

# NYC Police Pension Fund Investment Meeting (Public)

<b>Schedule</b>	Wednesday, September 6, 2023 12:00 PM — 3:30 PM EDT
<b>Venue</b>	Zoom Meeting
<b>Organizer</b>	Kim Boston

## Agenda

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**PUBLIC AGENDA -**

Welcome and Opening

## Quarterly Presentation (Public):

- Market Overview
- Performance Update
- Risk Update

Invitation to Join Labor Rights Investor  
Network:

## **About the Labour Rights Investor Network: An Education and Exchange Platform on Freedom of Association and Collective Bargaining**

### **What is the Labour Rights Investor Network?**

The 'Labour Rights Investor Network' is a global investor network focusing on the rights to freedom of association and collective bargaining. The Network assists investors by acting as an education and exchange platform and a place to connect on issues related to freedom of association and collective bargaining.

The Network is composed of investors who commit to integrating labour rights into their stewardship practices, as outlined in the Investor Statement on the Rights to Freedom of Association and Collective Bargaining. The Network is open to asset managers, asset owners and other investment service providers.

### **What will the Network do?**

The Coordinating Committee (detailed below) will facilitate knowledge building by providing resources and activities to meet the needs identified by members. This could include information about legal frameworks and risks related to freedom of association and collective bargaining, individual companies' practices, sector-wide risks, or relevant policy developments. In addition, the Coordinating Committee may also undertake activities to support individual members or groups of members when it is relevant to do so. Membership in the Network does not require participation in any particular activity, including any engagements. Members can opt in to chosen activities of interest.

After the initial year and as the Network progresses, the Coordinating Committee will consult with the investor members regarding the Network, including its governance structure and its activities.

#### ***Build knowledge on freedom of association and collective bargaining***

The Coordinating Committee will organise the activities of the Network and provide practical resources to help advance investor knowledge of freedom of association and collective bargaining, so that investors can apply this understanding of the topic to strengthen stewardship activities.

Resources will include:

- Information about trade unions and the rights to freedom of association and collective bargaining;
- Practical workshops on responding to engagement challenges;
- Education sessions focused on particular geographies, sectors, or themes;
- Written resources that can be utilised by members in stewardship and internal engagements.

#### ***Provide information on company-level risks***

The Labour Rights Investor Network will act as a platform through which members receive public information from other investors and trade unions globally regarding issues related to freedom of association and collective bargaining at specific companies or industries. The Coordinating Committee will not coordinate collaborative company engagement activities but will share and support relevant company engagement activities organised by members or other groups. The Coordinating Committee may also help support members in evaluating company statements.

#### ***Facilitate members embedding labour rights in the investment chain***

Where there is member interest, the Network will support activities to incorporate freedom of association and collective bargaining throughout the investment chain. For example, the Network can facilitate sharing good practices on how to incorporate labour rights in engagement with service providers, such as ESG rating agencies or asset managers. The Network can also inform and support members participating in relevant policy consultations that shape company or investor activities in relation to freedom of association and collective bargaining.

## **What does it mean to be a member?**

### ***Expectations of members***

By joining the Network, members commit to:

- Publicly endorse the Investor Statement on the Rights to Freedom of Association and Collective Bargaining by adding their organisation's name. This statement will be public on the Network's webpage, hosted on the Global Unions' Committee on Workers' Capital (CWC) (detailed below) website.
- Join regular Network meetings.
- Engage with the Network's resources and events.
- Work to incorporate labour rights into their engagement and stewardship activities.
- Promote labour rights and the Network itself where there are opportunities to do so.

Members are prohibited from sharing confidential, proprietary or material non-public information. If a network member inadvertently receives information believed to be material non-public information, then the requirements under the relevant securities laws apply.

Network members are invited to show leadership within the Network on the stewardship of labour rights, including leading relevant workstreams of interest. Members are encouraged to provide input into the activities of the Network.

## **How to join the Network?**

If an investor has questions and would like to discuss the Network they should contact the Coordinating Committee detailed below.

To join the Network, the investor agrees to:

- Provide the Coordinating Committee with their organisation's current assets under management and the name and contact information of their representative for purposes of Network communications and activities. Members may be contacted by any member of the Coordinating Committee listed below.
- Act in line with and fulfil the expectations outlined in this document.
- Be listed publicly, unless an investor member requests otherwise. Assets under management will only be disclosed in aggregate.

### ***Leaving the Network***

Investors can join the Network on an ongoing basis, for an indefinite amount of time. If a member would like to leave the Network at any time, for any reason, they should contact the Coordinating Committee. The member's name will then be removed from the online version of the investor statement. Should there be a significant change in the running, structure or activities of the Network, as detailed in this document, all investor members will be consulted.



## What is the governance of the Network?

The Network will be coordinated by the Global Unions' Committee on Workers' Capital (CWC), with the support of a Coordinating Committee of CWC participant organisations.

### *Coordinating Committee responsibilities*

- Coordinate regular Network meetings for members, provide agendas and chair meetings.
- Develop and organise a programme of knowledge-sharing and capacity-building resources and activities for members by drawing on expertise and capabilities within and beyond the global trade union movement and other investor members.
- Offer interested members expertise and support on labour rights, including by drawing on a global network of labour rights experts.
- Promote the Network, including engaging with prospective members and organising opportunities for public communication. The Coordinating Committee is able to speak on behalf of the Network, but will not speak directly on behalf of individual investors or use names in communications without specific permission from the investor to do so.
- Provide space for unions and investors to exchange information related to labour rights.
- Seek input and feedback from investor members on activities and the running of the network.

### *Network Coordinating Committee*

The following organisations are represented on the Coordinating Committee.

- **UNI Global Union** - UNI Global Union is the global trade union federation for the skills and services sectors, representing more than 20 million workers across 150 different countries. UNI Global Union's investor engagement team works with investors to support their engagement and stewardship with companies and across sub-sectors in the services sectors. UNI has also worked extensively in supporting investors to advance their knowledge, policy and practice on labour rights.
- **UFCW** - The United Food and Commercial Workers International Union (UFCW) represents 1.3 million workers in the U.S. and Canada in the food retail, food processing, and non-food retail industries. UFCW's capital stewardship department supports investor engagement with companies to drive more sustainable returns.
- **AFL-CIO** - The American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) is a federation of 60 national and international labour unions that represent 12.5 million working people. The AFL-CIO's Capital Stewardship Program seeks to ensure that retirement and employee benefit funds invested on behalf of working people are invested and managed in their long-term best interests.
- **SOC Investment Group** - The SOC Investment Group works with pension funds sponsored by unions affiliated with the Strategic Organizing Center (SOC), a coalition of unions representing millions of members, to enhance long-term shareholder value through active ownership. These funds have over \$250 billion in assets under management. The SOC Investment Group supports shareholder initiatives to ensure director accountability, sound human rights practices, and strong governance policies, reflecting the long-term interests of workers and their families invested in union pension funds.

- **CWC Secretariat** - The Global Unions' Committee on Workers' Capital (CWC) is an international labour network of over 600 labour representatives and asset owner board members that advocate for the responsible investment of workers' retirement savings. Founded over 20 years ago, it is a joint initiative of the International Trade Union Confederation, the Global Union Federations and the Trade Union Advisory Committee to the OECD. The Secretariat of the CWC is housed at the Shareholder Association for Research and Education (SHARE) in Canada.

## **Investor Statement on the Rights to Freedom of Association and Collective Bargaining**

The undersigned investors and fiduciaries representing [XX] institutions and [XX] in combined assets under management or advice are writing to express our expectations regarding the rights to freedom of association and collective bargaining.

Labour rights are human rights.<sup>1</sup> The rights to freedom of association and collective bargaining are fundamental pillars of human freedom, established in the International Labour Organization Core Conventions, the UN Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises, and the UN Sustainable Development Goals. These rights guarantee that individual workers can join together in protected concerted workplace activity to better their working lives, improve the companies they work for, and contribute to the advancement of society.

Companies that respect labour rights reap many benefits, such as greater productivity, safer workplaces, and improved employee engagement.<sup>2</sup> Implementing labour rights requires varied approaches across different businesses, regions, and jurisdictions. The undersigned investors agree to three requests to boards and senior management at investee companies:

- Implement a strong governance framework that articulates the board's responsibility for oversight of labour rights based on ILO Core Conventions.
- Take action to respect workers' exercise of their fundamental rights to freedom of association and collective bargaining, for example, but not limited to: adopting labour rights due diligence processes, training management at all levels to meet labour rights standards, and committing to non-interference when workers seek to form or join unions.
- Provide enhanced disclosure of labour rights-related metrics – for example, but not limited to: percentage of workers covered by collective bargaining agreements, pending litigation and regulatory investigations regarding alleged labour rights violations, and any expenditure of company resources on union avoidance activities – which allow investors to assess company labour risk.

We encourage and welcome other investors and their representatives to join us in signing this statement.

<sup>1</sup>International Labour Organization (ILO) Core Conventions and the ILO Declaration on Fundamental Principles and Rights at Work: ILO, Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87), [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_INSTRUMENT\\_ID:312232](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312232); ILO, Right to Organize and Collective Bargaining Convention, 1949 (No. 98), [https://www.ilo.org/dyn/normlex/en/f?p=1000:12100:0::NO::P12100\\_INSTRUMENT\\_ID,P12100\\_LANG\\_CODE:312243,en:NO](https://www.ilo.org/dyn/normlex/en/f?p=1000:12100:0::NO::P12100_INSTRUMENT_ID,P12100_LANG_CODE:312243,en:NO); ILO, ILO Declaration on Fundamental Principles and Rights at Work and its Follow-Up (adopted 1998, amended 2022), [https://www.ilo.org/wcmsp5/groups/public/---ed\\_norm/---declaration/documents/normativeinstrument/wcms\\_716594.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/normativeinstrument/wcms_716594.pdf); [United Nations Guiding Principles on Business and Human Rights \(UNGPs\)](#); [Organization for Economic Co-operation and Development \(OECD\) Guidelines for Multinational Enterprises \(MNEs\)](#); [United Nations Universal Declaration of Human Rights](#); [UN Sustainable Development Goals, Goal 8](#).

<sup>2</sup>See text and citations of Global Unions' Committee on Workers' Capital, *Shared Prosperity: The Investor Case for Freedom of Association and Collective Bargaining* (November 2022), <https://www.workerscapital.org/our-resources/shared-prosperity-the-investor-case-for-freedom-of-association-and-collective-bargaining/>.

Update on BAM University:

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

# State Street Quarterly Fund Performance Overview (Public):



New York City  
Police Superior Officers' Variable Supplements Fund  
Performance Overview as of June 30, 2023

# Total Fund Overview





# New York City Police Superior Officers' Variable Supplements Fund

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**Market Value (Billions)**

TOTAL POLICE SUPERIORS

\$3.0



	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 7 Years	Benchmark 7 Years	Plan 10 Years	Benchmark 10 Years
<b>Standard Deviation</b>								
TOTAL POLICE SUPERIORS	12.8	12.8	5.6	12.7	11.0	11.0	10.2	10.0



Through June 30, 2023

**NYC POLICE SUPERIOR OFFICERS' VARIABLE SUPPLEMENTS FUND  
SECURITIES LENDING INCOME  
June 30, 2023**

	<u>U. S. FIXED INCOME</u>	<u>U. S. EQUITY</u>	<u>INTERNATIONAL EQUITY</u>	<u>TOTAL</u>
2001	54,000	119,000	11,000	184,000
2002	36,000	68,000	39,000	143,000
2003	32,000	87,000	120,000	239,000
2004	74,000	120,000	122,000	316,000
2005	204,000	244,000	126,000	574,000
2006	184,000	319,000	159,000	662,000
2007	358,000	503,000	138,000	999,000
2008	961,000	852,000	199,000	2,012,000
2009	271,000	515,000	96,000	882,000
2010	62,000	179,000	55,000	296,000
2011	46,000	178,000	8,000	232,000
2012	4,900	90,000	-	94,900
2013	-	21,000	-	21,000
2014	-	-	18,000	18,000
2015	9,500	30,000	304,000	343,500
2016	13,000	161,000	192,000	366,000
2017	11,000	65,000	117,000	193,000
2018	25,231	124,703	421,442	571,377
2019	59,821	177,189	476,530	713,539
2020	130,920	147,332	420,310	698,562
2021	259,085	190,695	402,255	852,035
2022	383,767	224,967	314,534	923,268
2023 (6 Months)	145,007	182,705	146,472	474,184
Since Inception	<u>3,324,232</u>	<u>4,598,590</u>	<u>3,885,542</u>	<u>11,808,365</u>



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**New York City  
Police Superior Officers' Variable Supplements Fund**

# Appendix A

## Consolidated Performance Report

# Consolidated Performance Report

Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>SYSTEM RETURN SUMMARY</b>																
5	PSOVSF-TOTAL PORTFOLIO - GROSS	3,013	100.00	3.52	9.90	9.34	(13.91)	(16.28)	11.39	13.64	9.90	5.89	5.60	7.70	8.11	01/01/1988
	ESTIMATED INVESTMENT FEES			(0.00)	0.03	0.03	(0.01)	(0.00)	(0.01)	(0.01)	0.03	0.00	(0.00)			
	EST MANAGEMENT FEES			(0.00)	0.03	0.03	(0.01)	(0.00)	(0.01)	(0.01)	0.03	0.00	(0.00)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	PSOVSF-TOTAL PORTFOLIO - NET MGR			3.52	9.92	9.37	(13.91)	(16.28)	11.38	13.63	9.92	5.90	5.59			
	POLICE SUPERIORS POLICY BENCHMARK			3.24	10.13	9.00	(14.24)	(15.86)	10.52	13.79	10.13	5.67	5.52	5.08		
	EXCESS RETURN			0.28	(0.21)	0.37	0.32	(0.43)	0.86	(0.16)	(0.21)	0.22	0.07	2.62		
<b>EQUITY RETURN SUMMARY</b>																
17	PSOVSF-TOTAL EQUITY - GROSS	1,977	65.61	5.83	16.11	13.21	(16.10)	(18.04)	18.30	16.64	16.11	11.19	7.98			08/01/2001
	ESTIMATED INVESTMENT FEES			(0.00)	0.00	(0.00)	(0.00)	0.00	(0.01)	(0.01)	0.00	(0.00)	(0.01)			
	EST MANAGEMENT FEES			(0.00)	0.00	(0.00)	(0.00)	0.00	(0.01)	(0.01)	0.00	(0.00)	(0.01)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	PSOVSF-TOTAL EQUITY - NET MGR			5.83	16.11	13.21	(16.11)	(18.04)	18.29	16.63	16.11	11.18	7.97			
25	PSOVSF-TOTAL DOMESTIC EQUITY - GROSS	1,187	39.40	8.34	18.68	16.12	(13.70)	(19.29)	25.85	21.12	18.68	13.92	11.39	10.89		01/01/2015
	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)		
	PSOVSF-TOTAL DOMESTIC EQUITY - NET MGR			8.34	18.68	16.12	(13.69)	(19.29)	25.86	21.12	18.68	13.92	11.38	10.88		
	RUSSELL 3000 (DAILY)			8.39	18.95	16.17	(13.87)	(19.21)	25.66	20.89	18.95	13.89	11.39	11.01		
	EXCESS RETURN			(0.05)	(0.27)	(0.05)	0.17	(0.08)	0.19	0.23	(0.27)	0.03	(0.01)	(0.13)		

# Consolidated Performance Report

Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
<b>EQUITY RETURN SUMMARY</b>															
37	PSOVSF-TOTAL WORLD ex-USA - GROSS	578	19.20	2.73	16.57	10.58	(17.27)	(14.84)	12.72	8.83	16.57	9.25	4.58		01/01/2015
	ESTIMATED INVESTMENT FEES			(0.00)	0.01	(0.01)	(0.01)	0.01	(0.02)	(0.02)	0.01	(0.01)	(0.01)		
	PSOVSF-TOTAL WORLD ex-USA - NET MGR			2.72	16.58	10.57	(17.28)	(14.83)	12.71	8.81	16.58	9.25	4.57		
	WORLD EX-USA CUSTOM BM			2.67	16.35	10.46	(17.73)	(15.26)	12.39	8.32	16.35	8.87	4.17		
	EXCESS RETURN			0.05	0.23	0.11	0.44	0.42	0.31	0.49	0.23	0.38	0.40		
47	PSOVSF-TOTAL WORLD ex-USA - GROSS	578	19.20	2.73	16.57	10.58	(17.27)	(14.84)	12.72	8.83	16.57	9.25	4.58		01/01/2015
	ESTIMATED INVESTMENT FEES			(0.00)	0.01	(0.01)	(0.01)	0.01	(0.02)	(0.02)	0.01	(0.01)	(0.01)		
	PSOVSF-TOTAL WORLD ex-USA - NET MGR			2.72	16.58	10.57	(17.28)	(14.83)	12.71	8.81	16.58	9.25	4.57		
	WORLD EX USA CUSTOM BM			2.67	16.35	10.46	(17.73)	(15.26)	12.39	8.32	16.35	8.87	4.17		
	EXCESS RETURN			0.05	0.23	0.11	0.44	0.42	0.31	0.49	0.23	0.38	0.40		
57	PSOVSF-TOTAL EMERGING MARKETS - GROSS	211	7.01	0.77	1.95	5.01	(24.63)	(19.57)	(1.94)	17.29	1.95	2.64	1.10	2.24	07/01/2017
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	
	PSOVSF-TOTAL EMERGING MARKETS - NET MGR			0.77	1.93	5.00	(24.63)	(19.58)	(1.97)	17.27	1.93	2.62	1.08	2.21	
	MSCI EMERGING MARKETS			0.90	1.75	4.89	(25.28)	(20.09)	(2.54)	18.31	1.75	2.32	0.93	2.11	
	EXCESS RETURN			(0.13)	0.18	0.11	0.65	0.51	0.57	(1.04)	0.18	0.30	0.17	0.10	

# Consolidated Performance Report

Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>FIXED INCOME RETURN SUMMARY</b>																
69	PSOVSF-TOTAL FIXED INCOME - GROSS	1,036	34.39	(0.79)	(0.79)	2.37	(10.13)	(12.88)	(1.72)	7.58	(0.79)	(3.91)	0.84	0.84	5.04	04/01/1991
	ESTIMATED INVESTMENT FEES			(0.00)	0.07	0.08	(0.01)	(0.01)	(0.01)	(0.02)	0.07	0.01	0.00			
	EST MANAGEMENT FEES			(0.00)	0.07	0.08	(0.01)	(0.01)	(0.01)	(0.02)	0.07	0.01	0.00			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	PSOVSF-TOTAL FIXED INCOME - NET MGR			(0.79)	(0.72)	2.44	(10.15)	(12.89)	(1.74)	7.56	(0.72)	(3.90)	0.84			
77	PSOVSF-TOTAL STRUCTURED FIXED INCOME - GROSS	1,035	34.36	(0.81)	(0.83)	2.36	(10.24)	(13.00)	(1.76)	7.71	(0.83)	(3.94)	0.83	0.90	02/01/2015	
	ESTIMATED INVESTMENT FEES			(0.00)	0.07	0.08	(0.01)	(0.01)	(0.01)	(0.02)	0.07	0.01	0.00	(0.01)		
	PSOVSF-TOTAL STRUCTURED FIXED INCOME - NET MGR			(0.81)	(0.76)	2.44	(10.26)	(13.01)	(1.77)	7.69	(0.76)	(3.93)	0.83	0.89		
	BLOOMBERG U.S. AGGREGATE			(0.84)	(0.94)	2.09	(10.29)	(13.01)	(1.54)	7.51	(0.94)	(3.96)	0.77	0.81		
	EXCESS RETURN			0.03	0.18	0.35	0.04	(0.00)	(0.23)	0.19	0.18	0.04	0.07	0.08		
<b>CASH SUMMARY</b>																
89	Short Term - PSOVSF - GROSS	1	0.03	1.25	3.88	2.37	0.26	1.70	0.50	0.08	3.88	1.41	1.56		01/01/1999	
	ESTIMATED INVESTMENT FEES			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	Short Term - PSOVSF - NET MGR			1.25	3.88	2.37	0.26	1.70	0.50	0.08	3.88	1.41	1.56			
93	Securities Lending	0	-													



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**New York City  
Police Superior Officers' Variable Supplements Fund**

# Appendix B

## Public Markets Manager Performance Detail



# Public Markets Manager Performance Detail



Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>EQUITY SUMMARY</b>										
<b>US EQUITY</b>										
BlackRock US SCG R2000	\$34	1.14	7.01	18.46	13.50	(26.38)	3.35	34.41	28.39	(9.14)
RUSSELL 2000 GROWTH DAILY			7.05	18.53	13.55	(26.36)	2.83	34.63	28.48	(9.31)
Excess			(0.04)	(0.07)	(0.05)	(0.02)	0.51	(0.22)	(0.09)	0.17
BlackRock US SCV R2000	\$32	1.06	2.85	5.76	2.30	(14.51)	28.48	4.87	22.60	(12.79)
RUSSELL 2000 VALUE DAILY			3.18	6.01	2.50	(14.48)	28.27	4.63	22.39	(12.86)
Excess			(0.34)	(0.24)	(0.21)	(0.03)	0.21	0.24	0.20	0.08
BlackRock US LMC R1000 Core	\$1,121	37.20	8.54	19.11	16.63	(19.21)	26.56	21.15	31.19	
RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(19.13)	26.45	20.96	31.43	
Excess			(0.04)	(0.25)	(0.05)	(0.08)	0.10	0.19	(0.23)	
<b>NON - US EQUITY</b>										
SSGA WorldxUS LMC NYC Custom IDX	\$499	16.57	3.09	17.68	11.42	(13.84)	12.90	8.09	22.75	(13.64)
NYC Custom World ex US Index <sup>[1]</sup>			3.03	17.41	11.29	(14.29)	12.62	7.59	22.49	(14.09)
Excess			0.06	0.27	0.13	0.45	0.28	0.50	0.26	0.45
SSGA WorldxUS SC Custom IDX <sup>[2]</sup>	\$79	2.63	0.52	10.19	5.56	(20.23)	11.60	13.16	25.68	(17.97)
World ex USA SC PASSIVE CUSTOM BM <sup>[3]</sup>			0.49	10.05	5.50	(20.58)	11.14	12.78	25.41	(18.07)
Excess			0.03	0.14	0.06	0.36	0.46	0.38	0.27	0.10
<b>EMERGING MARKETS</b>										
BlackRock MSCI EM Core	\$211	7.01	0.77	1.93	5.00	(19.58)	(1.97)	17.27	18.76	(14.44)
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)	18.31	18.42	(14.57)
Excess			(0.13)	0.18	0.11	0.51	0.57	(1.04)	0.34	0.13

# Public Markets Manager Performance Detail



Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>FIXED INCOME SUMMARY</b>										
<b>STRUCTURED FIXED INCOME</b>										
SSGA-Core US Agg	\$1,035	34.36	(0.81)	(0.76)	2.44	(13.01)	(1.77)	7.69	8.76	(0.25)
Bloomberg U.S. Aggregate			(0.84)	(0.94)	2.09	(13.01)	(1.54)	7.51	8.72	0.01
Excess			0.03	0.18	0.35	(0.00)	(0.23)	0.19	0.05	(0.26)
<b>CASH</b>										
Short Term PSOVSF	\$1	0.03	1.25	3.88	2.37	1.70	0.50	0.08	2.10	
ICE BofA US 3-Month Treasury Bill			1.17	3.59	2.25	1.46	0.05	0.67	2.28	
Excess			0.08	0.29	0.12	0.24	0.45	(0.58)	(0.18)	
Securities Lending	\$0	0.00								



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**New York City  
Police Superior Officers' Variable Supplements Fund**

# Appendix C

## Footnotes



Through June 30, 2023

## General Notes

- Returns are Net of Manager Fees for periods after January 2014 and Gross of investment advisory fees for other periods unless otherwise indicated.
- Returns greater than 1 year are annualized.

## Page Specific

### Page 3 – Total Plan vs Policy Benchmark

- **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.*

*The indexes and most recent policy weights are as follows:*

*U.S. Equity: Russell 3000 \* 33.90%*

*International Developed (EAFE) Markets: MSCI World ex USA IMI Net\* 23.80%*

*Emerging Markets: MSCI Emerging Markets \* 7.30%*

*Domestic Fixed Income: Bloomberg Aggregate \* 35.00%*

*Cash: 91 Day T-Bill \* 0.00%*



Through June 30, 2023

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[1] NYC Custom World ex US Index: Beginning 2.2017 benchmark changed from MSCI EAFE to MSCI World ex USA Net Index.

[2] Name changed from SSGA EAFE SC IDX 12.2017

[3] World ex USA SC PASSIVE CUSTOM BM: Beginning 12.2017 benchmark changed from MSCI EAFE Small Cap Net to MSCI World ex US Small Cap (Net).



New York City  
Police Officers' Variable Supplements Fund  
Performance Overview as of June 30, 2023

# Total Fund Overview



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## **New York City Police Officers' Variable Supplements Fund**

<b>Table of Contents:</b>
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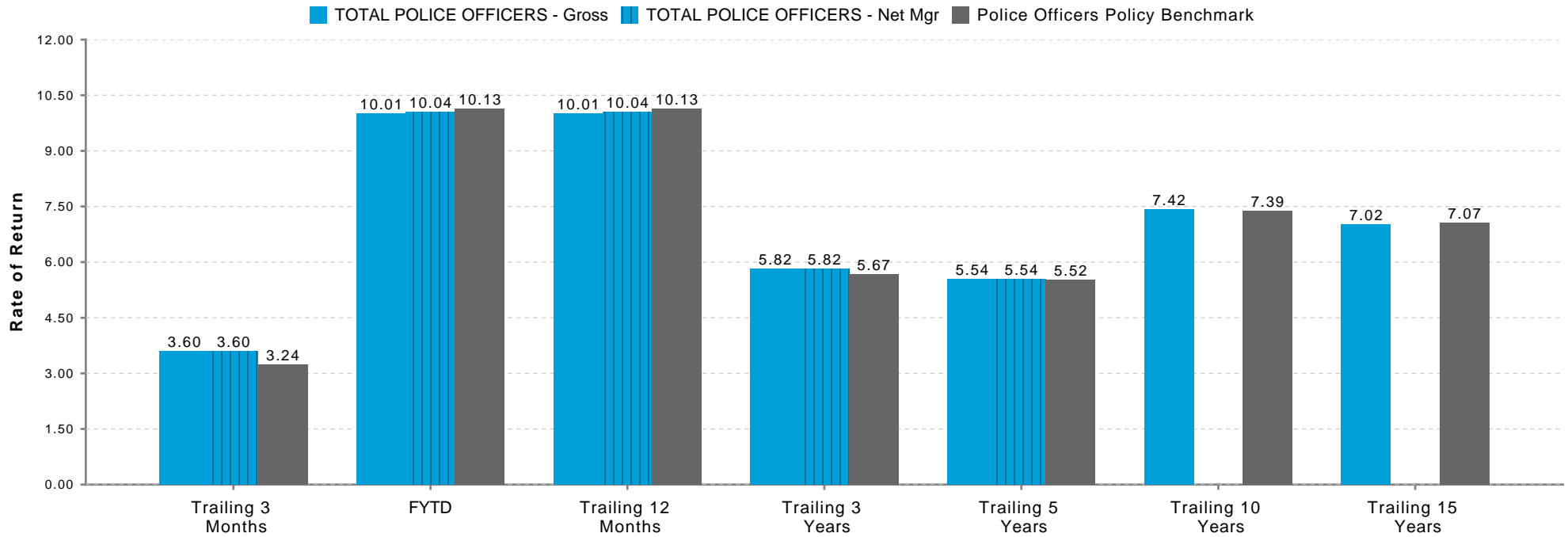
<b>Performance Charts</b>	<b>p.3</b>
<b>Appendix A - Consolidated Performance Report</b>	<b>p.9</b>
<b>Appendix B - Public Markets Manager Performance Detail</b>	<b>p.13</b>
<b>Appendix C - Footnotes</b>	<b>p.16</b>



**Market Value (Billions)**

TOTAL POLICE OFFICERS

\$1.9



	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 7 Years	Benchmark 7 Years	Plan 10 Years	Benchmark 10 Years
<b>Standard Deviation</b>								
TOTAL POLICE OFFICERS	12.7	12.8	5.5	12.7	10.9	11.0	10.2	10.4



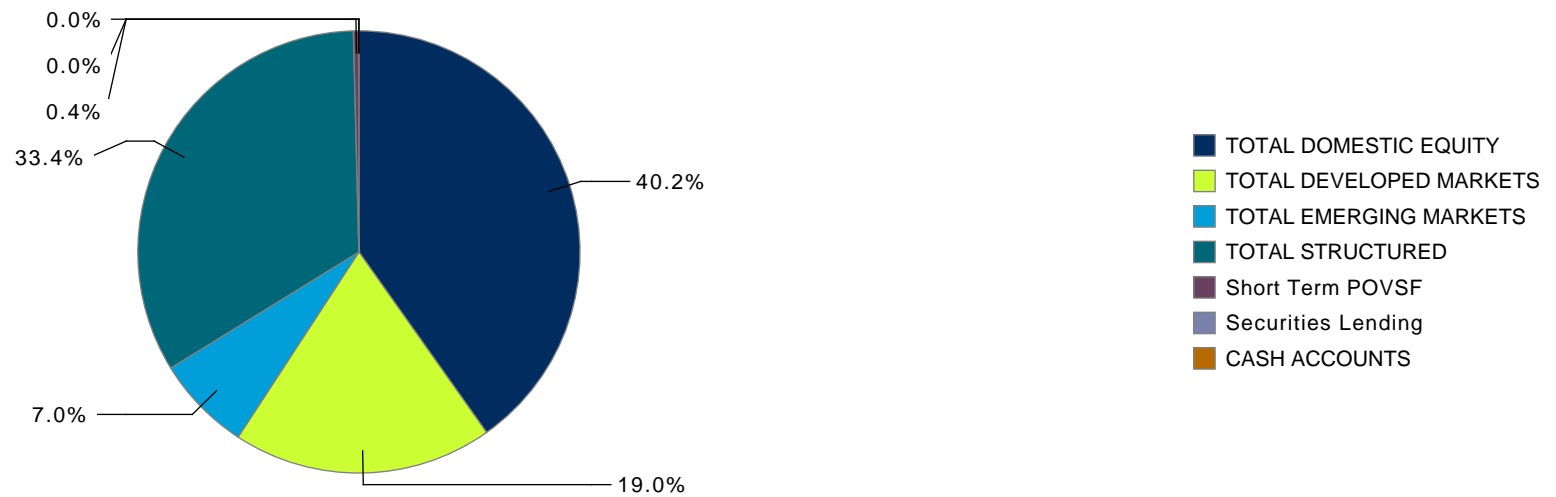


**Market Value (Billions)**

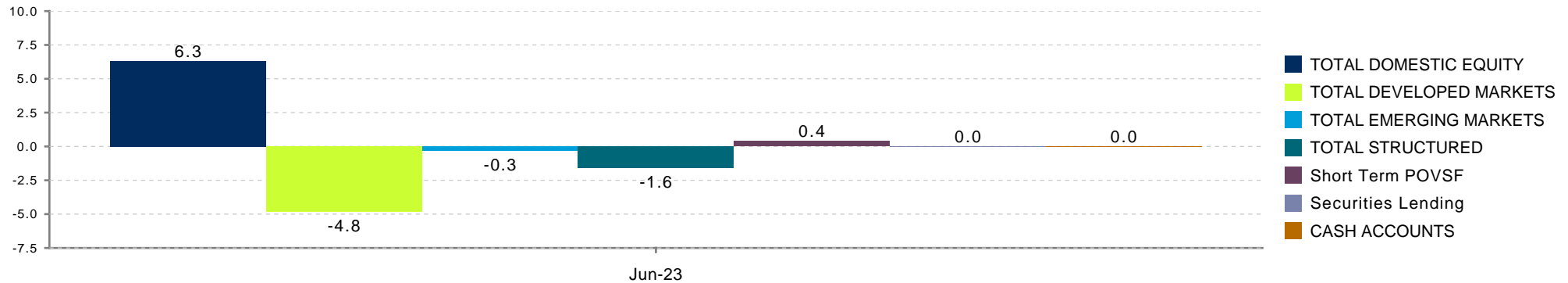
TOTAL POLICE OFFICERS

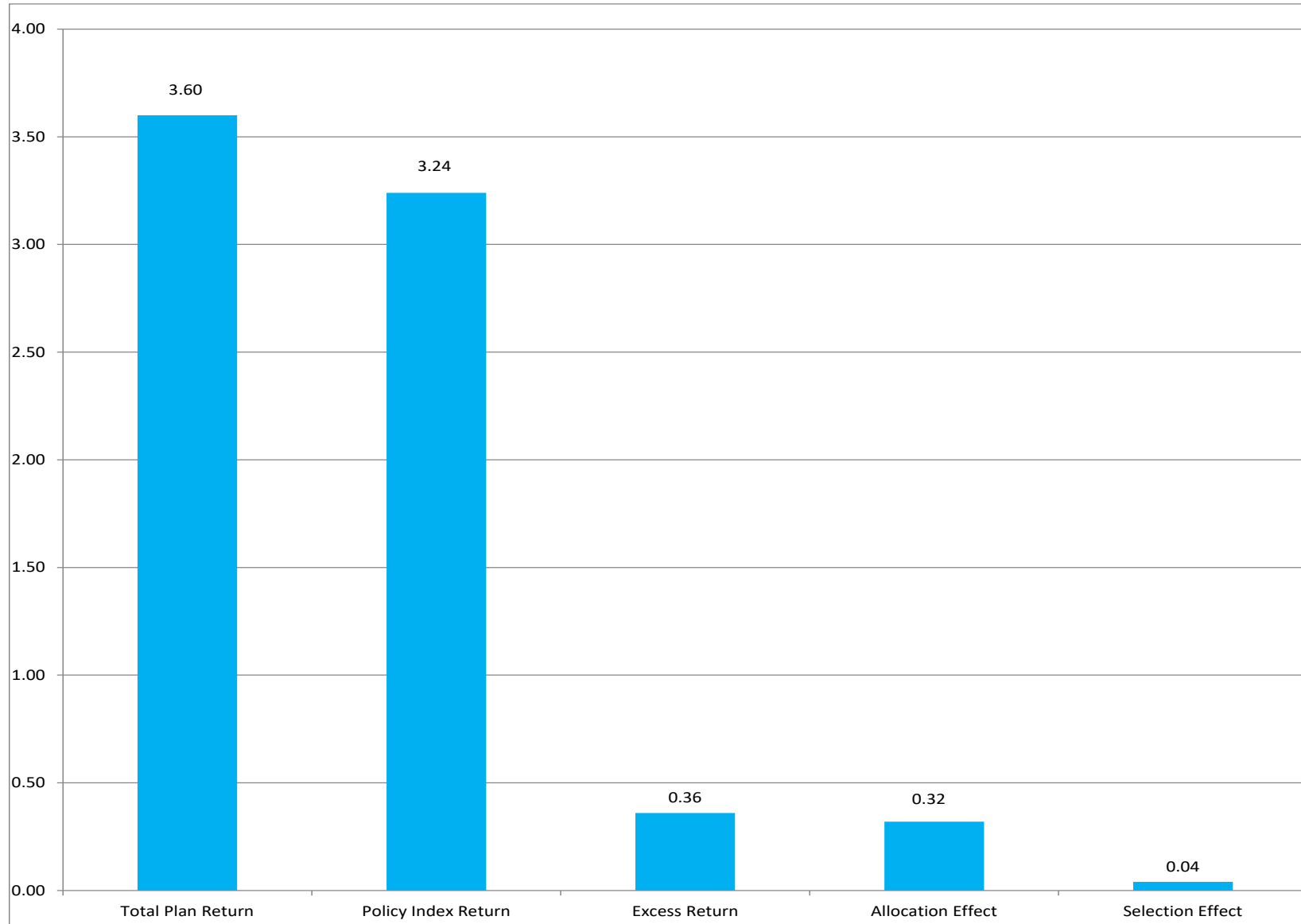
\$1.9

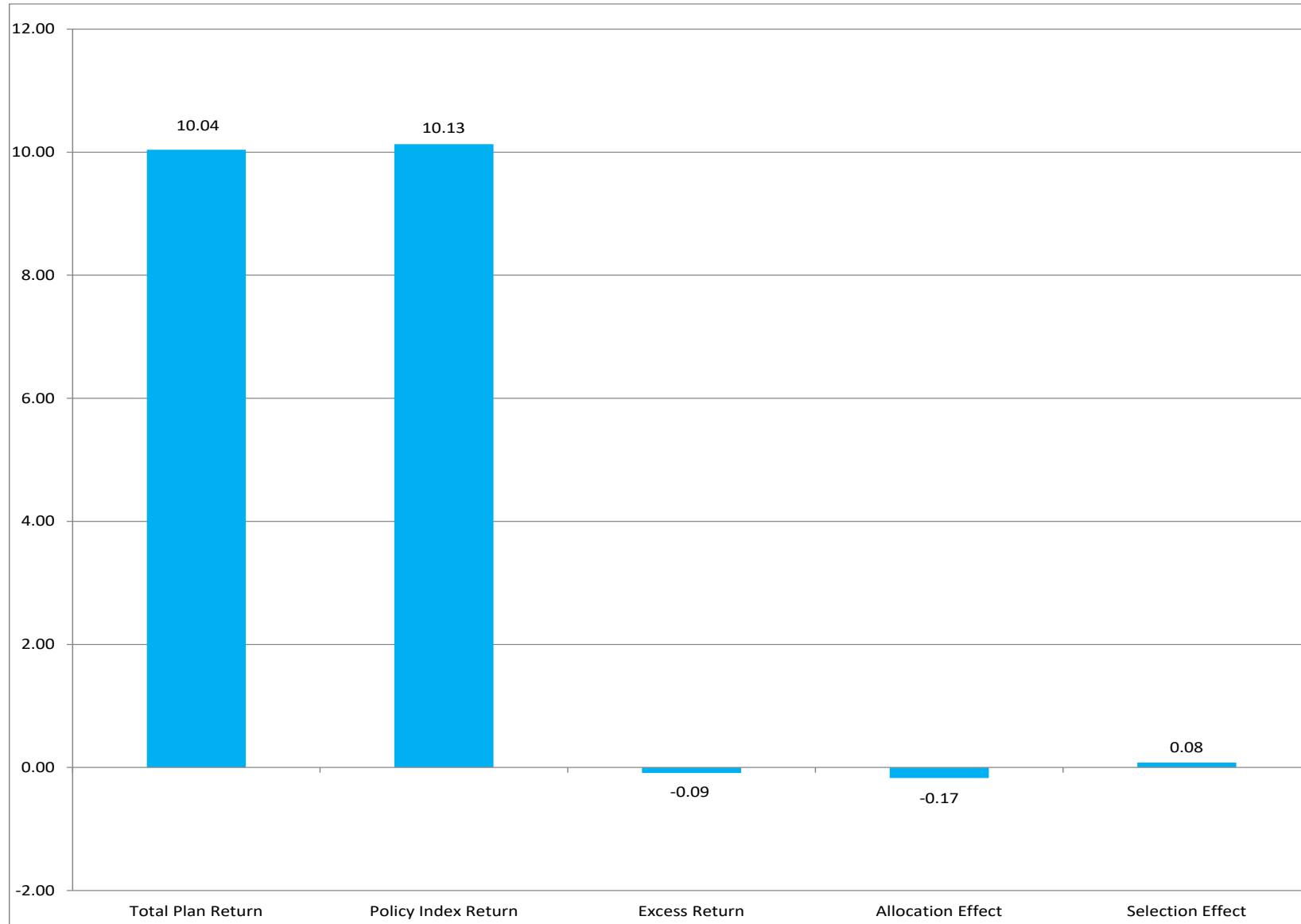
**Asset Allocation**



**Relative Mix to Asset Weights**









<b>Allocation Effect - Asset Class Breakdown</b>			
	<u>Quarter</u>	<u>FYTD</u>	<u>Benchmark</u>
TOTAL POLICE OFFICERS	0.32	-0.17	Police Officers Policy Benchmark
TOTAL DOMESTIC EQUITY	0.27	0.37	RUSSELL 3000
TOTAL WORLD ex-USA	0.03	-0.37	MSCI World ex USA IMI Net
TOTAL EMERGING MARKETS	0.00	-0.07	MSCI Emerging Markets
TOTAL STRUCTURED	0.00	-0.10	Bloomberg Aggregate

<b>Selection Effect - Asset Class Breakdown</b>			
	<u>Quarter</u>	<u>FYTD</u>	<u>Benchmark</u>
TOTAL POLICE OFFICERS	0.04	0.08	Police Officers Policy Benchmark
TOTAL DOMESTIC EQUITY	-0.01	-0.08	RUSSELL 3000
TOTAL WORLD ex-USA	0.04	0.07	MSCI World ex USA IMI Net
TOTAL EMERGING MARKETS	0.00	0.03	MSCI Emerging Markets
TOTAL STRUCTURED	0.01	0.06	Bloomberg Aggregate

# Securities Lending Income



Through June 30, 2023

**NYC POLICE OFFICERS' VARIABLE SUPPLEMENTS FUND**  
**SECURITIES LENDING INCOME**  
**June 30, 2023**

	<u>U. S.</u> <u>FIXED INCOME</u>	<u>U. S.</u> <u>EQUITY</u>	<u>INTERNATIONAL</u> <u>EQUITY</u>	<u>TOTAL</u>
2001	252,000	116,000	81,000	449,000
2002	139,000	72,000	82,000	293,000
2003	51,000	77,000	131,000	259,000
2004	91,000	115,000	126,000	332,000
2005	198,000	228,000	179,000	605,000
2006	169,000	305,000	180,000	654,000
2007	333,000	495,000	165,000	993,000
2008	873,000	881,000	201,000	1,955,000
2009	276,000	581,000	125,000	982,000
2010	85,000	243,000	80,000	408,000
2011	80,000	255,000	91,000	426,000
2012	38,000	271,000	47,000	356,000
2013	160,000	247,000	14,000	421,000
2014	20,000	33,000	140,000	193,000
2015	28,000	51,000	662,000	741,000
2016	40,000	422,000	527,000	989,000
2017	54,000	222,000	365,000	641,000
2018	31,184	159,754	513,412	704,349
2019	42,181	112,685	344,166	499,031
2020	80,896	89,562	263,871	434,329
2021	158,793	113,405	246,572	518,770
2022	244,017	140,537	199,718	584,272
2023 (6 Months)	92,744	116,217	93,982	302,943
Since Inception	<u>3,536,814</u>	<u>5,346,160</u>	<u>4,857,720</u>	<u>13,740,694</u>



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**New York City  
Police Officers' Variable Supplements Fund**

# **Appendix A**

## **Consolidated Performance Report**

# Consolidated Performance Report

Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>SYSTEM RETURN SUMMARY</b>																
5	POVSF-TOTAL PORTFOLIO - GROSS	1,860	100.00	3.60	10.01	9.41	(13.83)	(16.09)	11.33	13.11	10.01	5.82	5.54	7.42	8.15	01/01/1988
	POVSF - ESTIMATED INVESTMENT FEES			(0.00)	0.03	0.03	(0.01)	(0.00)	(0.01)	(0.01)	0.03	0.00	(0.00)			
	EST MANAGEMENT FEES			(0.00)	0.03	0.03	(0.01)	(0.00)	(0.01)	(0.01)	0.03	0.00	(0.00)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POVSF-TOTAL PORTFOLIO - NET MGR			3.60	10.04	9.44	(13.84)	(16.09)	11.32	13.10	10.04	5.82	5.54			
	POLICE OFFICERS POLICY BENCHMARK			3.24	10.13	9.00	(14.24)	(15.86)	10.52	13.79	10.13	5.67	5.52	7.39		
	EXCESS RETURN			0.35	(0.10)	0.44	0.40	(0.23)	0.80	(0.69)	(0.10)	0.15	0.02	0.03		
<b>EQUITY RETURN SUMMARY</b>																
17	POVSF-TOTAL EQUITY - GROSS	1,231	66.20	5.91	16.20	13.30	(16.19)	(18.09)	18.26	16.52	16.20	11.21	7.94	9.91	9.42	08/01/1993
	ESTIMATED INVESTMENT FEES			(0.00)	0.00	(0.00)	(0.00)	0.00	(0.01)	(0.01)	0.00	(0.00)	(0.01)			
	EST MANAGEMENT FEES			(0.00)	0.00	(0.00)	(0.00)	0.00	(0.01)	(0.01)	0.00	(0.00)	(0.01)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POVSF-TOTAL EQUITY - NET MGR			5.91	16.21	13.30	(16.19)	(18.09)	18.26	16.51	16.21	11.21	7.93			
25	POVSF-TOTAL DOMESTIC EQUITY - GROSS	748	40.19	8.37	18.71	16.14	(13.91)	(19.44)	25.78	20.82	18.71	13.85	11.28	12.33	10.19	07/01/1991
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	0.00	0.00	0.00	(0.00)	(0.00)	0.00	(0.00)			
	POVSF-TOTAL DOMESTIC EQUITY - NET MGR			8.37	18.71	16.14	(13.91)	(19.44)	25.78	20.82	18.71	13.85	11.28			
	RUSSELL 3000 (DAILY)			8.39	18.95	16.17	(13.87)	(19.21)	25.66	20.89	18.95	13.89	11.39	12.34	10.27	
	EXCESS RETURN			(0.01)	(0.24)	(0.02)	(0.04)	(0.23)	0.12	(0.07)	(0.24)	(0.04)	(0.11)	(0.01)	(0.09)	
35	POVSF-TOTAL SMALL CAP PASSIVE - GROSS	42	2.25	5.10	12.13	7.95	(24.88)	(20.46)	15.59	20.13	12.13	11.01	4.36	7.54	10/01/2013	
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	0.00	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			
	POVSF-TOTAL SMALL CAP PASSIVE - NET MGR			5.10	12.13	7.95	(24.88)	(20.46)	15.59	20.13	12.13	11.00	4.36			
	RUSSELL 2000 (DAILY)			5.21	12.31	8.09	(25.20)	(20.44)	14.82	19.96	12.31	10.82	4.21	7.40		
	EXCESS RETURN			(0.11)	(0.18)	(0.14)	0.32	(0.03)	0.77	0.17	(0.18)	0.18	0.15	0.14		
45	POVSF-TOTAL RUSSELL 1000 - GROSS	706	37.94	8.57	19.15	16.67	(13.07)	(19.35)	26.52	20.92	19.15	13.99	11.84	11.99	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)		
	POVSF-TOTAL RUSSELL 1000 - NET MGR			8.57	19.15	16.67	(13.07)	(19.35)	26.52	20.92	19.15	13.99	11.84	11.99		
	RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(13.04)	(19.13)	26.45	20.96	19.36	14.09	11.92	12.07		
	EXCESS RETURN			(0.01)	(0.22)	(0.01)	(0.03)	(0.22)	0.07	(0.04)	(0.22)	(0.10)	(0.08)	(0.08)		

# Consolidated Performance Report

Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
<b>EQUITY RETURN SUMMARY</b>															
57	POVSF-TOTAL WORLD ex-USA - GROSS	354	19.01	2.87	16.73	10.74	(17.17)	(14.73)	12.71	8.87	16.73	9.37	4.64	5.23	02/01/2015
	ESTIMATED INVESTMENT FEES			(0.00)	0.01	(0.01)	(0.01)	0.01	(0.02)	(0.02)	0.01	(0.01)	(0.01)	(0.01)	
	POVSF-TOTAL WORLD ex-USA - NET MGR			2.87	16.74	10.73	(17.18)	(14.72)	12.69	8.85	16.74	9.37	4.63	5.22	
	WORLD EX-USA CUSTOM BM			2.67	16.35	10.46	(17.73)	(15.26)	12.39	8.32	16.35	8.87	4.17	5.18	
	EXCESS RETURN			0.19	0.39	0.27	0.55	0.54	0.30	0.53	0.39	0.50	0.46	0.04	
67	POVSF-TOTAL EMERGING MARKETS - GROSS	130	7.00	0.87	2.06	5.11	(24.61)	(19.50)	(2.00)	17.29	2.06	2.68	1.12	2.26	07/01/2017
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	
	POVSF-TOTAL EMERGING MARKETS - NET MGR			0.86	2.03	5.10	(24.62)	(19.51)	(2.02)	17.27	2.03	2.66	1.10	2.23	
	MSCI EMERGING MARKETS			0.90	1.75	4.89	(25.28)	(20.09)	(2.54)	18.31	1.75	2.32	0.93	2.11	
	EXCESS RETURN			(0.03)	0.28	0.21	0.67	0.58	0.52	(1.04)	0.28	0.34	0.17	0.12	



# Consolidated Performance Report

Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>FIXED INCOME RETURN SUMMARY</b>																
79	POVSF-TOTAL FIXED INCOME - GROSS	629	33.79	(0.80)	(0.78)	2.35	(10.10)	(12.82)	(1.73)	7.57	(0.78)	(3.90)	0.84	1.67	5.20	04/01/1991
	ESTIMATED INVESTMENT FEES			(0.00)	0.07	0.08	(0.01)	(0.01)	(0.01)	(0.02)	0.07	0.01	0.00			
	EST MANAGEMENT FEES			(0.00)	0.07	0.08	(0.01)	(0.01)	(0.01)	(0.02)	0.07	0.01	0.00			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	<b>POVSF-TOTAL FIXED INCOME - NET MGR</b>			<b>(0.80)</b>	<b>(0.71)</b>	<b>2.43</b>	<b>(10.11)</b>	<b>(12.83)</b>	<b>(1.75)</b>	<b>7.55</b>	<b>(0.71)</b>	<b>(3.89)</b>	<b>0.84</b>			
87	POVSF-TOTAL STRUCTURED FIXED INCOME - GROSS	621	33.36	(0.82)	(0.83)	2.35	(10.25)	(12.99)	(1.77)	7.72	(0.83)	(3.95)	0.83	1.77	4.06	08/01/2000
	ESTIMATED INVESTMENT FEES			(0.00)	0.07	0.08	(0.01)	(0.01)	(0.01)	(0.02)	0.07	0.01	0.00			
	POVSF-TOTAL STRUCTURED FIXED INCOME - NET MGR			(0.83)	(0.77)	2.43	(10.27)	(13.01)	(1.78)	7.70	(0.77)	(3.93)	0.83			
	BLOOMBERG U.S. AGGREGATE			(0.84)	(0.94)	2.09	(10.29)	(13.01)	(1.54)	7.51	(0.94)	(3.96)	0.77	1.52	3.88	
	EXCESS RETURN			<b>0.02</b>	<b>0.17</b>	<b>0.33</b>	<b>0.03</b>	<b>0.00</b>	<b>(0.24)</b>	<b>0.19</b>	<b>0.17</b>	<b>0.03</b>	<b>0.06</b>	<b>0.26</b>	<b>0.18</b>	
<b>CASH SUMMARY</b>																
99	Short Term - POVSF - GROSS	8	0.43	1.25	3.89	2.38	0.26	1.69	0.45	0.40	3.89	1.51	1.62			01/01/1988
	ESTIMATED INVESTMENT FEES			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	Short Term - POVSF - NET MGR			1.25	3.89	2.38	0.26	1.69	0.45	0.40	3.89	1.51	1.62			
103	Cash Account	0	-													
105	Securities Lending	0	-													



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**New York City  
Police Officers' Variable Supplements Fund**

# **Appendix B**

## **Public Markets Manager Performance Detail**

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>EQUITY SUMMARY</b>										
<b>US EQUITY</b>										
BlackRock US SCG R2000	\$22	1.16	7.01	18.46	13.50	(26.38)	3.35	34.42	28.39	(9.14)
RUSSELL 2000 GROWTH DAILY			7.05	18.53	13.55	(26.36)	2.83	34.63	28.48	(9.31)
Excess			(0.04)	(0.07)	(0.05)	(0.02)	0.51	(0.21)	(0.09)	0.17
BlackRock US SCV R2000	\$20	1.09	3.14	6.06	2.58	(14.51)	28.48	4.87	22.60	(12.79)
RUSSELL 2000 VALUE DAILY			3.18	6.01	2.50	(14.48)	28.27	4.63	22.39	(12.86)
Excess			(0.05)	0.06	0.08	(0.03)	0.21	0.24	0.20	0.08
BlackRock US LMC R1000 Core	\$706	37.94	8.57	19.15	16.67	(19.35)	26.52	20.92	31.26	
RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(19.13)	26.45	20.96	31.43	
Excess			(0.01)	(0.22)	(0.01)	(0.22)	0.07	(0.04)	(0.16)	
<b>NON - US EQUITY</b>										
SSGA WorldxUS LMC NYC Custom IDX	\$305	16.38	3.24	17.86	11.59	(13.73)	12.90	8.09	22.75	(13.64)
NYC Custom World ex US Index <sup>[1]</sup>			3.03	17.41	11.29	(14.29)	12.62	7.59	22.49	(14.09)
Excess			0.21	0.45	0.30	0.56	0.28	0.50	0.26	0.45
SSGA WorldxUS SC Custom IDX <sup>[2]</sup>	\$49	2.63	0.58	10.26	5.63	(20.04)	11.52	13.16	25.67	(17.97)
World ex USA SC PASSIVE CUSTOM BM <sup>[3]</sup>			0.49	10.05	5.50	(20.58)	11.14	12.78	25.41	(18.07)
Excess			0.10	0.21	0.13	0.55	0.39	0.38	0.26	0.10
<b>EMERGING MARKETS</b>										
BlackRock MSCI EM Core	\$130	7.00	0.86	2.03	5.10	(19.51)	(2.02)	17.27	18.76	(14.44)
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)	18.31	18.42	(14.57)
Excess			(0.03)	0.28	0.21	0.58	0.52	(1.04)	0.34	0.13

# Public Markets Manager Performance Detail



Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>FIXED INCOME SUMMARY</b>										
<b>STRUCTURED FIXED INCOME</b>										
SSGA-Core US Agg	\$621	33.36	(0.83)	(0.77)	2.43	(13.01)	(1.78)	7.70	8.75	(0.25)
Bloomberg U.S. Aggregate			(0.84)	(0.94)	2.09	(13.01)	(1.54)	7.51	8.72	0.01
Excess			0.02	0.17	0.33	0.00	(0.24)	0.19	0.04	(0.26)
<b>CASH</b>										
Short Term POVSF	\$8	0.43	1.25	3.89	2.38	1.69	0.45	0.40	2.10	1.66
ICE BofA US 3-Month Treasury Bill			1.17	3.59	2.25	1.46	0.05	0.67	2.28	1.87
Excess			0.09	0.30	0.13	0.24	0.40	(0.26)	(0.18)	(0.21)
Cash Account	\$0	0.00								
Securities Lending	\$0	0.00								



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**New York City  
Police Officers' Variable Supplements Fund**

# Appendix C

## Footnotes



Through June 30, 2023

## General Notes

- Returns are Net of Manager Fees for periods after January 2014 and Gross of investment advisory fees for other periods unless otherwise indicated.
- Returns greater than 1 year are annualized.

## Page Specific

### Page 4 - Portfolio Asset Allocation

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

### Pages 5 - 6 - 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.*



Through June 30, 2023

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*The indexes and most recent policy weights are as follows:*

*U.S. Equity: Russell 3000 \* 33.90%*

*International Developed (EAFE) Markets: MSCI World ex USA IMI Net \* 23.80%*

*Emerging Markets: MSCI Emerging Markets \* 7.30%*

*Domestic Fixed Income: Bloomberg Aggregate \* 35.00%*

### **Page 7 – 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 under performing their benchmark and to show the basis point effect that this is having on Plan performance.



Through June 30, 2023

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[1] NYC Custom World ex US Index: Beginning 2.2017 benchmark changed from MSCI EAFE to MSCI World ex USA Net Index.

[2] Name changed from SSGA EAFE SC IDX 12.2017

[3] World ex USA SC PASSIVE CUSTOM BM: Beginning 12.2017 benchmark changed from MSCI EAFE Small Cap Net to MSCI World ex US Small Cap (Net).





New York City  
Police Pension Fund, Subchapter Two  
Performance Overview as of June 30, 2023

# Total Fund Overview



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## **New York City Police Pension Fund, Subchapter Two**

<b>Table of Contents:</b>
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<b>Consultant's Commentary &amp; Performance Charts</b>	<b>p.3</b>
<b>Appendix A - Consolidated Performance Report</b>	<b>p.28</b>
<b>Appendix B - Public Markets Manager Performance Detail</b>	<b>p.38</b>
<b>Appendix C - Alternative Assets Manager Performance Detail</b>	<b>p.52</b>
<b>Appendix D - Footnotes</b>	<b>p.68</b>

Through June 30, 2023

**Wilshire**

**2Q23 Capital Markets Commentary**

**U.S. Equity**

The U.S. stock market, represented by the FT Wilshire 5000 Index<sup>SM</sup>, was up 8.43% for the second quarter and is up 19.03% for the past 12 months. A majority of sectors were up for the quarter. The best performing were information technology (+17.2%), consumer discretionary (+14.6) and communication services (+13.1%). The worst performing sector was utilities (-2.5%). From a size perspective, large-cap outperformed small-cap by 331 basis points. Growth stocks vastly outperformed value for the second straight quarter and now lead meaningfully for the one-year return.

Large-cap growth stocks are outperforming value stocks by an astonishing margin this year. While growth tends to lead during bull markets, the current 6-month return difference is the largest in 25 years at +29.4%. This can be dissected further to find that just a few stocks are contributing a vast majority of the overall market return through June. Additionally, most of these names are technology sector stocks – Amazon, Apple, Google and Meta. It is worth noting that these companies are highly dependent on the consumer's ability to spend. U.S. real personal consumption's steady growth during the past 1.5 years will need to continue to support not just economic growth but also current stock prices.

**GDP:** Real GDP growth continued to slow during the first quarter but was still positive, expanding an annualized 2.0%. Consumer spending was quite strong, registering its best quarter in nearly two years and contributing 2.8% to growth. However, private spending was down by double-digits. The Atlanta Federal Reserve's (Fed) GDPNow forecast for the second quarter of 2023 currently stands at 2.2%.

Source: Bureau of Economic Analysis.

**Interest Rates:** The Treasury curve rose across all maturities during the second quarter. The 10-year Treasury closed at 3.84%, up 37 basis points. The 10-year real yield (i.e., net of inflation) rose 47 basis points to 1.62%. The Federal Open Market Committee (FOMC) increased their overnight rate by 0.25%, targeting a range of 5.00% to 5.25%. The committee's current median outlook is for a rate of approximately 5.6% by the end of 2023.

Source: U.S. Treasury.

**Inflation:** Consumer price changes have moderated as the Consumer Price Index rose 0.5% for the three months ending May. For the one-year period, the CPI was up 4.1%. The 10-year breakeven inflation rate was down slightly at 2.23% in June versus 2.32% in March.

Source: Dept. of Labor (BLS), U.S. Treasury.

**Employment:** Jobs growth remains solid, with an average of 283,000 jobs/month added during the three months ending in May. The unemployment rate was little changed at 3.7%, up from 3.6% in February. Wage growth has slowed this year, up 0.3% in May, a likely welcome sign for the Federal Reserve.

Source: Dept. of Labor (BLS).

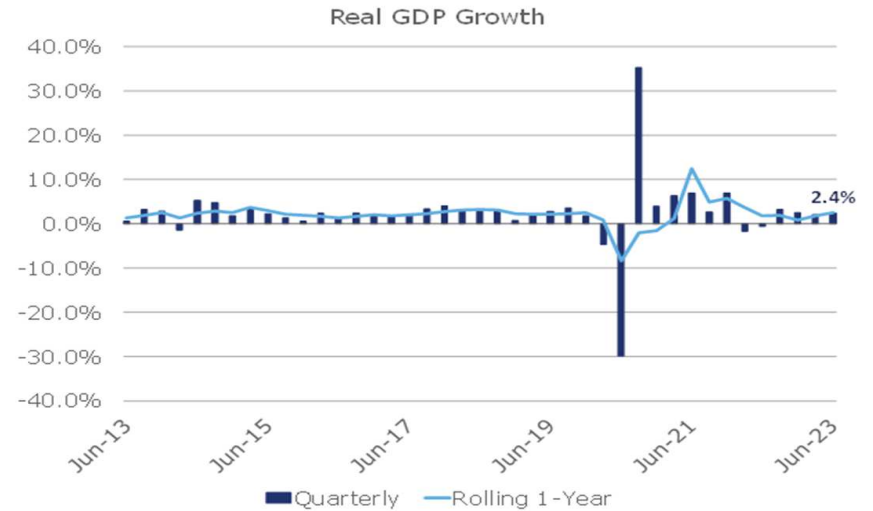
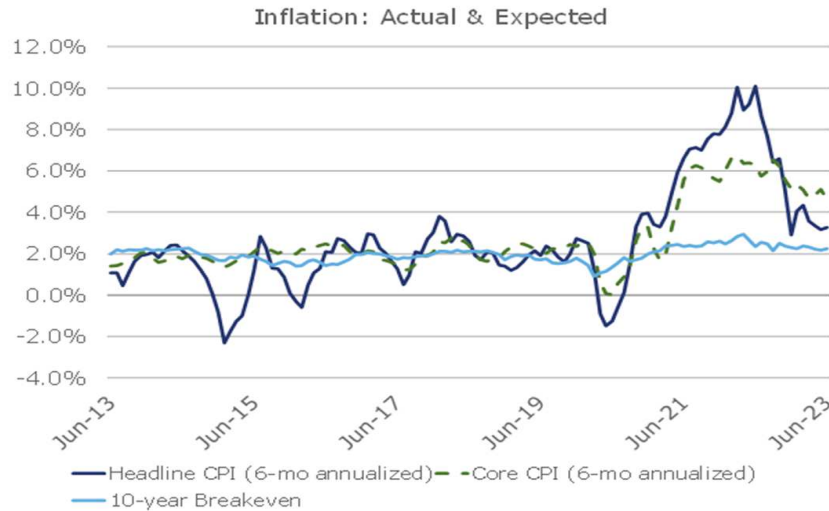


Through June 30, 2023

**Wilshire**

DATA SOURCES: BLOOMBERG

**Inflation and Real GDP Growth**



Through June 30, 2023

## Wilshire

### 2Q23 Capital Markets Commentary (cont.)

#### Non-U.S. Equity

Performance results within international equity markets were positive for the second quarter, with developed outperforming emerging markets. The MSCI EAFE Index was up 2.95% for the quarter, while the MSCI Emerging Markets Index was up 0.90%. The eurozone fell into a mild recession around the start of the new year as real GDP fell during the fourth and first quarters. Consumer spending has been hampered by high inflation and rising interest rates while government spending fell sharply. Economic growth within the United Kingdom has been positive enough this year to barely escape a technical recession, for now. Inflation has been trending downward within Britain but at a much slower pace versus other regions, with annual changes being twice as high in the United Kingdom as in the United States, as of the end of May. In China, several economic indicators have fallen short of expectations during the past few weeks, including measurements of industrial production, retail sales and trade. Recent policy statements indicate that officials are increasingly concerned about the economy.

#### Hedge Funds

In the second quarter, the Wilshire Liquid Alternative Index returned 1.38%, bringing year-to-date performance to 2.60%. Equity hedge managers led all sub-strategies for the quarter, benefitting largely from positive equity performance in the month of June. Macro managers had a strong quarter as well, benefitting from long positions in equities as well as short positions in fixed income and the Japanese yen. Event driven managers ended with negative performance in the second quarter, largely driven by a challenging month of May. Merger arbitrage managers particularly suffered following a number blocked deals and the failure of the First Horizon/Toronto Dominion deal. Relative value managers also ended on the wrong side of flat for the quarter, also due to losses in May as bonds tumbled from first quarter highs established amidst banking sector concerns.

#### Fixed Income

The U.S. Treasury yield curve was up across the maturity spectrum during the quarter, and to a greater degree from the short end to 3-years. The 10-year Treasury yield ended the quarter at 3.84%, up 37 basis points from March. Credit spreads were noticeably down during the quarter with investment grade down 15 basis points and high yield bonds down 69 basis points. The FOMC met twice during the quarter, as scheduled, and increased the overnight rate by 0.25% in May, targeting a range of 5.00% to 5.25%, before pausing increases in June. The Fed's "dot plot" is messaging that the current expectation is for another 50 basis point in increases before the end of 2023 while markets are pricing a slightly lower year-end rate, equal to approximately 25 basis points higher than the current rate. In late June, Fed Chair Jerome Powell said that central bank policy "may not be restrictive enough and it has not been restrictive for long enough."

#### Private Equity

Global economic growth forecasts have become increasingly uncertain, particularly in the US, where investors are beginning to question the surety of a recession in 2023. We're witnessing a gradual decline in global economic growth and while recent economic data has surprised to the upside, outlook nonetheless remains unclear. Persistently tight financial conditions may lead to additional fractures in the financial system, which fuels growing concerns of a potential monetary policy mistake. Fortunately, recent measures of inflation indicate some moderation, and while the labor market remains tight, a softening in prices may give central banks latitude to halt their aggressive path higher in interest rates. Given growing uncertainty surrounding the economy, monetary policy, and fragile geopolitical backdrop, we believe that a potential credit crunch has emerged as the primary risk facing global economies as the lagging impacts of tight monetary policy begin to weigh on the ability of borrowers to meet their debt obligations across various segments of the global economy.

Fundraising in North America slowed during the second quarter as 296 private equity funds secured a total of \$97.0 billion, compared to 279 funds raising \$136.6 billion in the first quarter of 2023. The largest funds to close during the quarter include TA XV (\$16.5 billion), Genstar Capital Partners XI (\$12.6 billion) and MED Platform II (\$3.8 billion).



Through June 30, 2023

## Wilshire

### 2Q23 Performance Commentary

**Total Plan** – For the first quarter of 2023 (1Q23), the Total Fund was valued at \$49.7 billion and returned 2.90% on a net-of-fee basis, underperforming the policy benchmark return of 3.65%. For the financial year to date, the Total Fund returned 8.09%, outperforming the policy benchmark return of 7.94%.

- The strong relative performance for the last couple of quarters carried over to the trailing periods. The Total Fund returned 8.24% and 7.26%, net-of-fees for the three- and five-year periods. For the ten-year period, the Total Fund returned 8.36%, gross-of-fees. The Fund outperformed the policy benchmark returns of 7.72%, 7.15%, and 7.98%, respectively.
- For the quarter, the Total Fund overperformed the median return of 2.38% in the TUCS Public Plans greater than \$5 billion universe. For the calendar year, the Total Fund returned 8.09%, which also overperformed the median return of 6.67%.

**Total Domestic Equity Composite** – The Total Fund has \$15 billion, or 30.2% invested in domestic equity. The composite remains predominately passively invested with 66.2% of the composite invested passively across market cap segments.

- For 2Q23, the Domestic Equity Composite returned 7.14% (net-of-fees), underperforming the Russell 3000 index return of 8.39%. Performance returns for the asset class segments ranged from 2.83% (Russell 1000 Active) to 9.88% (Russell Top 200 Passive).
- In the active segments, only the Active Small Cap slightly outperformed its benchmark, returning 5.50% versus 5.21% for the index. The Emerging Managers segment underperformed with 2.8% versus 5.2% for the index. The Russell 1000 Active had the largest underperformance, returning 2.8% versus 8.6%. The Active Mid Cap, Russell 1000 Passive and Russell Top 200 Passive all matched their benchmarks.
- Active manager results were mixed for the quarter. Cooke and Bieler Small Cap Value continues their positive outperforming the Russell 2000 Value index by 4.16%; Similarly, PIMCO RAFI US LMCE underperformed the Russell 1000 index by -6.39% for the quarter.

Through June 30, 2023

## Wilshire

### 2Q23 Performance Commentary (cont.)

**Total World ex-USA Composite** – The Total Fund has \$3.6 billion, or 7.2% invested in developed international equities. The composite allocation is 76.5% Large & Mid Active, 8.9% Small Cap Active, and 14.5% passive.

- For 2Q23, the Total World ex-USA Composite returned 3.28%, outperforming the MSCI World Ex-US Custom Index which returned 2.67%. All segments outperformed their respective benchmarks.
- Most Individual active manager performance relative to their benchmarks were positive, except Baillie Gillford (-1.14%) and Algert (-1.02%). Once again, Causeway had the highest outperformance, returning 5.21% versus 3.03% for its index.

**Total Emerging Markets Composite** – The Total Fund has \$2.4 billion or 4.8% invested in emerging markets. The composite allocation is 84.0% active and 16.0% passive.

- For 2Q23, the Emerging Markets Composite outperformed its policy benchmark, returning 3.07% (net-of-fees) versus the MSCI EM index return of 0.9%. Individual active manager performance was mostly positive, with only one small underperformance. Pzena had the highest outperformance in the mix, beating its benchmark by 5.28%. Blackrock trailed the MSCI EM index by 0.03%.

**Total Hedge Funds Composite** – The Total Fund has \$2.7 billion or 5.4% invested in hedge funds. For 2Q23, the hedge fund composite returned 2.44%, trailing the index which returned 1.78%.

**Total Fixed Income Composite** – The Total Fund has \$15.9 billion, or 32.1% invested in fixed income securities. The structure of the composite is 42.7% in Structured Fixed Income, 22.2% in High Yield, 13.7% in Opportunistic Fixed Income (OFI), 9.5% in TIPS, 6.0% in Convertible Bonds, 1.0% Core Plus Fixed Income, 2.5% in ETI, 2.3% in Short-Term Cash, and < 0.1% in Bank Loans.

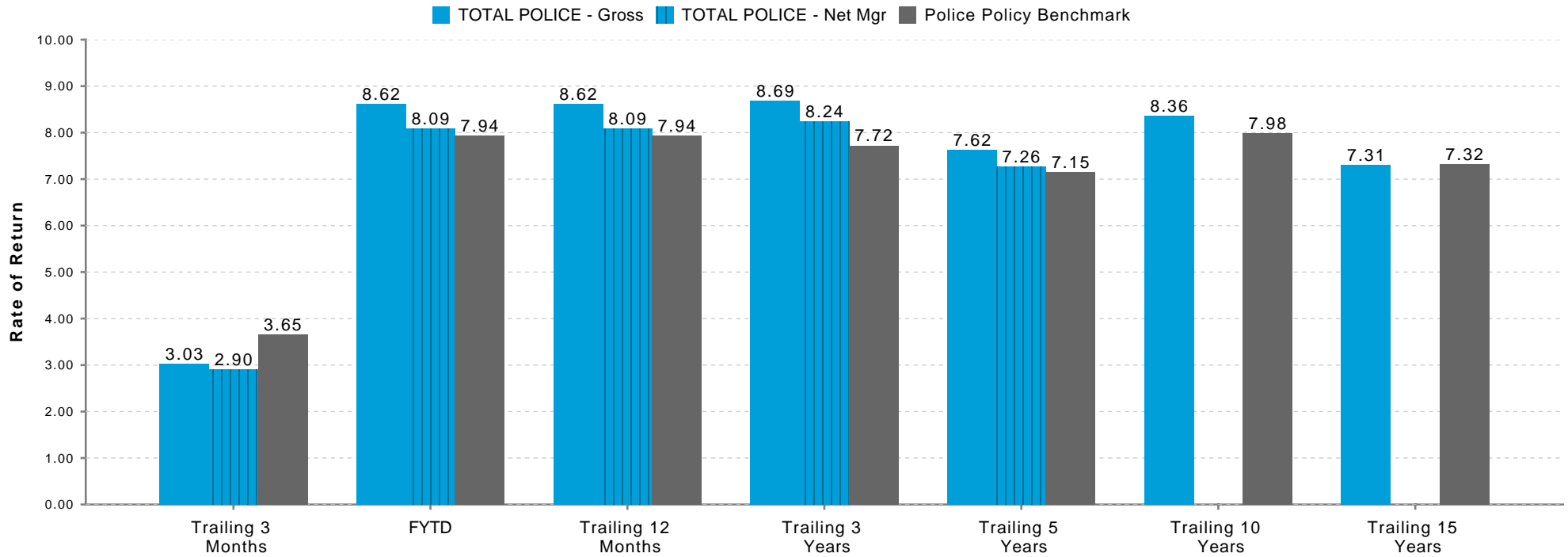
- For 2Q23, the Total Fixed Income Composite returned 0.30% (net-of-fees). Most sectors produced negative returns.
- Convertible Bonds had the strongest absolute performance, while also having the weakest relative performance, returning 3.00% and its index returning 4.98%.
- Core Developing Managers had the strongest relative performance, returning -0.52% net-of-fees, and outperforming the index which returned -0.84%.
- Fixed income manager performance was mixed. Returns ranged from +2.26% to -2.45% relative to their benchmark.



**Market Value (Billions)**

TOTAL POLICE

\$49.7

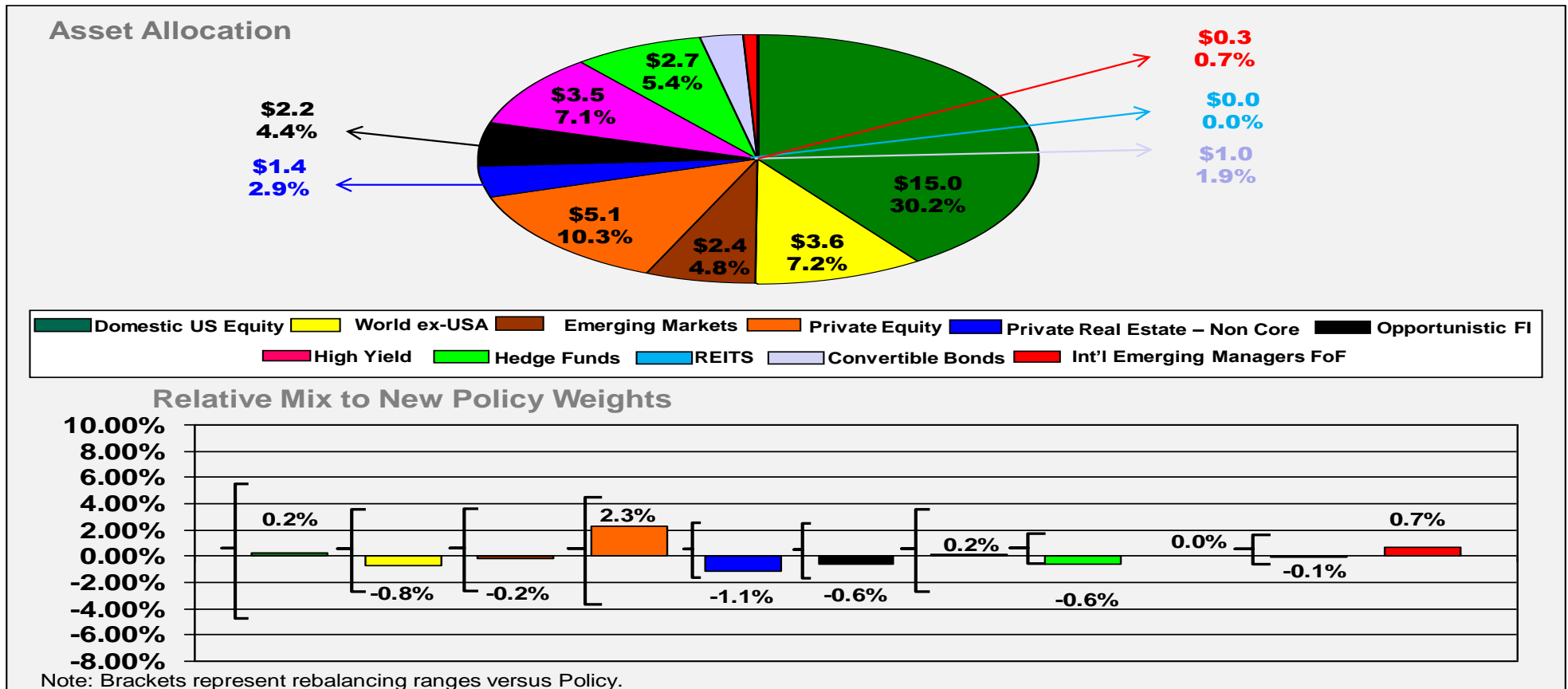


	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 10 Years	Benchmark 10 Years
<b>Standard Deviation</b>						
TOTAL POLICE	9.8	10.7	7.6	10.6	7.9	8.4



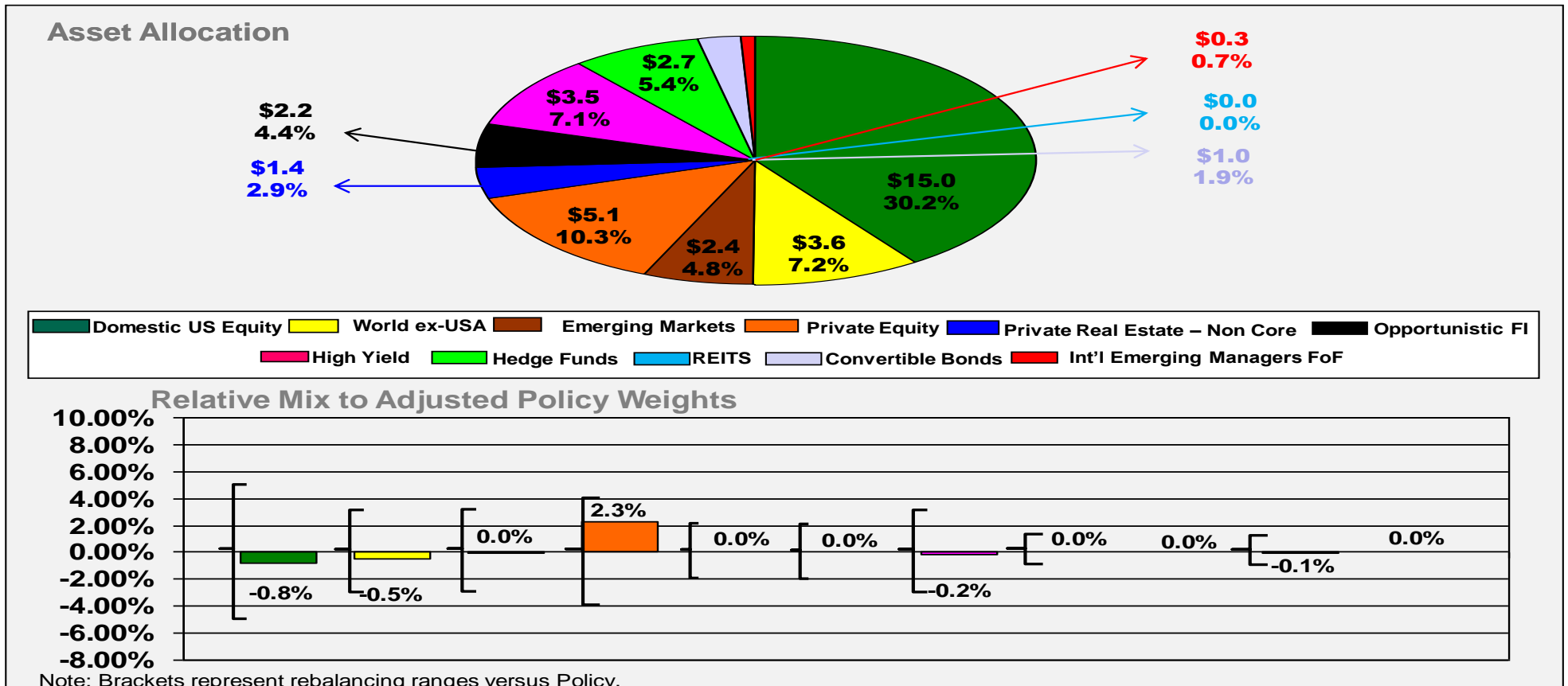


## Portfolio Asset Allocation – Growth



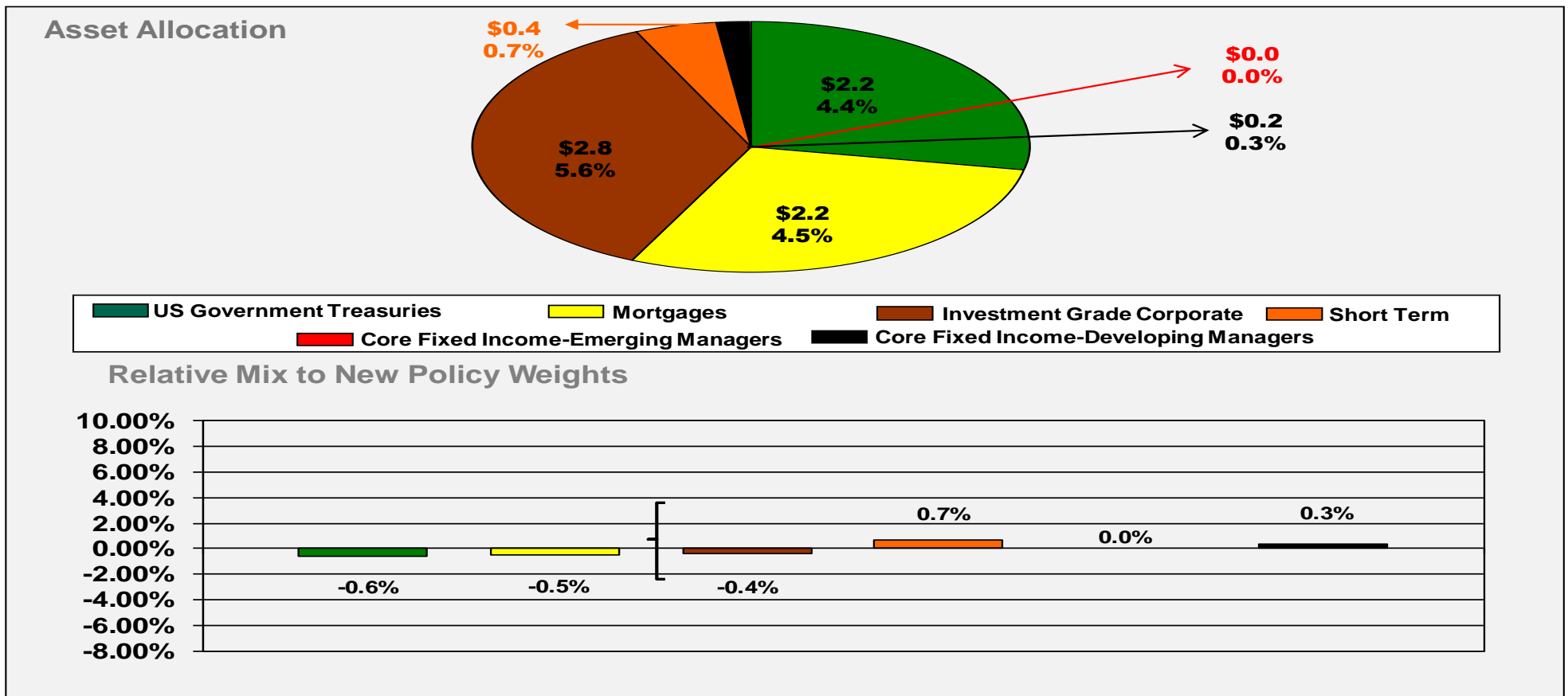


## Portfolio Asset Allocation – Growth

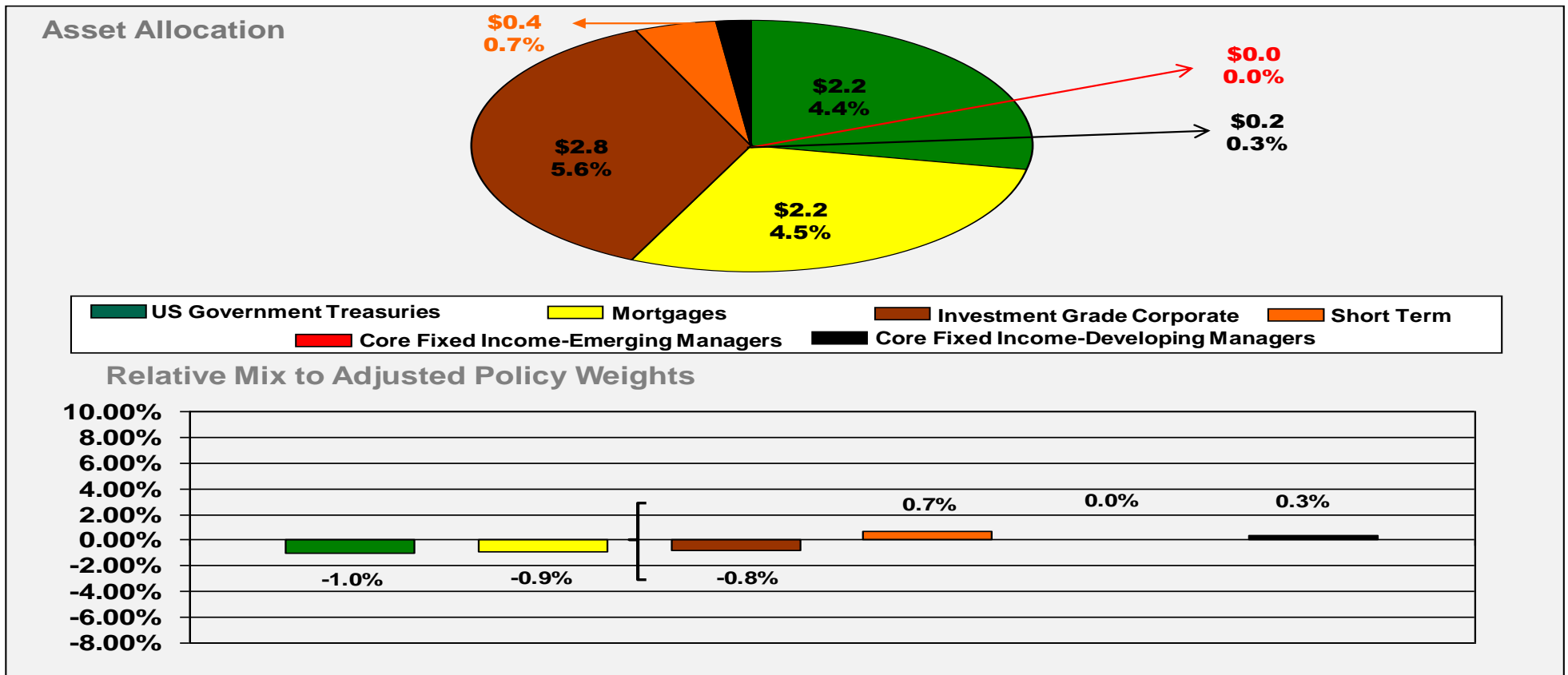




## Portfolio Asset Allocation – Deflation Protection

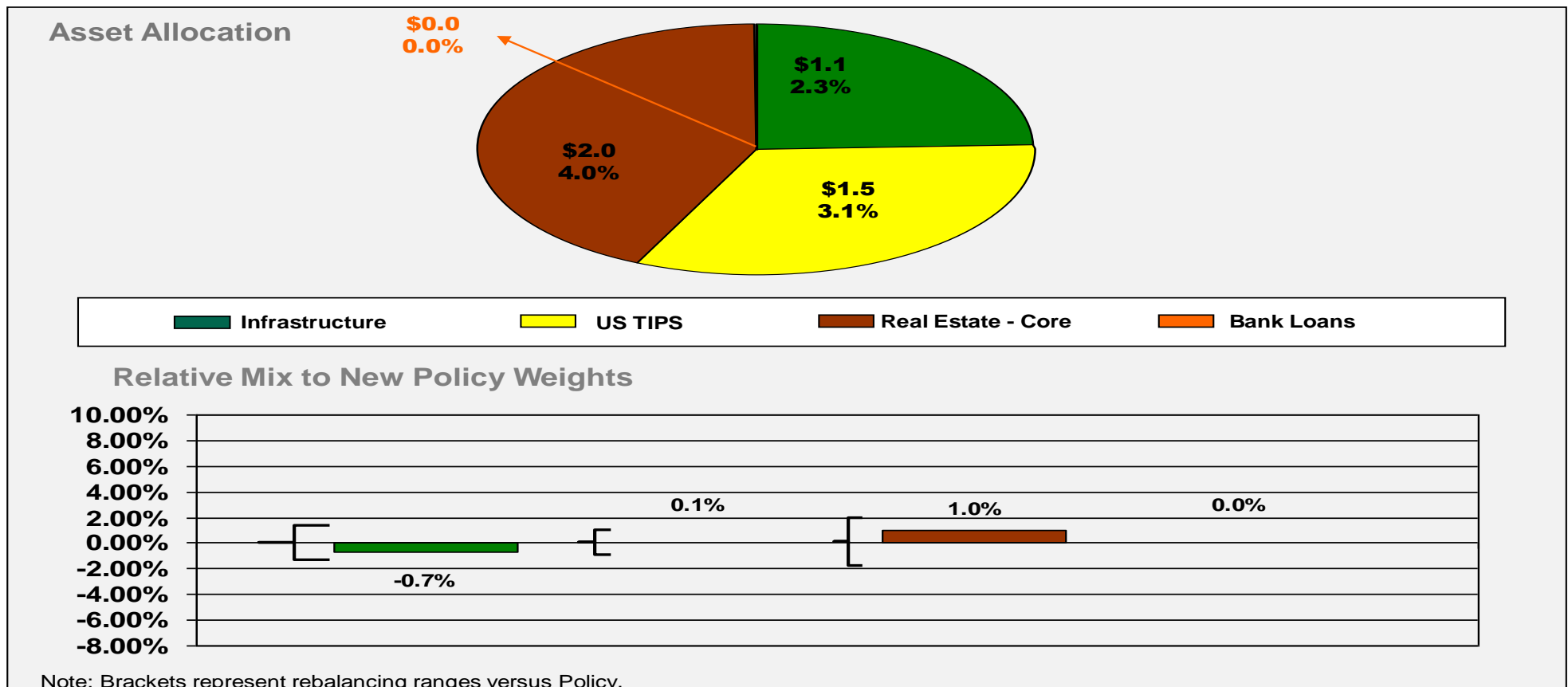


## Portfolio Asset Allocation – Deflation Protection



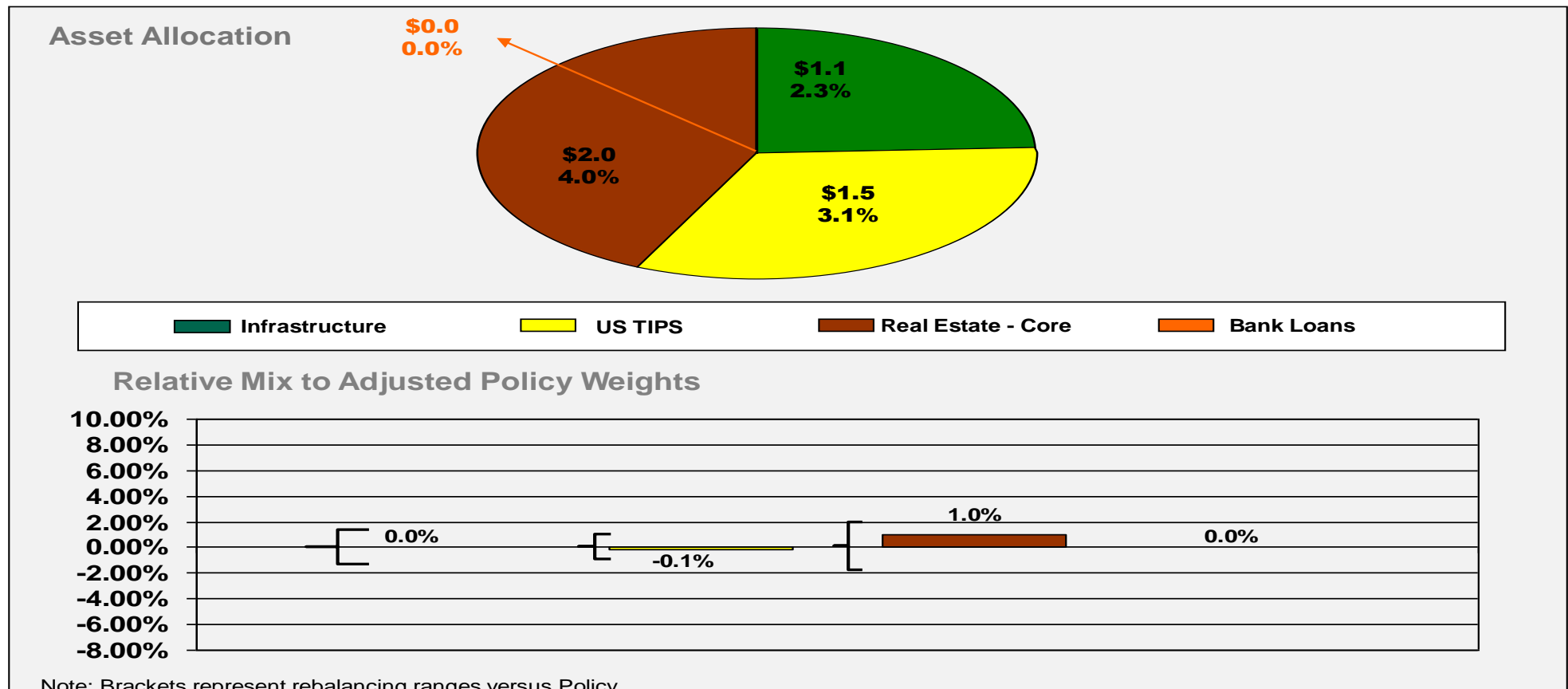


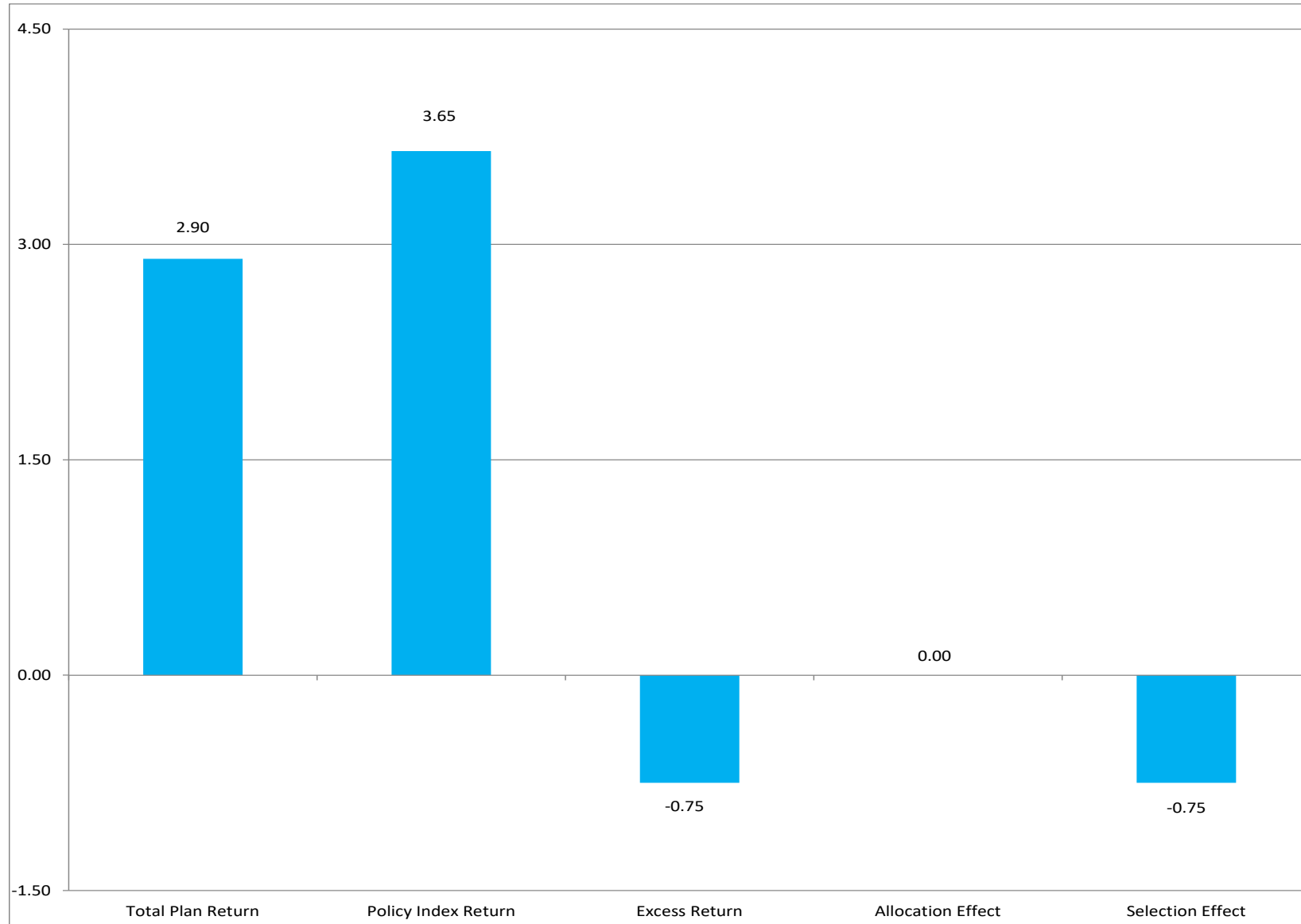
## Portfolio Asset Allocation – Inflation Protection

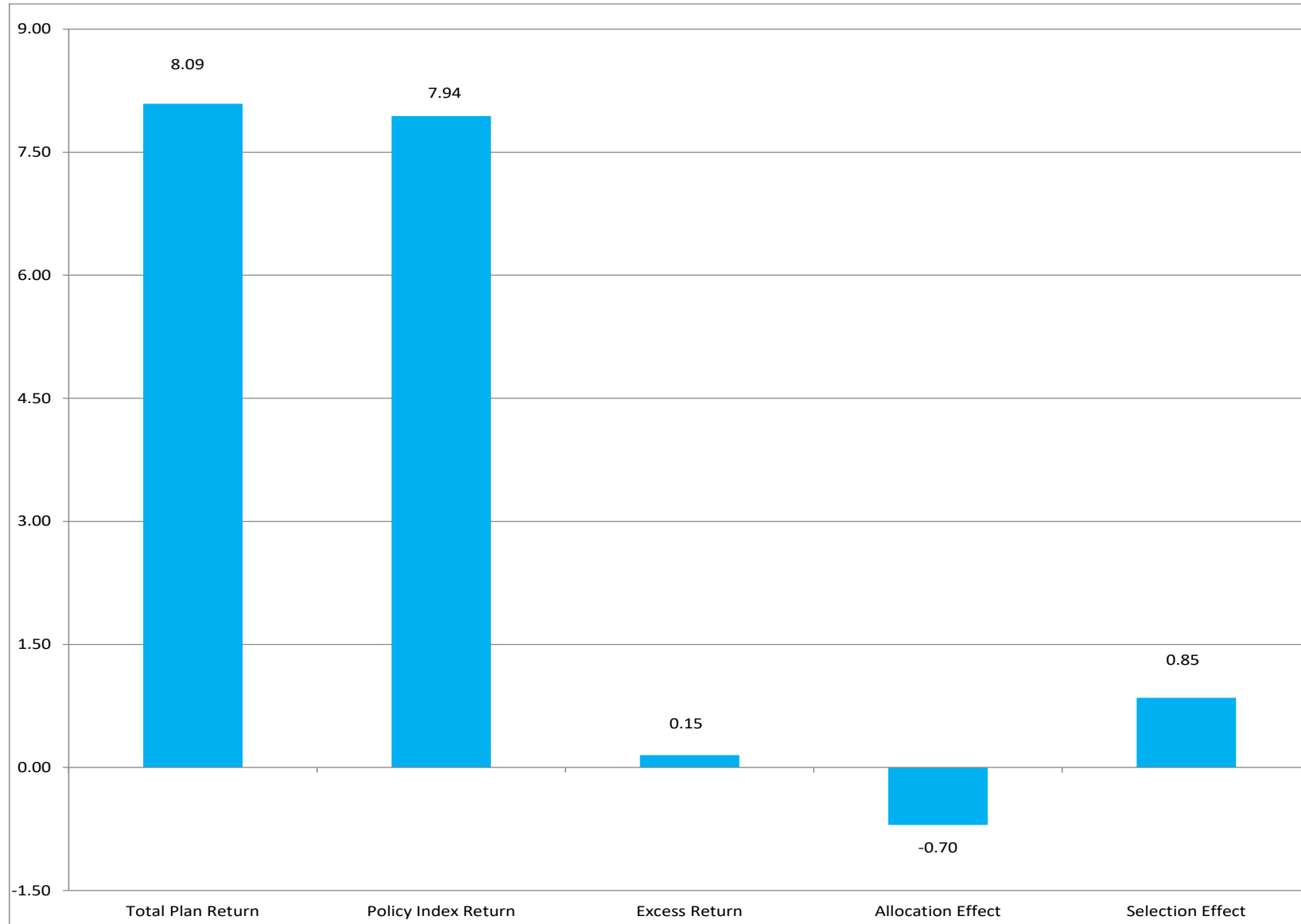




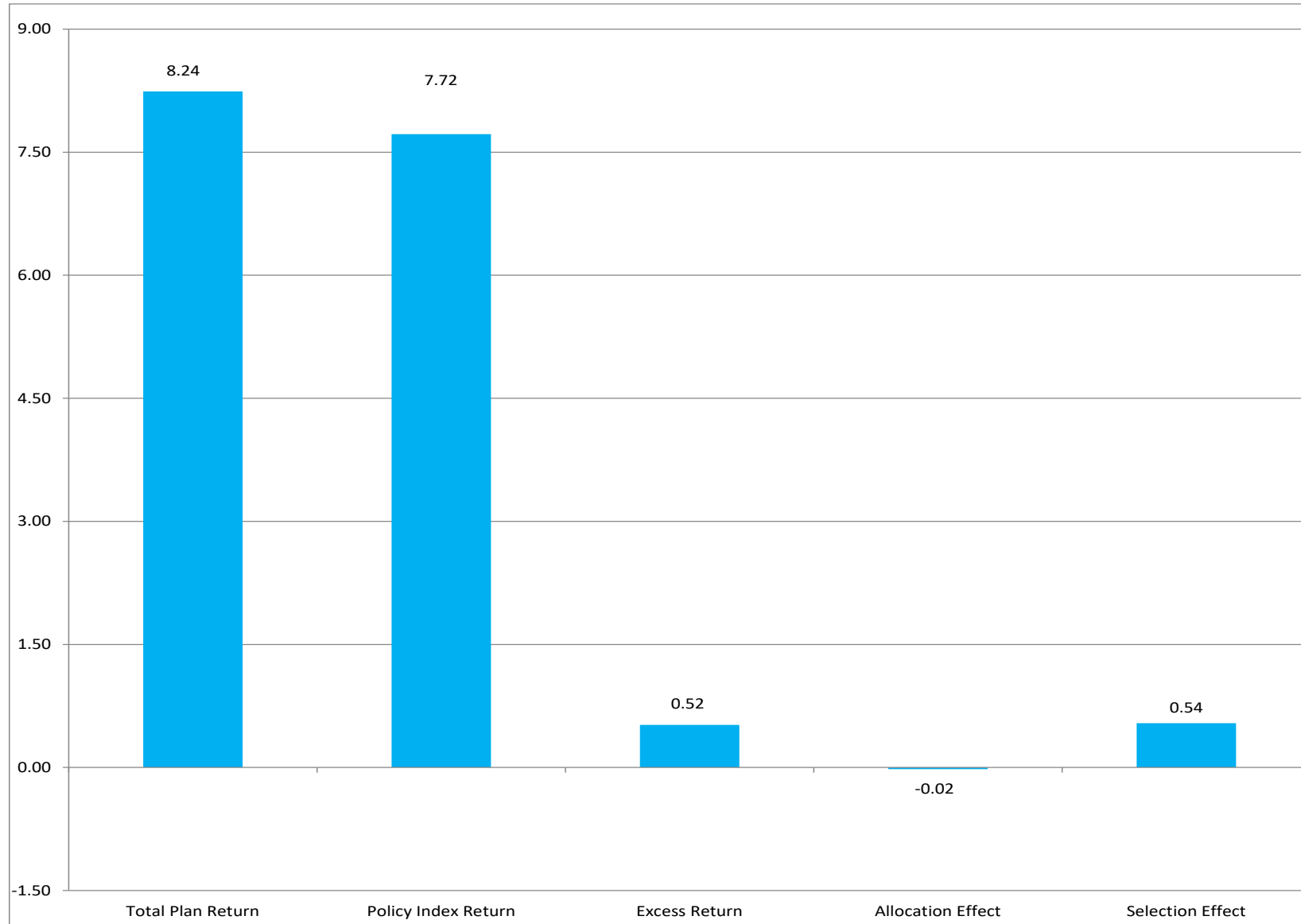
## Portfolio Asset Allocation – Inflation Protection











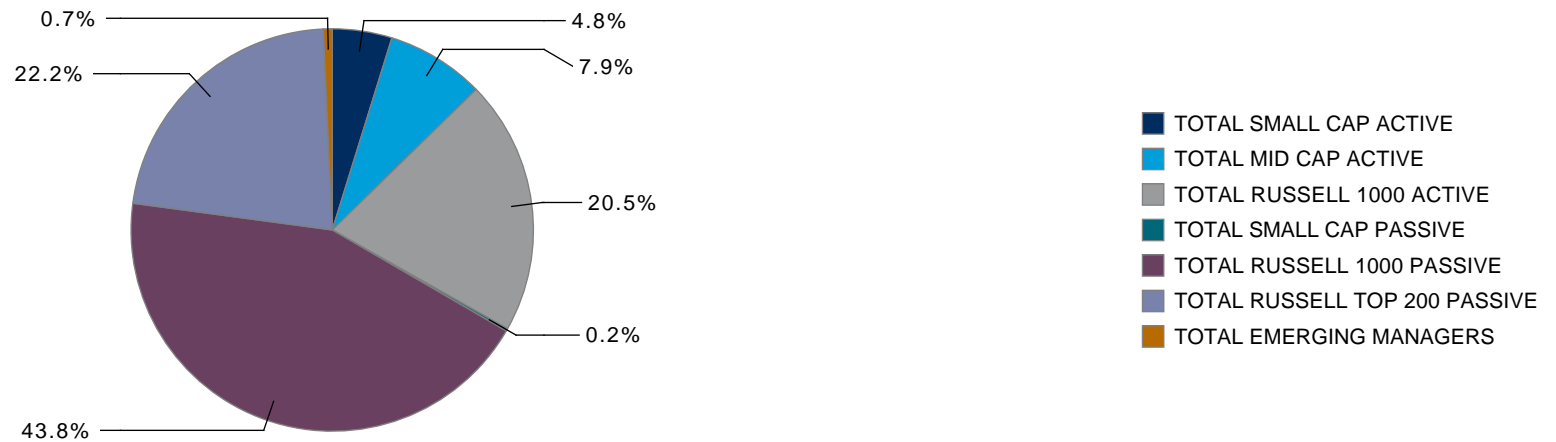
Allocation Effect - Asset Class Breakdown				
	Quarter	FYTD	3 Years	Benchmark
TOTAL POLICE	0.00	-0.70	-0.02	Police Policy Benchmark
TOTAL DOMESTIC EQUITY	-0.08	-0.21	-0.10	RUSSELL 3000
TOTAL WORLD ex-USA	0.00	-0.05	-0.01	MSCI World Ex USA IMI Net
TOTAL EMERGING MARKETS	0.00	-0.04	-0.03	MSCI Emerging Markets
TOTAL INTERNATIONAL FOF	0.00	0.00	0.00	MSCI ACWI Ex US IMI Net
TOTAL HEDGE FUNDS	0.00	0.00	-0.01	HFRI Fund of Funds Composite Index plus 1%
TOTAL PRIVATE EQUITY	0.09	-0.26	-0.04	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	-0.08	-0.27	-0.03	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	0.00	-0.01	0.00	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	0.00	0.00	0.00	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.00	0.00	-0.01	FTSE US Government Bond 1-3 Years Index
TOTAL US TREASURY INTERMEDIATE	0.02	0.04	0.01	USBIG TSY AGN 1-10
TOTAL ACTIVE GOVERNMENT	0.00	-0.01	-0.04	NYC - Treasury Agency Plus Five
TOTAL US TREASURY LONG DURATION	0.03	0.08	0.11	FTSE US Government Bond 10+ Years Index
TOTAL INVESTMENT GRADE CORPORATE	0.03	0.04	0.08	NYC Custom IGC Benchmark
TOTAL MORTGAGES	0.03	0.06	0.05	NYC Custom Mortgage Benchmark
TOTAL ETI	0.00	0.00	0.00	ETI Custom Benchmark
TOTAL CORE FI- DEVELOPING MGRS	-0.02	-0.03	-0.05	Bloomberg U.S. Aggregate
TOTAL HIGH YIELD	0.00	-0.02	0.05	High Yield Custom Benchmark
TOTAL BANK LOANS	0.00	0.00	-0.01	Credit Suisse Lev Loan Index
TOTAL TIPS MANAGERS	0.00	-0.01	-0.01	Bloomberg Global Infl-Linked: U.S. TIPS
TOTAL CONVERTIBLE BONDS	0.00	-0.01	0.02	ICE BofA All US Conv Ex Mandatory
TOTAL OPPORTUNISTIC FIXED	0.00	0.00	0.00	OFI - JPMGHY / CSFB 50/50 Blend Plus 300
TOTAL CASH	-0.02	0.00	-0.02	

Selection Effect - Asset Class Breakdown				
	Quarter	FYTD	3 Years	Benchmark
TOTAL POLICE	-0.75	0.85	0.54	Police Policy Benchmark
TOTAL DOMESTIC EQUITY	-0.36	-0.30	0.01	RUSSELL 3000
TOTAL WORLD ex-USA	0.04	0.32	-0.01	MSCI World Ex USA IMI Net
TOTAL EMERGING MARKETS	0.11	0.23	0.09	MSCI Emerging Markets
TOTAL INTERNATIONAL FOF	0.00	0.01	0.00	MSCI ACWI Ex US IMI Net
TOTAL HEDGE FUNDS	0.03	-0.11	-0.10	HFRI Fund of Funds Composite Index plus 1%
TOTAL PRIVATE EQUITY	-0.57	0.43	0.18	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	-0.01	0.38	0.16	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	0.08	0.26	0.10	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	0.02	0.02	0.05	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	0.00	NYC - Treasury Agency Plus Five
TOTAL US TREASURY LONG DURATION	0.00	0.02	0.00	FTSE US Government Bond 10+ Years Index
TOTAL INVESTMENT GRADE CORPORATE	0.01	0.02	0.01	NYC Custom IGC Benchmark
TOTAL MORTGAGES	0.00	0.01	0.01	NYC Custom Mortgage Benchmark
TOTAL ETI	-0.01	0.00	0.00	ETI Custom Benchmark
TOTAL CORE FI- DEVELOPING MGRS	0.00	0.00	0.00	Bloomberg U.S. Aggregate
TOTAL HIGH YIELD	0.00	-0.01	0.03	High Yield Custom Benchmark
TOTAL BANK LOANS	0.00	0.00	-0.01	Credit Suisse Lev Loan Index
TOTAL TIPS MANAGERS	0.00	0.00	0.00	Bloomberg Global Infl-Linked: U.S. TIPS
TOTAL CONVERTIBLE BONDS	-0.04	-0.06	-0.06	ICE BofA All US Conv Ex Mandatory
TOTAL OPPORTUNISTIC FIXED	-0.06	-0.38	0.09	OFI - JPMGHY / CSFB 50/50 Blend Plus 300
TOTAL CASH	0.00	0.00	0.00	

# Total Domestic Equity Asset Allocations: June 30, 2023



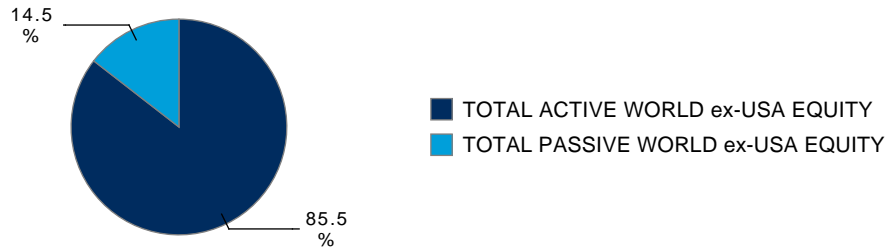
	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL DOMESTIC EQUITY	\$15.0	30.2



	<u>Policy Weight</u>	<u>Actual Weight</u>	<u>Under/Over Weight</u>	<u>Quarterly Returns</u>		
				<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL ACTIVE SMALL CAP	5.4	4.8	(0.6)	5.5	5.2	0.3
TOTAL ACTIVE MID CAP	7.9	7.9	(0.0)	4.8	4.8	0.0
TOTAL RUSSELL 1000 ACTIVE	18.0	20.5	2.5	2.8	8.6	(5.7)
TOTAL SMALL CAP PASSIVE	0.3	0.2	(0.1)	4.2	5.2	(1.0)
TOTAL RUSSELL 1000 PASSIVE	45.5	43.8	(1.7)	8.5	8.6	(0.0)
TOTAL RUSSELL TOP 200 PASSIVE	22.3	22.2	(0.1)	9.9	9.9	(0.0)
TOTAL EMERGING MANAGERS	0.6	0.7	0.1	2.8	5.2	(2.4)



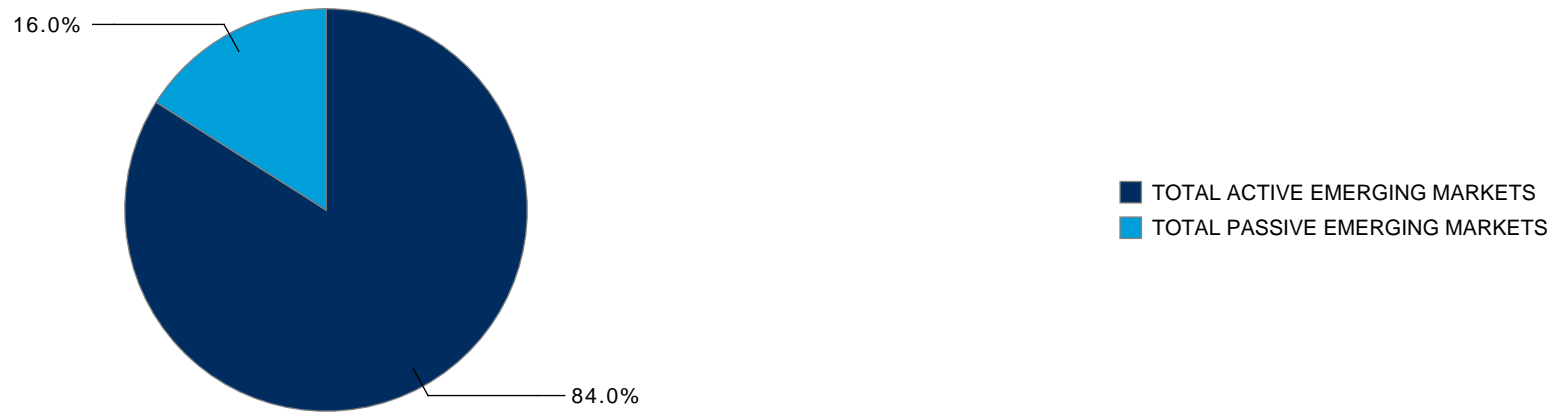
	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL WORLD ex-USA	\$3.6	7.2



	<u>Asset Weight</u>	<u>Quarterly Returns</u>		
		<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL WORLD ex-USA LARGE & MID ACTIVE	76.53	3.81	3.03	0.78
TOTAL WORLD ex-USA SMALL CAP ACTIVE	8.93	0.73	0.17	0.56
TOTAL WORLD ex-USA LARGE & MID CAP PASSIVE	8.32	3.24	3.03	0.21
TOTAL WORLD ex-USA SMALL CAP PASSIVE	6.22	0.58	0.49	0.10
TOTAL WORLD ex-USA	100.00	3.28	2.67	0.60



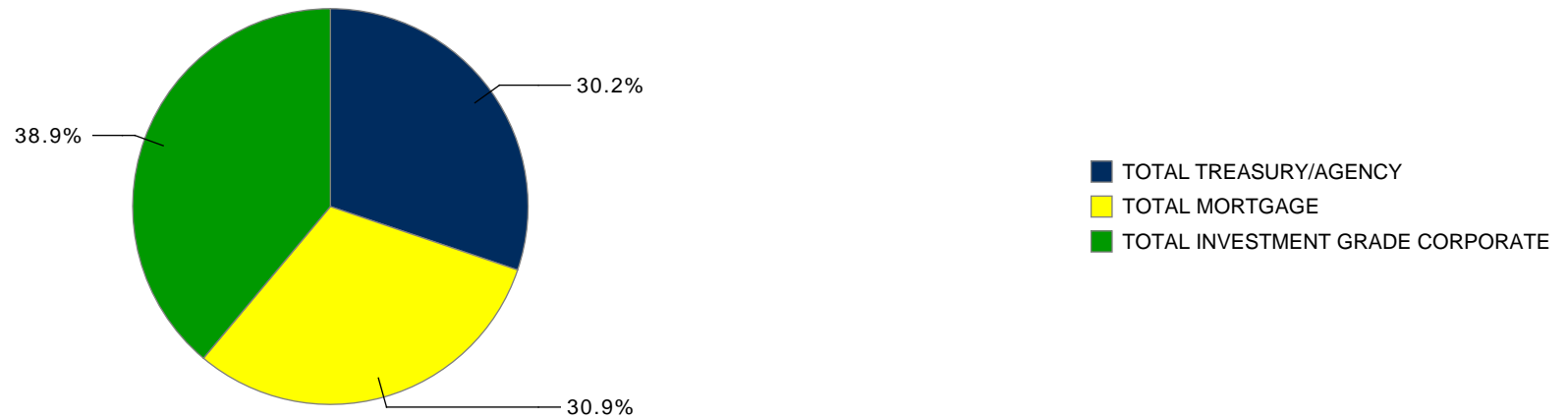
	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL EMERGING MARKETS	\$2.4	4.8



	<u>Asset Weight</u>	<u>Quarterly Returns</u>		
		<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL ACTIVE EMERGING MARKETS	83.98	3.50	0.90	2.61
TOTAL PASSIVE EMERGING MARKETS	16.02	0.86	0.90	(0.03)
TOTAL EMERGING MARKETS	100.00	3.07	0.90	2.17



	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL STRUCTURED + ETI	\$7.2	14.5



	<u>Policy Weight</u>	<u>Actual Weight</u>	<u>Under/Over Weight</u>	<u>Quarterly Returns</u>		
				<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL TREASURY/AGENCY	31.25	30.22	(1.03)	(1.83)	(1.82)	(0.02)
TOTAL MORTGAGE	31.25	30.88	(0.37)	(0.67)	(0.64)	(0.03)
TOTAL INVESTMENT GRADE CORPORATE	37.50	38.91	1.41	(0.15)	(0.29)	0.13



Through June 30, 2023



### City of New York Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$10 Billion  
Cumulative Periods Ending : June 30, 2023



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	4.60	9.40	15.74	11.20	5.23	12.45	10.14	9.56	10.53	9.80
25th	3.28	7.63	13.49	9.03	2.60	10.53	8.56	8.24	9.19	8.69
50th	2.81	6.69	11.55	7.69	1.13	9.67	7.97	7.67	8.69	8.08
75th	2.44	5.32	9.59	6.02	0.06	8.40	7.06	6.70	7.87	7.67
95th	1.13	4.32	6.84	3.28	-2.78	4.76	4.53	4.73	6.38	6.04
No. Of Obs	48	47	47	47	46	46	45	44	44	44
<b>P</b> Total System - Police	3.03 (37)	7.22 (37)	12.71 (35)	8.62 (31)	0.66 (59)	8.69 (68)	7.73 (52)	7.62 (52)	8.72 (45)	8.36 (36)
<b>★</b> Police Policy Benchmark	3.65 (17)	8.74 (11)	13.71 (21)	7.94 (45)	-0.81 (88)	7.72 (88)	7.05 (75)	7.15 (61)	8.16 (68)	7.98 (56)
<b>■</b> Public Mkt Equiv 25	4.55 (5)	11.33 (1)	21.03 (1)	13.93 (1)	-0.97 (90)	8.08 (79)	7.09 (72)	7.03 (68)	8.25 (65)	7.86 (65)
<b>◆</b> Public Mkt Equiv 35	3.95 (9)	10.17 (1)	18.52 (1)	11.90 (1)	-1.50 (92)	6.58 (92)	6.23 (91)	6.43 (84)	7.39 (87)	7.21 (84)

Wilshire Trust Universe Comparison Service® (TUCS®)

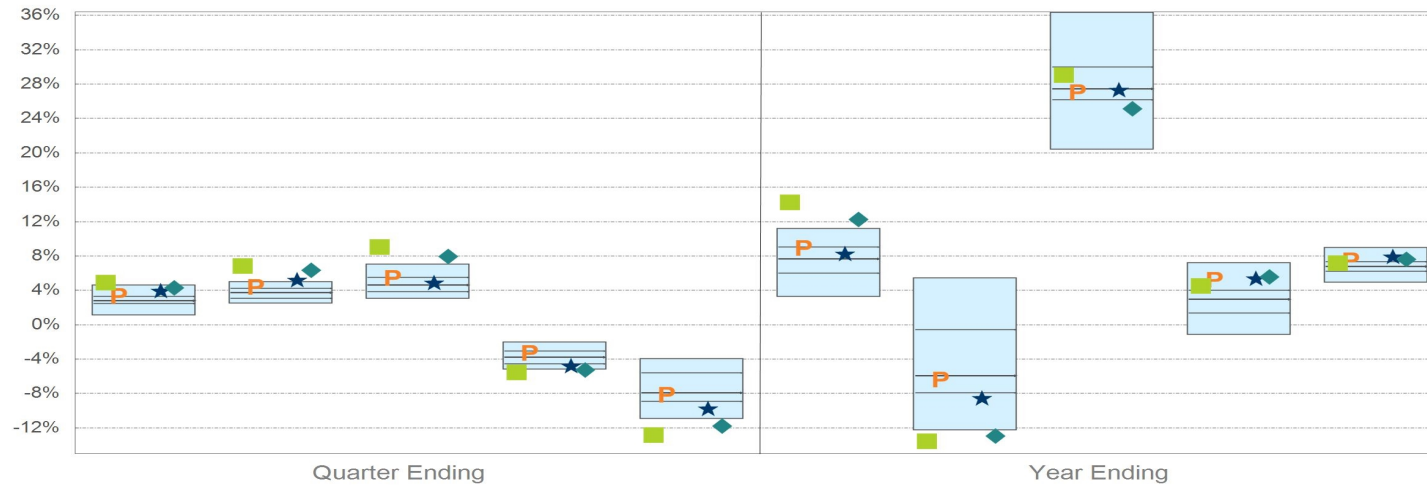


Through June 30, 2023



### City of New York Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$10 Billion  
Consecutive Time Periods: June 30, 2023



Percentile Rankings	Jun 23	Mar 23	Dec 22	Sep 22	Jun 22	Jun 23	Jun 22	Jun 21	Jun 20	Jun 19
5th	4.60	5.01	7.07	-1.99	-3.96	11.20	5.46	36.35	7.21	9.00
25th	3.28	4.23	5.48	-3.06	-5.59	9.03	-0.56	29.97	4.01	7.31
50th	2.81	3.74	4.65	-3.76	-7.95	7.69	-5.91	27.46	2.95	6.77
75th	2.44	3.08	3.87	-4.57	-8.90	6.02	-7.91	26.18	1.36	6.25
95th	1.13	2.54	3.10	-5.15	-10.92	3.28	-12.22	20.44	-1.14	4.98
No. Of Obs	48	47	48	48	48	47	47	48	47	46
<b>P</b> Total System - Police	3.03 (37)	4.07 (31)	5.12 (27)	-3.63 (45)	-8.48 (62)	8.62 (31)	-6.71 (56)	26.73 (66)	4.89 (17)	7.18 (31)
<b>★</b> Police Policy Benchmark	3.65 (17)	4.91 (5)	4.57 (50)	-5.08 (90)	-10.07 (85)	7.94 (45)	-8.84 (79)	27.03 (58)	5.05 (15)	7.58 (17)
<b>■</b> Public Mkt Equiv 25	4.55 (5)	6.48 (1)	8.71 (1)	-5.87 (100)	-13.15 (99)	13.93 (1)	-13.92 (99)	28.74 (37)	4.17 (23)	6.81 (47)
<b>◆</b> Public Mkt Equiv 35	3.95 (9)	5.98 (1)	7.58 (1)	-5.59 (99)	-12.10 (99)	11.90 (1)	-13.30 (99)	24.77 (90)	5.21 (11)	7.25 (27)

Wilshire Trust Universe Comparison Service® (TUCS®)



POLICE RETIREMENT SYSTEM  
 INVESTMENT MANAGEMENT FEES INCURRED FOR FISCAL YEAR ENDED JUNE 30, 2022

INVESTMENT STYLE (EQUITIES)	Avg. Net Asset Value FY 2022 (\$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
<b>Total US Equities</b>	<b>16,252.07</b>	<b>11,841.09</b>	-	<b>7.29</b>	<b>75.90</b>	<b>0.05</b>	<b>11,916.99</b>	<b>7.33</b>
<b>Small Cap Active:</b>								
Small Cap Growth	916.16	6,138.42	-	67.00	-	-	6,138.42	67.00
Small Cap Value	418.03	3,767.12	-	90.12	-	-	3,767.12	90.12
Small Cap Core	342.99	1,922.33	-	56.05	-	-	1,922.33	56.05
Small Cap Fundamental Index	155.15	448.97	-	28.94	-	-	448.97	28.94
	0.00	-	-	-	-	-	-	-
<b>Mid Cap Active:</b>								
Mid Cap Growth	629.86	1,717.56	-	27.27	-	-	1,717.56	27.27
Mid Cap Value	102.17	170.13	-	16.65	-	-	170.13	16.65
Mid Cap Core	88.99	240.88	-	27.07	-	-	240.88	27.07
	438.70	1,306.55	-	29.78	-	-	1,306.55	29.78
<b>Other Active:</b>								
Russell 1000 Fundamental	3,438.88	3,704.41	-	10.77	75.90	0.22	3,780.31	10.99
Legato (Emerging Manager- Equity)	3,336.32	3,120.78	-	9.35	-	-	3,120.78	9.35
U.S. Environmental Managers	102.56	583.63	-	56.91	75.90	7.40	659.53	64.31
	-	-	-	-	-	-	-	-
<b>Total US Active Equities</b>	<b>4,984.90</b>	<b>11,560.39</b>	<b>-</b>	<b>23.19</b>	<b>75.90</b>	<b>0.15</b>	<b>11,636.28</b>	<b>23.34</b>
<b>Small Cap Passive:</b>								
Small Cap Passive	54.85	1.51	-	0.27	-	-	1.51	0.27
<b>Mid Cap Passive:</b>								
Mid Cap Passive	-	-	-	-	-	-	-	-
<b>Russell / S&amp;P Passive:</b>								
Russell 1000 Growth Passive	11,212.32	279.20	-	0.25	-	-	279.20	0.25
Russell 1000 Value Passive	-	-	-	-	-	-	-	-
Russell 1000 Core Passive	9,530.73	193.25	-	0.20	-	-	193.25	0.20
Passive Russell 3000	0.00	-	-	-	-	-	-	-
Passive S&P 500	-	-	-	-	-	-	-	-
Passive Russell Top 200	1,681.60	85.95	-	0.51	-	-	85.95	0.51
<b>Total US Passive Equities</b>	<b>11,267.17</b>	<b>280.71</b>	<b>-</b>	<b>0.25</b>	<b>-</b>	<b>-</b>	<b>280.71</b>	<b>0.25</b>
<b>Total International Equities</b>	<b>7,160.48</b>	<b>22,627.17</b>	<b>-</b>	<b>31.60</b>	<b>-</b>	<b>-</b>	<b>22,627.17</b>	<b>31.60</b>
<b>Active Total Global Equities</b>								
Global Equity	-	-	-	-	-	-	-	-
<b>Active Total World Ex USA:</b>								
World Ex-USA Large & Mid Developed Growth Active	3,556.54	10,078.56	-	28.34	-	-	10,078.56	28.34
World Ex-USA Large & Mid Developed Value Active	1,675.52	4,703.42	-	28.07	-	-	4,703.42	28.07
World Ex-USA Developed Small Cap Active	1,503.33	4,132.48	-	27.49	-	-	4,132.48	27.49
Total World Ex USA	377.69	1,242.66	-	32.90	-	-	1,242.66	32.90
NON-U.S. Activist	0.00	-	-	-	-	-	-	-
NON-U.S. Environmental Managers	-	-	-	-	-	-	-	-
<b>Active Emerging Markets</b>	<b>2,267.04</b>	<b>10,827.11</b>	<b>-</b>	<b>47.76</b>	<b>-</b>	<b>-</b>	<b>10,827.11</b>	<b>47.76</b>
<b>International Fund of Funds</b>	<b>313.18</b>	<b>1,489.97</b>	<b>-</b>	<b>47.58</b>	<b>-</b>	<b>-</b>	<b>1,489.97</b>	<b>47.58</b>
<b>Total Active International Equities</b>	<b>6,136.75</b>	<b>22,395.64</b>	<b>-</b>	<b>36.49</b>	<b>-</b>	<b>-</b>	<b>22,395.64</b>	<b>36.49</b>
<b>Int'l Passive Equities:</b>								
World Ex-USA Small Cap Passive	1,023.72	231.53	-	2.26	-	-	231.53	2.26
World Ex-USA Large & Mid Cap Passive	308.25	93.66	-	3.04	-	-	93.66	3.04
Passive Global	393.42	48.62	-	1.24	-	-	48.62	1.24
Passive Emerging Markets	322.06	89.24	-	2.77	-	-	89.24	2.77
<b>Total Int'l Passive Equities</b>	<b>1,023.72</b>	<b>231.53</b>	<b>-</b>	<b>2.26</b>	<b>-</b>	<b>-</b>	<b>231.53</b>	<b>2.26</b>
<b>Real Estate Equity Securities</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Public Equities</b>	<b>23,412.55</b>	<b>34,468.26</b>	<b>-</b>	<b>14.72</b>	<b>75.90</b>	<b>0.03</b>	<b>34,544.16</b>	<b>14.75</b>

<b>POLICE RETIREMENT SYSTEM</b>									
<b>INVESTMENT MANAGEMENT FEES INCURRED FOR FISCAL YEAR ENDED JUNE 30, 2022</b>									
<b>INVESTMENT STYLE (FIXED INCOME)</b>	<b>Avg. Net Asset Value FY 2022 (\$MM)</b>	<b>Base Mgmt. Fees (\$M)</b>	<b>Partnership Fees (\$M)</b>	<b>Base Mgmt. Fees &amp; Partnership Fees in BPS</b>	<b>Performance / Carry Fees in (\$M)</b>	<b>Performance / Carry Fees in BPS</b>	<b>Total Investment Mgmt. Fees in (\$M)</b>	<b>Total Investment Mgmt. Fees in BPS</b>	
<b>Total Fixed Income</b>	<b>15,264.95</b>	<b>20,160.88</b>	<b>-</b>	<b>13.21</b>	<b>421.88</b>	<b>0.28</b>	<b>20,582.76</b>	<b>13.48</b>	
<b>Structured Program:</b>	7,675.95	4,293.37	-	5.59	421.88	0.55	4,715.24	6.14	
Government Treas/Agency Sector	1,074.10	128.83	-	1.20	-	-	128.83	1.20	
Long Duration Treasury	1,455.66	145.63	-	1.00	-	-	145.63	1.00	
Mortgage Sector	2,099.33	1,302.98	-	6.21	421.88	2.01	1,724.86	8.22	
Investment Grade Credit Sector	3,046.86	2,715.92	-	8.91	-	-	2,715.92	8.91	
Developing Managers	173.76	327.14	-	18.83	-	-	327.14	18.83	
Emerging Managers	-	-	-	-	-	-	-	-	
<b>TIPS:</b>	1,700.87	348.23	-	2.05	-	-	348.23	2.05	
Active TIPS Managers	533.47	289.88	-	5.43	-	-	289.88	5.43	
Passive TIPS Managers	1,167.41	58.35	-	0.50	-	-	58.35	0.50	
High Yield	3,622.78	11,145.27	-	30.76	-	-	11,145.27	30.76	
Bank Loans	1.33	3.52	-	26.47	-	-	3.52	26.47	
Convertible Bonds	989.95	3,325.75	-	33.60	-	-	3,325.75	33.60	
ETI - Access - RBC	91.86	162.88	-	17.73	-	-	162.88	17.73	
ETI - AFL-CIO HIT	174.49	554.72	-	31.79	-	-	554.72	31.79	
Other ETI Programs (Internally Managed)	163.16	-	-	-	-	-	-	-	
Short Term (Internally Managed & Other)	670.79	-	-	-	-	-	-	-	
<b>Total Public Markets</b>	<b>38,677.50</b>	<b>54,629.15</b>	<b>-</b>	<b>14.12</b>	<b>497.78</b>	<b>0.13</b>	<b>55,126.92</b>	<b>14.25</b>	
<b>INVESTMENT STYLE (PRIVATE MARKETS)</b>									
Hedge Funds	2,702.31	27,493.33	2,777.98	112.02	40,972.90	151.62	71,244.21	263.64	
Private Equity	4,376.94	48,771.74	14,621.76	144.84	65,689.20	150.08	129,082.70	294.92	
Private Real Estate	2,982.83	27,922.28	10,930.91	130.26	35,390.85	118.65	74,244.04	248.90	
Infrastructure	755.33	12,977.75	3,320.12	215.77	(2,609.85)	(34.55)	13,688.02	181.22	
Opportunistic Fixed Income	1,951.82	13,641.85	6,426.18	102.82	2,491.14	12.76	22,559.16	115.58	
<b>Total Private Markets</b>	<b>12,769.24</b>	<b>130,806.95</b>	<b>38,076.95</b>	<b>132.26</b>	<b>141,934.24</b>	<b>111.15</b>	<b>310,818.13</b>	<b>243.41</b>	
<b>Total Overall</b>	<b>51,446.74</b>	<b>185,436.09</b>	<b>38,076.95</b>	<b>43.45</b>	<b>142,432.01</b>	<b>27.69</b>	<b>365,945.05</b>	<b>71.13</b>	

The overall carried interest and performance incentive fees paid by POLICE for the Fiscal Year: 27.69 BPS

General Footnotes:



**NYC POLICE DEPARTMENT PENSION FUND  
SECURITIES LENDING INCOME  
June 30, 2023**

	U. S. FIXED INCOME	U. S. EQUITY	INTERNATIONAL EQUITY	TOTAL
1989	254,000	-	-	254,000
1990	288,000	-	-	288,000
1991	464,000	-	-	464,000
1992	996,000	138,000	126,000	1,260,000
1993	1,852,000	434,000	203,000	2,489,000
1994	1,846,000	815,000	317,000	2,978,000
1995	1,465,000	888,000	224,000	2,577,000
1996	1,465,000	1,051,000	379,000	2,895,000
1997	1,632,000	1,793,000	599,000	4,024,000
1998	2,770,000	2,517,000	1,006,000	6,293,000
1999	2,681,000	2,713,000	1,184,000	6,578,000
2000	2,697,000	2,899,000	1,520,000	7,116,000
2001	3,947,000	3,595,000	1,980,000	9,522,000
2002	2,646,000	3,401,000	1,725,000	7,772,000
2003	1,238,000	2,257,000	1,859,000	5,354,000
2004	1,515,000	2,306,000	2,097,000	5,918,000
2005	2,333,000	3,172,000	2,503,000	8,008,000
2006	2,104,000	5,043,000	2,243,000	9,390,000
2007	4,582,000	8,425,000	2,727,000	15,734,000
2008	13,856,000	16,383,000	3,872,000	34,111,000
2009	5,163,000	9,110,000	2,695,000	16,968,000
2010	2,405,000	5,813,000	1,979,000	10,197,000
2011	3,060,000	8,287,000	3,253,000	14,600,000
2012	4,213,000	10,047,000	2,545,000	16,805,000
2013	2,980,000	11,363,000	2,255,000	16,598,000
2014	3,478,000	6,803,000	5,786,000	16,067,000
2015	3,692,000	7,281,000	7,489,000	18,462,000
2016	4,070,000	11,406,000	6,506,000	21,982,000
2017	5,912,000	8,631,000	4,480,000	19,023,000
2018	7,031,949	6,808,922	3,412,832	17,253,704
2019	4,489,228	5,671,849	2,523,145	12,684,222
2020	4,479,643	3,762,175	1,664,657	9,906,474
2021	8,001,616	4,614,622	642,413	13,258,650
2022	10,038,441	4,082,820	498,240	14,619,501
2023 (6 Months)	3,936,236	1,976,284	303,744	6,216,264
Since Inception	<u>123,581,113</u>	<u>163,487,671</u>	<u>70,597,031</u>	<u>357,665,815</u>



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**New York City  
Police Pension Fund, Subchapter Two**

# Appendix A

## Consolidated Performance Report

# Consolidated Performance Report

Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>SYSTEM RETURN SUMMARY</b>																
5	POLICE-TOTAL PORTFOLIO - GROSS	49,651	100.00	3.03	8.62	7.22	(6.71)	(10.19)	14.61	15.00	8.62	8.69	7.62	8.36	8.52	07/01/1987
	POLICE - ESTIMATED INVESTMENT FEES			(0.12)	(0.52)	(0.24)	(0.46)	(0.43)	(0.50)	(0.25)	(0.52)	(0.46)	(0.36)			
	EST MANAGEMENT FEES - PUBLIC MARKET (ACCRUAL)			(0.03)	(0.10)	(0.05)	(0.11)	(0.10)	(0.12)	(0.11)	(0.10)	(0.11)	(0.11)			
	EST MANAGEMENT FEES - ALTERNATIVE MARKETS (CASH)			(0.09)	(0.42)	(0.19)	(0.35)	(0.33)	(0.38)	(0.14)	(0.42)	(0.35)	(0.25)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL PORTFOLIO - NET MGR			2.90	8.09	6.98	(7.17)	(10.62)	14.11	14.76	8.09	8.24	7.26			
	POLICE POLICY BENCHMARK			3.65	7.94	8.74	(8.84)	(13.65)	13.62	15.50	7.94	7.72	7.15	7.98		
	EXCESS RETURN			(0.75)	0.15	(1.76)	1.67	3.04	0.49	(0.74)	0.15	0.52	0.10	0.38		
<b>EQUITY RETURN DETAIL</b>																
18	POLICE-TOTAL EQUITY (INCLUDES ALTERNATIVES & REITS) - GROSS	33,701	67.88	4.33	11.55	8.85	(5.73)	(9.66)	20.72	16.91	11.55	13.20	9.77	10.66	8.65	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.17)	(0.70)	(0.31)	(0.64)	(0.58)	(0.70)	(0.29)	(0.70)	(0.63)	(0.47)			
	EST MANAGEMENT FEES			(0.17)	(0.70)	(0.31)	(0.64)	(0.58)	(0.70)	(0.29)	(0.70)	(0.63)	(0.47)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL EQUITY (INCLUDES ALTERNATIVES & REITS) - NET MGR			4.17	10.85	8.54	(6.37)	(10.24)	20.02	16.63	10.85	12.57	9.30			
26	POLICE-TOTAL EQUITY - GROSS	21,339	42.98	6.00	17.36	13.57	(16.89)	(17.85)	18.47	19.15	17.36	11.91	8.75	10.08	8.95	08/01/1993
	ESTIMATED INVESTMENT FEES			(0.04)	(0.18)	(0.09)	(0.12)	(0.12)	(0.19)	(0.18)	(0.18)	(0.17)	(0.16)			
	EST MANAGEMENT FEES			(0.04)	(0.18)	(0.09)	(0.12)	(0.12)	(0.19)	(0.18)	(0.18)	(0.17)	(0.16)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL EQUITY - NET MGR			5.96	17.18	13.48	(17.01)	(17.96)	18.28	18.97	17.18	11.74	8.59			
34	POLICE-TOTAL DOMESTIC EQUITY - GROSS	15,011	30.23	7.16	17.91	14.01	(12.75)	(16.99)	25.26	18.72	17.91	14.01	10.87	11.97	11.15	12/01/1984
	ESTIMATED INVESTMENT FEES			(0.02)	(0.10)	(0.05)	(0.07)	(0.06)	(0.11)	(0.11)	(0.10)	(0.09)	(0.09)			
	POLICE-TOTAL DOMESTIC EQUITY - NET MGR			7.14	17.81	13.97	(12.81)	(17.06)	25.15	18.61	17.81	13.92	10.78			
	RUSSELL 3000 (DAILY)			8.39	18.95	16.17	(13.87)	(19.21)	25.66	20.89	18.95	13.89	11.39	12.34	11.28	
	EXCESS RETURN			(1.24)	(1.14)	(2.20)	1.05	2.15	(0.51)	(2.27)	(1.14)	0.04	(0.61)	(0.37)	(0.13)	
44	POLICE-TOTAL SMALL CAP ACTIVE - GROSS	718	1.45	5.66	16.80	11.30	(22.46)	(20.02)	14.55	24.01	16.80	11.09	5.70	9.49	8.47	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.16)	(0.74)	(0.34)	(0.51)	(0.51)	(0.85)	(0.86)	(0.74)	(0.76)	(0.68)			
	POLICE-TOTAL SMALL CAP ACTIVE - NET MGR			5.50	16.06	10.96	(22.98)	(20.53)	13.70	23.15	16.06	10.33	5.02			
	RUSSELL 2000 (DAILY)			5.21	12.31	8.09	(25.20)	(20.44)	14.82	19.96	12.31	10.82	4.21	8.26	7.66	
	EXCESS RETURN			0.29	3.76	2.87	2.22	(0.10)	(1.12)	3.19	3.76	(0.49)	0.81	1.23	0.82	

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
<b>EQUITY RETURN DETAIL</b>															
56	POLICE-TOTAL SMALL CAP PASSIVE - GROSS	31	0.06	4.19	9.73	5.43	(17.49)	(17.59)	27.88	15.48	9.73	15.18	6.30	8.78	10/01/2013
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		
	POLICE-TOTAL SMALL CAP PASSIVE - NET MGR			4.19	9.73	5.43	(17.49)	(17.59)	27.87	15.48	9.73	15.17	6.30		
	RUSSELL 2000 (DAILY)			5.21	12.31	8.09	(25.20)	(20.44)	14.82	19.96	12.31	10.82	4.21	7.40	
	EXCESS RETURN			(1.01)	(2.58)	(2.66)	7.70	2.85	13.05	(4.48)	(2.58)	4.35	2.09	1.38	
66	POLICE-TOTAL MIDCAP - GROSS	1,183	2.38	4.88	13.67	10.37	(24.24)	(23.34)	10.72	26.32	13.67	7.50	4.98	9.01	7.97 04/01/2004
	ESTIMATED INVESTMENT FEES			(0.08)	(0.34)	(0.16)	(0.29)	(0.22)	(0.74)	(1.19)	(0.34)	(0.45)	(0.68)		
	POLICE-TOTAL MIDCAP - NET MGR			4.80	13.33	10.21	(24.52)	(23.56)	9.99	25.13	13.33	7.04	4.31		
	RUSSELL MIDCAP (DAILY)			4.76	14.92	9.01	(17.30)	(17.32)	22.58	17.10	14.92	12.50	8.46	10.32	9.52
	EXCESS RETURN			0.04	(1.59)	1.20	(7.22)	(6.24)	(12.60)	8.03	(1.59)	(5.45)	(4.15)	(1.32)	(1.55)
86	POLICE-TOTAL RUSSELL 1000 ACTIVE - GROSS	3,074	6.19	2.86	14.37	5.77	(8.63)	(7.36)	25.83	6.89	14.37	15.08	8.51	10.45	8.61 04/01/2004
	ESTIMATED INVESTMENT FEES			(0.02)	(0.11)	(0.05)	(0.09)	(0.09)	(0.12)	(0.12)	(0.11)	(0.11)	(0.11)		
	POLICE-TOTAL RUSSELL 1000 ACTIVE - NET MGR			2.83	14.26	5.72	(8.71)	(7.44)	25.71	6.77	14.26	14.97	8.40		
	RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(13.04)	(19.13)	26.45	20.96	19.36	14.09	11.92	12.64	9.61
	EXCESS RETURN			(5.75)	(5.10)	(10.96)	4.32	11.68	(0.74)	(14.19)	(5.10)	0.88	(3.52)	(2.20)	(0.99)
96	POLICE-TOTAL RUSSELL 1000 PASSIVE - GROSS	6,570	13.23	8.54	19.21	16.54	(12.66)	(18.83)	26.46	21.20	19.21	14.18	12.06	12.24	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)	
	POLICE-TOTAL RUSSELL 1000 PASSIVE - NET MGR			8.54	19.20	16.54	(12.66)	(18.83)	26.46	21.20	19.20	14.18	12.06	12.24	
	RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(13.04)	(19.13)	26.45	20.96	19.36	14.09	11.92	12.07	
	EXCESS RETURN			(0.04)	(0.16)	(0.14)	0.38	0.29	0.01	0.23	(0.16)	0.08	0.14	0.17	
106	POLICE-TOTAL RUSSELL TOP 200 PASSIVE - GROSS	3,333	6.71	9.88	20.88	19.40	(12.19)	(20.39)	27.79	22.45	20.88	14.31	13.02	13.28	05/01/2018
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	
	POLICE-TOTAL RUSSELL TOP 200 PASSIVE - NET MGR			9.88	20.88	19.40	(12.19)	(20.39)	27.79	22.44	20.88	14.31	13.01	13.28	
	RUSSELL TOP 200 INDEX (DAILY)			9.89	20.88	19.42	(11.46)	(19.77)	27.90	22.37	20.88	14.65	13.19	13.45	
	EXCESS RETURN			(0.01)	0.00	(0.03)	(0.73)	(0.63)	(0.11)	0.07	0.00	(0.34)	(0.18)	(0.18)	
116	POLICE-TOTAL FUND OF FUNDS - GROSS	101	0.20	3.01	13.75	8.55	(16.87)	(15.68)	25.65	20.00	13.75	16.63	8.01	9.03	05/01/2017
	ESTIMATED INVESTMENT FEES			(0.20)	(0.64)	(0.34)	(0.48)	(0.48)	(0.70)	(0.60)	(0.64)	(0.66)	(0.58)	(0.59)	
	POLICE-TOTAL FUND OF FUNDS - NET MGR			2.80	13.11	8.21	(17.35)	(16.17)	24.95	19.40	13.11	15.97	7.43	8.44	
	RUSSELL 2000 (DAILY)			5.21	12.31	8.09	(25.20)	(20.44)	14.82	19.96	12.31	10.82	4.21	6.38	
	EXCESS RETURN			(2.40)	0.81	0.12	7.85	4.27	10.13	(0.56)	0.81	5.14	3.22	2.06	

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>EQUITY RETURN DETAIL</b>																
128	POLICE-TOTAL WORLD ex-USA - GROSS	3,598	7.25	3.34	21.34	15.03	(24.45)	(19.51)	7.78	22.39	21.34	8.99	5.80	7.35	6.38	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.06)	(0.29)	(0.14)	(0.18)	(0.18)	(0.26)	(0.28)	(0.29)	(0.26)	(0.25)			
	EST MANAGEMENT FEES			(0.06)	(0.29)	(0.14)	(0.18)	(0.18)	(0.26)	(0.28)	(0.29)	(0.26)	(0.25)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL WORLD ex-USA - NET MGR			3.28	21.05	14.89	(24.62)	(19.69)	7.52	22.11	21.05	8.74	5.55			
	WORLD EX-USA CUSTOM BM			2.67	16.35	10.46	(17.73)	(15.26)	12.39	8.32	16.35	8.87	4.17	5.63	5.48	
	EXCESS RETURN			0.60	4.71	4.43	(6.90)	(4.44)	(4.87)	13.79	4.71	(0.14)	1.38	1.71	0.90	
138	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID ACTIVE - GROSS	2,754	5.55	3.88	23.34	16.97	(25.71)	(20.20)	5.59	26.25	23.34	8.88	6.43		6.14	11/01/2013
	ESTIMATED INVESTMENT FEES			(0.07)	(0.35)	(0.16)	(0.20)	(0.22)	(0.29)	(0.35)	(0.35)	(0.30)	(0.29)		(0.29)	
	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID ACTIVE - NET MGR			3.81	23.00	16.81	(25.91)	(20.42)	5.30	25.91	23.00	8.58	6.14		5.85	
	NYC CUSTOM WORLD EX-USA LG & MID ACT INDEX			3.03	17.41	11.29	(16.76)	(14.29)	12.62	7.59	17.41	9.30	4.58		4.17	
	EXCESS RETURN			0.78	5.58	5.51	(9.15)	(6.13)	(7.32)	18.32	5.58	(0.72)	1.56		1.68	
148	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP ACTIVE - GROSS	321	0.65	0.81	15.22	8.41	(23.11)	(19.17)	19.17	19.53	15.22	11.13	4.91	8.47	7.76	05/01/2013
	ESTIMATED INVESTMENT FEES			(0.08)	(0.38)	(0.18)	(0.25)	(0.26)	(0.39)	(0.36)	(0.38)	(0.36)	(0.38)			
	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP ACTIVE - NET MGR			0.73	14.85	8.23	(23.35)	(19.43)	18.78	19.17	14.85	10.77	4.53			
	S&P EPAC SMALL CAP USD NET			0.17	10.76	6.71	(26.27)	(22.69)	8.06	13.78	10.76	5.12	0.86	5.83	5.14	
	EXCESS RETURN			0.56	4.09	1.52	2.92	3.26	10.72	5.38	4.09	5.65	3.67	2.64	2.62	
158	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP PASSIVE - GROSS	224	0.45	0.59	10.25	5.65	(22.69)	(20.23)	11.31	13.22	10.25	6.70	2.14		5.13	02/01/2014
	ESTIMATED INVESTMENT FEES			(0.01)	0.01	(0.02)	(0.02)	0.01	(0.03)	(0.04)	0.01	(0.02)	(0.02)		(0.03)	
	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP PASSIVE - NET MGR			0.58	10.26	5.63	(22.71)	(20.23)	11.27	13.18	10.26	6.69	2.11		5.11	
	WORLD EX USA SC PASSIVE CUSTOM BM			0.49	10.05	5.50	(23.02)	(20.58)	11.14	12.78	10.05	6.42	1.83		4.80	
	EXCESS RETURN			0.10	0.21	0.13	0.31	0.36	0.14	0.40	0.21	0.26	0.29		0.31	
168	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID CAP PASSIVE - GROSS	299	0.60	3.25	17.85	11.60	(16.31)	(13.85)	12.91	8.10	17.85	9.74	4.94	5.73	5.07	02/01/2011
	ESTIMATED INVESTMENT FEES			(0.00)	0.02	(0.01)	(0.01)	0.01	(0.01)	(0.01)	0.02	(0.00)	(0.01)			
	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID CAP PASSIVE - NET MGR			3.25	17.86	11.59	(16.32)	(13.84)	12.90	8.09	17.86	9.74	4.93			
	NYC CUSTOM WORLD EX US INDEX			3.03	17.41	11.29	(16.76)	(14.29)	12.62	7.59	17.41	9.30	4.58	5.43	4.75	
	EXCESS RETURN			0.21	0.45	0.30	0.43	0.45	0.28	0.50	0.45	0.44	0.35	0.31	0.33	

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<b>EQUITY RETURN DETAIL</b>																
180	POLICE-EMERGING MARKETS - GROSS	2,402	4.84	3.17	7.08	8.60	(27.22)	(20.90)	(0.85)	16.54	7.08	4.30	1.55	3.65	6.28	11/01/1996
	ESTIMATED INVESTMENT FEES			(0.10)	(0.43)	(0.22)	(0.30)	(0.32)	(0.42)	(0.39)	(0.43)	(0.42)	(0.36)			
	POLICE-EMERGING MARKETS - NET MGR			3.07	6.65	8.39	(27.52)	(21.22)	(1.27)	16.15	6.65	3.87	1.19			
	MSCI EMERGING MARKETS			0.90	1.75	4.89	(25.28)	(20.09)	(2.54)	18.31	1.75	2.32	0.93	2.95		
	EXCESS RETURN			2.17	4.90	3.50	(2.24)	(1.13)	1.27	(2.16)	4.90	1.55	0.26	0.70		
190	POLICE-EMERGING MARKETS ACTIVE - GROSS	2,017	4.06	3.63	8.03	9.29	(27.57)	(21.07)	(0.67)	15.23	8.03	4.63	1.47	3.81	6.99	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.12)	(0.52)	(0.26)	(0.34)	(0.37)	(0.48)	(0.53)	(0.52)	(0.50)	(0.46)			
	POLICE-EMERGING MARKETS ACTIVE - NET MGR			3.50	7.52	9.04	(27.91)	(21.44)	(1.15)	14.70	7.52	4.13	1.02			
	MSCI EMERGING MARKETS			0.90	1.75	4.89	(25.28)	(20.09)	(2.54)	18.31	1.75	2.32	0.93	2.95	6.34	
	EXCESS RETURN			2.61	5.77	4.15	(2.62)	(1.34)	1.39	(3.61)	5.77	1.81	0.09	0.85	0.65	
200	POLICE-EMERGING MARKETS PASSIVE - GROSS	385	0.78	0.87	2.13	5.11	(24.78)	(19.57)	(2.08)	17.29	2.13	2.62	1.09	3.10	1.20	04/01/2011
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)			
	POLICE-EMERGING MARKETS PASSIVE - NET MGR			0.86	2.10	5.10	(24.79)	(19.57)	(2.10)	17.27	2.10	2.60	1.07			
	MSCI EMERGING MARKETS			0.90	1.75	4.89	(25.28)	(20.09)	(2.54)	18.31	1.75	2.32	0.93	2.95	1.10	
	EXCESS RETURN			(0.03)	0.36	0.21	0.49	0.52	0.44	(1.04)	0.36	0.29	0.14	0.15	0.10	
210	POLICE-TOTAL INTERNATIONAL FUND OF FUND - GROSS	328	0.66	2.84	14.96	11.13	(22.33)	(19.37)	9.67	16.22	14.96	7.22	4.39	5.94	05/01/2017	
	ESTIMATED INVESTMENT FEES			(0.21)	(0.64)	(0.35)	(0.37)	(0.38)	(0.60)	(0.64)	(0.64)	(0.57)	(0.55)	(0.55)		
	POLICE-TOTAL INTERNATIONAL FUND OF FUND - NET MGR			2.64	14.32	10.77	(22.69)	(19.75)	9.07	15.58	14.32	6.65	3.85	5.40		
	MSCI ACWI EX USA IMI NET			2.38	12.47	9.10	(19.86)	(16.58)	8.53	11.12	12.47	7.33	3.38	4.57		
	EXCESS RETURN			0.25	1.85	1.67	(2.84)	(3.17)	0.55	4.46	1.85	(0.68)	1.01	0.83		



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<b>ALTERNATIVE EQUITY RETURN DETAIL</b>																
228	POLICE-TOTAL HEDGE FUNDS* - NET MGR	2,691	5.42	2.44	2.77	0.61	0.17	0.32	5.91	16.91	2.77	5.37	5.40	4.99	4.63	07/01/2011
	HFRI FUND OF FUNDS COMPOSITE INDEX + 1%			1.78	4.72	2.80	(4.55)	(4.36)	7.23	11.98	4.72	6.09	4.35	4.43	4.05	
	EXCESS RETURN			0.66	(1.95)	(2.19)	4.72	4.68	(1.32)	4.93	(1.95)	(0.72)	1.05	0.56	0.57	
238	POLICE-TOTAL DIRECT HEDGE FUNDS* - NET MGR	2,691	5.42	2.44	2.77	0.61	0.21	0.33	5.95	17.67	2.77	5.38	5.57	5.20	5.37	01/01/2012
	HFRI FUND OF FUNDS COMPOSITE INDEX + 1%			1.78	4.72	2.80	(4.55)	(4.36)	7.23	11.98	4.72	6.09	4.35	4.43	4.70	
	EXCESS RETURN			0.66	(1.95)	(2.19)	4.76	4.68	(1.28)	5.69	(1.95)	(0.72)	1.21	0.77	0.67	
248	POLICE-TOTAL PERMAL HEDGE FUNDS* - NET MGR			1.78	4.72	2.80	(4.55)	(4.36)	7.23	11.98	4.72	6.09	4.35	4.43	4.05	
	HFRI FUND OF FUNDS COMPOSITE INDEX + 1%															
	EXCESS RETURN															

\*Information provided by Alpha Frontier.

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>ALTERNATIVE EQUITY RETURN DETAIL</b>																
266	POLICE-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - GROSS	5,097	10.27	2.92	2.18	3.94	31.31	6.12	50.48	16.49	2.18	27.01	18.90	16.74	14.86	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.56)	(2.17)	(1.06)	(3.79)	(2.17)	(4.40)	(1.20)	(2.17)	(2.80)	(2.04)			
	POLICE-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - NET MGR			2.36	0.01	2.88	27.53	3.95	46.08	15.30	0.01	24.20	16.86			
	NYC R3000 +3% LAGGED			7.96	(5.81)	16.55	15.25	(15.11)	35.74	18.42	(5.81)	21.99	13.74	14.97	13.27	
	EXCESS RETURN			(5.60)	5.82	(13.67)	12.27	19.06	10.34	(3.12)	5.82	2.22	3.12	1.77	1.59	
276	POLICE-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - GROSS	3,440	6.93	(1.43)	(0.76)	(3.59)	34.21	20.24	23.54	1.04	(0.76)	13.44	10.21	12.29	8.98	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.22)	(1.12)	(0.45)	(2.41)	(1.97)	(1.62)	(0.69)	(1.12)	(1.43)	(1.09)			
	POLICE-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - NET MGR			(1.66)	(1.88)	(4.04)	31.80	18.27	21.91	0.35	(1.88)	12.01	9.11			
	NCREIF NFI-ODCE NET + 100 BP			(2.64)	(9.83)	(5.69)	29.57	7.61	22.21	1.35	(9.83)	8.11	6.61	8.84		
	EXCESS RETURN			0.98	7.95	1.65	2.23	10.66	(0.29)	(1.00)	7.95	3.90	2.50	3.44		
286	POLICE-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - GROSS	1,132	2.28	3.22	11.47	7.61	18.30	14.07	16.92	7.89	11.47	16.43	13.58	14.89	12/01/2013	
	ESTIMATED INVESTMENT FEES			(0.85)	(3.52)	(1.18)	(2.93)	(3.72)	(2.62)	(1.35)	(3.52)	(2.75)	(2.26)	(2.70)		
	POLICE-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - NET MGR			2.37	7.94	6.43	15.37	10.35	14.30	6.53	7.94	13.68	11.32	12.19		
	CPI + 4%			1.67	7.22	3.63	13.29	10.70	11.48	5.37	7.22	9.97	8.05	6.87		
	EXCESS RETURN			0.70	0.73	2.80	2.08	(0.35)	2.82	1.16	0.73	3.71	3.27	5.32		

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>FIXED INCOME RETURN DETAIL</b>																
298	POLICE-TOTAL FIXED INCOME - GROSS	15,949	32.12	0.34	2.54	3.85	(8.71)	(11.47)	2.82	10.39	2.54	(0.22)	2.98	3.34	7.50	02/01/1980
	ESTIMATED INVESTMENT FEES			(0.04)	(0.17)	(0.10)	(0.13)	(0.13)	(0.15)	(0.15)	(0.17)	(0.15)	(0.14)			
	EST MANAGEMENT FEES			(0.04)	(0.17)	(0.10)	(0.13)	(0.13)	(0.15)	(0.15)	(0.17)	(0.15)	(0.14)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL FIXED INCOME - NET MGR			0.30	2.37	3.75	(8.85)	(11.60)	2.66	10.25	2.37	(0.37)	2.84			
306	POLICE-TOTAL FIXED INCOME (ex OFI & CASH) - GROSS	13,397		0.07	2.23	3.76	(11.29)	(13.72)	1.12	11.50	2.23	(1.77)	2.42	2.80	11/01/2013	
	ESTIMATED INVESTMENT FEES			(0.04)	(0.15)	(0.07)	(0.12)	(0.12)	(0.14)	(0.15)	(0.15)	(0.14)	(0.14)	(0.14)		
	EST MANAGEMENT FEES			(0.04)	(0.15)	(0.07)	(0.12)	(0.12)	(0.14)	(0.15)	(0.15)	(0.14)	(0.14)	(0.14)		
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL FIXED INCOME (ex OFI & CASH) - NET MGR			0.04	2.08	3.69	(11.41)	(13.84)	0.98	11.35	2.08	(1.91)	2.28	2.66		
314	POLICE-TOTAL STRUCTURED FIXED INCOME - GROSS	6,811	13.72	(0.78)	(0.95)	3.17	(12.58)	(16.56)	(2.56)	13.70	(0.95)	(5.36)	1.43	2.22	6.65	01/01/1985
	ESTIMATED INVESTMENT FEES			(0.01)	(0.05)	(0.03)	(0.05)	(0.04)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)			
	POLICE-TOTAL STRUCTURED FIXED INCOME - NET MGR			(0.80)	(1.00)	3.14	(12.63)	(16.60)	(2.61)	13.64	(1.00)	(5.41)	1.38			
	NYC CUSTOM STRUCTURED INDEX-POLICE			(0.88)	(1.42)	2.79	(12.31)	(16.38)	(2.50)	15.71	(1.42)	(5.45)	2.14	2.64		
	EXCESS RETURN			0.08	0.42	0.35	(0.32)	(0.22)	(0.11)	(2.08)	0.42	0.04	(0.76)	(0.42)		
324	POLICE-TOTAL GOVERNMENT - GROSS	2,176	4.38	(1.83)	(4.57)	3.27	(13.12)	(21.06)	(6.15)	12.87	(4.57)	(9.49)	(0.59)	0.94	5.99	02/01/1987
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)			
	POLICE-TOTAL GOVERNMENT - NET MGR			(1.83)	(4.58)	3.27	(13.13)	(21.07)	(6.16)	12.84	(4.58)	(9.50)	(0.61)			
	CUSTOM GOVERNMENT BENCHMARK - POLICE			(1.82)	(4.82)	3.18	(13.32)	(21.50)	(6.11)	17.72	(4.82)	(9.62)	0.78	2.04		
	EXCESS RETURN			(0.02)	0.24	0.09	0.20	0.43	(0.04)	(4.88)	0.24	0.12	(1.39)	(1.10)		
334	POLICE-TOTAL MORTGAGE - GROSS	1,833	3.69	(0.52)	(1.23)	2.14	(8.75)	(11.60)	(0.81)	4.42	(1.23)	(3.36)	0.37	1.37	5.48	02/01/1987
	ESTIMATED INVESTMENT FEES			(0.02)	(0.05)	(0.03)	(0.06)	(0.04)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)			
	POLICE-TOTAL MORTGAGE - NET MGR			(0.53)	(1.28)	2.11	(8.81)	(11.63)	(0.85)	4.36	(1.28)	(3.41)	0.33			
	NYC CUSTOM MORTGAGE BENCHMARK			(0.64)	(1.52)	1.87	(9.03)	(11.81)	(1.04)	3.91	(1.52)	(3.75)	0.10	1.16	5.28	
	EXCESS RETURN			0.11	0.24	0.24	0.22	0.18	0.19	0.45	0.24	0.34	0.22	0.21	0.20	
344	POLICE-TOTAL INVESTMENT GRADE CORPORATE - GROSS	2,802	5.64	(0.13)	2.03	3.81	(14.54)	(16.23)	(0.73)	9.76	2.03	(3.25)	1.82	2.81	6.24	01/01/1987
	ESTIMATED INVESTMENT FEES			(0.02)	(0.09)	(0.05)	(0.08)	(0.07)	(0.09)	(0.11)	(0.09)	(0.09)	(0.10)			
	POLICE-TOTAL INVESTMENT GRADE CORPORATE - NET MGR			(0.15)	1.95	3.77	(14.62)	(16.30)	(0.83)	9.65	1.95	(3.34)	1.72			
	NYC CUSTOM IGC BENCHMARK			(0.29)	1.55	3.21	(14.19)	(15.76)	(0.85)	9.70	1.55	(3.43)	1.62	2.45		
	EXCESS RETURN			0.13	0.40	0.56	(0.43)	(0.54)	0.02	(0.06)	0.40	0.09	0.10	0.36		

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Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>FIXED INCOME RETURN DETAIL</b>																
356	POLICE-TOTAL CORE FI- DEVELOPING MGRS - GROSS	161	0.32	(0.47)	0.56	2.79	(10.57)	(12.61)	(0.84)	8.82	0.56	(2.88)	1.47	2.16	3.47	05/01/2009
	ESTIMATED INVESTMENT FEES			(0.05)	(0.19)	(0.10)	(0.17)	(0.17)	(0.19)	(0.21)	(0.19)	(0.18)	(0.19)			
	POLICE-TOTAL CORE FI- DEVELOPING MGRS - NET MGR			(0.52)	0.37	2.69	(10.74)	(12.77)	(1.02)	8.62	0.37	(3.06)	1.28			
	BLOOMBERG U.S. AGGREGATE			(0.84)	(0.94)	2.09	(10.29)	(13.01)	(1.54)	7.51	(0.94)	(3.96)	0.77	1.52	2.56	
	EXCESS RETURN			0.32	1.31	0.60	(0.44)	0.24	0.52	1.11	1.31	0.91	0.51	0.65	0.92	
376	POLICE-TOTAL TIPS - GROSS	1,521	3.06	(1.44)	(1.44)	1.96	(5.12)	(11.90)	5.88	11.11	(1.44)	(0.15)	2.50	2.12	3.41	06/01/2005
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)			
	POLICE-TOTAL TIPS - NET MGR			(1.45)	(1.46)	1.95	(5.14)	(11.92)	5.86	11.09	(1.46)	(0.17)	2.48			
	BLOOMBERG GLOBAL INFL-LINKED: U.S. TIPS			(1.42)	(1.40)	1.87	(5.14)	(11.85)	5.96	10.99	(1.40)	(0.12)	2.49	2.08	3.31	
	EXCESS RETURN			(0.03)	(0.07)	0.08	0.00	(0.07)	(0.10)	0.10	(0.07)	(0.05)	(0.01)	0.03	0.10	
386	POLICE-TOTAL CONVERTIBLE BONDS - GROSS	964	1.94	3.09	8.15	5.35	(11.04)	(9.85)	7.25	14.81	8.15	6.06	6.05	7.17	6.86	07/01/2008
	ESTIMATED INVESTMENT FEES			(0.09)	(0.37)	(0.18)	(0.29)	(0.31)	(0.35)	(0.42)	(0.37)	(0.36)	(0.37)			
	POLICE-TOTAL CONVERTIBLE BONDS - NET MGR			3.00	7.78	5.17	(11.34)	(10.15)	6.90	14.39	7.78	5.70	5.68			
	ICE BOFA ALL US CONV EX MANDATORY			4.98	11.06	9.37	(22.73)	(19.58)	4.12	52.05	11.06	8.29	10.07	10.42	9.46	
	EXCESS RETURN			(1.98)	(3.28)	(4.20)	11.40	9.43	2.78	(37.66)	(3.28)	(2.59)	(4.39)	(3.25)	(2.59)	
396	POLICE-TOTAL TARGETED INVESTMENTS (NO CASH) - GROSS	391	0.79	(1.24)	(0.41)	2.04	(8.74)	(11.08)	(0.56)	6.91	(0.41)	(2.89)	1.55	2.66	7.10	12/01/1984
	ESTIMATED INVESTMENT FEES			(0.04)	(0.17)	(0.09)	(0.15)	(0.15)	(0.16)	(0.18)	(0.17)	(0.16)	(0.17)	(0.20)	(0.11)	
	POLICE-TOTAL TARGETED INVESTMENTS (NO CASH) - NET MGR			(1.28)	(0.58)	1.95	(8.89)	(11.23)	(0.72)	6.74	(0.58)	(3.05)	1.37	2.46	7.00	
	POLICE CUSTOM BENCHMARK (NO CASH)			(0.62)	(0.75)	2.05	(8.95)	(11.39)	(1.09)	5.83	(0.75)	(3.37)	0.77	1.63		
	EXCESS RETURN			(0.66)	0.17	(0.10)	0.05	0.16	0.36	0.91	0.17	0.31	0.61	0.83		
406	POLICE-TOTAL HIGH YIELD - GROSS	3,549	7.15	1.80	9.28	5.60	(11.65)	(10.15)	5.91	7.63	9.28	3.83	3.93	4.56	7.02	10/01/1994
	ESTIMATED INVESTMENT FEES			(0.08)	(0.34)	(0.16)	(0.27)	(0.27)	(0.33)	(0.34)	(0.34)	(0.33)	(0.32)			
	POLICE-TOTAL HIGH YIELD - NET MGR			1.72	8.93	5.43	(11.92)	(10.43)	5.58	7.29	8.93	3.50	3.60			
	HIGH YIELD CUSTOM BENCHMARK			1.75	9.07	5.38	(12.82)	(11.18)	5.26	7.05	9.07	3.12	3.34	4.20	6.26	
	EXCESS RETURN			(0.03)	(0.14)	0.05	0.90	0.76	0.32	0.24	(0.14)	0.38	0.26	0.36	0.76	
416	POLICE- TOTAL BANK LOANS - GROSS	1	0.00							1.68						12/01/2012
	ESTIMATED INVESTMENT FEES									(0.29)						
	POLICE-TOTAL BANK LOANS - NET MGR									1.40						
	CSFB LEVERAGED LOAN INDEX									2.78						
	EXCESS RETURN									(1.38)						
426	POLICE-TOTAL OPPORTUNISTIC FIXED INCOME - GROSS	2,190	4.41	1.89	3.95	4.75	8.18	0.64	18.00	5.49	3.95	11.06	7.20	6.97	7.89	10/01/2007
	ESTIMATED INVESTMENT FEES			(0.08)	(0.37)	(0.24)	(0.27)	(0.24)	(0.30)	(0.17)	(0.37)	(0.29)	(0.24)			
	POLICE-TOTAL OPPORTUNISTIC FIXED INCOME - NET MGR			1.81	3.58	4.51	7.91	0.40	17.70	5.32	3.58	10.77	6.96			
	OPPORTUNISTIC FIXED INCOME JPMGHY / CSFB 50/50 BLEND PLUS 300			3.22	13.02	7.42	(4.95)	(2.79)	8.29	7.22	13.02	8.03	6.80	7.45	8.41	
	EXCESS RETURN			(1.41)	(9.44)	(2.91)	12.87	3.18	9.41	(1.90)	(9.44)	2.74	0.16	(0.48)	(0.52)	

# Consolidated Performance Report



Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2022	CYE 2022	CYE 2021	CYE 2020	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
<b>CASH SUMMARY</b>															
438	Short Term - POLICE - GROSS	362	0.73	1.25	3.73	2.37	0.04	1.36	0.07	0.56	3.73	1.28	1.54	1.14	04/01/1982
	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 - POLICE - NET MGR			1.25	3.73	2.37	0.04	1.36	0.07	0.56	3.73	1.28	1.54	1.14	
442	Cash Account	0	0.00												
444	Securities Lending	0	0.00												



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**New York City  
Police Pension Fund, Subchapter Two**

# **Appendix B**

## **Public Markets Manager Performance Detail**

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>EQUITY SUMMARY</b>										
<b>US EQUITY</b>										
BlackRock US SCG R2000	\$9	0.02	7.01	18.46	13.50	(26.38)	3.35	34.42	28.39	(9.14)
RUSSELL 2000 GROWTH DAILY			7.05	18.53	13.55	(26.36)	2.83	34.63	28.48	(9.31)
Excess			(0.04)	(0.07)	(0.05)	(0.02)	0.51	(0.21)	(0.09)	0.17
BlackRock US SCV R2000	\$22	0.04								
RUSSELL 2000 VALUE DAILY										
Excess										
Brown-US SCG	\$144	0.29	7.63	11.67	17.73	(36.94)	(4.29)	45.60	29.71	0.98
RUSSELL 2000 GROWTH DAILY			7.05	18.53	13.55	(26.36)	2.83	34.63	28.48	(9.31)
Excess			0.57	(6.86)	4.18	(10.58)	(7.13)	10.97	1.23	10.29
William Blair-US SCG	\$147	0.30	4.80	22.20	11.77	(21.13)	13.69	40.07		
RUSSELL 2000 GROWTH DAILY			7.05	18.53	13.55	(26.36)	2.83	34.63		
Excess			(2.25)	3.67	(1.78)	5.22	10.85	5.44		
Cooke and Bieler-US SCV	\$119	0.24	7.35	16.08	11.47	(17.98)	18.12	9.61		
RUSSELL 2000 VALUE DAILY			3.18	6.01	2.50	(14.48)	28.27	4.63		
Excess			4.16	10.08	8.97	(3.50)	(10.15)	4.97		
Pzena-US SCV	\$158	0.32	3.91	17.08	6.66	(6.62)	29.91	0.61		
RUSSELL 2000 VALUE DAILY			3.18	6.01	2.50	(14.48)	28.27	4.63		
Excess			0.72	11.07	4.16	7.86	1.64	(4.03)		
DFA US SCC	\$150	0.30	4.52	15.44	7.89	(12.25)	28.44	12.43	21.78	(12.54)
RUSSELL 2000 (DAILY)			5.21	12.31	8.09	(20.44)	14.82	19.96	25.52	(11.01)
Excess			(0.69)	3.14	(0.20)	8.19	13.62	(7.54)	(3.74)	(1.52)

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
Earnest-US MCC	\$253	0.51	4.12	10.45	8.87					
RUSSELL MIDCAP (DAILY)			4.76	14.92	9.01					
Excess			(0.64)	(4.47)	(0.14)					
Wellington US MCC	\$257	0.52	2.37	11.74	6.69	(23.16)	9.99	25.12	32.70	(7.35)
S&P 400 MIDCAP INDEX (DAILY)			4.85	17.61	8.84	(13.06)	24.76	13.66	26.20	(11.08)
Excess			(2.48)	(5.87)	(2.15)	(10.10)	(14.77)	11.46	6.50	3.73
MFS-US MCG	\$451	0.91	6.05	16.15	13.05					
RUSSELL MIDCAP GROWTH (DAILY)			6.23	23.13	15.94					
Excess			(0.18)	(6.98)	(2.89)					
Cooke and Bieler-US MCV	\$222	0.45	5.97	12.91	10.33					
RUSSELL MIDCAP VALUE (DAILY)			3.86	10.50	5.23					
Excess			2.11	2.41	5.10					
BlackRock US LMC R1000 Core	\$6,570	13.23	8.54	19.20	16.54	(18.83)	26.46	21.20	31.48	
RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(19.13)	26.45	20.96	31.43	
Excess			(0.04)	(0.16)	(0.14)	0.29	0.01	0.23	0.06	
SSGA-US LC Russell TOP 200 Core	\$3,333	6.71	9.88	20.88	19.40	(20.39)	27.79	22.44	31.74	
RUSSELL TOP 200 INDEX (DAILY)			9.89	20.88	19.42	(19.77)	27.90	22.37	31.75	
Excess			(0.01)	0.00	(0.03)	(0.63)	(0.11)	0.07	(0.01)	
PIMCO RAFI US LMCE	\$1,617	3.26	2.19	15.98	4.79	(3.21)	28.14	4.47	25.42	(6.92)
RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(19.13)	26.45	20.96	31.43	(4.78)
Excess			(6.39)	(3.38)	(11.89)	15.92	1.68	(16.49)	(6.01)	(2.13)
Legal General US LMCE	\$1,457	2.93	3.56	12.40	6.78	(12.05)	22.90	9.58		
RUSSELL 1000 (DAILY)			8.58	19.36	16.68	(19.13)	26.45	20.96		
Excess			(5.02)	(6.96)	(9.90)	7.08	(3.56)	(11.38)		



# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>FUND OF FUNDS</b>										
POLICE-FUND OF FUNDS	\$101	0.20	2.80	13.11	8.21	(16.17)	24.95	19.40	23.33	(8.27)
RUSSELL 2000 (DAILY)			5.21	12.31	8.09	(20.44)	14.82	19.96	25.52	(11.01)
Excess			(2.40)	0.81	0.12	4.27	10.13	(0.56)	(2.19)	2.74
<b>POLICE-TOTAL LEGATO</b>										
POLICE-TOTAL LEGATO	\$101	0.20	2.80	13.11	8.21	(16.17)	24.95	19.40	23.33	(8.20)
RUSSELL 2000 (DAILY)			5.21	12.31	8.09	(20.44)	14.82	19.96	25.52	(11.01)
Excess			(2.40)	0.81	0.12	4.27	10.13	(0.56)	(2.19)	2.82
<b>NON - US EQUITY</b>										
Baillie Gifford WorldxUS LMCC	\$601	1.21	1.89	17.90	16.19	(38.20)	(7.32)	66.73	37.00	(15.37)
NYC Developed Growth Benchmark <sup>[1]</sup>			3.03	17.41	11.29	(14.29)	12.62	7.59	22.49	(14.09)
Excess			(1.14)	0.49	4.90	(23.91)	(19.94)	59.14	14.51	(1.28)
Walter Scott WorldxUS LMCC	\$759	1.53	3.68	22.33	17.36	(22.40)	12.81	17.99	28.51	(7.68)
NYC Developed Growth Benchmark <sup>[1]</sup>			3.03	17.41	11.29	(14.29)	12.62	7.59	22.49	(14.09)
Excess			0.65	4.92	6.07	(8.11)	0.19	10.40	6.02	6.41
Causeway WorldxUS LMCV	\$709	1.43	5.21	31.00	20.66	(6.96)	9.75	6.53	21.35	(18.34)
NYC Developed Value Benchmark <sup>[2]</sup>			3.03	17.41	11.29	(14.29)	12.62	7.59	22.49	(14.09)
Excess			2.18	13.58	9.37	7.33	(2.87)	(1.06)	(1.14)	(4.25)
Sprucegrove WorldxUS LMCC	\$680	1.37	4.00	20.68	13.36	(11.77)	8.11	4.85	17.62	(13.67)
NYC Developed Value Benchmark <sup>[2]</sup>			3.03	17.41	11.29	(14.29)	12.62	7.59	22.49	(14.09)
Excess			0.97	3.26	2.07	2.52	(4.52)	(2.74)	(4.87)	0.42
Acadian WorldxUS SCC	\$283	0.57	0.84	15.31	8.69	(18.98)	20.49	15.82	21.82	(19.22)
S&P EPAC Small Cap USD NET			0.17	10.76	6.71	(22.69)	8.06	13.78	23.71	(18.58)
Excess			0.67	4.55	1.99	3.71	12.43	2.03	(1.89)	(0.65)

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
Fidelity WorldxUS SCC	\$0	0.00								(18.22)
S&P EPAC Small Cap USD NET										(18.58)
Excess										0.36
Alger EAFE SCC	\$38	0.08	(0.45)	12.08	5.42	(21.65)	11.79	9.71		
MSCI EAFE SMALL CAP NET (DAILY)			0.58	10.18	5.53	(21.39)	10.10	12.34		
Excess			(1.02)	1.90	(0.11)	(0.26)	1.69	(2.63)		
SSGA WorldxUS LMC NYC Custom IDX	\$299	0.60	3.24	17.86	11.59	(13.84)	12.90	8.09	22.75	(14.05)
NYC Custom World ex US Index <sup>[3]</sup>			3.03	17.41	11.29	(14.29)	12.62	7.59	22.49	(14.09)
Excess			0.21	0.45	0.30	0.45	0.28	0.50	0.26	0.04
SSGA WorldxUS SC Custom IDX <sup>[4]</sup>	\$224	0.45	0.58	10.26	5.63	(20.23)	11.27	13.18	25.67	(17.97)
World ex USA SC PASSIVE CUSTOM BM <sup>[5]</sup>			0.49	10.05	5.50	(20.58)	11.14	12.78	25.41	(18.07)
Excess			0.10	0.21	0.13	0.36	0.14	0.40	0.26	0.10
<b>EMERGING MARKETS</b>										
Acadian EM	\$423	0.85	3.12	6.13	9.66	(20.76)	6.09	10.72	15.71	(17.27)
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)	18.31	18.42	(14.57)
Excess			2.22	4.38	4.77	(0.67)	8.63	(7.59)	(2.71)	(2.70)
Baillie Gifford EM	\$455	0.92	3.21	8.43	10.64	(27.55)	(9.04)	29.61	28.50	(15.37)
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)	18.31	18.42	(14.57)
Excess			2.31	6.68	5.75	(7.45)	(6.50)	11.30	10.08	(0.80)
DFA EM	\$417	0.84	4.38	7.89	7.89	(11.12)	11.49	2.36	9.73	(12.06)
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)	18.31	18.42	(14.57)
Excess			3.48	6.14	3.01	8.97	14.03	(15.95)	(8.69)	2.50
Parametric EM	\$1	0.00							14.20	(14.33)
MSCI EMERGING MARKETS									18.42	(14.57)
Excess									(4.22)	0.24

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
Pzena-EM ACV	\$248	0.50	6.18	16.95	13.39	(6.95)	6.73			
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)			
Excess			5.28	15.20	8.50	13.14	9.27			
Sands-EM LCG	\$216	0.43	3.67	7.43	9.87	(33.94)	(8.63)			
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)			
Excess			2.77	5.68	4.98	(13.85)	(6.09)			
UBS-EM ACC	\$258	0.52	0.92	0.27	3.07	(24.73)	(8.68)			
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)			
Excess			0.02	(1.48)	(1.82)	(4.64)	(6.14)			
BlackRock MSCI EM Core	\$385	0.78	0.86	2.10	5.10	(19.57)	(2.10)	17.27	18.76	(14.44)
MSCI EMERGING MARKETS			0.90	1.75	4.89	(20.09)	(2.54)	18.31	18.42	(14.57)
Excess			(0.03)	0.36	0.21	0.52	0.44	(1.04)	0.34	0.13
INTERNATIONAL FOF										
POLICE-TOTAL INTERNATIONAL FOF	\$328	0.66	2.64	14.32	10.77	(19.75)	9.07	15.58	25.10	(15.05)
MSCI ACWI ex USA IMI Net			2.38	12.47	9.10	(16.58)	8.53	11.12	21.63	(14.76)
Excess			0.25	1.85	1.67	(3.17)	0.55	4.46	3.47	(0.29)
POLICE-TOTAL INTERNATIONAL XPONANCE	\$167	0.34	2.86	15.02	10.62	(16.97)	9.06	16.72	22.55	(14.14)
MSCI ACWI ex USA IMI Net			2.38	12.47	9.10	(16.58)	8.53	11.12	21.63	(14.76)
Excess			0.47	2.55	1.52	(0.38)	0.53	5.60	0.92	0.62
POLICE-TOTAL INTERNATIONAL LEADING EDGE	\$161	0.32	2.41	13.60	10.94	(22.44)	9.02	14.51	27.61	(16.50)
MSCI ACWI ex USA IMI Net			2.38	12.47	9.10	(16.58)	8.53	11.12	21.63	(14.76)
Excess			0.03	1.13	1.83	(5.86)	0.50	3.39	5.97	(1.74)

# Public Markets Manager Performance Detail



Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>FIXED INCOME SUMMARY</b>										
<b>STRUCTURED FIXED INCOME</b>										
BlackRock Mortgages	\$1,193	2.40	(0.50)	(1.20)	2.05	(11.46)	(0.85)	4.47	6.89	0.97
NYC Custom Mortgage Benchmark <sup>(6)</sup>			(0.64)	(1.52)	1.87	(11.81)	(1.04)	3.91	6.68	1.01
Excess			0.14	0.32	0.18	0.35	0.19	0.56	0.21	(0.04)
Wellington Mortgages	\$640	1.29	(0.60)	(1.41)	2.21	(11.94)	(0.81)			
Bloomberg US Mortgage Backed Securities			(0.64)	(1.52)	1.87	(11.81)	(1.04)			
Excess			0.05	0.11	0.34	(0.12)	0.23			
T Rowe Price-Corporate	\$1,137	2.29	(0.24)	1.66	3.74	(16.46)	(0.65)	8.68	14.56	(2.39)
NYC Custom IGC Benchmark <sup>(7)</sup>			(0.29)	1.55	3.21	(15.76)	(0.85)	9.70	13.40	(1.90)
Excess			0.04	0.12	0.53	(0.70)	0.19	(1.02)	1.17	(0.48)
Voya-Corporate	\$324	0.65	(0.05)	2.34	4.09	(16.25)				
Bloomberg U.S. Corporate Inv Grade			(0.29)	1.55	3.21	(15.76)				
Excess			0.24	0.79	0.88	(0.49)				
BlackRock Corporate	\$212	0.43	(0.30)	2.03	3.84	(15.97)	(0.88)	10.71	14.09	(1.96)
NYC Custom IGC Benchmark <sup>(7)</sup>			(0.29)	1.55	3.21	(15.76)	(0.85)	9.70	13.40	(1.90)
Excess			(0.01)	0.48	0.64	(0.21)	(0.03)	1.01	0.69	(0.05)
Taplin Corporate	\$100	0.20	0.12	2.68	3.95	(16.68)	(0.57)	11.24	15.66	(3.47)
NYC Custom IGC Benchmark <sup>(7)</sup>			(0.29)	1.55	3.21	(15.76)	(0.85)	9.70	13.40	(1.90)
Excess			0.41	1.13	0.74	(0.92)	0.28	1.54	2.26	(1.56)
Prudential Corporate	\$255	0.51	(0.26)	2.22	3.86	(16.18)	(0.44)	9.79	13.91	(1.93)
NYC Custom IGC Benchmark <sup>(7)</sup>			(0.29)	1.55	3.21	(15.76)	(0.85)	9.70	13.40	(1.90)
Excess			0.03	0.67	0.65	(0.42)	0.41	0.09	0.51	(0.02)

# Public Markets Manager Performance Detail

## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
Fidelity Corporate	\$119	0.24	(0.08)	1.39	3.25	(16.20)	(0.45)	10.92	14.79	(2.26)
NYC Custom IGC Benchmark <sup>[7]</sup>			(0.29)	1.55	3.21	(15.76)	(0.85)	9.70	13.40	(1.90)
Excess			0.20	(0.16)	0.04	(0.44)	0.40	1.22	1.40	(0.35)
Neuberger Berman-Corporate	\$655	1.32	(0.05)	2.09	3.59	(16.13)				
Bloomberg U.S. Corporate Inv Grade			(0.29)	1.55	3.21	(15.76)				
Excess			0.24	0.54	0.38	(0.37)				
SSGA LI Treasury	\$6	0.01	(1.86)	(4.68)	3.00	(21.90)	(3.50)	12.76	10.66	(0.21)
NYC - Treasury Agency Plus Five			(1.94)	(4.60)	2.86	(20.58)	(3.78)	12.85	10.40	(0.05)
Excess			0.08	(0.08)	0.14	(1.32)	0.28	(0.09)	0.26	(0.16)
BlackRock LI Treasury	\$29	0.06	(1.91)	(4.19)	2.93	(20.57)	(3.90)	12.39	10.49	(0.18)
NYC - Treasury Agency Plus Five			(1.94)	(4.60)	2.86	(20.58)	(3.78)	12.85	10.40	(0.05)
Excess			0.04	0.41	0.07	0.01	(0.12)	(0.47)	0.10	(0.13)
SSGA ST Treasury 1-3Y <sup>[8]</sup>	\$16	0.03	(0.57)	0.24	1.06	(3.71)	(0.58)	3.12	3.60	1.50
FTSE US Government Bond 1-3 Years Index			(0.56)	0.16	1.04	(3.74)	(0.58)	3.09	3.56	1.56
Excess			(0.01)	0.09	0.01	0.03	(0.01)	0.03	0.04	(0.06)
SSGA IT Treasury 1-10Y <sup>[9]</sup>	\$825	1.66	(1.15)	(1.00)	1.20	(7.74)	(1.78)	5.74	5.08	2.04
USBIG TSY AGN 1-10			(1.11)	(1.08)	1.26	(7.79)	(1.66)	5.72	5.18	1.42
Excess			(0.04)	0.08	(0.06)	0.05	(0.12)	0.02	(0.09)	0.62
SSGA LT Treasury 10Y Plus	\$1,300	2.62	(2.30)	(6.83)	4.60	(29.59)	(4.79)	17.48	14.89	(1.84)
FTSE US Government Bond 10+ Years Index			(2.30)	(7.50)	4.39	(29.75)	(4.63)	17.72	14.89	(1.89)
Excess			(0.00)	0.68	0.22	0.16	(0.16)	(0.25)	(0.01)	0.05
<b>HIGH YIELD</b>										
Brigade High Yield	\$520	1.05	2.81	5.68	5.54	(13.34)	7.34	7.07	15.23	
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	
Excess			1.06	(3.39)	0.16	(2.16)	2.08	0.02	0.91	

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
Eaton Vance High Yield	\$424	0.85	1.10	9.06	5.10	(9.44)	4.94	5.10	14.62	
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	
Excess			(0.65)	(0.01)	(0.28)	1.75	(0.32)	(1.95)	0.30	
Mackay Shields High Yield	\$460	0.93	1.33	9.27	5.44	(8.10)	5.33	7.87	14.40	
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	
Excess			(0.43)	0.19	0.05	3.09	0.07	0.83	0.08	
Neuberger Berman High Yield	\$407	0.82	1.19	8.66	4.53	(11.17)	4.43	6.07	14.18	(1.99)
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	(2.08)
Excess			(0.56)	(0.41)	(0.85)	0.01	(0.83)	(0.98)	(0.14)	0.09
Nomura High Yield	\$536	1.08	1.88	10.38	6.21	(10.80)	6.37	7.68	13.89	
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	
Excess			0.13	1.31	0.83	0.38	1.11	0.64	(0.43)	
Oaktree High Yield	\$299	0.60	1.60	9.50	4.91	(9.68)	5.02	7.33	13.99	(3.42)
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	(2.08)
Excess			(0.16)	0.43	(0.47)	1.51	(0.24)	0.28	(0.32)	(1.34)
Stone Harbor High Yield	\$3	0.01							14.12	(2.63)
Bloomberg U.S. HY - 2% Issuer Cap									14.32	(2.08)
Excess									(0.20)	(0.54)
T Rowe Price High Yield	\$498	1.00	1.67	9.57	5.47	(11.00)	6.30	7.17	15.60	(2.36)
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	(2.08)
Excess			(0.09)	0.50	0.08	0.18	1.04	0.12	1.28	(0.28)
Shenkman High Yield	\$402	0.81	1.88	9.99	5.84	(8.43)	4.55	6.38	14.29	(5.95)
Bloomberg U.S. HY - 2% Issuer Cap			1.75	9.07	5.38	(11.18)	5.26	7.05	14.32	(2.08)
Excess			0.13	0.92	0.45	2.75	(0.71)	(0.67)	(0.03)	(3.86)

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>BANK LOANS</b>										
Barings Bank Loans	\$1	0.00						1.12	7.82	0.38
CSFB LEVERAGED LOAN INDEX								2.78	8.17	1.14
Excess								(1.66)	(0.36)	(0.76)
Credit Suisse Bank Loans	\$0	0.00						1.81	8.31	1.04
CSFB LEVERAGED LOAN INDEX								2.78	8.17	1.14
Excess								(0.96)	0.13	(0.10)
Pinebridge Bank Loans	\$1	0.00								
CSFB LEVERAGED LOAN INDEX										
Excess										
<b>TIPS</b>										
SSGA TIPS	\$1,028	2.07	(1.45)	(1.46)	1.97	(11.92)	5.92	11.15	8.44	(1.30)
Bloomberg Global Infi-Linked: U.S. TIPS			(1.42)	(1.40)	1.87	(11.85)	5.96	10.99	8.43	(1.26)
Excess			(0.03)	(0.06)	0.10	(0.08)	(0.04)	0.16	0.02	(0.03)
BlackRock TIPS	\$492	0.99	(1.45)	(1.47)	1.93	(11.90)	5.72	11.01	8.43	(1.18)
Bloomberg Global Infi-Linked: U.S. TIPS			(1.42)	(1.40)	1.87	(11.85)	5.96	10.99	8.43	(1.26)
Excess			(0.03)	(0.07)	0.06	(0.06)	(0.23)	0.02	0.00	0.09
<b>CONVERTIBLE BONDS</b>										
Advent Convertible Bonds	\$405	0.82	2.78	9.07	5.25	(11.59)	0.40	17.14	12.79	(1.92)
ICE BofA US Convertibles - Yield Alter			3.82	10.92	7.72	(13.77)	2.09	13.34	15.40	(0.42)
Excess			(1.04)	(1.85)	(2.48)	2.18	(1.69)	3.80	(2.61)	(1.50)
Victory Convertible Bonds	\$558	1.12	3.16	6.86	5.11	(9.08)	12.32	12.19	20.49	0.66
ICE BofA All IG US Convertibles			1.58	3.35	1.10	(7.73)	10.42	7.57	20.88	3.35
Excess			1.58	3.51	4.01	(1.34)	1.90	4.62	(0.39)	(2.69)

# Public Markets Manager Performance Detail

Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
<b>CORE FI-DEVELOPING MANAGERS</b>										
LM Capital-Core Plus	\$66	0.13	(0.55)	0.36	2.61	(12.48)	(1.04)	8.49	9.75	(1.40)
Bloomberg U.S. Aggregate			(0.84)	(0.94)	2.09	(13.01)	(1.54)	7.51	8.72	0.01
Excess			0.29	1.29	0.52	0.53	0.50	0.98	1.03	(1.41)
Pugh-CorePlus	\$28	0.06	(0.55)	(0.05)	2.70	(13.26)	(1.26)			
Bloomberg U.S. Aggregate			(0.84)	(0.94)	2.09	(13.01)	(1.54)			
Excess			0.29	0.88	0.61	(0.25)	0.28			
GIA-Core Plus	\$66	0.13	(0.48)	0.57	2.77	(12.86)	(0.90)	7.48	9.84	(0.98)
Bloomberg U.S. Aggregate			(0.84)	(0.94)	2.09	(13.01)	(1.54)	7.51	8.72	0.01
Excess			0.37	1.51	0.68	0.15	0.64	(0.03)	1.12	(1.00)
<b>ECONOMICALLY TARGETED INVESTMENTS</b>										
AFL-CIO Housing Investment Trust	\$158	0.32	(0.90)	(2.23)	1.94	(13.55)	(1.04)	6.20	7.78	0.16
Bloomberg U.S. Aggregate			(0.84)	(0.94)	2.09	(13.01)	(1.54)	7.51	8.72	0.01
Excess			(0.05)	(1.29)	(0.15)	(0.54)	0.50	(1.31)	(0.94)	0.15
RBC Access MBS	\$82	0.17	(0.79)	(1.64)	1.79	(12.00)	(1.03)	6.14	7.21	0.49
Access RBC Benchmark			(0.76)	(1.37)	1.64	(10.38)	(1.46)	4.69	6.05	1.17
Excess			(0.04)	(0.27)	0.15	(1.61)	0.43	1.45	1.16	(0.69)
CPC Construction Facility	\$10	0.02	0.61	7.17	4.83	3.79	3.88	0.67	6.86	4.14
CPC CONST BENCHMARK			1.50	5.33	2.93	3.75	2.42	2.73	4.09	3.99
Excess			(0.88)	1.84	1.90	0.03	1.46	(2.06)	2.77	0.15
BOA PPAR FNMA	\$3	0.01	(2.63)	2.02	1.61	(8.50)	(1.89)	6.12	13.54	2.33
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	1.86
Excess			(2.18)	2.60	(0.53)	2.78	(1.52)	0.98	5.74	0.47
BOA PPAR GNMA	\$5	0.01	(1.68)	1.03	1.24	(6.61)	(1.18)	7.45	8.44	2.42
GNMA Plus 65bps			(0.39)	(0.40)	2.28	(10.14)	(0.82)	4.31	6.73	1.63
Excess			(1.29)	1.44	(1.04)	3.53	(0.36)	3.14	1.70	0.79



# Public Markets Manager Performance Detail

## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
Citibank PPAR FNMA	\$5	0.01	(2.64)	1.40	1.96	(11.34)	(1.56)	7.06	19.71	2.63
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	1.86
Excess			(2.19)	1.98	(0.19)	(0.06)	(1.19)	1.92	11.91	0.77
Citibank PPAR GNMA	\$2	0.00	(1.31)	2.45	1.83	(5.04)	(1.10)	8.31	5.33	1.90
GNMA Plus 65bps			(0.39)	(0.40)	2.28	(10.14)	(0.82)	4.31	6.73	1.63
Excess			(0.92)	2.85	(0.45)	5.10	(0.29)	4.00	(1.41)	0.27
CFSB PPAR FNMA	\$0	0.00	(2.85)	1.03	1.95	(12.29)	(2.05)			
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)			
Excess			(2.41)	1.62	(0.20)	(1.01)	(1.67)			
CFSB PPAR GNMA	\$1	0.00	(1.31)	1.83	1.74	(5.29)	0.03	8.01	5.91	0.99
GNMA Plus 65bps			(0.39)	(0.40)	2.28	(10.14)	(0.82)	4.31	6.73	1.63
Excess			(0.92)	2.23	(0.53)	4.85	0.84	3.69	(0.82)	(0.65)
CPC PPAR FNMA	\$57	0.11	(2.39)	1.51	1.99	(10.21)	1.14	7.00	13.18	2.31
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	1.86
Excess			(1.94)	2.10	(0.16)	1.07	1.51	1.87	5.38	0.45
POLICE-CPC PPAR GNMA	\$32	0.06	(1.23)	2.06	1.90	(5.26)	(0.73)	8.00	4.95	0.63
GNMA Plus 65bps			(0.39)	(0.40)	2.28	(10.14)	(0.82)	4.31	6.73	1.63
Excess			(0.84)	2.47	(0.38)	4.88	0.09	3.68	(1.78)	(1.00)
ECLF PPAR FNMA	\$1	0.00	(2.85)	1.26	2.02	(11.97)	(1.65)			
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)			
Excess			(2.40)	1.84	(0.13)	(0.69)	(1.28)			
JPMC PPAR FNMA	\$23	0.05	(2.60)	0.34	1.70	(11.48)	(1.84)	8.33	14.68	1.68
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	1.86
Excess			(2.16)	0.92	(0.45)	(0.21)	(1.47)	3.19	6.88	(0.18)

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
LIIF PPAR FNMA	\$6	0.01	(2.61)	2.64	1.89	(9.29)	(1.75)	6.44	16.35	2.27
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	1.86
Excess			(2.16)	3.22	(0.25)	1.99	(1.37)	1.30	8.55	0.41
LIIF PPAR GNMA	\$1	0.00	1.87	4.69	4.06	(2.79)	0.84	6.19	5.54	2.53
GNMA Plus 65bps			(0.39)	(0.40)	2.28	(10.14)	(0.82)	4.31	6.73	1.63
Excess			2.26	5.09	1.78	7.35	1.65	1.87	(1.19)	0.89
LISC PPAR FNMA	\$2	0.00	(2.89)	(4.11)	1.96	(16.45)	(1.69)	31.93	14.95	
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	
Excess			(2.45)	(3.52)	(0.18)	(5.17)	(1.32)	26.80	7.15	
NCBCI PPAR FNMA	\$0	0.00	(1.10)	2.26	1.95	(4.39)	0.66	8.49	4.08	2.00
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	1.86
Excess			(0.65)	2.85	(0.19)	6.89	1.03	3.36	(3.72)	0.15
NCBCI PPAR GNMA	\$1	0.00	(1.06)	2.16	1.91	(4.17)	0.95	8.16	3.69	1.23
GNMA Plus 65bps			(0.39)	(0.40)	2.28	(10.14)	(0.82)	4.31	6.73	1.63
Excess			(0.67)	2.56	(0.37)	5.97	1.77	3.85	(3.04)	(0.41)
NHS PPAR GNMA	\$0	0.00	(0.90)	2.61	2.16	(3.56)	1.26	7.11	2.90	0.54
GNMA Plus 65bps			(0.39)	(0.40)	2.28	(10.14)	(0.82)	4.31	6.73	1.63
Excess			(0.51)	3.01	(0.12)	6.58	2.08	2.80	(3.84)	(1.09)
Wells Fargo PPAR FNMA	\$2	0.00	(2.92)	1.40	1.92	(11.70)	(1.86)	28.61	21.71	
FNMA Plus 85bps			(0.45)	(0.59)	2.14	(11.28)	(0.37)	5.14	7.80	
Excess			(2.47)	1.98	(0.22)	(0.42)	(1.48)	23.48	13.91	
<b>CASH</b>										
Short Term POLICE	\$362	0.73	1.25	3.73	2.37	1.36	0.07	0.56	2.25	1.96
ICE BofA US 3-Month Treasury Bill			1.17	3.59	2.25	1.46	0.05	0.67	2.28	1.87
Excess			0.08	0.14	0.12	(0.09)	0.02	(0.11)	(0.04)	0.08

# Public Markets Manager Performance Detail



## Net Returns Through June 30, 2023

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2022	2021	2020	2019	2018
Cash Account	\$0	0.00								
Securities Lending	\$0	0.00								

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**New York City  
Police Pension Fund, Subchapter Two**

# **Appendix C**

## **Alternative Assets Manager Performance Detail**

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
<b>TOTAL PRIVATE EQUITY</b>		10,337,509,764	7,978,726,614	7,619,599,036	4,971,768,199	1.58	11.8%
<b>TOTAL LIQUIDATED</b>		948,884,346	901,167,701	1,184,426,302	-		
<b>TOTAL ACTIVE</b>		9,388,625,417	7,077,558,913	6,435,172,734	4,971,768,199		
<b>TOTAL ACTIVE</b>							
Cypress Merchant Banking Partners II	1999	50,000,000	53,944,269	50,584,154	18,471	0.94	-1.2%
Lincolnshire Equity Fund II	1999	12,000,000	11,556,880	22,653,206	(120,090)	1.95	24.6%
SCP Private Equity Partners II	2000	25,000,000	28,057,160	10,857,159	2,007,406	0.46	-8.2%
Apollo Investment Fund V	2001	35,000,000	54,551,027	107,618,495	297,620	1.98	38.8%
CVC European Equity Partners III	2001	25,000,000	29,700,915	74,439,614	1,736,328	2.56	41.0%
Ares Corporate Opportunities Fund	2003	35,000,000	41,988,154	62,593,160	42,139	1.49	13.1%
Blackstone Capital Partners IV	2003	50,000,000	57,243,283	140,466,805	177,188	2.46	36.3%
FS Equity Partners V	2003	15,000,000	12,880,168	25,334,043	831,619	2.03	15.2%
FdG Capital Partners II	2004	25,000,000	26,938,873	32,109,117	562,348	1.21	3.7%
Lincolnshire Equity Fund III	2004	15,000,000	15,140,443	23,333,150	4,369,353	1.83	27.4%
Markstone Capital Partners	2004	10,000,000	11,724,772	4,955,651	46,767	0.43	-31.5%
Medica III	2004	10,000,000	10,000,000	4,237,089	895,000	0.51	-12.3%
Yucaipa American Alliance Fund I	2004	20,000,000	29,967,488	35,202,784	142,682	1.18	4.0%
Arlington Capital Partners II	2005	20,000,000	20,236,733	35,601,071	212,810	1.77	11.3%
FirstMark Capital I	2005	10,000,000	10,927,097	81,630,571	13,860,284	8.74	34.2%
JP Morgan Fleming (Tranche A)	2005	38,202,736	40,171,525	45,388,010	4,703,593	1.25	4.0%
Palladium Equity Partners III	2005	25,000,000	26,933,993	49,995,903	15,107	1.86	14.4%
Snow Phipps Group	2005	10,000,000	12,252,715	11,173,908	4,562,052	1.28	4.6%
USPF II Institutional Fund	2005	20,000,000	26,379,750	31,646,439	245,381	1.21	3.3%
Aisling Capital II	2006	2,500,000	2,945,044	2,888,350	106,644	1.02	0.3%
Apollo Investment Fund VI	2006	45,000,000	57,919,123	86,669,134	863,810	1.51	8.6%
Atlantic Equity Partners IV	2006	25,124,928	23,646,318	27,218,750	9,923,455	1.57	4.0%
Blackstone Capital Partners V	2006	42,875,000	44,836,072	73,452,979	375,525	1.65	8.0%
Catterton Partners VI	2006	20,000,000	22,775,054	39,378,258	4,818,416	1.94	11.4%
Coller International Partners V	2006	10,000,000	8,744,365	11,926,848	37,485	1.37	7.5%
Euro Choice III (fka LODH Private Equity - Euro Choice III)	2006	25,000,000	26,875,177	31,197,148	-	1.16	2.9%
Falconhead Capital Partners II	2006	15,000,000	17,444,709	26,842,230	477,832	1.57	6.7%
First Reserve Fund XI	2006	20,000,000	21,253,053	14,072,670	9,010	0.66	-9.4%
GF Capital Private Equity Fund	2006	10,000,000	10,488,825	13,756,928	5,911,010	1.88	11.4%
MidOcean Partners III	2006	40,000,000	46,651,712	104,019,753	74,196	2.23	13.6%
NB Co-Investment Partners (fka LB Co-Investment Partners)	2006	60,000,000	60,636,285	87,765,301	1,355,278	1.47	8.7%
Permira Europe IV	2006	15,008,760	17,598,872	25,807,592	3,632,474	1.67	9.1%

Information provided by the New York City Police Retirement Systems Consultants

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
RRE Ventures IV	2006	15,000,000	19,132,774	28,636,639	5,363,360	1.78	6.8%
The Fourth Cinven Fund	2006	13,031,286	14,218,068	20,526,266	8,402	1.44	7.4%
Carlyle Partners V	2007	50,000,000	51,704,249	92,393,048	2,465,770	1.83	13.7%
ComVest Investment Partners III	2007	15,000,000	19,413,857	26,864,189	-	1.38	7.6%
Constellation Venture Capital III	2007	15,000,000	17,366,716	15,140,503	-	0.87	-1.8%
FTVentures III	2007	7,500,000	8,305,870	16,330,604	2,327,090	2.25	15.3%
Gleacher Mezzanine Fund II	2007	10,000,000	9,187,454	12,341,453	1,090	1.34	10.7%
GSO Capital Opportunities Fund I	2007	17,500,000	26,202,290	37,188,395	350,992	1.43	17.3%
Highland Consumer Fund I	2007	10,000,000	10,016,060	7,086,044	666,885	0.77	-3.2%
Montreux Equity Partners IV	2007	10,000,000	10,000,000	5,529,696	7,468,638	1.30	3.1%
New Mountain Partners III	2007	35,000,000	37,063,348	88,128,438	1,469,446	2.42	14.6%
Olympus Capital Asia III	2007	20,000,000	23,419,622	13,072,161	1,696,735	0.63	-9.6%
Paladin III (NY City)	2007	30,000,000	42,398,853	85,435,293	11,510,458	2.29	13.2%
PCG Clean Energy & Technology Fund (East)	2007	40,000,000	36,190,929	11,176,554	2,881,229	0.39	-11.0%
Pegasus Partners IV	2007	15,000,000	18,305,016	13,916,527	1,939,711	0.87	-2.6%
Pine Brook Capital Partners	2007	15,000,000	17,049,917	22,348,380	1,061,332	1.37	7.8%
Quaker BioVentures II	2007	15,000,000	14,519,055	16,169,727	173,705	1.13	2.5%
SCP Vitalife Partners II	2007	15,000,000	15,074,774	1,184	2,770,910	0.18	-13.4%
Trilantic Capital Partners IV (fka LBMB IV)	2007	60,000,000	46,752,136	71,807,185	2,539,816	1.59	13.4%
United States Power Fund III	2007	15,000,000	17,746,993	22,759,218	447,181	1.31	4.4%
Vista Equity Partners Fund III	2007	20,000,000	21,526,517	51,092,965	2,332,235	2.48	26.8%
Aisling Capital III	2008	7,000,000	7,897,575	18,784,405	43,420	2.38	26.5%
Apollo Investment Fund VII	2008	50,000,000	61,320,784	106,475,389	565,052	1.75	22.6%
Ares Corporate Opportunities Fund III	2008	25,000,000	30,631,947	64,840,701	249,455	2.12	20.2%
Avista Capital Partners II	2008	35,000,000	46,132,085	74,217,122	1,568,377	1.64	14.4%
Blue Wolf Capital Fund II	2008	15,000,000	16,498,604	27,875,522	86,186	1.69	10.7%
Bridgepoint Europe IV	2008	15,467,000	13,655,346	18,614,266	2,299,979	1.53	9.5%
Crestview Partners II	2008	22,500,000	27,451,748	43,211,004	9,820,016	1.93	13.9%
CVC European Equity Partners V	2008	38,425,000	37,009,815	72,074,919	692,722	1.97	16.4%
Euro Choice IV	2008	23,847,000	18,070,659	24,033,227	476,932	1.36	5.8%
First Reserve Fund XII	2008	20,000,000	22,216,378	11,556,671	24,403	0.52	-17.9%
GCM Grosvenor NYCPPF Emerging Manager Fund	2008	59,909,091	76,884,196	93,694,270	24,006,378	1.53	9.8%
GI Partners Fund III	2008	17,500,000	18,910,516	29,647,962	8,238	1.57	13.0%
Landmark Equity Partners XIV	2008	27,250,000	26,614,795	33,749,334	2,035,710	1.34	9.4%
Levine Leichtman Capital Partners IV	2008	10,000,000	10,707,203	16,958,693	947,162	1.67	17.8%
Milestone Partners III	2008	15,000,000	16,394,499	14,546,799	2,731,377	1.05	0.9%
NGN BioMed Opportunity II	2008	10,000,000	9,575,911	7,673,105	4,795,900	1.30	3.2%

Information provided by the New York City Police Retirement Systems Consultants

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Onex Partners III	2008	15,000,000	16,452,255	24,665,881	2,558,941	1.65	11.4%
Riverstone-Carlyle Global Energy and Power Fund IV	2008	15,000,000	17,280,862	18,682,797	6,114	1.08	2.1%
Yucaipa American Alliance Fund II	2008	50,000,000	68,624,624	74,695,169	40,795,106	1.68	8.0%
Yucaipa Corporate Initiatives Fund II	2008	14,030,930	13,778,130	12,321,839	198,256	0.91	-1.3%
FS Equity Partners VI	2009	20,000,000	20,181,907	57,040,708	8,866,029	3.27	23.7%
Lexington Capital Partners VII	2009	20,000,000	17,919,483	27,204,541	2,419,440	1.65	13.8%
Lincolnshire Equity Fund IV-A	2009	7,500,000	8,110,778	9,695,121	2,094,682	1.45	8.2%
NorthBound Emerging Manager Custom Fund (fka NB Emergi	2009	20,000,000	17,467,088	26,654,923	2,494,472	1.67	12.1%
Scale Venture Partners III	2009	10,000,000	9,963,534	25,528,663	3,754,260	2.94	22.7%
Welsh, Carson, Anderson & Stowe XI	2009	22,500,000	22,345,669	36,175,176	1,558,413	1.69	11.7%
ComVest Investment Partners IV	2010	45,000,000	47,130,449	77,747,314	7,473,656	1.81	27.8%
Snow Phipps II	2010	17,500,000	21,312,223	19,027,236	9,614,373	1.34	7.1%
Trident V	2010	40,000,000	47,374,491	66,426,785	24,171,571	1.91	12.0%
American Securities Partners VI	2011	50,000,000	56,076,987	98,091,366	29,732,620	2.28	21.9%
Ampersand 2011	2011	12,500,000	12,500,000	40,484,057	99,285	3.25	21.8%
AXA Secondary Fund V B	2011	80,000,000	65,913,485	105,641,760	220,574	1.61	15.4%
BC European Capital IX	2011	73,854,229	75,052,432	90,964,838	27,971,264	1.58	10.6%
BDCM Opportunity Fund III	2011	20,000,000	29,851,855	27,354,462	31,584,580	1.97	11.5%
Blackstone Capital Partners VI	2011	35,000,000	37,621,902	53,208,627	14,274,548	1.79	12.4%
EQT VI	2011	52,782,532	52,092,013	90,823,987	56,820	1.74	13.6%
Pegasus Partners V	2011	14,552,940	18,749,484	15,908,192	8,367,663	1.29	5.7%
Platinum Equity Capital Partners III	2011	50,000,000	42,881,970	86,056,208	9,306,810	2.22	35.8%
Vista Equity Partners Fund IV	2011	70,000,000	72,725,995	91,848,481	53,560,293	2.00	14.9%
Wellspring Capital Partners V	2011	22,500,000	23,916,410	34,080,535	7,213,240	1.73	15.4%
Ares Corporate Opportunities Fund IV	2012	50,000,000	53,375,360	83,073,281	17,506,626	1.88	14.7%
Green Equity Investors VI	2012	55,000,000	61,625,941	64,907,849	58,763,445	2.01	14.1%
NB Strategic Co Investment II	2012	60,000,000	58,636,521	58,636,207	19,913,757	1.34	8.4%
<u>NYCP - 2012 Emerging Manager Program</u>	<u>2012</u>	<u>47,000,000</u>	<u>50,266,167</u>	<u>79,760,331</u>	<u>28,625,876</u>	<u>2.16</u>	<u>17.6%</u>
Palladium Equity Partners IV	2012	35,000,000	35,883,387	25,259,172	33,045,064	1.62	10.4%
Summit Partners Growth Equity Fund VIII-A	2012	75,000,000	85,772,685	176,040,563	36,546,203	2.48	26.4%
Trilantic Capital Partners V (North America)	2012	50,000,000	54,596,930	74,909,732	16,874,553	1.68	15.6%
Warburg Pincus Private Equity XI	2012	80,000,000	84,421,577	109,591,612	34,139,519	1.70	11.9%
Apollo Investment Fund VIII	2013	100,000,000	97,621,688	108,055,872	37,202,098	1.49	10.0%
ASF VI B	2013	60,000,000	49,576,588	64,071,979	8,727,663	1.47	12.2%
Carlyle Partners VI	2013	60,000,000	65,264,284	96,467,622	27,936,969	1.91	15.1%
Crestview Partners III	2013	45,000,000	41,955,486	25,316,839	38,573,214	1.52	11.9%
Landmark - NYC Fund I	2013	23,000,000	21,073,912	25,138,147	12,117,914	1.77	15.6%

Information provided by the New York City Police Retirement Systems Consultants

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Landmark Equity Partners XV	2013	67,000,000	53,783,232	62,283,062	14,214,980	1.42	11.9%
ASF VI B NYC Co-Invest	2014	20,000,000	17,180,621	21,172,197	4,742,929	1.51	12.4%
Bridgepoint Europe V	2014	28,961,400	28,430,354	38,873,511	16,708,446	1.96	18.5%
Carlyle Partners VI - Side Car	2014	6,600,000	4,813,915	6,096,171	3,488,532	1.99	12.3%
Crestview Partners III (Co-Investment B)	2014	15,000,000	15,533,155	740,414	18,374,581	1.23	3.8%
CVC Capital Partners VI	2014	100,000,000	95,812,510	105,674,546	88,863,007	2.03	17.1%
Lexington Capital Partners VIII	2014	80,000,000	72,766,074	72,236,859	49,158,684	1.67	16.7%
Olympus Growth Fund VI	2014	35,000,000	35,535,733	37,826,040	29,035,615	1.88	16.7%
Vista Equity Partners Fund V	2014	85,000,000	106,444,347	124,589,071	112,979,207	2.23	19.5%
ASF VII B	2015	44,500,000	29,872,155	22,866,299	26,102,933	1.64	16.8%
ASF VII B NYC Co-Invest	2015	22,000,000	15,426,285	14,719,653	12,547,940	1.77	18.9%
Bridgepoint Europe V Co-Invest	2015	7,797,300	7,461,349	15,514,722	4,586,534	2.69	27.1%
Centerbridge Capital Partners III	2015	11,100,000	14,631,428	13,883,003	10,806,726	1.69	18.6%
EQT VII	2015	74,573,325	82,999,713	121,759,407	43,524,793	1.99	22.5%
<i><u>NYCP - 2015 Emerging Manager Program</u></i>	<i><u>2015</u></i>	<i><u>53,250,000</u></i>	<i><u>52,260,459</u></i>	<i><u>21,054,901</u></i>	<i><u>74,529,264</u></i>	<i><u>1.83</u></i>	<i><u>22.1%</u></i>
Siris Partners III	2015	15,000,000	15,958,628	12,096,473	11,585,851	1.48	11.8%
Warburg Pincus Private Equity XII	2015	97,000,000	97,170,596	102,837,129	93,741,282	2.02	18.1%
Welsh, Carson, Anderson & Stowe XII	2015	37,000,000	35,460,639	52,003,035	34,801,354	2.45	27.0%
American Securities Partners VII	2016	37,000,000	36,246,346	19,075,458	50,445,404	1.92	16.1%
Apax IX	2016	60,000,000	64,720,711	72,337,062	58,398,068	2.02	23.2%
BCEC X Metro Co-Investment	2016	16,436,288	17,055,593	5,565,378	26,157,211	1.86	15.7%
Platinum Equity Capital Partners IV	2016	52,500,000	51,729,562	48,608,403	59,895,221	2.10	25.0%
Vista Equity Partners Fund VI	2016	75,000,000	93,526,960	78,601,903	113,798,417	2.06	19.6%
Ares Corporate Opportunities Fund V	2017	44,000,000	47,734,004	21,927,882	46,658,947	1.44	11.6%
BC European Capital X	2017	41,090,720	39,963,967	7,157,902	51,748,654	1.47	10.6%
CVC Capital Partners VII	2017	91,222,540	89,631,070	23,362,597	131,920,431	1.73	23.3%
Green Equity Investors VII	2017	44,000,000	42,067,605	34,742,314	54,598,071	2.12	22.6%
KKR Americas Fund XII	2017	75,000,000	71,018,472	32,101,759	93,765,474	1.77	21.4%
Palladium Equity Partners V	2017	23,333,333	14,872,808	4,057,906	15,495,237	1.31	10.3%
Warburg Pincus Financial Sector	2017	62,000,000	62,357,091	23,851,815	89,116,646	1.81	21.6%
Apollo Investment Fund IX	2018	154,000,000	133,343,530	47,473,788	148,050,316	1.47	25.0%
ASF VIII B	2018	111,000,000	58,587,639	14,298,471	73,654,662	1.50	25.3%
Bridgepoint Europe VI	2018	91,613,395	70,121,620	7,276,500	93,113,029	1.43	18.8%
EQT VIII	2018	83,833,040	75,719,729	52,828,534	83,925,913	1.81	26.9%
EQT VIII (Co-Invest)	2018	29,324,457	26,121,330	20,827,239	33,938,868	2.10	37.6%
Platinum Equity Capital Partners IV Co-Investment	2018	5,250,000	5,260,213	1,046,583	7,029,974	1.54	11.0%
Platinum Equity Small Cap Fund	2018	28,500,000	20,647,250	4,659,493	35,300,813	1.94	30.4%

Information provided by the New York City Police Retirement Systems Consultants



# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Siris Partners IV	2018	62,000,000	51,481,273	7,378,385	73,297,731	1.57	18.8%
Vista Equity Partners Fund VII	2018	124,500,000	112,036,922	12,041,542	130,435,716	1.27	10.7%
Apax X	2019	66,500,000	53,518,585	4,183,168	61,977,867	1.24	19.8%
ASF VIII B NYC Co-Invest	2019	55,500,000	23,464,763	4,850,980	32,346,493	1.59	39.3%
Blackstone Capital Partners VIII	2019	69,500,000	39,454,864	2,313,204	43,412,286	1.16	12.5%
Bridgepoint Europe VI Co-Invest	2019	22,903,349	16,093,430	-	25,843,475	1.61	19.9%
Crestview IV Co-Invest	2019	16,666,667	9,411,420	3,121,069	12,899,895	1.70	57.0%
Crestview Partners IV	2019	50,000,000	28,234,260	8,105,541	34,193,103	1.50	41.4%
KKR European Fund V (USD)	2019	50,150,000	43,373,369	8,466,344	43,641,148	1.20	10.2%
Lexington Capital Partners IX	2019	74,625,000	59,528,846	16,086,004	72,011,531	1.48	30.9%
Lindsay Goldberg V	2019	55,500,000	27,654,621	7,571,371	30,487,449	1.38	26.4%
<u>NYCP - 2019 Emerging Manager Program</u>	<u>2019</u>	<u>45,416,667</u>	<u>22,706,648</u>	<u>2,269,625</u>	<u>35,713,092</u>	<u>1.67</u>	<u>26.8%</u>
Platinum Equity Capital Partners V	2019	119,000,000	116,385,386	13,817,101	160,832,478	1.50	25.4%
Trilantic Capital Partners VI (North America)	2019	40,000,000	36,206,641	3,591,841	48,235,909	1.43	19.7%
Warburg Pincus Global Growth	2019	80,000,000	70,032,814	580,000	96,450,421	1.39	15.1%
WCAS XIII	2019	62,000,000	51,398,273	20,607,358	52,454,068	1.42	26.1%
BC Partners XI - USD	2020	69,300,000	29,986,705	169,884	31,851,417	1.07	5.2%
Clearlake Capital Partners VI	2020	30,000,000	30,356,218	2,512,913	45,121,408	1.57	28.9%
EQT IX	2020	58,535,500	57,459,407	5,680,997	62,689,936	1.19	14.0%
EQT IX (Co-Invest)	2020	15,964,500	15,850,657	266,194	16,330,709	1.05	2.8%
FTV VI	2020	7,500,000	7,362,956	861,440	11,718,185	1.71	31.0%
Green Equity Investors VIII	2020	69,500,000	60,569,016	563,088	68,649,420	1.14	8.8%
Green Equity Investors VIII Coinvest N	2020	23,200,000	16,613,428	-	19,804,405	1.19	9.6%
Hg Genesis 9	2020	31,838,337	25,864,769	5,364,830	24,766,045	1.16	16.7%
KKR Asian Fund IV	2020	65,000,000	23,513,386	180,051	23,632,747	1.01	1.1%
Lexington IX Co-Invest	2020	24,875,000	12,189,994	4,988,027	15,640,038	1.69	37.9%
NYC-Northbound Emerging Managers Program	2020	111,000,000	37,344,773	636,573	51,855,263	1.41	41.0%
Platinum Equity Capital Partners V Co-investment	2020	29,750,000	29,352,777	4,508,718	54,826,739	2.02	62.2%
Valor Equity Partners V	2020	16,500,000	15,006,464	39,716	20,594,447	1.38	20.9%
Apax Digital Fund II	2021	33,000,000	1,177,273	-	245,782	0.21	-84.3%
BC Partners XI Metro Coinvestment	2021	31,500,000	20,447,599	-	21,347,797	1.04	3.6%
Centerbridge Capital Partners IV	2021	67,000,000	28,661,344	-	44,655,969	1.56	53.0%
Centerbridge Capital Partners IV – N Co-Invest	2021	33,000,000	25,078,665	1,499,125	35,264,661	1.47	58.5%
Clearlake Capital Partners VII	2021	105,000,000	53,942,117	2,556	55,886,641	1.04	5.4%
CVC Capital Partners VIII	2021	108,829,033	60,918,000	354,417	65,409,504	1.08	10.6%
Grain Communications Opportunity Fund III	2021	15,000,000	9,521,979	36,269	8,748,323	0.92	-7.1%
HarbourVest Centre Street Co-Investment Fund	2021	110,000,000	58,978,338	-	58,631,744	0.99	-0.6%

Information provided by the New York City Police Retirement Systems Consultants

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
ICG Strategic Equity Co-Investment Fund IV	2021	33,000,000	27,420,306	-	31,688,011	1.16	16.1%
ICG Strategic Equity Fund IV	2021	66,000,000	35,756,655	4,586,108	48,070,368	1.47	33.4%
Insight Partners XII	2021	69,750,000	48,444,844	77,079	41,697,491	0.86	-12.3%
Insight Partners XII Buyout Annex Fund	2021	23,250,000	14,763,750	-	13,466,699	0.91	-7.7%
KKR Americas Fund XIII	2021	117,000,000	39,211,802	-	36,700,719	0.94	-9.2%
One Rock Capital Partners III	2021	27,500,000	20,447,606	2,815,180	23,426,649	1.28	27.6%
Permira VIII	2021	104,959,800	15,397,768	-	14,784,922	0.96	-4.0%
PSG V	2021	97,000,000	41,677,740	3,106,611	40,159,965	1.04	4.8%
Reverence Capital Partners Opportunities Fund V (FOO) (PE F	2021	13,000,000	2,660,293	21,157	2,660,011	1.01	0.7%
Reverence Capital Partners Opportunities Fund V (PE Fund III	2021	37,000,000	8,301,037	60,215	7,547,951	0.92	-8.3%
Stellex Capital Partners II	2021	33,000,000	20,398,327	1,240,490	20,752,068	1.08	8.4%
The Resolute Fund V	2021	46,000,000	38,382,498	398,827	57,259,380	1.50	52.9%
Vistria Fund IV	2021	45,000,000	33,226,766	634,266	34,141,896	1.05	5.3%
Warburg Pincus Financial Sector II	2021	61,500,000	23,776,490	-	30,655,843	1.29	23.0%
Apollo Investment Fund X	2022	84,000,000	-	-	(1,329,608)	0.00	
Bridgepoint Europe VII A	2022	39,783,750	-	-	(698,833)	0.00	
EQT X	2022	75,750,000	1,266,791	1,266,791	(667,740)	0.47	
EQT X (Co-Invest)	2022	25,250,000	4,596,858	-	4,573,134	0.99	-0.5%
FTV VII	2022	39,719,980	15,093,592	-	14,890,248	0.99	-1.5%
FTV VII Co-Invest	2022	8,936,990	2,616,379	-	2,612,927	1.00	-0.1%
Green Equity Investors IX	2022	87,375,000	-	-	(155,803)	0.00	
Green Equity Investors IX Co-Invest	2022	29,125,000	-	-	-	0.00	
Hg Genesis 10	2022	45,816,984	612,538	-	568,809	0.93	-14.9%
Hg NYC Co-Invest	2022	16,800,000	5,509,810	-	6,138,629	1.11	14.1%
Hg Saturn 3	2022	33,600,000	337,841	-	748,107	2.21	269.7%
Lexington Capital Partners X Co-Invest	2022	30,000,000	5,915,208	-	7,200,583	1.22	31.9%
Nordic Capital XI	2022	59,052,000	-	-	(653,979)	0.00	
Nordic N11 Co-Investment	2022	24,679,424	-	-	-	0.00	
Platinum Equity Capital Partners VI	2022	106,500,000	7,095,892	-	5,597,381	0.79	-21.5%
Platinum Equity Capital Partners VI (Co-Invest)	2022	35,500,000	-	-	-	0.00	
Raine Partners IV	2022	23,333,333	-	-	(670,770)	0.00	
Thoma Bravo XV	2022	84,000,000	45,082,479	18,201	44,823,889	0.99	-0.7%
Thoma Bravo XV Co-Invest	2022	28,000,000	14,658,539	-	14,318,644	0.98	-3.2%
Valor Equity Partners VI	2022	34,500,000	5,989,589	-	5,183,160	0.87	
Vista Equity Partners Fund VIII	2022	84,000,000	11,323,414	-	9,975,574	0.88	
Warburg Pincus Global Growth 14	2022	64,220,000	12,953,086	-	12,580,949	0.97	-3.8%
Welsh, Carson, Anderson & Stowe XIV	2022	90,000,000	8,140,131	-	5,335,067	0.66	-40.8%

Information provided by the New York City Police Retirement Systems Consultants

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Welsh, Carson, Anderson & Stowe XIV N Co-Invest	2022	30,000,000	-	-	-	0.00	
WPGG 14 Co-Invest-N	2022	38,530,000	3,895,977	-	3,818,405	0.98	-2.0%
Apax XI	2023	90,000,000	-	-	(801,876)	0.00	
Apollo Fund X NYC Sidecar Co-Invest	2023	28,000,000	-	-	-	0.00	
Bridgepoint Europe VII Co-Invest	2023	19,891,875	-	-	-	0.00	
KKR European Fund VI (USD)	2023	31,500,000	-	-	(486,989)	0.00	
Lexington Capital Partners X	2023	90,000,000	-	-	2,975,542	0.00	
Vista Co-Invest Fund 2022-4	2023	28,000,000	5,789,264	-	5,789,522	1.00	

Information provided by the New York City Police Retirement Systems Consultants

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total	Distributions	Market Value	Total Value Multiple	Net IRR%
<b>TOTAL PRIVATE REAL ESTATE</b>			4,994,828,294	4,113,317,343		2,762,868,008	3,364,543,171	1.47	9.0%
<b>TOTAL PRIVATE REAL ESTATE</b>									
PRISA SA	2006	Core Portfolio	21,000,000	22,590,656		12,621,206	34,826,022	2.10	5.3%
Prologis Targeted U.S. Logistics Fund	2006	Core Portfolio	80,000,000	83,594,865		8,162,001	105,572,164	1.36	8.0%
RREEF America REIT II	2006	Core Portfolio	21,000,000	27,724,347		18,572,238	35,718,663	1.96	5.7%
UBS Trumbull Property Fund	2006	Core Portfolio	61,000,000	94,960,812		116,879,318	31,178,435	1.56	6.0%
Heitman HART	2007	Core Portfolio	28,000,000	48,686,125		67,494,835	32,827,768	2.06	7.8%
JP Morgan Special Situation Property Fund	2007	Core Portfolio	15,000,000	17,613,742		8,362,986	23,790,139	1.83	4.7%
JP Morgan Strategic Property Fund	2007	Core Portfolio	56,000,000	62,422,616		78,659,635	66,338,371	2.32	7.3%
PRISA II	2007	Core Portfolio	60,278,867	63,729,327		32,286,625	107,335,648	2.19	6.2%
LaSalle Property Fund	2010	Core Portfolio	115,000,000	115,000,000		36,782,667	162,989,333	1.74	9.4%
Almanac Realty Securities VI	2012	Core Portfolio	50,000,000	33,444,956		36,831,648	6,755,535	1.30	8.9%
Almanac Realty Securities VI (Sidecar II)	2012	Core Portfolio	15,000,000	5,829,583		5,302,452	2,603,291	1.36	8.0%
NYC Asset Investor #2 LLC	2013	Core Portfolio	60,000,000	62,185,432		25,136,824	37,118,651	1.00	0.0%
MetLife Core Property Fund	2014	Core Portfolio	99,000,000	99,000,000		24,741,189	134,161,289	1.61	9.7%
Almanac Realty Securities VII	2015	Core Portfolio	50,000,000	48,513,083		38,664,518	29,669,816	1.41	11.5%
Almanac Realty Securities VII (Sidecar II)	2016	Core Portfolio	20,000,000	11,388,003		11,037,091	8,020,442	1.67	16.2%
Exeter Industrial Core Club Fund II	2016	Core Portfolio	19,000,000	18,505,000		8,091,600	35,768,717	2.37	20.8%
Jamestown Premier Property Fund	2016	Core Portfolio	26,000,000	38,258,886		15,464,474	16,823,765	0.84	-4.5%
NYCRS Artemis Co-Investment	2016	Core Portfolio	35,000,000	40,650,018		53,367,688	11,290,028	1.59	16.6%
USAA Eagle Real Estate Fund	2016	Core Portfolio	75,000,000	75,000,000		19,586,466	85,189,174	1.40	6.6%
Brookfield Premier Real Estate Partners	2017	Core Portfolio	61,000,000	81,941,959		22,008,870	111,673,508	1.63	10.5%
Carlyle Property Investors	2017	Core Portfolio	61,000,000	78,527,242		18,277,264	114,465,151	1.69	12.3%
Lion Industrial Trust - 2007	2017	Core Portfolio	110,000,000	146,264,418		31,599,383	270,346,441	2.06	20.0%
Almanac Realty Securities VIII	2019	Core Portfolio	42,000,000	24,636,174		4,951,967	25,183,471	1.22	12.1%
Almanac Realty Securities VIII (Sidecar II)	2019	Core Portfolio	28,000,000	16,951,510		3,999,954	18,913,045	1.35	18.4%
Artemis Real Estate Partners Income and Growth Fund	2019	Core Portfolio	18,000,000	14,357,452		3,761,138	10,986,266	1.03	1.8%
Harrison Street Core Property Fund, L.P.	2019	Core Portfolio	20,000,000	23,746,030		3,216,220	26,332,433	1.24	7.5%
Heitman Core Real Estate Debt Income Trust	2019	Core Portfolio	28,000,000	35,448,531		7,448,531	33,568,862	1.16	4.3%
HSRE-Centre Street Core Co-Investment, L.P.	2019	Core Portfolio	10,000,000	9,629,304		937,512	12,726,315	1.42	14.0%
Cortland Partners Growth and Income Fund	2020	Core Portfolio	60,000,000	67,143,649		8,084,601	83,027,378	1.36	13.3%
Exeter Industrial Core Fund III, LP	2020	Core Portfolio	63,600,000	62,500,000		6,860,000	66,946,719	1.18	9.7%
Kayne Anderson Core Real Estate Fund	2020	Core Portfolio	30,000,000	33,839,969		4,206,809	37,023,107	1.22	8.0%
Ares Industrial Real Estate Fund LP	2021	Core Portfolio	120,000,000	124,894,894		4,894,894	148,281,492	1.23	15.2%
EQT Exeter Industrial Core-Plus Fund IV, LP	2022	Core Portfolio	79,000,000	7,615,600		-	6,653,101	0.87	-12.7%
TPG Real Estate Thematic Advantage Core-Plus	2022	Core Portfolio	75,000,000	34,987,406		-	35,265,000	1.01	0.9%
Blackstone Fund IV	2004	Non-Core Portfolio	15,000,000	19,220,353		27,428,335	132,428	1.43	10.4%
AREA Real Estate Investment Fund V, LP	2006	Non-Core Portfolio	5,000,000	5,000,004		5,748,863	5,617	1.15	1.7%
Blackstone Real Estate Partners VI	2007	Non-Core Portfolio	40,000,000	44,681,307		88,492,132	634,971	1.99	13.2%
Carlyle Realty Partners V	2007	Non-Core Portfolio	20,000,000	25,421,745		38,746,479	43,437	1.53	9.0%
Metropolitan Workforce Housing Fund	2007	Non-Core Portfolio	7,000,000	7,006,513		8,372,246	125,311	1.21	3.8%
AG Realty Fund VII	2008	Non-Core Portfolio	25,000,000	23,454,500		35,345,911	41,490	1.51	12.5%

Information provided by the New York City Retirement Systems Consultants. Interim returns are subject to change and may differ due to differences in accounting and performance methodologies.

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total	Distributions	Market Value	Total Value Multiple	Net IRR%
American Value Partners Fund I	2008	Non-Core Portfolio	15,000,000	11,355,858		10,415,981	1,588,339	1.06	0.9%
Ares European Real Estate Fund III, LP	2008	Non-Core Portfolio	30,000,000	30,487,500		33,642,499	110,934	1.11	2.6%
PRISA III	2008	Non-Core Portfolio	30,000,000	35,657,776		-	152,688,835	4.28	12.0%
Silverpeak Legacy Partners III	2008	Non-Core Portfolio	30,000,000	13,301,089		2,817,899	659,280	0.26	-13.1%
Stockbridge Real Estate Fund III	2008	Non-Core Portfolio	27,000,000	26,998,145		16,829,753	16,251,518	1.23	2.3%
Westbrook Real Estate Fund VII	2008	Non-Core Portfolio	10,000,000	11,264,421		11,315,155	1,322,944	1.12	1.9%
Thor Urban Property Fund II	2009	Non-Core Portfolio	20,000,000	27,398,054		27,390,625	2,634,856	1.10	2.8%
Walton Street Real Estate Fund VI	2009	Non-Core Portfolio	30,000,000	26,594,360		30,436,207	13,071,138	1.64	8.4%
Blackstone Real Estate Partners Europe III (USD Vehicle)	2010	Non-Core Portfolio	35,000,000	37,292,706		50,874,550	2,685,884	1.44	10.0%
Westbrook Real Estate Fund VIII	2010	Non-Core Portfolio	35,000,000	41,898,787		48,229,691	4,664,643	1.26	9.3%
Carlyle Realty Partners VI	2011	Non-Core Portfolio	40,000,000	38,974,550		62,919,635	3,460,020	1.70	24.2%
H/2 Special Opportunities Fund II	2011	Non-Core Portfolio	25,000,000	25,000,000		36,431,004	419,183	1.47	13.2%
Blackstone Real Estate Partners VII	2012	Non-Core Portfolio	100,000,000	127,652,818		198,185,946	18,888,780	1.70	15.6%
Brookfield Strategic Real Estate Partners	2012	Non-Core Portfolio	60,000,000	70,514,555		125,420,525	13,841,565	1.97	18.3%
Taconic New York City Investment Fund LP	2012	Non-Core Portfolio	40,000,000	16,727,272		27,365,442	2,974,018	1.81	15.5%
NYC Asset Investor #1 LLC	2013	Non-Core Portfolio	30,000,000	33,602,102		17,143,938	18,632,861	1.06	1.1%
NYC Asset Investor #3 LLC	2013	Non-Core Portfolio	40,000,000	29,176,486		8,051,335	26,476,659	1.18	3.1%
Blackstone Real Estate Partners Europe IV (USD Vehicle)	2014	Non-Core Portfolio	97,500,000	95,569,291		121,492,536	15,756,111	1.44	11.4%
Carlyle Realty Partners VII	2014	Non-Core Portfolio	60,000,000	55,255,611		71,074,282	14,690,345	1.55	14.6%
Divco West Fund IV	2014	Non-Core Portfolio	70,000,000	69,301,157		114,431,367	3,961,509	1.71	24.9%
Lone Star Real Estate Fund III	2014	Non-Core Portfolio	75,000,000	70,306,161		95,126,613	318,924	1.36	14.1%
Blackstone Real Estate Partners VIII	2015	Non-Core Portfolio	101,000,000	115,232,236		119,263,150	77,092,687	1.70	16.4%
H/2 Special Opportunities Fund III	2015	Non-Core Portfolio	40,000,000	41,540,719		41,454,645	10,560,084	1.25	7.2%
European Property Investors Special Opportunities IV (EPISO IV)	2016	Non-Core Portfolio	32,413,099	29,618,202		12,268,122	28,514,387	1.38	7.9%
PW Real Estate Fund III LP	2016	Non-Core Portfolio	30,811,730	25,418,467		62,662,079	12,006,082	2.94	30.7%
Westbrook Real Estate Fund X	2016	Non-Core Portfolio	24,000,000	23,328,530		20,471,578	8,210,110	1.23	9.3%
Divco West Fund V	2017	Non-Core Portfolio	40,000,000	27,238,380		7,280,519	27,025,868	1.26	5.7%
DRA Growth and Income Fund IX	2017	Non-Core Portfolio	27,000,000	27,548,835		25,963,898	19,788,675	1.66	17.6%
Exeter Industrial Value Fund IV	2017	Non-Core Portfolio	16,000,000	15,109,020		30,854,814	2,339,202	2.20	30.4%
H/2 Special Opportunities Fund IV	2017	Non-Core Portfolio	61,000,000	61,000,000		13,823,361	60,520,189	1.22	6.1%
KKR CMBS B-Piece SMA	2017	Non-Core Portfolio	81,000,000	72,294,174		31,522,855	63,795,114	1.44	9.3%
Lone Star Real Estate Fund V	2017	Non-Core Portfolio	92,700,000	29,968,214		15,344,714	10,598,116	0.87	-6.6%
Pramerica Real Estate Capital VI (PRECap VI)	2017	Non-Core Portfolio	32,630,522	35,519,434		28,764,627	12,329,237	1.16	7.6%
Basis Investment Group Fund I	2018	Non-Core Portfolio	9,500,000	9,987,685		6,430,974	6,971,739	1.34	12.1%
KKR Real Estate Partners Americas II	2018	Non-Core Portfolio	65,850,000	69,704,666		89,124,453	21,357,625	1.60	27.6%
AERMONT Real Estate Fund IV	2019	Non-Core Portfolio	19,401,963	13,466,804		-	11,080,275	0.82	-10.0%
Blackstone Real Estate Partners IX	2019	Non-Core Portfolio	101,000,000	103,749,301		33,424,743	118,395,830	1.46	27.1%
Brookfield Strategic Real Estate Partners III	2019	Non-Core Portfolio	95,000,000	84,807,475		21,512,971	91,681,346	1.33	13.4%
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	2020	Non-Core Portfolio	69,992,113	49,814,916		21,572,999	39,198,808	1.22	14.1%
Divco West Fund VI	2020	Non-Core Portfolio	50,000,000	25,324,229		816,373	23,889,566	0.98	-2.1%
DRA Growth & Income Fund X	2020	Non-Core Portfolio	36,000,000	31,704,632		8,859,440	30,821,864	1.25	22.3%
ElmTree Net Lease Fund IV	2020	Non-Core Portfolio	40,000,000	25,618,429		17,744,467	18,939,807	1.43	31.6%
GreenOak Asia III (USD Vehicle)	2020	Non-Core Portfolio	40,000,000	41,605,309		24,063,106	21,439,304	1.09	12.5%

Information provided by the New York City Retirement Systems Consultants. Interim returns are subject to change and may differ due to differences in accounting and performance methodologies.

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total	Distributions	Market Value	Total Value Multiple	Net IRR%
BIG Real Estate Fund II	2021	Non-Core Portfolio	20,000,000	10,743,234		4,127,492	6,997,762	1.04	5.1%
CIREP Centre Street, L.P.	2021	Non-Core Portfolio	75,000,000	49,264,706		-	59,455,905	1.21	19.2%
Exeter Industrial Value Fund V	2021	Non-Core Portfolio	30,000,000	29,539,058		-	44,260,416	1.50	31.7%
KKR Real Estate Partners Americas III	2021	Non-Core Portfolio	105,000,000	62,487,669		4,741,381	54,950,671	1.01	0.6%
KKR Real Estate Partners Europe II	2021	Non-Core Portfolio	50,150,000	35,930,183		11,344,776	26,729,512	1.10	9.1%
KKR Real Estate Securities Dislocation Opportunity Co-Investment Fur	2021	Non-Core Portfolio	58,000,000	34,745,683		39,089,928	4,993,568	1.27	35.4%
PGIM Real Estate Capital VII (USD Feeder) SCSp	2021	Non-Core Portfolio	51,000,000	14,290,446		1,087,894	15,263,230	1.14	13.5%
Rialto Real Estate Fund IV	2021	Non-Core Portfolio	53,000,000	42,648,478		4,813,567	40,240,546	1.06	5.4%
Westbrook Real Estate Fund XI	2021	Non-Core Portfolio	25,000,000	13,174,620		6,570,854	9,123,117	1.19	21.7%
Almanac Realty Securities IX, L.P.	2022	Non-Core Portfolio	35,300,000	4,618,231		-	4,253,780	0.92	-9.5%
Artemis Real Estate Partners Healthcare Fund II	2022	Non-Core Portfolio	70,000,000	13,325,150		3,601,179	8,659,398	0.92	-11.9%
Brookfield Strategic Real Estate Partners IV	2022	Non-Core Portfolio	131,000,000	47,673,192		2,245,496	50,254,350	1.10	17.3%
Carlyle Realty Partners IX	2022	Non-Core Portfolio	100,000,000	9,772,421		-	7,444,746	0.76	-51.1%
CIREP Centre Street II	2022	Non-Core Portfolio	75,000,000	13,854,680		-	12,167,585	0.88	-19.3%
LBA Logistics Value Fund IX	2022	Non-Core Portfolio	49,000,000	13,192,308		-	11,905,394	0.90	-12.7%
TPG Real Estate Partners IV	2022	Non-Core Portfolio	96,000,000	6,074,910		-	4,378,882	0.72	-28.2%
Almanac Realty Securities IX Co-Investment	2023	Non-Core Portfolio	17,700,000	1,219,888		-	1,307,963	1.07	7.3%
Blackstone Real Estate Partners X	2023	Non-Core Portfolio	125,000,000	468,119		-	149,291	0.32	0.0%

Information provided by the New York City Retirement Systems Consultants. Interim returns are subject to change and may differ due to differences in accounting and performance methodologies.

# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
<b>TOTAL INFRASTRUCTURE</b>		1,873,468,970	1,092,995,326	388,280,852	1,088,741,128	1.4x	12.0%
<b>TOTAL INFRASTRUCTURE INVESTMENTS</b>							
Brookfield Infrastructure Fund II, L.P.	2013	60,000,000	53,895,469	56,174,928	51,388,249	2.0x	12.9%
Global Energy & Power Infrastructure Fund II	2014	40,000,000	43,629,812	43,271,715	13,385,921	1.3x	13.8%
IFM Global Infrastructure Fund	2014	60,000,000	80,109,292	36,411,788	119,830,459	2.0x	11.7%
Actis Energy 4	2016	39,600,000	39,655,124	49,233,767	7,525,000	1.4x	14.0%
ASF VII Infrastructure L.P.	2016	42,000,000	32,610,755	12,673,935	34,987,197	1.5x	15.7%
Brookfield Infrastructure Fund III, L.P.	2016	61,000,000	47,677,038	16,668,602	50,653,114	1.4x	10.5%
Global Infrastructure Partners III-A/B, L.P.	2016	71,000,000	72,579,523	33,798,100	73,840,806	1.5x	10.4%
Axiom Infrastructure North America (2017)	2017	42,662,239	44,617,628	13,273,251	47,686,819	1.4x	8.6%
EQT Infrastructure III (No.2) SCSp	2017	34,674,361	39,652,110	54,327,712	19,213,438	1.9x	20.9%
NYCRS EIG Energy Partners, L.P.	2017	42,350,000	25,791,035	14,787,488	15,112,512	1.2x	7.6%
Cardinal NR Sidecar Holdings L.P.	2018	6,560,000	6,604,308	2,180,901	10,331,369	1.9x	17.5%
EQT Infrastructure IV (No.2) USD SCSp	2018	63,500,000	58,243,598	10,143,458	65,412,000	1.3x	11.6%
Global Infrastructure Partners IV-A/B, L.P.	2018	72,100,000	55,225,979	326,469	58,791,390	1.1x	5.9%
KKR Global Infrastructure Investors III L.P.	2018	54,700,000	48,071,731	12,428,826	49,154,402	1.3x	12.2%
Ardian Infrastructure Fund V B	2019	44,257,810	30,606,117	1,183,485	36,436,755	1.2x	15.7%
Brookfield Infrastructure Fund IV Co-Investment (Snow)	2019	6,000,000	6,030,774	861,441	8,650,178	1.6x	15.5%
Brookfield Infrastructure Fund IV, L.P.	2019	62,000,000	58,926,585	12,569,848	62,881,815	1.3x	13.4%
Global Energy & Power Infrastructure Fund III, L.P.	2019	54,700,000	47,992,872	9,006,164	49,232,894	1.2x	13.4%
Actis Energy 5	2020	62,000,000	8,398,674	-	3,789,000	0.5x	-73.5%
BIS NYC Infrastructure Emerging Manager Opportunities Fund, L.P.	2020	43,860,000	10,202,776	-	10,757,539	1.1x	5.6%
EQT Infrastructure IV Co-Investment (B) SCSp (Saber)	2020	5,100,000	5,151,000	309,543	6,315,205	1.2x	8.9%
EQT Infrastructure IV Co-Investment (F) SCSp (Connect)	2020	8,600,000	7,816,517	-	13,269,885	1.7x	28.2%
EQT Infrastructure IV Co-Investment (G) SCSp (Lightspeed)	2020	7,013,942	7,037,046	-	9,162,397	1.3x	10.2%
EQT Infrastructure V (No.2) USD SCSp	2020	74,000,000	52,659,488	5,410,469	51,635,186	1.1x	9.0%
ASF VIII Infrastructure B L.P.	2021	55,000,000	6,370,583	1,133,119	5,931,196	1.1x	11.9%
Axiom Infrastructure North America (2021)	2021	37,305,342	38,062,618	1,223,124	38,372,775	1.0x	8.6%
Basalt Infrastructure Partners III	2021	46,000,000	31,066,212	-	33,428,489	1.1x	6.4%
KKR Global Infrastructure Investors IV (USD) SCSp	2021	82,000,000	34,428,897	434,568	35,553,378	1.0x	7.6%
Stonepeak Infrastructure Fund IV, L.P.	2021	68,000,000	29,984,730	192,245	32,589,067	1.1x	9.1%
Stonepeak Patagonia (Co-Invest) Holdings LP (Project Panther)	2021	24,525,000	22,128,059	-	25,660,366	1.2x	24.6%

Information provided by the New York City Police Retirement Systems Consultants



# Alternative Assets Manager Performance Detail



Through March 31, 2023

	Vintage Year	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
Stonepeak Tiger (Co-Invest) Holdings (I-B) LP	2021	9,000,000	7,614,507	-	7,864,975	1.0x	2.0%
Ardian Infra Fund V Co-Invest Eden	2022	9,423,042	9,423,042	-	10,517,020	NM	NM
Ardian Infra Fund V Co-Invest Lemon	2022	7,344,126	6,674,202	-	6,830,019	NM	NM
Basalt Infrastructure Partners IV A L.P.	2022	71,600,000	-	-	-	NM	NM
BIP III Ride Co-Investment L.P. (Project Ride)	2022	6,728,104	6,728,104	-	7,481,916	NM	NM
Blackrock Global Infrastructure Fund IV	2022	57,000,000	3,740,373	-	3,203,884	NM	NM
Brookfield Infrastructure Fund V, LP	2022	71,570,000	-	-	(497,401)	NM	NM
DIF Infrastructure VII SCSp	2022	46,730,242	-	-	(620,131)	NM	NM
InfraVia European Fund V SCSp	2022	50,974,762	13,588,749	255,906	12,982,044	NM	NM
NYCRS EIG Energy Partners Co-Investment, L.P.	2022	10,590,000	-	-	-	-	0.0%
EQT Infrastructure VI (No.2) USD SCSp	2023	81,000,000	-	-	-	NM	NM
Global Infrastructure Partners V-A/B, L.P.	2023	81,000,000	-	-	-	NM	NM

Information provided by the New York City Police Retirement Systems Consultants



# Alternative Assets Manager Performance Detail



Through June 30, 2023

	Vintage Year	Commitment - Closing (Base)	Contributions Cumulative (Local)	Distributions Cumulative	Final Market Value	3 Month Base%	Inception IRR%
<b>TOTAL OPPORTUNISTIC FIXED INCOME</b>		2,545,693,386	2,769,760,478	1,526,725,047	2,187,818,587	0.66%	7.33%
Avenue Special Situations Fund V, L.P.	2007	20,209,326	20,520,314	26,826,898	-		10.89%
Avenue Europe Special Sit. Fund, L.P.	2008	14,863,473	13,775,563	26,870,440	-		13.82%
PIMCO DISCO Fund, L.P.	2008	63,000,000	63,179,655	85,872,192	-		11.23%
Alliance Bernstein PPIP Fund, L.P.	2009	27,775,890	27,775,890	38,205,542	-		15.57%
Torchlight Debt Opportunity Fund III, LLC	2009	35,000,000	37,314,271	55,514,899	-		13.36%
AG GECC PPIP Fund, L.P.	2010	27,000,000	27,052,129	41,724,862	-		20.19%
Avenue Special Situations Fund VI (A), L.P.	2011	45,000,000	46,135,636	46,616,914	4,547,756	0.00%	2.17%
GoldenTree Managed Account	2011	88,000,000	88,552,006	-	159,636,100	0.50%	5.79%
Marathon Centre Street Partnership, L.P. - Asset Class	2011	140,625,000	269,859,375	153,140,625	217,775,851	0.50%	5.80%
AG Centre Street Partnership, L.P. - CC Asset Class	2012	105,000,000	127,096,073	27,781,909	143,222,490	2.41%	4.54%
Apollo Centre Street Partnership, L.P.	2012	205,833,333	444,611,582	282,046,152	261,701,953	1.06%	6.65%
FCO MA Centre Street L.P.	2012	90,000,000	180,515,128	191,232,546	58,975,613	0.00%	8.85%
OHA Centre Street Partnership, L.P.	2012	168,750,000	213,721,294	46,997,388	293,751,453	1.25%	8.10%
Contrarian Centre Street Partnership, L.P. - Asset Class	2013	55,000,000	55,000,000	-	64,235,685	0	1.89%
Lone Star Fund VIII (U.S.), L.P.	2013	70,000,000	68,907,286	72,113,354	9,594,730	0.00%	7.89%
Oaktree Opportunities Fund IX, L.P.	2013	70,000,000	70,000,000	63,047,396	57,575,724	0.00%	7.90%
Ares Centre Street Partnership, L.P.	2014	90,000,000	90,000,000	-	169,978,288	-	8.85%
Brightwood Capital Fund III, L.P.	2015	22,000,000	17,853,821	17,974,339	6,618,498	0.00%	6.63%
Torchlight Debt Opportunity Fund V, LP	2015	46,000,000	36,800,000	44,090,088	4,239,306	1.52%	10.33%
Brightwood Capital Fund IV, LP	2016	55,000,000	55,000,000	22,328,071	49,555,528	0.00%	7.42%
ICG Centre Street Partnership, L.P.	2017	80,000,000	131,585,424	91,378,320	64,870,751	0.00%	8.49%
KKR OFI SMA	2017	171,000,000	132,225,816	38,493,045	131,892,562	0.00%	7.51%
Maranon Centre Street Partnership, L.P. -	2018	64,000,000	61,033,778	1,841,119	81,753,653	2.05%	8.53%
FCO MA Centre Street II (PF) LP	2019	90,000,000	134,122,270	84,478,942	67,863,217	-	11.41%
Torchlight Debt Fund VI, LP -	2019	51,000,000	62,771,273	38,524,723	37,457,363	0.83%	8.37%
FCO MA Centre Street II EXP (P) LP	2020	45,000,000	22,434,208	4,748,722	19,650,834	0.00%	6.81%
GCM Grosvenor NYC Emerging OFI Managers, L.P. - Class A	2020	51,000,000	45,375,543	14,678,456	46,933,271	0.00%	23.24%
KKR-NYC Credit C L.P.	2020	32,386,364	22,790,451	1,146,879	21,285,634	0.00%	-0.95%
Marathon Centre Street Partnership, L.P. - Asset Class - Subsequent Commitment	2020	56,250,000	43,593,750	-	52,100,562	0.21%	8.72%
Torchlight Debt Fund VII, LP	2020	47,000,000	25,878,736	2,378,736	25,851,728	0.76%	5.93%
400 Capital Centre Street LP	2021	39,000,000	38,442,492	2,975,430	37,972,562	0.00%	4.93%
Barings Centre Street CLO Equity Partnership L.P.	2022	55,000,000	18,025,525	2,816,952	16,912,355	0.00%	19.76%
Brightwood Capital Fund V, LP	2022	47,000,000	18,886,169	367,667	21,329,589	0.00%	11.05%
Centre Street CarVal Partnership LP	2022	63,000,000	15,750,000	-	16,712,667	0	8.37%
GCM Grosvenor NYC EM OFI 2022-1	2022	50,000,000	5,168,443	40,922	5,095,302	-	-1.37%

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

# Alternative Assets Manager Performance Detail



Through June 30, 2023

	Vintage Year	Commitment - Closing (Base)	Contributions Cumulative (Local)	Distributions Cumulative	Final Market Value	3 Month Base%	Inception IRR%
KLCP Domestic Fund III LP	2022	45,000,000	18,529,358	466,621	19,449,819	0.00%	10.03%
Crestline Opportunity Fund V Onshore T/STE, L.P.	2023	35,000,000	10,227,217	4,896	10,222,321		0.00%
Napier Park Centre Street CLO Partnership Fund LP	2023	55,000,000	5,500,000	-	5,500,000		0.00%
Torchlight Debt Fund VIII, LP	2023	30,000,000	3,750,000	-	3,555,421	-0.71%	-26.05%

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

# Alternative Assets Manager Performance Detail



Through June 30, 2023

	Market Value	MTD Return%	3 Month Return%	FYTD Return%	YTD Return%	1 Year Return%	3 Year Return%	ITD Return%	ITD Cumulative Return%
<b>TOTAL HEDGE FUNDS</b>	2,690,758,544	1.54%	2.44%	2.77%	0.61%	2.77%	5.31%	4.64%	72.43%
<b>TOTAL DIRECT HEDGE FUNDS</b>	2,690,758,544	1.54%	2.44%	2.77%	0.61%	2.77%	5.31%	5.31%	82.10%
<b>FUND OF FUNDS HEDGE FUNDS</b>	-	0.00%		0.00%	0.00%		-4.80%	-0.50%	-5.27%
<b>TOTAL DIRECT HEDGE FUNDS</b>									
D.E. Shaw Composite Fund, L.L.C.	337,874,768	1.87%	2.92%	11.01%	4.09%	11.01%	19.44%	14.80%	388.86%
Voloridge Fund, LP	175,675,358	3.73%	5.47%	5.90%	1.38%	5.90%	7.33%	14.34%	78.72%
Voloridge Trading Aggressive Fund, LP	27,043,180	6.23%	7.29%	27.61%	14.77%	27.61%	18.15%	22.16%	138.09%
Relative Value	540,593,306	2.68%	3.95%	10.15%	3.67%	10.15%	14.59%	12.63%	292.76%
AlphaQuest Original LLC	213,335,623	0.25%	0.46%	-11.24%	-11.04%	-11.24%	4.64%	5.68%	39.95%
Brevan Howard Special Opportunities AC Fund Limited	15,468,951	0.84%	1.23%	-26.17%	0.82%	-26.17%		-26.17%	-26.17%
Florin Court Capital Fund	192,290,264	-0.67%	5.85%	3.84%	-0.48%	3.84%	17.89%	13.99%	90.39%
Gemsstock Fund LP	107,286,804	2.73%	0.90%	-16.10%	-14.53%	-16.10%	11.77%	11.77%	39.61%
GreshamQuant - ACAR Fund, LLC	176,655,467	-7.55%	2.45%	-2.14%	1.42%	-2.14%	21.08%	16.12%	81.79%
Key Square Partners LP	99,838,383	0.09%	-2.50%	5.31%	-1.46%	5.31%	6.15%	0.44%	2.74%
Pharo Gaia Fund, LTD.	215,055,505	5.10%	5.22%	1.02%	3.56%	1.02%	-5.45%	4.06%	35.23%
Tactical Trading	1,019,930,997	-0.17%	2.39%	-5.64%	-3.33%	-5.64%	3.56%	3.82%	54.32%
Caspian Select Credit Fund, L.P.	92,356,246	2.78%	3.61%	7.96%	8.27%	7.96%	7.23%	4.14%	57.24%
DL Partners Opportunities Fund LP	131,468,082	1.90%	0.80%	-0.85%	0.79%	-0.85%	3.01%	1.88%	9.10%
Luxor Capital Partners Liquidating SPV, LLC.	2,668,801	-1.59%	-1.67%	1.64%	-1.79%	1.64%	6.73%	-0.23%	-1.09%
Luxor Capital Partners, LP	114,709,791	0.27%	-3.67%	-13.69%	-12.30%	-13.69%	-16.35%	-2.02%	-16.93%
Standard General Fund II L.P.	29,733,964	3.30%	-5.37%	-35.86%	-26.14%	-35.86%	-4.96%	-3.65%	-21.25%
Event Driven	370,936,885	1.69%	-0.49%	-7.68%	-5.02%	-7.68%	-4.83%	1.18%	13.95%
Altimeter Partners Fund LP	48,464,381	3.52%	18.44%	7.49%	37.00%	7.49%	-4.18%	3.36%	27.42%
Caledonia Fund (US), L.P.	76,944,609	2.07%	1.06%	40.82%	19.27%	40.82%		-12.78%	-23.06%
Kontiki Onshore Fund	160,154,555	4.33%	-1.66%	6.08%	-0.06%	6.08%		5.78%	6.77%
Maple Rock US Fund LP	31,816,543	-3.47%	-9.10%	-9.10%	-9.10%	-9.10%		-9.10%	-9.10%
SRS Partners US, LP	258,855,430	4.42%	7.97%	32.03%	10.75%	32.03%	23.42%	11.46%	151.51%
Turiya Fund LP	183,061,838	1.47%	-0.57%	13.08%	3.80%	13.08%	15.46%	5.87%	57.83%
Long/Short Equity	759,297,356	3.03%	2.78%	18.84%	7.92%	18.84%	10.35%	5.35%	68.43%
<b>FUND OF FUNDS HEDGE FUNDS</b>									
Fund of Funds Hedge Funds	-	0.00%		0.00%	0.00%		-4.80%	-0.50%	-5.27%

Information provided by Alpha Frontier



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**New York City  
Police Pension Fund, Subchapter Two**

# Appendix D

## Footnotes



Through June 30, 2023

## 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

### Pages 9 - 14 - Portfolio Asset Allocation

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

### Pages 15 - 17 - 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*



Through June 30, 2023

and contracts. The policy index/custom benchmark is calculated monthly based on adjusted policy weights at the beginning of each month.

The indexes and most recent policy weights are as follows:

U.S. Equity: Russell 3000 \* 30.94%

International Developed (EAFE) Markets: MSCI World Ex USA IMI Net \* 7.75%

Emerging Markets: MSCI Emerging Markets \* 4.87%

International Emerging Managers FOF: MSCI ACWI Ex US IMI Net \* 0.64%

REITs: Dow Jones Real Estate Securities \* 0.00%

Private Equity: Russell 3000 + 300 b.p. per annum \* 8.00%

Private Real Estate - Core: NFI - ODCE Net \* 3.00%

Private Real Estate – Non Core: NFI - ODCE Net + 200bps \* 2.94%

Infrastructure: CPI + 4% \* 2.29%

Hedge Funds: HFRI Fund of Funds Composite Index plus 1% \* 5.59%

US Treasury Short Term: FTSE US Government Bond 1-3 Years Index \* 0.00%

US Treasury Intermediate: USBIG TSY AGN 1-10 \* 2.13%

Total Active Government: NYC Treasury Agency + 5 \* 0.00%

US Treasury Long Duration: FTSE US Government Bond 10+ Years Index \* 3.19%

Core FI- Developing Mgrs: Bloomberg U.S. Aggregate \* 0.00%

Core FI-Emerging Mgrs: Bloomberg U.S. Aggregate \* 0.00%

Mortgage: Bloomberg US Mortgage Backed Securities \* 4.51%



Through June 30, 2023

*ETI: ETI Custom Benchmark \* 0.80%*

*Investment Grade Corporate: NYC Custom IGC Benchmark \* 6.42%*

*High Yield: Bloomberg U.S. HY - 2% Issuer Cap \* 7.24%*

*Bank Loans: Credit Suisse Leveraged Loan \* 0.00%*

*TIPS: Bloomberg Global Infl-Linked: U.S. TIPS \* 3.18%*

*Convertible Bonds: ICE BofA All US Conv Ex Mandatory \* 2.00%*

*Opportunistic Fixed: OFI - JPMGHY / CSFB 50/50 Blend Plus 300 b.p. per annum \* 4.52%*

### **Page 18 – 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.



Through June 30, 2023

- 
- [1] NYC Developed Growth Benchmark: Beginning 8.2017 benchmark changed from MSCI EAFE Growth to MSCI World ex USA Net Index.
  - [2] NYC Developed Value Benchmark: Beginning 8.2017 benchmark changed from MSCI EAFE Value Net to MSCI World ex USA Net Index.
  - [3] NYC Custom World ex US Index: Beginning 2.2017 benchmark changed from MSCI EAFE to MSCI World ex USA Net Index.
  - [4] Name changed from SSGA MSCI EAFE Small Cap Index 12.2017
  - [5] World ex USA SC PASSIVE CUSTOM BM: Beginning 12.2017 benchmark changed from MSCI EAFE Small Cap Net to MSCI World ex US Small Cap (Net).
  - [6] NYC Custom Mortgage Benchmark: Beginning 9.2020 benchmark changed from FTSE Mortgage Index to Bloomberg US Mortgage Backed Securities.
  - [7] NYC Custom IGC Benchmark: Beginning 3.2021 benchmark changed from NYC - Investment Grade Credit to Bloomberg U.S. Corporate Inv Grade.
  - [8] Assets were in transition from 9/29/17 to 11/30/17
  - [9] Assets were in transition from 9/29/17 to 2/11/19



ETI Quarterly Report (Public):

# Police Pension Fund - Economically Targeted Investments Quarterly Report

## Public/Private Apartment Rehabilitation Program (PPAR)

Lenders	Bank of America		Citi Community Development		Carver Federal Savings Bank		The Community Preservation Corp		JP Morgan Chase		Low Income Investment Fund		NCB Capital Impact *		Neighborhood Housing Service		Wells Fargo		Local Initiatives Support Corp		Enterprise Cmty Loan Fund		NYC HDC			
Contractual Commitment	\$25.00		\$10.00		\$4.00		\$160.00		\$40.00		\$15.00		\$0.00		\$2.00		\$5.00		\$5.00		\$5.00		\$6.00			
Current Market Value	\$7.98		\$6.72		\$1.14		\$88.87		\$23.29		\$6.83		\$0.66		\$0.17		\$1.94		\$2.05		\$0.86		\$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		
<b>Commitments Q2 (included in total)</b>																										
Bronx	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.88	75	\$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	0.12	6	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	0.54	28	0.00	0	2.82	207	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	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	0.00	0
Outside of NYC	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	0.00	0
<b>Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.66</b>	<b>34</b>	<b>\$0.00</b>	<b>0</b>	<b>\$3.70</b>	<b>282</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>
<b>Delivered Q2 (included in total)</b>																										
Bronx	\$0.00	0	\$0.00	0	\$0.00	0	\$1.26	52	\$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	0.91	50	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	0.55	18	0.12	13	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	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	0.00	0
Outside of NYC	0.00	0	0.00	0	0.00	0	1.32	73	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
<b>Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$4.05</b>	<b>193</b>	<b>\$0.12</b>	<b>13</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>
<b>Total Commitments</b>																										
Bronx	\$0.00	0	\$0.00	0	\$0.00	0	\$17.58	954	\$3.02	121	\$0.88	75	\$0.00	0	\$0.00	0	\$0.00	0	\$1.29	90	\$0.53	101	\$0.00	0	\$0.00	0
Brooklyn	0.00	0	0.26	0	0.00	0	4.68	215	0.00	0	0.66	95	0.00	0	0.00	0	0.00	0	0.42	74	0.00	0	0.00	0	0.00	0
Manhattan	0.00	0	0.00	0	0.00	0	7.33	561	0.87	84	3.46	289	0.00	0	0.00	0	0.00	0	1.11	113	0.22	26	0.00	0	0.00	0
Queens	0.00	0	0.00	0	0.00	0	2.05	120	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	0.00	0
Outside of NYC	0.00	0	0.00	0	0.00	0	6.99	253	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
<b>Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.26</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$38.63</b>	<b>2,103</b>	<b>\$3.89</b>	<b>205</b>	<b>\$5.01</b>	<b>459</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$2.81</b>	<b>277</b>	<b>\$0.75</b>	<b>127</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>
<b>Historical Investments</b>																										
Bronx	\$6.84	1,276	\$3.81	802	\$0.00	0	\$98.98	7,808	\$19.92	1,733	\$1.85	178	\$0.00	0	\$0.00	0	\$0.28	90	\$0.52	48	\$0.00	0	\$0.00	0	\$0.00	0
Brooklyn	2.25	142	2.74	481	0.00	0	95.96	5,562	2.23	226	3.22	401	0.00	0	0.33	7	0.62	130	0.77	82	1.02	360	0.00	0	0.00	0
Manhattan	2.27	148	1.53	283	1.74	236	79.20	5,077	2.30	346	5.11	498	0.87	123	0.25	15	1.21	203	1.01	65	0.00	0	0.00	0	0.00	0
Queens	4.50	293	0.38	54	0.00	0	22.97	1,362	1.82	164	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	2.86	111	0.00	0	0.00	0	0.00	0	0.00	0	0.09	67	0.00	0	0.00	0	0.00	0	0.00	0
Outside of NYC	0.48	39	0.53	41	0.00	0	14.30	797	2.52	197	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<b>Total</b>	<b>\$16.32</b>	<b>1,898</b>	<b>\$8.98</b>	<b>1,661</b>	<b>\$1.74</b>	<b>236</b>	<b>\$314.27</b>	<b>20,717</b>	<b>\$28.79</b>	<b>2,666</b>	<b>\$10.18</b>	<b>1,077</b>	<b>\$0.87</b>	<b>123</b>	<b>\$0.58</b>	<b>22</b>	<b>\$2.20</b>	<b>490</b>	<b>\$2.30</b>	<b>195</b>	<b>\$1.02</b>	<b>360</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>

Note: Dollar amount listed in millions

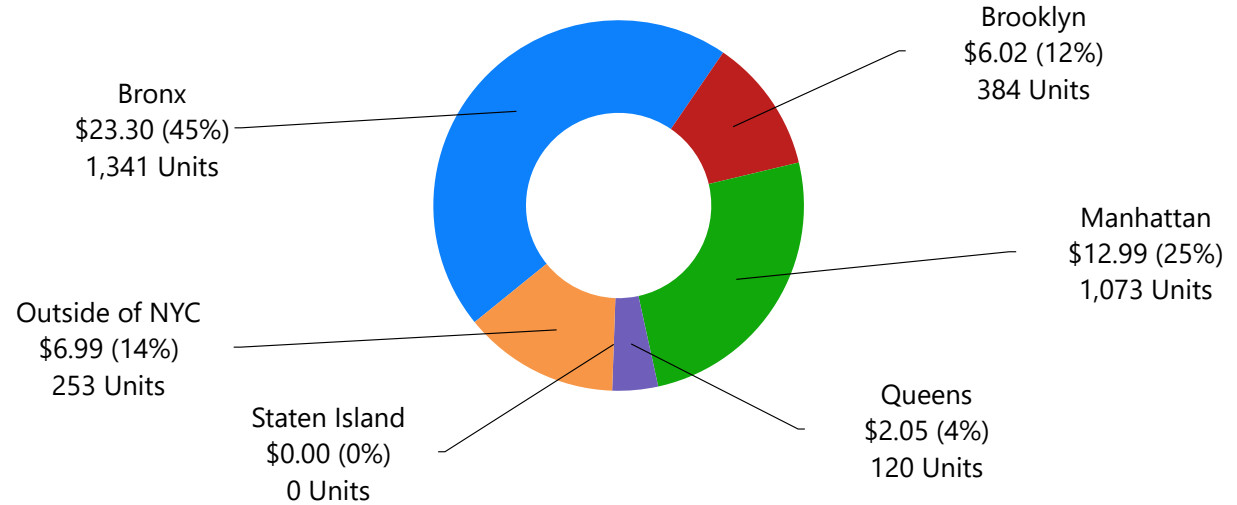
\* NCB Capital Impact's Buy-Sell Agreement terminated effective 7/29/2014.

# Police Pension Fund - Economically Targeted Investments Quarterly Report

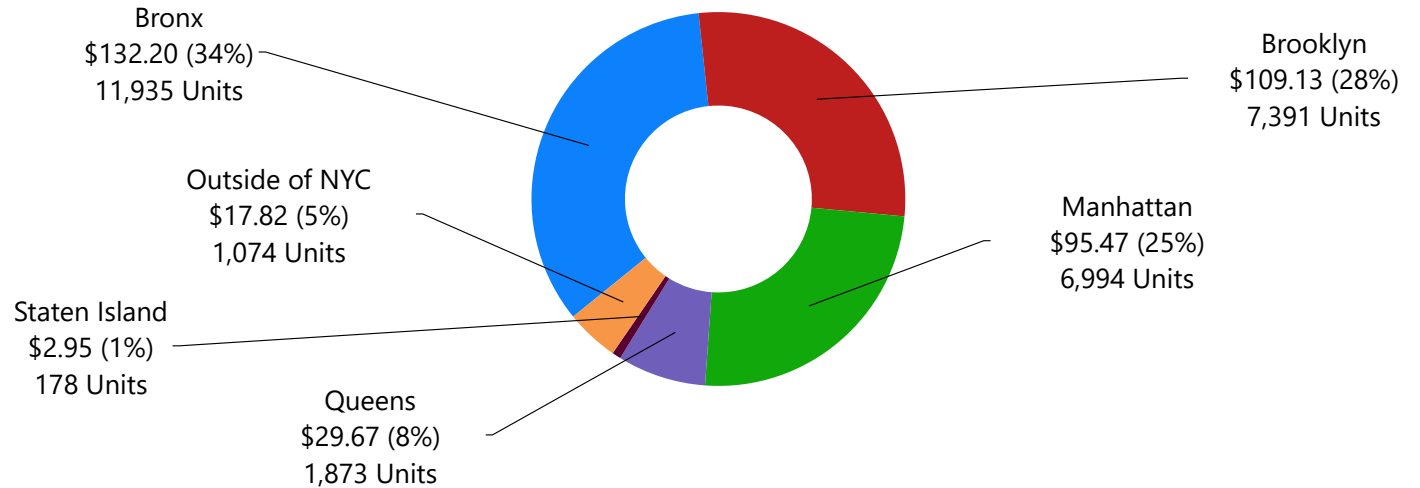
## Public/Private Apartment Rehabilitation Program (PPAR)

Lenders	All Lender Totals	
Contractual Commitment	\$277.00	
Current Market Value	\$140.52	
	Dollars	Units
<b>Commitments Q2 (included in total)</b>		
Bronx	\$0.88	75
Brooklyn	0.12	6
Manhattan	3.36	235
Queens	0.00	0
Staten Island	0.00	0
Outside of NYC	0.00	0
<b>Total</b>	<b>\$4.36</b>	<b>316</b>
<b>Delivered Q2 (included in total)</b>		
Bronx	\$1.26	52
Brooklyn	0.91	50
Manhattan	0.67	31
Queens	0.00	0
Staten Island	0.00	0
Outside of NYC	1.32	73
<b>Total</b>	<b>\$4.17</b>	<b>206</b>
<b>Total Commitments</b>		
Bronx	\$23.30	1,341
Brooklyn	6.02	384
Manhattan	12.99	1,073
Queens	2.05	120
Staten Island	0.00	0
Outside of NYC	6.99	253
<b>Total</b>	<b>\$51.35</b>	<b>3,171</b>
<b>Historical Investments</b>		
Bronx	\$132.20	11,935
Brooklyn	109.13	7,391
Manhattan	95.47	6,994
Queens	29.67	1,873
Staten Island	2.95	178
Outside of NYC	17.82	1,074
<b>Total</b>	<b>\$387.25</b>	<b>29,445</b>

Current Commitments All PPAR Lenders



Historical Investments Since Inception All PPAR Lenders



Note: Dollar amount listed in millions

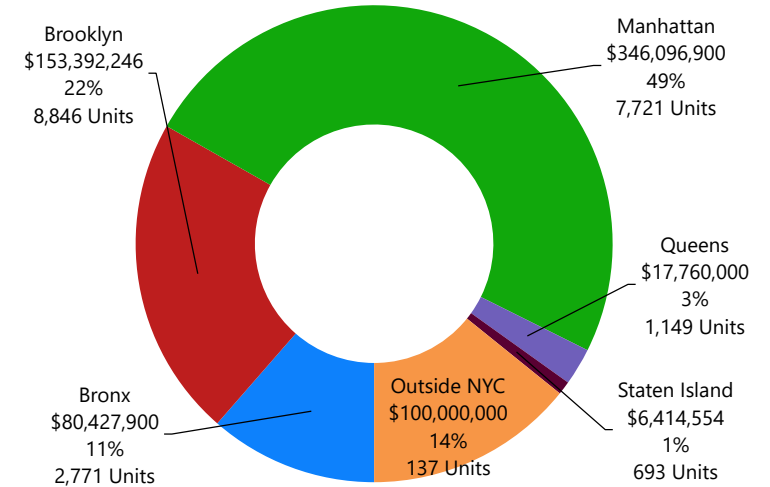
# Police Pension Fund - Economically Targeted Investments Quarterly Report

**AFL-CIO Housing Investment Trust (HIT)**  
**Market Value \$158.39 million<sup>1</sup>**

**NYC Community Investment Initiative (NYCCII)**

Borough	NYCCII Phase I: 2002 - 2005		NYCCII Phase II: 2006 - 2013		Grand Total	
	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
<b>Total</b>	<b>\$249,123,500</b>	<b>12,148</b>	<b>\$454,968,100</b>	<b>9,169</b>	<b>\$704,091,600</b>	<b>21,317</b>

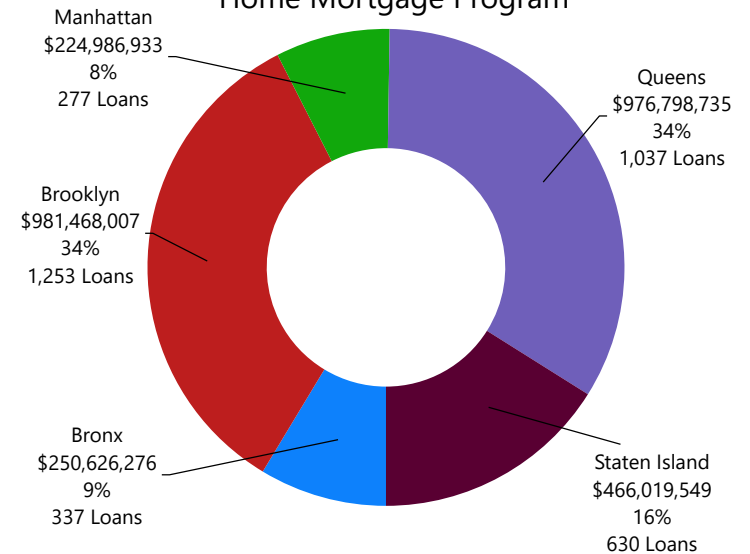
NYCCII Multifamily Program



**HIT Home Mortgage Program**

Borough	NYCCII Phase I: 2002 - 2005		NYCCII Phase II: 2006 - 2013		Grand Total	
	\$ 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
<b>Total</b>	<b>\$348,300,563</b>	<b>446</b>	<b>\$2,551,598,937</b>	<b>3,088</b>	<b>\$2,899,899,500</b>	<b>3,534</b>

Home Mortgage Program



<b>POLICE Loans</b>	<b>Phase I:</b>	<b>131</b>	<b>Phase II:</b>	<b>140</b>	<b>Total:</b>	<b>271</b>
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<sup>1</sup>Interest is reinvested

<sup>2</sup>Low/Moderate Income Units

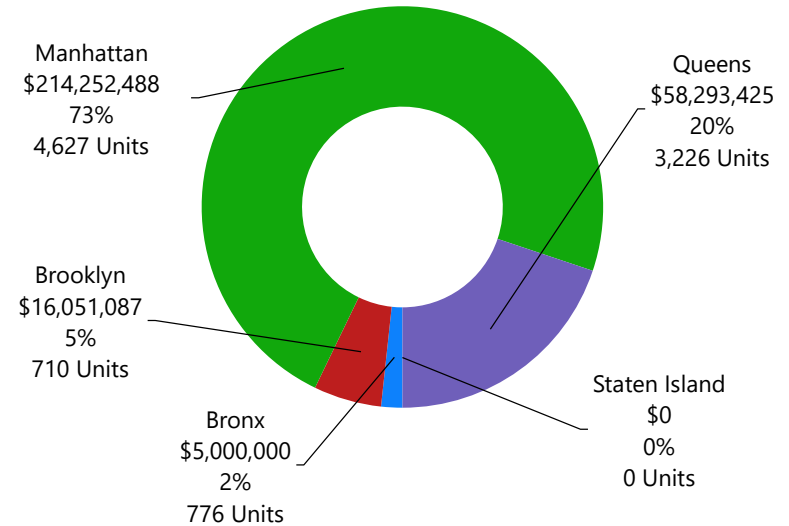
# Police Pension Fund - Economically Targeted Investments Quarterly Report

## AFL-CIO Housing Investment Trust (HIT)

**NYC Workforce Housing Investments: 2009 - 2015**

Borough	Investments	LMI Units
	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
<b>Total</b>	<b>\$293,597,000</b>	<b>9,339</b>

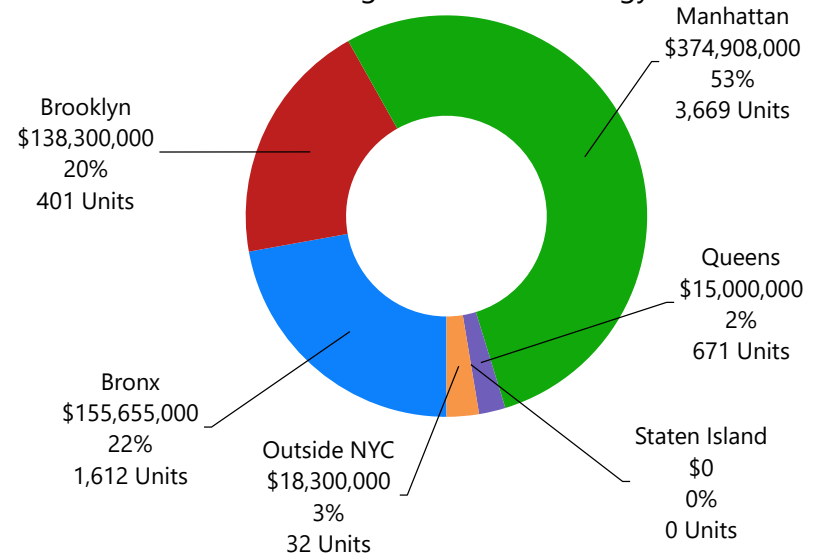
**NYC Workforce Housing Investments**



**HIT Housing Investment Strategy: 2015 - Q2 2023**

Borough	Q2 Investments	Investments	Q2	LMI Units
		Since Inception	Units	Since Inception
Bronx	\$0	\$155,655,000	0	1,612
Brooklyn	0	138,300,000	0	401
Manhattan	93,650,000	374,908,000	234	3,669
Queens	0	15,000,000	0	671
Staten Island	0	0	0	0
Outside NYC	0	18,300,000	0	32
<b>Total</b>	<b>\$93,650,000</b>	<b>\$702,163,000</b>	<b>234</b>	<b>6,385</b>

**HIT Housing Investment Strategy**



# Police Pension Fund - Economically Targeted Investments Quarterly Report

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

\$91.5 million Allocated (20.33% of total account)  
Market Value \$81.96 million

Multifamily Investments Detail	\$ Invested <sup>1</sup>		Units <sup>2</sup>	
	Q2	Total	Q2	Total
Bronx	\$208,383	\$28,979,172	180	20,149
Brooklyn	0	16,385,312	0	15,373
Manhattan	0	25,510,983	0	7,281
Queens	0	4,384,242	0	920
Staten Island	0	1,132,822	0	75
<b>Total POLICE Multifamily Investments</b>	<b>\$208,383</b>	<b>\$76,392,531</b>	<b>180</b>	<b>43,798</b>
<b>Multifamily Total All Systems</b>	<b>\$1,025,000</b>	<b>\$375,762,572</b>	<b>180</b>	<b>43,798</b>

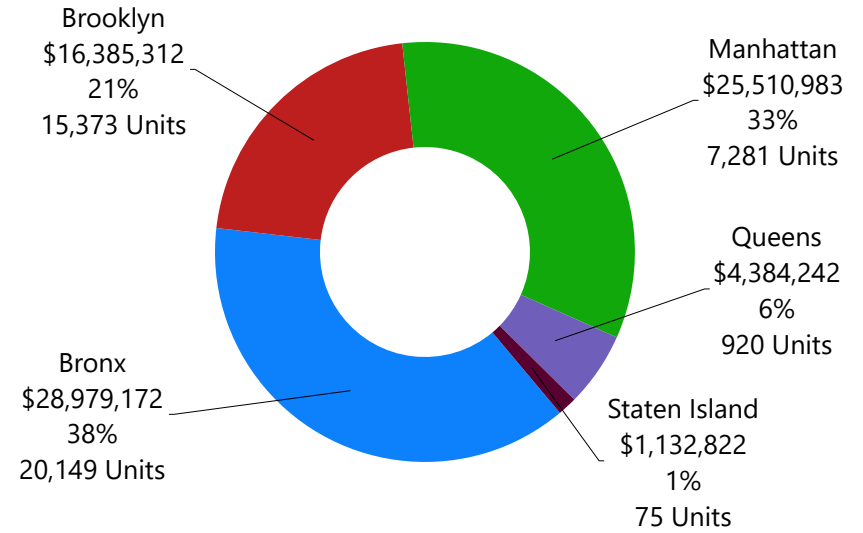
Single Family Investments Detail	\$ Invested		Units	
	Q2	Total	Q2	Total
Bronx	\$238,710	\$15,079,362	2	322
Brooklyn	270,464	37,717,127	3	731
Manhattan	0	3,313,868	0	65
Queens	716,076	58,190,083	7	1,052
Staten Island	857,989	39,033,462	10	709
<b>Total POLICE Single Family Investments</b>	<b>\$2,083,239</b>	<b>\$153,333,902</b>	<b>22</b>	<b>2,879</b>
<b>Single Family Total All Systems</b>	<b>\$10,247,120</b>	<b>\$754,224,803</b>	<b>22</b>	<b>2,879</b>

Other Investments Detail	\$ Invested		Loans	
	Q2	Total	Q2	Total
Bronx	\$0	\$137,228	0	1
Brooklyn	0	1,095,869	0	8
Manhattan	0	494,610	0	5
Queens	0	110,480	0	3
Staten Island	0	0	0	0
<b>Total POLICE Other Investments</b>	<b>\$0</b>	<b>\$1,838,186</b>	<b>0</b>	<b>17</b>
<b>Other Investments Total All Systems</b>	<b>\$0</b>	<b>\$9,041,740</b>	<b>0</b>	<b>17</b>

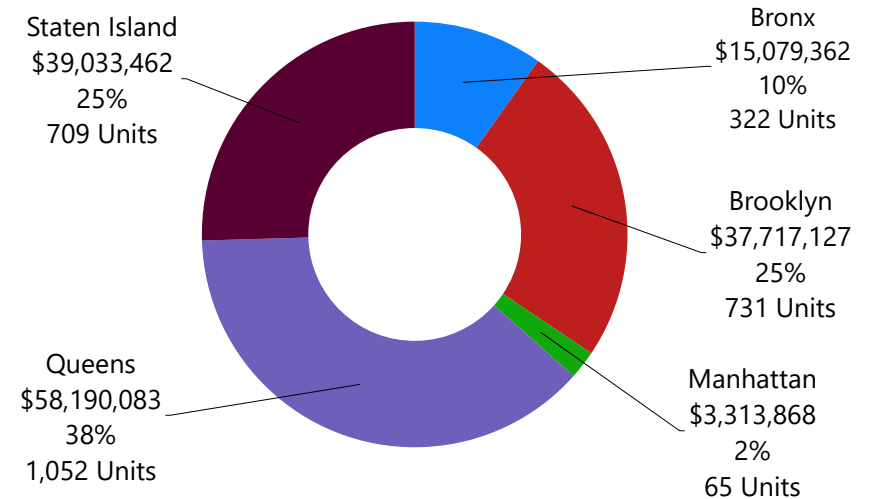
<b>Grand Total POLICE</b>	<b>\$2,291,622</b>	<b>\$231,564,619</b>
<b>Grand Total All Systems</b>	<b>\$11,272,120</b>	<b>\$1,139,029,115</b>

<sup>1</sup> 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 Multifamily Investments Since Inception



RBC Access Single Family Investments Since Inception



# Police Pension Fund - Economically Targeted Investments Quarterly Report

## ETI Real Estate Equity Investments

Total Market Value \$82.28 million

### Hudson Market Value \$26.53 million

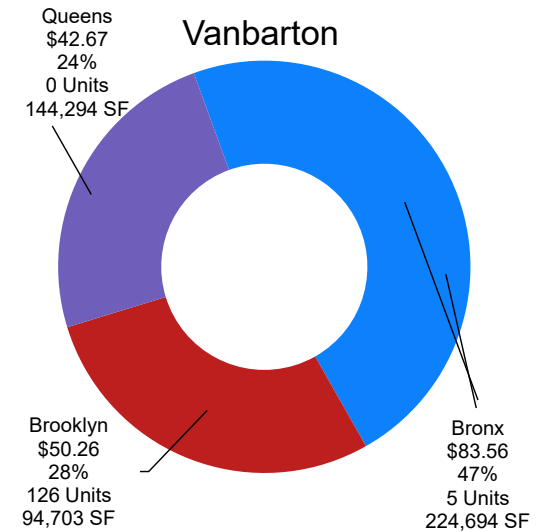
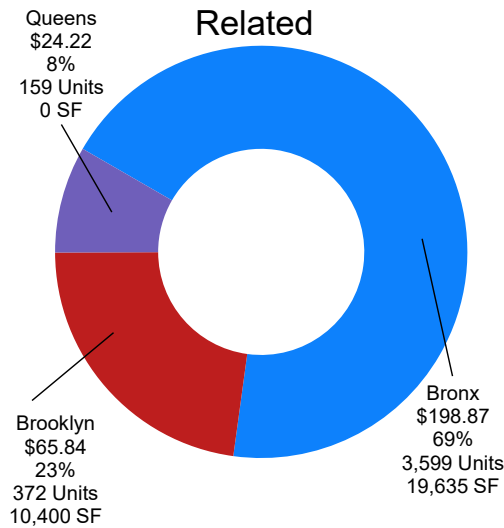
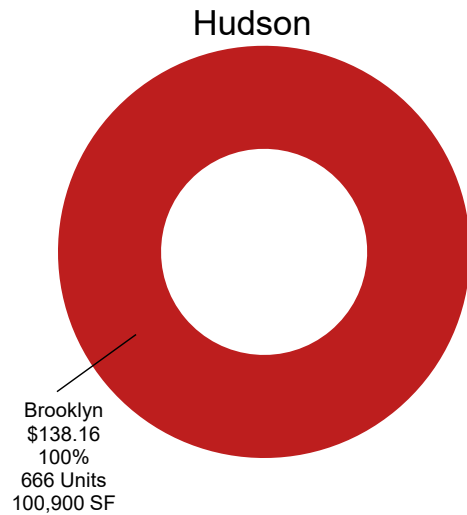
Borough	Gross Capital Invested	Total Units	Workforce Units	Comm. SF
Bronx	\$0.00	0	0	0
Brooklyn	138.16	666	666	100,900
Manhattan	0.00	0	0	0
Queens	0.00	0	0	0
Staten Island	0.00	0	0	0
Outside NYC	0.00	0	0	0
<b>Totals</b>	<b>\$138.16</b>	<b>666</b>	<b>666</b>	<b>100,900</b>

### Related Market Value \$37.12 million

Borough	Gross Capital Invested	Total Units	Workforce Units	Comm. SF
Bronx	\$198.87	3,599	3,356	19,635
Brooklyn	65.84	372	212	10,400
Manhattan	0.00	0	0	0
Queens	24.22	159	151	0
Staten Island	0.00	0	0	0
Outside NYC	0.00	0	0	0
<b>Totals</b>	<b>\$288.93</b>	<b>4,130</b>	<b>3,719</b>	<b>30,035</b>

### Vanbarton (Emmes) Market Value \$18.63 million

Borough	Gross Capital Invested	Total Units	Workforce Units	Comm. SF
Bronx	\$83.56	5	2	224,694
Brooklyn	50.26	126	61	94,703
Manhattan	0.00	0	0	0
Queens	42.67	0	0	144,294
Staten Island	0.00	0	0	0
Outside NYC	0.00	0	0	0
<b>Totals</b>	<b>\$176.49</b>	<b>131</b>	<b>63</b>	<b>463,691</b>



\*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.

\*\*Dollar amounts listed in millions.

Private Equity Quarterly Report (Public):



Comptroller of the City of New York

# NYCP - Comptroller of the City of New York

Public Report

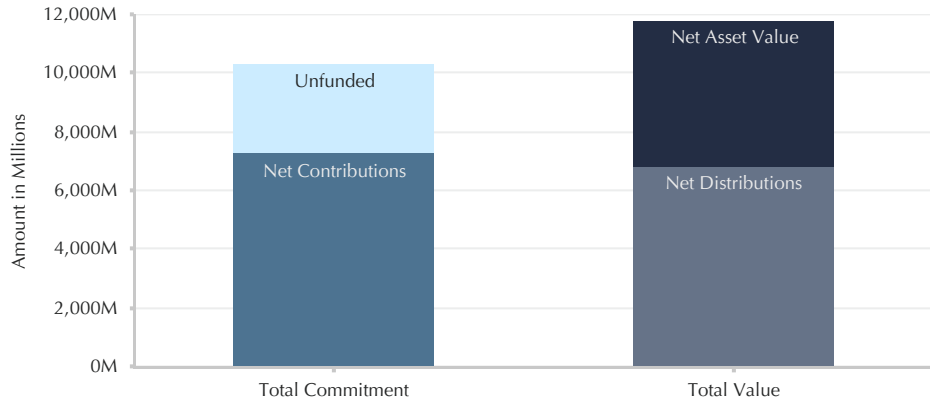
As Of March 2023

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Comptroller of the City of New York

Summary

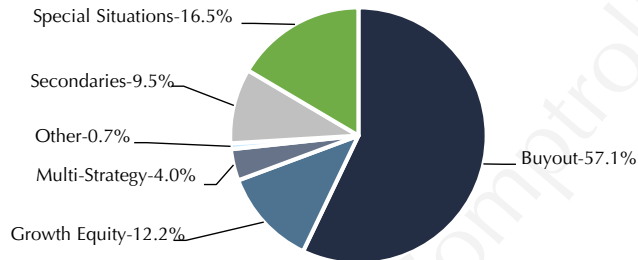


Portfolio Summary

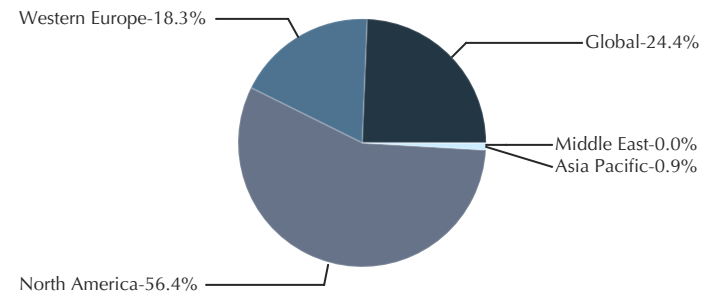
Total Pension Assets	\$48.7 bn as of 03/31/2023		
GP Relationships	108		
Holdings	251		
# of New Investments within the quarter*	7		
# of Closed Investments within the quarter*	2		
# of Underlying Active Investments	2424		
% of Public Companies	7.9%		
Total Commitment Amount	\$10.3 bn		
Net Contributions	\$7.3 bn		
Net Distributions	\$6.8 bn		
Net Asset Value	\$5.0 bn		
Weighted Average Age	9.6Y		
Unfunded Commitment	\$3.0 bn		
Minimum Annual Pacing	1.4 bn		
Maximum Annual Pacing	1.4 bn		
Portfolio Allocation	10.2%		
Minimum Target Allocation	4.0%		
Maximum Target Allocation	12.0%		
1Y IRR	-0.7%	2Y IRR	13.0%
5Y IRR	15.4%	7Y IRR	15.5%
10Y IRR	13.7%	ITD TVPI**	1.6x
ITD IRR**	11.8%		

\* Jan-2023 - Mar-2023  
 \*\* Jan-1999 - Mar-2023

Total Exposure by Strategy



Total Exposure by Region



Position Analytics data based on GP provided information as of Mar-2023  
 IRR not meaningful for investments held less than 24 months  
 Weighted Average Age (WAA) is based on contributions  
 WAA is calculated as the sum of the individual contributions divided by the overall contribution and then multiplied by the age  
 Total Exposure = Unfunded + NAV

## Strategy Portfolio Summary

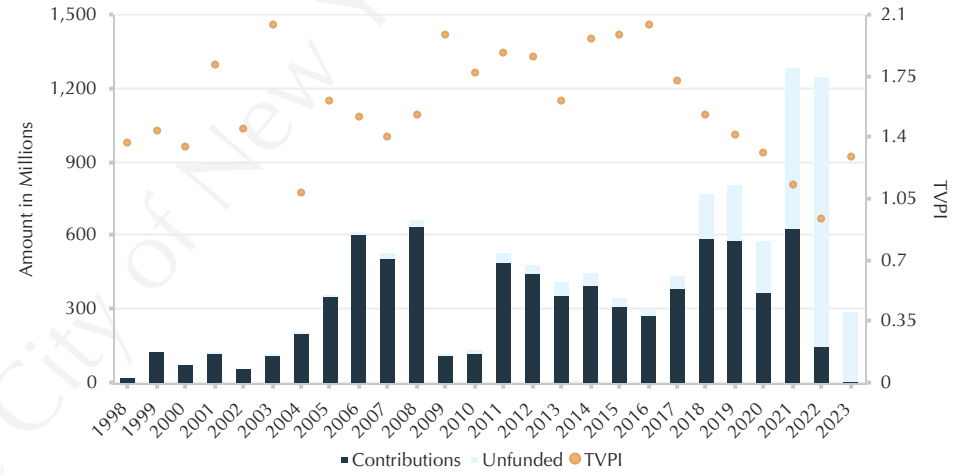
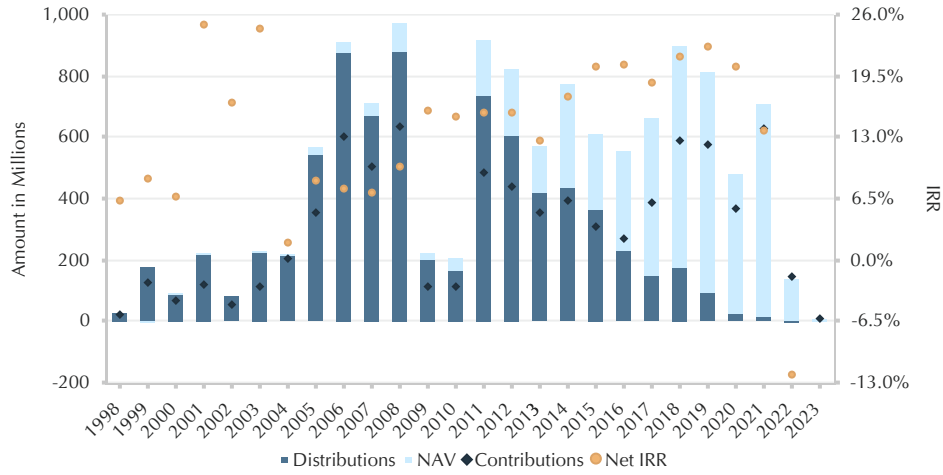
	# Of Funds	Weighted Average Age	NAV (\$mm)	Total Commitment (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Net IRR	TVPI
Buyout	143	9.7	2,885.5	5,754.5	1,683.8	4,569.3	4,482.9	4,378.0	12.5%	1.6x
Growth Equity	30	7.1	612.6	1,052.0	365.9	978.5	759.6	668.6	16.1%	1.7x
Multi-Strategy	10	11.9	166.3	615.1	151.8	318.2	461.4	421.0	5.8%	1.3x
Other	21	15.2	54.5	438.5	4.4	58.9	484.5	576.9	3.9%	1.3x
Secondaries	19	8.7	415.9	1,008.8	340.5	756.4	666.6	598.6	15.2%	1.5x
Special Situations	28	8.3	836.9	1,468.6	483.9	1,320.8	1,123.6	976.4	18.4%	1.6x
<b>NYCP - Comptroller of the City of New York</b>	<b>251</b>	<b>9.6</b>	<b>4,971.8</b>	<b>10,337.5</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>11.8%</b>	<b>1.6x</b>

## Investment Type Portfolio Summary

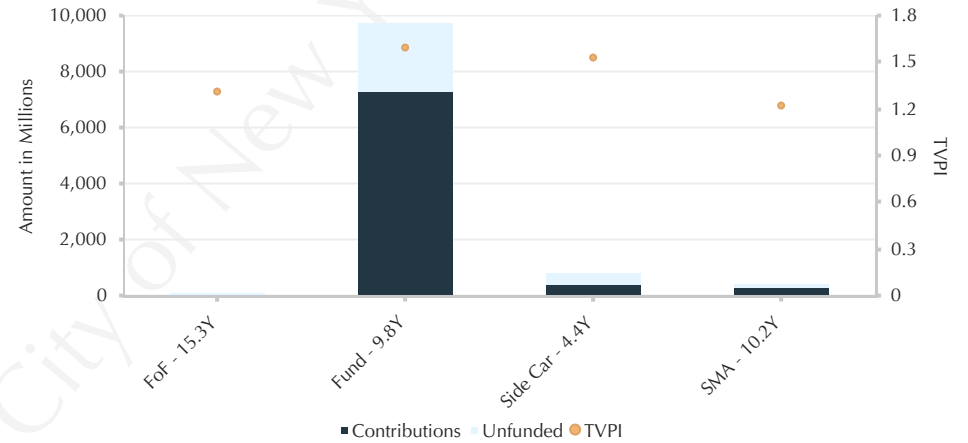
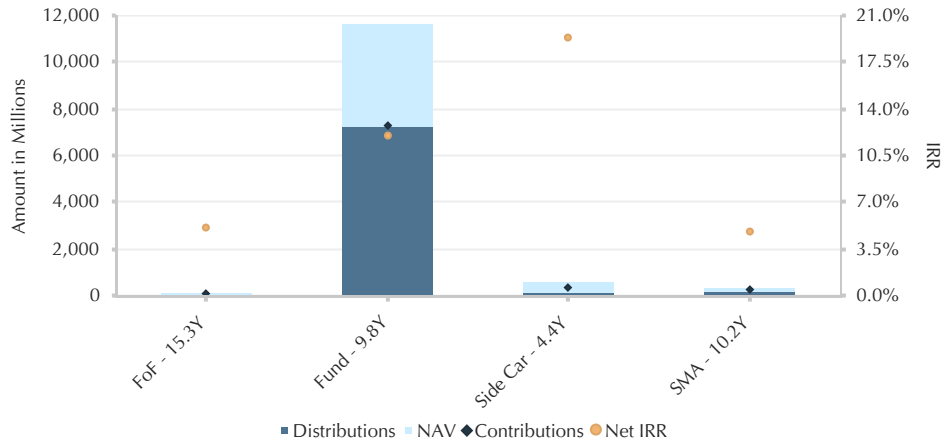
	# Of Funds	Weighted Average Age	NAV (\$mm)	Total Commitment (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Net IRR	TVPI
Direct Investments	213	9.9	4,450.6	9,264.4	2,544.3	6,994.9	7,416.6	7,330.4	11.8%	1.6x
Co-Investments	38	6.5	521.2	1,073.1	486.1	1,007.2	562.1	289.2	12.4%	1.4x
<b>NYCP - Comptroller of the City of New York</b>	<b>251</b>	<b>9.6</b>	<b>4,971.8</b>	<b>10,337.5</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>11.8%</b>	<b>1.6x</b>

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

Performance Review by Vintage Year

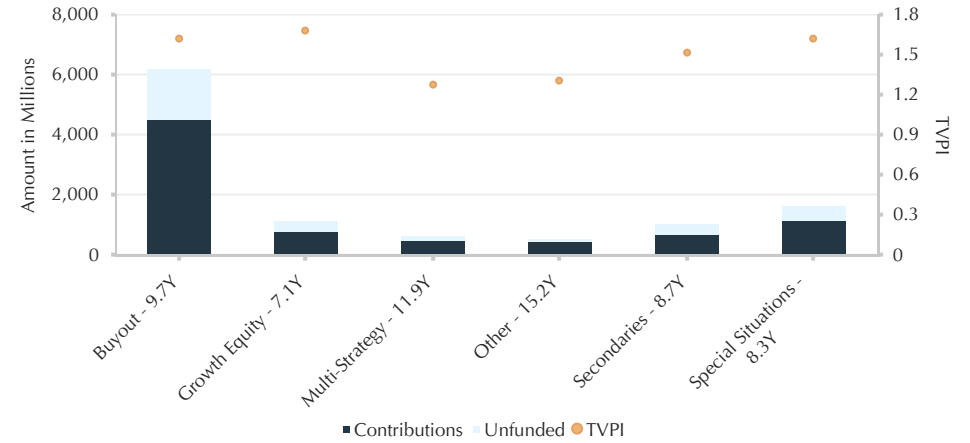
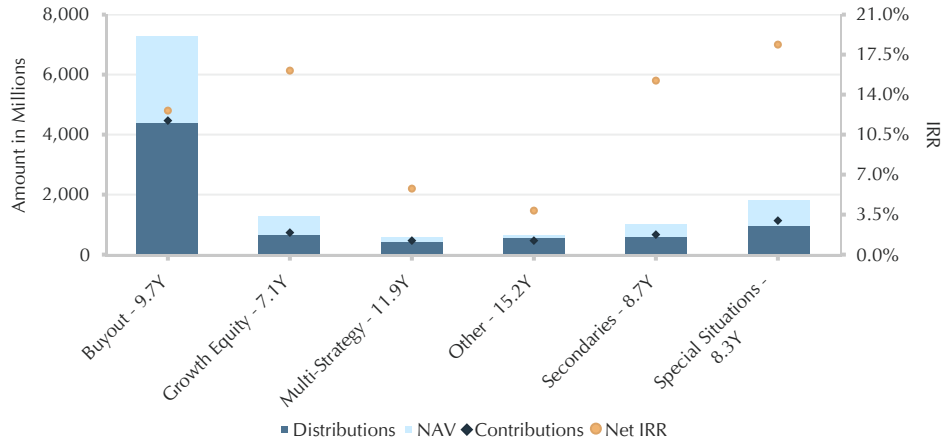


Performance Review by Structure

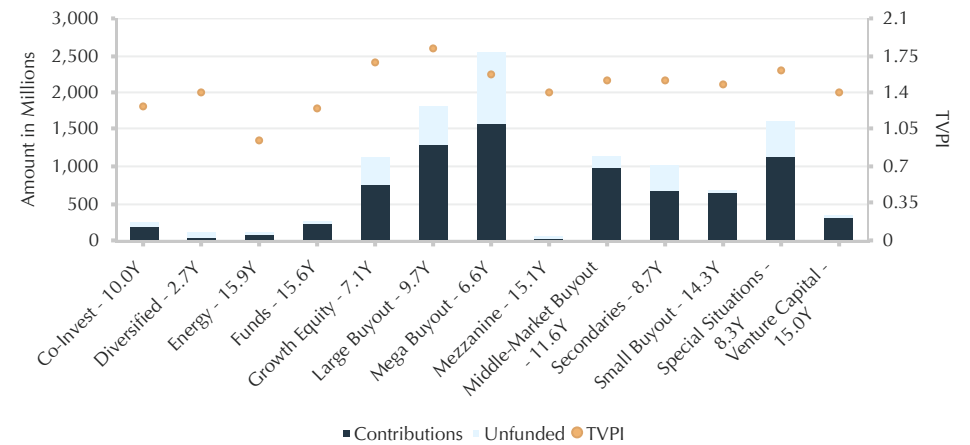
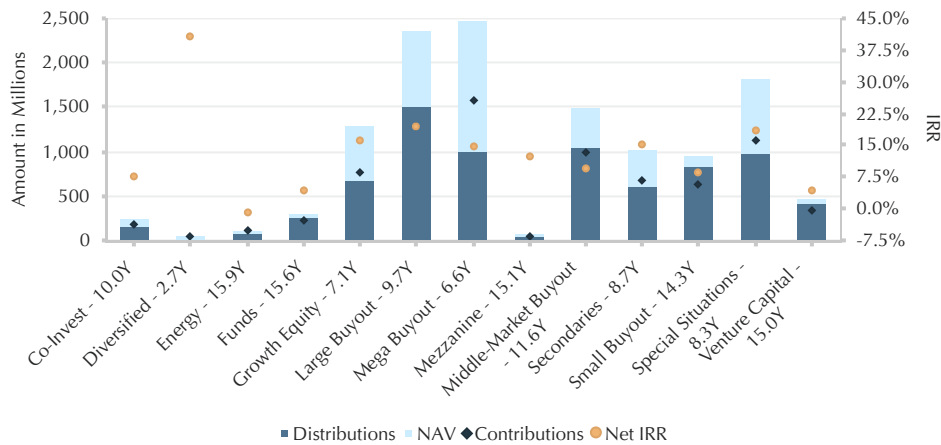


Weighted Average Age (WAA) is based on contributions  
 WAA is calculated as the sum of the individual contributions divided by the overall contribution and then multiplied by the age

Performance Review by Strategy



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

As Of Mar-2023	Mar-2022	Jun-2022	Sep-2022	Dec-2022	Mar-2023	% Change (YTD)	% Change (Quarter)	% Change (Annual)	Mar-2023 Active	Mar-2023 Liquidated
Committed Capital	9,092.5	9,760.9	9,978.3	10,019.3	10,337.5	3.2%	3.2%	13.7%	9,388.6	948.9
Unfunded Commitment	2,552.0	3,002.2	2,996.9	2,827.6	3,030.4	7.2%	7.2%	18.7%	3,030.4	0.00
Net Contributed Capital	6,495.9	6,698.4	6,897.1	7,139.5	7,260.5	1.7%	1.7%	11.8%	6,308.1	952.4
Net Distributed Capital	6,338.6	6,454.7	6,574.9	6,705.4	6,798.6	1.4%	1.4%	7.3%	5,666.5	1,132.0
Recallable Capital	755.3	787.4	794.8	803.3	821.0	2.2%	2.2%	8.7%	768.7	52.4
Net Asset Value	4,706.5	4,634.2	4,627.9	4,823.1	4,971.8	3.1%	3.1%	5.6%	4,971.8	0.0
Net Gain/Loss	4,648.8	4,493.2	4,409.5	4,492.4	4,612.6	2.7%	2.7%	-0.8%	4,329.4	283.3
Total Value	11,045.1	11,088.9	11,202.9	11,528.5	11,770.3	2.1%	2.1%	6.6%	10,638.3	1,132.0
Total Exposure (mm)	7,258.5	7,636.4	7,624.8	7,650.8	8,002.1	4.6%	4.6%	10.2%	8,002.1	0.00
DPI	1.0x	1.0x	1.0x	1.0x	1.0x	0.0x	0.0x	0.0x	0.9x	1.3x
Total Value to Paid-In (TVPI)	1.7x	1.6x	1.6x	1.6x	1.6x	0.0x	0.0x	-0.1x	1.6x	1.3x
Net Internal Rate of Return (IRR)	12.5%	12.2%	11.9%	11.9%	11.8%	0.0%	0.0%	-0.7%	13.1%	6.7%

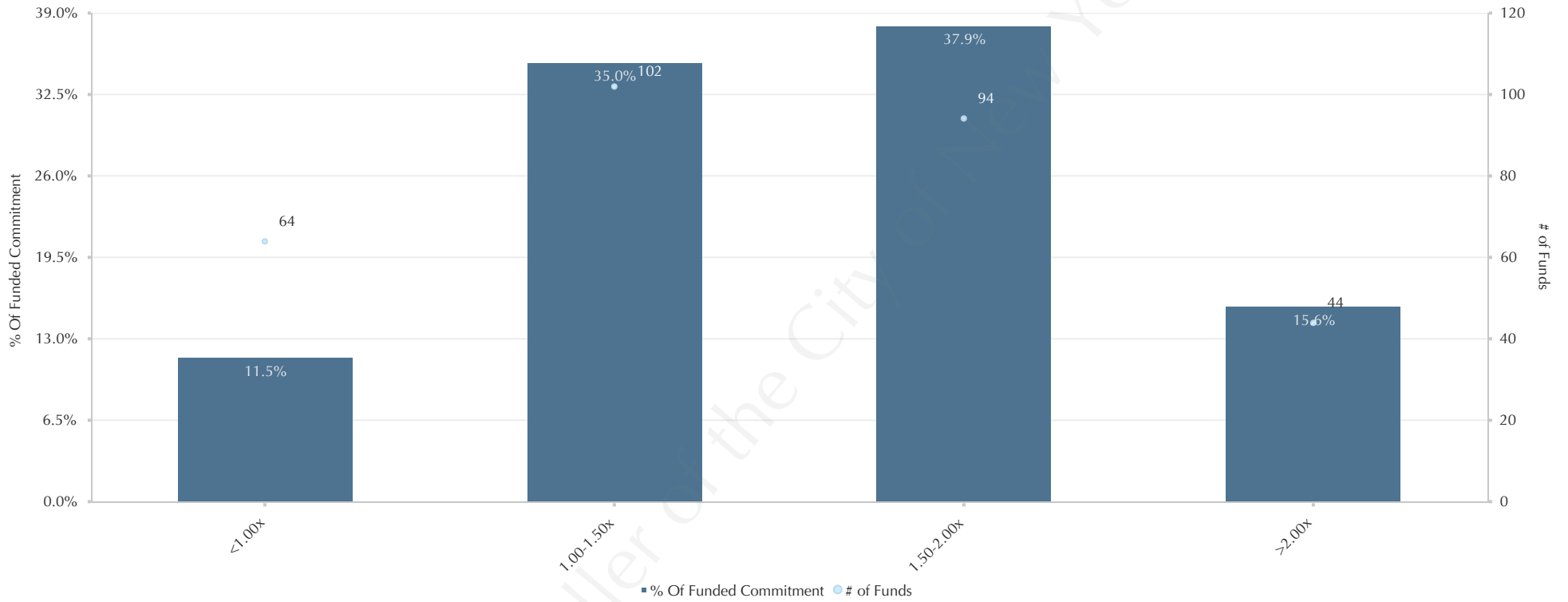
Total Exposure = Unfunded + NAV

Reporting Period: As Of Mar-2023

[View this portfolio online](#)



TVPI Distribution



Strategy	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Buyout	58.0%	5,754.5	4,482.9	4,378.0	1,683.8	4,569.3	2,780.6	2,885.5	12.5%	1.6x
Growth Equity	12.3%	1,052.0	759.6	668.6	365.9	978.5	521.6	612.6	16.1%	1.7x
Multi-Strategy	3.3%	615.1	461.4	421.0	151.8	318.2	125.8	166.3	5.8%	1.3x
Other	1.1%	438.5	484.5	576.9	4.4	58.9	146.9	54.5	3.9%	1.3x
Secondaries	8.4%	1,008.8	666.6	598.6	340.5	756.4	347.9	415.9	15.2%	1.5x
Special Situations	16.8%	1,468.6	1,123.6	976.4	483.9	1,320.8	689.8	836.9	18.4%	1.6x
<b>NYCP - Comptroller of the City of New York</b>	<b>100.0%</b>	<b>10,337.5</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>4,612.6</b>	<b>4,971.8</b>	<b>11.8%</b>	<b>1.6x</b>
<b>SubStrategy</b>										
Co-Invest	1.6%	279.1	188.3	158.8	60.0	139.9	50.4	79.9	7.7%	1.3x
Diversified	1.0%	111.0	37.3	0.6	73.7	125.5	15.1	51.9	n.m. <sup>1</sup>	1.4x
Energy	0.0%	90.0	104.9	98.7	0.5	1.3	-5.4	0.7	-1.1%	0.9x
Funds	0.7%	225.0	235.8	261.6	18.2	52.8	60.3	34.6	4.3%	1.3x
Growth Equity	12.3%	1,052.0	759.6	668.6	365.9	978.5	521.6	612.6	16.1%	1.7x
Large Buyout	17.0%	1,669.7	1,286.4	1,502.1	521.2	1,367.0	1,061.5	845.8	19.6%	1.8x
Mega Buyout	29.6%	2,440.0	1,574.8	1,002.7	971.0	2,442.8	899.6	1,471.8	14.5%	1.6x
Mezzanine	0.0%	41.5	48.7	67.5	1.9	2.2	19.1	0.4	12.2%	1.4x
Middle-Market Buyout	9.0%	1,032.0	980.9	1,044.6	159.6	605.0	509.2	445.5	9.4%	1.5x
Secondaries	8.4%	1,008.8	666.6	598.6	340.5	756.4	347.9	415.9	15.2%	1.5x
Small Buyout	2.5%	612.8	640.8	828.7	32.1	154.5	310.3	122.4	8.4%	1.5x
Special Situations	16.8%	1,468.6	1,123.6	976.4	483.9	1,320.8	689.8	836.9	18.4%	1.6x
Venture Capital	1.1%	307.0	330.9	410.7	2.0	55.4	133.3	53.4	4.3%	1.4x
<b>NYCP - Comptroller of the City of New York</b>	<b>100.0%</b>	<b>10,337.5</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>4,612.6</b>	<b>4,971.8</b>	<b>11.8%</b>	<b>1.6x</b>

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	0.2%	287.4	5.8	0.0	282.0	289.5	1.7	7.5	n.m. <sup>1</sup>	1.3x
2022	2.7%	1,237.0	146.3	2.4	1,099.0	1,234.1	-8.8	135.1	n.m. <sup>1</sup>	0.9x
2021	13.9%	1,277.3	628.6	14.8	652.2	1,345.4	79.4	693.2	n.m. <sup>1</sup>	1.1x
2020	9.1%	559.0	366.8	25.8	208.1	662.7	113.6	454.6	20.6%	1.3x
2019	14.5%	765.3	577.1	93.6	226.6	946.5	236.5	719.9	22.6%	1.4x
2018	14.5%	727.7	586.4	173.7	182.4	903.8	308.6	721.4	21.6%	1.5x
2017	10.3%	398.1	383.8	149.3	48.9	561.6	278.2	512.6	18.9%	1.7x
2016	6.5%	248.4	271.9	231.5	21.7	346.2	284.1	324.5	20.8%	2.0x
2015	5.0%	317.5	307.2	362.2	35.0	282.0	302.0	247.0	20.5%	2.0x
2014	6.8%	386.5	393.5	436.5	50.3	386.2	378.9	335.9	17.3%	2.0x
2013	3.1%	379.1	355.2	419.6	54.4	207.6	217.6	153.2	12.7%	1.6x
2012	4.4%	412.0	441.7	604.7	36.4	254.8	381.3	218.4	15.5%	1.9x
2011	3.7%	481.2	487.4	734.5	40.5	222.9	429.5	182.4	15.6%	1.9x
2010	0.8%	102.5	115.8	163.2	14.8	56.1	88.6	41.3	15.2%	1.8x
2009	0.4%	122.5	111.8	200.4	5.8	27.0	109.8	21.2	15.8%	2.0x
2008	1.9%	630.0	635.0	878.2	25.5	119.4	337.2	93.9	9.8%	1.5x
2007	0.8%	485.8	504.7	669.0	22.4	64.5	206.4	42.1	7.2%	1.4x
2006	0.7%	551.0	600.8	877.3	12.0	44.9	309.5	33.0	7.6%	1.5x
2005	0.5%	332.4	353.2	543.5	3.0	26.6	213.9	23.6	8.4%	1.6x
2004	0.1%	184.8	203.2	214.8	4.3	10.3	17.7	6.0	1.8%	1.1x
2003	0.0%	100.0	112.1	228.4	4.1	5.2	117.3	1.1	24.4%	2.0x
2002	-	60.0	55.3	80.1	0.0	0.0	24.8	0.0	16.7%	1.4x

	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
2001	0.0%	100.0	122.1	219.1	0.9	2.9	99.0	2.0	24.9%	1.8x
2000	0.0%	60.0	69.7	91.7	0.0	2.0	24.0	2.0	6.7%	1.3x
1999	0.0%	112.0	123.2	177.6	0.0	-0.1	54.2	-0.1	8.5%	1.4x
1998	-	20.0	20.1	27.6	0.0	0.0	7.5	0.0	6.3%	1.4x
<b>NYCP - Comptroller of the City of New York</b>	<b>100.0%</b>	<b>10,337.5</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>4,612.6</b>	<b>4,971.8</b>	<b>11.8%</b>	<b>1.6x</b>

## Structure

FoF	0.0%	66.9	65.1	84.6	3.6	4.0	20.0	0.5	5.2%	1.3x
Fund	88.2%	9,088.4	7,267.6	7,217.9	2,461.4	6,846.9	4,335.8	4,385.5	12.0%	1.6x
Side Car	8.9%	794.0	373.8	130.4	426.1	867.4	197.8	441.2	19.3%	1.5x
SMA	2.9%	388.2	272.2	186.7	139.3	283.9	59.0	144.6	4.9%	1.2x
<b>NYCP - Comptroller of the City of New York</b>	<b>100.0%</b>	<b>10,337.5</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>4,612.6</b>	<b>4,971.8</b>	<b>11.8%</b>	<b>1.6x</b>

## Region

Asia Pacific	0.5%	85.0	46.9	13.3	44.3	69.7	-8.4	25.3	-6.1%	0.8x
Global	20.3%	2,401.6	1,498.5	1,289.8	940.1	1,949.3	800.5	1,009.2	13.3%	1.5x
Middle East	0.1%	35.0	36.8	9.2	0.0	3.7	-23.9	3.7	-14.5%	0.4x
North America	60.8%	6,133.8	5,246.5	5,398.5	1,489.4	4,513.8	3,176.4	3,024.4	11.5%	1.6x
Western Europe	18.3%	1,682.2	1,150.0	908.9	556.5	1,465.7	668.1	909.1	14.7%	1.6x
<b>NYCP - Comptroller of the City of New York</b>	<b>100.0%</b>	<b>10,337.5</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>4,612.6</b>	<b>4,971.8</b>	<b>11.8%</b>	<b>1.6x</b>

AssetClass	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Private Credit	0.0%	41.5	48.7	67.5	1.9	2.2	19.1	0.4	12.2%	1.4x
Private Equity	99.9%	10,166.0	7,788.9	7,442.2	3,023.6	7,991.4	4,621.1	4,967.8	12.2%	1.6x
Real Assets	0.1%	130.0	141.1	109.9	4.9	8.5	-27.6	3.6	-3.9%	0.8x
<b>NYCP - Comptroller of the City of New York</b>	<b>100.0%</b>	<b>10,337.5</b>	<b>7,978.7</b>	<b>7,619.6</b>	<b>3,030.4</b>	<b>8,002.1</b>	<b>4,612.6</b>	<b>4,971.8</b>	<b>11.8%</b>	<b>1.6x</b>

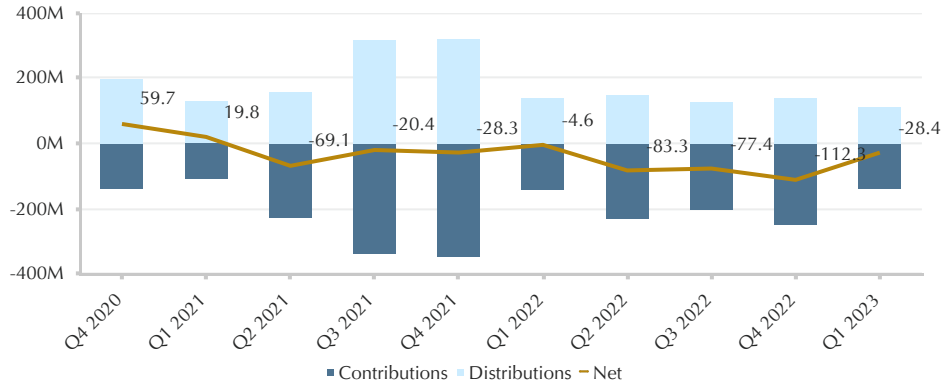
<sup>1</sup> IRR not meaningful for investments held less than 24 months

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

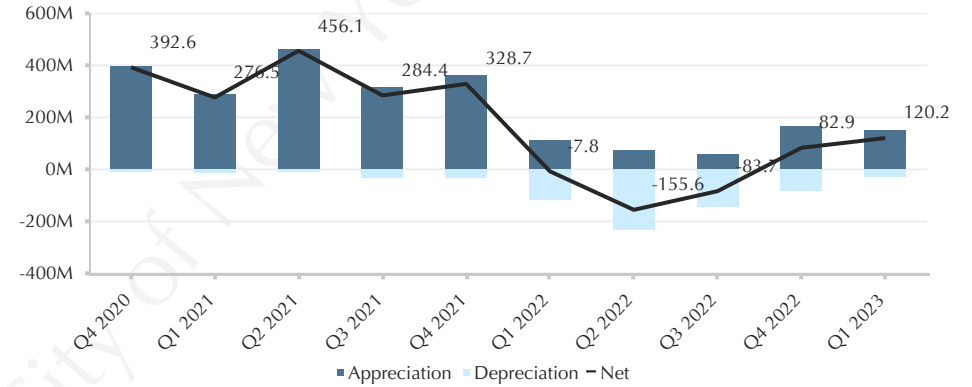
Total Exposure = Unfunded + NAV

Comptroller of the City of New York

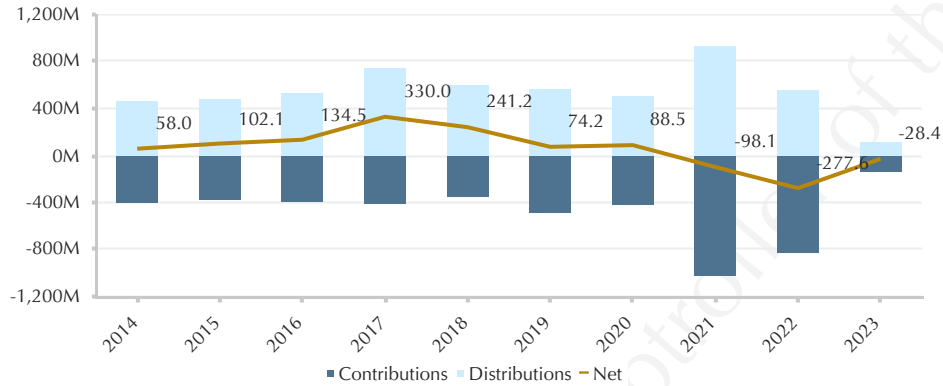
Cash Flows Quarterly



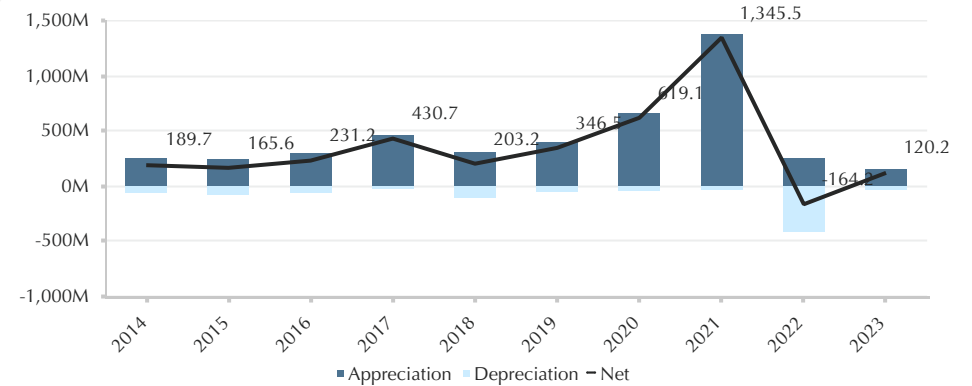
Appreciation/Depreciation Quarterly



Cash Flows Yearly



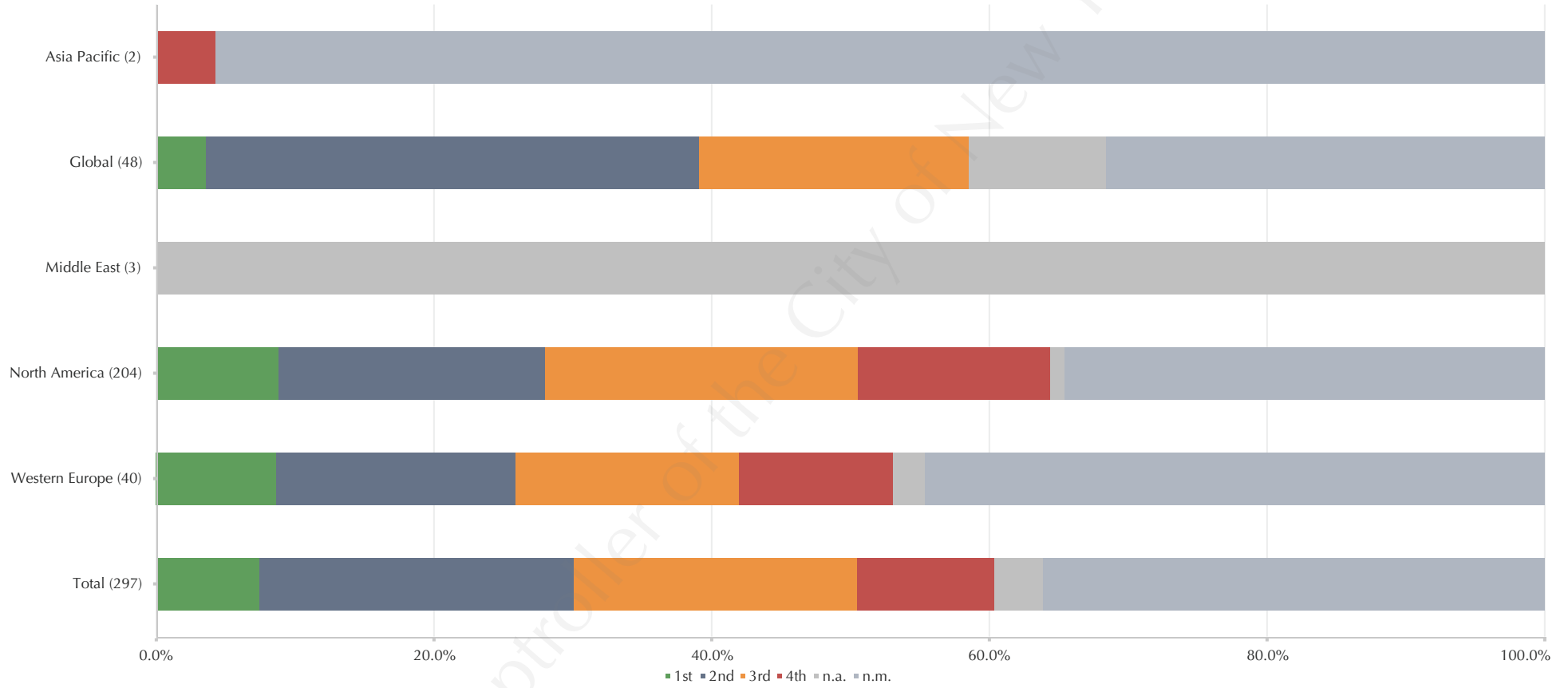
Appreciation/Depreciation Yearly



## Portfolio IRR vs Benchmarks

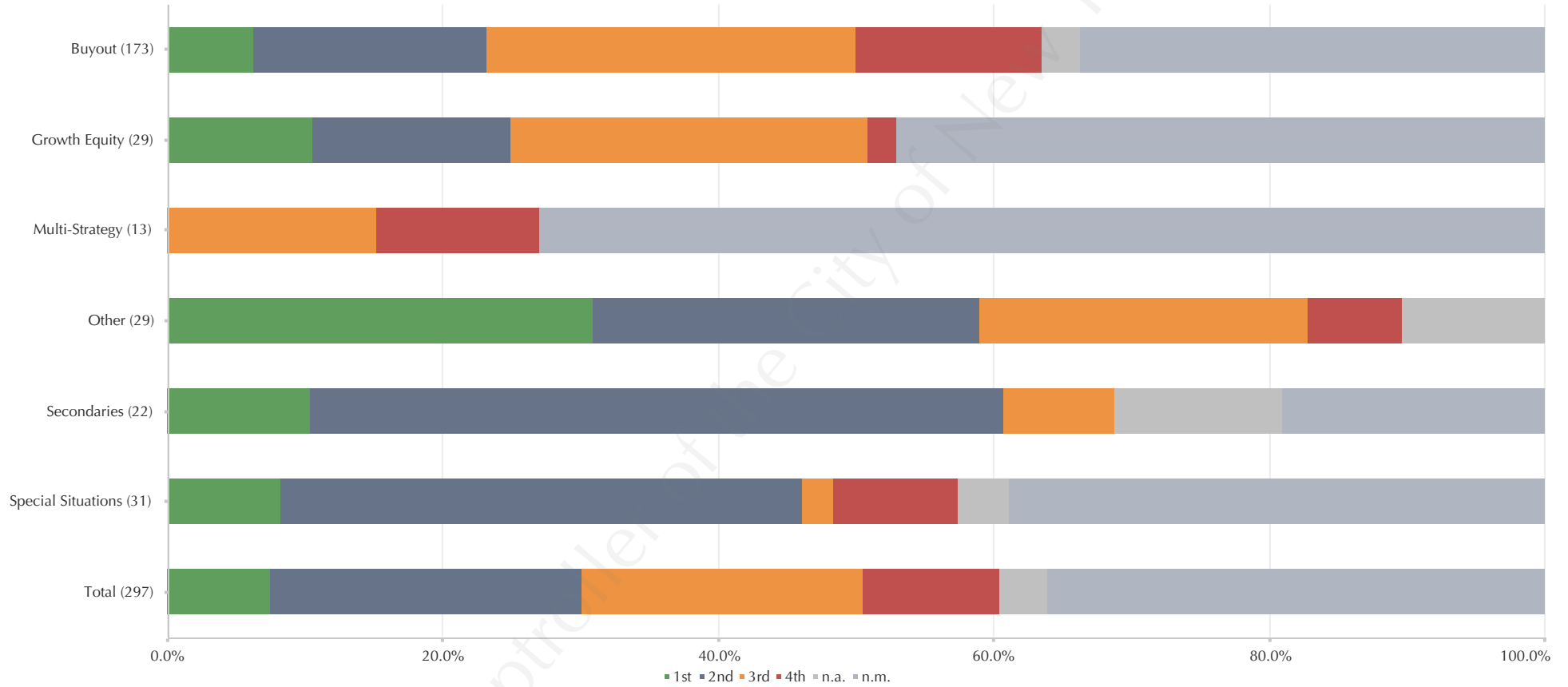
PERFORMANCE VERSUS BENCHMARKS						
03/31/2023	1 QTR	1 YEAR	3 YEAR	5 YEAR	10 YEAR	INCEPTION
Program IRR	2.5%	-0.7%	23.5%	15.4%	13.7%	11.8%
Russell 3000 PME+	7.2%	-7.4%	17.0%	10.1%	11.8%	10.2%
<i>Difference</i>	-4.7%	6.7%	6.5%	5.3%	1.9%	1.6%
Russell 3000 +300bps PME+	8.0%	-4.9%	21.5%	13.6%	15.4%	13.3%
<i>Difference</i>	-5.5%	4.1%	2.1%	1.7%	-1.7%	-1.5%
12/31/2022	1 QTR	1 YEAR	3 YEAR	5 YEAR	10 YEAR	INCEPTION
Program IRR	1.8%	-3.4%	18.3%	15.3%	13.6%	11.9%
Cambridge Associates	-1.3%	-9.1%	18.1%	15.1%	13.2%	10.8%
<i>Difference</i>	3.0%	5.7%	0.2%	0.3%	0.4%	1.1%

By Region





By Strategy



n.m. : IRR is not meaningful  
 n.a. :Not available Benchmark data

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**Real Estate Quarterly Report (Public):**

### Portfolio Profile

The New York City Police Pension Fund has allocated 7.0% (+/- 2%) of the total plan to Real Estate. The Real Estate Portfolio's objective is to generate a total net return that exceeds the NFI-ODCE+100 bps total net return measured over full market cycles.

### Portfolio Statistics (as of March 31<sup>st</sup>, 2023)

Total Plan Assets	\$48.7 billion
Target Real Estate Allocation (%)	7%
Target Real Estate Allocation (\$)	\$3.4 billion
Total Real Estate Market Value	\$3.4 billion
Real Estate Unfunded Commitments	\$1.3 billion
Total Real Estate Exposure	\$4.7 billion
Number of Investments	101
Number of Managers	48

### Net Returns (as of March 31<sup>st</sup>, 2023)

1Q23 Time-Weighted Net Return:	-1.5%
1 Year Time Weighted Net Return:	-1.8%
3 Year Time Weighted Net Return:	11.9%
5 Year Time Weighted Net Return:	8.9%
Inception-to-Date (ITD) Time-Weighted:	7.9%
ITD Net IRR:	9.0%
ITD Net Equity Multiple:	1.5x

### Investment Guidelines

Style Sector:	Target	•3% Core/Core Plus •4% Non-Core
Benchmark	NFI-ODCE Index +100 bps net over full market cycles	
Region Diversification	Maximum 25% Int'l	
Investment Diversification	Limit 15% to a single investment	
Manager Diversification	Limit 20% to a single manager	
Leverage	65%	

### First Quarter Investment Activity

During the Quarter, the Board approved a \$100 million commitment to Blackstone Real Estate Partners Europe VII SCSp, a closed-end non-core opportunistic fund.

### OVERVIEW

Headwinds related to elevating interest rates, stringent lending standards, and a looming moderate recession remain present entering 2023. Year over year, deal volumes have contracted by 52% with capital markets activity hampered by uncertainty. These difficulties crystalized in the US, in which two of the largest bank collapses in history were felt throughout the property markets. The resulting \$66 B in capital invested in commercial real estate priced at \$10M or greater was the lowest since Q3 2020, amid the pandemic.

US markets endured relative to the EMEA region, whose deal volume fell to its lowest since 2012. YOY Transaction activity in the U.K. was down 60%, in Germany by 76% and in France by 43%. Pockets of encouragement can be seen with large retail warehouse and grocery-anchored properties trading. This further illuminates the resilience and preference for the asset type which emerged during the pandemic.

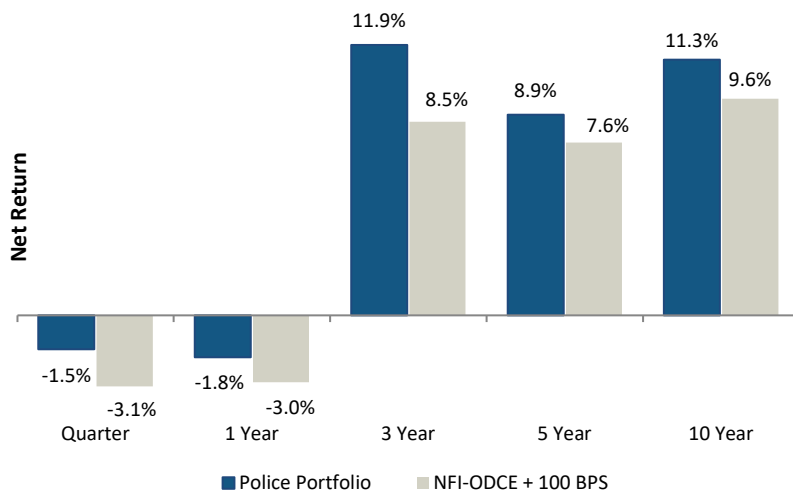
#### Global Total Commercial Real Estate Volume - 2022 - 2023

\$ US Billions	Q1 2023	Q1 2022	% Change Q1 23 - Q1 22	Full Year Ending 1Q23	Full Year Ending 1Q22	% Change Full Year
Americas	78	186	-58%	579	877	-34%
EMEA	38	105	-64%	266	474	-44%
Asia Pacific	95	148	-36%	795	903	-12%
Total	211	439	-52%	1639	2254	-27%

Source: Real Capital Analytics, Inc., Q1' 23

The New York City Police Pension Fund ("Police") Real Estate Portfolio is, and has been, well positioned to take advantage of conditions in the real estate marketplace. In the period reflected in the rolling ten-year returns, Police performance exceeds the benchmark by 170 basis points. At the end of the First Quarter 2023, the Portfolio achieved a total gross return of -1.4% which was comprised of 0.6% in income and -2.0% in appreciation. The net return for the Quarter was -1.5%. The Portfolio exceeds the benchmark over the one-year, three-year, five-year and ten-year time periods on a net basis. A detailed analysis of the Portfolio's real estate performance is found later in this Executive Summary.

### Performance vs. Benchmark



### FUNDING AND COMPOSITION

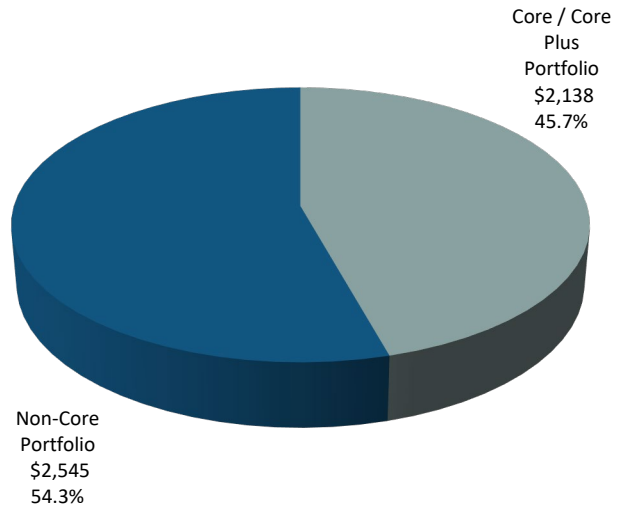
At the end of the First Quarter, the Portfolio was funded at \$3.4 billion, or 6.9% of total plan assets. A total of \$1.3 billion in unfunded commitments are still outstanding. Unfunded commitments increased by \$56.2 million from the Fourth Quarter 2022.

New contributions for the Quarter totaled \$82.4 million, offset by approximately \$62.4 million in distributions and withdrawals. Total distributions were weighted to the Non-Core sector.

Shown in the pie chart to the right is the current risk sector exposure calculated by Market Value + Unfunded Commitments. The Core / Core Plus component accounts for 45.7% of the Portfolio exposure during the Quarter. The Non-Core component accounts for 54.3% of the Portfolio exposure.

A more detailed break-down of the Portfolio Composition is shown in the table below. Attached as Exhibit A is a matrix which demonstrates compliance with various Investment Policy Statement guidelines.

### Real Estate Exposure



New York City Police Pension Fund		
Total Plan Assets	3/31/2023	48,653
Real Estate Allocation (%)		7.0
Real Estate Allocation (\$)		3,406
Real Estate Core Allocation (%)		3.0
Real Estate Core Allocation (\$)		1,460
Real Estate Non-Core Allocation (%)		4.0
Real Estate Allocation (\$)		1,946
Style Sector Allocation		
Funded (Market Value) Core / Core Plus Portfolio (\$)		1,969
Funded (Market Value) Non-Core Portfolio (\$)		1,395
Unfunded Core / Core Plus Portfolio		169
Unfunded Non-Core Portfolio		1150
Funded (Market Value) and Committed Statistics		
Core / Core Plus Portfolio (%)		45.7
Non-Core Portfolio (%)		54.3
Core / Core Plus Committed (\$)		2138
Non-Core Committed (\$)		2545
\$ Committed		4683
% Committed on Real Estate Allocation		137.5
% Committed on Total Plan Assets		9.6
Funded (Market Value) Statistics		
% Core / Core Plus Funded (Market Value) of Total Plan Assets		4.0
% Non-Core Funded (Market Value) of Total Plan Assets		2.9
% Funded (Market Value) of Total Plan Assets		6.9
% Funded (Market Value) of Total Real Estate Allocation		98.8

### PERFORMANCE

During the Quarter under review, the Police Real Estate Portfolio produced a -1.4% total gross return. The total net return for the Quarter was -1.5%. On a rolling one-year basis, a total gross return of -1.4% was recorded. On a net basis, the total return was -1.8%. On a gross and net basis, the Police Portfolio exceeds the NFI-ODCE over the one, three, five, and ten-year time periods. The benchmark return contemplates a 100-bps premium over the ODCE net return over full market cycles. This benchmark is exceeded over the one, three, five, and ten-year time periods. The various components of the Portfolio returns are depicted in the chart below. Recent underperformance correlates to current market conditions. Despite slight negative performance this quarter, strong historical returns have been consistent across the portfolio. Outperformance relative to the benchmark is still driven by the portfolio's industrial and alternative property type investments.

#### Core/Core Plus

As of March 31, 2023, the market value of the Core / Core Plus Portfolio was \$2.0 billion, or 58.5% on an invested basis. On a funded and committed basis, the Core/ Core Plus Portfolio totaled \$2.1 billion, or 45.7% of the total Portfolio. The Core / Core plus Portfolio generated a -2.8% total gross return for the Quarter comprised of 0.8% in income and -3.5% in appreciation. The total net return for the Quarter was -2.7%.

A significant contributor to the Quarterly return in this sector was Exeter Industrial Core Club Fund III, which generated a 1.0% total net return. A significant detractor from the Core / Core Plus Portfolio was Cortland Partners Growth and Income Fund, which generated a -10.7% total net return.

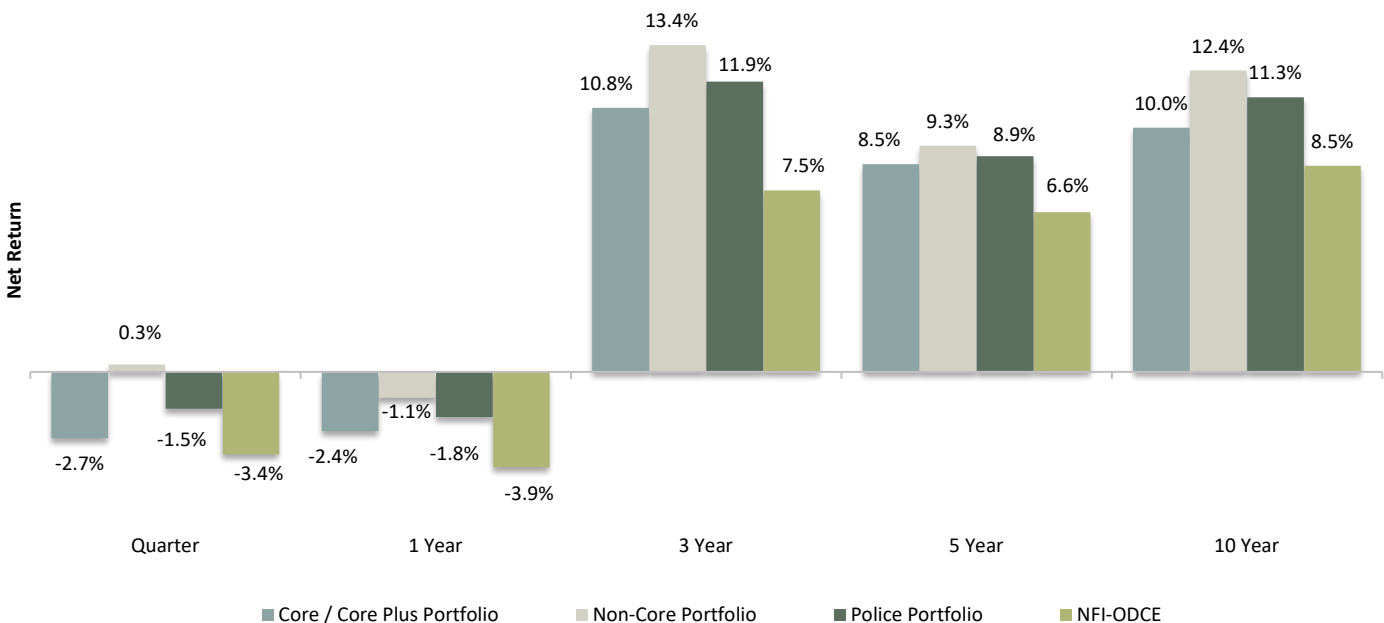
The Core / Core Plus Portfolio achieved a 10.8% net return over the three-year period ending March 31, 2023. Within the Core / Core Plus Funds, Lion Industrial Trust continues to be a significant contributor, generating a 23.2% total net return. Jamestown Premier Property Fund was a significant detractor, generating a -17.0% total net return over the period.

#### Non-Core

As of March 31, 2023, the market value of the Non-Core Portfolio was \$1.4 billion, or 41.5% on an invested basis. On a funded and committed basis, the Non-Core Portfolio totaled \$2.5 billion, or 54.3% of the total Portfolio. The Non-Core Portfolio generated a 0.6% total gross return for the Quarter comprised of 0.3% in income and 0.3% in appreciation. The total net return for the Quarter was 0.3%.

A significant contributor to the Quarterly return in this sector was Brookfield Strategic Real Estate Partners III, which generated a 3.3% total net return. A significant detractor from the Non-Core Portfolio was KKR CMBS B-Piece SMA, which generated a -2.5% total net return.

The Non-Core Portfolio generated a three-year net return of 13.4%. Within the Non-Core Portfolio, Blackstone Real Estate Partners IX continues to be a significant contributor, generated a 31.8% total net return. NYC Asset Investor #3 LLC was a significant detractor, generating a -5.2% total net return over the period.



## PERFORMANCE

### Portfolio Performance

At the end of the First Quarter 2023, the Portfolio had a cumulative market value of \$3.4 billion. Total market value plus unfunded commitments was \$4.7 billion. During the Quarter, the Portfolio achieved a total gross return of -1.4% which was comprised of 0.6% in income and -2.0% in appreciation. The Portfolio achieved a total net return of -1.5%. Since inception, the Portfolio has a net IRR of 9.0% and an equity multiple of 1.5x. Note, attached as Exhibit B are performance metrics relating to investments within the Portfolio.

Brief reviews of select Funds are found below. Note, that attached as Exhibit C are charts relating to fund contributions to returns during different relevant periods.

**Blackstone Real Estate Partners Europe Fund VI.** BREP Euro VI generated a total gross return of 6.4%. The net return after fees was 5.0%. Positive contributors to fund performance included a quarter-over-quarter appreciation increase as well as strong operational performance from key assets held in the portfolio. As a result of strong disposition activity, the Fund has realized approximately €3.4 billion, or 58% of invested equity.

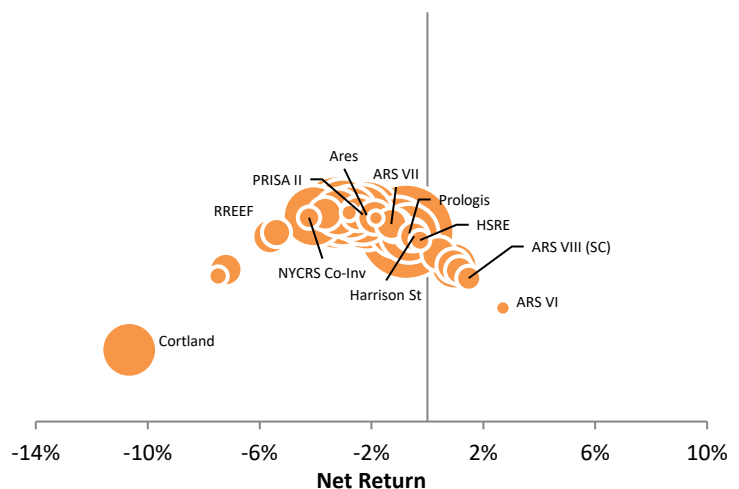
**Brookfield Strategic Real Estate Partners III.** BSREP III generated a total gross return of 4.4% comprised of 0.0% in income and 4.4% in appreciation. The net return after fees was 3.3%. The three-year net return is 15.6%. Valuation increases for certain held investments were partially driven by continued stabilization of NOI and discount rate compression across certain assets in concentrated in markets with strong outperformance such as the western U.S.

**H/2 Special Opportunities Fund III.** During the Quarter, H/2 Special Opportunities Fund III produced a total gross return of 9.0% comprised of 1.0% in income and 8.0% in appreciation. The net return after fees was 8.7%. Since its inception, Fund III has fully exited 38 investments, realizing a net IRR of 7.2%.

**ElmTree U.S. Net Lease Fund IV.** During the Quarter, ElmTree IV generated a total gross return of 12.6% comprised of 0.8% in income and 11.8% in appreciation. The net return after fees was 10.9%. During the Quarter, the Fund closed on the sale of seventeen properties. ElmTree projects continued growth in e-commerce sales, onshoring of supply chain operations, and a shift towards higher inventory levels which will continue to drive tenant demand for industrial space. Since inception, the Fund has produced a 31.6% net IRR.

Core/Core Plus	1-Year	3-Year	5-Year	S.I. IRR
Net Return	-2.4%	10.8%	8.5%	7.7%

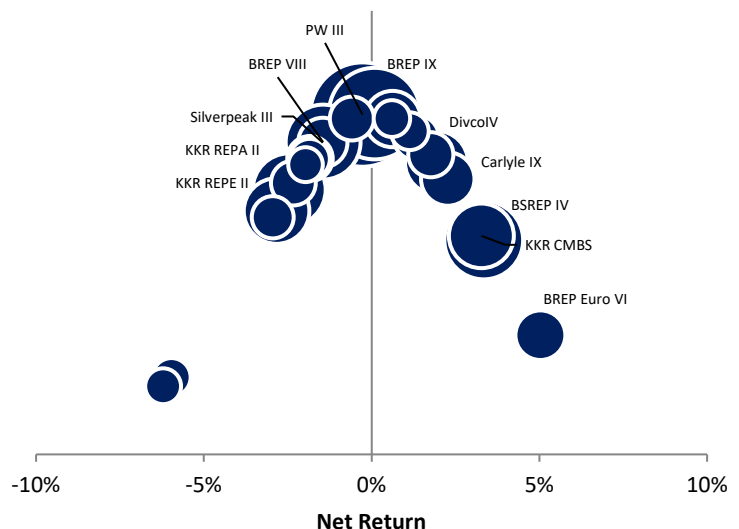
Core / Core Plus: Distribution of Quarterly Returns



Note: Bubble size based on Average Invested Capital. Due to scaling, the net return for Jamestown Premier Property Fund of -28.0% is not shown on the chart.

Non-Core	1-Year	3-Year	5-Year	S.I. IRR
Net Return	-1.1%	13.4%	9.3%	10.4%

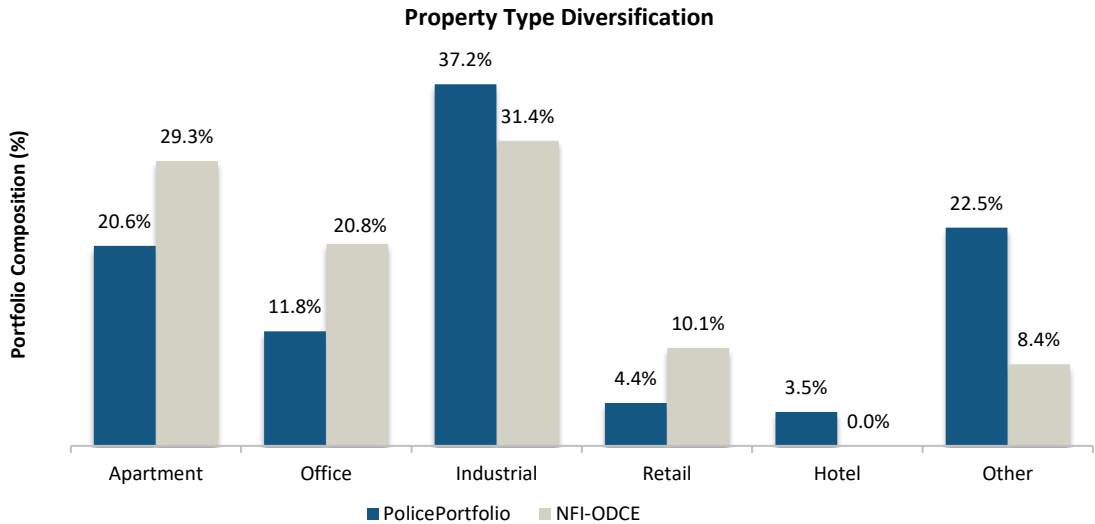
Non-Core: Distribution of Quarterly Returns  
(Top 25 Positions by NAV)



Note: Bubble size based on Average Invested Capital. Due to scaling, the net return for ElmTree Net Lease Fund IV of 10.92% is not shown on the chart.

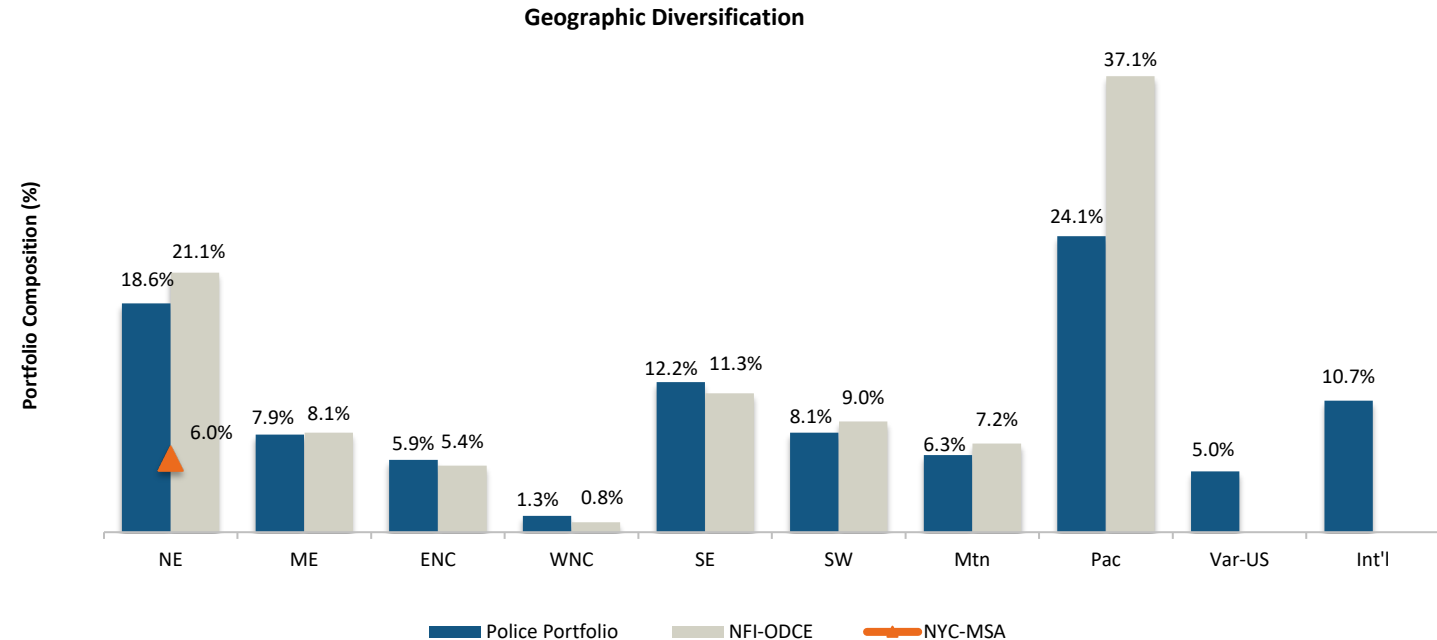
### PROPERTY TYPE DIVERSIFICATION

The diversification of the current Portfolio by property type is shown below and compared to the diversification of the NCREIF-ODCE at the end of the Quarter. Relative to the ODCE, the Portfolio is underweight to multi-family, office, and retail. The Portfolio is overweight to industrial, hotel and other property types. Other property types primarily include debt-related investments and non-traditional property types such as for sale residential, self storage, land, data centers, senior living, healthcare, medical office and student housing.



### GEOGRAPHIC DIVERSIFICATION

The diversification of the current funded Portfolio by geographic region is shown below and compared to the diversification of the NFI-ODCE at the end of the Quarter. The ODCE is a US-only index. The domestic portion of the Portfolio is well diversified relative to the ODCE. The 10.7% international exposure is appropriate for the risk and return profile of Police and consistent with the long-term target. Exposure to the NYC MSA is also included, which stands at 6.0% as of March 31, 2023.





### MARKET UPDATE

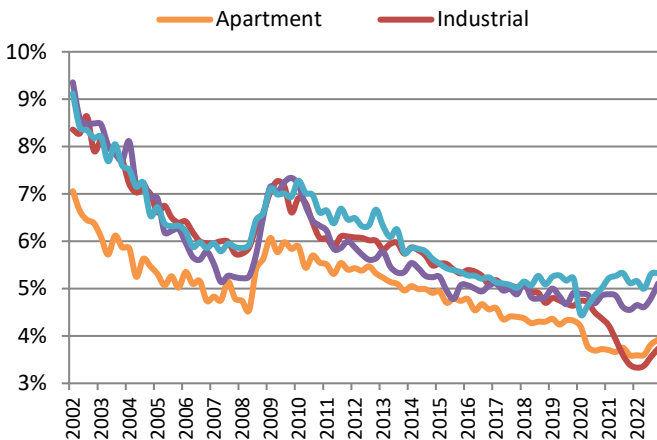
#### General

- The economy continues to face headwinds stemming from an increasingly aggressive federal funds rate, continuous inflation, and geopolitical events. The S&P 500 has returned a positive quarter coming in at 7.5% despite the underperformance in 2022. The MSCI US REIT index continued its upward trend after a challenging 2022, posting a gross first quarter return of 2.8%.
- During the first quarter, GDP increased at an annualized rate of 1.1%. This positive growth was primarily due to government spending, consumer spending, and strong job market growth. As a result of geopolitical events such as the atrocities of the Russia-Ukraine war, Saudi-Iranian oil concerns, and increased protectionist measures, commodity pricing has remained elevated in tandem with persistent inflation, which may persist throughout 2023. Federal reserve officials remain committed to taming inflation and reducing the central bank's balance sheet for the foreseeable future, approving seven interest rate hikes throughout 2022, and two in the first quarter of 2023 totaling an increase of 500 basis points since March 2022.

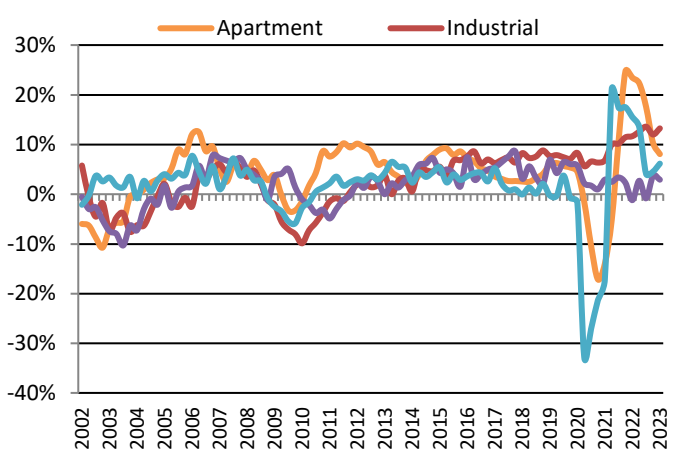
#### Commercial Real Estate

- To start off 2023, total CRE transaction activity for the quarter decreased by -56% YoY, with annual transaction activity down -32% YoY. The office sector transaction volumes in the U.S. have notably not recovered to pre-pandemic levels. Although the office sector has seen minor improvements, transaction volumes for the office sector in the U.S. have continued to fall due to the increase in the cost of debt and loose return to office requirements.
- Transaction cap rates (5.6%) continued to expand, moving out 77 bps during the quarter. This increase comes after historic low cap rates experienced in 4Q21 and 2Q22. Current valuation cap rates expanded for all major property sectors, led by office (+31 bps), and followed by industrial (+17 bps), apartment (+10 bps) and retail (+2 bps).
- NOI growth has continued to diverge between property sectors. Apartment sector fundamentals continue to show strength. With the cost of debt for homes continuing to become more expensive, Apartment NOI expanded (+8%) YoY. Industrial NOI expanded (+13%) YoY on the back of companies' investments in direct-to-customer distribution.
- 10-year treasury bond yields declined slightly, ending the quarter at 3.5%. As economists expected, rates moved significantly higher throughout the first quarter of 2023, with the potential to climb further.

**Current Value Cap Rates by Property Type**



**4 Qtr Rolling NOI Growth**



Sources: Bureau of Economic Analysis, U.S. Census Bureau, St. Louis Fed, NCREIF, Real Capital Analytics, Bloomberg LP., Preqin.

## EXHIBIT A: COMPLIANCE MATRIX

Category	Requirement	Portfolio Status
Benchmark	NFI-ODCE (net) +100 bps over full market cycles	<i>Portfolio returns outperform the benchmark over the one, three, five, and ten-year time periods.</i>
Portfolio Composition	Core/Core Plus (3% of RE Allocation)	<i>The portfolio is funded (market value) and committed at 137.5% of real estate allocation with a portfolio composition of 45.7% core/core plus and 54.3% non-core. Based on market value, the core/core plus portfolio is funded at 58.5% and the non-core portfolio is funded at 41.5%.</i>
	Non Core (4% of RE Allocation)	
Real Estate Allocation	Target of 7.0%	<i>Funded (market value) and committed dollars place the portfolio at 9.6% of total plan assets.</i>
	Currently Funded at 6.9%	
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 Up to 15% Debt*	<i>The portfolio has a slight overweight (+2.2%) to the industrial property type and (+2.5%) to other property types driven by market views that favored the sector. Unfunded commitments are weighted to diversified strategies and will help increase exposure to multiple property types.</i>
Geographic Diversification	Diversified geographically Max 25% Ex-US	<i>All geographic type locations are in compliance based on market value.</i>
LTV	65%	<i>Portfolio is in compliance (currently 43.9%).</i>
Manager Exposure	20% of real estate allocation	<i>Manager exposure is in compliance based on market value.</i>

\*Debt has been established as a separate category with a 15% allocation in the Annual Plan. For reporting purposes, debt investments are included in the "Other" category in the performance report.

# The New York City Police Pension Fund

## Executive Summary: First Quarter 2023 Performance Measurement Report

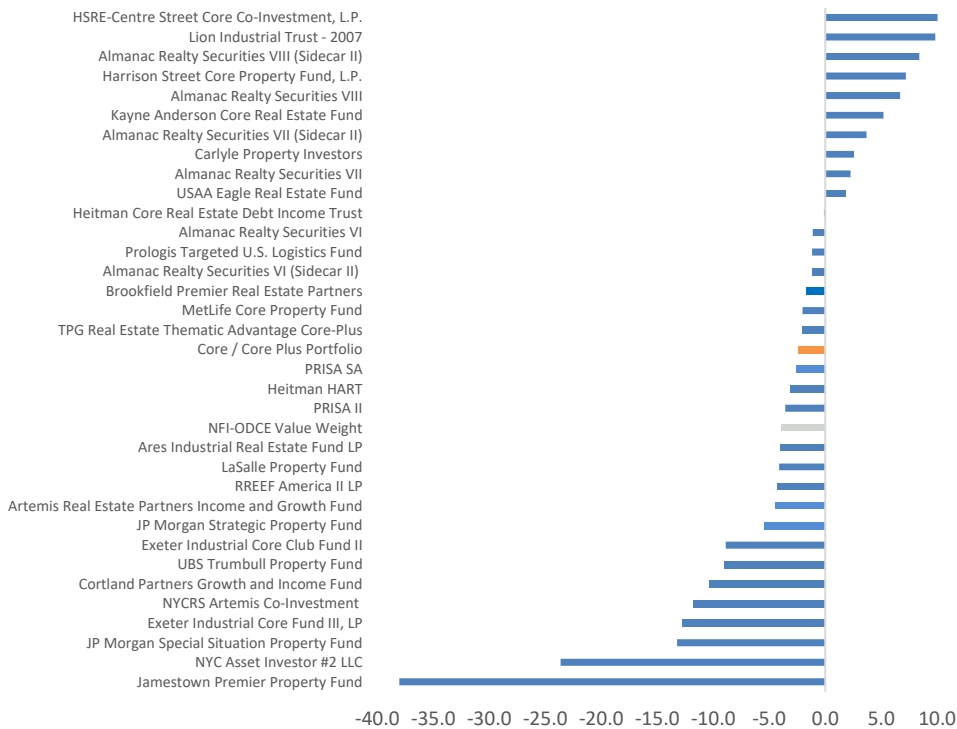
### Real Estate

#### EXHIBIT B: First Quarter 2023 FOIL

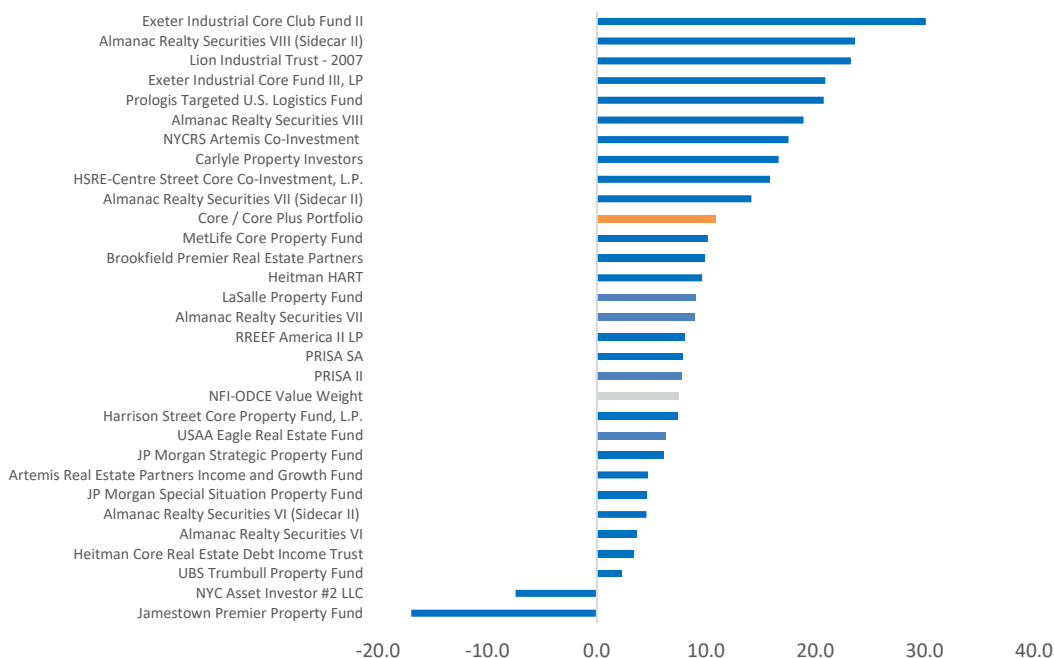
Vintage Year	Fund Name	Style Sector	Geographic Play	First Draw Down	Capital Committed	Contributions	Distributions	Market Value	Equity Multiple	Net IRR
2012	Almanac Realty Securities VI	Core / Core Plus Portfolio	Developed Americas	6/6/2012	50,000,000	33,444,956	-36,831,648	6,755,335	1.3	8.9
2012	Almanac Realty Securities VII (Sidecar II)	Core / Core Plus Portfolio	Developed Americas	7/31/2012	15,000,000	5,829,583	-5,302,452	2,603,291	1.4	8.0
2015	Almanac Realty Securities VII	Core / Core Plus Portfolio	Developed Americas	4/24/2015	50,000,000	48,513,083	-38,664,518	29,669,816	1.4	11.5
2016	Almanac Realty Securities VII (Sidecar I)	Core / Core Plus Portfolio	Developed Americas	12/9/2015	20,000,000	11,388,003	-11,037,091	8,020,442	1.7	16.2
2019	Almanac Realty Securities VIII	Core / Core Plus Portfolio	Developed Americas	12/12/2018	42,000,000	24,636,174	-4,951,967	25,183,471	1.2	12.1
2019	Almanac Realty Securities VIII (Sidecar II)	Core / Core Plus Portfolio	Developed Americas	12/12/2018	28,000,000	16,851,610	-3,999,574	18,310,045	1.4	18.4
2019	Ares Industrial Real Estate Fund LP	Core / Core Plus Portfolio	Developed Americas	9/30/2021	120,000,000	124,894,894	-4,898,494	148,281,492	1.2	15.2
2019	Artemis Real Estate Partners Income and Growth Fund	Core / Core Plus Portfolio	Developed Americas	10/18/2019	18,000,000	14,357,452	-7,761,138	10,886,266	1.0	1.8
2017	Brookfield Premier Real Estate Partners	Core / Core Plus Portfolio	Developed Americas	11/22/2016	61,000,000	81,943,959	-22,008,770	111,673,508	1.6	10.5
2017	Carlyle Property Investors	Core / Core Plus Portfolio	Developed Americas	7/3/2017	61,000,000	78,527,242	-18,277,264	114,465,151	1.7	12.3
2020	Cortland Partners Growth and Income Fund	Core / Core Plus Portfolio	Developed Americas	7/1/2020	60,000,000	67,143,649	-8,084,601	83,027,378	1.4	13.3
2022	EQT Exeter Industrial Core-Plus Fund IV, LP	Core / Core Plus Portfolio	Developed Americas	9/30/2022	79,000,000	7,615,600	0	6,653,101	0.9	-12.7
2016	Exeter Industrial Core Club Fund II	Core / Core Plus Portfolio	Developed Americas	5/20/2016	19,000,000	18,505,000	-8,091,600	35,768,717	2.4	20.8
2020	Exeter Industrial Core Fund III, LP	Core / Core Plus Portfolio	Developed Americas	2/19/2020	63,600,000	62,500,000	-6,860,000	66,946,719	1.2	9.7
2019	Harrison Street Core Property Fund, LP	Core / Core Plus Portfolio	Developed Americas	10/4/2019	20,000,000	23,746,030	-3,216,220	12,332,433	1.2	7.5
2019	Heitman Core Real Estate Debt Income Trust	Core / Core Plus Portfolio	Developed Americas	11/2/2018	28,000,000	35,448,531	-7,448,531	33,568,862	1.2	4.3
2007	Heitman HART	Core / Core Plus Portfolio	Developed Americas	3/29/2007	28,000,000	48,686,125	-67,494,835	32,827,768	2.1	7.8
2019	HSBC Centre Street Core Co-Investment, LP	Core / Core Plus Portfolio	Developed Americas	5/31/2019	10,000,000	9,629,304	-937,512	12,726,315	1.4	14.0
2016	Jamestown Premier Property Fund	Core / Core Plus Portfolio	Developed Americas	2/4/2016	26,000,000	38,258,886	-15,464,474	16,623,765	0.8	-4.5
2007	JP Morgan Special Situation Property Fund	Core / Core Plus Portfolio	Developed Americas	1/2/2007	15,000,000	17,613,742	-8,362,986	23,790,139	1.8	4.7
2007	JP Morgan Strategic Property Fund	Core / Core Plus Portfolio	Developed Americas	12/4/2006	56,000,000	62,422,616	-78,659,635	66,338,371	2.3	7.3
2007	Kayne Anderson Core Real Estate Fund	Core / Core Plus Portfolio	Developed Americas	4/1/2020	30,000,000	33,839,969	-4,206,809	37,023,107	1.2	8.0
2010	LaSalle Property Fund	Core / Core Plus Portfolio	Developed Americas	7/1/2010	115,000,000	115,000,000	-36,782,667	162,889,337	1.7	9.4
2017	Lion Industrial Trust - 2007	Core / Core Plus Portfolio	Developed Americas	1/1/2017	110,000,000	146,264,418	-31,599,383	270,346,441	2.1	20.0
2014	MetLife Core Property Fund	Core / Core Plus Portfolio	Developed Americas	7/1/2014	99,000,000	99,000,000	-24,741,189	134,161,289	1.6	9.7
2013	NYC Asset Investor #2 LLC	Core / Core Plus Portfolio	Developed Americas	7/9/2013	60,000,000	62,185,432	-25,136,824	37,118,651	1.0	0.0
2016	NYCRS Artemis Co-Investment	Core / Core Plus Portfolio	Developed Americas	2/24/2016	35,000,000	40,650,018	-53,367,688	11,290,028	1.6	16.6
2007	PRISA II	Core / Core Plus Portfolio	Developed Americas	6/30/2007	60,278,867	63,729,327	-32,286,625	107,335,648	2.2	6.2
2006	PRISA SA	Core / Core Plus Portfolio	Developed Americas	9/29/2006	21,000,000	22,990,656	-12,621,206	34,826,022	2.1	5.3
2006	Prologis Targeted U.S. Logistics Fund	Core / Core Plus Portfolio	Developed Americas	10/1/2006	80,000,000	83,594,865	-84,100,000	105,572,464	1.4	8.0
2006	RFIF America REIT II	Core / Core Plus Portfolio	Developed Americas	10/1/2006	21,000,000	27,724,347	-18,572,238	35,718,663	2.0	5.7
2022	TPG Real Estate Thematic Advantage Core-Plus	Core / Core Plus Portfolio	Developed Americas	3/30/2022	75,000,000	34,987,406	0	35,265,000	1.0	0.9
2006	UBS Trumbull Property Fund	Core / Core Plus Portfolio	Developed Americas	9/28/2006	61,000,000	94,960,812	-116,879,318	31,178,435	1.6	6.0
2016	USA Eagle Real Estate Fund	Core / Core Plus Portfolio	Developed Americas	12/1/2015	75,000,000	75,000,000	-19,586,466	85,189,174	1.4	6.6
<b>Core / Core Plus Portfolio</b>					<b>1,711,878,867</b>	<b>1,731,581,589</b>	<b>-738,292,604</b>	<b>1,969,369,540</b>	<b>1.5</b>	<b>7.7</b>
2019	AERMONT Real Estate Fund IV	Non-Core Portfolio	Developed Europe	4/18/2019	19,401,963	13,466,804	0	11,080,275	0.8	-10.0
2008	AG Realty Fund VII	Non-Core Portfolio	Developed Americas	5/20/2008	25,000,000	23,454,500	-35,345,911	41,490	1.5	12.5
2023	Almanac Realty Securities IX Co-Investment	Non-Core Portfolio	Developed Americas	11/10/2022	17,700,000	1,219,888	0	1,307,963	1.1	7.3
2022	Almanac Realty Securities IX, L.P.	Non-Core Portfolio	Developed Americas	6/13/2022	35,300,000	4,618,231	0	4,253,780	0.9	-9.5
2008	American Value Partners Fund I	Non-Core Portfolio	Developed Americas	10/18/2007	15,000,000	11,355,858	-10,415,981	1,588,339	1.1	0.9
2006	AREA Real Estate Investment Fund V, LP	Non-Core Portfolio	Developed Americas	6/15/2006	5,000,000	5,000,004	-5,748,863	5,617	1.2	1.7
2008	Ares European Real Estate Partners X	Non-Core Portfolio	Developed Europe	5/16/2008	30,000,000	30,487,500	-33,641,499	1,549,291	1.1	2.6
2022	Artemis Real Estate Partners Healthcare Fund II	Non-Core Portfolio	Developed Americas	7/15/2022	70,000,000	13,235,150	-3,601,179	8,659,398	0.9	-11.9
2018	Basis Investment Group Fund I	Non-Core Portfolio	Developed Americas	11/16/2017	9,500,000	9,987,685	-6,430,974	6,971,739	1.3	12.1
2021	BIG Real Estate Fund II	Non-Core Portfolio	Developed Americas	6/30/2021	20,000,000	10,743,234	-4,127,482	6,997,762	1.0	5.1
2004	Blackstone Fund IV	Non-Core Portfolio	Developed Americas	5/10/2004	15,000,000	19,220,353	-27,428,335	132,428	1.4	10.4
2010	Blackstone Real Estate Partners Europe III (USD Vehicle)	Non-Core Portfolio	Developed Europe	10/24/2008	35,000,000	37,292,706	-50,874,550	2,685,884	1.4	10.0
2014	Blackstone Real Estate Partners Europe IV (USD Vehicle)	Non-Core Portfolio	Unidentified	12/23/2013	97,500,000	95,569,291	-121,492,536	15,756,111	1.4	11.4
2010	Blackstone Real Estate Partners Europe VI (EURO Vehicle)	Non-Core Portfolio	Developed Europe	11/20/2009	69,992,113	49,814,916	-21,572,999	39,198,808	1.2	14.1
2019	Blackstone Real Estate Partners IX	Non-Core Portfolio	Global	9/23/2019	100,000,000	103,749,301	-33,424,743	118,395,830	1.5	27.1
2007	Blackstone Real Estate Partners VI	Non-Core Portfolio	Global	9/27/2007	40,000,000	44,681,307	-88,492,132	634,971	2.0	13.2
2012	Blackstone Real Estate Partners VII	Non-Core Portfolio	Global	3/31/2012	100,000,000	127,652,818	-198,185,946	18,888,780	1.7	15.6
2015	Blackstone Real Estate Partners VIII	Non-Core Portfolio	Global	8/18/2015	101,000,000	115,232,236	-119,263,150	77,092,487	1.7	16.4
2022	Blackstone Real Estate Partners X	Non-Core Portfolio	Global	3/24/2022	125,000,000	9,468,119	0	1,339,291	0.3	0.6
2012	Brookfield Strategic Real Estate Partners	Non-Core Portfolio	Global	9/30/2012	60,000,000	70,514,555	-22,420,525	13,841,565	2.0	18.3
2019	Brookfield Strategic Real Estate Partners III	Non-Core Portfolio	Global	4/12/2019	95,000,000	84,807,475	-21,512,971	91,681,346	1.3	13.4
2022	Brookfield Strategic Real Estate Partners IV	Non-Core Portfolio	Global	8/11/2022	131,000,000	47,673,192	-2,245,496	50,254,350	1.1	17.4
2022	Carlyle Realty Partners IX	Non-Core Portfolio	Developed Americas	9/30/2022	100,000,000	9,772,421	0	7,444,746	0.8	-51.1
2007	Carlyle Realty Partners V	Non-Core Portfolio	Developed Americas	8/27/2007	20,000,000	25,421,745	-38,746,479	43,437	1.5	9.0
2011	Carlyle Realty Partners VI	Non-Core Portfolio	Developed Americas	9/14/2011	40,000,000	38,974,550	-62,919,635	3,460,020	1.7	24.2
2014	Carlyle Realty Partners VII	Non-Core Portfolio	Developed Americas	6/30/2014	60,000,000	55,255,611	-71,074,282	14,690,345	1.6	14.6
2022	CIREP Centre Street II	Non-Core Portfolio	Unidentified	11/22/2022	75,000,000	13,854,680	0	12,167,585	0.9	-19.3
2021	CIREP Centre Street, L.P.	Non-Core Portfolio	Global	7/19/2021	75,000,000	49,264,706	0	59,455,905	1.2	19.2
2014	Divco West Fund V	Non-Core Portfolio	Developed Americas	1/15/2014	70,000,000	69,301,157	-114,431,367	3,961,509	1.7	24.9
2017	Divco West Fund IV	Non-Core Portfolio	Developed Americas	12/1/2016	40,000,000	27,238,380	-67,280,519	27,025,868	1.3	5.7
2020	Divco West Fund VI	Non-Core Portfolio	Developed Americas	11/6/2020	50,000,000	25,834,329	0	23,889,566	1.6	21.6
2020	DRA Growth & Income Fund X	Non-Core Portfolio	Developed Americas	3/25/2020	36,000,000	31,704,632	-8,859,440	30,821,864	1.3	22.3
2017	DRA Growth and Income Fund IX	Non-Core Portfolio	Developed Americas	3/9/2017	27,000,000	27,548,835	-25,963,898	19,788,675	1.7	17.6
2010	ElmTree Net Lease Fund IV	Non-Core Portfolio	Developed Americas	7/1/2020	40,000,000	25,618,429	-17,744,467	18,939,807	1.4	31.6
2016	European Property Investors Special Opportunities IV (EPISO IV)	Non-Core Portfolio	Developed Europe	12/18/2015	32,413,099	29,618,202	-12,268,122	28,514,387	1.4	7.9
2017	Exeter Industrial Value Fund IV	Non-Core Portfolio	Developed Americas	9/20/2017	16,000,000	15,109,020	-30,854,814	2,339,202	2.2	30.4
2021	Exeter Industrial Value Fund V	Non-Core Portfolio	Developed Americas	10/23/2020	30,000,000	29,539,058	0	44,260,416	1.5	31.7
2020	GreenOak Asia III (USD Vehicle)	Non-Core Portfolio	Developed Asia	4/17/2020	40,000,000	41,605,309	-24,063,106	21,339,304	1.1	12.5
2011	H/2 Special Opportunities Fund II	Non-Core Portfolio	Developed Americas	1/31/2011	25,000,000	25,000,000	-36,431,004	419,183	1.5	13.2
2015	H/2 Special Opportunities Fund III	Non-Core Portfolio	Developed Americas	12/29/2014	40,000,000	41,540,719	-41,454,645	10,560,084	1.3	7.2
2017	H/2 Special Opportunities Fund IV	Non-Core Portfolio	Developed Americas	11/15/2016	61,000,000	61,000,000	-13,823,361	60,520,189	1.2	6.1
2017	KKR CMBS B-Piece SMA	Non-Core Portfolio	Developed Americas	9/27/2017	81,000,000	72,294,174	-31,522,855	63,795,114	1.4	9.6
2018	KKR Real Estate Partners Americas II	Non-Core Portfolio	Developed Americas	2/9/2018	65,850,000	69,704,666	-89,121,453	21,457,225	1.6	23.6
2021	KKR Real Estate Partners Americas III	Non-Core Portfolio	Developed Americas	11/23/2021	105,000,000	62,487,669	-4,741,381	54,550,671	1.0	0.6
2021	KKR Real Estate Partners Europe II	Non-Core Portfolio	Developed Europe	9/1/2021	50,150,000	35,930,183	-11,344,776	26,729,512	1.1	9.1
2021	KKR Real Estate Securities Dislocation Opportunity Co-Investment Fund	Non-Core Portfolio	Developed Americas	10/9/2020	58,000,000	34,745,683	-39,089,928	4,993,568	1.3	35.4
2022	LBA Logistics Value Fund IX	Non-Core Portfolio	Developed Americas	2/22/2022	49,000,000	13,192,308	0	11,905,394	0.9	-12.7
2014	Lone Star Real Estate Fund III	Non-Core Portfolio	Global	5/20/2014	75,000,000	70,306,161	-95,126,613	318,924	1.4	14.1
2017	Lone Star Real Estate Fund V	Non-Core Portfolio	Global	9/26/2017	92,700,000	29,968,214	-15,344,714	10,		

EXHIBIT C : CORE / CORE PLUS PERFORMANCE SUMMARY

Core / Core Plus One Year Net Time-Weighted Returns

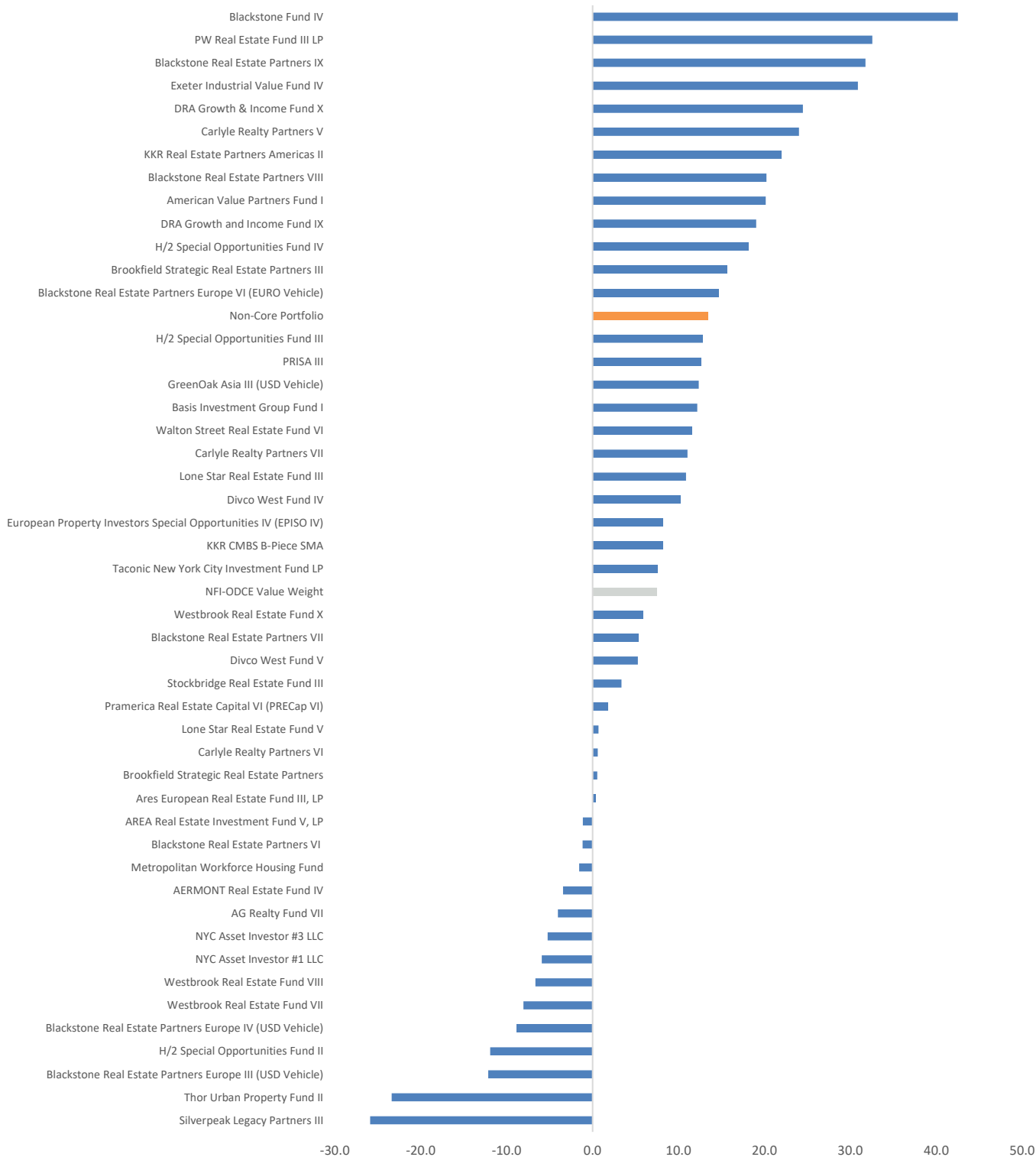


Core / Core Plus Three Year Net Time-Weighted Returns



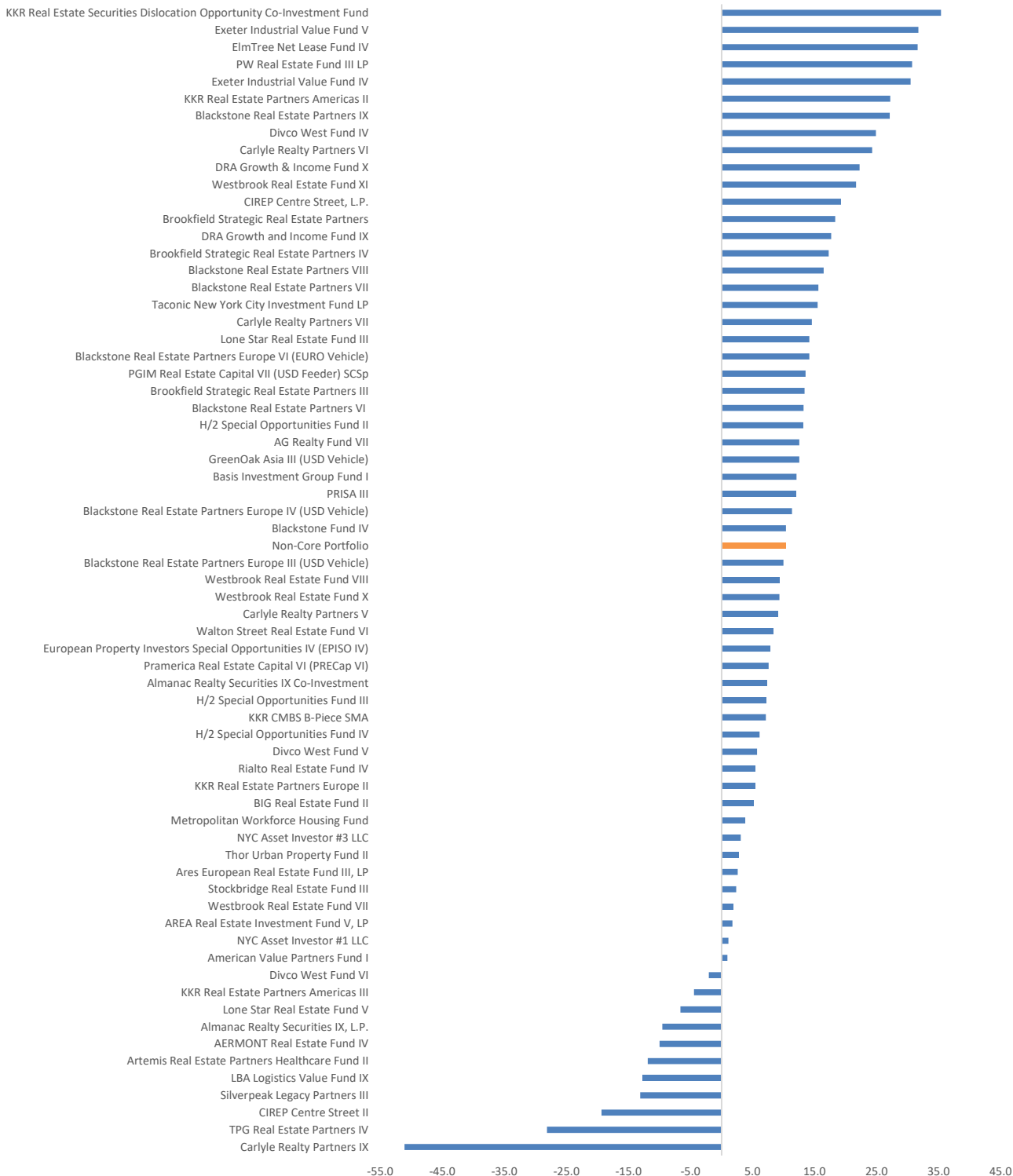
### EXHIBIT C : NON-CORE PERFORMANCE SUMMARY

Non-Core Three Year Net Time-Weighted Returns



#### EXHIBIT C : NON-CORE PERFORMANCE SUMMARY

Non-Core Since Inception Net IRRs



## Infrastructure Quarterly Report (Public):

# QUARTERLY MONITORING REPORT

For the period ended March 31, 2023

Report Prepared For:

New York City Police Pension Fund - Infrastructure





## IMPORTANT INFORMATION

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On September 20, 2021, StepStone Group Inc. acquired Greenspring Associates, Inc. ("Greenspring"). Upon the completion of this acquisition, the management agreement of each Greenspring vehicle was assigned to StepStone Group LP.

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An investment involves a number of risks and there are conflicts of interest.

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All data is as of March 31, 2023 unless otherwise noted.

**PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. ACTUAL PERFORMANCE MAY VARY.**

## PERFORMANCE SUMMARY

The New York City Police Pension Fund (“NYCPPF”) established the Infrastructure Program (the “Program”) in December of 2012 on behalf of its beneficiaries to participate in attractive long-term investment opportunities and to provide diversification to its overall pension investment portfolio.

The inclusion of infrastructure in the NYCPPF pension portfolio allows for global investments in facilities or assets that provide core essential services critical to the operation and development of economies. Typically infrastructure investments have high barriers to entry due to significant capital expenditure requirements, exclusive long term contracts or regulatory requirements. Infrastructure investments are comprised of long useful-life assets with high tangible value and relatively low value erosion over time.

The Program seeks to invest in opportunities in a variety of infrastructure sectors, including but not limited to, transportation, energy, power, utilities, water, wastewater, communications and social infrastructure.

StepStone Group LP (“StepStone”) was engaged by NYCPPF on October 20, 2014 to provide infrastructure advisory services for prospective investment opportunities and monitoring and reporting services for existing and new investments.

Since inception through March 31, 2023 , the Program has committed US\$1,873.5 million to 42 partnership investments (the “Portfolio”). This quarterly monitoring report covers the performance of the Portfolio as of March 31, 2023 as well as significant activity that occurred during Q1 2023.

## ALLOCATION SUMMARY

NYCPPF has an Infrastructure allocation target of 3% of total pension assets. As of March 31, 2023, the market value of NYCPPF Infrastructure Program represented approximately 2.1% of total pension assets , a 16 bps change from the prior quarter.

As of March 31, 2023. In USD millions.

	INCEPTION TO MARCH 31, 2023	INCEPTION TO DECEMBER 31, 2022	INCEPTION TO MARCH 31, 2022	QUARTERLY Δ	ANNUAL Δ
Total Pension Assets	\$51,610.0	\$51,326.0	\$43,619.0	\$284.0	\$7,991.0
Total Infrastructure Assets	\$1,088.7	\$1,001.8	\$866.9	\$86.9	\$221.8
% Allocation to Infrastructure	2.1%	2.0%	2.0%	16 bps	12 bps

*Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.*

## PERFORMANCE SUMMARY CONTINUED

As of March 31, 2023, the Infrastructure Program has achieved a Total Value to Paid-In multiple of 1.4x invested capital and an IRR of 12.0%.

As of March 31, 2023. In USD millions.

	INCEPTION TO MARCH 31, 2023	INCEPTION TO DECEMBER 31, 2022	INCEPTION TO MARCH 31, 2022	QUARTERLY Δ	ANNUAL Δ
Number of Managers	14	14	13	0	1
Number of Investments	42	40	34	2	8
Number of Active Investments	42	40	34	2	8
Committed Capital	\$1,873.5	\$1,710.3	\$1,454.9	\$163.2	\$418.6
Unfunded Commitment	880.1	783.0	720.6	97.1	159.5
Total Exposure	1,968.8	1,784.8	1,587.5	184.1	381.3
Total Contributed	1,093.0	1,025.1	812.1	67.9	280.9
Total Distributed	388.3	377.5	252.4	10.8	135.9
Total Market Value	1,088.7	1,001.8	866.9	86.9	221.8
Since Inception G/L	384.0	354.3	307.2	29.8	76.8
<b>Total Value</b>	<b>\$1,477.0</b>	<b>\$1,379.3</b>	<b>\$1,119.3</b>	<b>\$97.7</b>	<b>\$357.7</b>
Net DPI	0.4x	0.4x	0.3x		
Net TVM	1.4x	1.3x	1.4x		
<b>Net IRR</b>	<b>12.0%</b>	<b>12.0%</b>	<b>13.0%</b>	<b>1 bps</b>	<b>(100 bps)</b>

**Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.**

IRR and TVM for certain vehicles may have been impacted by StepStone's or the underlying GP's use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

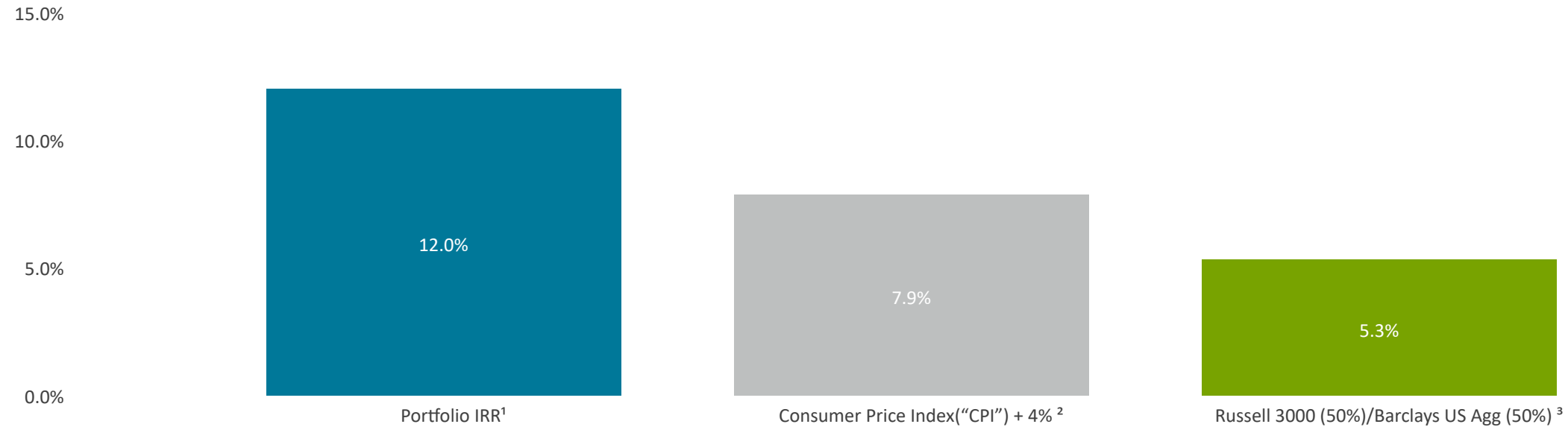
Unless otherwise indicated, all underlying investment attribution and performance information presented is net of fees and expenses charged by the underlying investment, but gross of StepStone vehicle/account fees and expenses.

Where indicated, net return figures presented for StepStone vehicle/account performance include fees and expenses paid to StepStone.

"Market Value" may not tie to financial statements due to timing variances related to underlying manager capital activity.

## PORTFOLIO PERFORMANCE VS. BENCHMARK

The following graph illustrates Portfolio IRR performance versus benchmarks as of March 31, 2023.



1. NYCPPF since inception Internal Rate of Return ("IRR") is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund managers' fees, expenses and carried interest. Past performance is not necessarily indicative of future results.
2. Consumer Price Index ("CPI") benchmark represents the compound annual growth rate of the Consumer Price Index for All Urban Consumers and All Items, as provided by the U.S. Department of Labor: Bureau of Labor Statistics, calculated over a five-year rolling period plus a 4.0% premium.
3. Benchmark is a dollar-weighted PME+ calculation of daily changes in 50% of the Russell 3000® Index and 50% of the Barclays U.S. Aggregate® Index. These index comparisons are being provided solely for informational purposes as an indication of returns that could be earned by investors by making similar investments in the indexes and should not be relied upon for any purpose. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

## PORTFOLIO DIVERSIFICATION

The Program's objective is to build a Portfolio that is diversified by investment strategy, asset type, and geography. The target investment strategy ranges are as follows:

- Core Infrastructure Investments: 60% to 100%; and
- Non-Core Infrastructure Investments: 0% to 40%.

Actual percentages may differ substantially from these targets during the initial years of the Program. The following table illustrates the current diversification of the Portfolio by fund strategy, geography and industry focus.

As of March 31, 2023. In USD millions.

STRATEGY	MARKET VALUE	MARKET VALUE % OF TOTAL	UNFUNDED	UNFUNDED % OF TOTAL	EXPOSURE	EXPOSURE % OF TOTAL
Core	\$912.4	83.8%	\$689.7	78.4%	\$1,602.1	81.4%
Non-Core	\$176.3	16.2%	\$190.4	21.6%	\$366.7	18.6%
<b>Total</b>	<b>\$1,088.7</b>	<b>100.0%</b>	<b>\$880.1</b>	<b>100.0%</b>	<b>\$1,968.8</b>	<b>100.0%</b>

GEO FOCUS	MARKET VALUE	MARKET VALUE % OF TOTAL	UNFUNDED	UNFUNDED % OF TOTAL	EXPOSURE	EXPOSURE % OF TOTAL
OECD	\$617.2	56.7%	\$210.6	23.9%	\$827.9	42.1%
Global	\$294.4	27.0%	\$526.8	59.9%	\$821.1	41.7%
North America	\$177.1	16.3%	\$142.7	16.2%	\$319.8	16.2%
<b>Total</b>	<b>\$1,088.7</b>	<b>100.0%</b>	<b>\$880.1</b>	<b>100.0%</b>	<b>\$1,968.8</b>	<b>100.0%</b>

INDUSTRY	MARKET VALUE	MARKET VALUE % OF TOTAL	UNFUNDED	UNFUNDED % OF TOTAL	EXPOSURE	EXPOSURE % OF TOTAL
Diversified	\$802.0	73.7%	\$686.2	78.0%	\$1,488.3	75.6%
Energy	\$150.0	13.8%	\$129.7	14.7%	\$279.8	14.2%
Commodities Logistics	\$40.9	3.8%	\$58.8	6.7%	\$99.7	5.1%
Communication	\$72.8	6.7%	\$4.6	0.5%	\$77.4	3.9%
Transportation	\$16.1	1.5%	\$0.0	0.0%	\$16.1	0.8%
Renewables	\$6.8	0.6%	\$0.7	0.1%	\$7.6	0.4%
<b>Total</b>	<b>\$1,088.7</b>	<b>100.0%</b>	<b>\$880.1</b>	<b>100.0%</b>	<b>\$1,968.8</b>	<b>100.0%</b>

## PORTFOLIO REVIEW

### QUARTERLY HIGHLIGHTS

- New Investment Commitments – During the first quarter of 2023, the Program closed on 2 new investment commitments totaling \$162.0 million.

As of March 31, 2023. In USD millions.

INVESTMENT	CLOSING DATE	VINTAGE YEAR	STRATEGY	GEO FOCUS	INDUSTRY FOCUS	COMMITTED CAPITAL
EQT Infrastructure VI (No.2) USD SCSp	Mar-2023	2023	Infrastructure	Global	Diversified	\$81.0
Global Infrastructure Partners V-A/B, L.P.	Mar-2023	2023	Infrastructure	OECD	Diversified	\$81.0
<b>Total</b>						<b>\$162.0</b>

- Subsequent to quarter-end, the Program closed on 2 new investment commitments.

In USD millions.

INVESTMENT	CLOSING DATE	VINTAGE YEAR	STRATEGY	GEO FOCUS	INDUSTRY FOCUS	COMMITTED CAPITAL
Ardian Infrastructure Fund VI	Jun-2023	2023	Infrastructure	OECD	Diversified	\$89.2
Elite Co-Invest AIV, L.P.	Jul-2023	2023	Infrastructure	Europe	Renewables	\$9.6
<b>Total</b>						<b>\$98.8</b>

## PORTFOLIO REVIEW CONTINUED

- New Underlying Fund Investments – During the first quarter of 2023, 16 investment positions were added to the Portfolio. Below is a list of the top ten based on invested capital.

As of March 31, 2023. In USD millions.

COMPANY	INVESTMENT DATE	STAGE	INDUSTRY	COUNTRY	EXPOSED INVESTED CAPITAL	EXPOSED MARKET VALUE
European Telecom Towers (DFMG)	Feb-2023	Private	Telecom	Germany	\$9.0	\$9.2
PSO	Mar-2023	Private	Telecom	Poland	\$6.3	\$6.5
Intrado	Jan-2023	Private	Telecom	United States	\$5.3	\$5.3
Environmental 360 Solutions Ltd.	Jan-2023	Private	Sustainability	Canada	\$3.1	\$3.1
Lines of Credit - Pooled Contribution	Feb-2023	Private	Other	United States	\$2.0	\$2.0
Seraya Partners Fund I, L.P.	Feb-2023	Private	Other	Singapore	\$1.0	\$0.9
Greenvolt - Energias Renováveis, S.A.	Feb-2023	Public	Sustainability	Portugal	\$1.0	\$0.9
Ancala Infrastructure Fund III SCSp	Feb-2023	Private	Other	United Kingdom	\$0.9	\$0.9
Grand Valley Wind	Feb-2023	Private	Sustainability	Canada	\$0.8	\$0.8
Catalyze, Inc.	Feb-2023	Private	Sustainability	United States	\$0.7	\$0.7

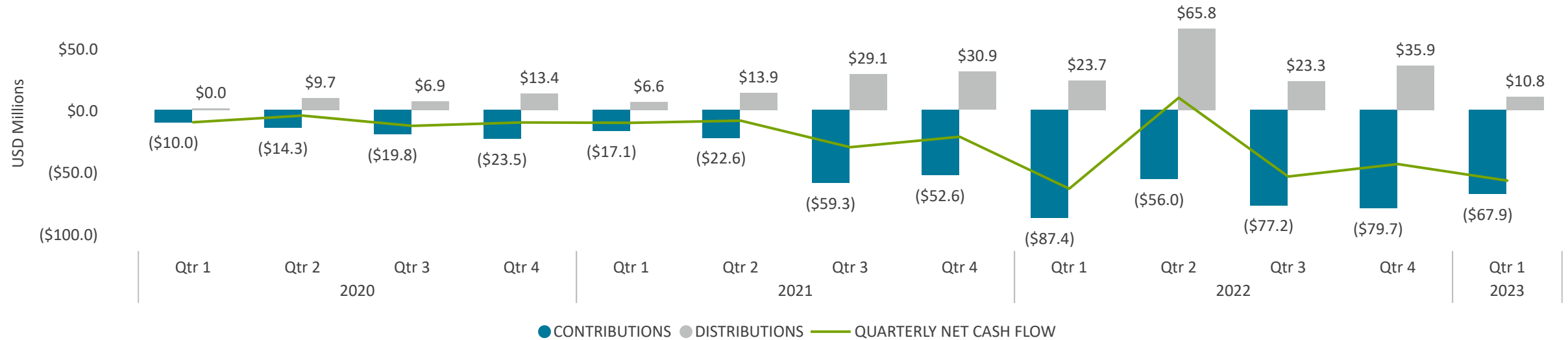
- Company Exits – During the first quarter of 2023, 1 investment position exited the Portfolio.

As of March 31, 2023. In USD millions.

COMPANY	INVESTMENT DATE	EXIT DATE	STAGE	INDUSTRY	COUNTRY	INVESTED CAPITAL	TOTAL VALUE
SNC-Lavalin Compression Services, LLC	Jul-2018	Feb-2023	Private	Midstream	United States	\$1.6	\$2.2

## QUARTERLY CASH FLOW ACTIVITY

During the first quarter of 2023, the portfolio contributed \$67.9 million and received \$10.8 million of distributions, for a net cash outflow of \$57.2 million.



## QUARTERLY TOP CONTRIBUTIONS AND DISTRIBUTIONS

As of March 31, 2023. In USD millions.

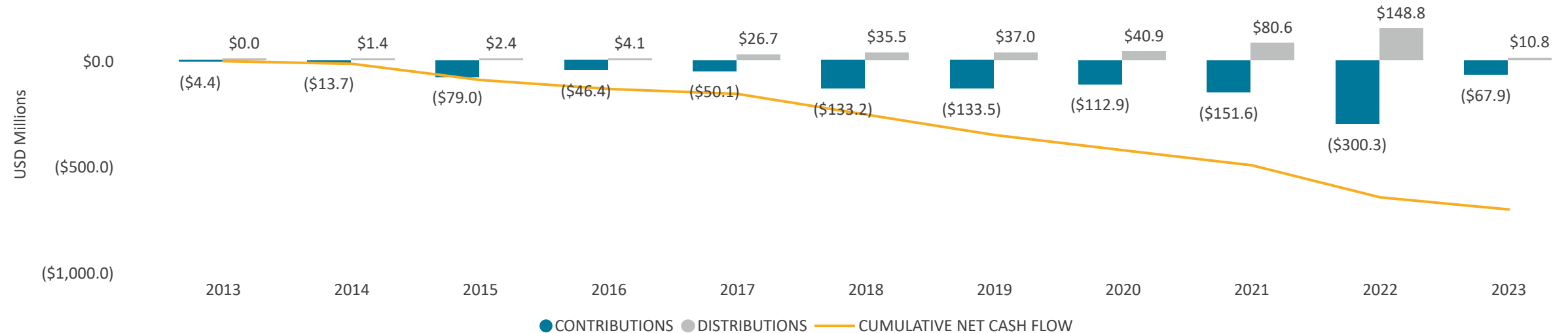
INVESTMENT	CONTRIBUTIONS	% OF TOTAL
Axiom Infrastructure North America (2021)	\$13.1	19.3%
EQT Infrastructure V (No.2) USD SCSp	\$11.1	16.4%
InfraVia European Fund V SCSp	\$8.0	11.8%
Global Energy & Power Infrastructure Fund III, L.P.	\$7.6	11.2%
Brookfield Infrastructure Fund IV, L.P.	\$7.5	11.1%
<b>Top 5 Contributions</b>	<b>\$47.4</b>	<b>69.7%</b>

INVESTMENT	DISTRIBUTIONS	% OF TOTAL
ASF VII Infrastructure L.P.	\$1.9	17.6%
NYCRS EIG Energy Partners, L.P.	\$1.4	12.5%
Brookfield Infrastructure Fund II, L.P.	\$1.3	12.0%
Global Infrastructure Partners III-A/B, L.P.	\$1.2	11.0%
Brookfield Infrastructure Fund IV, L.P.	\$1.1	10.3%
<b>Top 5 Distributions</b>	<b>\$6.8</b>	<b>63.4%</b>



## SINCE INCEPTION ANNUAL CASH FLOW ACTIVITY

During the three months ended March 31, 2023, the portfolio contributed \$67.9 million and received \$10.8 million of distributions, for a net cash outflow of \$57.2 million.



## YEAR-TO-DATE TOP CONTRIBUTIONS AND DISTRIBUTIONS

As of March 31, 2023. In USD millions.

INVESTMENT	CONTRIBUTIONS	% OF TOTAL
Axiom Infrastructure North America (2021)	\$13.1	19.3%
EQT Infrastructure V (No.2) USD SCSp	\$11.1	16.4%
InfraVia European Fund V SCSp	\$8.0	11.8%
Global Energy & Power Infrastructure Fund III, L.P.	\$7.6	11.2%
Brookfield Infrastructure Fund IV, L.P.	\$7.5	11.1%
<b>Top 5 Contributions</b>	<b>\$47.4</b>	<b>69.7%</b>

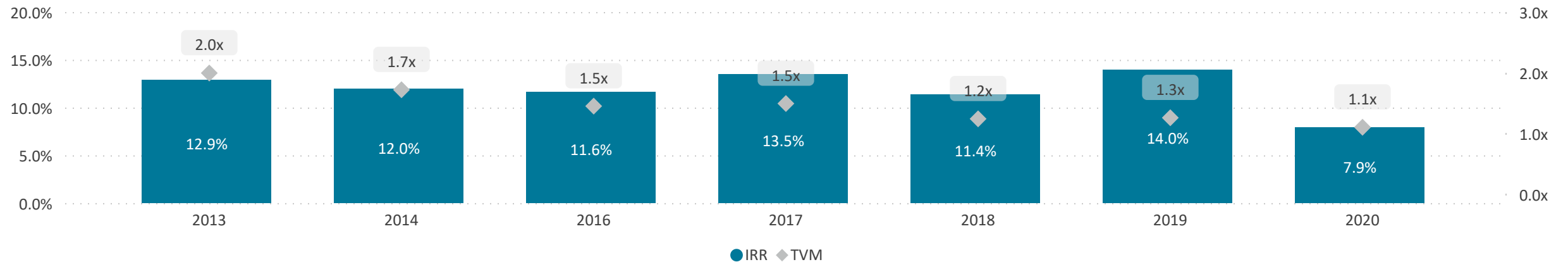
INVESTMENT	DISTRIBUTIONS	% OF TOTAL
ASF VII Infrastructure L.P.	\$1.9	17.6%
NYCRS EIG Energy Partners, L.P.	\$1.4	12.5%
Brookfield Infrastructure Fund II, L.P.	\$1.3	12.0%
Global Infrastructure Partners III-A/B, L.P.	\$1.2	11.0%
Brookfield Infrastructure Fund IV, L.P.	\$1.1	10.3%
<b>Top 5 Distributions</b>	<b>\$6.8</b>	<b>63.4%</b>

## PERFORMANCE BY VINTAGE YEAR

The following table illustrates the Portfolio's since-inception investment performance by vintage year as of March 31, 2023.

As of March 31, 2023. In USD millions.

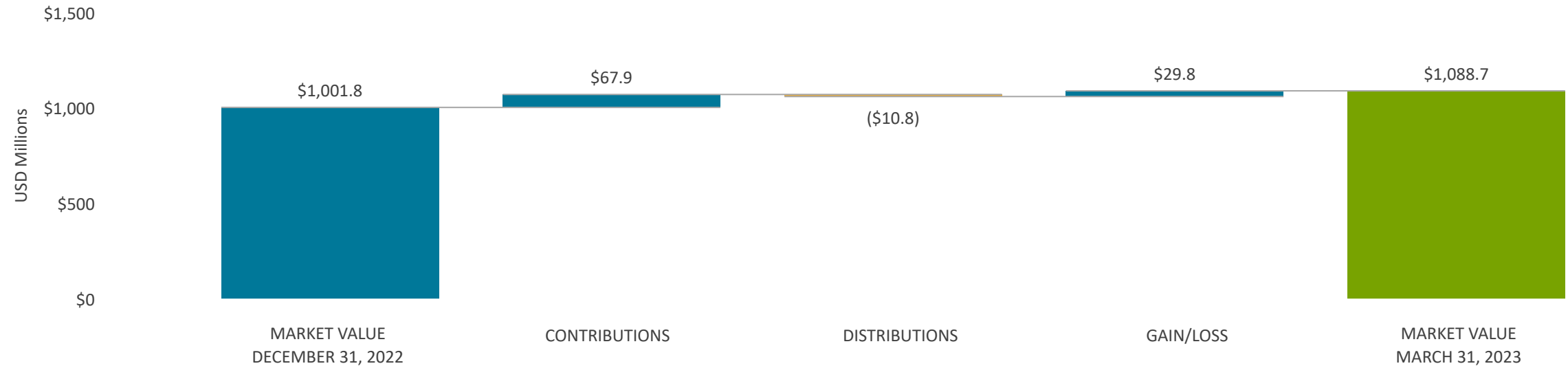
VINTAGE YEAR	COMMIT	CONT	DIST	NAV	TOTAL VALUE	UNFUNDED	TOTAL EXPOSURE	TOTAL EXPOSURE % OF TOTAL	NET DPI	NET TVM	NET IRR
2013	\$60.0	\$53.9	\$56.2	\$51.4	\$107.6	\$10.6	\$62.0	3%	1.0x	2.0x	12.9%
2014	\$100.0	\$123.7	\$79.7	\$133.2	\$212.9	\$1.2	\$134.4	7%	0.6x	1.7x	12.0%
2016	\$213.6	\$192.5	\$112.4	\$167.0	\$279.4	\$54.0	\$221.0	11%	0.6x	1.5x	11.6%
2017	\$119.7	\$110.1	\$82.4	\$82.0	\$164.4	\$20.7	\$102.7	5%	0.7x	1.5x	13.5%
2018	\$196.9	\$168.1	\$25.1	\$183.7	\$208.8	\$42.1	\$225.8	11%	0.1x	1.2x	11.4%
2019	\$167.0	\$143.6	\$23.6	\$157.2	\$180.8	\$30.5	\$187.7	10%	0.2x	1.3x	14.0%
2020	\$200.6	\$91.3	\$5.7	\$94.9	\$100.6	\$113.9	\$208.8	11%	0.1x	1.1x	7.9%
2021	\$321.8	\$169.7	\$3.0	\$179.4	\$182.4	\$153.4	\$332.8	17%	NM	NM	NM
2022	\$332.0	\$40.2	\$0.3	\$39.9	\$40.2	\$291.8	\$331.7	17%	NM	NM	NM
2023	\$162.0	\$0.0	\$0.0	\$0.0	\$0.0	\$162.0	\$162.0	8%	NM	NM	NM
<b>Total</b>	<b>\$1,873.5</b>	<b>\$1,093.0</b>	<b>\$388.3</b>	<b>\$1,088.7</b>	<b>\$1,477.0</b>	<b>\$880.1</b>	<b>\$1,968.8</b>	<b>100%</b>	<b>0.4x</b>	<b>1.4x</b>	<b>12.0%</b>



\* Performance of funds with less than two years of activity is not considered meaningful.

## QUARTERLY VALUATION MOVEMENT

During the first quarter of 2023, the value of NYCPPF - Infrastructure's portfolio increased by \$29.8 million, or 3.0%.



## QUARTERLY TOP INVESTMENT GAINS AND LOSSES

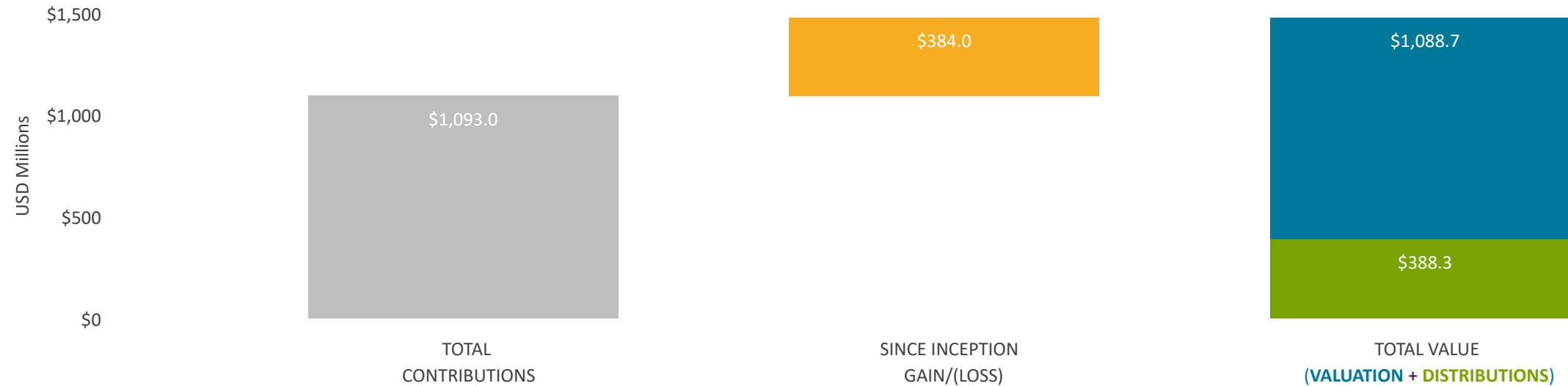
As of March 31, 2023. In USD millions.

INVESTMENT	\$	%
IFM Global Infrastructure Fund	\$4.3	3.7%
KKR Global Infrastructure Investors III L.P.	\$3.6	7.9%
EQT Infrastructure V (No.2) USD SCSp	\$2.6	6.8%
EQT Infrastructure IV (No.2) USD SCSp	\$2.3	3.7%
Stonepeak Patagonia (Co-Invest) Holdings LP (Project Panther)	\$2.0	8.5%
<b>Top 5 Gains</b>	<b>\$14.8</b>	<b>5.2%</b>

INVESTMENT	\$	%
Brookfield Infrastructure Fund V, LP	(\$0.7)	(323.3%)
DIF Infrastructure VII SCSp	(\$0.6)	
Global Energy & Power Infrastructure Fund II	(\$0.6)	(4.0%)
Blackrock Global Infrastructure Fund IV	(\$0.3)	(8.8%)
BIS NYC Infrastructure Emerging Manager Opportunities Fund, L.P.	(\$0.3)	(3.5%)
<b>Bottom 5 Losses</b>	<b>(\$2.5)</b>	<b>(9.6%)</b>

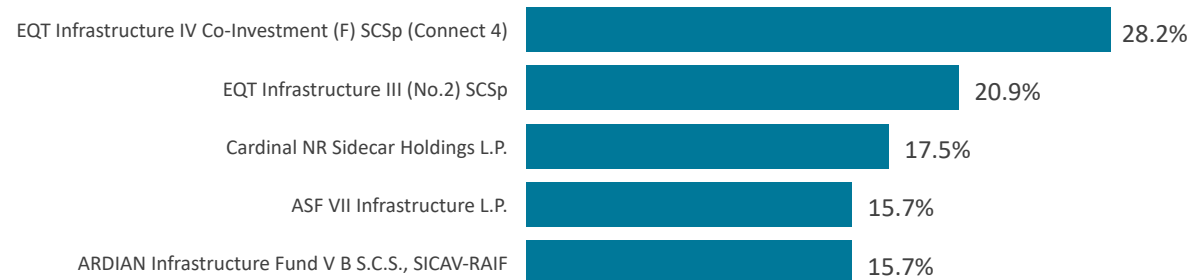
## SINCE INCEPTION VALUATION MOVEMENT

Through March 31, 2023, NYCPPF - Infrastructure's portfolio has generated a gain of \$384.0 million.

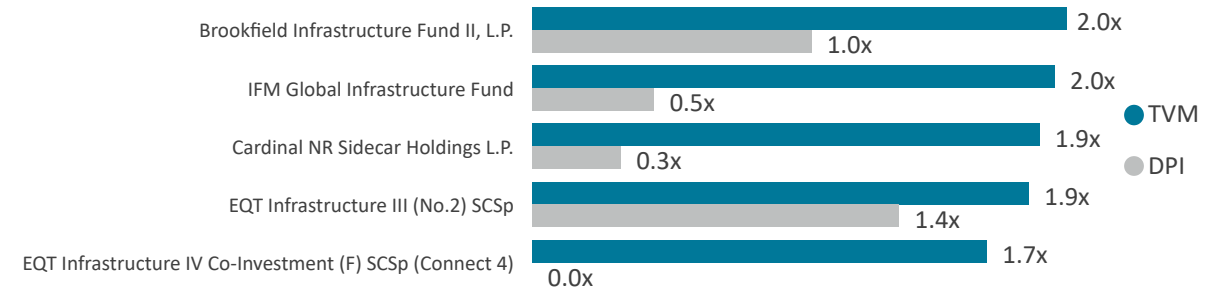


## SINCE INCEPTION TOP PERFORMING INVESTMENTS

TOP 5 PERFORMING INVESTMENTS BY IRR

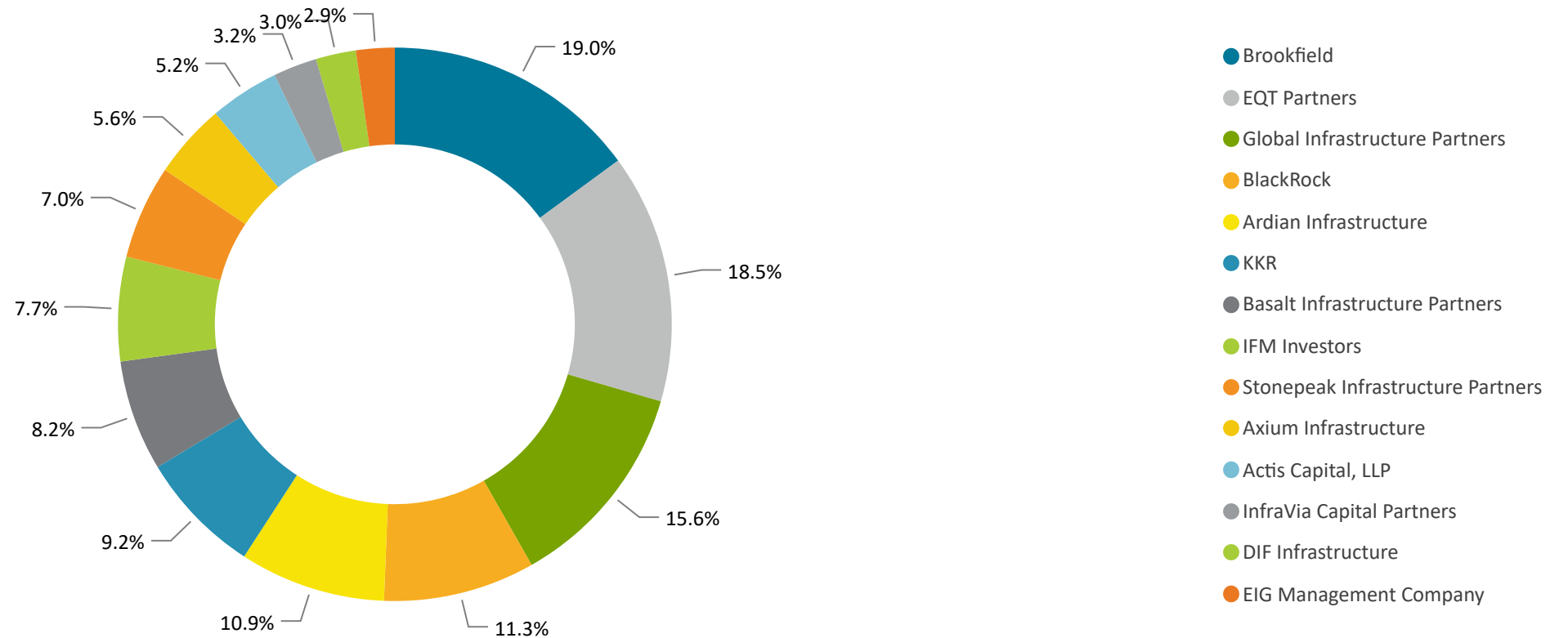


TOP 5 PERFORMING INVESTMENTS BY TVM



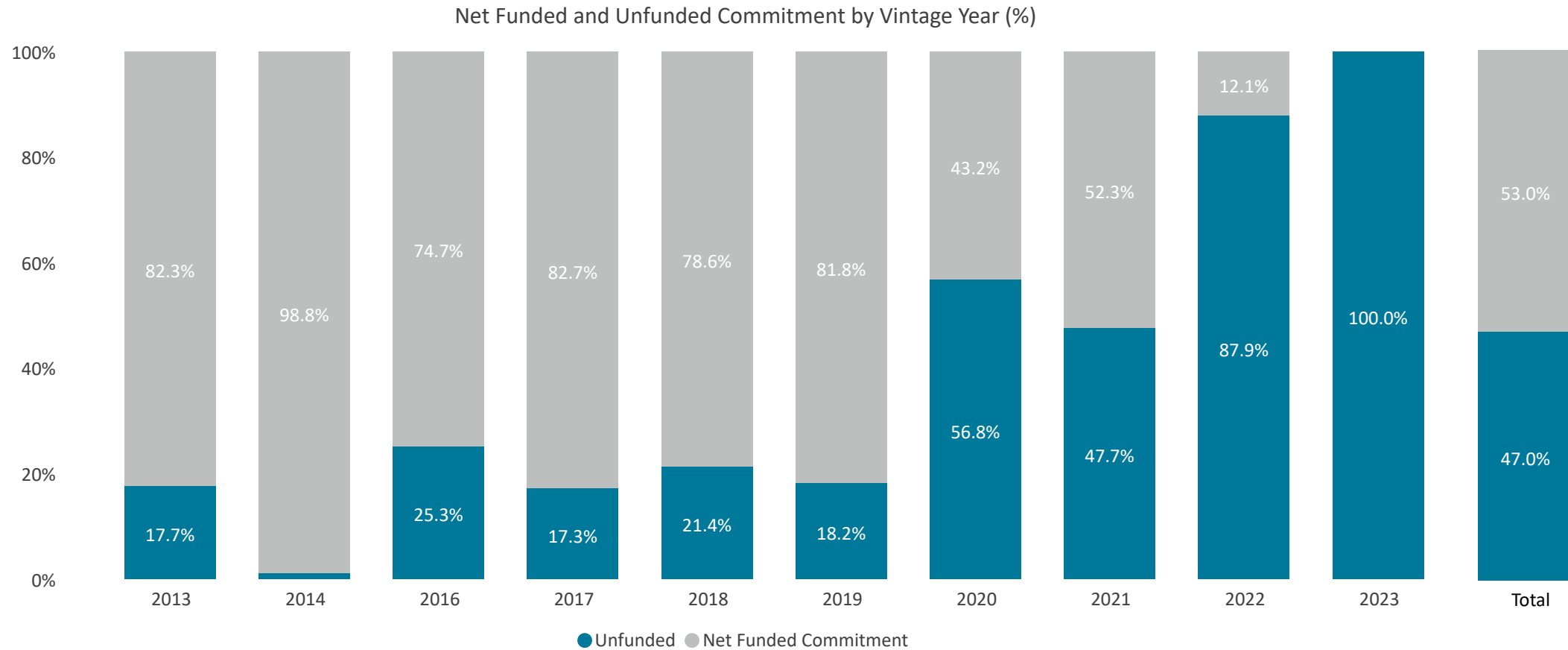
## MANAGER DIVERSIFICATION

As of March 31, 2023, the Program had made 14 investment commitments to 42 managers. NYCPPF seeks to limit its exposure to any single manager to no more than 20% of the total Infrastructure Program when fully invested. As the Program matures and closes on additional commitments, the single manager exposure is expected to decline significantly. Below is the Portfolio's current exposure by manager.



## NET UNFUNDED AND UNFUNDED COMMITMENT BY VINTAGE YEAR

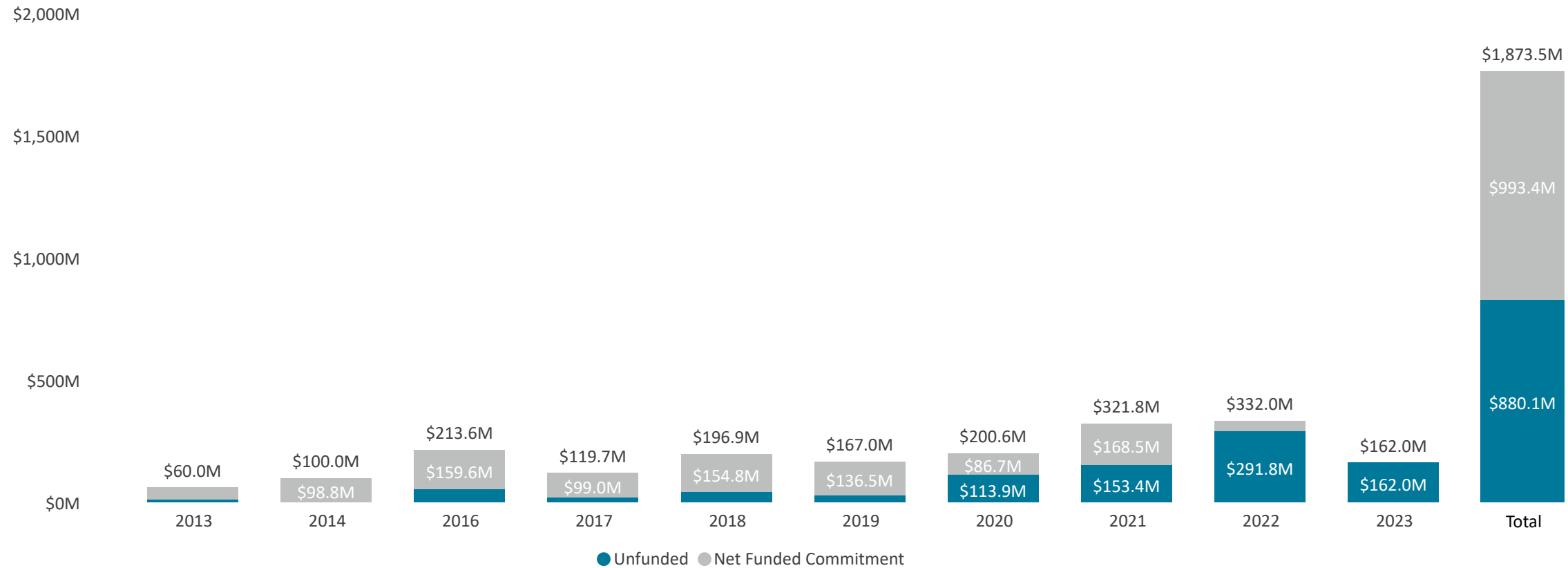
The following chart illustrates the Portfolio's net funded commitments (defined as total contributions inside commitment less any returns of excess capital and recallable distributions) as a percentage of total capital commitments, by fund vintage year, as of March 31, 2023. Overall, the Portfolio was 47% unfunded as of quarter-end.



## NET UNFUNDED AND UNFUNDED COMMITMENT BY VINTAGE YEAR CONTINUED

The following chart illustrates the Portfolio's net funded commitments relative to total capital commitments, by fund vintage year, as of March 31, 2023. Overall, the Portfolio had US\$880.1 million of unfunded commitments as of quarter-end.

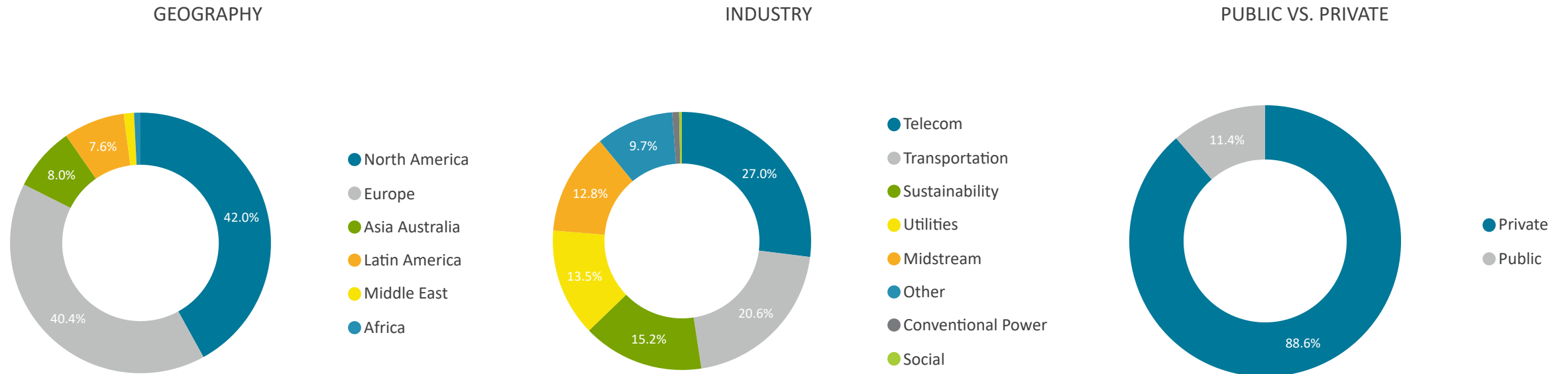
Net Funded and Unfunded Commitment by Vintage Year (US\$ millions)



## PORTFOLIO COMPANY LEVEL ANALYSIS

As of quarter-end, the Portfolio had exposure to 358 unrealized portfolio companies/investment positions. As the Portfolio matures, the number of portfolio companies/investment positions is expected to increase significantly. On the individual fund level, all current investments are within the single investment limitation of 15% of total fund size. The Program's individual portfolio investment exposure is relatively concentrated as a result of the relative immaturity of the Program.

The following chart illustrates the portfolio's diversification by geography, industry, and publicly-traded vs. privately-held assets based on Market Value at the portfolio company level as of March 31, 2023.





## SCHEDULE OF INVESTMENTS

As of March 31, 2023. In USD millions.

INVESTMENT	CLOSING DATE	VINTAGE YEAR	GEO FOCUS	COMMIT	CONT	DIST	NAV	TOTAL VALUE	UNFUNDED	NET DPI	NET TVM	NET IRR
Actis Energy 4	Dec-2016	2016	Global	\$39.6	\$39.7	\$49.2	\$7.5	\$56.8	\$15.0	1.2x	1.4x	14.0%
Actis Energy 5	Jun-2020	2020	Global	\$62.0	\$8.4	\$0.0	\$3.8	\$3.8	\$53.6	NM	NM	NM
Ardian Infra Fund V Co-Invest Eden	Feb-2022	2022	OECD	\$9.4	\$9.4	\$0.0	\$10.5	\$10.5	\$0.0	NM	NM	NM
Ardian Infra Fund V Co-Invest Lemon	Dec-2022	2022	OECD	\$7.3	\$6.7	\$0.0	\$6.8	\$6.8	\$0.7	NM	NM	NM
Ardian Infrastructure Fund V B	Mar-2019	2019	OECD	\$44.3	\$30.6	\$1.2	\$36.4	\$37.6	\$13.8	0.0x	1.2x	15.7%
ASF VII Infrastructure L.P.	Apr-2017	2016	OECD	\$42.0	\$32.6	\$12.7	\$35.0	\$47.7	\$10.1	0.4x	1.5x	15.7%
ASF VIII Infrastructure B L.P.	Aug-2021	2021	Global	\$55.0	\$6.4	\$1.1	\$5.9	\$7.1	\$48.6	NM	NM	NM
Axium Infrastructure North America (2017)	Aug-2017	2017	North America	\$42.7	\$44.6	\$13.3	\$47.7	\$61.0	\$0.0	0.3x	1.4x	8.6%
Axium Infrastructure North America (2021)	Sep-2021	2021	North America	\$37.3	\$38.1	\$1.2	\$38.4	\$39.6	\$0.0	NM	NM	NM
Basalt Infrastructure Partners III	Feb-2021	2021	Global	\$46.0	\$31.1	\$0.0	\$33.4	\$33.4	\$14.9	NM	NM	NM
Basalt Infrastructure Partners IV A L.P.	Oct-2022	2022	Global	\$71.6	\$0.0	\$0.0	\$0.0	\$0.0	\$71.6	NM	NM	NM
BIP III Ride Co-Investment L.P. (Project Ride)	Aug-2022	2022	OECD	\$6.7	\$6.7	\$0.0	\$7.5	\$7.5	\$0.0	NM	NM	NM
BIS NYC Infrastructure Emerging Manager Opportunities Fund, L.P.	Jul-2020	2020	Global	\$43.9	\$10.2	\$0.0	\$10.8	\$10.8	\$33.7	0.0x	1.1x	5.6%
Blackrock Global Infrastructure Fund IV	Jun-2022	2022	Global	\$57.0	\$3.7	\$0.0	\$3.2	\$3.2	\$53.3	NM	NM	NM
Brookfield Infrastructure Fund II, L.P.	Jul-2013	2013	Global	\$60.0	\$53.9	\$56.2	\$51.4	\$107.6	\$10.6	1.0x	2.0x	12.9%
Brookfield Infrastructure Fund III Co-Inv (aka Cardinal NR Sidecar)	Oct-2018	2018	North America	\$6.6	\$6.6	\$2.2	\$10.3	\$12.5	\$0.0	0.3x	1.9x	17.5%
Brookfield Infrastructure Fund III, L.P.	Apr-2016	2016	Global	\$61.0	\$47.7	\$16.7	\$50.7	\$67.3	\$21.1	0.3x	1.4x	10.5%
Brookfield Infrastructure Fund IV Co-Investment (Snow)	Oct-2019	2019	Global	\$6.0	\$6.0	\$0.9	\$8.7	\$9.5	\$0.0	0.1x	1.6x	15.5%
Brookfield Infrastructure Fund IV, L.P.	May-2019	2019	OECD	\$62.0	\$58.9	\$12.6	\$62.9	\$75.5	\$7.1	0.2x	1.3x	13.4%
Brookfield Infrastructure Fund V, LP	Jul-2022	2022	North America	\$71.6	\$0.0	\$0.0	(\$0.5)	(\$0.5)	\$71.6	NM	NM	NM
DIF Infrastructure VII SCSp	Nov-2022	2022	Global	\$46.7	\$0.0	\$0.0	(\$0.6)	(\$0.6)	\$46.7	NM	NM	NM
EQT Infrastructure III (No.2) SCSp	Feb-2017	2017	Global	\$34.7	\$39.7	\$54.3	\$19.2	\$73.5	\$1.9	1.4x	1.9x	20.9%
EQT Infrastructure IV (No.2) USD SCSp	Dec-2018	2018	OECD	\$63.5	\$58.2	\$10.1	\$65.4	\$75.6	\$12.2	0.2x	1.3x	11.6%
EQT Infrastructure IV Co-Investment (B) SCSp (Saber)	Jul-2019	2020	OECD	\$5.1	\$5.2	\$0.3	\$6.3	\$6.6	\$0.0	0.1x	1.3x	8.9%
EQT Infrastructure IV Co-Investment (F) SCSp (Connect)	Aug-2020	2020	Global	\$8.6	\$7.8	\$0.0	\$13.3	\$13.3	\$0.8	0.0x	1.7x	28.2%
EQT Infrastructure IV Co-Investment (G) SCSp (Lightspeed)	Jun-2020	2020	OECD	\$7.0	\$7.0	\$0.0	\$9.2	\$9.2	\$0.0	0.0x	1.3x	10.2%
EQT Infrastructure V (No.2) USD SCSp	Oct-2020	2020	Global	\$74.0	\$52.7	\$5.4	\$51.6	\$57.0	\$25.8	NM	NM	NM
EQT Infrastructure VI (No.2) USD SCSp	Mar-2023	2023	Global	\$81.0	\$0.0	\$0.0	\$0.0	\$0.0	\$81.0	NM	NM	NM
Global Energy & Power Infrastructure Fund II	Apr-2014	2014	OECD	\$40.0	\$43.6	\$43.3	\$13.4	\$56.7	\$1.2	1.0x	1.3x	13.8%

\* Performance of funds with less than two years of activity is not considered meaningful.

## SCHEDULE OF INVESTMENTS CONTINUED

As of March 31, 2023. In USD millions.

INVESTMENT	CLOSING DATE	VINTAGE YEAR	GEO FOCUS	COMMIT	CONT	DIST	NAV	TOTAL VALUE	UNFUNDED	NET DPI	NET TVM	NET IRR
Global Energy & Power Infrastructure Fund III, L.P.	Jul-2018	2019	OECD	\$54.7	\$48.0	\$9.0	\$49.2	\$58.2	\$9.5	0.2x	1.2x	13.4%
Global Infrastructure Partners III-A/B, L.P.	Jan-2016	2016	OECD	\$71.0	\$72.6	\$33.8	\$73.8	\$107.6	\$7.7	0.5x	1.5x	10.4%
Global Infrastructure Partners IV-A/B, L.P.	Mar-2019	2018	OECD	\$72.1	\$55.2	\$0.3	\$58.8	\$59.1	\$20.6	0.0x	1.1x	5.9%
Global Infrastructure Partners V-A/B, L.P.	Mar-2023	2023	OECD	\$81.0	\$0.0	\$0.0	\$0.0	\$0.0	\$81.0	NM	NM	NM
IFM Global Infrastructure Fund	Jan-2014	2014	OECD	\$60.0	\$80.1	\$36.4	\$119.8	\$156.2	\$0.0	0.5x	2.0x	11.7%
InfraVia European Fund V SCSp	Feb-2022	2022	OECD	\$51.0	\$13.6	\$0.3	\$13.0	\$13.2	\$37.3	NM	NM	NM
KKR Global Infrastructure Investors III L.P.	Mar-2018	2018	OECD	\$54.7	\$48.1	\$12.4	\$49.2	\$61.6	\$9.3	0.3x	1.3x	12.2%
KKR Global Infrastructure Investors IV (USD) SCSp	May-2021	2021	Global	\$82.0	\$34.4	\$0.4	\$35.6	\$36.0	\$48.0	NM	NM	NM
NYCRS EIG Energy Partners Co-Investment, L.P.	Jan-2018	2022	North America	\$10.6	\$0.0	\$0.0	\$0.0	\$0.0	\$10.6	NM	NM	NM
NYCRS EIG Energy Partners, L.P.	Aug-2017	2017	North America	\$42.4	\$25.8	\$14.8	\$15.1	\$29.9	\$18.7	0.6x	1.2x	7.6%
Stonepeak Infrastructure Fund IV, L.P.	Feb-2021	2021	North America	\$68.0	\$30.0	\$0.2	\$32.6	\$32.8	\$38.0	NM	NM	NM
Stonepeak Patagonia (Co-Invest) Holdings LP (Project Panther)	Dec-2021	2021	North America	\$24.5	\$22.1	\$0.0	\$25.7	\$25.7	\$2.4	NM	NM	NM
Stonepeak Tiger (Co-Invest) Holdings (I-B) LP	Apr-2021	2021	North America	\$9.0	\$7.6	\$0.0	\$7.9	\$7.9	\$1.4	NM	NM	NM
<b>Total</b>				<b>\$1,873.5</b>	<b>\$1,093.0</b>	<b>\$388.3</b>	<b>\$1,088.7</b>	<b>\$1,477.0</b>	<b>\$880.1</b>	<b>0.4x</b>	<b>1.4x</b>	<b>12.0%</b>

\* Performance of funds with less than two years of activity is not considered meaningful.

## RISK MANAGEMENT MATRIX

Category	Requirement	Status	Status Notes
Allocation	NYCPPF has an Infrastructure allocation target of 3% of total pension assets.	✓	The market value of NYCPPF Infrastructure Program represented approximately 2.1% of total pension assets
Performance vs. Benchmarks	The performance benchmark for the Infrastructure Portfolio is to meet or exceed: (i) The Consumer Price Index ("CPI") plus 4% net of fees over a rolling 5-year period and (ii) A dollar-weighted PME+ ("PME") calculation of daily changes in 50% of the Russell 3000® Index and 50% of the Barclays U.S. Aggregate® Index.  The Infrastructure Portfolio is expected to generate a total return, net of investment management fees, of at least 6.5%	✓	As of March 31, 2023, the Portfolio outperformed the CPI and PME benchmark by 4.1% and 6.7%, respectively.
Strategy Diversification	Core Infrastructure Investments: 60-100% Non-Core Infrastructure Investments: 0-40%  Actual percentages may differ substantially from these targets during the initial years of the Program.	✓	The Program is in compliance with the Core/Non-Core allocation ranges. Currently the Program has 81.4% exposure to Core investments and 18.6% exposure to Non-Core investments.
Asset Type & Location Diversification	The Program will seek diversification by asset type, revenue drivers, and geography. The portfolio may include a variety of assets including but not limited to electricity transmission, pipelines, airports, toll roads, communication towers and electric generators, windmills etc. to vary the sources of revenue to the portfolio.	✓	The asset types and geographic location of current Portfolio investments are in compliance with the Program's Investment Policy Statement and Permissible Markets.
Leverage	The average leverage of all investments in the Program is to be no higher than 65%.	✓	The Program is in compliance with the average leverage limitation. The current leverage level is 37%.
Single Investment Size & Manager Diversification	The maximum commitment to a single investment is limited to no more than 15% of the aggregate committed capital of each fund.  The maximum commitment to a single manager is limited to 20% of the total Infrastructure Program allocation when fully invested.	✓	On the individual fund level, all current investments are in compliance with the single investment limitation of 15% of total fund size.  The Program is in compliance with the single manager limitation of 20% of the total Infrastructure Program.

<sup>1</sup>The Program's leverage level is calculated by using a weighted average of each underlying investment's leverage and Net Asset Value as of March 31, 2023.

# APPENDIX

# MARKET UPDATE

## North America

Notable transactions completed and announced over the quarter include:

- Brookfield Super-Core Infrastructure entered into a definitive agreement to acquire an additional 30% stake in FirstEnergy Transmission from First Energy Corp. for US\$3.5 billion. Brookfield's purchased a 19.9% stake in FirstEnergy Transmission in May 2022
- EQT Active Core Infrastructure and PSP announced the take-private acquisition of Radius Global Infrastructure for a total enterprise value of US\$3.0 billion. Radius owns and acquires critical digital infrastructure, including ground, tower, rooftop, and in-building cell sites, in over 20 countries
- Stonepeak completed its acquisition of Intrado Life & Safety from Apollo Global Management for US\$2.4 billion. Intrado Life & Safety provides public emergency telecommunications services with a 40-year track record of connecting citizens to 911 services
- A subsidiary of Hydro-Québec completed its acquisition of a 100% stake in Great River Hydro from ArcLight Energy Partners for US\$2.0 billion. Great River Hydro owns 13 hydropower generating stations with a combined installed capacity of 589MW
- A Consortium led by Invenergy, including CDPQ and Blackstone, entered an agreement to acquire a 1.4GW portfolio of renewable assets (10 wind and four solar assets) that are unregulated, contracted, and operational, from American Electric Power for US\$1.5 billion
- Vistra Corp. executed a definitive agreement to acquire Energy Harbor Corp. for US\$3.43 billion, composed of US\$3 billion in cash and a 15% stake in a newly-formed subsidiary named Vistra Vision. Vistra Vision will merge each company's nuclear and retail businesses with a portfolio of existing renewable and storage projects. Following the transaction, Vistra will own the second-largest competitive nuclear fleet in the US
- KKR's credit and infrastructure funds committed an additional US\$1.15 billion to expand Altavair's global portfolio of leased commercial aircraft. KKR acquired a 50% stake in Altavair in 2019. The company acquires, leases, re-purposes, and sells commercial jet aircraft and engines
- ACS Group acquired a total of ~57% stake in a Texas toll road SH-288 for US\$1.15 billion from Israel's Clal Insurance, InfraRed Capital Partners, Northleaf Capital Partners, and Star America
- Silicon Ranch closed a US\$600 million equity raise led by Manulife Investment Management, TD Greystone Fund, and Mountain Group Partners. Silicon Ranch owns 5GW of contracted solar and battery storage systems across the US and Canada
- Brookfield Global Transition Fund invested up to US\$500 million of growth capital into California Bioenergy. California Bioenergy partners with dairy farmers to design, build, own, and operate renewable natural gas projects via 50 operational manure digesters

## Europe

During the quarter, the European infrastructure market continued in line with 2022 activity. Some notable transactions were completed in the Renewables, Power & Utilities and Transport sector.

- KKR has agreed to sell a 50% stake in renewable energy developer X-Elio to co-shareholder Brookfield for an implied price of US\$900 million, valuing the company at US\$1.8 billion. The remaining 50% stake will be acquired by Brookfield as a follow-on investment through the original fund investment
- Arjun Infrastructure Partners has invested €300 million, acquiring a 30% stake in Amarenco, an independent, solar-focused power producer. Amarenco owns ~400MW of operating solar plants and recently expanded its portfolio with the acquisition of Infracapital's 90% stake in Infram, a French solar JV
- GIC has invested ~€1 billion into Portuguese utility operator, EDP's, renewables arm, as part of an equity raise. GIC subscribed to 43 million of the 51 million shares available
- Lightsource bp has agreed to sell a solar PV portfolio in Spain to Spanish managers Plenium Partners. The value of the transaction has not been disclosed but is estimated to be worth ~€300 million. Lightsource bp's Spanish portfolio includes ~250MW of operational solar PV
- CVC Capital Partners has agreed to sell PKP Energetyka, a Polish electricity distribution network serving rail networks, to state-owned power company PGE. The deal valued the company at an enterprise value of PLN 5.94 billion (~€1.27 billion) implying an EBITDA multiple of ~8.5x. The equity price was PLN 1.9 billion (~€0.4 billion), with the remainder of the transaction funded by debt
- Macquarie Asset Management ("MAM") has agreed to sell its 25% stake in Energie Steiermark ("ESTAG") an Austrian natural gas and electricity grid network, to the Provincial Government of Styria for €525 million. ESTAG operates a 31,300km electricity grid and a 4,200km natural gas supply network
- MAM has also agreed to sell its 24% stake in Open Grid Europe ("OGE"), to Belgian gas transmission operator, Fluxys. Both parties declined to disclose pricing, however, the stake has an estimated valuation of €800 million. OGE has a regulated asset base of ~€4 billion
- Macquarie AirFinance ("MAF") announced a US\$2.2 billion fleet acquisition from Kuwait's Aviation Lease and Finance Company. MAF's shareholders, Macquarie Asset Management, PGGM Infrastructure Fund and Australian Retirement Trust are providing US\$600 million of equity to fund the acquisition of 53 passenger aircraft and an order of 20 Boeing 737 MAX aircraft
- Alpen Glasfaser, a €1 billion Austrian fiber JV between Meridiam and Magenta Telekom has been approved by the EU Commission. The company will now begin to roll out a fiber network across 650,000 homes primarily in rural areas and medium-sized towns in Austria

## Australia

Australia and New Zealand infrastructure market activity remained robust during the first quarter of 2023. Energy and renewables activity has been particularly prevalent over the past six months, contrasted against a gradual slowdown in telecommunications sector activity following several major transactions reaching financial close during 2022

Notable transactions occurring during the quarter included the following:

- Brookfield Asset Management and EIG Global Energy Partner's bid to take ASX listed Origin Energy private. During the quarter, GIC and Temasek joined the bidding consortium and in February, it announced a binding Scheme Implementation Deed to take Origin private. At A\$8.9/share the deal represents an enterprise value of ~A\$18.7 billion. Take-private of Origin is subject to customary regulatory review and approval processes before it can close
- Financial close was reached for Partners Group's sale of its A\$4 billion portfolio of renewables assets, CWP Renewables, to Squadron Energy. CWP Renewables' portfolio represents 1.1GW of operational onshore wind assets, a construction ready 414MW wind farm and 30MW battery project
- Electricity distribution and transmission business Spark Infrastructure progressed the carve-out of its renewables development platform, Spark Renewables, shortlisting three proponents including APA Group, Engie and Tenaga Nasional
- Greenfield renewables activity was buoyed by an Acciona led JV reaching financial close on the 1.02GW MacIntyre Wind Precinct in Queensland Australia. The 180 turbine precinct is expected to cost A\$1.96 billion, for which A\$1.1 billion in financing was raised through a green loan provided by a range of international lenders
- Palisade Investment Partners launched an ~A\$1.1 billion debt refinancing linked to its renewables portfolio, whilst Igneo Infrastructure Partners reached financial close on an ~A\$990 million partial refinancing of its Atmos Renewables solar and wind portfolio
- In the telecommunications sector, TPG received RFPs from Uniti Group, Vocus Communications and Pacific Equity Partners for the sale of its fiber-to-the-building ("FTTB") wholesale broadband business, following its functional separation from TPG. The FTTB business, Vision Network, has ~135,000 customers and its network passes ~400,000 connections. Research analysts estimate the value of Vision Network at ~A\$950 million
- In the transport sector, a consortium of investors led by New Zealand Superannuation Fund launched the sale of its stake in the Melbourne based toll-road concession owner, ConnectEast Group. ConnectEast Group owns the 40km EastLink toll road concession and was listed up until 2011 when it was acquired for A\$2 billion. The motorway opened on June 29, 2008 and the concession expires on November 30, 2043
- A JV comprised of M Infrastructure Group and PT Asian Bulk Logistics reached financial close on the acquisition of Australian east coast rail haulage business, OneRail, from Aurizon



**New York City Police Pension Fund, Subchapter 2**  
**Infrastructure Portfolio**  
**As of March 31, 2023**

Vintage Year	Investment	Closing Date	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded	TVPI	IRR
<b>Active Investments:</b>									
2013	Brookfield Infrastructure Fund II, L.P.	7/8/2013	\$60,000,000	\$53,895,469	\$56,174,928	\$51,388,249	\$10,613,364	2.0x	12.9%
2014	IFM Global Infrastructure Fund	1/2/2014	\$60,000,000	\$80,109,292	\$36,411,788	\$119,830,459	-	2.0x	11.7%
2014	Global Energy & Power Infrastructure Fund II	4/16/2014	\$40,000,000	\$43,629,812	\$43,271,715	\$13,385,921	\$1,193,090	1.3x	13.8%
2016	Global Infrastructure Partners III-A/B, L.P.	1/29/2016	\$71,000,000	\$72,579,523	\$33,798,100	\$73,840,806	\$7,706,542	1.5x	10.4%
2016	Brookfield Infrastructure Fund III, L.P.	4/15/2016	\$61,000,000	\$47,677,038	\$16,668,602	\$50,653,114	\$21,090,942	1.4x	10.5%
2016	Actis Energy 4	12/16/2016	\$39,600,000	\$39,655,124	\$49,233,767	\$7,525,000	\$15,019,581	1.4x	14.0%
2017	EQT Infrastructure III (No.2) SCSp	2/18/2017	\$34,674,361	\$39,652,110	\$54,327,712	\$19,213,438	\$1,949,138	1.9x	20.9%
2016	ASF VII Infrastructure L.P.	4/24/2017	\$42,000,000	\$32,610,755	\$12,673,935	\$34,987,197	\$10,138,775	1.5x	15.7%
2017	Axiom Infrastructure North America (2017)	8/14/2017	\$42,662,239	\$44,617,628	\$13,273,251	\$47,686,819	-	1.4x	8.6%
2017	NYCRS EIG Energy Partners, L.P.	8/14/2017	\$42,350,000	\$25,791,035	\$14,787,488	\$15,112,512	\$18,717,558	1.2x	7.6%
2022	NYCRS EIG Energy Partners Co-Investment, L.P.	1/12/2018	\$10,590,000	-	-	-	\$10,590,000	-	0.0%
2018	KKR Global Infrastructure Investors III L.P.	3/29/2018	\$54,700,000	\$48,071,731	\$12,428,826	\$49,154,402	\$9,341,859	1.3x	12.2%
2019	Global Energy & Power Infrastructure Fund III, L.P.	7/3/2018	\$54,700,000	\$47,992,872	\$9,006,164	\$49,232,894	\$9,508,136	1.2x	13.4%
2018	Cardinal NR Sidecar Holdings L.P.	10/5/2018	\$6,560,000	\$6,604,308	\$2,180,901	\$10,331,369	-	1.9x	17.5%
2018	EQT Infrastructure IV (No.2) USD SCSp	12/20/2018	\$63,500,000	\$58,243,598	\$10,143,458	\$65,412,000	\$12,195,200	1.3x	11.6%
2019	Ardian Infrastructure Fund V B	3/4/2019	\$44,257,810	\$30,606,117	\$1,183,485	\$36,436,755	\$13,812,590	1.2x	15.7%
2018	Global Infrastructure Partners IV-A/B, L.P.	3/11/2019	\$72,100,000	\$55,225,979	\$326,469	\$58,791,390	\$20,565,360	1.1x	5.9%
2019	Brookfield Infrastructure Fund IV, L.P.	5/10/2019	\$62,000,000	\$58,926,585	\$12,569,848	\$62,881,815	\$7,144,630	1.3x	13.4%
2020	EQT Infrastructure IV Co-Investment (B) SCSp (Saber)	7/30/2019	\$5,100,000	\$5,151,000	\$309,543	\$6,315,205	-	1.2x	8.9%
2019	Brookfield Infrastructure Fund IV Co-Investment (Snow)	10/25/2019	\$6,000,000	\$6,030,774	\$861,441	\$8,650,178	-	1.6x	15.5%
2020	EQT Infrastructure IV Co-Investment (G) SCSp (Lightspeed)	6/11/2020	\$7,013,942	\$7,037,046	-	\$9,162,397	-	1.3x	10.2%
2020	Actis Energy 5	6/30/2020	\$62,000,000	\$8,398,674	-	\$3,789,000	\$53,601,326	0.5x	-73.5%
2020	BIS NYC Infrastructure Emerging Manager Opportunities Fund, L.P.	7/3/2020	\$43,860,000	\$10,202,776	-	\$10,757,539	\$33,657,224	1.1x	5.6%
2020	EQT Infrastructure IV Co-Investment (F) SCSp (Connect)	8/18/2020	\$8,600,000	\$7,816,517	-	\$13,269,885	\$809,302	1.7x	28.2%
2020	EQT Infrastructure V (No.2) USD SCSp	10/29/2020	\$74,000,000	\$52,659,488	\$5,410,469	\$51,635,186	\$25,849,231	1.1x	9.0%
2021	Basalt Infrastructure Partners III	2/5/2021	\$46,000,000	\$31,066,212	-	\$33,428,489	\$14,933,788	1.1x	6.4%
2021	Stonepeak Infrastructure Fund IV, L.P.	2/16/2021	\$68,000,000	\$29,984,730	\$192,245	\$32,589,067	\$38,019,485	1.1x	9.1%
2021	Stonepeak Tiger (Co-Invest) Holdings (I-B) LP	4/16/2021	\$9,000,000	\$7,614,507	-	\$7,864,975	\$1,385,493	1.0x	2.0%
2021	KKR Global Infrastructure Investors IV (USD) SCSp	5/24/2021	\$82,000,000	\$34,428,897	\$434,568	\$35,553,378	\$48,009,277	1.0x	7.6%
2021	ASF VIII Infrastructure B L.P.	8/3/2021	\$55,000,000	\$6,370,583	\$1,133,119	\$5,931,196	\$48,629,417	1.1x	11.9%
2021	Axiom Infrastructure North America (2021)	9/3/2021	\$37,305,342	\$38,062,618	\$1,223,124	\$38,372,775	-	1.0x	8.6%
2021	Stonepeak Patagonia (Co-Invest) Holdings LP (Project Panther)	12/10/2021	\$24,525,000	\$22,128,059	-	\$25,660,366	\$2,396,941	1.2x	24.6%
2022	Ardian Infra Fund V Co-Invest Eden	2/21/2022	\$9,423,042	\$9,423,042	-	\$10,517,020	-	NM	NM
2022	InfraVia European Fund V SCSp	2/25/2022	\$50,974,762	\$13,588,749	\$255,906	\$12,982,044	\$37,291,493	NM	NM
2022	Blackrock Global Infrastructure Fund IV	6/30/2022	\$57,000,000	\$3,740,373	-	\$3,203,884	\$53,259,627	NM	NM
2022	Brookfield Infrastructure Fund V, LP	7/18/2022	\$71,570,000	-	-	(\$497,401)	\$71,570,000	NM	NM
2022	BIP III Ride Co-Investment L.P. (Project Ride)	8/2/2022	\$6,728,104	\$6,728,104	-	\$7,481,916	-	NM	NM
2022	Basalt Infrastructure Partners IV A L.P.	10/7/2022	\$71,600,000	-	-	-	\$71,600,000	NM	NM
2022	DIF Infrastructure VII SCSp	11/15/2022	\$46,730,242	-	-	(\$620,131)	\$46,730,242	NM	NM
2022	Ardian Infra Fund V Co-Invest Lemon	12/22/2022	\$7,344,126	\$6,674,202	-	\$6,830,019	\$749,857	NM	NM
2023	EQT Infrastructure VI (No.2) USD SCSp	3/1/2023	\$81,000,000	-	-	-	\$81,000,000	NM	NM
2023	Global Infrastructure Partners V-A/B, L.P.	3/31/2023	\$81,000,000	-	-	-	\$81,000,000	NM	NM
<b>Total</b>			<b>\$1,873,468,970</b>	<b>\$1,092,995,326</b>	<b>\$388,280,852</b>	<b>\$1,088,741,128</b>	<b>\$880,079,470</b>	<b>1.4x</b>	<b>12.0%</b>

Note: IRRs presented are interim estimates and may not be indicative of the ultimate performance of fund investments due to a number of factors, such as the lack of industry valuation standards and the differences in the investment pace and strategy of various funds. Until a fund is liquidated, typically over 10 to 12 years, the IRR is only an interim estimated return. The IRR calculated in the early years of a fund is usually not meaningful given the J-Curve effect. The actual IRR performance of any fund is not known until all capital contributed and earnings have been distributed to the investor. The IRRs contained in this report are calculated by StepStone Group LP, a consultant to the New York City Retirement Systems, based on information provided by the general partners of each investment (e.g. cash flows and valuations). The IRR calculations and other information contained in this report have not been reviewed or confirmed by the general partners. The result of the IRR calculation may differ from that generated by the general partner or other limited partners. Differences in IRR calculations can be affected by cash-flow timing, the accounting treatment of carried interest, fund management fees, advisory fees, organizational fees, other fund expenses, sale of distributed stock, and valuations.

**Risk Quarterly Report (Public):**

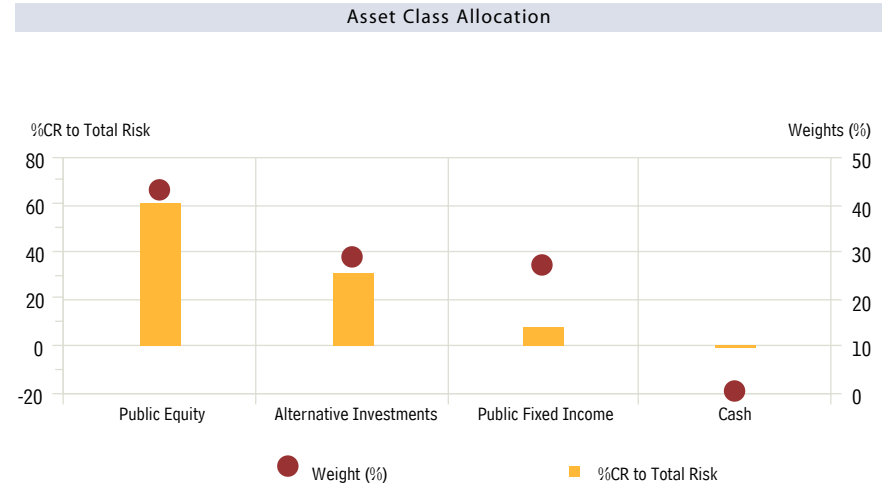
# BarraOne Total Plan Summary

COMPANY: NYCRC - POLICE  
 PORTFOLIO: POLICE\_Plan3  
 BENCHMARK: POLICE\_Policy3  
 POSITIONS: 23,729

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 49,184,597,188  
 ACCEPTED: 23,488

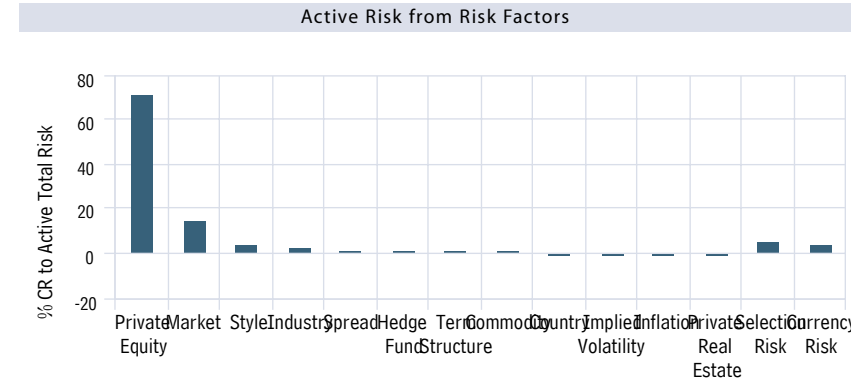
## Total Plan Summary

Risk Summary		Asset Class Contribution to Risk					
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR
Total Risk	12.14	<b>Total</b>	<b>49,184,597,188</b>	<b>100.00</b>	<b>12.14</b>	<b>12.14</b>	<b>100.00</b>
Benchmark Risk	11.35	Public Equity	21,286,710,530	43.28	17.44	7.38	60.77
Active Risk	2.00	Alternative Investments	14,214,398,634	28.90	13.82	3.76	30.99
Portfolio Beta	1.06	Public Fixed Income	13,321,704,743	27.09	6.14	1.00	8.24
Effective Duration	1.86	Cash	361,783,280	0.74	0.04	-0.00	-0.00



## Risk Factor Breakdown

Risk Source	Risk Decomposition			Active		
	Risk Contribution	% Risk	Correlation	Risk Contribution	% Risk	Correlation
<b>Total Risk</b>	<b>12.14</b>	<b>100.00</b>	<b>1.00</b>	<b>2.00</b>	<b>100.00</b>	<b>1.00</b>
Local Market Risk	11.57	95.30	1.00	1.91	95.85	0.99
Common Factor Risk	11.54	95.03	1.00	1.81	90.75	0.96
Private Real Estate	0.63	5.18	0.71	-0.02	-0.86	-0.05
Implied Volatility	0.01	0.12	0.45	-0.00	-0.06	-0.15
Industry	0.08	0.65	0.16	0.05	2.56	0.20
Inflation	0.06	0.53	0.42	-0.01	-0.65	-0.16
Market	9.54	78.58	0.97	0.28	14.11	0.37
Private Equity	0.23	1.92	0.14	1.42	70.87	0.84
Spread	0.72	5.95	0.71	0.01	0.36	0.10
Style	0.05	0.39	0.13	0.08	3.93	0.22
Term Structure	0.21	1.69	0.11	0.00	0.17	0.07
Selection Risk	0.03	0.27	0.05	0.10	5.10	0.23
Currency Risk	0.57	4.70	0.57	0.08	4.15	0.28



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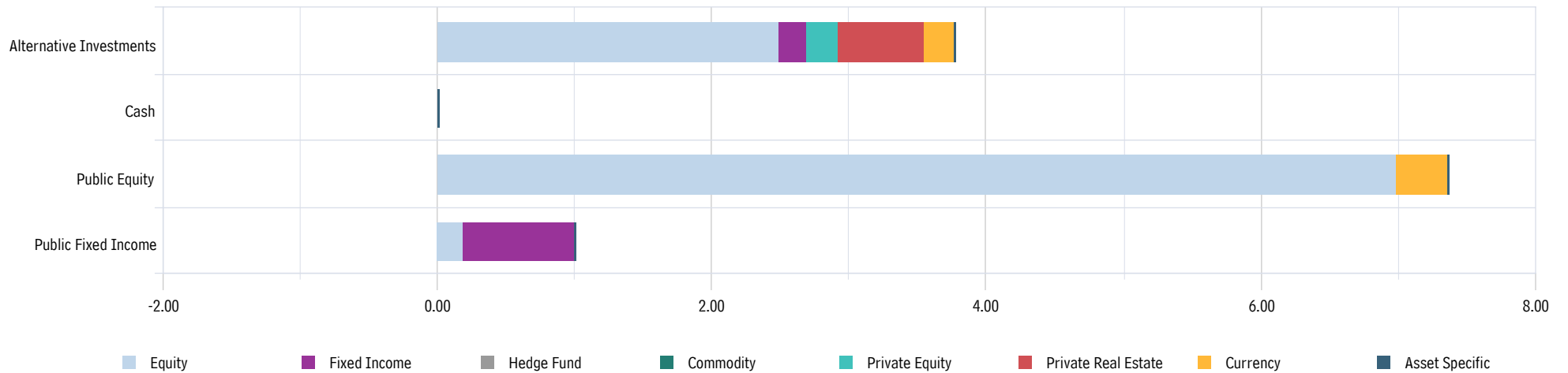
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## Risk Contribution Breakdown by Risk Type

Asset Name	Mkt Value	Weight (%)	Eff Weight (%)	Total Risk	%CR to Total Risk	Port Risk Contribution	Risk Contribution								
							Equity	Fixed Income	Hedge Fund	Commodity	Private Real Estate	Private Equity	Currency	Asset Specific	
<b>Total</b>	<b>49,184,597,188</b>	<b>100.00</b>	-	<b>12.14</b>	<b>100.00</b>	<b>12.14</b>	<b>9.66</b>	<b>1.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.63</b>	<b>0.23</b>	<b>0.57</b>	<b>0.03</b>
Alternative Investments	14,214,398,634	28.90	-	13.82	30.99	3.76	2.49	0.20	0.00	0.00	0.00	0.63	0.23	0.21	0.01
Cash	361,783,280	0.74	-	0.04	-0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Public Equity	21,286,710,530	43.28	-	17.44	60.77	7.38	6.99	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.03
Public Fixed Income	13,321,704,743	27.09	-	6.14	8.24	1.00	0.19	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00



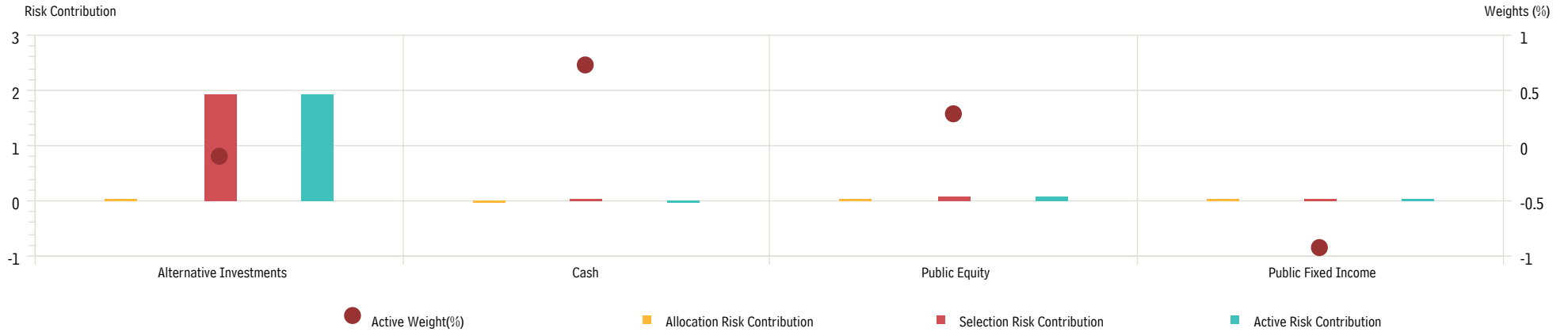
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## Allocation Selection

Asset Class	Active Weight(%)	Allocation			Selection			Active	
		Volatility	Correlation	Risk Contribution	Volatility	Correlation	Risk Contribution	Risk Contribution	
<b>Active Total Risk</b>				<b>0.01</b>			<b>1.99</b>	<b>2.00</b>	
Alternative Investments	-0.10	3.15	-0.31	<b>0.00</b>	6.77	0.98	<b>1.92</b>	<b>1.92</b>	
Cash	0.74	11.36	-0.32	<b>-0.03</b>	0.27	0.06	<b>0.00</b>	<b>-0.03</b>	
Public Equity	0.28	6.73	0.36	<b>0.01</b>	0.83	0.17	<b>0.06</b>	<b>0.07</b>	
Public Fixed Income	-0.91	9.03	-0.30	<b>0.02</b>	0.35	0.11	<b>0.01</b>	<b>0.04</b>	



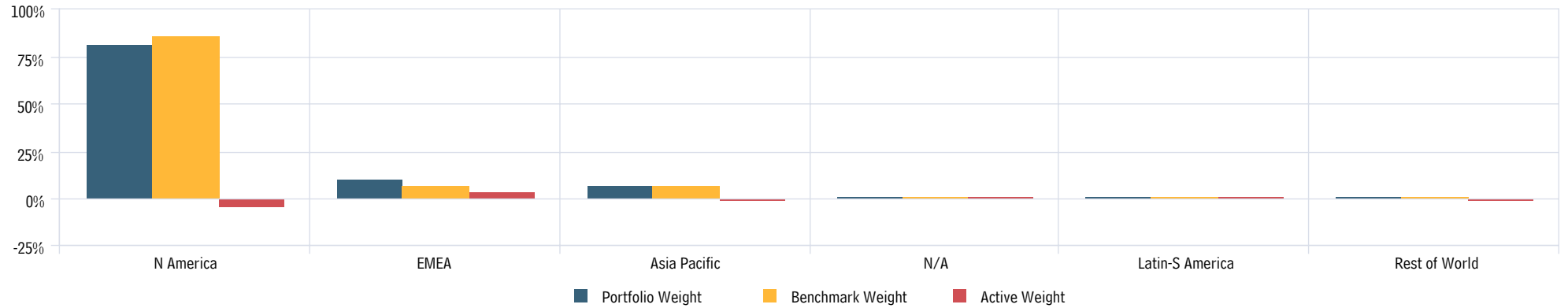
# BarraOne Total Plan Summary

COMPANY: NYCRC - POLICE  
 PORTFOLIO: POLICE\_Plan3  
 BENCHMARK: POLICE\_Policy3  
 POSITIONS: 23,729

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 49,184,597,188  
 ACCEPTED: 23,488

## Portfolio Allocation by Region

Region	Weight (%)			Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>12.14</b>	<b>2.00</b>	<b>100.00</b>	<b>0.02</b>
N America	81.63	85.54	-3.91	11.71	1.69	84.38	0.01
EMEA	10.24	6.86	3.37	17.35	0.28	14.20	0.03
Asia Pacific	6.61	6.69	-0.08	16.59	0.01	0.66	0.02
N/A	0.61	0.00	0.61	20.96	0.01	0.64	0.02
Latin-S America	0.58	0.50	0.07	24.19	0.00	0.01	0.04
Rest of World	0.33	0.40	-0.07	8.51	0.00	0.11	-0.01



# BarraOne Total Plan Summary

COMPANY: NYCRC - POLICE  
 PORTFOLIO: POLICE\_Plan3  
 BENCHMARK: POLICE\_Policy3  
 POSITIONS: 23,729

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 49,184,597,188  
 ACCEPTED: 23,488

## Top 30 Countries by Weight%

Country of Exposure	Weight (%)			Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>12.14</b>	<b>2.00</b>	<b>100.00</b>	<b>0.02</b>
United States	79.69	83.84	-4.15	11.68	1.64	82.11	0.01
United Kingdom	2.95	1.64	1.31	16.73	0.09	4.66	0.03
Japan	1.35	1.76	-0.41	16.42	0.00	0.02	0.00
China International	1.33	1.24	0.10	29.17	-0.00	-0.17	0.02
Canada	1.32	1.55	-0.23	12.32	0.02	1.12	0.01
Germany	1.12	0.68	0.44	20.11	0.03	1.31	0.04
France	1.08	0.95	0.12	19.40	0.01	0.74	0.05
India	1.06	0.75	0.30	19.72	0.01	0.36	0.02
Netherlands	0.85	0.46	0.39	21.60	0.03	1.30	0.04
Taiwan	0.82	0.79	0.03	24.93	0.00	0.10	0.02
Switzerland	0.80	0.78	0.02	17.29	0.02	0.76	0.02
S. Korea	0.77	0.62	0.16	25.14	0.01	0.29	0.04
Brazil	0.49	0.30	0.19	33.12	0.01	0.48	0.05
Euro. Monetary Union	0.46	0.00	0.46	25.66	0.03	1.45	0.06
Sweden	0.46	0.24	0.22	26.41	0.02	1.11	0.07
Spain	0.45	0.23	0.22	18.17	0.02	0.91	0.05
Italy	0.43	0.31	0.12	20.93	0.01	0.58	0.04
Australia	0.42	0.61	-0.20	20.26	-0.00	-0.23	0.03
Denmark	0.38	0.23	0.16	21.67	0.01	0.74	0.04
Hong Kong	0.37	0.00	0.37	28.12	0.01	0.25	0.01
Hong Kong	0.36	0.22	0.13	20.93	0.00	0.12	-0.00
Ireland	0.33	0.32	0.01	11.68	0.00	0.16	0.00
China	0.25	0.32	-0.07	24.47	0.00	0.22	-0.01
N/A	0.24	0.00	0.24	17.40	0.01	0.38	0.03
Luxembourg	0.23	0.25	-0.01	8.33	0.00	0.04	-0.02
Belgium	0.20	0.12	0.08	16.58	0.00	0.16	0.02
Singapore	0.18	0.15	0.03	15.07	0.00	0.11	0.00
Mexico	0.16	0.16	0.01	21.41	0.00	0.03	0.03
Indonesia	0.16	0.10	0.06	22.51	0.00	0.09	0.02
South Africa	0.13	0.16	-0.04	29.91	-0.00	-0.06	0.05



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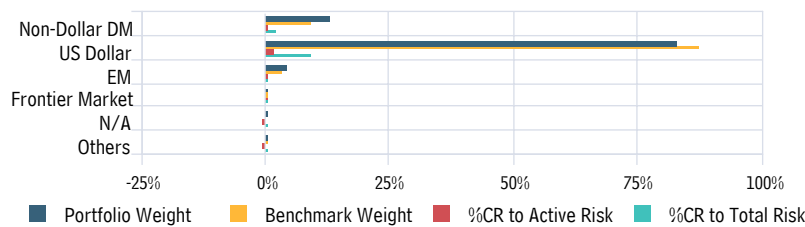
# BarraOne Total Plan Summary

COMPANY: NYCRC - POLICE  
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 BENCHMARK: POLICE\_Policy3  
 POSITIONS: 23,729

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 49,184,597,188  
 ACCEPTED: 23,488

## Portfolio Allocation by Currency

Exposure by Market



Developed Market Currency

Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	40,822,192,582.10	83.33	77.48
Euro	2,351,671,791.39	7.20	6.94
British Pound Sterling	1,083,641,667.12	4.93	3.21
Hong Kong Dollar	718,564,001.48	0.06	1.66
Japanese Yen	639,925,529.35	-0.18	1.28

Emerging Market Currency

Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
Indian Rupee	506,269,582.42	0.36	1.01
New Taiwan Dollar	402,774,895.40	0.09	1.05
Korean Won	363,104,479.74	0.25	1.15
Brazilian Real	234,521,781.57	0.48	0.69
Chinese Yuan	117,869,338.17	0.16	0.25

Top 15 Currencies by Weight%

Currency of Exposure	Weight (%)								
	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)	
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>12.14</b>	<b>12.14</b>	<b>100.00</b>	<b>2.00</b>	<b>100.00</b>	
US Dollar	83.00	87.12	-4.12	11.43	9.41	77.48	1.66	83.33	
Euro	4.78	2.43	2.35	20.10	0.84	6.94	0.14	7.20	
British Pound Sterling	2.20	1.05	1.15	21.20	0.39	3.21	0.10	4.93	
Hong Kong Dollar	1.46	1.35	0.11	29.50	0.20	1.66	0.00	0.06	
Japanese Yen	1.30	1.61	-0.30	16.96	0.16	1.28	-0.00	-0.18	
Indian Rupee	1.03	0.73	0.30	20.11	0.12	1.01	0.01	0.36	
New Taiwan Dollar	0.82	0.78	0.04	24.98	0.13	1.05	0.00	0.09	
Korean Won	0.74	0.62	0.12	25.36	0.14	1.15	0.01	0.25	
Swiss Franc	0.73	0.72	0.01	17.04	0.10	0.83	0.01	0.50	
Canadian Dollar	0.73	0.84	-0.10	20.20	0.13	1.09	0.02	0.92	
Brazilian Real	0.48	0.28	0.20	33.71	0.08	0.69	0.01	0.48	
Danish Krone	0.38	0.22	0.16	21.71	0.06	0.51	0.01	0.74	
Swedish Krona	0.37	0.23	0.14	27.05	0.08	0.68	0.02	0.85	
Australian Dollar	0.37	0.53	-0.16	22.77	0.07	0.59	-0.01	-0.29	
Chinese Yuan	0.24	0.24	-0.00	25.26	0.03	0.25	0.00	0.16	



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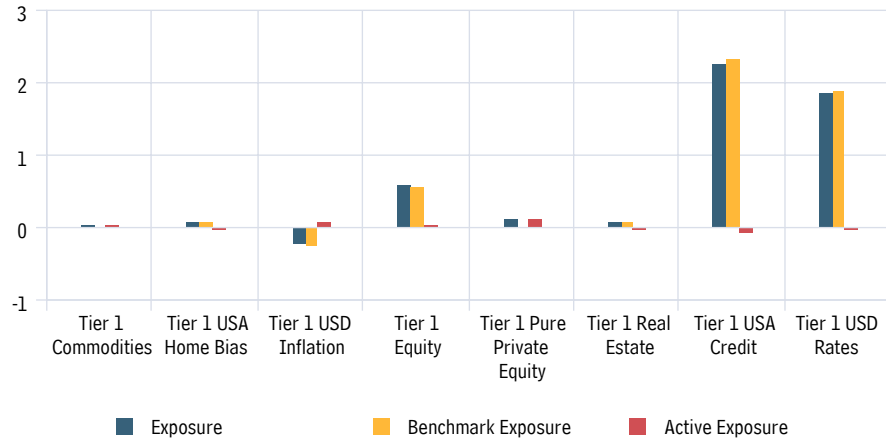
# BarraOne Tier 1 USA Factor Summary

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.

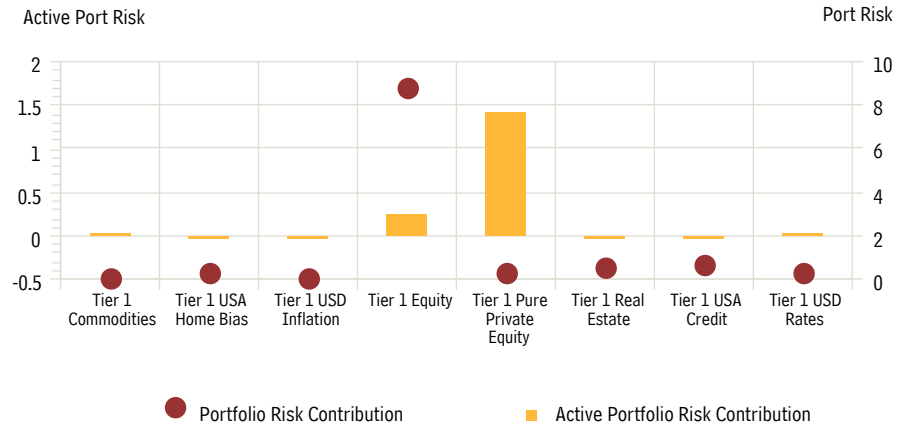
COMPANY: NYCRS - POLICE  
 PORTFOLIO: POLICE\_Plan3  
 BENCHMARK: POLICE\_Policy3  
 POSITIONS: 23,729  
 MODEL: MAC.L Tier 1 USA

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 49,184,597,188  
 ACCEPTED: 23,488

Macro Factor Exposures



Macro Factor Risk Contribution



# 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.

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MODEL: MAC.L Tier 1 USA

CURRENCY: USD  
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MARKET VALUE: 49,184,597,188  
ACCEPTED: 23,488

Risk Source	Risk Decomposition						
	Exposure			Contribution			
	Exposure	Benchmark Exposure	Active Exposure	Portfolio Risk Contribution	% Portfolio Risk	Active Portfolio Risk Contribution	% Active Risk
<b>Total Risk</b>	-	-	-	<b>12.14</b>	<b>100.00</b>	<b>2.00</b>	<b>100.00</b>
Local Market Risk	-	-	-	11.57	95.30	1.91	95.85
Common Factor Risk	-	-	-	11.54	95.03	1.81	90.75
Commodity	-	-	-	0.01	0.05	0.00	0.17
Tier 1 Commodities	0.00	0.00	0.00	0.01	0.05	0.00	0.17
Country	-	-	-	0.22	1.80	-0.00	-0.06
Tier 1 USA Home Bias	0.06	0.07	-0.00	0.22	1.80	-0.00	-0.06
Factor Residual Risk	-	-	-	1.01	8.28	0.16	8.24
Inflation	-	-	-	0.05	0.44	-0.01	-0.37
Tier 1 USD Inflation	-0.21	-0.27	0.06	0.05	0.44	-0.01	-0.37
Interaction within Common Factor	-	-	-	N/A	-	N/A	-
Market	-	-	-	8.73	71.90	0.26	13.10
Tier 1 Equity	0.58	0.54	0.04	8.73	71.90	0.26	13.10
Private Equity	-	-	-	0.23	1.93	1.43	71.41
Tier 1 Pure Private Equity	0.12	0.00	0.12	0.23	1.93	1.43	71.41
Private Real Estate	-	-	-	0.45	3.72	-0.03	-1.44
Tier 1 Real Estate	0.07	0.08	-0.02	0.45	3.72	-0.03	-1.44
Spread	-	-	-	0.62	5.13	-0.01	-0.38
Tier 1 USA Credit	2.26	2.32	-0.06	0.62	5.13	-0.01	-0.38
Term Structure	-	-	-	0.22	1.78	0.00	0.08
Tier 1 USD Rates	1.87	1.90	-0.04	0.22	1.78	0.00	0.08
Specific Risk	-	-	-	0.03	0.27	0.10	5.10
Currency Risk	-	-	-	0.57	4.70	0.08	4.15
Currency/Market Interaction	-	-	-	N/A	-	N/A	-

Tier 1 Macro Factor Scheme has six factors		
Tier 1 Factor	Exposure Type	Description
Equity	Membership (weights)	USA Equity
Pure Private Equity	Membership (weights)	USA Private Equity
Real Estate	Membership (weights)	USA Real Estate
USA Credit	Sensitivities (durations)	Sensitive to USA credit spreads
USD Inflation	Sensitivities (durations)	Sensitive to USD inflation protected assets
USD Rates	Sensitivities (durations)	Sensitive to Govt rate exposure
Commodities	Membership (weights)	Sensitive to Commodities
USA Home Bias		USA Home Bias factor returns is very similar to that of a portfolio long the MSCI USA IMI index and short the currency-hedged MSCI ACWI ex-US IMI index.

Factor Residual Risk				
Risk Source	Portfolio Risk Contribution	% Portfolio Risk	Active Portfolio Risk Contribution	% Active Risk
Basis	-0.00	-0.00	0.00	0.00
Commodity	-0.00	-0.02	-0.00	-0.01
Country	-0.00	-0.02	-0.00	-0.04
Hedge Fund	0.00	0.01	0.00	0.22
Implied Volatility	0.01	0.12	-0.00	-0.06
Industry	0.08	0.65	0.05	2.56
Inflation	0.01	0.09	-0.01	-0.28
Interaction within Factor Residual Risk	N/A	-	N/A	-
Market	0.59	4.89	0.02	1.07
Private Equity	-0.00	-0.01	-0.01	-0.54
Private Real Estate	0.18	1.46	0.01	0.58
Spread	0.10	0.83	0.01	0.74
Style	0.05	0.39	0.08	3.93
Term Structure	-0.01	-0.09	0.00	0.09

# BarraOne Total Plan Summary

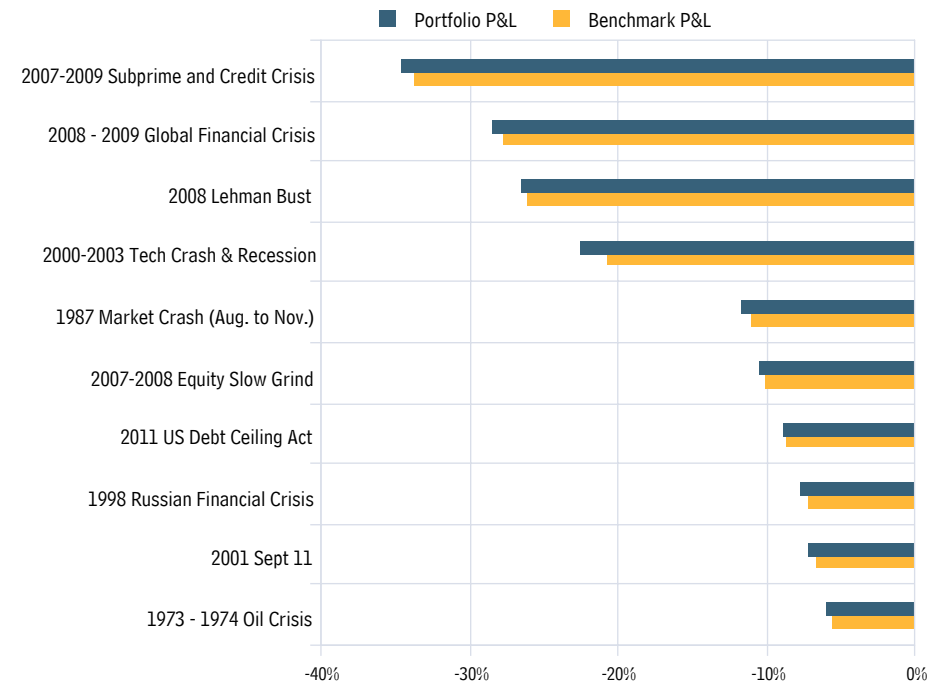
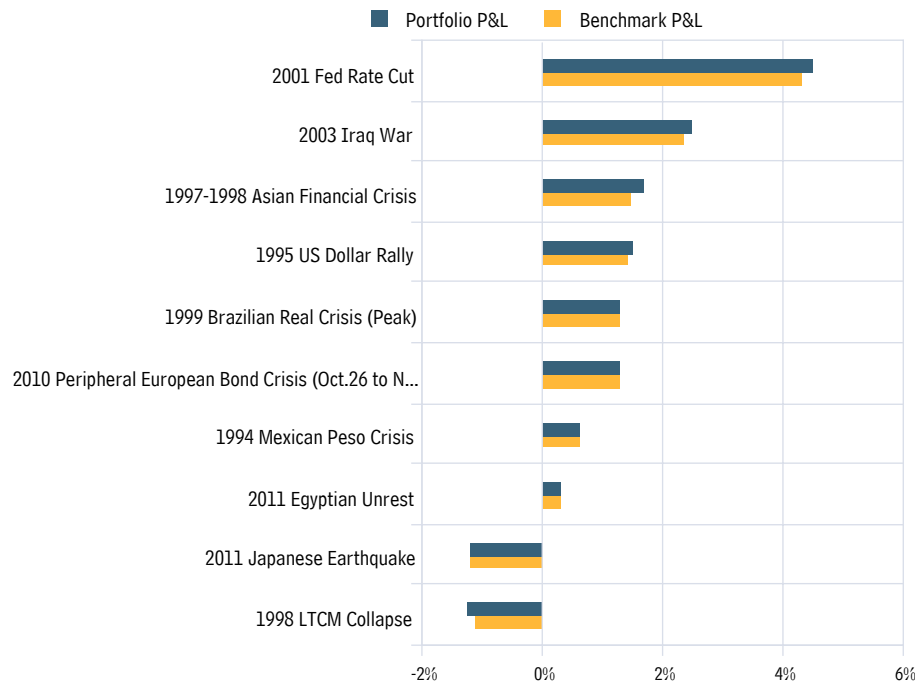
COMPANY: NYCRS - POLICE  
 PORTFOLIO: POLICE\_Plan3  
 BENCHMARK: POLICE\_Policy3  
 POSITIONS: 23,729  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 49,184,597,188  
 ACCEPTED: 23,488

## Stress Scenarios

Top 10 Best Scenarios			
Scenario	Portfolio P&L	Benchmark P&L	Market Change (\$)
2001 Fed Rate Cut	4.50	4.29	2,211,647,385
2003 Iraq War	2.49	2.33	1,222,968,103
1997-1998 Asian Financial Crisis	1.70	1.45	838,346,797
1995 US Dollar Rally	1.50	1.43	739,905,628
1999 Brazilian Real Crisis (Peak)	1.31	1.28	642,743,479
2010 Peripheral European Bond Crisis (Oc	1.29	1.28	636,202,337
1994 Mexican Peso Crisis	0.64	0.61	313,969,852
2011 Egyptian Unrest	0.32	0.29	156,079,541
2011 Japanese Earthquake	-1.18	-1.18	-580,433,306
1998 LTCM Collapse	-1.26	-1.11	-617,740,232

Top 10 Worst Scenarios			
Scenario	Portfolio P&L	Benchmark P&L	Market Change (\$)
2007-2009 Subprime and Credit Crisis	-34.65	-33.74	-17,044,045,676
2008 - 2009 Global Financial Crisis	-28.53	-27.79	-14,030,616,908
2008 Lehman Bust	-26.44	-26.09	-13,004,519,296
2000-2003 Tech Crash & Recession	-22.47	-20.81	-11,050,817,707
1987 Market Crash (Aug. to Nov.)	-11.66	-10.98	-5,733,707,465
2007-2008 Equity Slow Grind	-10.38	-10.06	-5,105,980,220
2011 US Debt Ceiling Act	-8.85	-8.59	-4,355,071,191
1998 Russian Financial Crisis	-7.72	-7.28	-3,797,156,173
2001 Sept 11	-7.16	-6.68	-3,520,764,828
1973 - 1974 Oil Crisis	-5.94	-5.59	-2,919,484,602



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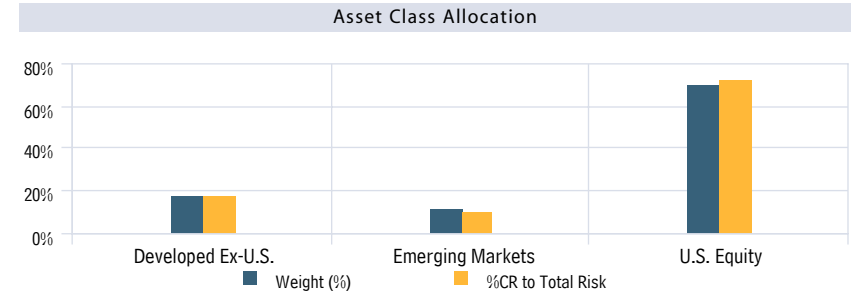
# BarraOne Equity Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Equity  
 BENCHMARK: Public Equity  
 POSITIONS: 11,585  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 21,286,710,530  
 ACCEPTED: 11,470

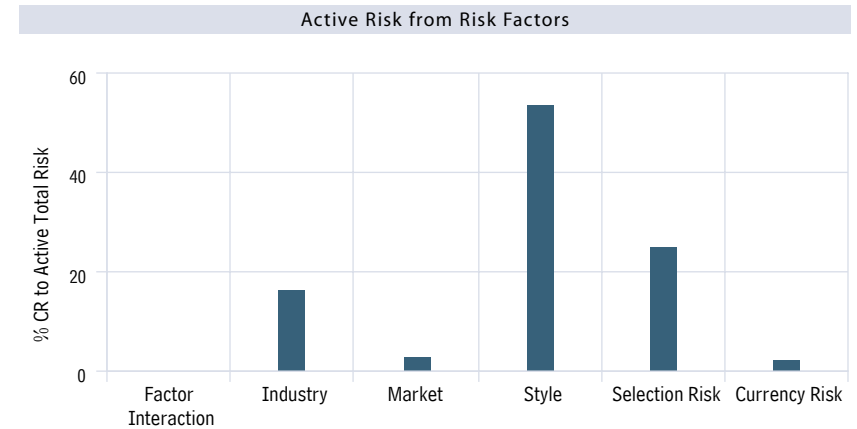
## Total Plan Summary

Risk Summary		Asset Class Contribution to Risk					
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR
Total Risk	17.44	<b>Total</b>	<b>21,286,710,530</b>	<b>100.00</b>	<b>17.44</b>	<b>17.44</b>	<b>100.00</b>
Benchmark Risk	17.59	Developed Ex-U.S.	3,862,287,783	18.14	18.02	3.02	17.31
Active Risk	0.83	Emerging Markets	2,429,558,061	11.41	18.65	1.76	10.09
Portfolio Beta	0.99	U.S. Equity	14,994,864,687	70.44	18.24	12.66	72.60



## Risk Factor Breakdown

Risk Source	Portfolio			Active		
	Risk Contribution	% Risk	Correlation	Risk Contribution	% Risk	Correlation
<b>Total Risk</b>	<b>17.44</b>	<b>100.00</b>	<b>1.00</b>	<b>0.83</b>	<b>100.00</b>	<b>1.00</b>
Local Market Risk	16.65	95.46	1.00	0.81	97.64	0.99
Common Factor Risk	16.55	94.90	0.99	0.60	72.70	0.85
Industry	0.11	0.60	0.12	0.14	16.45	0.48
Market	16.55	94.89	0.99	0.02	2.87	0.11
Style	-0.10	-0.58	-0.17	0.44	53.34	0.77
Selection Risk	0.10	0.56	0.08	0.21	24.93	0.50
Currency Risk	0.79	4.54	0.54	0.02	2.36	0.15



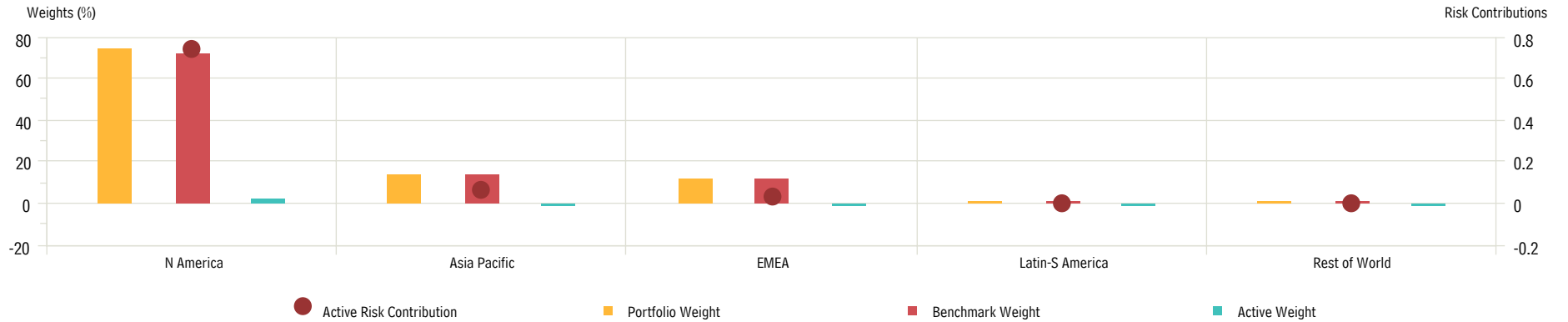
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## Portfolio Allocation by Region

Region	Weight (%)			Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>17.44</b>	<b>0.83</b>	<b>100.00</b>	<b>0.01</b>
Asia Pacific	13.56	14.44	-0.89	17.48	0.06	7.27	0.01
EMEA	11.30	12.09	-0.80	20.10	0.03	3.26	0.01
Latin-S America	0.97	1.04	-0.07	27.37	0.00	0.10	0.03
N America	73.95	72.07	1.87	18.19	0.74	89.62	0.00
Rest of World	0.24	0.35	-0.12	15.89	-0.00	-0.25	0.02



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## Top 30 Countries by Weight%

Country of Exposure	Weight (%)			Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>17.44</b>	<b>0.83</b>	<b>100.00</b>	<b>0.01</b>
United States	71.41	69.76	1.65	18.21	0.72	87.57	-0.04
China International	3.08	2.88	0.20	29.18	0.01	1.61	-0.01
Japan	2.73	3.73	-1.01	17.78	0.01	1.71	-0.05
United Kingdom	2.62	2.45	0.17	21.71	0.02	2.47	-0.02
India	1.93	1.70	0.23	20.33	0.01	1.62	-0.00
Taiwan	1.89	1.81	0.08	24.98	0.00	0.17	-0.02
S. Korea	1.72	1.43	0.29	25.66	0.01	1.20	-0.03
France	1.69	2.07	-0.38	20.51	0.00	0.19	-0.02
Germany	1.48	1.44	0.04	22.63	0.00	0.18	-0.03
Switzerland	1.31	1.68	-0.37	16.90	-0.00	-0.10	-0.03
Canada	1.15	1.98	-0.83	20.82	-0.01	-1.37	-0.02
Netherlands	1.06	0.77	0.29	28.41	0.00	0.13	-0.03
Brazil	0.98	0.64	0.34	33.72	0.02	2.00	-0.00
Hong Kong	0.77	0.41	0.36	21.76	0.02	1.90	0.00
Italy	0.69	0.45	0.24	22.89	0.00	0.47	-0.02
Australia	0.68	1.22	-0.54	23.97	-0.01	-0.72	-0.03
Denmark	0.58	0.51	0.07	21.04	0.00	0.42	-0.03
Sweden	0.57	0.54	0.03	27.86	0.00	0.34	-0.03
Spain	0.37	0.44	-0.07	20.94	0.00	0.09	-0.02
Indonesia	0.36	0.22	0.13	22.83	0.01	0.63	-0.01
Singapore	0.35	0.20	0.15	16.54	0.00	0.35	-0.02
China	0.31	0.56	-0.26	34.54	-0.01	-0.86	-0.02
Mexico	0.29	0.33	-0.03	25.31	0.00	0.12	-0.02
Thailand	0.27	0.24	0.04	22.33	0.00	0.36	-0.01
South Africa	0.27	0.37	-0.10	30.87	-0.00	-0.17	-0.02
Ireland	0.22	0.17	0.05	28.66	0.00	0.30	-0.01
Belgium	0.20	0.15	0.05	20.54	0.00	0.01	-0.02
United Arab Emirates	0.13	0.15	-0.03	20.55	-0.00	-0.06	-0.01
Finland	0.12	0.15	-0.03	25.81	0.00	0.03	-0.01
Norway	0.11	0.11	-0.01	27.92	0.00	0.02	-0.02



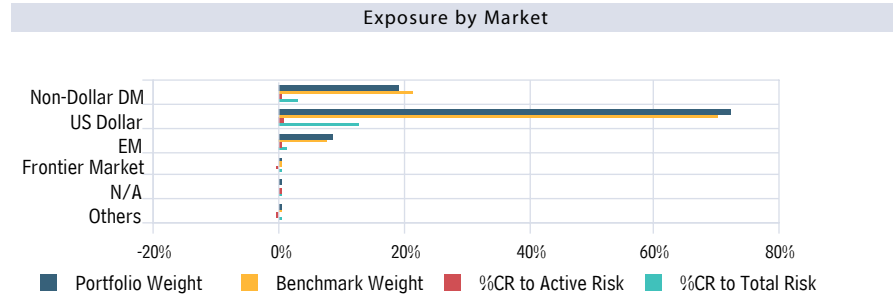
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# BarraOne Equity Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Equity  
 BENCHMARK: Public Equity  
 POSITIONS: 11,585  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 21,286,710,530  
 ACCEPTED: 11,470

## Portfolio Allocation by Currency



Developed 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	15,330,447,123.04	88.62	74.10	Indian Rupee	409,216,341.60	1.60	1.33
Euro	1,247,577,851.34	1.55	6.35	New Taiwan Dollar	402,774,856.45	0.17	1.70
Hong Kong Dollar	712,008,549.71	1.99	2.70	Korean Won	353,422,756.11	1.13	1.82
Japanese Yen	580,328,123.72	1.71	1.94	Brazilian Real	209,223,265.13	2.00	1.02
British Pound Sterling	549,288,611.40	2.37	2.72	Indonesian Rupiah	75,626,547.46	0.63	0.27

## Top 15 Currencies by Weight%

Currency of Exposure	Weight (%)		Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
	Portfolio	Benchmark						
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>17.44</b>	<b>17.44</b>	<b>100.00</b>	<b>0.83</b>	<b>100.00</b>
US Dollar	72.02	70.04	1.98	18.19	12.93	74.10	0.73	88.62
Euro	5.86	5.66	0.20	21.39	1.11	6.35	0.01	1.55
Hong Kong Dollar	3.34	3.13	0.21	29.63	0.47	2.70	0.02	1.99
Japanese Yen	2.73	3.73	-1.01	17.78	0.34	1.94	0.01	1.71
British Pound Sterling	2.58	2.45	0.13	21.83	0.48	2.72	0.02	2.37
Indian Rupee	1.92	1.70	0.22	20.32	0.23	1.33	0.01	1.60
New Taiwan Dollar	1.89	1.81	0.08	24.98	0.30	1.70	0.00	0.17
Korean Won	1.66	1.43	0.23	25.61	0.32	1.82	0.01	1.13
Swiss Franc	1.31	1.68	-0.36	16.88	0.18	1.01	-0.00	-0.10
Canadian Dollar	1.12	1.95	-0.82	20.59	0.21	1.18	-0.01	-1.34
Brazilian Real	0.98	0.64	0.34	33.72	0.18	1.02	0.02	2.00
Australian Dollar	0.68	1.22	-0.54	23.97	0.14	0.79	-0.01	-0.72
Danish Krone	0.58	0.51	0.07	21.04	0.09	0.50	0.00	0.42
Swedish Krona	0.38	0.54	-0.16	27.70	0.09	0.50	-0.00	-0.14
Indonesian Rupiah	0.36	0.22	0.13	22.83	0.05	0.27	0.01	0.63



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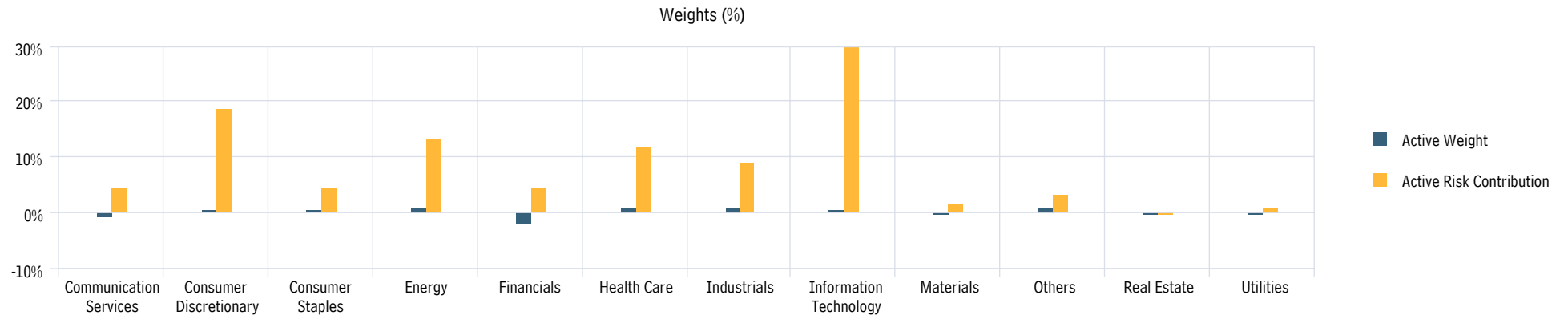
# BarraOne Equity Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Equity  
 BENCHMARK: Public Equity  
 POSITIONS: 11,585  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 21,286,710,530  
 ACCEPTED: 11,470

## Portfolio Allocation by GICS Sector

GICS Sector	Weight (%)			Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>17.44</b>	<b>0.83</b>	<b>100.00</b>	<b>0.01</b>
Communication Services	6.70	7.33	-0.63	22.83	0.04	4.29	-0.06
Consumer Discretionary	11.70	11.30	0.40	23.30	0.15	18.55	-0.04
Consumer Staples	6.84	6.79	0.05	12.33	0.04	4.46	-0.00
Energy	5.11	4.50	0.62	26.72	0.11	13.03	0.03
Financials	13.57	15.34	-1.78	19.81	0.04	4.24	-0.01
Health Care	12.80	12.08	0.72	14.54	0.10	11.69	-0.01
Industrials	11.23	10.64	0.59	19.36	0.07	9.00	-0.01
Information Technology	22.64	22.37	0.27	22.52	0.25	29.77	-0.08
Materials	4.13	4.33	-0.19	20.83	0.01	1.62	-0.01
Others	0.71	0.00	0.71	0.77	0.03	3.03	-0.00
Real Estate	2.15	2.63	-0.49	20.83	-0.00	-0.35	-0.02
Utilities	2.42	2.70	-0.27	17.80	0.01	0.65	-0.01





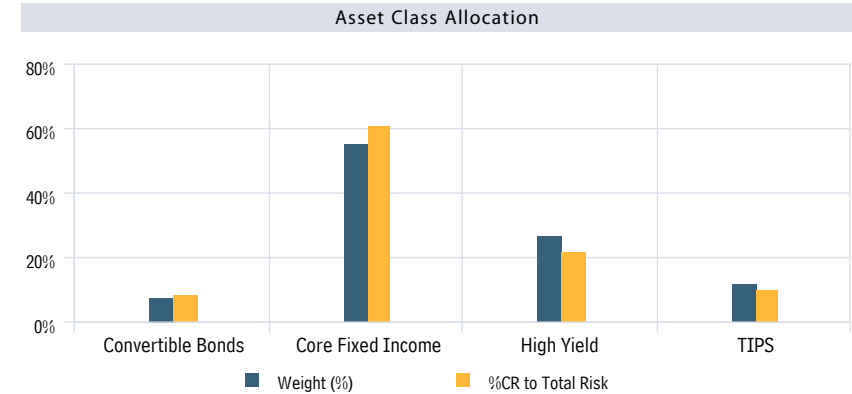
# BarraOne Fixed Income Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Fixed Income  
 BENCHMARK: Public Fixed Income  
 POSITIONS: 11,636  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 13,321,704,743  
 ACCEPTED: 11,523

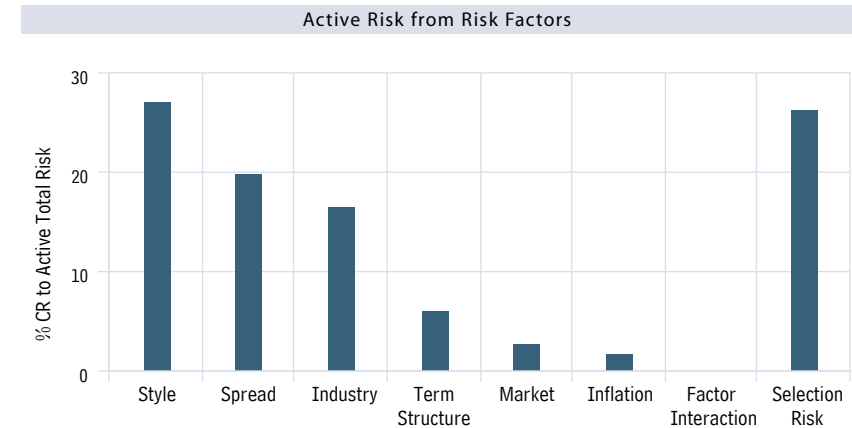
## Total Plan Summary

Risk Summary		Asset Class Contribution to Risk					
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR
Total Risk	6.14	<b>Total</b>	<b>13,321,704,743</b>	<b>100.00</b>	<b>6.14</b>	<b>6.14</b>	<b>100.00</b>
Benchmark Risk	6.18	Convertible Bonds	951,131,753	7.14	12.55	0.51	8.31
Active Risk	0.35	Core Fixed Income	7,346,344,925	55.15	7.38	3.72	60.61
Portfolio Beta	0.99	High Yield	3,507,462,946	26.33	6.48	1.31	21.29
Cont. to Eff. Duration	6.24	TIPS	1,516,765,119	11.39	6.40	0.60	9.79
Convexity	0.76						
Yield to Worst (%)	5.13						
OAS to Swap (bp)	130.31						



## Risk Factor Breakdown

Risk Source	Portfolio			Active		
	Risk Contribution	% Risk	Correlation	Risk Contribution	% Risk	Correlation
<b>Total Risk</b>	<b>6.14</b>	<b>100.00</b>	<b>1.00</b>	<b>0.35</b>	<b>100.00</b>	<b>1.00</b>
Local Market Risk	6.14	99.99	1.00	0.35	99.99	1.00
Common Factor Risk	6.13	99.89	1.00	0.26	73.65	0.86
Implied Volatility	0.07	1.14	0.55	0.00	0.12	0.06
Industry	0.00	0.06	0.03	0.06	16.57	0.46
Inflation	0.03	0.50	0.05	0.01	1.53	0.25
Market	0.29	4.74	0.45	0.01	2.60	0.09
Spread	1.03	16.83	0.36	0.07	19.72	0.43
Style	0.02	0.41	0.15	0.09	27.11	0.41
Term Structure	4.68	76.23	0.80	0.02	5.98	0.30
Selection Risk	0.01	0.10	0.03	0.09	26.33	0.51



# BarraOne Fixed Income Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Fixed Income  
 BENCHMARK: Public Fixed Income  
 POSITIONS: 11,636  
 MODEL: MAC.L

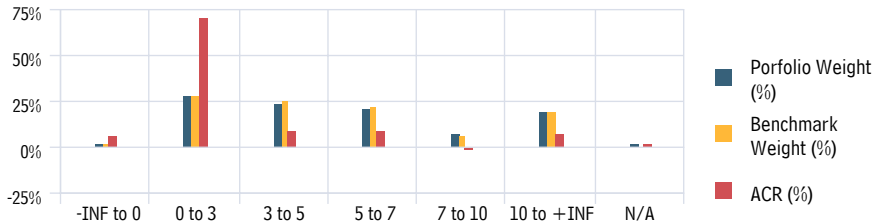
CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 13,321,704,743  
 ACCEPTED: 11,523

## Portfolio by Factor Breakdowns

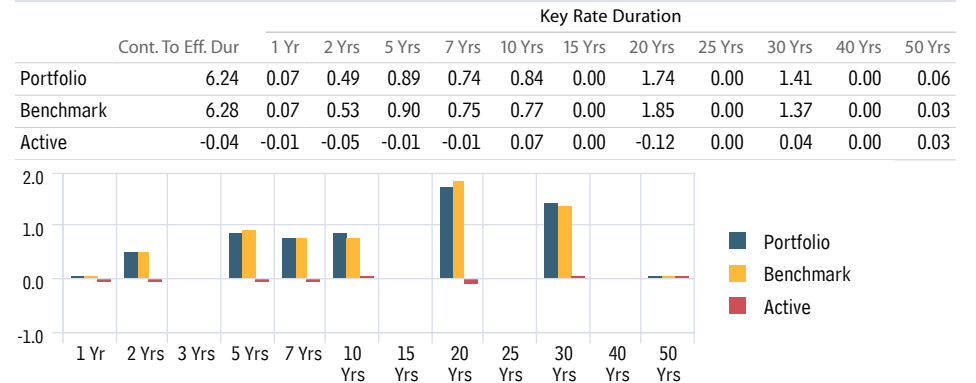
Spread Factor	Volatility	Top 10 Spread Factor				Correlation	Contribution (Residual)			
		Exposure (Residual)					Active Port	to TR	to AR	to AR%
		Portfolio	Benchmark	Active	MCAR					
US Financials - Banking IG Spr	51.65	0.36	0.18	0.18	0.14	0.28	0.07	0.03	7.53	
US Bank Loan Consumer Discreti	24.57	0.13	0.00	0.13	0.08	0.32	0.01	0.01	2.86	
US Financials - Capital Market	48.13	0.16	0.09	0.08	0.13	0.27	0.03	0.01	2.78	
US ABS Miscellaneous Spread	31.20	0.07	0.00	0.07	0.11	0.35	0.00	0.01	2.20	
US Bank Loan Health Care Sprea	25.17	0.09	0.00	0.09	0.08	0.30	0.01	0.01	1.92	
US Bank Loan Financials Spread	26.26	0.06	0.00	0.06	0.08	0.32	0.01	0.01	1.55	
US Real Estate IG Spread	37.44	0.12	0.07	0.05	0.09	0.25	0.02	0.00	1.42	
US MBS All Spread	0.37	0.09	0.00	0.09	0.00	0.15	0.01	0.00	1.39	
US Energy HY Spread	47.63	0.39	0.34	0.04	0.11	0.22	0.05	0.00	1.36	
US Health Care - Pharmaceutica	54.21	0.14	0.10	0.04	0.10	0.18	0.03	0.00	1.14	

Term Structure	Volatility	Top 10 Term Structure				Correlation	Contribution (Residual)			
		Exposure (Residual)					Active Port	to TR	to AR	to AR%
		Portfolio	Benchmark	Active	MCAR					
USD Rate 20Y	0.89	1.73	1.85	-0.12	-0.00	-0.23	1.19	0.02	6.95	
USD Rate 2Y	1.27	0.49	0.53	-0.05	-0.00	-0.27	0.37	0.02	4.58	
USD Rate 5Y	1.16	1.33	1.34	-0.02	-0.00	-0.25	1.13	0.00	1.30	
USD Rate 1Y	1.22	0.07	0.07	-0.01	-0.00	-0.25	0.04	0.00	0.74	
USD Muni Rates 1Y	1.13	0.00	0.00	0.00	-0.00	-0.06	0.00	-0.00	-0.00	
USD Muni Rates 2Y	1.18	0.00	0.00	0.00	-0.00	-0.07	0.00	-0.00	-0.01	
USD Muni Rates 5Y	1.12	0.00	0.00	0.00	-0.00	-0.03	0.00	-0.00	-0.01	
USD Muni Rates 20Y	1.04	0.01	0.00	0.01	-0.00	-0.02	0.01	-0.00	-0.04	
USD Muni Rates 10Y	1.06	0.00	0.00	0.00	-0.00	-0.04	0.00	-0.00	-0.05	
USD Rate 6M	1.04	0.01	0.01	0.00	-0.00	-0.20	0.00	-0.00	-0.14	

%CR to Active Risk by Duration Buckets



Key Rate Duration



# BarraOne Fixed Income Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Fixed Income  
 BENCHMARK: Public Fixed Income  
 POSITIONS: 11,636  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 13,321,704,743  
 ACCEPTED: 11,523

## Top 30 Countries by Weight%

Country of Exposure	Weight (%)			Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>6.14</b>	<b>0.35</b>	<b>100.00</b>	<b>0.00</b>
United States	92.47	91.12	1.35	6.25	0.33	95.62	-0.00
Canada	1.85	1.90	-0.05	5.10	0.00	0.03	-0.00
United Kingdom	1.58	1.75	-0.17	6.07	0.01	2.31	-0.01
Ireland	0.62	0.71	-0.09	6.30	0.00	0.03	0.00
Luxembourg	0.56	0.47	0.09	10.32	0.00	0.57	0.01
Netherlands	0.28	0.29	-0.01	7.75	-0.00	-0.09	0.00
Switzerland	0.24	0.18	0.07	5.50	0.00	0.04	-0.00
Spain	0.22	0.14	0.08	5.44	0.00	0.17	-0.00
Bermuda	0.20	0.15	0.05	5.40	0.00	0.23	0.01
Belgium	0.19	0.18	0.01	12.12	-0.00	-0.07	-0.01
Germany	0.19	0.13	0.05	6.64	0.00	0.17	-0.00
Australia	0.18	0.25	-0.07	7.50	0.00	0.02	-0.00
Japan	0.17	0.54	-0.37	5.68	0.00	0.11	-0.01
Israel	0.14	0.13	0.02	6.11	0.00	0.49	-0.01
Italy	0.13	0.28	-0.15	7.26	-0.00	-0.65	0.00
France	0.12	0.16	-0.04	10.35	0.00	0.18	0.00
Chile	0.11	0.01	0.10	4.84	0.00	0.37	0.00
Caymans	0.10	0.10	-0.01	6.46	-0.00	-0.06	0.01
India	0.08	0.07	0.02	5.71	0.00	0.06	0.00
Macao	0.08	0.26	-0.18	7.95	-0.00	-0.39	0.00
Malta	0.07	0.04	0.03	35.71	0.00	0.47	0.04
United Arab Emirates	0.06	0.00	0.06	4.02	0.00	0.21	0.00
Singapore	0.04	0.23	-0.19	24.97	0.00	0.29	-0.01
Liberia	0.04	0.06	-0.02	4.29	-0.00	-0.05	-0.00
Hong Kong	0.04	0.13	-0.09	16.65	-0.00	-0.06	-0.01
Zambia	0.03	0.00	0.03	2.66	0.00	0.08	0.00
S. Korea	0.03	0.00	0.03	2.04	0.00	0.03	-0.00
Brazil	0.03	0.07	-0.04	13.71	-0.00	-0.20	0.01
Mexico	0.03	0.05	-0.03	4.86	0.00	0.09	-0.01
Austria	0.03	0.02	0.01	10.51	0.00	0.03	0.01



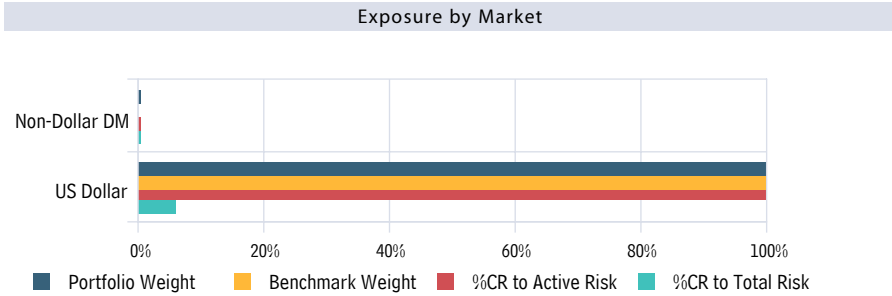
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# BarraOne Fixed Income Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Fixed Income  
 BENCHMARK: Public Fixed Income  
 POSITIONS: 11,636  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 13,321,704,743  
 ACCEPTED: 11,523

## Portfolio Allocation by Currency



Developed Market Currency			
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	13,321,366,574.36	99.98	100.00
Canadian Dollar	286,475.28	0.01	0.00
British Pound Sterling	50,897.23	0.01	0.00
Euro	796.57	0.00	0.00

Emerging Market Currency			
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)

## Top 15 Currencies by Weight%

Currency of Exposure	Weight (%)			Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
	Portfolio	Benchmark	Active						
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>6.14</b>	<b>6.14</b>	<b>100.00</b>	<b>0.35</b>	<b>100.00</b>	
US Dollar	100.00	100.00	-0.00	6.14	6.14	100.00	0.35	99.98	
Canadian Dollar	0.00	0.00	0.00	6.71	0.00	0.00	0.00	0.01	
British Pound Sterling	0.00	0.00	0.00	53.56	0.00	0.00	0.00	0.01	
Euro	0.00	0.00	0.00	7.34	0.00	0.00	0.00	0.00	



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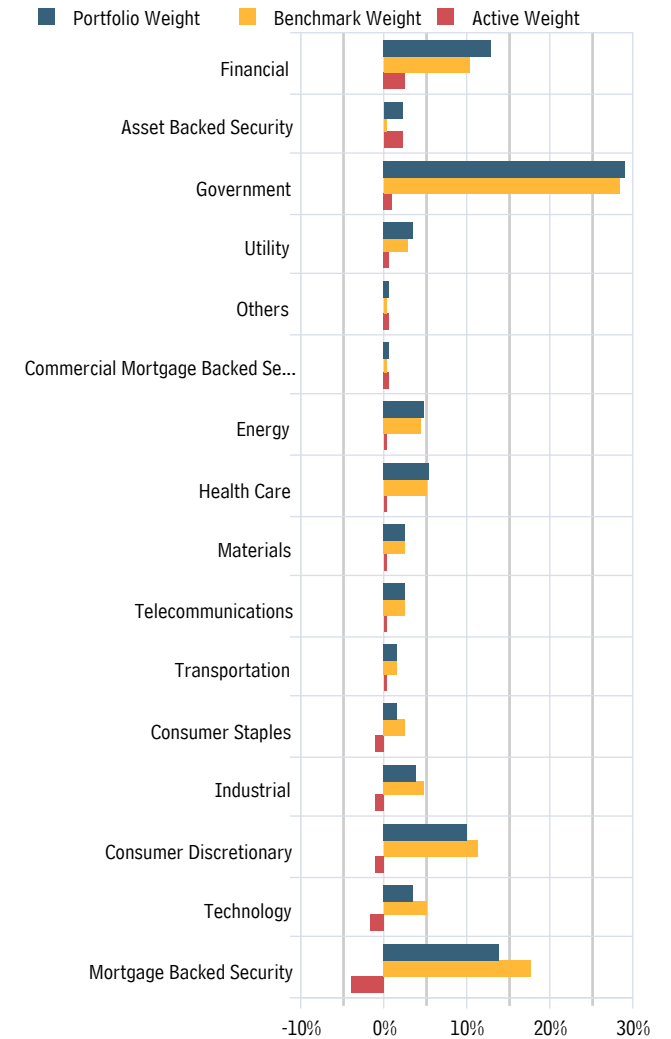
# BarraOne Fixed Income Summary

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 PORTFOLIO: Public Fixed Income  
 BENCHMARK: Public Fixed Income  
 POSITIONS: 11,636  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 13,321,704,743  
 ACCEPTED: 11,523

## Portfolio Allocation by Bond Sector

Sector	Weight (%)			Cont. To Eff. Dur	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active					
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>6.24</b>	<b>6.14</b>	<b>0.35</b>	<b>100.00</b>	<b>0.00</b>
Government	29.16	28.35	0.81	2.74	7.86	0.00	1.04	-0.01
Mortgage Backed Security	13.93	17.86	-3.93	0.85	6.69	0.03	8.53	-0.02
Financial	12.90	10.44	2.46	0.60	6.65	0.10	29.16	0.00
Consumer Discretionary	10.15	11.19	-1.04	0.43	8.29	0.04	11.14	0.00
Health Care	5.37	5.23	0.13	0.32	7.21	0.03	7.27	-0.01
Energy	4.85	4.48	0.38	0.20	7.17	0.06	16.90	0.01
Industrial	3.74	4.72	-0.98	0.15	6.34	-0.00	-0.63	0.00
Technology	3.66	5.24	-1.58	0.17	7.57	0.03	7.97	-0.01
Utility	3.62	2.92	0.70	0.20	7.79	0.04	11.62	0.00
Materials	2.73	2.68	0.05	0.11	5.56	0.00	0.85	0.00
Telecommunications	2.61	2.60	0.00	0.17	8.21	0.00	0.18	-0.00
Asset Backed Security	2.15	0.00	2.14	0.08	3.90	0.01	2.36	-0.00
Consumer Staples	1.62	2.46	-0.84	0.11	6.82	-0.00	-0.82	-0.01
Transportation	1.56	1.56	0.00	0.06	6.63	0.01	1.58	0.00
Others	0.62	0.00	0.62	0.02	3.22	0.01	1.96	0.00
Commercial Mortgage Backed	0.60	0.00	0.60	0.01	2.76	0.00	0.89	-0.00
Agency	0.43	0.23	0.21	0.02	5.40	-0.00	-0.22	-0.01
Local/Provincial	0.31	0.06	0.25	0.02	5.91	0.00	0.23	-0.00
Supranational	0.01	0.00	0.01	0.00	3.78	0.00	0.00	-0.01



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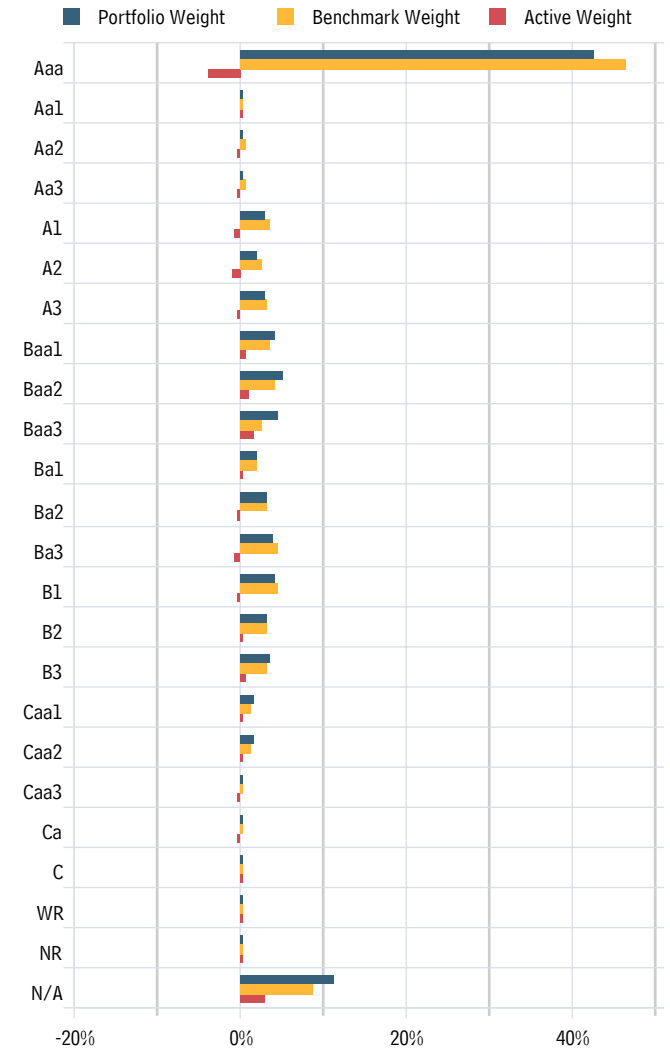
# BarraOne Fixed Income Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Public Fixed Income  
 BENCHMARK: Public Fixed Income  
 POSITIONS: 11,636  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 13,321,704,743  
 ACCEPTED: 11,523

## Portfolio Allocation by Moody's Rating

Rating	Weight (%)			Cont. To Eff. Dur	Spread Duration	Total Risk	Active Risk CR	%CR to Active TR
	Portfolio	Benchmark	Active					
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>6.24</b>	<b>6.51</b>	<b>6.14</b>	<b>0.35</b>	<b>100.00</b>
Aaa	42.55	46.57	-4.02	3.48	8.44	7.24	0.05	14.10
Aa1	0.04	0.02	0.02	0.00	11.52	9.65	-0.00	-0.02
Aa2	0.20	0.58	-0.38	0.02	11.53	9.75	0.00	0.59
Aa3	0.32	0.59	-0.27	0.03	10.63	9.63	0.00	0.25
A1	2.92	3.47	-0.55	0.21	7.52	7.18	0.01	1.70
A2	1.79	2.65	-0.86	0.12	6.94	6.72	0.01	2.17
A3	2.92	3.29	-0.37	0.22	7.61	7.80	0.01	2.79
Baa1	4.15	3.66	0.49	0.26	6.62	7.49	0.05	12.98
Baa2	5.23	4.35	0.87	0.39	7.91	8.15	0.04	10.30
Baa3	4.36	2.61	1.74	0.21	4.88	5.72	0.02	5.17
Ba1	1.91	1.88	0.03	0.09	5.18	6.28	0.01	2.65
Ba2	3.10	3.38	-0.27	0.12	4.19	5.67	0.00	0.33
Ba3	4.02	4.55	-0.53	0.14	3.79	5.22	-0.00	-0.38
B1	4.31	4.50	-0.19	0.15	3.77	6.06	-0.00	-0.33
B2	3.37	3.09	0.28	0.10	3.35	6.34	0.01	3.13
B3	3.66	3.10	0.56	0.11	3.14	7.64	0.01	4.04
Caa1	1.56	1.17	0.39	0.04	2.85	10.45	0.01	3.02
Caa2	1.52	1.35	0.17	0.05	3.19	11.08	0.01	1.49
Caa3	0.12	0.19	-0.07	0.00	3.62	18.41	-0.00	-0.81
Ca	0.08	0.20	-0.12	0.00	2.45	15.23	-0.00	-1.26
C	0.02	0.02	0.01	0.00	3.03	23.39	0.00	0.10
WR	0.19	0.09	0.10	0.00	2.89	8.20	0.00	0.84
NR	0.24	0.02	0.22	0.00	0.46	20.74	0.00	0.42
Not Rated	11.43	8.68	2.75	0.48	4.46	7.30	0.13	36.75



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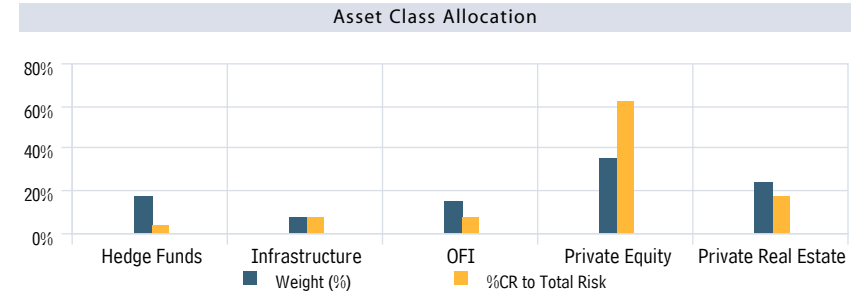
# BarraOne Equity Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Alternative Investments  
 BENCHMARK: Alternative Investments  
 POSITIONS: 482  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 14,214,398,634  
 ACCEPTED: 478

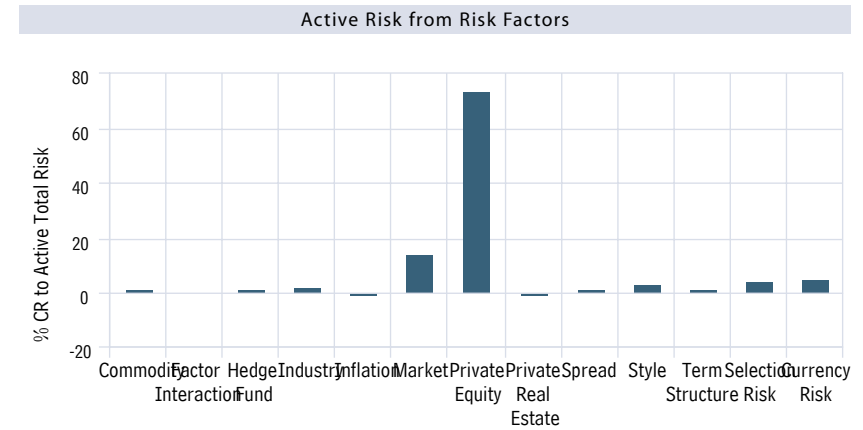
## Total Plan Summary

Risk Summary		Asset Class Contribution to Risk					
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR
Total Risk	13.82	<b>Total</b>	<b>14,214,398,634</b>	<b>100.00</b>	<b>13.82</b>	<b>13.82</b>	<b>100.00</b>
Benchmark Risk	10.20	Hedge Funds	2,485,610,008	17.49	5.49	0.53	3.82
Active Risk	6.77	Infrastructure	1,123,936,855	7.91	15.69	1.13	8.18
Portfolio Beta	1.20	OFI	2,180,137,922	15.34	8.33	1.05	7.62
		Private Equity	5,054,160,981	35.56	24.83	8.57	61.98
		Private Real Estate	3,370,552,868	23.71	14.09	2.54	18.40



## Risk Factor Breakdown

Risk Source	Portfolio			Active		
	Risk Contribution	% Risk	Correlation	Risk Contribution	% Risk	Correlation
<b>Total Risk</b>	<b>13.82</b>	<b>100.00</b>	<b>1.00</b>	<b>6.77</b>	<b>100.00</b>	<b>1.00</b>
Local Market Risk	13.19	95.43	1.00	6.44	95.09	0.99
Common Factor Risk	13.14	95.05	0.99	6.19	91.42	0.97
Hedge Fund	0.02	0.13	0.04	0.02	0.23	0.05
Private Real Estate	2.22	16.04	0.72	-0.10	-1.41	-0.08
Commodity	0.01	0.09	0.09	0.01	0.13	0.07
Industry	0.15	1.08	0.21	0.12	1.73	0.17
Inflation	-0.00	-0.00	0.00	-0.04	-0.57	-0.14
Market	7.45	53.93	0.88	0.96	14.20	0.39
Private Equity	2.45	17.71	0.42	5.00	73.74	0.86
Spread	0.56	4.05	0.64	0.04	0.55	0.17
Style	0.25	1.83	0.39	0.19	2.79	0.28
Term Structure	0.03	0.23	0.04	0.01	0.12	0.03
Selection Risk	0.05	0.38	0.06	0.25	3.67	0.19
Currency Risk	0.63	4.57	0.48	0.33	4.91	0.30



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# BarraOne Equity Summary

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 POSITIONS: 482  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 14,214,398,634  
 ACCEPTED: 478

## Portfolio Allocation by Region

Region	Weight (%)			Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>13.82</b>	<b>6.77</b>	<b>100.00</b>	<b>0.07</b>
Asia Pacific	2.05	0.14	1.91	14.06	0.04	0.58	0.01
EMEA	14.47	1.40	13.06	19.00	1.06	15.59	0.06
Latin-S America	0.38	0.01	0.37	24.91	0.01	0.19	0.04
N America	80.76	98.28	-17.52	13.93	5.59	82.51	0.02
N/A	2.12	0.00	2.12	20.96	0.07	1.06	0.03
Rest of World	0.22	0.17	0.05	11.08	0.00	0.07	-0.00





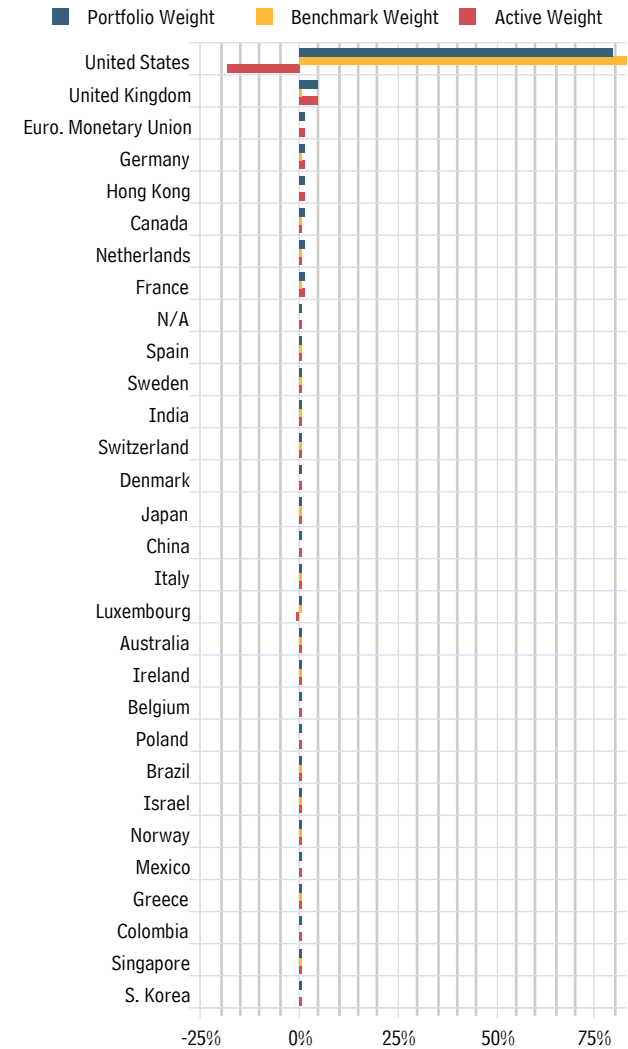
# BarraOne Equity Summary

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 PORTFOLIO: Alternative Investments  
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 POSITIONS: 482  
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CURRENCY: USD  
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 ACCEPTED: 478

## Top 30 Countries by Weight%

Country of Exposure	Weight (%)			Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>13.82</b>	<b>6.77</b>	<b>100.00</b>	<b>0.07</b>
United States	79.60	97.68	-18.07	13.91	5.47	80.70	0.05
United Kingdom	4.80	0.32	4.48	18.20	0.31	4.62	0.09
Euro. Monetary Union	1.61	0.00	1.61	25.49	0.11	1.65	0.10
Germany	1.49	0.10	1.39	19.98	0.09	1.38	0.08
Hong Kong	1.29	0.00	1.29	28.12	0.04	0.53	0.06
Canada	1.11	0.57	0.54	17.36	0.12	1.81	0.09
Netherlands	1.09	0.15	0.94	19.96	0.06	0.92	0.08
France	1.08	0.06	1.02	21.23	0.09	1.28	0.11
N/A	0.83	0.00	0.83	17.40	0.04	0.53	0.07
Spain	0.81	0.01	0.80	22.49	0.08	1.17	0.12
Sweden	0.72	0.01	0.71	28.85	0.08	1.21	0.14
India	0.69	0.01	0.67	21.22	0.02	0.26	0.05
Switzerland	0.59	0.04	0.56	29.06	0.07	0.98	0.13
Denmark	0.46	0.00	0.46	27.50	0.05	0.66	0.13
Japan	0.42	0.01	0.41	13.07	-0.00	-0.01	0.03
China	0.39	0.00	0.39	16.18	0.00	0.05	0.04
Italy	0.34	0.13	0.21	26.06	0.03	0.48	0.08
Luxembourg	0.29	0.40	-0.11	6.02	0.00	0.03	0.02
Australia	0.26	0.06	0.20	19.63	0.01	0.15	0.06
Ireland	0.23	0.15	0.07	11.06	0.00	0.06	0.03
Belgium	0.21	0.00	0.21	28.80	0.01	0.21	0.10
Poland	0.21	0.00	0.21	30.66	0.02	0.31	0.13
Brazil	0.19	0.01	0.18	40.97	0.01	0.15	0.08
Israel	0.15	0.00	0.15	27.05	0.01	0.16	0.10
Norway	0.13	0.01	0.12	24.89	0.01	0.18	0.12
Mexico	0.10	0.00	0.10	12.79	0.00	0.01	0.04
Greece	0.09	0.00	0.09	31.26	0.01	0.14	0.13
Colombia	0.08	0.00	0.08	30.35	0.00	0.03	0.06
Singapore	0.08	0.01	0.07	16.07	0.00	0.02	0.04
S. Korea	0.07	0.00	0.07	19.15	0.00	0.03	0.06

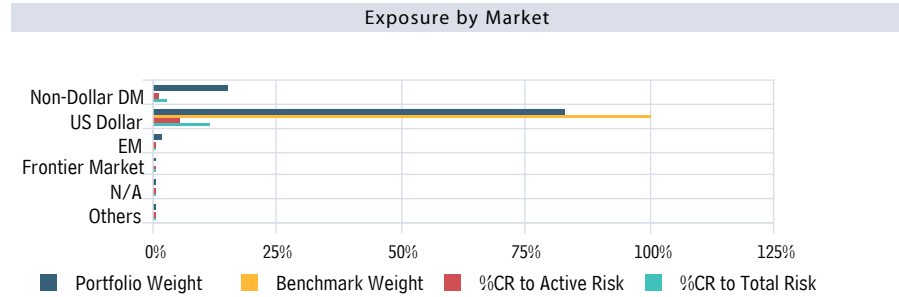


# BarraOne Equity Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Alternative Investments  
 BENCHMARK: Alternative Investments  
 POSITIONS: 482  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 14,214,398,634  
 ACCEPTED: 478

## Portfolio Allocation by Currency



Developed Market Currency			
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	11,808,596,099.33	81.44	80.60
Euro	1,104,093,143.48	8.07	8.84
British Pound Sterling	534,302,158.50	4.79	4.61
Canadian Dollar	121,035,861.31	1.72	1.24
Swedish Krona	101,959,685.78	1.21	1.11

Emerging Market Currency			
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
Indian Rupee	97,053,240.82	0.26	0.54
Chinese Yuan	52,610,690.59	0.06	0.20
Polish Zloty	29,758,517.32	0.31	0.27
Brazilian Real	25,298,516.43	0.15	0.21
Korean Won	9,681,267.75	0.03	0.06

## Top 15 Currencies by Weight%

Currency of Exposure	Weight (%)			Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
	Portfolio	Benchmark	Active						
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>13.82</b>	<b>13.82</b>	<b>100.00</b>	<b>6.77</b>	<b>100.00</b>	
US Dollar	83.07	100.00	-16.93	13.57	11.14	80.60	5.52	81.44	
Euro	7.77	0.00	7.77	19.53	1.22	8.84	0.55	8.07	
British Pound Sterling	3.76	0.00	3.76	22.42	0.64	4.61	0.32	4.79	
Canadian Dollar	0.85	0.00	0.85	22.19	0.17	1.24	0.12	1.72	
Swedish Krona	0.72	0.00	0.72	29.08	0.15	1.11	0.08	1.21	
Indian Rupee	0.68	0.00	0.68	21.34	0.07	0.54	0.02	0.26	
Swiss Franc	0.57	0.00	0.57	22.69	0.08	0.60	0.04	0.66	
Danish Krone	0.45	0.00	0.45	27.65	0.08	0.61	0.05	0.67	
Japanese Yen	0.42	0.00	0.42	13.07	0.02	0.15	-0.00	-0.02	
Chinese Yuan	0.37	0.00	0.37	17.11	0.03	0.20	0.00	0.06	
Australian Dollar	0.25	0.00	0.25	20.11	0.04	0.27	0.01	0.14	
Polish Zloty	0.21	0.00	0.21	30.66	0.04	0.27	0.02	0.31	
Brazilian Real	0.18	0.00	0.18	42.81	0.03	0.21	0.01	0.15	
New Israeli Sheqel	0.13	0.00	0.13	29.59	0.03	0.20	0.01	0.16	
Norwegian Krone	0.11	0.00	0.11	30.87	0.02	0.18	0.01	0.19	



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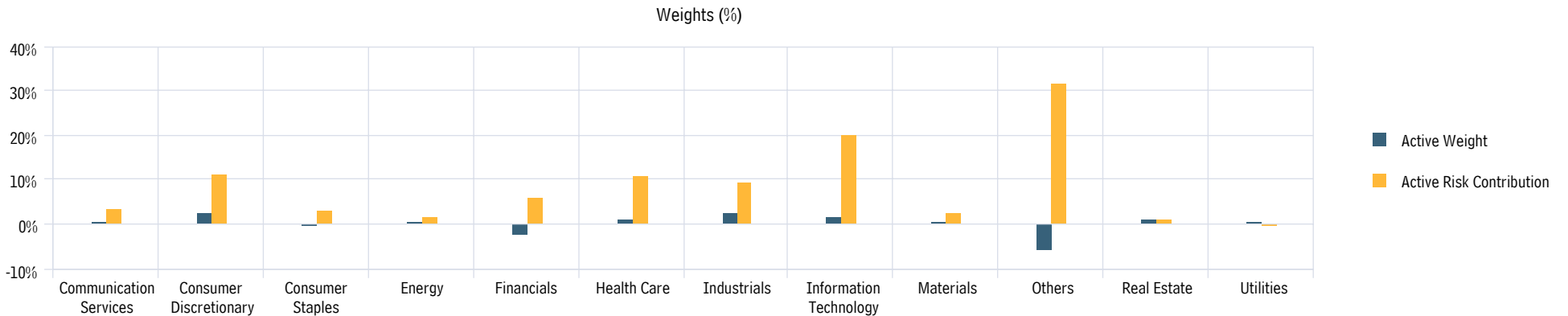
# BarraOne Equity Summary

COMPANY: NYCRS - POLICE  
 PORTFOLIO: Alternative Investments  
 BENCHMARK: Alternative Investments  
 POSITIONS: 482  
 MODEL: MAC.L

CURRENCY: USD  
 ANALYSIS DATE: June 30, 2023  
 MARKET VALUE: 14,214,398,634  
 ACCEPTED: 478

## Portfolio Allocation by GICS Sector

GICS Sector	Weight (%)			Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
	Portfolio	Benchmark	Active				
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>-0.00</b>	<b>13.82</b>	<b>6.77</b>	<b>100.00</b>	<b>0.07</b>
Communication Services	3.32	3.22	0.10	19.79	0.25	3.62	0.10
Consumer Discretionary	6.32	4.10	2.22	25.07	0.75	11.12	0.13
Consumer Staples	1.41	2.05	-0.64	20.16	0.19	2.86	0.08
Energy	2.09	2.05	0.05	24.81	0.11	1.62	0.08
Financials	1.68	3.97	-2.29	47.44	0.38	5.66	0.08
Health Care	5.12	4.28	0.84	22.52	0.73	10.71	0.11
Industrials	6.02	3.54	2.48	19.87	0.64	9.46	0.12
Information Technology	8.96	7.56	1.40	28.80	1.36	20.09	0.14
Materials	1.36	1.14	0.22	24.61	0.17	2.46	0.12
Others	60.53	66.23	-5.70	9.51	2.15	31.74	0.03
Real Estate	1.93	1.00	0.93	11.34	0.06	0.88	0.07
Utilities	1.26	0.87	0.39	8.31	-0.02	-0.24	0.03



## APPENDICES:

- Basket Clause

- Liquidity Analysis

# BASKET CLAUSE ANALYSIS

Trustee Reporting  
As of 06/30/2023

<b>Basket Limit</b>	<b>35.00%</b>
<b>Basket Consumed</b>	<b>23.84%</b>
<b>Remaining Capacity</b>	<b>11.16%</b>

	Basket-Eligible Assets*			Basket Assets	Total
	Non-Basket Assets	Non-Contributing	Contributing		
<b>FIXED INCOME</b>	<b>25.54%</b>	<b>5.08%</b>	<b>0.02%</b>	<b>6.38%</b>	<b>37.00%</b>
<b>U.S. Fixed</b>	<b>13.59%</b>	<b>4.65%</b>	<b>0.02%</b>	<b>5.79%</b>	<b>24.04%</b>
Cash/Equivalent	7.47%	---	---	0.00%	7.47%
TIPS	2.85%	---	---	---	2.85%
Convertible Bonds	1.64%	0.05%	0.01%	0.11%	1.81%
OFI	0.04%	0.12%	0.00%	4.01%	4.17%
High Yield	0.59%	4.46%	0.00%	1.65%	6.70%
Bank Loans	0.00%	---	---	0.00%	0.00%
ETI Investments	0.72%	---	---	0.01%	0.73%
Core/Core Plus	0.27%	0.02%	---	0.01%	0.30%
<b>U.S. Structured</b>	<b>11.95%</b>	<b>0.42%</b>	<b>---</b>	<b>0.59%</b>	<b>12.96%</b>
Credit	4.44%	0.42%	---	0.39%	5.25%
Mortgages	3.43%	---	---	0.21%	3.64%
ST Treasury	0.03%	---	---	---	0.03%
Treasury/Agency	0.07%	---	---	---	0.07%
MT Treasury	1.55%	---	---	---	1.55%
LT Treasury	2.44%	---	---	---	2.44%
<b>EQUITY</b>	<b>27.05%</b>	<b>18.50%</b>	<b>2.92%</b>	<b>14.52%</b>	<b>63.00%</b>
<b>Public Equity</b>	<b>27.03%</b>	<b>9.95%</b>	<b>2.92%</b>	<b>0.02%</b>	<b>39.93%</b>
U.S. Equity	26.70%	1.11%	0.33%	0.00%	28.13%
EAFE	0.17%	5.46%	1.60%	0.01%	7.24%
Emerging Markets	0.17%	3.38%	0.99%	0.01%	4.56%
<b>Alternative Investments</b>	<b>0.02%</b>	<b>8.55%</b>	<b>---</b>	<b>14.50%</b>	<b>23.07%</b>
Hedge Funds	0.00%	---	---	4.98%	4.98%
Infrastructure	0.01%	2.10%	---	0.00%	2.11%
Private RE/Core	0.00%	3.74%	---	---	3.74%
Private RE/Non-Core	0.00%	2.71%	---	0.00%	2.71%
Private Equity	0.00%	---	---	9.53%	9.53%
<b>TOTAL ASSETS</b>	<b>52.59%</b>	<b>23.57%</b>	<b>2.94%</b>	<b>20.90%</b>	<b>100.00%</b>
	<b>Non-Basket:</b>	<b>76.16%</b>	<b>Basket:</b>	<b>23.84%</b>	

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 June 30, 2023

	Current MV	Liquid Assets		
		Today	1 Year	2 Years
<b>PUBLIC EQUITY</b>	<b>\$21,339</b>	<b>\$21,339</b>	<b>\$21,339</b>	<b>\$21,339</b>
U.S.	15,011	15,011	15,011	15,011
EAFE Equity	3,598	3,598	3,598	3,598
Emerging Markets	2,730	2,730	2,730	2,730
<b>PUBLIC FIXED INCOME</b>	<b>\$13,759</b>	<b>\$13,450</b>	<b>\$13,608</b>	<b>\$13,608</b>
Short Term Securities	362	362	362	362
U.S. Government	2,176	2,176	2,176	2,176
Long Duration Treasury	0	0	0	0
Mortgages				
Core Mortgages	1,833	1,833	1,833	1,833
ETI	391	82	240	240
Credit - Investment Grade	3,926	3,926	3,926	3,926
Corporate - High Yield	3,549	3,549	3,549	3,549
Corporate - Bank Loans	1	1	1	1
UST - Inflation Protected	1,521	1,521	1,521	1,521
<b>ALTERNATIVE ASSETS</b>	<b>\$14,552</b>	<b>\$1,856</b>	<b>\$3,537</b>	<b>\$3,891</b>
Private Equity	5,097	0	0	0
Private Real Estate	3,440	0	0	0
Infrastructure	1,132	0	0	0
Opportunistic Fixed Income	2,190	1,643	2,190	2,190
Hedge Funds	2,694	213	1,347	1,701
<b>Total Assets</b>	<b>\$49,650</b>	<b>\$36,645</b>	<b>\$38,484</b>	<b>\$38,838</b>
<b>Total Illiquid \$</b>		<b>\$13,005</b>	<b>\$11,166</b>	<b>\$10,812</b>
<b>Total Illiquid %</b>		<b>26.2%</b>	<b>22.5%</b>	<b>21.8%</b>
Unfunded OFI Commitments	\$619			
Unfunded INF Commitments	\$831			
Unfunded PE Commitments	\$3,085			
Unfunded RE Commitments	\$1,381			
<b>Total commitments \$</b>	<b>\$5,915</b>			
<b>Total commitments %</b>	<b>11.9%</b>			



**Police Liquidity Profile - Static Analysis**

AUM as of June 30, 2023

**Denominator Effect - Decrease AUM by One-Third**

<b>Total Illiquid \$</b>	\$13,005	\$11,166	\$10,812
<b>Total Illiquid %</b>	39.3%	33.7%	32.7%

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

	Current MV	Liquid Assets		
		Today	1 Year	2 Years
<b>Total Assets</b>	<b>\$49,650</b>	<b>\$36,645</b>	<b>\$38,484</b>	<b>\$38,838</b>

**Private Equity, Real Estate, Infrastructure and Opportunistic Fixed Income Stress Case**

Unfunded OFI Commitments	\$124	\$248
Unfunded INF Commitments	\$166	\$332
Unfunded PE Commitments Drawn	\$617	\$1,234
Unfunded RE Commitments Drawn	\$276	\$552
<b>Total commitments \$</b>	<b>\$1,183</b>	<b>\$2,366</b>
<b>Total commitments %</b>	2.4%	4.8%

<b>Total Illiquid \$</b>	\$12,349	\$13,178
<b>Total Illiquid %</b>	24.9%	26.5%

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**

<b>Total Illiquid \$</b>	\$13,005	\$12,349	\$13,178
<b>Total Illiquid %</b>	39.3%	37.3%	39.8%

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



## Additional Assumptions

Alternative Assets Liquidation Estimates: 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; Hedge Funds: estimates provided by consultant.

Illiquid Ratio: 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.

Unfunded Commitments: Uses custodian value at month end.

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

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

