	United States	North America	Communication Services	No No	\$5.0mm	\$0.0mm	\$5.0mm	\$5.2mm	1.0x	Telecom	Alternative Carriers
DFMG Deutsche Funkturm GmbH	Jan-2023	1.0	Germany	Europe	Real Estate	No	\$4.8mm	\$0.0mm	\$4.8mm	\$5.2mm	1.1x	Telecom	Wireless Telecommunicati on Services
EnerCare, Inc.	Oct-2018	5.2	Canada	North America	Utilities	No	\$3.7mm	\$1.0mm	\$3.7mm	\$5.2mm	1.7x	Utilities	Specialized Consumer Services
Genesee & Wyoming, Inc.	Dec-2019	4.0	United States	North America	Industrials	No	\$3.7mm	\$0.7mm	\$3.7mm	\$5.1mm	1.6x	Transportation	Highways and Railtracks
Zayo Group, LLC	Mar-2020	3.8	United States	North America	Information Technology	No	\$3.8mm	\$0.0mm	\$3.8mm	\$5.0mm	1.3x	Telecom	Alternative Carriers
Robin - ASF	Sep-2021	2.3	United States	North America	Other	No	\$4.8mm	\$1.0mm	-	\$5.0mm	1.2x	Other	None Specified
Buckeye Partners, L.P.	Nov-2019	4.2	United States	North America	Energy	No	\$2.7mm	\$-0.1mm	\$2.7mm	\$4.9mm	1.7x	Midstream	Oil and Gas Storage and Transportation
GlobalConnect AB	Jan-2017	5.4	Sweden	Europe	Communication Services	No No	\$3.1mm	\$1.4mm	\$2.5mm	\$4.8mm	2.0x	Telecom	None Specified
Columbia Pipeline Group, Inc.	Oct-2023	0.2	United States	North America	Energy	No	\$4.8mm	\$0.0mm	\$4.7mm	\$4.7mm	1.0x	Energy	Oil, Gas & Consumable Fuels
AirFirst Co., Ltd.	Aug-2023	0.4	South Korea	Asia Australia	Materials	No	\$3.2mm	\$0.0mm	\$4.5mm	\$4.6mm	1.4x	Materials	Chemicals
Jupiter Power LLC	Dec-2022	1.0	United States	North America	Utilities	No	\$4.2mm	\$0.0mm	\$4.2mm	\$4.5mm	1.1x	Utilities	Independent Power Producers and Energy Traders
Triton International Limited	Sep-2023	0.3	Bermuda	North America	Materials	No	\$4.2mm	\$0.1mm	\$4.2mm	\$4.4mm	1.1x	Materials	Containers & Packaging
Naturgy Energy Group S.A.	Sep-2016	5.0	Spain	Europe	Utilities	Yes	\$3.1mm	\$1.5mm	\$2.9mm	\$4.4mm	1.9x	Utilities	Gas Utilities

Company headquarters represents location provided by the manager most recently or at initial investment date.

Total Invested Capital represents all investments made since inception and includes any recycled capital.

Position Analytics data based on GP provided information as of Dec-2023. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment.

Public companies are identified at the time of investment and reviewed at least annually.



## Page 265 of 298 Portfolio Top 20 Investments by FMV

Investment Name	Investment Date	Holding Period	Country	Region	Sector	Public Company at Exit / Current	Total Invested Capital	Distributed Capital	Current Cost	Fair Market Value	TVPI	GICS Sector	GICS Sub-Sector
GreenYellow SAS	Oct-2022	0.8	France	Europe	Utilities	No	\$3.8mm	\$0.0mm	\$2.4mm	\$4.3mm	1.1x	Utilities	Renewable Electricity
DELTA Fiber Nederland B.V.	Feb-2017	2.5	Netherlands	Europe	Communication Services	No	\$4.3mm	\$2.4mm	\$3.5mm	\$4.3mm	1.5x	Telecom	Internet Services and Infrastructure

Company headquarters represents location provided by the manager most recently or at initial investment date. Total Invested Capital represents all investments made since inception and includes any recycled capital. Position Analytics data based on GP provided information as of Dec-2023. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment. Public companies are identified at the time of investment and reviewed at least annually.

**Reporting Period:** As Of Dec-2023

View this portfolio online



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		NYC BER	S Infrastruc	ture Portfolio a	s of Q4 2023				
			Committed	Contributed	Distributed	Unfunded	Market		
Vintage Year	Investment	Closing Date	Capital	Capital	Capital	Commitment	Value	τνρι	IRR
Active Investments:									
	2016 Actis Energy 4	12/16/2016 \$	10,600,000	\$ 11,095,628	\$ 14,355,455	\$ 3,861,168	3 \$ 1,378,377	1.42	13.65%
	2020 Actis Energy 5	6/30/2020 \$	27,000,000	\$ 9,979,809	\$ 14,241	\$ 17,034,432	\$ 8,833,603	0.89	-13.87%
	2019 Ardian Infrastructure Fund V B	3/4/2019 \$	14,737,491	\$ 11,380,829	\$ 1,609,004	\$ 2,712,282	2 \$ 13,101,248	1.29	14.73%
	2022 Ardian Infra Fund V Co-Invest Lemon	12/22/2022 \$	2,754,960	\$ 2,514,917	\$ -	\$ 287,014	\$ 3,188,316	1.27	n.m.
	2023 Ardian Infrastructure Fund VI B	6/28/2023 \$	27,000,000	\$ 2,980,986	\$ 185	\$ 24,019,014	\$ 2,825,281	0.95	n.m.
	2023 Artemis Co-Invest Sidecar	10/18/2023 \$	3,318,840	\$ 2,608,283	\$ -	\$ 748,140	\$ 2,986,982	1.15	n.m.
	2016 ASF VII Infrastructure	4/24/2017 \$	12,000,000	\$ 9,497,489	\$ 4,061,661	\$ 2,711,723	\$ \$ 10,111,613	1.49	13.96%
	2021 ASF VIII Infrastructure B	11/1/2021 \$	40,000,000	\$ 10,249,260	\$ 822,029	\$ 29,772,885	5 \$ 11,082,301	1.16	18.52%
	2017 Axium Infrastructure North America	8/14/2017 \$	12,221,338	\$ 12,866,413	\$ 4,162,063	\$-	\$ 14,497,893	1.45	8.93%
	2022 Basalt Infrastructure Partners IV A	10/7/2022 \$	45,000,000	\$ 5,104,649	\$ -	\$ 39,895,351	\$ 5,008,984	0.98	n.m.
	2023 BlackRock EM SMA II	12/29/2023 \$	25,000,000	\$-	\$ -	\$ 25,000,000	) \$ -	0.00	n.m.
	2022 BlackRock Global Infrastructure Fund IV D	6/30/2022 \$	25,000,000	\$ 7,301,343	\$ 31,058	\$ 17,698,657	\$ 7,403,151	1.02	n.m.
	2013 Brookfield Infrastructure Fund II	7/8/2013 \$	10,000,000	\$ 10,209,188	\$ 12,053,331	\$ 1,769,027	\$ 8,135,075	1.98	13.11%
	2016 Brookfield Infrastructure Fund III	4/15/2016 \$	10,000,000	\$ 8,113,741	\$ 3,612,162	\$ 3,314,944	\$ 8,673,597	1.51	11.14%
	2019 Brookfield Infrastructure Fund IV	5/10/2019 \$	19,000,000	\$ 17,965,128	\$ 5,507,612	\$ 1,769,598	3 \$ 19,349,159	1.38	13.39%
	2019 Brookfield Infrastructure Fund IV (BIF IV): Co-Invest	10/22/2019 \$	2,000,000	\$ 2,010,888	\$ 370,523	\$ -	\$ 2,782,658	1.57	12.46%
	2022 Brookfield Infrastructure Fund V-B	7/18/2022 \$	45,000,000	\$ 13,089,316	\$ 205,660	\$ 31,954,344	\$ 13,174,703	1.02	n.m.
	2023 Brookfield Project Elite	7/12/2023 \$	3,675,000	\$ 3,612,226	\$ 73,031	\$ 62,774	\$ 3,745,105	1.06	n.m.
	2018 Cardinal NR Sidecar Holdings	10/11/2018 \$	1,880,001	\$ 1,893,004	\$ 832,104	\$ 1	\$ 3,371,039	2.22	18.92%
	2022 DIF Infrastructure VII	11/15/2022 \$	45,535,600	\$ 11,207,146	\$ 11,623	\$ 37,085,798	3 \$ 11,148,047	1.00	n.m.
	2017 EQT Infrastructure III	2/21/2017 \$	9,214,756	\$ 10,897,594	\$ 17,216,688	\$ 348,518	3 \$ 2,913,678	1.85	20.40%
	2018 EQT Infrastructure IV - USD Fund	12/20/2018 \$	18,000,000	\$ 17,409,034	\$ 3,028,256	\$ 2,686,135	\$ 20,624,445	1.36	11.10%
	2020 EQT Infrastructure IV Co-Investment (Saber)	3/1/2020 \$	1,600,000	\$ 1,616,000	\$ 97,112	\$-	\$ 1,991,593	1.29	7.22%
	2020 EQT Infrastructure V	10/29/2020 \$	32,000,000	\$ 25,366,880	\$ 2,479,185	\$ 8,691,266	5 \$ 27,859,887	1.20	12.54%
	2023 EQT Infrastructure VI	3/1/2023 \$	32,000,000	\$-	\$ -	\$ 32,000,000	) \$ (833,765	) 0.00	n.m.
	2014 Global Energy & Power Infrastructure Fund II	4/16/2014 \$	15,000,000	\$ 16,435,322	\$ 16,545,654	\$ 447,407	\$ 3,741,619	1.23	11.08%
	2019 Global Energy & Power Infrastructure Fund III F	7/3/2018 \$	15,600,000	\$ 14,412,680	\$ 4,060,572	\$ 2,163,629	\$ 13,765,493	1.24	10.91%
	2016 Global Infrastructure Partners III	1/29/2016 \$	12,000,000	\$ 12,399,057	\$ 6,247,658	\$ 1,302,516	5 \$ 12,544,954	1.52	9.80%
	2018 Global Infrastructure Partners IV	3/11/2019 \$	22,600,000	\$ 19,639,118	\$ 1,078,468	\$ 5,062,512	2 \$ 20,716,665	1.11	6.18%
	2023 Global Infrastructure Partners V	3/31/2023 \$	30,000,000	\$ 3,385,628	\$ 6,101	\$ 26,677,726	5 \$ 3,506,322	1.04	n.m.
	2014 IFM Global Infrastructure Fund	1/2/2014 \$	15,000,000	\$ 20,027,335	\$ 9,359,360	\$-	\$ 32,058,589	2.07	11.62%
	2021 InfraVia European Fund V	3/1/2022 \$	37,825,000	\$ 13,823,206	\$ 495,223	\$ 23,270,212	2 \$ 14,911,459	1.11	n.m.
	2014 KKR Global Infrastructure Investors II	6/12/2015 \$	19,000,000	\$ 20,789,948	\$ 33,152,222	\$ 821,881	\$ 6,205,192	1.89	18.01%
	2018 KKR Global Infrastructure Investors III	3/29/2018 \$	15,600,000	\$ 14,187,346	\$ 4,195,582	\$ 2,440,485	5 \$ 14,264,589	1.30	10.34%
	2021 KKR Global Infrastructure Investors IV	5/24/2021 \$	35,000,000	\$ 20,587,802	\$ 681,658	\$ 15,132,821	\$ 18,852,849	0.95	n.m.
	2017 NYCRS EIG Energy Partners	8/14/2017 \$	11,760,000	\$ 7,204,113	\$ 6,451,829	\$ 5,186,812	2 \$ 2,156,731	1.19	7.89%
	2020 Stonepeak Infrastructure Fund IV	2/16/2021 \$	35,000,000	\$ 16,441,495	\$ 287,925	\$ 18,632,931	\$ 18,612,220	1.15	8.63%
	2023 Stonepeak Infrastructure Fund V	12/29/2023 \$	26,400,000	\$-	\$-	\$ 26,400,000	) \$ -	0.00	n.m.
Total		\$	765,322,986	\$ 388,302,802	\$ 153,105,234	\$ 410,962,003	\$ \$ 364,689,653	1.33	12.02%

Risk Quarterly Report (Public):

# Total Plan Summary

RISK SUITITI	iry		Asset Class Co	JIIIIIDUIIOII	LO NISK		
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR
Total Risk	10.98	Total	9,074,279,344	100.00	10.98	10.98	100.00
Benchmark Risk	10.44	Total	7,074,277,344	100.00	10.90	10.70	100.00
Active Risk	2.15	Public Equity	3,939,125,711	43.41	15.83	6.66	60.70
ACTIVE MISK	2.15	Alternative Investments	2,548,767,917	28.09	13.75	3.58	32.61
Portfolio Beta	1.03		2,0,0,07,717	20.07	15.75	5.50	52.01
Effective Duration	1.67	Public Fixed Income	2,530,998,985	27.89	5.61	0.74	6.70
	1.07	Cash	55,386,732	0.61	0.03	-0.00	-0.00

Asset Class Contribution to Risk

COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042 CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

#### Asset Class Allocation



#### Risk Factor Breakdown

		Risk Dee	composition						
		Portfolio			Active				
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation			
Total Risk	10.98	100.00	1.00	2.15	100.00	1.00			
Local Market Risk	10.45	95.20	1.00	2.12	98.61	1.00			
Common Factor Risk	10.40	94.71	0.99	2.02	93.65	0.97			
Private Real Estate	0.51	4.67	0.62	0.18	8.56	0.23			
Implied Volatility	0.03	0.27	0.49	0.00	0.04	0.11			
Industry	0.09	0.79	0.16	0.04	1.70	0.15			
Market	8.42	76.70	0.96	0.13	5.89	0.21			
Private Equity	0.31	2.82	0.17	1.58	73.20	0.86			
Spread	0.54	4.92	0.72	0.01	0.27	0.08			
Style	0.13	1.18	0.44	0.07	3.46	0.22			
Term Structure	0.37	3.36	0.22	0.01	0.46	0.07			
Selection Risk	0.05	0.48	0.07	0.11	4.96	0.22			
Currency Risk	0.53	4.80	0.57	0.03	1.39	0.15			

Active Risk from Risk Factors

Structure

Volatility

Risk

Risk



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% CR to Active Total Risk

Equity

Real

Estate

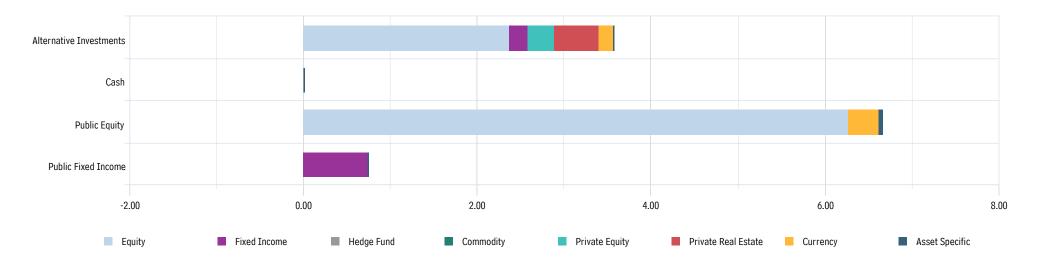
COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042

**Rick** Contribution

CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

#### Risk Contribution Breakdown by Risk Type

										RISK	Contribution			
Asset Name	Mkt Value	Weight (%)	Eff Weight (%)	Total Risk	%CR to Total Risk	Port Risk Contribution	Equity	Fixed Income	Hedge Fund	Commodity	Private Real Estate	Private Equity	Currency	Asset Specific
Total	9,074,279,344	100.00	-	10.98	100.00	10.98	8.64	0.94	0.00	0.00	0.51	0.31	0.53	0.05
Alternative Investments	2,548,767,917	28.09	-	13.75	32.61	3.58	2.37	0.21	0.00	0.00	0.51	0.31	0.17	0.01
Cash	55,386,732	0.61	-	0.03	-0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
Public Equity	3,939,125,711	43.41	-	15.83	60.70	6.66	6.27	-0.00	0.00	0.00	0.00	0.00	0.35	0.04
Public Fixed Income	2,530,998,985	27.89	-	5.61	6.70	0.74	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.00



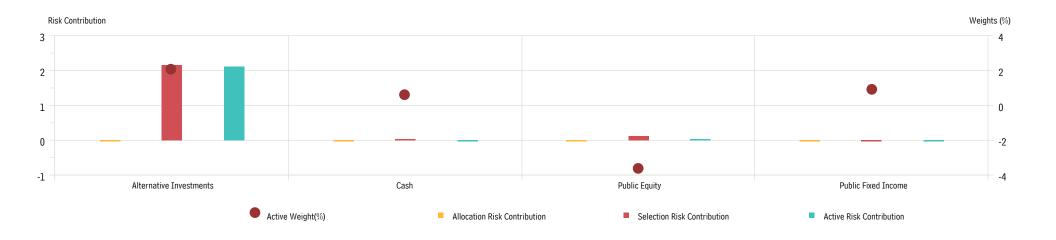


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COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042 CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

#### Allocation Selection

			Allocation			Active		
Asset Class	Active Weight(%)	Volatility	Correlation	Risk Contribution	Volatility	Correlation	<b>Risk Contribution</b>	<b>Risk Contribution</b>
Active Total Risk				-0.10			2.26	2.15
Alternative Investments	2.09	4.31	-0.37	-0.03	7.94	0.97	2.16	2.13
Cash	0.61	10.45	-0.15	-0.01	0.22	0.01	0.00	-0.01
Public Equity	-3.59	5.59	0.25	-0.05	1.08	0.21	0.10	0.05
Public Fixed Income	0.89	8.87	-0.10	-0.01	0.63	-0.03	-0.01	-0.01





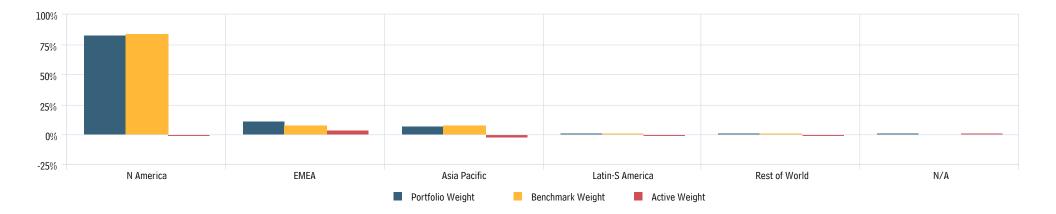
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Portfolio Allocation by Region

COMPANY: NYCRS - BERS	
PORTFOLIO: BERS_Plan3	
BENCHMARK: BERS_Policy3	
POSITIONS: 9.042	

CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

		Weight (%)					
Region	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	-0.00	10.98	2.15	100.00	0.02
N America	82.39	83.18	-0.80	10.58	1.96	90.89	0.01
EMEA	10.61	7.76	2.85	15.92	0.20	9.40	0.03
Asia Pacific	6.14	8.16	-2.02	14.87	-0.01	-0.42	0.01
Latin-S America	0.44	0.55	-0.10	22.54	-0.00	-0.08	0.02
Rest of World	0.26	0.35	-0.09	10.82	0.00	0.07	-0.00
N/A	0.16	0.00	0.16	15.65	0.00	0.13	0.02





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Report Provided by the Office of the New York City Comptroller Bureau of Asset Management

#### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	-0.00	10.98	2.15	100.00	0.02
United States	80.16	81.28	-1.12	10.55	1.91	88.65	0.01
United Kingdom	2.61	1.82	0.80	15.59	0.06	2.83	0.02
Japan	1.41	2.36	-0.95	15.57	-0.00	-0.04	0.01
Germany	1.32	0.80	0.52	17.79	0.02	0.93	0.03
Canada	1.25	1.72	-0.47	11.63	0.03	1.41	0.02
China International	1.21	1.26	-0.05	23.01	-0.01	-0.23	0.01
Taiwan	1.01	1.05	-0.04	23.13	-0.00	-0.00	0.01
India	0.98	1.08	-0.11	18.72	0.00	0.12	0.01
France	0.91	1.05	-0.14	17.49	0.01	0.32	0.03
Sweden	0.88	0.32	0.57	23.39	0.03	1.42	0.05
Netherlands	0.87	0.55	0.32	23.68	0.02	1.05	0.04
Switzerland	0.78	0.84	-0.07	14.71	0.01	0.29	0.02
Italy	0.63	0.38	0.25	18.12	0.01	0.59	0.02
S. Korea	0.49	0.77	-0.28	23.59	-0.01	-0.26	0.02
Australia	0.47	0.78	-0.31	20.36	-0.00	-0.12	0.02
Euro. Monetary Union	0.44	0.00	0.44	22.45	0.02	0.71	0.03
Spain	0.44	0.27	0.17	13.34	0.00	0.21	0.02
Denmark	0.42	0.31	0.11	21.36	0.01	0.65	0.03
Hong Kong	0.39	0.21	0.18	23.14	0.00	0.09	0.00
Ireland	0.38	0.24	0.14	11.68	0.00	0.14	0.01
Brazil	0.36	0.33	0.03	28.60	0.00	0.05	0.01
Belgium	0.32	0.12	0.20	17.60	0.01	0.27	0.02
Singapore	0.24	0.14	0.10	15.11	0.00	0.06	0.01
Mexico	0.20	0.17	0.03	20.28	0.00	0.01	0.02
China	0.20	0.27	-0.07	33.62	0.00	0.17	-0.00
N/A	0.16	0.00	0.16	15.64	0.00	0.13	0.02
Poland	0.14	0.06	0.08	25.80	0.00	0.18	0.04
Norway	0.13	0.08	0.05	22.69	0.00	0.12	0.03
South Africa	0.13	0.17	-0.04	24.20	-0.00	-0.06	0.02
United Arab Emirates	0.12	0.07	0.05	18.79	-0.00	-0.01	-0.00

COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042 CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

Portfolio Weight		Benchr	nark Weight	Active Wei	ght
United States					
United Kingdom					
Japan		÷.			
Germany		1			
Canada		1			
China International					
Taiwan					
India		1			
France		1			
Sweden					
Netherlands					
Switzerland					
Italy					
S. Korea		1			
Australia		1			
Euro. Monetary Union					
Spain					
Denmark					
Hong Kong					
Ireland					
Brazil					
Belgium					
Singapore					
Mexico					
China					
N/A_					
Poland					
Norway					
South Africa					
United Arab Emirates					
-25	596	0%	25% 5	0% 75%	100%



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Portfolio Allocation by Currency

COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042 CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

#### Exposure by Market Non-Dollar DM US Dollar ΕM Frontier Market N/A Others -25% 0% 50% 75% 25% 100% Portfolio Weight Benchmark Weight 🧧 %CR to Active Risk 📃 %CR to Total Risk

ped Market Curi	rency		Emerg	ging Market Cu	rrency	
Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to
7,528,502,917.10	89.29	77.63	New Taiwan Dollar	91,737,998.99	-0.01	1
453,625,410.24	4.63	7.22	Indian Rupee	88,140,234.88	0.11	C
195,070,273.43	2.90	3.03	Korean Won	37,704,551.91	-0.31	0
127,676,732.98	-0.12	1.41	Brazilian Real	32,826,467.39	0.05	0
110,054,800.44	-0.11	1.20	Chinese Yuan	17,195,635.45	0.17	0
	Exposure \$ 7,528,502,917.10 453,625,410.24 195,070,273.43 127,676,732.98	Exposure \$         CR to AR (%)           7,528,502,917.10         89.29           453,625,410.24         4.63           195,070,273.43         2.90           127,676,732.98         -0.12	Exposure s         (%)         (%)           7,528,502,917.10         89.29         77.63           453,625,410.24         4.63         7.22           195,070,273.43         2.90         3.03           127,676,732.98         -0.12         1.41	Exposure \$         CR to AR (%)         CR to TR (%)         Top Five           7,528,502,917.10         89.29         77.63         New Taiwan Dollar           453,625,410.24         4.63         7.22         Indian Rupee           195,070,273.43         2.90         3.03         Korean Won           127,676,732.98         -0.12         1.41         Brazilian Real	Exposure \$         CR to AR (%)         CR to TR (%)         Top Five         Exposure \$           7,528,502,917.10         89.29         77.63         New Taiwan Dollar         91,737,998.99           453,625,410.24         4.63         7.22         Indian Rupee         88,140,234.88           195,070,273.43         2.90         3.03         Korean Won         37,704,551.91           127,676,732.98         -0.12         1.41         Brazilian Real         32,826,467.39	Exposure \$         CR to AR (%)         CR to TR (%)         Top Five         Exposure \$         CR to AR (%)         CR to AR (%)         CR to AR (%)         Top Five         Exposure \$         CR to AR (%)         CR to AR (%)         CR to AR (%)         Top Five         Exposure \$         CR to AR (%)         CR

#### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	-0.00	10.98	10.98	100.00	2.15	100.00
US Dollar	82.97	84.16	-1.19	10.37	8.52	77.63	1.92	89.29
Euro	5.00	2.89	2.11	18.23	0.79	7.22	0.10	4.63
British Pound Sterling	2.15	1.31	0.84	18.64	0.33	3.03	0.06	2.90
Japanese Yen	1.41	2.24	-0.83	15.57	0.15	1.41	-0.00	-0.12
Hong Kong Dollar	1.21	1.32	-0.10	25.51	0.13	1.20	-0.00	-0.11
New Taiwan Dollar	1.01	1.05	-0.04	23.13	0.14	1.32	-0.00	-0.01
Indian Rupee	0.97	1.06	-0.09	18.80	0.10	0.93	0.00	0.11
Swiss Franc	0.69	0.78	-0.09	15.94	0.09	0.81	0.01	0.28
Canadian Dollar	0.67	1.04	-0.37	19.81	0.12	1.06	0.03	1.31
Swedish Krona	0.59	0.31	0.28	24.46	0.12	1.07	0.02	0.98
Danish Krone	0.42	0.31	0.11	21.46	0.07	0.62	0.01	0.65
Korean Won	0.42	0.77	-0.35	23.40	0.07	0.65	-0.01	-0.31
Australian Dollar	0.40	0.68	-0.27	23.48	0.08	0.70	-0.00	-0.14
Brazilian Real	0.36	0.31	0.05	28.65	0.05	0.48	0.00	0.05
Singapore Dollar	0.23	0.11	0.12	15.52	0.02	0.22	0.00	0.05

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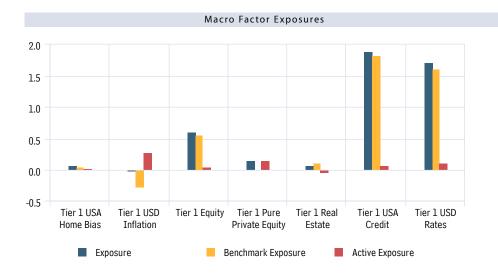
Page 275 of 298 7 of 25

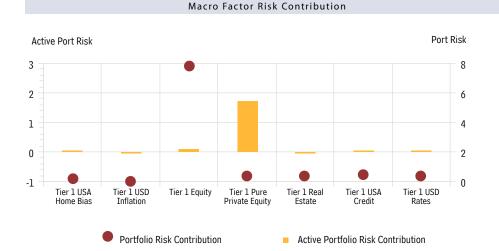
## BarraOne Tier 1 USA Factor Summary

Tier 1 factors describe the most important drivers of the markets and provide a platform for the factor-based asset-allocation framework. They provide a lens for strategic asset allocation and are designed for board level reporting.

COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042 MODEL: MAC.L Tier 1 USA

CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941







MSCI For further documentation on Macro factors please refer to the Research Insight, Risk from Any Altitude: Using the BarraOne Macro Factors - March 2014 https://support.msci.com/docs/DOC-8681

Page 276 of 298 8 of 25

## BarraOne Tier 1 USA Factor Summary

Tier 1 factors describe the most important drivers of the markets and provide a platform for the factor-based asset-allocation framework. They provide a lens for strategic asset allocation and are designed for board level reporting.

COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042 CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

MODEL:	MAC.L	Tier 1	USA
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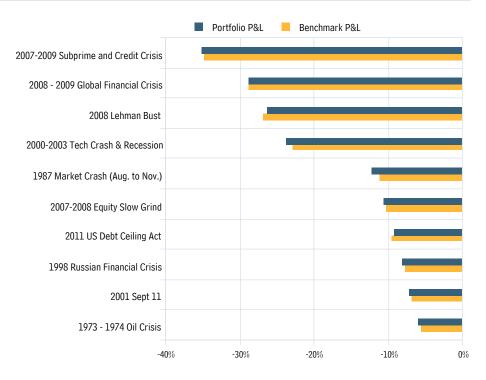
	<u> </u>	-	•.•										
	Risk	Decompo	osition							Macro Factor Scher	ne has six fa	ctors	
		Exposure			Contril	bution		Tier 1 Factor	Exposure Type	Description			
Risk Source	Exposure	Benchmark Exposure		Portfolio Risk Contr ibution	% Portfolio Risk	Active Portfolio Risk Contri bution	% Active Risk	Equity Pure Private Equity Real Estate USA Credit USD Inflation	Membership (weights) Sensitivities (durations)	USA Equity USA Private Equity USA Real Estate Sensitive to USA credit sp Sensitive to USD inflation		s	
Total Risk	-	-	-	10.98	100.00	2.15	100.00	USD Rates		Sensitive to Govt rate exp			
Local Market Risk	-	-	-	10.45	95.20	2.12	98.61	Commodities	Membership (weights)	Sensitive to Commodities		ilou to that of a nortfalia land	
Common Factor Risk	-	-	-	10.40	94.71	2.02	93.65	USA Home Bias				ilar to that of a portfolio long rrency-hedged MSCI ACWI ex-US	S IMI index.
Country	-	-	-	0.16	1.47	0.01	0.31						
Tier 1 USA Home Bias	0.06	0.05	0.01	0.16	1.47	0.01	0.31			Factor Residua	al Risk		
Factor Residual Risk	-	-	-	0.88	8.02	0.19	8.93						
Inflation	-	-	-	0.00	0.01	-0.00	-0.01	Risk Source		Portfolio Risk Contribution	% Portfolio Risk	Active Portfolio Risk Contribution	% Active Risk
Tier 1 USD Inflation	-0.01	-0.29	0.28	0.00	0.01	-0.00	-0.01	Basis		-0.00	-0.00	-0.00	-0.00
Interaction within Common Factor		-	-	N/A	-	N/A	-	Country		-0.00	-0.00	0.00	0.04
Market	-	-	-	7.83	71.30	0.10	4.57	Implied Volatili	ty	0.03	0.27	0.00	0.04
Tier 1 Equity	0.59	0.56	0.03	7.83	71.30	0.10	4.57	Industry		0.09	0.79	0.04	1.70
Private Equity	-	-	-	0.34	3.08	1.72	79.95	Inflation		0.00	0.00	0.00	0.04
Tier 1 Pure Private Equity	0.15	0.00	0.15	0.34	3.08	1.72	79.95	Interaction wit	hin Factor Residual Risk	N/A	-	N/A	-
Private Real Estate	-	-	-	0.36	3.32	-0.01	-0.60	Market		0.43	3.93	0.02	1.01
Tier 1 Real Estate	0.06	0.10	-0.03	0.36	3.32	-0.01	-0.60	Private Equity		-0.03	-0.26	-0.15	-6.74
Spread	-	-	-	0.43	3.93	0.00	0.18	Private Real Es	tate	0.15	1.35	0.20	9.16
Tier 1 USA Credit	1.88	1.81	0.07	0.43	3.93	0.00	0.18	Spread		0.11	0.98	0.00	0.09
Term Structure	-	-	-	0.39	3.59	0.01	0.33	Style		0.13	1.18	0.07	3.46
Tier 1 USD Rates	1.70	1.59	0.11	0.39	3.59	0.01	0.33	Term Structure		-0.03	-0.23	0.00	0.13
Specific Risk	-	-	-	0.05	0.48	0.11	4.96						
Currency Risk	-	-	-	0.53	4.80	0.03	1.39						
Currency/Market Interaction	-	-	-	N/A	-	N/A	-						

#### Stress Scenarios

	Top 10 Best Scenario	S	
Scenario	Portfolio P&L	Benchmark P&L	Market Change (\$)
2001 Fed Rate Cut	4.75	4.52	430,741,429
2003 Iraq War	2.76	2.46	250,476,803
1997-1998 Asian Financial Crisis	2.41	0.89	218,599,746
1995 US Dollar Rally	1.66	1.45	150,296,847
1999 Brazilian Real Crisis (Peak)	1.46	1.28	132,859,551
2010 Peripheral European Bond Crisis (Oc	1.40	1.35	127,064,813
1994 Mexican Peso Crisis	0.72	0.56	65,752,710
2011 Egyptian Unrest	0.43	0.34	38,951,573
2011 Japanese Earthquake	-1.15	-1.31	-104,261,077
1998 LTCM Collapse	-1.31	-1.27	-118,767,377

Portfolio P&L Benchmark P&L 2001 Fed Rate Cut 2003 Irag War 1997-1998 Asian Financial Crisis 1995 US Dollar Rally 1999 Brazilian Real Crisis (Peak) 2010 Peripheral European Bond Crisis (Oct.26 to N... 1994 Mexican Peso Crisis 2011 Egyptian Unrest 2011 Japanese Earthquake 1998 LTCM Collapse -2% 0% 2% 4% 6% COMPANY: NYCRS - BERS PORTFOLIO: BERS\_Plan3 BENCHMARK: BERS\_Policy3 POSITIONS: 9,042 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 9,074,279,344 ACCEPTED: 8,941

Top 10 Worst Scenarios								
Portfolio P&L	Benchmark P&L	Market Change (\$)						
-35.12	-34.85	-3,186,555,012						
-28.77	-28.75	-2,611,033,414						
-26.37	-26.86	-2,392,532,518						
-23.80	-22.82	-2,159,536,387						
-12.32	-11.20	-1,117,809,208						
-10.64	-10.30	-965,345,882						
-9.26	-9.47	-840,666,662						
-8.02	-7.67	-728,195,421						
-7.24	-6.89	-656,720,585						
-6.00	-5.52	-544,633,441						
	Portfolio P&L -35.12 -28.77 -26.37 -23.80 -12.32 -10.64 -9.26 -8.02 -7.24	Portfolio P&L         Benchmark P&L           -35.12         -34.85           -28.77         -28.75           -26.37         -26.86           -23.80         -22.82           -12.32         -11.20           -10.64         -10.30           -9.26         -9.47           -8.02         -7.67           -7.24         -6.89						





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#### **Total Plan Summary**

ary		Asset	oution to Ri	ition to Risk				
Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR		
15.83	Total	3,939,125,711	100.00	15.83	15.83	100.00		
15.41	Developed Ex-U.S.	803,253,478	20.39	17.30	3.27	20.67		
1.08	Emerging Markets	356,734,630	9.06	15.66	1.17	7.39		
1.03	U.S. Equity	2,779,137,603	70.55	16.37	11.39	71.95		
	15.83 15.41 1.08	ValueAsset Class15.83Total15.41Developed Ex-U.S.1.08Emerging Markets	Value         Asset Class         Mkt Value           15.83         Total         3,939,125,711           15.41         Developed Ex-U.S.         803,253,478           1.08         Emerging Markets         356,734,630	Value         Asset Class         Mkt Value         Weight (%)           15.83         Total         3,939,125,711         100.00           15.41         Developed Ex-U.S.         803,253,478         20.39           1.08         Emerging Markets         356,734,630         9.06	Value         Asset Class         Mkt Value         Weight (%)         Total Risk           15.83         Total         3,939,125,711         100.00         15.83           15.41         Developed Ex-U.S.         803,253,478         20.39         17.30           1.08         Emerging Markets         356,734,630         9.06         15.66	Value         Asset Class         Mkt Value         Weight (%)         Total Risk         Risk Contribution           15.83         Total         3,939,125,711         100.00         15.83         15.83           15.41         Developed Ex-U.S.         803,253,478         20.39         17.30         3.27           1.08         Emerging Markets         356,734,630         9.06         15.66         1.17		

COMPANY: NYCRS - BERS PORTFOLIO: Public Equity BENCHMARK: Public Equity POSITIONS: 4,803 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 3,939,125,711 ACCEPTED: 4,758

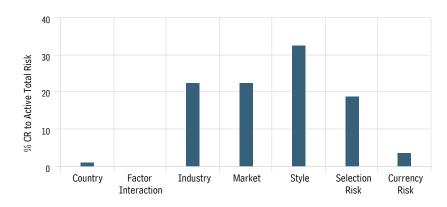


#### Risk Factor Breakdown

Risk Decomposition

	1	Portfolio		Active				
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation		
Total Risk	15.83	100.00	1.00	1.08	100.00	1.00		
Local Market Risk	15.08	95.21	1.00	1.04	96.57	0.96		
Common Factor Risk	14.92	94.21	0.99	0.84	77.83	0.86		
Country	-0.00	-0.00	-0.00	0.01	1.02	0.15		
Industry	0.19	1.21	0.18	0.24	22.17	0.57		
Market	14.44	91.17	0.99	0.24	22.24	0.52		
Style	0.29	1.83	0.61	0.35	32.40	0.66		
Selection Risk	0.16	1.00	0.10	0.20	18.73	0.43		
Currency Risk	0.76	4.79	0.53	0.04	3.43	0.12		

Active Risk from Risk Factors



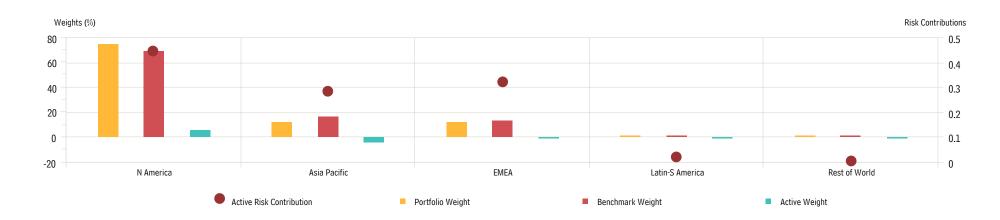


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#### Portfolio Allocation by Region

COMPANY: NYCRS - BERS PORTFOLIO: Public Equity BENCHMARK: Public Equity POSITIONS: 4,803 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 3,939,125,711 ACCEPTED: 4,758

		Weight (%)					
Region	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	0.00	15.83	1.08	100.00	0.01
Asia Pacific	12.36	16.59	-4.23	15.71	0.28	26.21	-0.04
EMEA	12.23	13.36	-1.13	19.10	0.32	30.04	-0.01
Latin-S America	0.74	1.09	-0.34	24.12	0.02	1.85	-0.04
N America	74.40	68.60	5.80	16.33	0.45	41.36	0.02
Rest of World	0.27	0.36	-0.09	19.45	0.01	0.54	-0.05





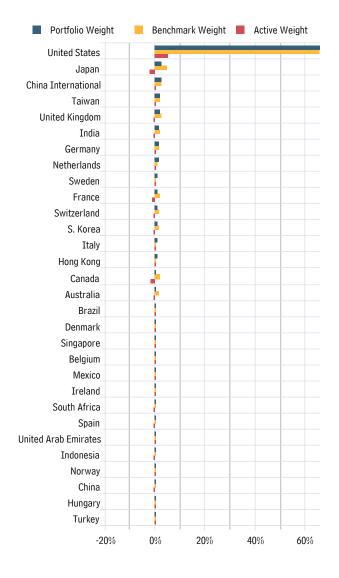
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#### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk		%CR to Active TR	MC to Active TR
Total	100.00	100.00	0.00	15.83	1.08	100.00	0.01
United States	71.39	66.00	5.39	16.42	0.36	33.72	0.07
Japan	2.81	4.76	-1.96	16.72	0.13	11.76	0.01
China International	2.76	2.67	0.09	22.95	0.00	0.18	0.01
Taiwan	2.33	2.23	0.10	23.13	0.01	0.97	0.04
United Kingdom	2.25	2.78	-0.52	19.99	0.07	6.62	0.04
India	1.78	2.26	-0.48	19.37	0.03	2.91	0.02
Germany	1.70	1.56	0.14	22.85	0.04	3.64	0.06
Netherlands	1.53	0.88	0.66	27.98	0.06	5.21	0.10
Sweden	1.29	0.66	0.63	25.74	0.04	3.30	0.08
France	1.26	2.10	-0.84	19.36	0.03	2.77	0.04
Switzerland	1.24	1.66	-0.42	16.86	0.03	2.99	0.03
S. Korea	1.07	1.64	-0.57	24.13	0.02	2.12	0.02
Italy	0.95	0.55	0.39	21.38	0.02	2.22	0.06
Hong Kong	0.82	0.33	0.49	24.58	-0.02	-2.01	0.01
Canada	0.77	2.23	-1.46	21.95	0.08	7.84	0.04
Australia	0.73	1.44	-0.71	25.82	0.05	4.39	0.04
Brazil	0.70	0.67	0.04	28.49	0.00	0.15	0.01
Denmark	0.69	0.66	0.03	22.72	0.02	1.51	0.05
Singapore	0.50	0.24	0.26	15.80	-0.01	-0.75	0.02
Belgium	0.43	0.19	0.24	23.46	0.00	0.26	0.04
Mexico	0.35	0.35	0.01	23.06	0.00	0.10	0.03
Ireland	0.31	0.10	0.21	25.39	0.00	0.33	0.06
South Africa	0.28	0.36	-0.07	24.73	0.00	0.45	0.01
Spain	0.27	0.49	-0.22	19.64	0.01	1.06	0.02
United Arab Emirates	0.21	0.15	0.06	22.78	-0.00	-0.19	0.01
Indonesia	0.20	0.23	-0.03	21.95	0.00	0.14	0.01
Norway	0.20	0.17	0.03	25.79	0.00	0.16	0.02
China	0.19	0.55	-0.36	65.02	0.03	2.66	0.01
Hungary	0.14	0.03	0.11	32.15	-0.00	-0.17	0.04
Turkey	0.13	0.09	0.04	36.70	0.00	0.00	0.03

COMPANY: NYCRS - BERS PORTFOLIO: Public Equity BENCHMARK: Public Equity POSITIONS: 4,803 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 3,939,125,711 ACCEPTED: 4,758





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#### Portfolio Allocation by Currency



COMPANY: NYCRS - BERS PORTFOLIO: Public Equity BENCHMARK: Public Equity POSITIONS: 4,803 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 3,939,125,711 ACCEPTED: 4,758

De	veloped Market (	Currency	Emerging Market Currency					
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	
US Dollar	2,865,904,208.53	35.45	74.24	New Taiwan Dollar	91,737,998.99	0.97	2.13	
Euro	260,597,377.24	15.79	7.52	Indian Rupee	70,094,507.24	2.91	1.23	
Japanese Yen	110,562,667.83	11.76	2.08	Korean Won	35,738,362.91	2.69	1.02	
Hong Kong Dollar	107,677,036.46	1.16	1.95	Brazilian Real	27,934,720.62	0.21	0.67	
British Pound Sterlin	ng 90,085,061.70	6.77	2.43	CNH	17,078,454.71	-2.26	0.05	

#### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	0.00	15.83	15.83	100.00	1.08	100.00
US Dollar	72.75	66.30	6.46	16.36	11.76	74.24	0.38	35.45
Euro	6.62	6.15	0.47	20.43	1.19	7.52	0.17	15.79
Japanese Yen	2.81	4.76	-1.96	16.72	0.33	2.08	0.13	11.76
Hong Kong Dollar	2.73	2.80	-0.07	25.65	0.31	1.95	0.01	1.16
New Taiwan Dollar	2.33	2.23	0.10	23.13	0.34	2.13	0.01	0.97
British Pound Sterling	2.29	2.78	-0.49	20.18	0.39	2.43	0.07	6.77
Indian Rupee	1.78	2.26	-0.48	19.37	0.19	1.23	0.03	2.91
Swiss Franc	1.21	1.66	-0.45	16.75	0.16	1.03	0.03	2.87
Korean Won	0.91	1.64	-0.73	23.98	0.16	1.02	0.03	2.69
Canadian Dollar	0.77	2.21	-1.44	21.98	0.14	0.89	0.08	7.82
Australian Dollar	0.73	1.44	-0.71	25.82	0.15	0.95	0.05	4.39
Brazilian Real	0.71	0.67	0.04	28.31	0.11	0.67	0.00	0.21
Danish Krone	0.67	0.66	0.02	22.87	0.11	0.72	0.02	1.51
Swedish Krona	0.66	0.66	-0.00	26.06	0.14	0.87	0.00	0.41
Singapore Dollar	0.50	0.24	0.27	15.80	0.05	0.34	-0.01	-0.76

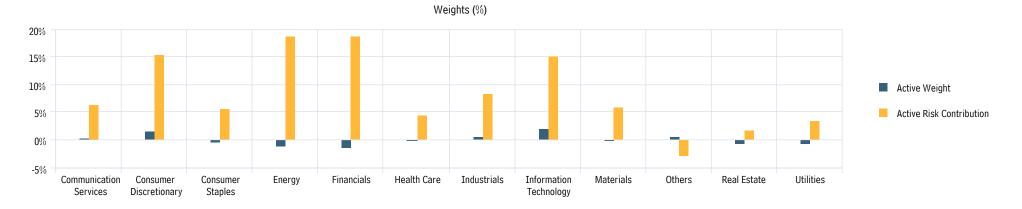


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#### Portfolio Allocation by GICS Sector

COMPANY: NYCRS - BERS PORTFOLIO: Public Equity BENCHMARK: Public Equity POSITIONS: 4,803 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 3,939,125,711 ACCEPTED: 4,758

	Weight (%)					
Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
100.00	100.00	0.00	15.83	1.08	100.00	0.01
7.73	7.40	0.33	19.55	0.07	6.27	0.08
12.54	10.97	1.57	19.86	0.16	15.18	0.08
5.67	6.08	-0.42	11.85	0.06	5.68	0.02
3.25	4.52	-1.27	21.94	0.20	18.57	-0.03
14.71	16.19	-1.48	16.58	0.20	18.77	0.05
10.91	10.91	-0.00	13.95	0.05	4.47	0.04
11.64	11.22	0.42	17.42	0.09	8.13	0.06
25.21	23.23	1.98	21.17	0.16	14.95	0.10
4.09	4.40	-0.31	17.65	0.06	5.75	0.04
0.55	0.00	0.55	1.34	-0.03	-2.86	-0.00
1.90	2.66	-0.76	20.31	0.02	1.60	0.05
1.81	2.43	-0.61	17.67	0.04	3.50	0.00
	100.00 7.73 12.54 5.67 3.25 14.71 10.91 11.64 25.21 4.09 0.55 1.90	Portfolio         Benchmark           100.00         100.00           7.73         7.40           12.54         10.97           5.67         6.08           3.25         4.52           14.71         16.19           10.91         10.91           11.64         11.22           25.21         23.23           4.09         4.40           0.55         0.00           1.90         2.66	Portfolio         Benchmark         Active           100.00         100.00         0.00           7.73         7.40         0.33           12.54         10.97         1.57           5.67         6.08         -0.42           3.25         4.52         -1.27           14.71         16.19         -1.48           10.91         -0.00         -11.64           11.64         11.22         0.42           25.21         23.23         1.98           4.09         4.40         -0.31           0.55         0.00         0.55           1.90         2.66         -0.76	Portfolio         Benchmark         Active         Total Risk           100.00         100.00         0.00         15.83           7.73         7.40         0.33         19.55           12.54         10.97         1.57         19.86           5.67         6.08         -0.42         11.85           3.25         4.52         -1.27         21.94           14.71         16.19         -1.48         16.58           10.91         -0.00         13.95         13.95           11.64         11.22         0.42         17.42           25.21         23.23         1.98         21.17           4.09         4.40         -0.31         17.65           0.55         0.00         0.55         1.34           1.90         2.66         -0.76         20.31	Portfolio         Benchmark         Active         Total Risk         Active Risk CR           100.00         100.00         0.00         15.83         1.08           7.73         7.40         0.33         19.55         0.07           12.54         10.97         1.57         19.86         0.16           5.67         6.08         -0.42         11.85         0.06           3.25         4.52         -1.27         21.94         0.20           14.71         16.19         -1.48         16.58         0.20           10.91         0.00         13.95         0.05         0.05           11.64         11.22         0.42         17.42         0.09           25.21         23.23         1.98         21.17         0.16           4.09         4.40         0.31         17.65         0.06           0.55         0.00         0.55         1.34         -0.03           1.90         2.66         -0.76         20.31         0.02	PortfolioBenchmarkActiveTotal RiskActive Risk CR%CR to Active TR100.00100.000.0015.831.08100.007.737.400.3319.550.076.2712.5410.971.5719.860.1615.185.676.08-0.4211.850.065.683.254.52-1.2721.940.2018.5714.7116.19-1.4816.580.2018.7710.910.0013.950.054.4711.6411.220.4217.420.098.1325.2123.231.9821.170.1614.954.094.40-0.3117.650.065.750.550.000.551.34-0.03-2.861.902.66-0.7620.310.021.60



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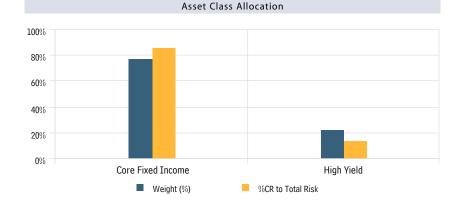
Page 283 of 298 15 of 25

## BarraOne Fixed Income Summary

#### Total Plan Summary

Risk Summar	у		Asset Class Contribution to Risk									
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR					
Total Risk	5.61	Total	2,530,998,985	100.00	5.61	5.61	100.00					
Benchmark Risk	5.54	Core Fixed Income	1,955,476,008	77.26	6.30	4.81	85.66					
Active Risk	0.63	High Yield	565,203,888	22.33	4.88	0.78	13.95					
Portfolio Beta	1.01											
Cont. to Eff. Duration	5.34											
Convexity	0.44											
Yield to Worst (%)	5.23											
OAS to Swap (bp)	94.03											

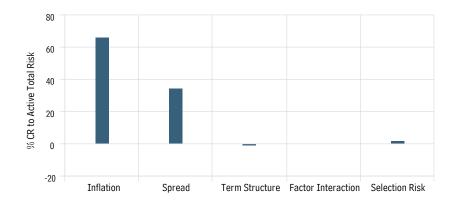
COMPANY: NYCRS - BERS PORTFOLIO: Public Fixed Income BENCHMARK: Public Fixed Income POSITIONS: 3,903 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,530,998,985 ACCEPTED: 3,849



#### **Risk Factor Breakdown**

		Risk De	ecomposition					
	I	Portfolio		Active				
Risk Source	Risk Contribution	% Risk	Correlation	Risk Contribution	% Risk	Correlation		
Total Risk	5.61	100.00	1.00	0.63	100.00	1.00		
Local Market Risk	5.61	100.00	1.00	0.63	100.00	1.00		
Common Factor Risk	5.61	99.97	1.00	0.62	98.04	0.99		
Implied Volatility	0.11	2.04	0.57	-0.00	-0.48	-0.18		
Inflation	-0.00	-0.06	-0.19	0.41	65.72	0.91		
Spread	0.63	11.18	0.33	0.22	34.52	0.74		
Term Structure	4.87	86.80	0.93	-0.01	-1.23	-0.12		
Selection Risk	0.00	0.03	0.02	0.01	1.96	0.14		

Active Risk from Risk Factors





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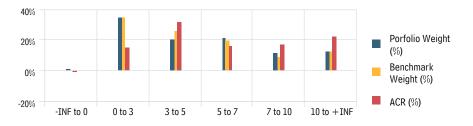
## BarraOne Fixed Income Summary

#### Portfolio by Factor Breakdowns

COMPANY: NYCRS - BERS PORTFOLIO: Public Fixed Income **BENCHMARK:** Public Fixed Income POSITIONS: 3,903 MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,530,998,985 ACCEPTED: 3,849

Top 10 Spread Factor									Top 10 Term Structure									
Exposure (Residual)				Correlation Contribution (Residual)		Exposure (Residual)				Correlation	Contribution (Residual)							
Volatility	Portfolio	Benchmark	Active	MCAR	Active Port	to TR	to AR	to AR%	Term Structure	Volatility	Portfolio	Benchmark	Active	MCAR	Active Port	to TR	to AR	to AR%
43.96	0.70	1.09	-0.38	-0.31	-0.71	0.05	0.12	18.87	USD Rate 10Y	1.08	1.21	1.02	0.18	0.00	0.39	1.22	0.08	12.14
36.48	0.24	0.41	-0.17	-0.23	-0.63	0.01	0.04	6.32	USD Rate 30Y	0.92	0.89	0.88	0.01	0.00	0.36	0.73	0.00	0.76
45.11	0.06	0.15	-0.09	-0.30	-0.66	0.00	0.03	4.19	USD Rate 6M	0.86	0.01	0.01	0.00	0.00	0.25	0.01	0.00	0.11
42.06	0.25	0.33	-0.09	-0.30	-0.72	0.01	0.03	4.12	USD Rate 1M	1.18	0.01	0.00	0.00	0.00	0.15	0.00	0.00	0.09
37.31	0.15	0.22	-0.07	-0.26	-0.69	0.01	0.02	2.93	USD Muni Rates 10Y	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49.71	0.06	0.10	-0.04	-0.37	-0.75	0.00	0.02	2.40	USD Muni Rates 20Y	1.02	0.00	0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00
37.41	0.08	0.16	-0.08	-0.18	-0.47	0.01	0.01	2.12	USD Muni Rates 1Y	1.04	0.00	0.00	0.00	-0.00	-0.07	0.00	-0.00	-0.00
0.15	-1.49	-1.21	-0.27	-0.00	-0.29	0.11	0.01	1.83	USD Muni Rates 2Y	1.09	0.00	0.00	0.00	-0.00	-0.05	0.00	-0.00	-0.00
42.81	0.15	0.19	-0.04	-0.28	-0.65	0.01	0.01	1.71	USD Muni Rates 5Y	1.05	0.00	0.00	0.00	-0.00	-0.06	0.00	-0.00	-0.00
37.11	0.05	0.09	-0.04	-0.25	-0.68	0.00	0.01	1.63	USD Rate 1Y	1.08	0.11	0.11	-0.00	0.00	0.30	0.07	-0.00	-0.19
	43.96 36.48 45.11 42.06 37.31 49.71 37.41 0.15 42.81	Exp           Volatility         Portfolio           43.96         0.70           36.48         0.24           45.11         0.06           42.06         0.25           37.31         0.15           49.71         0.06           37.41         0.08           0.15         -1.49           42.81         0.15	Exposure (Resid           Volatility         Portfolio         Benchmark           43.96         0.70         1.09           36.48         0.24         0.41           45.11         0.06         0.15           42.06         0.25         0.33           37.31         0.15         0.22           49.71         0.06         0.10           37.41         0.08         0.16           0.15         -1.49         -1.21           42.81         0.15         0.19	Exposure (Residual)           Volatility         Portfolio         Benchmark         Active           43.96         0.70         1.09         -0.38           36.48         0.24         0.41         -0.17           45.11         0.06         0.15         -0.09           42.06         0.25         0.33         -0.01           37.31         0.15         0.22         -0.07           49.71         0.06         0.10         -0.04           37.41         0.08         0.16         -0.08           0.15         -1.49         -1.21         -0.27           42.81         0.15         0.19         -0.04	Exposure (Residual         Active         MCAR           Volatility         Portfolio         Benchmark         Active         MCAR           43.96         0.70         1.09         -0.38         -0.31           36.48         0.24         0.41         -0.17         -0.23           45.11         0.06         0.15         -0.09         -0.30           42.06         0.25         0.33         -0.09         -0.31           37.31         0.15         0.22         -0.07         -0.23           49.71         0.06         0.10         -0.08         -0.31           37.41         0.08         0.16         -0.08         -0.18           0.15         -1.49         -1.21         -0.27         -0.02           42.81         0.15         0.19         -0.04         -0.28	Exposure (Residual)         MCAR         Correlation Active Port           Volatility         Portfolio         Benchmark         Active         MCAR         Active Port           43.96         0.70         1.09         -0.38         -0.31         -0.71           36.48         0.24         0.41         -0.17         -0.23         -0.63           45.11         0.06         0.15         -0.09         -0.30         -0.72           37.31         0.15         0.22         -0.07         -0.23         -0.73           49.71         0.06         0.10         -0.04         -0.37         -0.75           37.41         0.08         0.16         -0.08         -0.18         -0.47           0.15         -1.49         -1.21         -0.27         -0.00         -0.28           0.15         0.15         0.19         -0.04         -0.28         -0.29	Exposure (Residual)         Correlation Active Port         Contrait           Volatility         Portfolio         Benchmark         Active         MCAR         Active Port         to TR           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05           36.48         0.24         0.41         -0.17         -0.23         -0.63         0.01           45.11         0.06         0.15         -0.09         -0.30         -0.72         0.01           42.06         0.25         0.33         -0.09         -0.30         -0.72         0.01           37.31         0.15         0.22         -0.07         -0.26         -0.69         0.01           49.71         0.06         0.10         -0.08         -0.18         -0.75         0.00           37.41         0.08         0.16         -0.08         -0.18         -0.47         0.01           0.15         -1.49         -1.21         -0.27         -0.00         -0.29         0.11           42.81         0.15         0.19         -0.04         -0.28         -0.65         0.01	Exposure (Residual)         Correlation Active Port         Contribution (R to TR         Contribution (R to TR	$ \begin{array}{ c c c c c c c } \hline Exposure (Residual) \\ \hline Volatility \\ Volatility \\ Portfolio \\ Benchmark \\ Active \\ Active \\ MCAR \\ Active Port \\ Active Port \\ Active Port \\ Active Port \\ To TR \\ to AR \\ to $	Exposure (Residual)         Correlation         Contribution (Residual)         Term Structure           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05         0.12         18.87         USD Rate 10Y           36.48         0.24         0.41         -0.17         -0.23         -0.63         0.01         0.04         6.32         USD Rate 10Y           45.11         0.06         0.15         -0.09         -0.30         -0.66         0.00         0.03         4.19         USD Rate 30Y           42.06         0.25         0.33         -0.09         -0.30         -0.72         0.01         0.03         4.19           37.31         0.15         0.22         -0.07         -0.26         -0.69         0.01         0.02         2.93         USD Muni Rates 10Y           49.71         0.06         0.10         -0.04         -0.37         -0.75         0.00         0.02         2.40         USD Muni Rates 20Y           37.41         0.08         0.16         -0.08         -0.18         -0.47         0.01         0.01         2.12         USD Muni Rates 21Y           0.15         -1.49         -1.21         -0.27         -0.00         -0.29	Exposure (Residual) VolatilityExposure (Residual) MCARCorrelation Active PortContribution (Residual) to TRTerm StructureVolatility43.960.701.09-0.38-0.31-0.710.050.1218.87USD Rate 10Y1.0836.480.240.41-0.170.23-0.630.010.046.32USD Rate 30Y0.9245.110.060.15-0.09-0.30-0.660.000.034.19USD Rate 6M0.8642.060.250.33-0.09-0.30-0.720.010.034.12USD Rate 10Y1.0837.310.150.22-0.07-0.26-0.690.010.022.93USD Muni Rates 10Y1.0449.710.060.10-0.04-0.37-0.750.000.022.40USD Muni Rates 20Y1.0237.410.080.16-0.08-0.18-0.470.010.012.12USD Muni Rates 21Y1.040.15-1.49-1.21-0.27-0.00-0.290.110.011.83USD Muni Rates 2Y1.0942.810.150.19-0.04-0.28-0.650.010.011.71USD Muni Rates 5Y1.05	Exposure (Residual)         Correlation         Correlation <td>Exposure (Residus)         Correlation         Contribution (Residual)         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         Active Port         to TR         to AR         to AR%         Term Structure         Volatility         Portfolio         Benchmark         Active Port         Active Port         to TR         to AR         to AR%         Term Structure         Volatility         Portfolio         Benchmark           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05         0.12         18.87         USD Rate 10Y         1.08         1.21         1.02           36.48         0.24         0.41         -0.17         -0.23         -0.63         0.01         0.04         6.32         USD Rate 10Y         1.08         1.21         1.02           45.11         0.06         0.15         -0.09         -0.30         -0.72         0.01         0.03         4.12         USD Rate 10Y         1.08         0.01         0.01           42.06         0.25         0.33         -0.09         -0.01         0.02         2.93         USD Muni Rates 10Y         1.04         0.00         0.00           49.71         0.06         0.10<td>Exposure (Residual)         Correlation         Correlation<!--</td--><td>Exposure (Residus)         Correlation         Correlation         Correlation         Correlation         Recive Port         to TR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         Active Port         to TR         to AR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         MCAR           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05         0.12         18.87         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         0.01         0.01         0.00         0.01         0.00         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.01         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00</td><td>Karley ConstructionCorrelationC</td><td>Exposure (Residuar)         Correlation         Correlation<td>LEposure (Residual)         Correlation         Contribution (Residual)         Contribution (Resid)         Contribution (Resid)</td></td></td></td>	Exposure (Residus)         Correlation         Contribution (Residual)         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         Active Port         to TR         to AR         to AR%         Term Structure         Volatility         Portfolio         Benchmark         Active Port         Active Port         to TR         to AR         to AR%         Term Structure         Volatility         Portfolio         Benchmark           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05         0.12         18.87         USD Rate 10Y         1.08         1.21         1.02           36.48         0.24         0.41         -0.17         -0.23         -0.63         0.01         0.04         6.32         USD Rate 10Y         1.08         1.21         1.02           45.11         0.06         0.15         -0.09         -0.30         -0.72         0.01         0.03         4.12         USD Rate 10Y         1.08         0.01         0.01           42.06         0.25         0.33         -0.09         -0.01         0.02         2.93         USD Muni Rates 10Y         1.04         0.00         0.00           49.71         0.06         0.10 <td>Exposure (Residual)         Correlation         Correlation<!--</td--><td>Exposure (Residus)         Correlation         Correlation         Correlation         Correlation         Recive Port         to TR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         Active Port         to TR         to AR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         MCAR           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05         0.12         18.87         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         0.01         0.01         0.00         0.01         0.00         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.01         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00</td><td>Karley ConstructionCorrelationC</td><td>Exposure (Residuar)         Correlation         Correlation<td>LEposure (Residual)         Correlation         Contribution (Residual)         Contribution (Resid)         Contribution (Resid)</td></td></td>	Exposure (Residual)         Correlation         Correlation </td <td>Exposure (Residus)         Correlation         Correlation         Correlation         Correlation         Recive Port         to TR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         Active Port         to TR         to AR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         MCAR           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05         0.12         18.87         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         0.01         0.01         0.00         0.01         0.00         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.01         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00</td> <td>Karley ConstructionCorrelationC</td> <td>Exposure (Residuar)         Correlation         Correlation<td>LEposure (Residual)         Correlation         Contribution (Residual)         Contribution (Resid)         Contribution (Resid)</td></td>	Exposure (Residus)         Correlation         Correlation         Correlation         Correlation         Recive Port         to TR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         Active Port         to TR         to AR         to AR         to AR         Term Structure         Volatility         Portfolio         Benchmark         Active         MCAR         MCAR           43.96         0.70         1.09         -0.38         -0.31         -0.71         0.05         0.12         18.87         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         1.21         1.02         0.18         0.01         0.01         0.04         6.32         USD Rate 10Y         1.08         0.01         0.01         0.00         0.01         0.00         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.01         USD Rate 30Y         0.92         0.89         0.88         0.01         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00	Karley ConstructionCorrelationC	Exposure (Residuar)         Correlation         Correlation <td>LEposure (Residual)         Correlation         Contribution (Residual)         Contribution (Resid)         Contribution (Resid)</td>	LEposure (Residual)         Correlation         Contribution (Residual)         Contribution (Resid)         Contribution (Resid)



#### %CR to Active Risk by Duration Buckets

							Key	/ Rate	Durat	ion						
										Key R	ate Di	uration				
		Cont.1	o Eff. D	ur	1 Yr	2 Yrs	5 Yrs	7 Yrs	10 Yr:	s 15 '	Yrs	20 Yrs	25 Yrs	30 Yrs	40 Yrs	50 Yrs
Portf	olio		5.	34	0.11	0.58	0.84	0.74	0.9	L 0.	.00	1.24	0.00	0.89	0.00	0.01
Bencl	nmark		5.	34	0.11	0.62	0.91	0.77	0.72	2 0.	.00	1.30	0.00	0.88	0.00	0.02
Active	9		-0.	01 -	0.00	-0.04	-0.07	-0.03	0.19	90.	.00	-0.06	0.00	0.01	0.00	-0.02
1.5 1.0 0.5 0.0														Portfolio Benchm Active		
-0.5	1 Yr	2 Yrs	3 Yrs	5 Yrs	s 7 Yrs	10 Yrs	15 Yrs	20 Yrs	25 Yrs	30 Yrs	40 Yrs					



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## BarraOne Fixed Income Summary

#### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	5.61	0.63	100.00	0.01
United States	93.31	92.32	0.99	5.68	0.61	97.02	0.01
Canada	1.75	1.89	-0.13	5.56	0.01	1.23	0.00
United Kingdom	1.41	1.58	-0.17	5.63	-0.00	-0.04	0.00
Ireland	0.53	0.53	-0.00	6.22	-0.00	-0.24	-0.01
Germany	0.46	0.14	0.32	5.39	0.00	0.05	0.00
Spain	0.34	0.12	0.22	5.97	-0.00	-0.01	0.00
Luxembourg	0.29	0.44	-0.16	13.05	0.01	0.88	-0.04
Switzerland	0.25	0.19	0.06	7.36	-0.00	-0.11	0.00
Australia	0.23	0.30	-0.07	4.54	-0.00	-0.20	0.00
Belgium	0.22	0.12	0.11	12.82	0.00	0.53	0.03
Netherlands	0.22	0.31	-0.09	7.26	0.00	0.32	-0.01
Italy	0.17	0.31	-0.14	4.73	0.00	0.68	-0.01
Israel	0.13	0.03	0.10	5.83	-0.00	-0.08	-0.01
Caymans	0.12	0.06	0.05	4.34	-0.00	-0.10	-0.03
Bermuda	0.08	0.17	-0.10	4.13	0.00	0.30	-0.02
Austria	0.08	0.03	0.05	2.73	0.00	0.03	-0.01
Sweden	0.06	0.03	0.04	7.46	0.00	0.04	0.01
France	0.06	0.15	-0.09	8.52	0.00	0.05	-0.01
Масао	0.06	0.15	-0.10	6.30	0.00	0.22	-0.01
Hong Kong	0.05	0.14	-0.09	8.23	-0.00	-0.01	0.01
United Arab Emirates	0.05	0.00	0.05	8.52	-0.00	-0.21	-0.02
Liberia	0.04	0.04	-0.00	2.02	0.00	0.00	0.00
Zambia	0.02	0.00	0.02	5.29	-0.00	-0.08	-0.02
Malta	0.02	0.04	-0.02	28.27	0.00	0.33	-0.09
Singapore	0.02	0.11	-0.09	8.76	-0.00	-0.10	0.01
India	0.02	0.07	-0.05	5.88	0.00	0.14	-0.01
Mexico	0.02	0.04	-0.02	2.63	-0.00	-0.08	0.01
Brazil	0.01	0.07	-0.06	14.04	0.00	0.25	-0.04
Euro. Monetary Union	0.00	0.00	0.00	6.76	-0.00	-0.00	-0.01
Barbados	0.00	0.01	-0.01	0.00	0.00	0.02	-0.01

COMPANY: NYCRS - BERS PORTFOLIO: Public Fixed Income BENCHMARK: Public Fixed Income POSITIONS: 3,903 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,530,998,985 ACCEPTED: 3,849

Portfolio Weight	Benc	hmark Weight	Act	ive Weight
United States				
Canada				
United Kingdom	1 A 1			
Ireland				
Germany				
Spain				
Luxembourg				
Switzerland				
Australia				
Belgium				
Netherlands				
Italy				
Israel				
Caymans				
Bermuda				
Austria				
Sweden				
France				
Масао				
Hong Kong				
United Arab Emirates				
Liberia				
Zambia				
Malta				
Singapore				
India				
Mexico				
Brazil				
Euro. Monetary Union				
Barbados	1			
-25%	0%	25%	50%	75%



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Page 286 of 298 18 of 25

## BarraOne Fixed Income Summary

#### Portfolio Allocation by Currency



COMPANY: NYCRS - BERS
PORTFOLIO: Public Fixed Income
BENCHMARK: Public Fixed Income
POSITIONS: 3,903
MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,530,998,985 ACCEPTED: 3,849

Top Five         Exposure \$         CR to AR (%)         CR to TR (%)         Top Five         Exposure \$         CR to AR (%)         CR to TR (%)           US Dollar         2,530,992,655.41         100.00         100.00         100.00         Euro         6,329.43         -0.00         0.00	Developed Market Currency					Emerging Market Currency			
	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	
Euro 6,329.43 -0.00 0.00	US Dollar	2,530,992,655.41	100.00	100.00					
	Euro	6,329.43	-0.00	0.00					

#### Top 15 Currencies by Weight%

Weight (%)								
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	-0.00	5.61	5.61	100.00	0.63	100.00
US Dollar	100.00	100.00	-0.00	5.61	5.61	100.00	0.63	100.00
Euro	0.00	0.00	0.00	6.76	0.00	0.00	-0.00	-0.00

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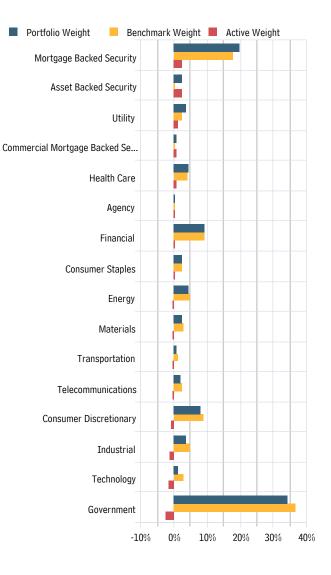
Page 287 of 298 19 of 25

### BarraOne Fixed Income Summary

#### Portfolio Allocation by Bond Sector

		Weight (%)						
Sector	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	5.34	5.61	0.63	100.00	0.01
Government	34.42	36.71	-2.29	1.93	5.29	0.27	43.30	0.01
Mortgage Backed Security	19.93	17.56	2.37	1.17	7.96	0.07	10.60	0.02
Financial	9.23	9.19	0.04	0.44	5.43	0.04	5.94	0.00
Consumer Discretionary	7.96	8.96	-0.99	0.29	5.44	0.10	15.62	-0.02
Health Care	4.63	3.97	0.66	0.33	7.99	0.03	4.22	-0.00
Energy	4.61	4.69	-0.08	0.18	4.79	0.01	1.10	-0.01
Industrial	3.51	4.78	-1.27	0.13	4.76	0.02	2.56	-0.01
Utility	3.48	2.23	1.25	0.23	6.70	0.02	2.76	0.01
Materials	2.52	2.89	-0.37	0.08	4.38	-0.01	-1.29	-0.01
Asset Backed Security	2.33	0.00	2.33	0.10	4.31	0.03	4.12	0.01
Consumer Staples	2.23	2.22	0.00	0.15	7.39	0.01	1.66	0.00
Telecommunications	2.10	2.58	-0.48	0.14	8.13	0.03	4.46	-0.01
Technology	1.31	2.78	-1.47	0.06	5.68	0.01	1.68	-0.00
Transportation	0.71	1.18	-0.46	0.03	5.04	0.01	0.83	-0.01
Commercial Mortgage Backed	0.68	0.00	0.68	0.01	2.51	0.00	0.05	0.00
Agency	0.57	0.22	0.34	0.04	7.30	0.01	1.50	0.02
Local/Provincial	0.14	0.05	0.09	0.01	7.67	0.00	0.39	0.01
Others	-0.36	0.00	-0.36	0.01	2.99	0.00	0.50	0.00

COMPANY: NYCRS - BERS PORTFOLIO: Public Fixed Income BENCHMARK: Public Fixed Income POSITIONS: 3,903 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,530,998,985 ACCEPTED: 3,849





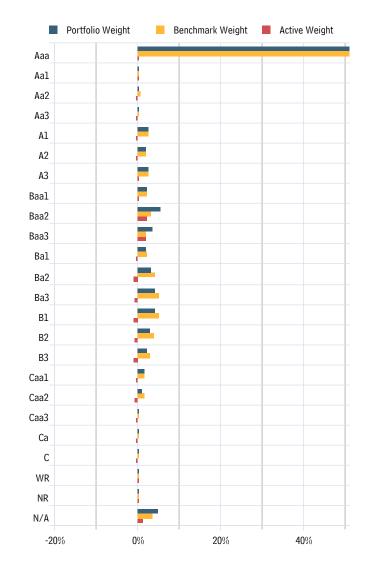
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### BarraOne Fixed Income Summary

#### Portfolio Allocation by Moody's Rating

		Weight (%)						
Rating	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Spread Duration	Total Risk	Active Risk CR	%CR to Active TR
Total	100.00	100.00	-0.00	5.34	5.50	5.61	0.63	100.00
Aaa	54.38	53.98	0.40	3.10	5.95	6.14	0.31	48.80
Aal	0.03	0.02	0.01	0.00	1.33	2.91	-0.00	-0.06
Aa2	0.12	0.49	-0.37	0.01	11.83	11.36	-0.01	-0.86
Aa3	0.23	0.47	-0.24	0.02	8.98	8.72	-0.00	-0.57
Al	2.53	2.57	-0.04	0.18	7.33	7.49	-0.00	-0.28
A2	1.86	1.98	-0.12	0.17	9.20	9.16	0.00	0.22
A3	2.70	2.62	0.08	0.21	7.79	7.74	0.00	0.21
Baal	2.30	2.16	0.14	0.15	6.86	7.01	-0.00	-0.55
Baa2	5.50	3.18	2.32	0.38	7.01	7.26	0.01	2.34
Baa3	3.66	1.82	1.84	0.19	5.26	5.50	0.02	3.58
Bal	2.04	2.12	-0.08	0.08	4.08	4.80	0.00	0.75
Ba2	3.19	4.05	-0.86	0.10	3.33	4.11	0.01	2.00
Ba3	4.22	5.02	-0.80	0.13	3.28	4.21	0.01	1.72
Bl	4.21	5.23	-1.02	0.13	3.37	4.59	0.02	3.76
B2	2.97	3.75	-0.77	0.08	3.02	5.00	0.02	3.77
B3	2.15	3.00	-0.85	0.05	2.47	4.29	0.03	5.09
Caal	1.50	1.55	-0.05	0.04	2.49	7.53	0.03	3.99
Caa2	0.99	1.65	-0.65	0.03	2.95	9.13	0.04	5.75
Caa3	0.23	0.45	-0.22	0.01	3.72	19.58	0.03	5.35
Са	0.10	0.33	-0.22	0.00	3.02	21.03	0.02	3.97
С	0.00	0.01	-0.00	0.00	3.08	37.86	0.00	0.04
WR	0.16	0.10	0.06	0.00	3.06	10.33	-0.01	-1.17
NR	0.01	0.00	0.01	0.00	3.16	9.03	0.00	0.00
Not Rated	4.89	3.45	1.44	0.26	4.83	5.27	0.08	12.16

COMPANY: NYCRS - BERS PORTFOLIO: Public Fixed Income BENCHMARK: Public Fixed Income POSITIONS: 3,903 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,530,998,985 ACCEPTED: 3,849





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#### Total Plan Summary

Risk Summ	ary		Asset Class Contribution to Risk						
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR		
Total Risk	13.75	Total	2,548,767,917	100.00	13.75	13.75	100.00		
Benchmark Risk	10.73	Infrastructure	376,082,933	14.76	13.88	1.89	13.74		
Active Risk	7.94	OFI	383,999,256	15.07	8.15	0.93	6.78		
Portfolio Beta	1.05	Private Equity	1,074,632,300	42.16	21.36	8.77	63.78		
		Private Real Estate	714,053,428	28.02	11.14	2.16	15.69		

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#### Risk Factor Breakdown

#### **Risk Decomposition**

Total Risk Local Market Risk Common Factor Risk Private Real Estate Implied Volatility	Risk Contribution	% Risk	C L I					
Local Market Risk Common Factor Risk Private Real Estate Implied Volatility	10.75		Correlation	Risk Contribution	% Risk	Correlation		
Common Factor Risk Private Real Estate Implied Volatility	13.75	100.00	1.00	7.94	100.00	1.00		
Private Real Estate Implied Volatility	13.22	96.17	1.00	7.65	96.37	0.99		
Implied Volatility	13.12	95.44	0.99	7.35	92.58	0.97		
. ,	1.88	13.66	0.64	0.72	9.02	0.22		
Tradiciation	0.01	0.05	0.40	0.00	0.01	0.17		
Industry	0.09	0.63	0.11	0.09	1.10	0.11		
Inflation	0.00	0.00	0.00	-0.03	-0.42	-0.10		
Market	7.36	53.54	0.84	1.00	12.53	0.32		
Private Equity	3.13	22.77	0.48	5.42	68.25	0.83		
Spread	0.51	3.67	0.62	0.04	0.55	0.23		
Style	0.07	0.47	0.09	0.11	1.34	0.15		
Term Structure	0.09	0.64	0.12	0.02	0.22	0.06		
Selection Risk	0.10	0.73	0.09	0.30	3.79	0.19		
Currency Risk	0.53	3.83	0.48	0.29	3.63	0.26		

COMPANY: NYCRS - BERS PORTFOLIO: Alternative Investments BENCHMARK: Alternative Investments POSITIONS: 330 MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,548,767,917 ACCEPTED: 330



Active Risk from Risk Factors





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#### Portfolio Allocation by Region

COMPANY: NYCRS - BERS PORTFOLIO: Alternative Investments BENCHMARK: Alternative Investments POSITIONS: 330 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,548,767,917 ACCEPTED: 330

		Weight (%)					
Region	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	-0.00	13.75	7.94	100.00	0.08
Asia Pacific	2.44	0.16	2.28	12.30	0.07	0.82	0.02
EMEA	14.70	1.55	13.15	16.76	0.99	12.47	0.06
Latin-S America	0.40	0.01	0.39	21.70	0.02	0.21	0.04
N America	81.76	98.10	-16.34	14.27	6.84	86.10	0.03
N/A	0.58	0.00	0.58	15.65	0.03	0.34	0.05
Rest of World	0.13	0.18	-0.05	17.47	0.00	0.06	0.02





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#### Top 30 Countries by Weight%

		Weight (%)							
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR		
Total	100.00	100.00	-0.00	13.75	7.94	100.00	0.08		
United States	80.23	97.44	-17.22	14.27	6.68	84.17	0.04		
United Kingdom	4.42	0.32	4.10	17.98	0.32	4.03	0.08		
Germany	1.61	0.11	1.50	15.81	0.08	0.98	0.05		
Euro. Monetary Union	1.57	0.00	1.57	22.56	0.10	1.29	0.07		
Canada	1.52	0.63	0.89	16.34	0.15	1.95	0.08		
France	1.23	0.06	1.17	17.38	0.08	1.06	0.07		
Sweden	1.09	0.01	1.08	25.54	0.11	1.34	0.10		
Spain	0.79	0.01	0.79	16.22	0.05	0.58	0.06		
India	0.71	0.02	0.69	19.46	0.02	0.29	0.04		
Japan	0.67	0.01	0.66	11.33	0.01	0.11	0.02		
Switzerland	0.60	0.04	0.56	17.45	0.04	0.45	0.06		
Italy	0.60	0.15	0.45	19.20	0.04	0.52	0.07		
N/A	0.58	0.00	0.58	15.64	0.03	0.34	0.05		
Netherlands	0.52	0.20	0.32	18.22	0.04	0.47	0.06		
Denmark	0.44	0.00	0.44	23.53	0.04	0.50	0.10		
China	0.42	0.00	0.42	15.76	0.01	0.12	0.03		
Ireland	0.35	0.19	0.16	8.12	0.00	0.04	0.02		
Poland	0.32	0.00	0.32	27.25	0.03	0.33	0.09		
Australia	0.31	0.07	0.24	18.42	0.01	0.15	0.04		
Belgium	0.27	0.00	0.27	21.99	0.02	0.23	0.07		
Brazil	0.19	0.01	0.19	35.03	0.01	0.13	0.06		
Norway	0.17	0.01	0.16	21.34	0.01	0.16	0.08		
Mexico	0.17	0.00	0.17	17.84	0.01	0.07	0.04		
Israel	0.17	0.00	0.16	28.53	0.01	0.17	0.09		
Luxembourg	0.14	0.44	-0.31	11.09	-0.00	-0.02	0.02		
Portugal	0.11	0.00	0.11	12.54	0.00	0.03	0.03		
Greece	0.10	0.00	0.10	32.94	0.01	0.13	0.11		
S. Korea	0.08	0.00	0.08	16.26	0.00	0.03	0.04		
New Zealand	0.07	0.01	0.06	21.01	0.00	0.04	0.04		
Finland	0.06	0.02	0.04	29.32	0.01	0.07	0.08		

COMPANY: NYCRS - BERS PORTFOLIO: Alternative Investments BENCHMARK: Alternative Investments POSITIONS: 330 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,548,767,917 ACCEPTED: 330

Portfolio Weight	Benchmar	k Weight		Active Weight
United States				
United Kingdom				
Germany				
Euro. Monetary Union				
Canada				
France				
Sweden				
Spain				
India				
Japan				
Switzerland				
Italy				
N/A				
Netherlands				
Denmark				
China				
Ireland				
Poland				
Australia				
Belgium				
Brazil				
Norway				
Mexico				
Israel				
Luxembourg	Į III			
Portugal				
Greece				
S. Korea				
New Zealand				
Finland				
-25%	0%	25%	Ę	50% 75%



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#### Portfolio Allocation by Currency



COMPANY: NYCRS - BERS
PORTFOLIO: Alternative Investments
BENCHMARK: Alternative Investments
POSITIONS: 330
MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,548,767,917 ACCEPTED: 330

Dev	Emerging Market Currency						
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	2,076,219,321.58	83.92	82.37	Indian Rupee	18,045,727.64	0.29	0.45
Euro	193,021,703.57	5.97	6.92	Chinese Yuan	9,894,530.03	0.12	0.18
British Pound Sterling	104,985,211.73	4.06	4.22	Polish Zloty	8,132,625.71	0.33	0.32
Canadian Dollar	30,397,915.16	1.95	1.59	Brazilian Real	4,891,746.76	0.13	0.19
Swedish Krona	27,670,232.31	1.34	1.44	Mexican Peso	3,227,421.01	0.07	0.10

#### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	-0.00	13.75	13.75	100.00	7.94	100.00
US Dollar	81.46	100.00	-18.54	14.06	11.33	82.37	6.66	83.92
Euro	7.57	0.00	7.57	16.41	0.95	6.92	0.47	5.97
British Pound Sterling	4.12	0.00	4.12	19.18	0.58	4.22	0.32	4.06
Canadian Dollar	1.19	0.00	1.19	20.39	0.22	1.59	0.15	1.95
Swedish Krona	1.09	0.00	1.09	25.72	0.20	1.44	0.11	1.34
Indian Rupee	0.71	0.00	0.71	19.48	0.06	0.45	0.02	0.29
Japanese Yen	0.67	0.00	0.67	11.33	0.03	0.22	0.01	0.11
Swiss Franc	0.59	0.00	0.59	17.65	0.06	0.46	0.04	0.45
Danish Krone	0.44	0.00	0.44	23.57	0.07	0.49	0.04	0.50
Chinese Yuan	0.39	0.00	0.39	16.73	0.03	0.18	0.01	0.12
Polish Zloty	0.32	0.00	0.32	27.25	0.04	0.32	0.03	0.33
Australian Dollar	0.31	0.00	0.31	18.42	0.04	0.28	0.01	0.14
Brazilian Real	0.19	0.00	0.19	35.26	0.03	0.19	0.01	0.13
New Israeli Sheqel	0.17	0.00	0.17	28.53	0.03	0.23	0.01	0.17
Norwegian Krone	0.14	0.00	0.14	26.08	0.03	0.19	0.01	0.17

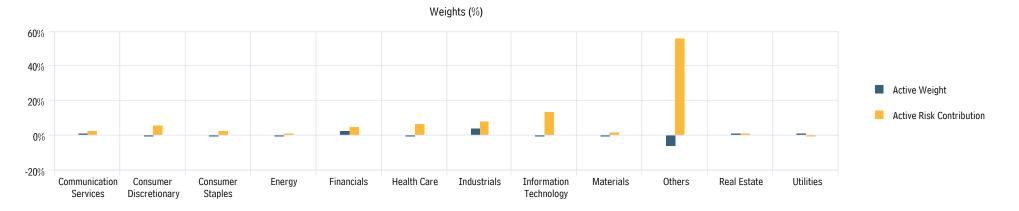


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#### Portfolio Allocation by GICS Sector

COMPANY: NYCRS - BERS PORTFOLIO: Alternative Investments BENCHMARK: Alternative Investments POSITIONS: 330 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2024 MARKET VALUE: 2,548,767,917 ACCEPTED: 330

		Weight (%)					
GICS Sector	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	13.75	7.94	100.00	0.08
Communication Services	4.29	4.09	0.21	14.41	0.17	2.18	0.06
Consumer Discretionary	4.30	4.84	-0.53	23.44	0.42	5.27	0.09
Consumer Staples	1.98	2.34	-0.35	17.45	0.18	2.33	0.07
Energy	2.36	2.43	-0.07	19.96	0.06	0.74	0.05
Financials	7.52	5.20	2.32	12.00	0.39	4.85	0.07
Health Care	4.65	4.94	-0.29	19.30	0.47	5.96	0.08
Industrials	8.10	4.26	3.84	15.21	0.62	7.85	0.08
Information Technology	9.04	9.91	-0.87	24.70	1.03	12.94	0.10
Materials	1.20	1.35	-0.16	20.87	0.12	1.45	0.09
Others	52.67	58.54	-5.86	12.94	4.47	56.27	0.02
Real Estate	1.77	1.15	0.62	8.87	0.03	0.33	0.05
Utilities	2.11	0.96	1.15	8.34	-0.01	-0.16	0.02



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# APPENDICES: -Basket Clause -Liquidity Analysis

Basket Limit	35.00%
Basket Consumed	21.95%
Remaining Capacity	13.05%

		Basket-Eligible Assets*				
	Non-Basket Assets	Non-Contributing	Contributing	Basket Assets	Total	
FIXED INCOME	26.53%	4.59%	0.00%	5.79%	36.91%	
U.S. Fixed	9.73%	4.28%	0.00%	5.13%	19.14%	
Cash/Equivalent	6.69%				6.69%	
TIPS	0.11%				0.11%	
OFI	0.09%	0.01%		3.81%	3.91%	
High Yield	0.37%	4.14%	0.00%	1.29%	5.80%	
Bank Loans	0.00%			0.00%	0.00%	
ETI Investments	0.41%			0.00%	0.41%	
Core/Core Plus	2.06%	0.13%		0.03%	2.22%	
U.S. Structured	16.80%	0.31%		0.66%	17.77%	
Credit	4.07%	0.31%		0.47%	4.84%	
Mortgages	4.90%			0.19%	5.09%	
ST Treasury	2.61%				2.61%	
Treasury/Agency	1.24%				1.24%	
MT Treasury	3.08%				3.08%	
LT Treasury	0.91%				0.91%	
EQUITY	26.93%	20.00%	4.87%	11.29%	63.09%	
Public Equity	26.93%	10.00%	3.51%	0.00%	40.43%	
U.S. Equity	25.86%	1.16%	0.41%	0.00%	27.43%	
EAFE	0.29%	5.93%	2.08%	-0.01%	8.30%	
Emerging Markets	0.09%	2.63%	0.92%	0.00%	3.65%	
Global	0.69%	0.28%	0.10%	0.00%	1.06%	
Alternative Investments	0.00%	10.00%	1.36%	11.29%	22.66%	
Infrastructure	0.00%	3.37%	0.46%	0.01%	3.84%	
Private RE/Core		4.01%	0.55%		4.56%	
Private RE/Non-Core	0.00%	2.62%	0.36%	0.00%	2.97%	
Private Equity	0.00%			11.28%	11.28%	
TOTAL ASSETS	53.46%	24.59%	4.87%	17.08%	100.00%	
	Non-Basket:	78.05%	Basket:	21.95%		

This analysis shows basket consumption by investment mandate on a security look-through basis.

\* Basket Eligible Assets are subject to the following thresholds - above which investment consumes basket capacity: 10% aggregate portfolio weight for investments in non-U.S. listed equities; 10% aggregate portfolio weight for real assets; and 10% aggregate portfolio weight for investments in high yield bonds and foreign debt issues that are registered with the SEC. To the extent that the value of investments in a particular category exceeds a threshold, the excess consumes basket capacity.

In the above table, the investment of cash held as collateral under the system's securities lending program, is included as a Non-Basket Asset in the Cash/Equivalent line.



AUM as of March 31, 2024

		Liquid Assets		
	Current MV	Today	1 Year	2 Years
PUBLIC EQUITY	\$3,975	\$3,975	\$3,975	\$3,975
U.S.	2,692	2,692	2,692	2,692
EAFE Equity	734	734	734	734
Emerging Markets	446	446	446	446
Global Equity	104	104	104	104
PUBLIC FIXED INCOME	\$2,596	\$2,572	\$2,582	\$2,582
		<i> </i>	+=,	+=,
Short Term Securities	55	55	55	55
U.S. Government	770	770	770	770
Mortgages				
Core Mortgages	458	458	458	458
ETI	41	17	27	27
Credit - Investment Grade	691	691	691	691
Corporate - Hight Yield	570	570	570	570
Corporate - Bank Loans	0	0	0	0
UST - Inflation Protected	10	10	10	10
ALTERNATIVE ASSETS	\$2,621	\$290	\$387	\$387
		,	<i></i>	
Private Equity	1,116	0	0	0
Private Real Estate	738	0	0	0
Infrastructure	379	0	0	0
<b>Opportunistic Fixed Income</b>	387	290	387	387
Total Assets	\$9,192	\$6,838	\$6,944	\$6,944
Total Illiquid \$		\$2,354	\$2,248	\$2,248
Total Illiquid %		25.6%	24.5%	24.5%
Unfunded OFI Commitments	\$256			
Unfunded INF Commitments	\$396			
Unfunded PE Commitments	\$691			
Unfunded RE Commitments	\$372			
Total commitments \$	\$1,715			
Total commitments %	18.7%			



#### **BERS Liquidity Profile - Static Analysis**

AUM as of March 31, 2024

Denominator Effe	ect - Decrease AU	M by One-Third			
Total Illiquid \$			\$2,354	\$2,248	\$2,248
Total Illiquid %			38.4%	36.7%	36.7%

Note: Assumes zero realizations, no new commitments and a five-year investment period; funded out of liquids

		Liquid Assets		
	Current MV	Today	1 Year	2 Years
Total Assets	\$9,192	\$6,838	\$6,944	\$6,944

#### Private Equity, Real Estate and Infrastructure Fixed Income Stress Case

Unfunded OFI Commitments	\$51	\$102
Unfunded INF Commitments	\$79	\$159
Unfunded PE Commitments Drawn	\$138	\$276
Unfunded RE Commitments Drawn	\$74	\$149
Total commitments \$	\$343	\$686
Total commitments %	3.7%	7.5%
Total Illiquid \$	\$2,591	\$2,934
Total Illiquid %	28.2%	31.9%
Note: Accument zero realizations, no new commitments and a five year	investment period: funded out of liquide	

Note: Assumes zero realizations, no new commitments and a five-year investment period; funded out of liquids See Assumptions Page for Full Details

Denominator Effect - Decrease AUM by One-Third			
Total Illiquid \$	\$2,354	\$2,591	\$2,934
Total Illiquid %	38.4%	42.3%	47.9%

Note: Assumes zero realizations, no new commitments and a five-year investment period; funded out of liquids



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### Additional Assumptions

<u>Alternative Assets Liquidation Estimates</u>: Private Equity, Private Real Estate, and Infrastructure: assumes no liquidations in 2-year horizon; Opportunistic Fixed Income: assumes 75% immediate availability and 100% availability within one year.

<u>Illiquid Ratio</u>: Illiquid investment value for each of the three time horizons as a percentage of current AUM. The ratio is calculated under three scenarios: 1) Unadjusted estimated illiquid value to current total assets. 2) Unadjusted estimated illiquid values to current total assets after a 33% decline. 3) Estimated illiquid value after Fixed Income Stress Case to current total assets after a 33% decline.

<u>Unfunded Commitments</u>: Uses custodian value at month end.

<u>Denominator Effect</u>: Measures Illiquid Ratio for each time horizon after an assumed 33% decline in portfolio value.

<u>Fixed Income Stress Case</u>: Measures impact of new commitments to illiquid asset classes assuming no capital calls and a level 5-year pacing schedule.

