#### NYC Employees' Retirement System Investment Meeting (Public)

Schedule	Wednesday, June 15, 2022 0:20 AM 1:20 DM EDT
	Wednesday, June 15, 2022 9:30 AM — 1:30 PM EDT
Venue	Join Zoom Meeting:
	https://us02web.zoom.us/j/86241034179?pwd=dlV6czhVWEQr
	QzJpZE1QN2FRRVVUUT09
Notes for Participants	Topic: NYCERS Investment Meeting
	Time: Jun 15, 2022 09:30 AM Eastern Time (US and Canada)
	Join Zoom Meeting:
	https://us02web.zoom.us/j/86241034179?pwd=dlV6czhVWEQr
	QzJpZE1QN2FRRVVUUT09
	Meeting ID: 862 4103 4179
	Passcode: 989567
	One tap mobile
	+16468769923,,86241034179# US (New York)
	+13126266799,,86241034179# US (Chicago)
	Dial by your location:
	+1 646 876 9923 US (New York)
	+1 312 626 6799 US (Chicago)
	+1 301 715 8592 US (Washington DC)
	+1 253 215 8782 US (Tacoma)
	+1 346 248 7799 US (Houston)
	+1 669 900 6833 US (San Jose)
	Meeting ID: 862 4103 4179
	Find your local number:
	https://us02web.zoom.us/u/kbjY5bSW6
	Join by SIP:
	86241034179@zoomcrc.com
	Join by H.323
	162.255.37.11 (US West)
	162.255.36.11 (US East)
	115.114.131.7 (India Mumbai)
	115.114.115.7 (India Hyderabad)
	213.19.144.110 (Amsterdam Netherlands)
	213.244.140.110 (Germany)
	103.122.166.55 (Australia Sydney)
	103.122.167.55 (Australia Melbourne)
	149.137.40.110 (Singapore)
	64.211.144.160 (Brazil)

	149.137.68.253 (Mexico)
	69.174.57.160 (Canada Toronto)
	65.39.152.160 (Canada Vancouver)
	207.226.132.110 (Japan Tokyo)
	149.137.24.110 (Japan Osaka)
	Meeting ID: 862 4103 4179
	Passcode: 989567
	Thank you,
	Kim Boston
	KIM D. BOSTON
	Administrative Manager
	Bureau of Asset Management, Pension Unit
	Office of New York City Comptroller Brad Lander
	Work: (212) 669-4789   Mobile: (347) 723-6697
	Email: kboston@comptroller.nyc.gov
Organizer	Kim Boston
Agenda	
0	

	PUBLIC AGENDA -	1
9:30 AM	Welcome and Opening	2
9:45 AM	Quarterly Fund Performance Overview (Public): -Market Overview -Performance Update -Risk Update	3
	96-15-2022 NYCERS Meeting (1Q2022 Quarterly) Public.pdf	4
	NON-INVESTMENT MATERIAL - QUARTERLY PERFORMANCE REPORTING SECTION (Public Reports):	35
	State Street Quarterly Fund Performance Overview (Public):	36
	NYCERS 1Q21 Quarterly Report Overview_(Public).pdf	37

ETI Quarterly Report (Public):	107
ETI 1Q Qtrly Rpt (Public)_06.15.2022 (NYCERS).pdf	108
Private Equity Quarterly Report (Public):	114
PE 4Q Qtrly Rpt (Public)_06.15.2022 (NYCERS).pdf	115
Real Estate Quarterly Report (Public):	146
NE 4Q Qtrly Rpt (Public)_06.15.2022 (NYCERS).pdf	147
Infrastructure Quarterly Report (Public):	170
Infra 4Q Qtrly Rpt (Public)_06.15.2022 (NYCERS).pdf	171
Risk Quarterly Report (Public):	190
Risk 1Q Qrtly Report_06.15.2022 (NYCERS).pdf	191
APPENDICES: -Basket Clause -Liquidity Analysis	232
🔎 Basket Clause Rpt_06.15.2022 (NYCERS).pdf	233
Liquidity Report_06.15.2022 (NYCERS).pdf	234

#### PUBLIC AGENDA -

Welcome and Opening

Quarterly Fund Performance Overview (Public):

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



# NYCERS INVESTMENT MEETING PUBLIC SESSION



June 15, 2022

Page 5 of 236

# MARKET OVERVIEW AND NYCERS PERFORMANCE Q1-2022

Asset Class	Index	Q1-22	1 Year	3 Year	5 Year	Expected*
Equities - U.S.	Russell 3000	-5.28%	11.92%	18.24%	15.40%	5.80%
Equities - Developed Intl	MSCI World ex USA IMI Net	-5.18%	2.31%	8.69%	7.22%	6.80%
Equities - Emerging Intl	MSCI EMERGING MARKETS	-6.97%	-11.37%	4.94%	5.98%	8.30%
Debt - US Govt Long Duration	FTSE Treasury 10+	-10.42%	-0.84%	3.34%	3.96%	2.65%
Debt - US Government	NYC Treas/Agency +5	-7.98%	-2.86%	2.19%	2.68%	2.60%
Debt - Investment Grade	Bloomberg U.S. Corporate IG	-7.69%	-4.20%	3.02%	3.34%	3.60%
Debt - High Yield	Bloomberg U.S. HY-2% Issuer Cap	-4.82%	-0.66%	4.56%	4.68%	4.80%

\*Average of consultant long-term arithmetic expected market returns as of 1H '20



#### **Key Drivers of Market Returns**

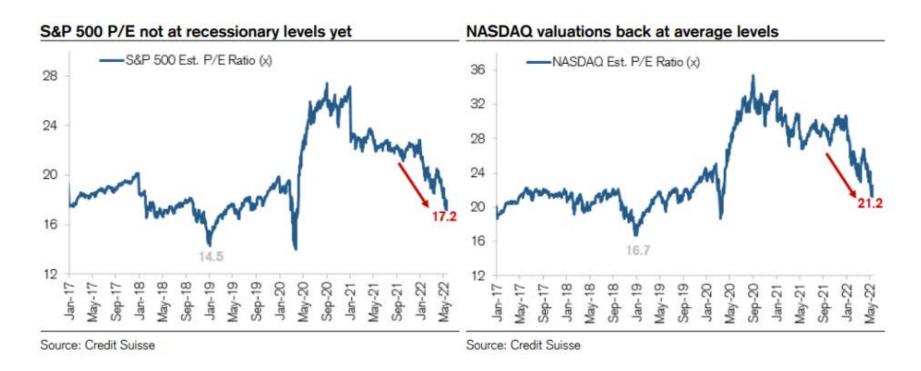
#### 1. Continued rise of inflation and central bank rate hikes

- 3/10 CPI report from transitory to reality (CPI 7.9%, core CPI 6.4%)
- 3/16 FOMC meeting 1) raised rates 25bp 2) "anticipates that ongoing increases in target range will be appropriate and 3) Balance sheet announcement at next FOMC Meeting
- Rate hikes and/or anticipated rate hikes in most developed and emerging markets, except for Japan and China.
- 2. Geo-political events adding to inflation increases
  - Russia invasion of Ukraine increases in energy and commodities
  - China zero Covid policy continued supply chain constraints



#### **Key Drivers of Market Returns**

- 3. US Equity market decline
  - § Correction from historically expensive valuations





#### **Collapse in Unprofitable Tech Index**

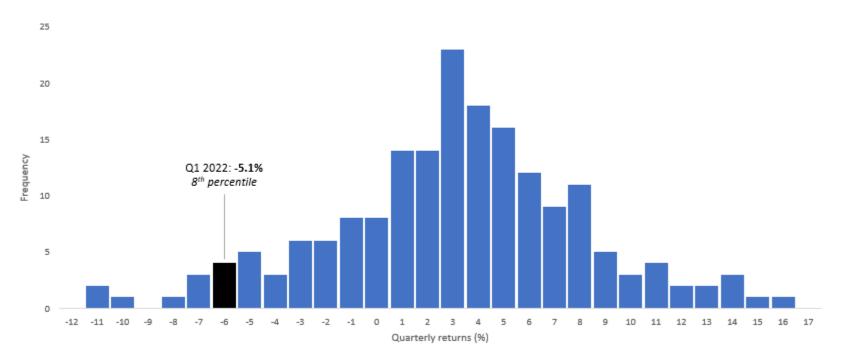


Source: Bloomberg



#### Historical view of 60-40 indexed returns

Distribution of quarterly returns since 1976



Source of returns: Morningstar. Calculations by T. Rowe Price. 60% S&P 500 TR USD / 40% Bloomberg US Agg Bond TR USD, discreet quarters, beginning Q1 1976 and ending Q1 2022.



# NET PUBLIC MARKET RETURNS BY STRATEGY as of 3/31/2022

Investment Strategy	AUM (\$ Millions)	3 Month	1 Year	3 Year	5 Year
U.S. Equity	23,843	(5.23)	10.91	17.43	14.73
WORLD ex-USA	9,637	(10.32)	(5.86)	9.13	8.26
Emerging Markets	4,172	(6.38)	(10.75)	5.09	4.82
Core Fixed Income	17,889	(5.94)	(3.96)	3.03	3.00
TIPS	3,093	(2.81)	4.61	6.23	4.45
High Yield	3,314	(4.16)	(0.04)	4.84	4.56
Convertible Bonds	1,514	(3.01)	(1.29)	8.51	7.96
ETI	879	(5.49)	(3.35)	2.16	2.76
Cash	1,000	(0.08)	(0.05)	0.71	1.12



# NET PRIVATE MARKETS RETURNS BY STRATEGY as of 3/31/2022

Investment Strategy	1 Year	3 Year	5 Year	10 Year	Since Inception
Private Equity	37.9	24.7	19.6	14.1	11.9
Private Real Estate Core	25.4	10.0	9.3	10.5	6.9
Private Real Estate Non-Core (Opp.)	28.9	13.2	12.7	12.8	11.7
Infrastructure	17.3	13.8	13.9	0.0	13.3
Opportunistic Fixed*	10.4	9.4	8.1	7.7	8.1

Dollar weighted returns for periods ended December 31, 2021, unless otherwise noted.

\* Returns through March 31, 2022

Source: State Street, StepStone Group



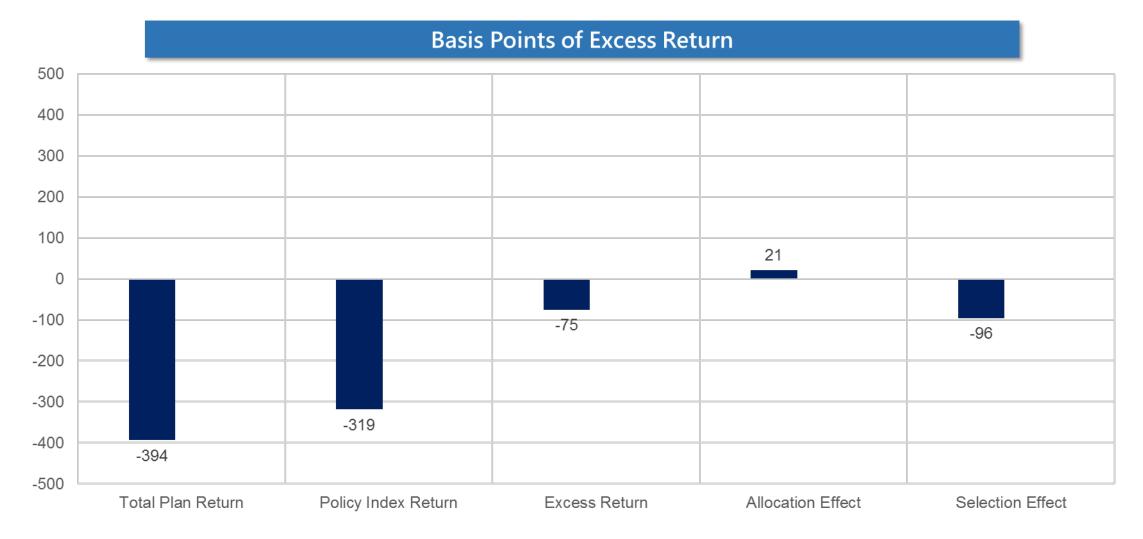
# NET PLAN PERFORMANCE as of 3/31/2022

Aggregate Performance	3 Month	1 Year	3 Year	5 Year
NYCERS Total Plan	(3.9)	5.7	10.8	<mark>9</mark> .5
NYCERS Policy Return	(3.2)	6.3	11.4	<mark>9</mark> .7
BERS Total Plan	(4.4)	6.1	11.9	10.6
BERS Policy Return	(3.0)	7.2	12.1	10.3
Public Market Equivalent 65/35 Portfolio	(5.6)	3.9	10.3	9.0
Median Fund TUCS	(2.5)	9.8	11.8	10.1

Source: SSB



# QTD NET MGR. RETURN AS OF 3/31/2022 TOTAL PORTFOLIO





# PUBLIC MARKETS EXCESS RETURNS (in bps, Q1-2022)

Investment Strategy	3 Month Excess	1 Year Excess	3 Year Excess	5 Year Excess
DOMESTIC EQUITY	5	(102)	(81)	(67)
WORLD ex-USA	(514)	(817)	45	92
EMERGING MARKETS	60	62	52	15
CORE FIXED INCOME	(8)	(3)	(59)	(50)
HIGH YIELD	<mark>6</mark> 6	63	28	(5)
TIPS MANAGERS	22	33	1	2
TARGETED (ETI)	(40)	88	73	71
TOTAL NYCERS	(75)	(58)	(53)	(19)



# PRIVATE MARKETS EXCESS RETURNS (in bps, Q1-2022)

	1 Year	3 Year	5 Year	10 Year	Since Inception
Investment Strategy	Excess	Excess	Excess	Excess	Excess
Private Equity	1230	(120)	170	(220)	0
Private Real Estate Core	1101	(743)	(298)	(67)	(211)
Private Real Estate Non-Core (Opp.)	1460	(417)	16	170	148
Infrastructure	1043	690	701	n/a	641
Opportunistic Fixed*	889	475	350	269	237

Dollar weighted returns vs. benchmark for periods ended December 31, 2021, unless otherwise noted.

\* Returns through March 31, 2022

Source: State Street, StepStone Group



# NYCERS SUMMARY OF REBALANCING ACTIVITIES, Q1-2022

	Fre	om	Amount (\$MM)	То		Amount (\$MM)
NYCERS	US Equity	Large & Mid Cap	1,720	U.S. Equity	Large Cap	1,060
				U.S. Equity	Mid Cap	360
				Cash		300
Total Outfle	ow		1,720	Total Inflow	,	1,720

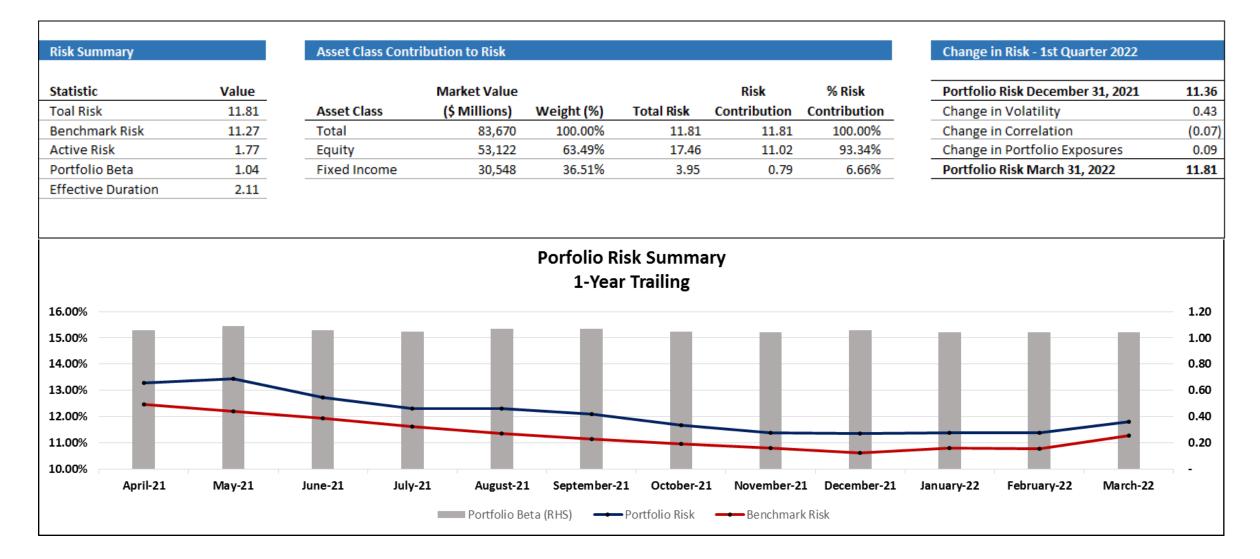


#### NYCERS PORTFOLIO UNDER AND OVER WEIGHTS

Strategy	Policy Target	9/30/2021	12/30/2021	3/31/2022
Cash	0.0%	0.8%	1.2%	1.2%
U.S. Treasuries	9.2%	-0.9%	-1.1%	-1.0%
Investment Grade Bonds	6.7%	-0.6%	-0.7%	-0.8%
Mortgage-Backed Securities	6.6%	-0.6%	-0.8%	-0.7%
U.S. Equities	27.0%	0.4%	1.1%	0.2%
Developed Markets Equities	12.0%	0.8%	0.9%	-0.2%
Emerging Markets Equities	5.0%	0.3%	0.2%	0.0%



### NYCERS TOTAL PLAN SUMMARY





Source: MSCI

#### NYCERS RISK & PERFORMANCE REVIEW

#### Risk & Performance Summary

12 Months Ended March 31, 2022

	Allocation			Performance <sup>‡</sup>			Risk			
									%	
				Portfolio	Benchmark		Portfolio	Benchmark	Contribution	
Asset Class	Weight	Policy Weight	Active Weight	Return	Return	Active Return	Volatility	Volatility	to Risk	Active Risk
NYCERS Portfolio	100.0%	100.0%	0.0%	5.7%	6.3%	-0.6%	11.8%	11.3%	100.0%	1.8%
U.S. Equity	28.7%	28.5%	0.2%	10.9%	11.9%	-1.0%	18.2%	18.3%	42.2%	1.3%
Developed Markets ex-U.S.	12.2%	12.4%	-0.2%	-5.9%	2.3%	-8.2%	19.2%	17.9%	19.2%	3.0%
Emerging Markets	5.1%	5.1%	0.0%	-10.7%	-11.4%	0.6%	19.9%	18.9%	7.0%	6.1%
Private Equity	9.4%	8.0%	1.4%	37.9%	25.6%	12.3%	25.1%	18.3%	18.0%	14.3%
Private Real Estate - Core	3.8%	3.5%	0.3%	25.4%	14.3%	11.0%	12.9%	17.6%	2.9%	5.4%
Private Real Estate - Non-Core	2.6%	2.6%	0.0%	28.9%	14.3%	14.6%	14.2%	17.6%	2.5%	6.8%
Infrastructure	1.6%	1.6%	0.0%	17.3%	6.9%	10.4%	14.2%	2.3%	1.4%	13.6%
Core Fixed Income	22.2%	24.8%	-2.5%	-4.0%	-3.9%	0.0%	4.0%	4.5%	0.0%	0.9%
TIPS	3.7%	3.6%	0.1%	4.6%	4.3%	0.3%	5.2%	5.5%	0.8%	0.3%
High Yield	3.9%	4.1%	-0.2%	0.0%	-0.7%	0.6%	4.8%	4.8%	1.2%	0.4%
Convertibles	1.8%	2.0%	-0.2%	-1.3%	-4.3%	3.0%	12.8%	18.2%	1.9%	6.9%
OFI	3.8%	3.8%	0.0%	10.4%	1.5%	8.9%	10.6%	4.4%	2.8%	7.2%
Cash-Equivalent	1.2%	0.0%	1.2%	0.0%	0.1%	-0.1%	0.1%	0.1%	0.0%	0.0%

<sup>†</sup> Returns for alternative investment classes are shown on a dollar-weighted basis relative to their public market equivalents.

Source: MSCI, SSB



#### **GLOBAL MACRO ISSUES**

- 1. Slowing growth, high inflation and rising interest rates
- 2. Continued geo-political concerns
  - Russian Ukraine war
  - China 1) zero Covid policy 2) property sector decline 3) "shared prosperity" policies

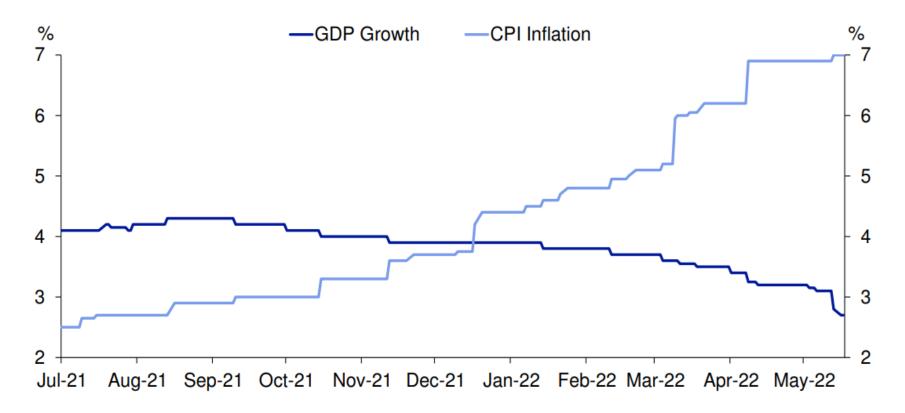


- Central bank rate hikes, QT (end of European QE), and rising commodity prices leading to forecasts of slowing growth; near term inflation forecasts higher, while longer term inflation forecasts are lower
- Recession or soft landing has implication for future asset class returns
- Two ways to frame question 1) neutral or restrictive monetary policy and 2) Financial Conditions



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

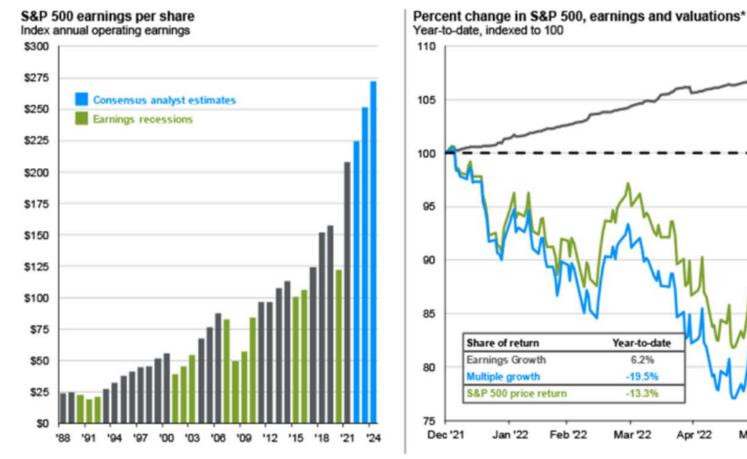
#### Change in US growth and inflation consensus forecasts



Source : Bloomberg Finance LP, Deutsche Bank



#### **Earnings and Valuations**



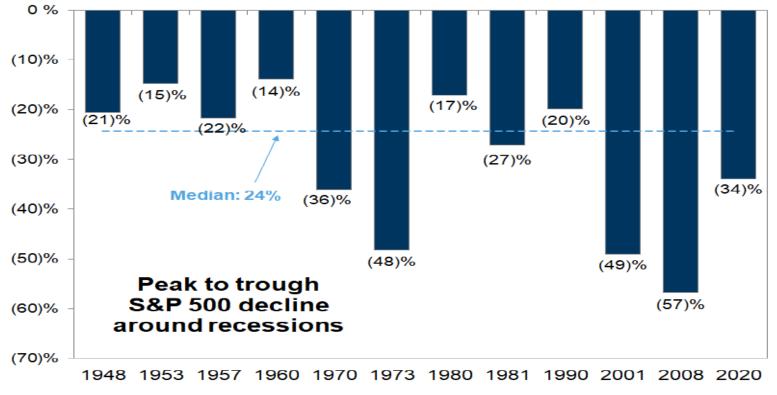
Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.



Apr '22

May '22

#### Recession issue impacts equity markets

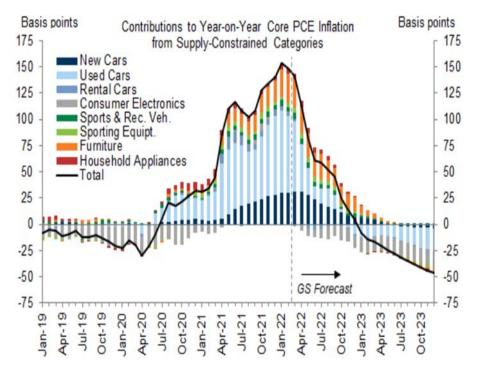


Source(s): Goldman Sachs



#### **Core Inflation Fundamentals**

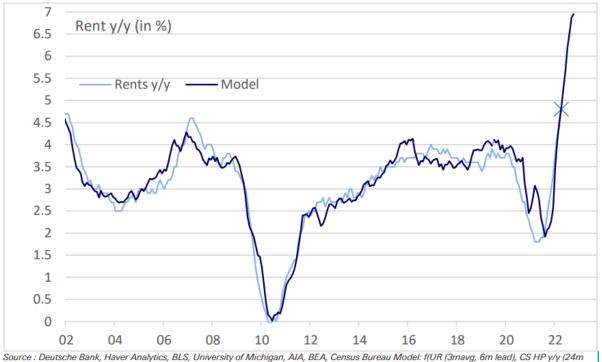
#### Contributions to YoY Core PCE Inflation from Supply-Constrained Categories



Source: Goldman Sachs

#### **Rising OER Inflation**

Figure 2: Rents keep rising, which should keep inflation elevated



Source : Deutsche Bank, Haver Analytics, BLS, University of Michigan, AIA, BEA, Census Bureau Model: f(UR (3mavg, 6m lead), CS HP y/y (24m lead), NPCE y/y (12m avg, 9m lead), Mich 5y5y (3m avg, 6m lead), ABI (3m avg, 15m lead), Vacancy (3m avg, 9m lead)

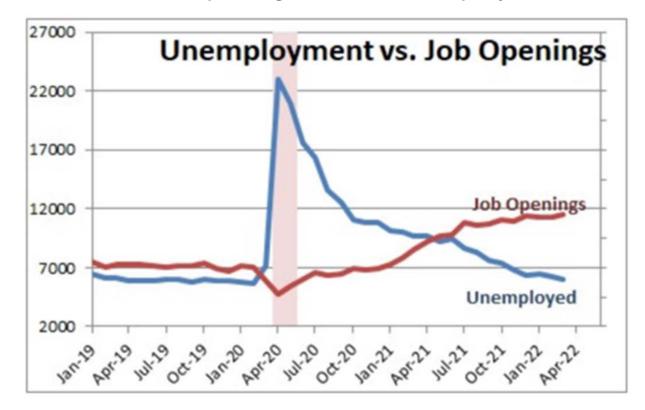


#### LABOR MARKET FUNDAMENTALS

Atlanta Fed wage index



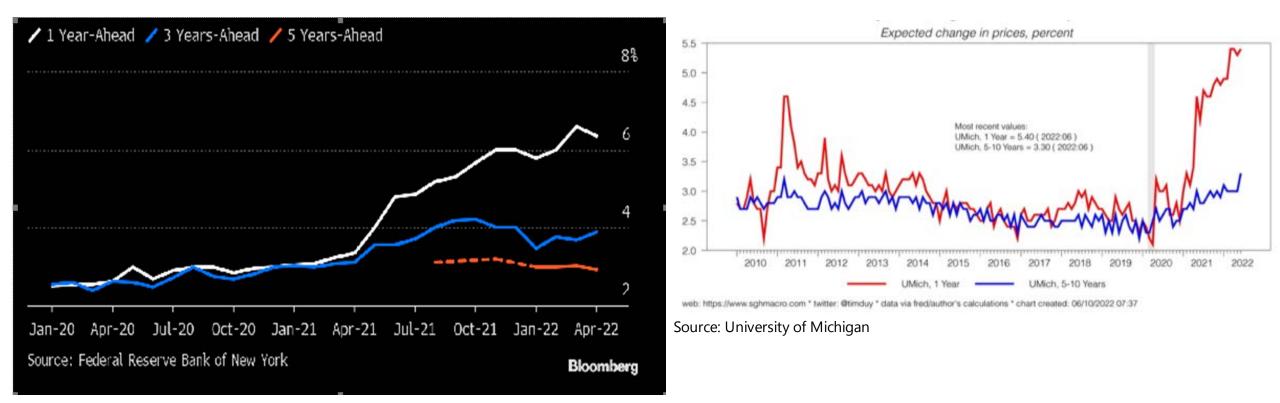
Job openings vs # of unemployed



Source: NumberNomics

#### **NY Fed Inflation Expectations**

#### **U** of Michigan Inflation Expectations



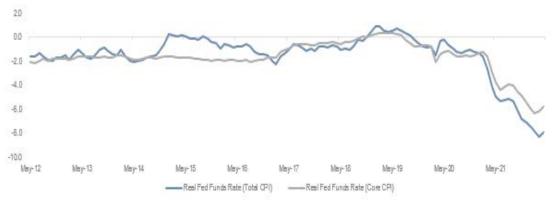


PREPARED BY THE OFFICE OF NEW YORK CITY COMPTROLLER BRAD LANDER | Bureau of Asset Management

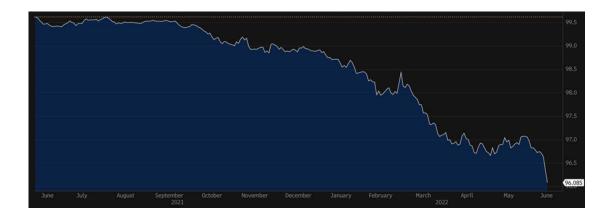
# SLOWING GROWTH AND HIGH INFLATION NEUTRAL OR RESTRICTIVE MONETARY POLICY

#### **Real Fed Funds Rate**

Terminal Fed Funds Rate (June '23 Fed Funds futures, 96 implies Fed Funds of about 4%)



Source: Neuberger Berman

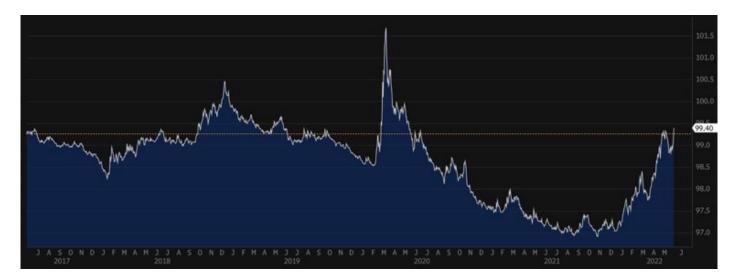




Source: Bloomberg

#### **Financial Conditions Index**

- Theory monetary policy impacts economy through various financial markets
- FCI model incorporates 1) equity market 2) short and long term interest rates 3) value of dollar and 4) credit spreads

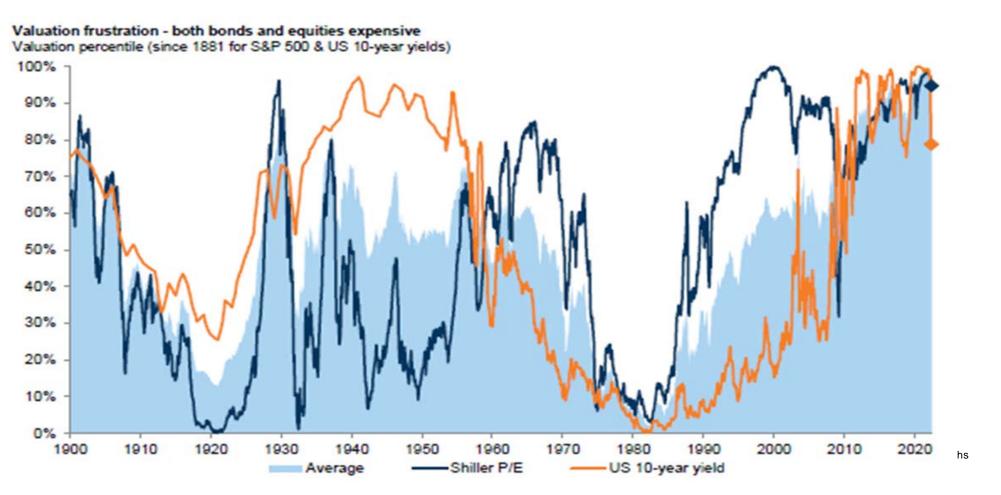


Source: Bloomberg



# **RECESSION OR SOFT LANDING**

#### Valuations still historically expensive





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

### **RECESSION OR SOFT LANDING**

#### Potential for lost decade of returns

'Lost decades' for US 60/40 portfolios have been relatively frequent and often followed strong bull markets Real total return performance of US 60/40 portfolio (monthly rebalancing, orange shading denotes 'lost decade')



Source: Goldman Sachs



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

# MARKET IMPLICATIONS OF POTENTIAL MONETARY ACTIONS

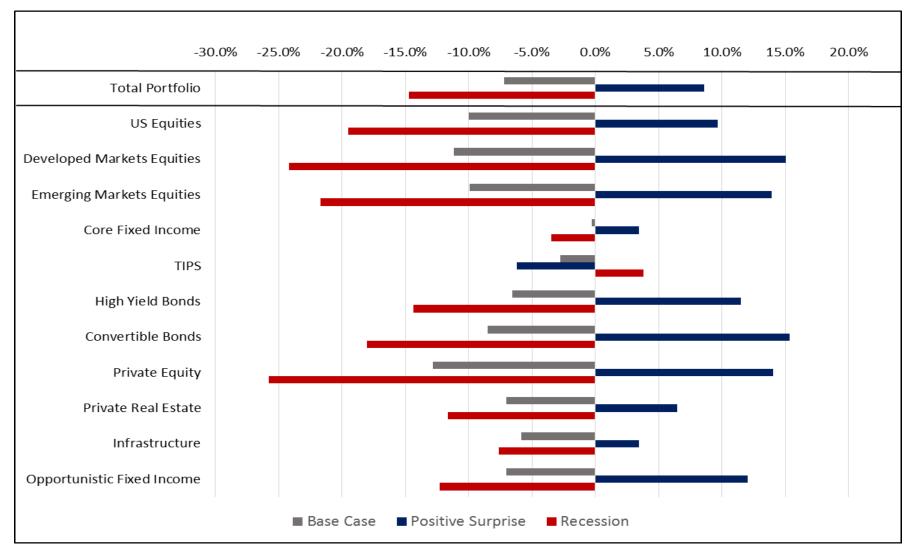
Shock Category	Factor	Base Case	Recession	Positive Surprise
Equity Returns	U.S. Markets (%)	-10%	-20%	10%
Treasury-rate shocks	2-year U.S. Govt (bps)	(20)	50	(50)
Treasury-fate shocks	10-year U.S. Govt (bps)	(10)	10	(20)
BEI-rate shocks	2-year U.S. BEI (bps)	(110)	150	(200)
DEI-Tate Shocks	10-year U.S. BEI (bps)	(50)	50	(100)
Credit-spread shocks	US Corporate IG Spread (%)	10%	50%	-30%
createspread shocks	US Corporate HY Spread (%)	50%	100%	-80%
Commodity	Crude Oil Prices (%)	-10%	30%	-25%



For illustrative purposes only.

#### Page 34 of 236

## NYCERS STRESS TEST RESULTS



PREPARED BY T

For illustrative purposes only.

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

State Street Quarterly Fund Performance Overview (Public):





New York City Employees' Retirement System Performance Overview as of March 31, 2022

# **Total Fund Overview**



## New York City Employees' Retirement System

**Table of Contents:** 

<b>Consultant's Commentary &amp; Performance Charts</b>	p.3
Appendix A - Consolidated Performance Report	p.29
Appendix B - Public Markets Manager Performance Detail	<b>p.38</b>
<b>Appendix C - Alternative Assets Manager Performance Detail</b>	p.52
Appendix D - Footnote	<b>p.66</b>



#### City of New York Employees' Retirement System First Quarter 2022 Summary

**General Economic and Market Conditions:** Capital markets abhor uncertainty, and there is no greater human-generated uncertainty than war. The Russian invasion of Ukraine upended expectations for an orderly slowdown in economic growth from the surge in 2021, and for the spike in inflation to subside as pandemic-induced supply chain bottlenecks cleared. Amid this geopolitical uphe aval and humanitarian catastrophe, the equity and fixed income markets were both down in 1Q22. How often does that happen? More than we expected. Looking at data back to 1926, there have been 37 quarters in which returns on stocks and bonds were both negative, almost 10% of all quarters over that period. Before now, the most recent quarter was 1Q18, and before that, the 2nd and 3rd quarters of 2008, as the Global Financial Crisis (GFC) began unfolding. In case you were wondering, the S&P 500 plunged 19.6% in 1Q20, while th e Bloomberg Aggregate rose 3.1%. The frequency of down quarters for both stocks and bonds has been much lower since 1990 than in the first 60 years of the data set. Looking at annual returns, there have been only two calendar years when stocks and bonds were both down, 1931 and 1969 (with a near-miss in 2018). The point: Over more recent history, stocks and bonds down together is relatively unusual.

The war also hit business and consumer confidence, and the 1Q GDP report surprised all with a 1.4% drop, following a 6.9% surge in 4Q21. The 8.3% swing in growth came from a huge drop in inventory investment and net exports. Imports surged 17.7% while exports declined 5.9%, a sharp reversal from 22.4% growth in 4Q21. The drop in GDP is a surprise because the economy is other wise healthy, with a strong job market. Final sales to the private sector grew 3.7% in 1Q, up from 2.6% in 4Q21, suggesting strength in aggregate demand. The concern going forward is that the confidence to spend and invest will be tested by rising interest rates, skyrocketing inflation, war uncertainty, and the prospect of a recession.

The Fed raised rates at its March meeting, bringing the Fed Funds rate up to 0.25% -0.50%. Chairman Jerome Powell made a point of debunking a 75 basis point hike at the next FOMC meeting. The median projection by FOMC members for the Fed Funds rate is 1.90% at the end of 2022, rising to 2.80% in 2023. However, the range of projections (1.4% to 3.2% by year -end) from Committee members reflects a high degree of uncertainty. As of quarter-end, the market was anticipating nine hikes in 2022, three more than expected by the Fed.

The war in Ukraine and the sanctions imposed on Russia are now piling on to supply bottlenecks, with particular concerns about food and energy supplies, and putting into question the assumption that inflation would ease later in 2022 and into 2023. CPI-U for the U.S. hit 8.5% for the 12 months ending in March, the highest rate since the period ending December 1981. Driving the increase were



prices for gasoline, shelter, and food. The energy index rose 32%, with gasoline prices up 48% year over year. The food price index rose 8.8%, and like the broad CPI, it was the biggest surge since 1981. Russia and Ukraine are vital suppliers to regional and global food supplies. In addition to price inflation, the war has raised serious concerns about the 2022 spring planting and harvest later in the year, and the potential for disaster in food-insecure parts of the globe.

The impact of the war is most direct and dramatic in eastern Europe and central Asia (EECA). The economic ties with Russia and Ukraine are extensive for many countries in the EECA bloc. Russia is the largest market for some countries, and the largest source of goods and energy for others. Tourism and foreign direct investment from Russia is substantial, and salary remittances from foreign workers in Russia are a vital source of income for many EECA countries. Poland attracted a substantial number of Ukrainian workers. Even without close ties, countries within the EECA, western Europe, Africa, and the Americas are vulnerable to disruptions in the flow of goods, services, and energy stemming from the conflict.

If recession is often identified by consecutive quarterly declines in GDP, why wouldn't the 1Q22 decline signal a potential downturn? First, aggregate demand remains robust. Second, household balance sheets are healthy. A labor market characterized by high employer demand, low unemployment (3.6% and falling), and rising compensation suggests continuing growth in consumer spending. Business investment will respond to this strong consumer demand. High frequency data show resilient growth in spending on travel and entertainment, and a recovery from the sharp drop in activity during the Omicron wave.

While expectations for economic growth in the U.S. are clearly lower since the Russian invasion, with GDP projections for 2022 down from 4% to 3% or lower, they are still positive. The impact of the war may be more consequential for Europe, with its greater dependence on energy imports. Risk of recession is higher, but not yet the expected case for 2022.

#### Please note that all return figures mentioned below are gross of fee.

**Total Fund Performance:** For the quarter ended March 31, 2022, the Fund returned -3.85%, sixty six basis points below the Policy Target return of -3.19%. Over the trailing year, NYCERS has earned a return of +6.18% versus the Policy Target return of +6.26%. Over three years, the total Fund has returned +11.17% annualized. Over the trailing five years, the Fund has gained 9.83% annualized. The trailing 10-year return is +9.09% annualized.

Total Fund Assets: The Fund's assets totaled \$84.4 billion as of the end of the first quarter of 2022.



**U.S. Equity:** The total domestic equity portion of the NYCERS Fund returned -5.21% for the quarter, above the -5.28% return of the Russell 3000 Index. For the trailing year, NYCERS underperformed the index, returning +10.98% versus +11.92% for the index. The Fund is below the benchmark over the trailing three, five, and ten year periods.

In Large Cap, the Fund underperformed the Russell 1000 Index, returning -4.97% versus the Russell 1000's return of -5.13% during the first quarter. The Fund's one year return of +11.97% underperformed the +13.27% return of the Index. The Fund is below the benchmark over the trailing three year period.

In Small Cap, the Fund returned -9.11%, below the Russell 2000 return of -7.53% for the quarter. The Fund's one year return of -2.34% outperformed the -5.79% return of the Index. The Fund is ahead of the benchmark over the trailing three year period.

**Developed International:** For the quarter, the Fund's Non-U.S. Developed Equity composite returned -10.27% (excluding NYCERS' historical non-U.S. Environmental manager), underperforming the Custom MSCI World ex-US Benchmark by 509 basis points. The Fund returned -5.65% for the trailing one year period, below the return of the benchmark (+2.31%). The Fund is above the benchmark over the trailing three, five, and ten year periods.

**Emerging Markets Equity:** The Fund's active emerging markets equity composite returned -6.29% in the quarter, outperforming the -6.97% return of NYCERS custom MSCI benchmark. The passive portfolio outperformed the active one for the quarter. The one year return for the active emerging markets composite is -10.20%, outperforming the -11.37% return for the benchmark. The active emerging markets equity composite is above the benchmark over the trailing three, five, and ten year periods.

**Core Fixed Income:** The composite of the Fund's core program returned -5.94% during the quarter, underperforming the NYCERS Custom Structured Index return of -5.86%. For the past year, the core composite has returned -3.91%, while the benchmark's return is -3.93%. The Fund is below the benchmark over the trailing three and five year periods and ahead of the benchmark over the trailing ten year period.

**TIPS:** The Fund's TIPS composite delivered a -2.80% return in the quarter, above the -3.02% return for the Bloomberg US TIPS Index. Over the past year, the Fund's TIPS managers have returned +4.63%, outperforming the benchmark's return of +4.29%. The Fund is ahead of the benchmark over the trailing three, five, and ten year periods.



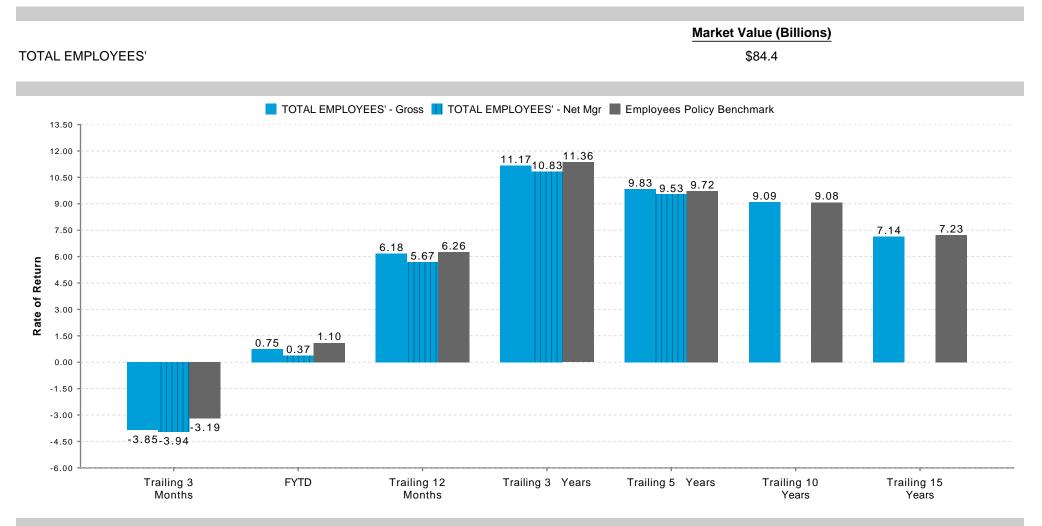
**High Yield:** In high yield, the Fund's managers returned -4.09% for the quarter, while NYCERS High Yield Custom Benchmark posted a lower return of -4.82%. The Fund outperformed the custom benchmark over the past year, returning +0.27% as compared to the benchmark's return of -0.66%. The Fund is ahead of the benchmark over the trailing three, five, and ten year periods.

**Convertibles:** The convertible portfolio returned -2.93% in the quarter, above the -5.45% return of the ICE BofA All US Conv Ex Mandatory Index. Over the past year, the convertibles portfolio has returned -0.94%, outperforming the -4.27% return for the benchmark. The Fund underperformed the benchmark over the trailing three, five, and ten year periods.

**Opportunistic Fixed Income:** The opportunistic fixed income composite returned +1.13% over the first quarter, outperforming the blended benchmark of 50% JP Morgan Global High Yield / 50% Credit Suisse Leveraged Loan Index - Plus 300 bps (-1.57%). The Fund returned +13.14% for the trailing one year period, above the return of the blended benchmark (+4.12%). The Fund is above the blended benchmark over the trailing three, five, and ten year periods.

**Alternatives:** For the quarter, the Private Equity portfolio had approximately \$7.9 billion in invested capital, representing roughly 9.4% of the Total Fund. The Private Real Estate portfolio had approximately \$5.4 billion invested, accounting for roughly 6.4% of the Total Fund. The Infrastructure portfolio had approximately \$1.3 billion invested, or 1.6%. Performance is reported separately by NYCERS' Private Equity and Real Estate consultants.

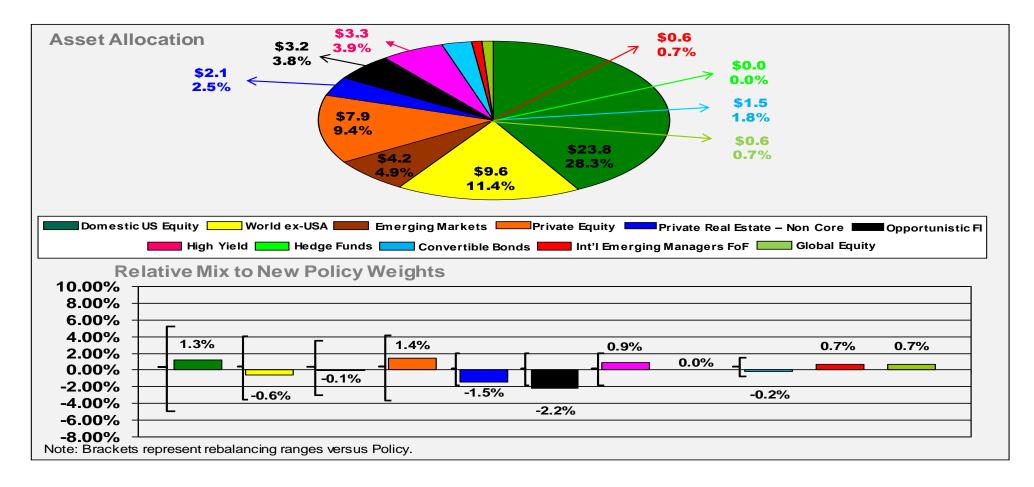




	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 10 Years	Benchmark 10 Years
Standard Deviation						
TOTAL EMPLOYEES'	9.5	9.9	9.8	8.5	7.2	7.3

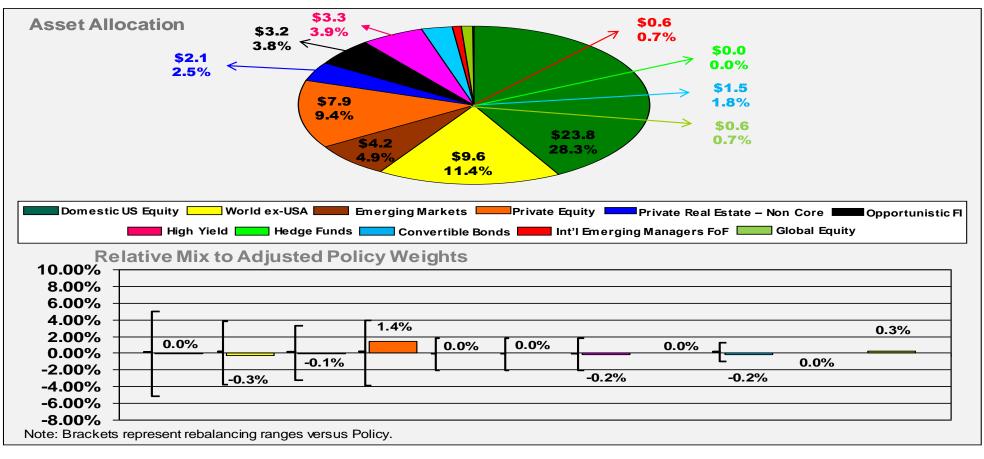


### **Portfolio Asset Allocation – Growth**





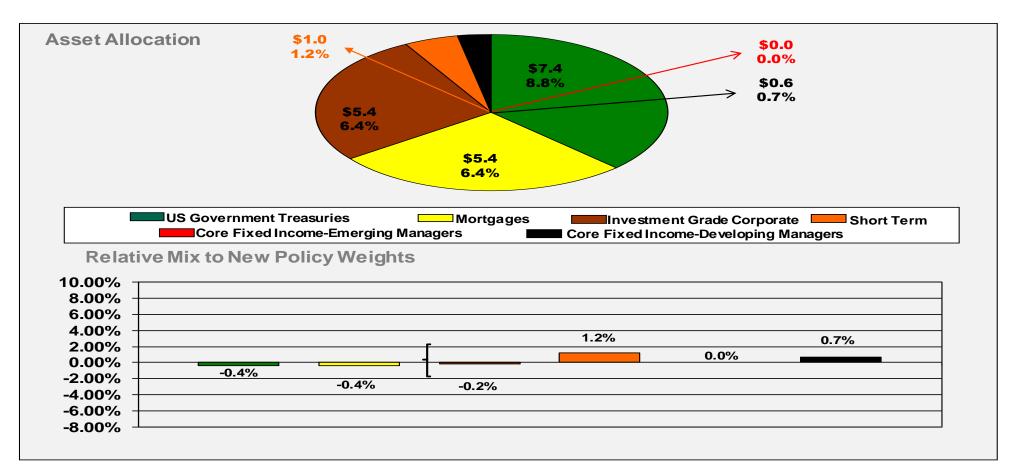
#### **Portfolio Asset Allocation – Growth**



Note: On March 31, 2022 NYCERS' combined Fixed Income and Cash portfolios have a duration of 5.9 years. The duration of the Bardays US Aggregate Index was 6.6 years on that date.

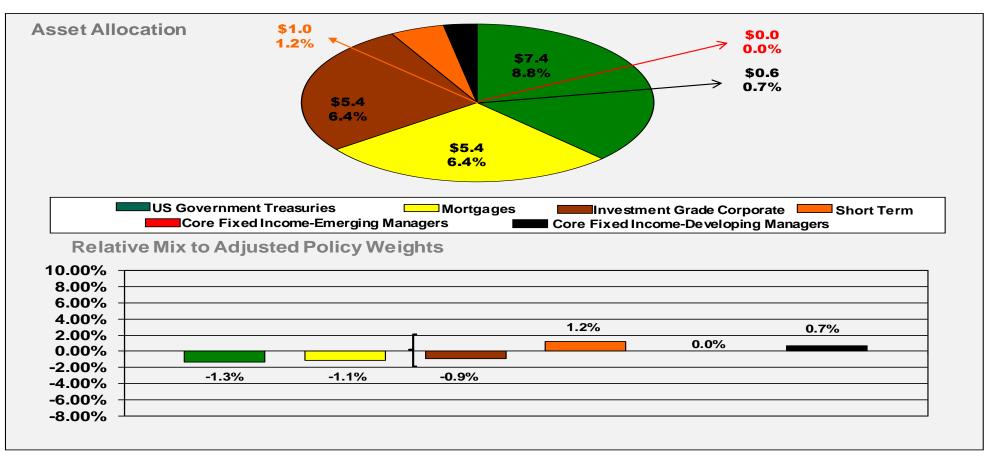


## **Portfolio Asset Allocation – Deflation Protection**





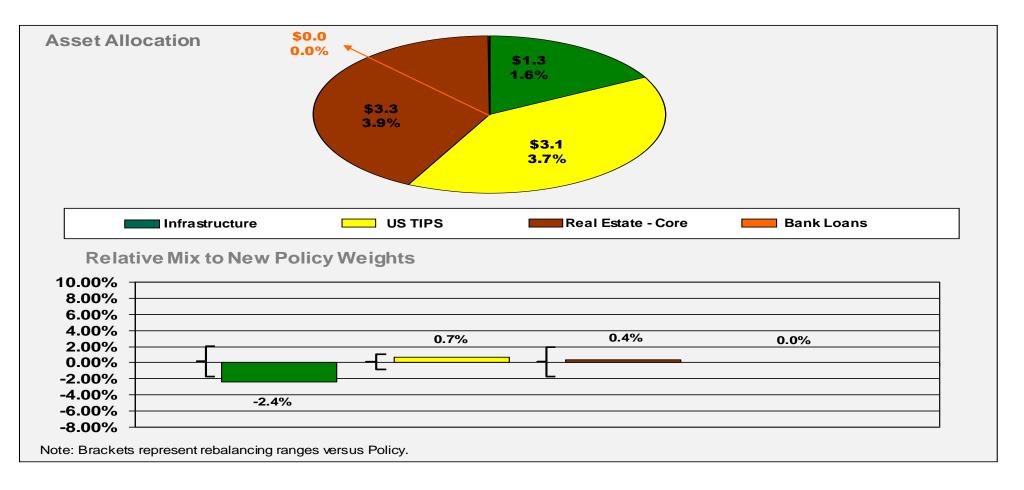
## **Portfolio Asset Allocation – Deflation Protection**



Note: On March 31, 2022 NYCERS' combined Fixed Income and Cash portfolios have a duration of 5.9 years. The duration of the Bardays US Aggregate Index was 6.6 years on that date.

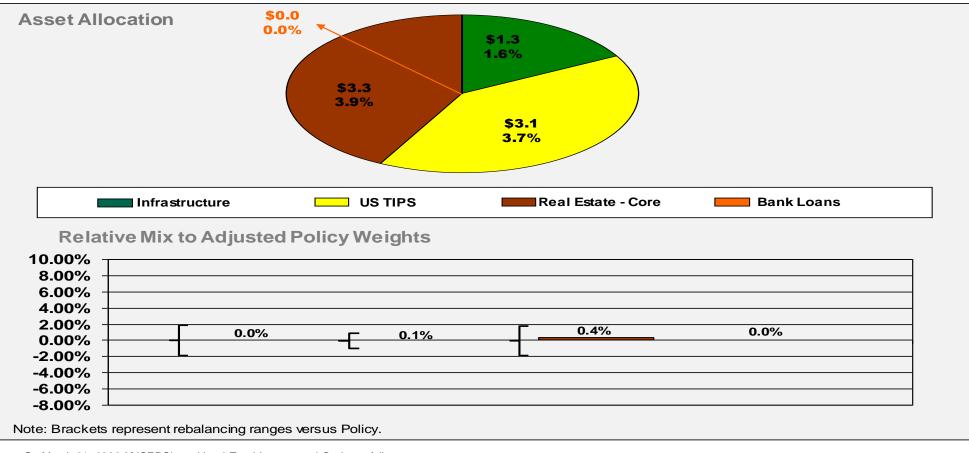


## **Portfolio Asset Allocation – Inflation Protection**





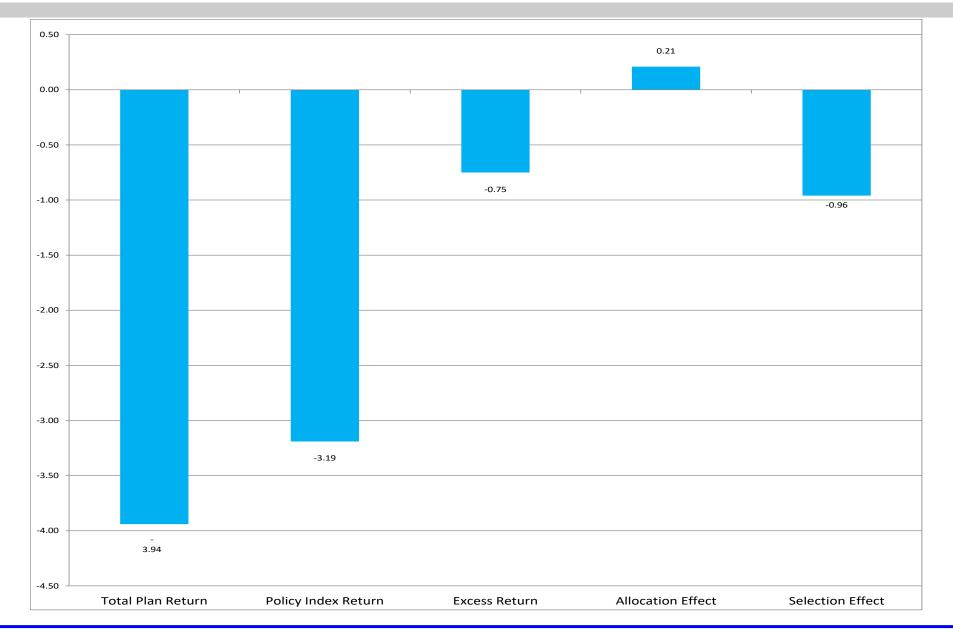
## **Portfolio Asset Allocation – Inflation Protection**



Note: On March 31, 2022 NYCERS' combined Fixed Income and Cash portfolios have a duration of 5.9 years. The duration of the Bardays US Aggregate Index was 6.6 years on that date.

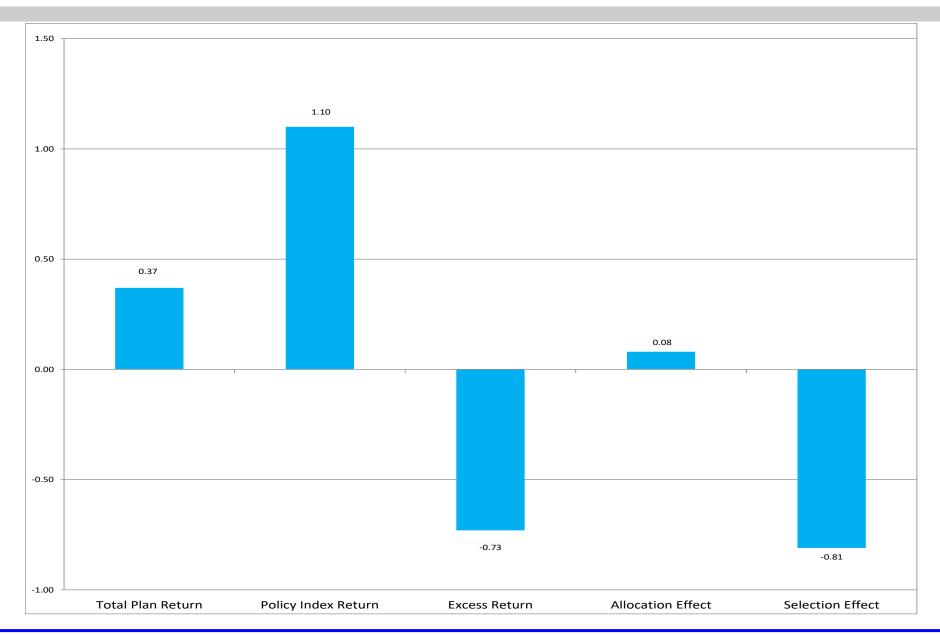
### Performance Attribution: Total Plan - Quarter Ending: March 31, 2022





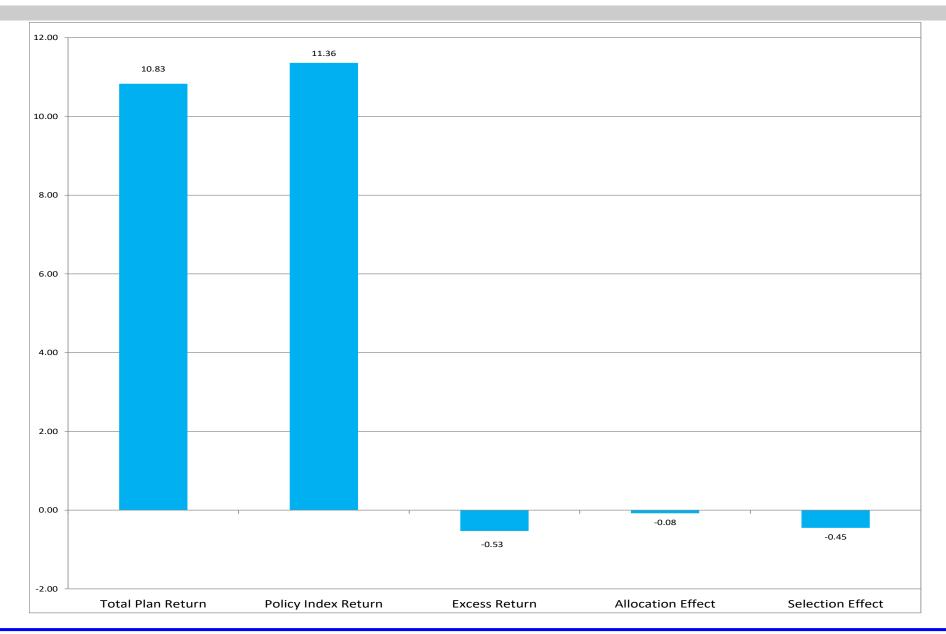
### Performance Attribution: Total Plan - Fiscal Year to Date: March 31, 2022





### Performance Attribution: Total Plan - 3 Years Ending: March 31, 2022



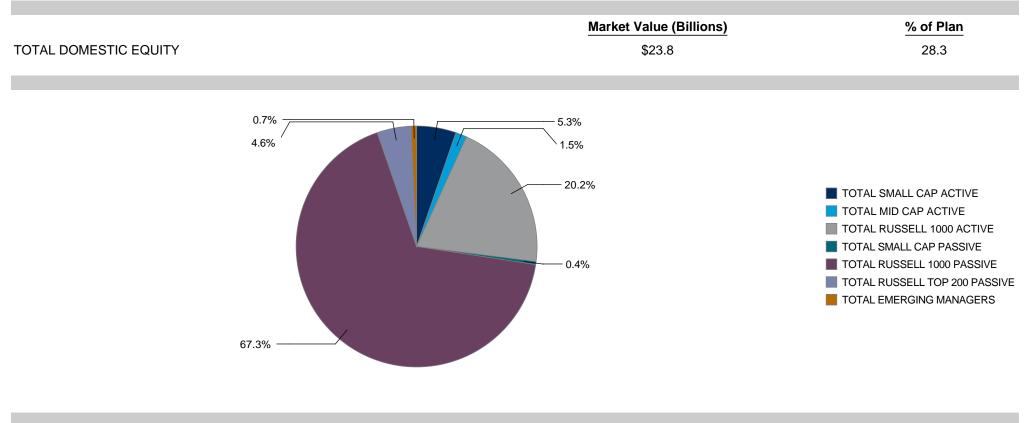




	Quarter	FYTD	3 Years	Benchmark
TOTAL EMPLOYEES'	0.21	0.08	-0.08	Employees Policy Benchmark
TOTAL DOMESTIC EQUITY	-0.01	-0.04	-0.09	RUSSELL 3000
TOTAL WORLD ex-USA	-0.01	-0.05	0.01	MSCI World ex USA IMI Net
TOTAL GLOBAL EQUITY	-0.01	0.00	0.00	MSCI World Index
TOTAL EMERGING MARKETS	0.00	-0.07	-0.02	Employees Custom EM Index
TOTAL INTERNATIONAL FOF	0.00	0.00	0.00	NYC Blended Custom Benchmark for FoF
TOTAL HEDGE FUNDS	0.00	0.00	0.00	HFRI Fund of Funds Composite Index plus 19
TOTAL PRIVATE EQUITY	0.09	0.06	0.00	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	0.02	0.02	0.00	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	0.00	0.00	0.00	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	0.00	0.00	0.00	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.01	0.01	0.00	FTSE US Government Bond 1-3 Years Inde
TOTAL US TREASURY SHORT TERM	-0.02	0.01	-0.07	FTSE USBIG Treasury 1-3 Y Index
TOTAL US TREASURY INTERMEDIATE	0.00	0.00	0.00	USBIG TSY AGN 1-10
TOTAL US TREASURY INTERMEDIATE	-0.01	0.01	0.24	FTSE USBIG Treasury/Agency 1-10 Y
TOTAL ACTIVE GOVERNMENT	0.01	0.01	-0.07	NYC - Treasury Agency Plus Five
TOTAL US TREASURY LONG DURATION	0.01	0.01	0.00	FTSE US Government Bond 10+ Years Inde
TOTAL US TREASURY LONG DURATION	0.00	0.00	0.03	FTSE Treasury 10+
TOTAL INVESTMENT GRADE CORPORATE	0.03	0.06	0.07	NYC Custom IGC Benchmark
TOTAL MORTGAGES	0.01	0.05	0.05	NYC Custom Mortgage Benchmark
TOTAL ETI	0.00	0.00	0.00	ETI Custom Benchmark
TOTAL CORE FI- DEVELOPING MGRS	-0.02	-0.05	-0.07	Bloomberg U.S. Aggregate
TOTAL HIGH YIELD	0.00	0.01	0.04	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	0.01	0.02	-0.01	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	0.06	0.01	-0.14	

	Selection Effec	t - Asset Clas	s Breakdown	
	Quarter	FYTD	3 Years	Benchmark
'OTAL EMPLOYEES'	-0.96	-0.81	-0.45	Employees Policy Benchmark
TOTAL DOMESTIC EQUITY	0.02	-0.12	-0.19	RUSSELL 3000
TOTAL WORLD ex-USA	-0.65	-1.01	0.06	MSCI World ex USA IMI Net
TOTAL GLOBAL EQUITY	-0.06	-0.06	-0.01	MSCI World Index
TOTAL EMERGING MARKETS	0.03	0.03	0.02	Employees Custom EM Index
TOTAL INTERNATIONAL FOF	-0.03	-0.02	0.01	NYC Blended Custom Benchmark for FoF
TOTAL HEDGE FUNDS	0.00	0.00	0.00	HFRI Fund of Funds Composite Index plus 1%
TOTAL PRIVATE EQUITY	-0.41	0.20	-0.28	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	-0.01	-0.08	-0.03	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	-0.01	-0.05	-0.01	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	-0.01	0.00	0.04	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.00	0.00	0.00	FTSE US Government Bond 1-3 Years Index
TOTAL US TREASURY SHORT TERM	0.00	0.00	0.00	FTSE USBIG Treasury 1-3 Y Index
TOTAL US TREASURY INTERMEDIATE	0.00	0.00	0.00	USBIG TSY AGN 1-10
TOTAL US TREASURY INTERMEDIATE	0.00	0.00	0.00	FTSE USBIG Treasury/Agency 1-10 Y
TOTAL ACTIVE GOVERNMENT	0.00	0.00	0.00	NYC - Treasury Agency Plus Five
TOTAL US TREASURY LONG DURATION	0.00	0.00	0.00	FTSE US Government Bond 10+ Years Index
TOTAL US TREASURY LONG DURATION	0.01	0.00	0.00	FTSE Treasury 10+
TOTAL INVESTMENT GRADE CORPORATE	0.00	-0.01	0.01	NYC Custom IGC Benchmark
TOTAL MORTGAGES	-0.01	-0.01	0.01	NYC Custom Mortgage Benchmark
TOTAL ETI	0.00	0.00	0.01	ETI Custom Benchmark
TOTAL CORE FI- DEVELOPING MGRS	0.00	0.00	0.01	Bloomberg U.S. Aggregate
TOTAL HIGH YIELD	0.03	0.03	0.01	High Yield Custom Benchmark
TOTAL BANK LOANS	0.00	0.00	-0.01	Credit Suisse Lev Loan Index
TOTAL TIPS MANAGERS	0.01	0.01	0.00	Bloomberg Global Infl-Linked: U.S. TIPS
TOTAL CONVERTIBLE BONDS	0.04	0.08	-0.15	ICE BofA All US Conv Ex Mandatory
TOTAL OPPORTUNISTIC FIXED	0.10	0.22	0.06	OFI - JPMGHY / CSFB 50/50 Blend Plus 300
TOTAL CASH	0.00	0.00	0.00	

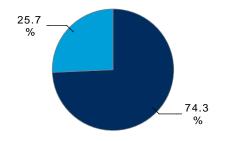




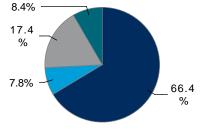
				Quarterly Returns			
	Policy Weight	Actual Weight	Under/Over Weight	Fund	Benchmark	Excess	
TOTAL SMALL CAP ACTIVE	5.0	5.3	0.3	(9.6)	(7.5)	(2.1)	
TOTAL MID CAP ACTIVE	3.3	1.5	(1.7)				
TOTAL RUSSELL 1000 ACTIVE	17.0	20.2	3.2	(2.3)	(5.1)	2.8	
TOTAL SMALL CAP PASSIVE	0.4	0.4	(0.0)	(4.0)	(7.5)	3.5	
TOTAL RUSSELL 1000 PASSIVE	64.3	67.3	3.0	(5.7)	(5.1)	(0.6)	
TOTAL RUSSELL TOP 200 PASSIVE	9.5	4.6	(4.9)				
TOTAL EMERGING MANAGERS	0.5	0.7	0.2	(9.1)	(7.5)	(1.5)	



	Market Value (Billions)	% of Plan
TOTAL WORLD ex-USA	\$9.6	11.4



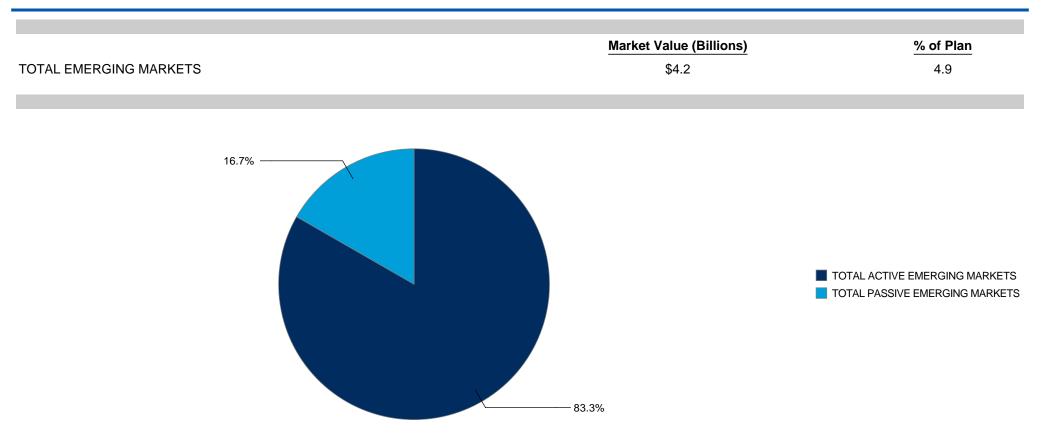






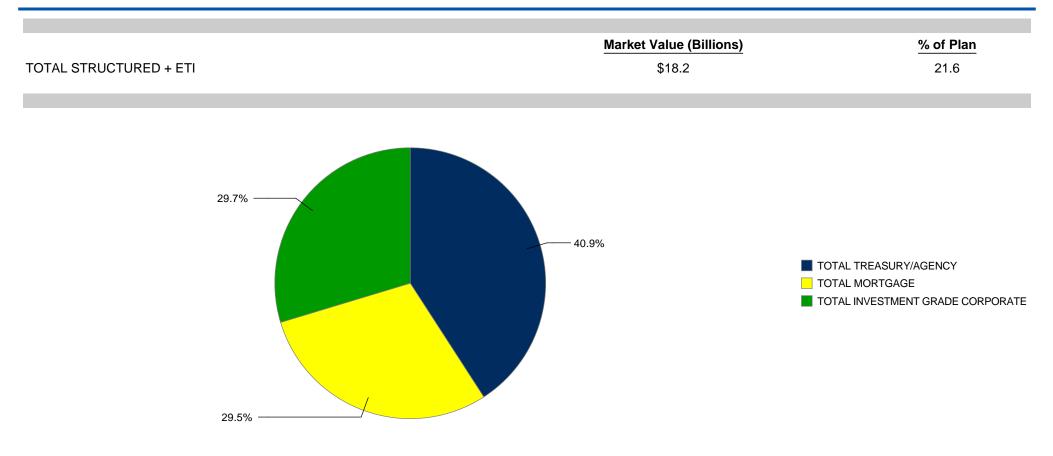
			Quarterly Returns				
	Asset Class Weight	Fund	Benchmark	Excess			
TOTAL WORLD ex-USA LARGE & MID ACTIVE	66.45	(12.26)	(4.81)	(7.45)			
TOTAL WORLD ex-USA SMALL CAP ACTIVE	7.85	(6.74)	(9.62)	2.88			
TOTAL WORLD ex-USA LARGE & MID CAP PASSIVE	17.35	(5.36)	(4.81)	(0.55)			
TOTAL WORLD ex-USA SMALL CAP PASSIVE	8.35	(7.44)	(7.23)	(0.21)			
TOTAL WORLD ex-USA	100.00	(10.32)	(5.18)	(5.14)			





			Quarterly Returns	
	Asset Class Weight	Fund	Benchmark	Excess
TOTAL ACTIVE EMERGING MARKETS	83.27	(6.53)	(6.97)	0.45
TOTAL PASSIVE EMERGING MARKETS	16.73	(5.63)	(6.97)	1.34
TOTAL EMERGING MARKETS	100.00	(6.38)	(6.97)	0.60





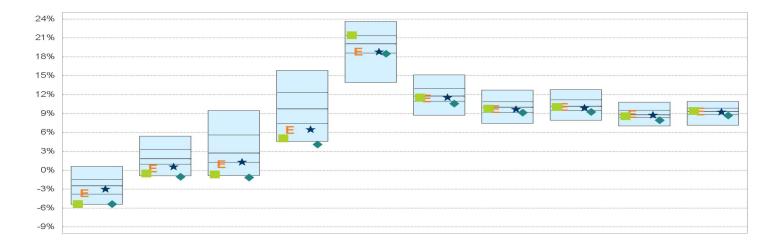
				G	uarterly Return	าร
	Policy Weight	Actual Weight	Under/Over Weight	Fund	Benchmark	Excess
TOTAL TREASURY/AGENCY	40.80	40.88	0.08	(5.12)	(5.20)	0.08
TOTAL MORTGAGE	29.91	29.46	(0.45)	(5.20)	(4.97)	(0.22)
TOTAL INVESTMENT GRADE CORPORATE	29.29	29.66	0.37	(7.73)	(7.69)	(0.04)



## W Wilshire

#### City of New York Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$10 Billion Cumulative Periods Ending : March 31, 2022



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	0.62	5.41	9.46	15.84	23.61	15.13	12.71	12.79	10.80	10.92
25th	-1.50	3.30	5.61	12.36	21.35	12.98	10.88	11.16	9.51	9.84
50th	-2.48	1.84	2.75	9.76	20.05	11.77	9.99	10.14	8.80	9.32
75th	-3.80	0.98	1.27	7.44	18.60	10.96	9.17	9.48	8.34	8.86
95th	-5.40	-0.89	-0.86	4.58	13.91	8.71	7.46	7.94	7.02	7.14
No. Of Obs	44	44	43	43	43	40	40	40	40	40
Total System - Employe	-3.85 (79)	0.06 (87)	0.75 (84)	6.17 (89)	18.60 (75)	11.17 (70)	9.47 (62)	9.83 (70)	8.69 (60)	9.09 (72)
Employees Policy Bench	-3.19 (63)	0.36 (79)	1.10 (75)	6.26 (87)	18.61 (72)	11.36 (62)	9.47 (62)	9.72 (70)	8.58 (62)	9.08 (72
Public Mkt Equiv 25	-5.58 (96)	-0.75 (94)	-0.88 (96)	4.85 (94)	21.20 (27)	11.34 (62)	9.55 (60)	9.82 (70)	8.35 (72)	9.16 (60
Public Mkt Equiv 35	-5.60 (96)	-1.27 (96)	-1.37 (96)	3.88 (96)	18.24 (79)	10.35 (88)	8.92 (85)	9.04 (88)	7.72 (88)	8.46 (85

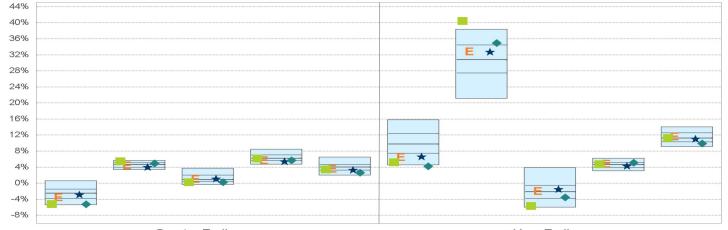
Wilshire Trust Universe Comparison Service® (TUCS®)



## W Wilshire



Consecutive Time Periods: March 31, 2022



Quarter Ending

Year Ending

Percentile Rankings	Mar 22	Dec 21	Sep 21	Jun 21	Mar 21	Mar 22	Mar 21	Mar 20	Mar 19	Mar 18
5th	0.62	5.69	3.75	8.48	6.54	15.84	38.38	3.93	6.21	14.01
25th	-1.50	5.12	2.04	7.04	4.63	12.36	34.45	-0.50	5.15	12.56
50th	-2.48	4.70	0.97	6.24	4.06	9.76	30.81	-2.14	4.66	11.28
75th	-3.80	3.96	0.48	5.64	3.25	7.44	27.46	-3.78	3.91	10.31
95th	-5.40	3.39	-0.36	4.73	2.04	4.58	21.14	-5.99	3.08	9.11
No. Of Obs	44	44	43	44	44	43	44	41	43	43
E Total System - Employe	-3.85 (79)	4.07 (72)	0.69 (67)	5.38 (87)	3.25 (75)	6.17 (89)	32.48 (31)	-2.31 (55)	4.51 (60)	11.29 (47)
★ Employees Policy Bench	-3.19 (63)	3.67 (91)	0.75 (62)	5.10 (87)	2.98 (77)	6.26 (87)	32.39 (31)	-1.82 (45)	3.97 (72)	10.72 (57)
Public Mkt Equiv 25	-5.58 (96)	5.12 (25)	-0.14 (89)	5.78 (70)	3.08 (77)	4.85 (94)	40.10(1)	-6.04 (96)	4.36 (65)	10.89 (57)
Public Mkt Equiv 35	-5.60 (96)	4.59 (50)	-0.10 (89)	5.32 (87)	2.27 (91)	3.88 (96)	34.58 (22)	-3.90 (77)	4,74 (43)	9.55 (89)

Wilshire Trust Universe Comparison Service® (TUCS®)



	Avg. Net Asset Value FY 2021 (\$MM)	Base Mgmt. Fees (\$M)	Partnership Fees (\$M)	Base Mgmt. Fees & Partnership Fees in BPS	Performance / Carry Fees in (\$M)	Performance / Carry Fees in BPS	Total Investment Mgmt. Fees in (\$M)	Total Investment Mgmt. Fees in BPS
INVESTMENT STYLE (EQUITIES) Total US Equities	23,834.55	12,259.91	-	5.14	2,447.43	1.03	14,707.33	6.17
Small Cap Active:	1,328.49	7,218.41	-	54.34	2,337.55	17.60	9,555.96	71.93
Small Cap Growth	498.89	2,387.36	-	47.85	1,541.56	30.90	3,928.92	78.75
Small Cap Value	311.55	1,652.67	-	53.05	795.99	25.55	2,448.66	78.60
Small Cap Core	517.70	3,178.37	-	61.39	-	-	3,178.37	61.39
Small Cap Fundamental Index	0.35	-	-	-	-	-	-	-
Mid Cap Active:	-	-	-	-	-	-	-	-
Mid Cap Growth	-	-	-	-	-	-	-	-
Mid Cap Value	-	-	-	-	-	-	-	-
Mid Cap Core	-	-	-	-	-	-	-	-
Other Active:								
Russell 1000 Fundamental	4,186.29	3,945.05	-	9.42	-	-	3,945.05	9.42
Legato (Emerging Manager- Equity)	169.94	728.24	-	42.85	109.88	6.47	838.12	49.32
U.S. Environmental Managers	-	-	-	-	-	-	-	-
Total US Active Equities	5,684.71	11,891.70	-	20.92	2,447.43	4.31	14,339.12	25.22
Small Cap Passive:							-	
Small Cap Passive	255.16	11.30	-	0.44	-	-	11.30	0.44
Mid Cap Passive:							-	
Mid Cap Passive	-	-	-	-	-	-	-	-
Russell / S&P Passive:							-	
Russell 1000 Growth Passive	-	-	-	-	-	-	-	-
Russell 1000 Value Passive	-	-	-	-	-	-	-	-
Russell 1000 Core Passive	17,894.68	356.91	-	0.20	-	-	356.91	0.20
Passive Russell 3000	-	-	-	-	-	-	-	-
Passive S&P 500	-	-	-	-	-	-	-	-
Passive Russell Top 200	-	-	-	-	-	-	-	-
Total US Passive Equities	18,149.84	368.21	-	0.20	-	-	368.21	0.20



	Avg. Net Asset Value FY 2021 (\$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
Total International Equities	16,155.21	38,607.19	-	23.90	427.70	0.26	39,034.89	24.16
Global Equity Active Total Global Equities	363.63 <b>363.63</b>	2,066.90 <b>2,066.90</b>	-	56.84 <b>56.84</b>	-	-	2,066.90 <b>2,066.90</b>	56.84 <b>56.84</b>
Active Total World Ex USA:	7,701.33	21,390.88	-	27.78	-	-	21,390.88	27.78
Ex-USA Large & Mid Developed Growth Active	4,045.52	10,951.51	-	27.07	-	-	10,951.51	27.07
d Ex-USA Large & Mid Developed Value Active	2,978.90	8,238.32	-	27.66	-	-	8,238.32	27.66
World Ex-USA Developed Small Cap Active	676.83	2,201.05	-	32.52	-	-	2,201.05	32.52
Total World Ex USA	0.08	-	-	-	-	-	-	-
NON-U.S. Activist	-	-	-	-	-	-	-	-
NON-U.S. Environmental Managers	-	-	-	-	-	-	-	-
Active Emerging Markets	4,015.17	13,584.90	-	33.83	-	-	13,584.90	33.83
International Fund of Funds	657.16	2,827.94	-	43.03	427.70	6.51	3,255.64	49.54
Total Active International Equities	12,373.66	37,803.72	-	30.55	427.70	-	38,231.42	30.90
Int'l Passive Equities:								
World Ex-USA Small Cap Passive	782.59	233.75	-	2.99	-	-	233.75	2.99
World Ex-USA Large & Mid Cap Passive	1,807.06	221.40	-	1.23	-	-	221.40	1.23
Passive Global	-	-	-	-	-	-	-	-
Passive Emerging Markets	1,191.90	348.32	-	2.92	-	-	348.32	2.92
Total Int'l Passive Equities	3,781.55	803.47	-	2.12	-	-	803.47	2.12
Real Estate Equity Securities	-	-	-	-	-	-	-	-
Total Equities	40,353.39	52,934.00	-	13.12	2,875.12	0.71	55,809.12	13.83



	Avg. Net Asset Value FY 2021 (\$MM)	Base Mgmt. Fees (\$M)	Partnership Fees (\$M)	Base Mgmt. Fees & Partnership Fees in BPS	Performance / Carry Fees in (\$M)	Performance / Carry Fees in BPS	Total Investment Mgmt. Fees in (\$M)	Total Investment Mgmt. Fees in BPS
INVESTMENT STYLE (FIXED INCOME)				•			5	9
Total Fixed Income	27,642.68	28,607.76	-	10.35	287.41	0.10	28,895.18	10.45
Structured Program:	16,758.73	8,603.23	-	5.13	287.41	0.17	8,890.65	5.31
Government Treas/Agency Sector	5,819.63	1,452.37	-	2.50	-	-	1,452.37	2.50
Long Duration Treasury	347.42	14.78	-	0.43	-	-	14.78	0.43
Mortgage Sector	4,587.09	2,397.81	-	5.23	287.41	0.63	2,685.22	5.85
Investment Grade Credit Sector	6,004.60	4,738.28	-	7.89	-	-	4,738.28	7.89
Developing Managers	613.25	1,078.24	-	17.58	-	-	1,078.24	17.58
Emerging Managers	0.00	-	-	-	-	-	-	-
TIPS:	2,909.99	553.67	-	1.90	-	-	553.67	1.90
Active TIPS Managers	828.90	450.58	-	5.44	-	-	450.58	5.44
Passive TIPS Managers	2,081.10	103.09	-	0.50	-	-	103.09	0.50
High Yield	3,247.59	10,293.16	-	31.69	-	-	10,293.16	31.69
Bank Loans	392.44	1,274.61	-	32.48	-	-	1,274.61	32.48
Convertible Bonds	1,462.17	5,387.71	-	36.85	-	-	5,387.71	36.85
ETI - Access - RBC	176.69	304.46	-	17.23	-	-	304.46	17.23
ETI - AFL-CIO HIT	351.37	1,112.69	-	31.67	-	-	1,112.69	31.67
Other ETI Programs (Internally Managed)	422.68	-	-	-		-	-	-
Short Term (Internally Managed)	1,307.75	-	-	-	-	-	-	-
Total Public Markets	67,996.07	81,541.76	-	11.99	3,162.54	0.47	84,704.30	12.46



INVESTMENT STYLE (PRIVATE MARKETS)	Avg. Net Asset Value FY 2021 (\$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
Hedge Funds	-	-	-	-	-	-	-	-
Private Equity	5,667.52	69,831.76	20,624.19	159.60	95,802.68	169.04	186,258.63	328.64
Private Real Estate	4,132.39	44,113.74	14,707.48	142.34	12,178.46	29.47	70,999.68	171.81
Infrastructure	922.03	15,922.27	3,806.02	213.96	76.65	0.83	19,804.94	214.80
Opportunistic Fixed Income	2,613.67	20,813.58	11,117.52	122.17	(2,800.69)	(10.72)	29,130.42	111.45
Total Private Markets	13,335.62	150,681.36	50,255.21	150.68	105,257.09	78.93	306,193.66	229.61
Total Overall	81,331.68	232,223.12	50,255.21	34.73	108,419.63	13.33	390,897.96	48.06

The overall carried interest and performance incentive fees paid by NYCERS for the Fiscal Year: 13.33 BPS

#### General Footnote(s):

Public accounts reflect actual payments and if an actual payment has not been incurred then an accrued expense is reported.



#### NYC EMPLOYEES' RETIREMENT SYSTEM SECURITIES LENDING INCOME March 31, 2022

1989 1990 1991 1992 1993 1994	FIXED INCOME - 256,000 754,000 1,467,000 3,445,000	EQUITY - 48,000 654,000	EQUITY -	
1990 1991 1992 1993 1994	754,000 1,467,000		-	
1990 1991 1992 1993 1994	754,000 1,467,000		-	
1991 1992 1993 1994	754,000 1,467,000		-	
1992 1993 1994	1,467,000			000.000
1993 1994			267.000	802,000
1994			367,000	2,488,000
		1,308,000	732,000	5,485,000
	4,261,000	2,744,000	1,082,000	8,087,000
1995	3,727,000	3,191,000	745,000	7,663,000
1996	3,608,000	3,592,000	1,258,000	8,458,000
1997	3,924,000	5,921,000	1,533,000	11,378,000
1998	6,374,000	7,337,000	1,952,000	15,663,000
1999	6,643,000	6,718,000	2,175,000	15,536,000
2000	6,552,000	7,669,000	3,049,000	17,270,000
2001	10,335,000	10,394,000	4,435,000	25,164,000
2002	5,906,000	7,780,000	3,510,000	17,196,000
2003	2,442,000	4,766,000	3,603,000	10,811,000
2004	3,502,000	5,844,000	3,825,000	13,171,000
2005	5,229,000	8,264,000	4,471,000	17,964,000
2006	4,626,000	10,012,000	4,163,000	18,801,000
2007	9,445,000	15,100,000	4,510,000	29,055,000
2008	25,936,000	26,696,000	6,878,000	59,510,000
2009	8,149,000	16,388,000	4,305,000	28,842,000
2010	3,714,000	10,256,000	3,125,000	17,095,000
2011	4,834,000	12,861,000	5,163,000	22,858,000
2012	6,691,000	16,287,000	4,116,000	27,094,000
2013	5,051,000	17,973,000	3,014,000	26,038,000
2014	5,194,000	14,847,000	5,272,000	25,313,000
2015	5,010,000	16,300,000	6,124,000	27,434,000
2016	6,545,000	19,856,000	5,097,000	31,498,000
2017	9,452,000	16,246,000	4,295,000	29,993,000
2018	14,213,961	13,284,175	6,691,938	34,190,073
2019	9,221,733	12,445,312	4,805,756	26,472,801
2020	9,421,895	6,875,019	3,876,698	20,173,612
2021	13,965,778	7,218,850	3,157,202	24,341,830
2022 (3 months)	4,483,434	1,394,538	521,058	6,399,030
Since Inception	214,378,801	310,269,894	107,851,652	632,500,346



New York City Employees' Retirement System

# **Appendix A**

# **Consolidated Performance Report**



		Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	SYSTEM RETURN SUMMARY															
5	NYCERS-TOTAL PORTFOLIO - GROSS ESTIMATED INVESTMENT FEES	84,364	100.00	(3.85) (0.09)	0.75 (0.38)	(3.85) (0.09)	27.01 (0.38)	14.02 (0.52)	13.96 (0.24)	17.87 (0.27)	6.18 (0.50)	11.17 (0.34)	9.83 (0.30)	9.09	8.88	07/01/1987
	EST MANAGEMENT FEES - PUBLIC MARKET (ACCRUAL) EST MANAGEMENT FEES - ALTERNATIVE MARKETS (CASH) EST INCENTIVE FEES EST OTHER FEES EST FEE OFFSETS			(0.02) (0.07)	(0.08) (0.30)	(0.02) (0.07)	(0.10) (0.28)	(0.11) (0.14)	(0.10) (0.17)	(0.10) (0.09)	(0.11) (0.39)	(0.10) (0.24)	(0.10) (0.20)			
	NYCERS-TOTAL PORTFOLIO - NET MGR NYCERS POLICY BENCHMARK			(3.94) (3.19)	0.37 1.10	(3.94) (3.19)	26.63 26.34	13.50 13.04	13.72 13.74	17.60 18.42	5.67 6.26	10.83 11.36	9.53 9.72	9.08		
	EXCESS RETURN			(0.75)	(0.73)	(0.75)	0.29	0.46	(0.01)	(0.81)	(0.58)	(0.53)	(0.19)	0.01		
	EQUITY RETURN DETAIL															
18	NYCERS-TOTAL EQUITY (INCLUDING ALTERNATIVES) - GROSS ESTIMATED INVESTMENT FEES	53,471	63.38	(3.57) (0.13)	3.08 (0.57)	(3.57) (0.13)	41.46 (0.57)	21.48 (0.80)	16.63 (0.29)	22.90 (0.36)	10.35 (0.76)	15.31 (0.48)	13.13 (0.40)	11.78	9.02	04/01/2004
	EST MANAGEMENT FEES EST INCENTIVE FEES EST OTHER FEES EST FEE OFFSETS			(0.13)	(0.57)	(0.13)	(0.57)	(0.80)	(0.29)	(0.36)	(0.76)	(0.48)	(0.40)			
	NYCERS-TOTAL EQUITY (INCLUDING ALTERNATIVES) - NET MGR		-	(3.71)	2.51	(3.71)	40.90	20.69	16.35	22.54	9.60	14.83	12.73			
34	NYCERS-TOTAL DOMESTIC EQUITY - GROSS ESTIMATED INVESTMENT FEES	23,843	28.26	(5.21) (0.01)	3.07 (0.04)	(5.21) (0.01)	45.23 (0.09)	25.88 (0.08)	18.84 (0.06)	29.99 (0.05)	10.98 (0.07)	17.49 (0.06)	14.78 (0.05)	13.91	11.67	08/01/1979
	NYCERS-TOTAL DOMESTIC EQUITY - NET MGR		-	(5.23)	3.02	(5.23)	45.14	25.80	18.78	29.95	10.91	17.43	14.73			
	RUSSELL 3000 (DAILY) EXCESS RETURN			(5.28)	3.40 (0.38)	(5.28) 0.05	44.16 0.98	25.66 0.14	20.89 (2.11)	<u>31.02</u> (1.07)	11.92	18.24 (0.81)	15.40 (0.67)	14.28 (0.37)	12.04 (0.36)	
44	NYCERS-TOTAL SMALL CAP - GROSS	1,346	1.60	(9.11)	(6.45)	(9.11)	61.70	19.93	21.99	24.73	(2.34)	13.46	10.53	11.78	9.18	04/01/2004
	ESTIMATED INVESTMENT FEES NYCERS-TOTAL SMALL CAP - NET MGR			(0.12) (9.23)	(0.35) (6.79)	(0.12) (9.23)	(0.97) 60.73	(0.74)	(0.53) 21.45	(0.36) 24.37	(0.62) (2.95)	(0.53)	(0.44)			
	RUSSELL 2000 (DAILY)			(7.53)	(9.66)	(7.53)	62.03	14.82	19.96	25.52	(5.79)	11.74	9.74	11.04	8.65	
	EXCESS RETURN			(1.70)	2.87	(1.70)	(1.30)	4.37	1.49	(1.15)	2.83	1.18	0.34	0.74	0.54	
54	NYCERS-TOTAL MID CAP - GROSS ESTIMATED INVESTMENT FEES	368	0.44													02/01/2011
	NYCERS-TOTAL MID CAP - NET MGR S&P 400 MIDCAP INDEX (DAILY) EXCESS RETURN						53.24	24.76	13.66	26.20						
64	NYCERS-TOTAL RUSSELL 1000 - GROSS	20,869	24.74	(4.97)	3.73	(4.97)	43.88	26.18	18.55	30.46	11.97	17.72			15 54	04/01/2018
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)			(0.02)	
	NYCERS-TOTAL RUSSELL 1000 - NET MGR RUSSELL 1000 (DAILY)			(4.97) (5.13)	3.72 4.36	(4.97) (5.13)	43.85 43.07	26.15 26.45	18.52 20.96	30.44 31.43	11.95 13.27	17.70 18.71			15.52 16.29	
	EXCESS RETURN		-	0.16	(0.64)	0.16	0.78	(0.30)	(2.44)	(0.99)	(1.32)	(1.01)			(0.77)	
74	NYCERS-TOTAL RUSSELL TOP 200 PASSIVE - GROSS ESTIMATED INVESTMENT FEES	1,093	1.30												2.64 (0.00)	03/01/2022
	NYCERS-TOTAL RUSSELL TOP 200 PASSIVE - NET MGR RUSSELL TOP 200 INDEX (DAILY) EXCESS RETURN		-												2.64 3.66 (1.01)	
84	NYCERS-TOTAL FUND OF FUNDS - GROSS	168	0.20	(8.95)	(5.91)	(8.95)	67.61	25.50	20.06	24.02	(1.58)	14.13			11.35	05/01/2017
			-	(0.11)	(0.35)	(0.11)	(0.94)	(0.70)	(0.60)	(0.62)	(0.54)	(0.59)			(0.55)	
	NYCERS-TOTAL FUND OF FUNDS - NET MGR RUSSELL 2000 (DAILY)			(9.06) (7.53)	(6.26) (9.66)	(9.06) (7.53)	66.66 62.03	24.80 14.82	19.46 19.96	23.40 25.52	(2.12) (5.79)	13.54 11.74			10.79 9.67	
	EXCESS RETURN		-	(1.53)	3.41	(1.53)	4.64	9.98	(0.50)	(2.12)	3.66	1.79			1.12	



		Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	EQUITY RETURN DETAIL															
ġ	5 NYCERS-TOTAL WORLD ex-USA - GROSS ESTIMATED INVESTMENT FEES	9,637	11.42	(10.27) (0.05)	(10.84) (0.14)	(10.27) (0.05)	40.27 (0.30)	8.26 (0.24)	19.79 (0.25)	25.54 (0.26)	(5.65) (0.20)	9.36 (0.23)	8.50 (0.24)	7.67	6.52	04/01/2004
	NYCERS-TOTAL WORLD ex-USA - NET MGR			(10.32)	(10.98)	(10.32)	39.97	8.02	19.55	25.28	(5.86)	9.13	8.26			
	WORLD EX-USA CUSTOM BM			(5.18)	(3.04)	(5.18)	34.82	12.39	8.32	22.91	2.31	8.69	7.35	6.80	5.95	
	EXCESS RETURN			(5.14)	(7.94)	(5.14)	5.15	(4.37)	11.22	2.38	(8.17)	0.45	0.92	0.87	0.57	
10	5 NYCERS-TOTAL WORLD ex-USA LARGE & MID ACTIVE - GROSS	6,403	7.59	(12.20)	(13.62)	(12.20)	40.81	5.91	25.16	26.92	(8.75)	9.48	9.10			11/01/2013
	ESTIMATED INVESTMENT FEES			(0.06)	(0.18)	(0.06)	(0.39)	(0.29)	(0.35)	(0.35)	(0.25)	(0.30)	(0.30)		(0.30)	
	NYCERS-TOTAL WORLD ex-USA LARGE & MID ACTIVE - NET MGR			(12.26)	(13.80)	(12.26)	40.42	5.61	24.81	26.56	(9.00)	9.17	8.79		5.95	
	NYC CUSTOM WORLD EX-USA LG & MID ACT INDEX			(4.81)	(2.46)	(4.81)	33.60	12.62	7.59	22.49	3.04	8.55	7.22		4.77	
	EXCESS RETURN			(7.45)	(11.34)	(7.45)	6.82	(7.01)	17.22	4.07	(12.04)	0.62	1.58		1.17	
11	5 NYCERS-TOTAL WORLD ex-USA SMALL CAP ACTIVE - GROSS	756	0.90	(6.67)	(5.60)	(6.67)	53.35	20.17	14.91	24.40	2.32	13.43	10.09		9.42	05/01/2013
	ESTIMATED INVESTMENT FEES			(0.07)	(0.23)	(0.07)	(0.51)	(0.39)	(0.38)	(0.48)	(0.33)	(0.39)	(0.42)			
	NYCERS-TOTAL WORLD ex-USA SMALL CAP ACTIVE - NET MGR			(6.74)	(5.83)	(6.74)	52.84	19.78	14.53	23.92	1.99	13.04	9.67			
	S&P EPAC SMALL CAP USD NET			(9.62)	(10.53)	(9.62)	42.23	8.06	13.78	23.71	(5.79)	7.74	6.70		6.97	
	EXCESS RETURN			2.88	4.70	2.88	10.61	11.72	0.75	0.21	7.78	5.30	2.97		2.46	
12		1,672	1.98	(5.36)	(3.43)	(5.36)	33.86	12.34	8.09	22.57	2.21	8.49	7.24	6.60	5.47	02/01/2011
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.00)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)			
	NYCERS-TOTAL WORLD ex-USA LARGE CAP PASSIVE - NET MGR			(5.36)	(3.44)	(5.36)	33.85	12.33	8.08	22.55	2.20	8.48	7.22			
	NYC CUSTOM WORLD EX US INDEX			(4.81)	(2.46)	(4.81)	33.60	12.62	7.59	22.49	3.04	8.55	7.14	6.43	5.27	
	EXCESS RETURN			(0.55)	(0.98)	(0.55)	0.25	(0.30)	0.49	0.06	(0.85)	(0.08)	0.09	0.17	0.19	
13	5 NYCERS-TOTAL WORLD ex-USA SMALL CAP PASSIVE - GROSS	805	0.95	(7.44)	(6.58)	(7.44)	42.47	11.05	13.30	25.53	(2.00)	9.71	8.29			02/01/2014
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.04)	(0.03)	(0.04)	(0.05)	(0.03)	(0.04)	(0.05)		(0.04)	
	NYCERS-TOTAL WORLD ex-USA SMALL CAP PASSIVE - NET MGR			(7.44)	(6.60)	(7.44)	42.43	11.02	13.26	25.48	(2.03)	9.67	8.24		7.16	
	WORLD EX USA SC PASSIVE CUSTOM BM			(7.23)	(6.20)	(7.23)	42.28	11.14	12.78	25.41	(1.69)	9.55	8.09		6.88	
	EXCESS RETURN			(0.21)	(0.40)	(0.21)	0.15	(0.12)	0.48	0.07	(0.34)	0.13	0.16		0.28	



		Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	EQUITY RETURN DETAIL															
14	7 NYCERS-TOTAL EMERGING MARKETS - GROSS	4,172	4.95	( ,	(14.92)	(6.29)	51.74	(0.03)	16.31	15.07	(10.40)	5.42	5.12	3.31	6.74	09/01/2005
	ESTIMATED INVESTMENT FEES NYCERS-TOTAL EMERGING MARKETS - NET MGR			(0.09) (6.38)	(0.25) (15.17)	(0.09) (6.38)	(0.50) 51.24	(0.37)	(0.33) 15.98	(0.29)	(0.35) (10.75)	(0.33) 5.09	(0.31) 4.82			
	NYCERS CUSTOM EM INDEX			(6.97)	(15.62)	(6.97)	49.44	(1.45)	14.99	15.10	(11.37)	4.57	4.66	2.75	6.45	
	EXCESS RETURN			0.60	0.45	0.60	1.79	1.05	1.00	(0.33)	0.62	0.52	0.15	0.56	0.28	
15	7 NYCERS-TOTAL ACTIVE EMERGING MARKETS - GROSS	3,474	4.12	(6.42)	(14.94)	(6.42)	54.18	1.03	17.93	15.02	(10.20)	6.06	5.47	3.84	7.15	11/01/2005
	ESTIMATED INVESTMENT FEES			(0.11)	(0.29)	(0.11)	(0.70)	(0.46)	(0.52)	(0.46)	(0.41)	(0.47)	(0.45)			
	NYCERS-TOTAL ACTIVE EMERGING MARKETS - NET MGR			(6.53)	(15.24)	(6.53)	53.48	0.56	17.41	14.56	(10.61)	5.59	5.02			
	NYCERS CUSTOM EM INDEX			(6.97)	(15.62)	(6.97)	49.44	(1.45)	14.99	15.10	(11.37)	4.57	4.66	2.75	6.35	
	EXCESS RETURN			0.45	0.39	0.45	4.04	2.01	2.43	(0.55)	0.75	1.03	0.35	1.09	0.80	
16	7 NYCERS-TOTAL PASSIVE EMERGING MARKETS - GROSS	698	0.83	(5.63)	(14.83)	(5.63)	47.24	(2.99)	14.82	15.14	(11.16)	4.43	4.58	2.24	1.28	04/01/2011
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)			
	NYCERS-TOTAL PASSIVE EMERGING MARKETS - NET MGR			(5.63)	(14.85)	(5.63)	47.20	(3.01)	14.79	15.10	(11.19)	4.40	4.54			
	NYCERS CUSTOM PASSIVE EM INDEX			(6.97)	(15.62)	(6.97)	49.44	(1.45)	14.99	15.10	(11.37)	4.57	4.66			
	EXCESS RETURN			1.34	0.78	1.34	(2.24)	(1.57)	(0.20)	(0.00)	0.18	(0.17)	(0.11)			
17		580	0.69	(8.99)	(9.17)	(8.99)	39.89	10.37	14.52	25.68	(2.72)	9.32				05/01/2017
	ESTIMATED INVESTMENT FEES			(0.11)	(0.34)	(0.11)	(0.80)	(0.62)	(0.62)	(0.64)	(0.55)	(0.59)			(0.57)	
	NYCERS-TOTAL INTERNATIONAL FUND OF FUNDS - NET MGR			(9.10)	(9.51)	(9.10)	39.08	9.75	13.90	25.04	(3.27)	8.74			6.46	
	NYC BLENDED CUSTOM BENCHMARK FOR FOF (ERS)			(5.60)	(6.50)	(5.60)	37.37	8.95	9.45	21.73	(1.17)	7.65			6.23	
	EXCESS RETURN			(3.50)	(3.00)	(3.50)	1.71	0.80	4.45	3.30	(2.11)	1.09			0.23	
18		573	0.68	(12.63)	(5.12)	(12.63)	42.63	23.30	21.23	34.95	5.04	15.04				08/01/2018
	ESTIMATED INVESTMENT FEES			(0.12)	(0.39)	(0.12)	(0.82)	(0.70)	(0.70)	(0.85)	(0.58)	(0.66)			(0.66)	
	NYCERS-TOTAL GLOBAL EQUITY - NET MGR			(12.74)	(5.51)	(12.74)	41.81	22.60	20.53	34.10	4.45	14.38			13.59	
	MSCI WORLD INDEX			(5.15)	2.21	(5.15)	39.04	21.82	15.90	27.67	10.12	14.98			11.84	
	EXCESS RETURN			(7.59)	(7.72)	(7.59)	2.77	0.79	4.63	6.43	(5.67)	(0.60)			1.75	



		Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	ALTERNATIVE EQUITY RETURN DETAIL															
205	NYCERS-TOTAL HEDGE FUND* - NET MGR HFRI FUND OF FUNDS COMPOSITE INDEX + 1% EXCESS RETURN	1	0.00	(1.05) (2.49) 1.44	2.27 (0.86) 3.13	(1.05) (2.49) 1.44	18.07 19.46 (1.40)	25.10 7.23 17.87	(20.42) 11.98 (32.40)	5.19 9.47 (4.27)	11.78 2.24 9.53	(2.49) 6.92 (9.42)	2.33 5.67 (3.35)	2.84 4.96 (2.12)	2.55 4.46 (1.90)	07/01/2011
215	NYCERS-TOTAL DIRECT HEDGE FUNDS* - NET MGR HFRI FUND OF FUNDS COMPOSITE INDEX + 1% EXCESS RETURN	1	0.00	(1.05) (2.49) 1.44	2.27 (0.86) <b>3.13</b>	(1.05) (2.49) <b>1.44</b>	18.07 19.46 (1.40)	25.10 7.23 <b>17.87</b>	(20.42) 11.98 (32.40)	5.19 9.47 (4.27)	11.78 2.24 <b>9.53</b>	(2.49) 6.92 (9.42)	2.45 5.67 (3.22)	3.02 4.96 (1.94)	3.24 5.20 (1.96)	01/01/2012

\* INFORMATION PROVIDED BY ALPHA FRONTIER



		Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	ALTERNATIVE EQUITY RETURN DETAIL															
224	NYCERS-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - GROSS ESTIMATED INVESTMENT FEES	7,929	9.40	5.70 (0.46)	27.34 (3.02)	5.70 (0.46)	52.10 (2.49)	47.80 (4.38)	18.64 (1.14)	12.46 (1.16)	41.44 (4.04)	27.82 (2.14)	22.90 (1.68)	17.15	14.82	04/01/2004
	NYCERS-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - NET MGR NYC R3000 +3% LAGGED EXCESS RETURN			5.24 10.06 (4.83)	24.32 20.76 3.56	5.24 10.06 (4.83)	49.61 67.21 (17.60)	43.41 35.74 7.67	17.50 18.42 (0.92)	11.30 6.00 5.30	37.39 29.36 8.03	25.68 29.49 (3.81)	21.22 21.46 (0.24)	19.76 (2.61)	<u>14.93</u> (0.10)	
234	NYCERS-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - GROSS ESTIMATED INVESTMENT FEES NYCERS-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - NET MGR	5,400	6.40	7.75 (0.40) 7.35	23.31 (1.49) 21.82	7.75 (0.40) 7.35	8.72 (0.97) 7.75	22.39 (1.65) 20.74	0.82 (0.69) 0.12	7.03 (0.78) 6.25	27.67 (1.95) 25.73	11.96 (1.13) 10.83	11.42 (0.94) 10.48	12.44	9.86	04/01/2004
	NCREIF NFI-ODCE NET + 100 BP EXCESS RETURN			7.40 (0.06)	23.64 (1.81)	7.40	8.15 (0.40)	22.21 (1.46)	1.35 (1.23)	5.43 0.82	28.51 (2.78)	11.40 (0.57)	9.98 0.50	11.01 1.43		
244	NYCERS-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - GROSS ESTIMATED INVESTMENT FEES NYCERS-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - NET MGR CPI + 4% EXCESS RETURN	1,336	1.58	3.71 (0.55) 3.16 3.72 (0.55)	11.66 (2.24) 9.42 9.35 0.07	3.71 (0.55) 3.16 3.72 (0.55)	20.46 (1.95) 18.51 9.55 8.95	18.05 (2.99) 15.06 11.38 3.68	10.04 (1.41) 8.63 5.33 3.30	13.50 (1.52) 11.98 6.35 5.63	16.37 (3.22) 13.15 12.90 0.25	14.50 (2.09) 12.41 8.37 4.04	15.71 (2.01) 13.70 7.49 6.20		15.01 (2.78) 12.22 6.61 5.62	12/01/2013



		Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	FIXED INCOME RETURN DETAIL															
256	NYCERS-TOTAL FIXED INCOME - GROSS ESTIMATED INVESTMENT FEES	30,892	36.62	(4.35) (0.02)	(3.18) (0.08)	(4.35) (0.02)	5.39 (0.12)	2.02 (0.12)	9.58 (0.13)	9.56 (0.13)	(0.80) (0.10)	4.24 (0.12)	3.92 (0.12)	4.02	7.86	02/01/1980
	EST MANAGEMENT FEES EST INCENTIVE FEES EST OTHER FEES EST FEE OFFSETS			(0.02)	(0.08)	(0.02)	(0.12)	(0.12)	(0.13)	(0.13)	(0.10)	(0.12)	(0.12)			
	NYCERS-TOTAL FIXED INCOME - NET MGR		-	(4.37)	(3.26)	(4.37)	5.26	1.90	9.46	9.43	(0.91)	4.12	3.80			
264	NYCERS-TOTAL FIXED INCOME (ex ALTERNATIVES & CASH) - GROSS ESTIMATED INVESTMENT FEES	23,376	27.71	(5.32) (0.02)	(4.79) (0.05)	(5.32) (0.02)	2.40 (0.08)	(0.12) (0.07)	11.74 (0.09)	9.46 (0.07)	(2.63) (0.07)	3.87 (0.08)	3.49 (0.08)		3.45 (0.09)	11/01/2013
	EST MANAGEMENT FEES EST INCENTIVE FEES EST OTHER FEES EST FEE OFFSETS			(0.02)	(0.05)	(0.02)	(0.08)	(0.07)	(0.09)	(0.07)	(0.07)	(0.08)	(0.08)		(0.09)	
	NYCERS-TOTAL FIXED INCOME (ex ALTERNATIVES & CASH) - NET MGR	ł	-	(5.34)	(4.84)	(5.34)	2.32	(0.20)	11.65	9.39	(2.70)	3.79	3.41		3.36	
272	NYCERS-TOTAL STRUCTURED FIXED INCOME - GROSS ESTIMATED INVESTMENT FEES NYCERS-TOTAL STRUCTURED FIXED INCOME - NET MGR	17,309	20.52	(5.94) (0.01) (5.95)	(5.88) (0.03) (5.91)	(5.94) (0.01) (5.95)	(0.04) (0.06) (0.09)	(1.53) (0.05) (1.58)	11.47 (0.06) 11.41	9.33 (0.05) 9.28	(3.91) (0.05) (3.96)	3.08 (0.05) 3.03	3.06 (0.05) 3.00	3.20	7.20	01/01/1985
	NYC CUSTOM STRUCTURED INDEX-ERS			(5.86)	(5.75)	(5.86)	(0.39)	(1.33)	12.44	10.25	(3.93)	3.62	3.50	3.17		
	EXCESS RETURN		-	(0.09)	(0.16)	(0.09)	0.29	(0.15)	(1.04)	(0.96)	(0.03)	(0.59)	(0.49)	0.03		
282	NYCERS-TOTAL GOVERNMENT - GROSS ESTIMATED INVESTMENT FEES	7,435	8.81	(5.12) (0.00)	(4.84) (0.01)	(5.12) (0.00)	(3.24) (0.02)	(2.37) (0.02)	11.17 (0.03)	8.37 (0.04)	(2.93) (0.02)	2.82 (0.03)	2.72 (0.03)	2.71	6.67	01/01/1987
	NYCERS-TOTAL GOVERNMENT - NET MGR		-	(5.12)	(4.85)	(5.12)	(3.26)	(2.39)	11.14	8.33	(2.95)	2.80	2.69			
	CUSTOM GOVERNMENT BENCHMARK - ERS		-	(5.20)	(4.88)	(5.20)	(2.99)	(2.10)	13.85	10.40	(3.02)	4.11	3.84	3.28		
	EXCESS RETURN			0.08	0.03	0.08	(0.27)	(0.29)	(2.72)	(2.07)	0.08	(1.32)	(1.14)	(0.57)		
292	NYCERS-TOTAL MORTGAGE - GROSS ESTIMATED INVESTMENT FEES	4,480	5.31	(5.12) (0.01)	(5.44) (0.05)	(5.12) (0.01)	0.22 (0.06)	(1.01) (0.06)	4.73 (0.06)	6.85 (0.05)	(5.09) (0.06)	0.89 (0.06)	1.61 (0.06)	2.03	5.96	03/01/1987
	NYCERS-TOTAL MORTGAGE - NET MGR		-	(5.14)	(5.49)	(5.14)	0.16	(1.07)	4.67	6.80	(5.16)	0.84	1.55			
	NYC CUSTOM MORTGAGE BENCHMARK			(4.97)	(5.23)	(4.97)	(0.48)	(1.04)	3.91	6.68	(4.92)	0.67	1.44	1.72	5.62	
	EXCESS RETURN		-	(0.16)	(0.25)	(0.16)	0.64	(0.02)	0.77	0.13	(0.24)	0.17	0.11	0.31	0.34	
302	NYCERS-TOTAL INVESTMENT GRADE CORPORATE - GROSS	5,395	6.39	(7.71)	(7.51)	(7.71)	3.73	(0.88)	10.14	14.40	(4.15)	3.16	3.44	3.88	6.61	01/01/1987
	ESTIMATED INVESTMENT FEES NYCERS-TOTAL INVESTMENT GRADE CORPORATE - NET MGR		-	(0.01) (7.73)	(0.05)	(0.01) (7.73)	(0.10) 3.64	(0.09)	(0.10)	(0.11)	(0.07)	(0.09) 3.07	(0.09)			
	NYC CUSTOM IGC BENCHMARK			(7.69)	(7.56) (7.48)	(7.69)	3.64	(0.97)	9.70	14.29	(4.22)	2.83	3.35	3.42		
	EXCESS RETURN		-	(0.04)	(0.08)	(0.04)	0.30	(0.12)	0.34	0.89	(0.03)	0.24	0.19	0.46		<u> </u>
312	NYCERS-TOTAL CORE FI- DEVELOPING MGRS - GROSS	580	0.69	(5.64)	(5.75)	(5.64)	2.41	(1.05)	9.11	9.89	(3.85)	2.58	2.70	2.86	4.16	05/01/2009
	ESTIMATED INVESTMENT FEES		-	(0.04)	(0.12)	(0.04)	(0.18)	(0.17)	(0.19)	(0.19)	(0.17)	(0.18)	(0.18)			
	NYCERS-TOTAL CORE FI- DEVELOPING MGRS - NET MGR			(5.68)	(5.87)	(5.68)	2.23	(1.22)	8.91	9.70	(4.02)	2.40	2.52			
	BLOOMBERG U.S. AGGREGATE		-	(5.93)	(5.87)	(5.93)	(0.33)	(1.54)	7.51	8.72	(4.15)	1.69	2.14	2.24	3.27	
	EXCESS RETURN			0.25	0.00	0.25	2.56	0.32	1.41	0.98	0.13	0.71	0.38	0.62	0.89	



		Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	FIXED INCOME RETURN DETAIL															
334	NYCERS-TOTAL TIPS - GROSS ESTIMATED INVESTMENT FEES	3,093	3.67	(2.80) (0.00)	1.18 (0.01)	(2.80) (0.00)	6.46 (0.02)	5.87 (0.02)	10.94 (0.02)	8.46 (0.02)	4.63 (0.02)	6.25 (0.02)	4.47 (0.02)	2.78	4.16	06/01/2005
	NYCERS-TOTAL TIPS - NET MGR BLOOMBERG GLOBAL INFL-LINKED: U.S. TIPS EXCESS RETURN			(2.81) (3.02) <b>0.22</b>	1.16 <u>1.01</u> <b>0.16</b>	(2.81) (3.02) 0.22	6.44 6.51 (0.07)	5.85 5.96 (0.10)	10.92 10.99 (0.07)	8.44 8.43 0.01	4.61 4.29 <b>0.33</b>	6.23 6.22 <b>0.01</b>	4.45 4.43 0.02	2.69 0.09	4.04 <b>0.12</b>	
344	NYCERS- TOTAL CONVERTIBLE BONDS - GROSS ESTIMATED INVESTMENT FEES	1,514	1.80	(2.93) (0.09)	(2.98) (0.26)	(2.93) (0.09)	22.93 (0.46)	4.88 (0.37)	16.57 (0.47)	16.42 (0.46)	(0.94) (0.35)	8.93 (0.41)	8.38 (0.42)	8.04	7.06	06/01/2008
	NYCERS-TOTAL CONVERTIBLE BONDS - NET MGR ICE BOFA ALL US CONV EX MANDATORY EXCESS RETURN			(3.01) (5.45) <b>2.43</b>	(3.24) (7.75) <b>4.51</b>	(3.01) (5.45) <b>2.43</b>	22.46 48.00 (25.53)	4.52 4.12 0.39	16.10 52.05 (35.95)	15.95 22.89 (6.94)	(1.29) (4.27) <b>2.98</b>	8.51 18.67 (10.16)	7.96 15.19 (7.24)	12.72 (4.68)	10.54 (3.48)	
354	NYCERS-TOTAL TARGETED INVESTMENTS (NO CASH) - GROSS ESTIMATED INVESTMENT FEES NYCERS-TOTAL TARGETED INVESTMENTS (NO CASH) - NET MGR EMPLOYEES CUSTOM BENCHMARK (NO CASH) EXCESS RETURN	879	1.04	(5.46) (0.04) (5.49) (5.09) (0.40)	(5.25) (0.11) (5.35) (5.14) (0.21)	(5.46) (0.04) (5.49) (5.09) (0.40)	0.94 (0.15) 0.79 (0.10) 0.89	(0.66) (0.15) (0.80) (1.03) 0.22	7.35 (0.16) 7.19 5.79 1.40	9.30 (0.17) 9.13 7.62 1.51	(3.21) (0.15) (3.35) (4.23) 0.88	2.31 (0.15) 2.16 1.43 <b>0.73</b>	2.93 (0.17) 2.76 2.05 0.71	3.81 (0.19) 3.62 2.19 1.43	7.38 (0.10) 7.27	12/01/1984



		Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2021	CYE 2021	CYE 2020	CYE 2019	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
	ALTERNATIVE CREDIT INCOME RETURN DETAIL															
366	NYCERS-TOTAL HIGH YIELD - GROSS ESTIMATED INVESTMENT FEES NYCERS-TOTAL HIGH YIELD - NET MGR	3,314	3.93	(0.07) (4.16)	(2.46) (0.22) (2.69)	(4.09) (0.07) (4.16)	15.45 (0.37) 15.08	5.61 (0.33) 5.28	7.18 (0.34) 6.84	14.74 (0.36) 14.38	0.27 (0.31) (0.04)	5.17 (0.33) 4.84	4.89 (0.33) 4.56	5.81		10/01/1994
	HIGH YIELD CUSTOM BENCHMARK EXCESS RETURN			(4.82)	(3.31)	(4.82)	15.34 (0.26)	5.26 0.02	7.05	14.32 0.06	(0.66) 0.63	4.56 0.28	4.61	5.41 0.40	6.62 0.77	<u>.</u>
376	NYCERS- TOTAL BANK LOANS - GROSS ESTIMATED INVESTMENT FEES NYCERS-TOTAL BANK LOANS - NET MGR CSFB LEVERAGED LOAN INDEX EXCESS RETURN	3	0.00				3.00 0.09 3.09 11.67 (8.57)	(4.29) 0.09 (4.20) 5.40 (9.59)	() 1.24 (0.32) 0.92 2.78 (1.86)	8.35 (0.35) 8.00 8.17 (0.17)						12/01/2012
386	NYCERS-TOTAL OPPORTUNISTIC FIXED INCOME - GROSS ESTIMATED INVESTMENT FEES NYCERS-TOTAL OPPORTUNISTIC FIXED INCOME - NET MGR OPPORTUNISTIC FIXED INCOME JPMGHY / CSFB 50/50 BLEND PLUS 30 EXCESS RETURN	3,199	3.79	1.13 (0.03) 1.10 (1.57) 2.67	7.89 (0.18) 7.71 1.25 6.46	1.13 (0.03) 1.10 (1.57) 2.67	21.77 (0.22) 21.55 17.35 4.20	17.98 (0.29) 17.69 8.29 9.40	5.30 (0.15) 5.15 7.22 (2.07)	5.49 (0.18) 5.32 14.66 (9.35)	13.14 (0.21) 12.92 4.12 8.80	9.46 (0.19) 9.27 7.27 2.01	7.78 (0.17) 7.61 7.39 0.23	8.60 8.22 0.37	7.96 <u>8.72</u> (0.76)	10/01/2007
	CASH SUMMARY															
398	Short Term NYCERS - GROSS ESTIMATED INVESTMENT FEES Short Term NYCERS - NET MGR	1,000	1.19	(0.08) 0.00 (0.08)	(0.08) 0.00 (0.08)	(0.08) 0.00 (0.08)	0.15 0.00 0.15	0.06 0.00 0.06	0.50 0.00 0.50	2.30 0.00 2.30	(0.05) 0.00 (0.05)	0.71 0.00 0.71	1.12 0.00 1.12	0.77 0.00 0.77		04/01/1982
402	Cash Account	0	0.00													
404	Securities Lending	0	0.00													

406 KKR Cash Account



New York City Employees' Retirement System

# **Appendix B**

# **Public Markets Manager Performance Detail**



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2021	2020	2019	2018	2017
EQUITY SUMMARY										
US EQUITY										
BlackRock US SCG R2000	\$7	0.01	(13.30)	(17.78)	(13.30)	4.30	34.46	28.51	(9.18)	22.32
RUSSELL 2000 GROWTH DAILY			(12.63)	(17.56)	(12.63)	2.83	34.63	28.48	(9.31)	22.17
Excess			(0.67)	(0.22)	(0.67)	1.47	(0.18)	0.03	0.12	0.15
BlackRock US SCV R2000	\$83	0.10	(3.08)	(1.70)	(3.08)	28.29	4.51	23.52	(12.77)	7.95
RUSSELL 2000 VALUE DAILY			(2.40)	(1.18)	(2.40)	28.27	4.63	22.39	(12.86)	7.84
Excess			(0.69)	(0.51)	(0.69)	0.02	(0.13)	1.13	0.09	0.11
Cooke and Bieler-US SCV	\$106	0.13	(9.98)	(9.50)	(9.98)	18.07	9.20			
RUSSELL 2000 VALUE DAILY			(2.40)	(1.18)	(2.40)	28.27	4.63			
Excess			(7.58)	(8.31)	(7.58)	(10.20)	4.57			
Pzena-US SCV	\$161	0.19	(1.68)	1.53	(1.68)	25.71	(1.19)			
RUSSELL 2000 VALUE DAILY			(2.40)	(1.18)	(2.40)	28.27	4.63			
Excess			0.72	2.71	0.72	(2.56)	(5.83)			
T Rowe Price-US SCV	\$0	0.00								
RUSSELL 2000 VALUE DAILY										
Excess										
PanAgora-US SCC	\$188	0.22	(8.23)	(5.66)	(8.23)	20.99				
RUSSELL 2000 (DAILY)			(7.53)	(9.66)	(7.53)	14.82				
Excess			(0.71)	4.01	(0.71)	6.17				
Wellington US SCC	\$416	0.49	(9.72)	(7.56)	(9.72)	14.49	28.10	32.98	(10.09)	19.90
RUSSELL 2000 (DAILY)			(7.53)	(9.66)	(7.53)	14.82	19.96	25.52	(11.01)	14.65
Excess			(2.20)	2.10	(2.20)	(0.33)	8.14	7.46	0.93	5.25



	Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	2021	2020	2019	2018	2017
Wasatch-US SCG	\$195	0.23	(15.61)	(11.07)	(15.61)	19.41	38.38			
RUSSELL 2000 GROWTH DAILY			(12.63)	(17.56)	(12.63)	2.83	34.63			
Excess			(2.98)	6.49	(2.98)	16.57	3.75			
William Blair-US SCG	\$190	0.22	(9.91)	(9.42)	(9.91)	13.96				
RUSSELL 2000 GROWTH DAILY			(12.63)	(17.56)	(12.63)	2.83				
Excess			2.72	8.14	2.72	11.13				
BlackRock US LMC R1000 Core	\$16,057	19.03	(5.70)	3.57	(5.70)	26.40	21.30	31.44		
RUSSELL 1000 (DAILY)			(5.13)	4.36	(5.13)	26.45	20.96	31.43		
Excess			(0.57)	(0.79)	(0.57)	(0.05)	0.33	0.02		
PIMCO RAFI US LMCE	\$2,634	3.12	(0.72)	5.75	(0.72)	28.18	4.50	25.33	(6.90)	16.94
RUSSELL 1000 (DAILY)			(5.13)	4.36	(5.13)	26.45	20.96	31.43	(4.78)	21.69
Excess			4.41	1.39	4.41	1.72	(16.47)	(6.09)	(2.11)	(4.74)
Legal General US LMCE	\$2,178	2.58	(4.21)	1.83	(4.21)	22.23	9.60			
RUSSELL 1000 (DAILY)			(5.13)	4.36	(5.13)	26.45	20.96			
Excess			0.92	(2.54)	0.92	(4.22)	(11.37)			
Victory-US MCV	\$183	0.22								
RUSSELL MIDCAP VALUE (DAILY)										
Excess										
Westfield-US MCG	\$186	0.22								
RUSSELL MIDCAP GROWTH (DAILY)										
Excess										
SSGA-US LC Russell TOP 200 Core	\$1,093	1.30								
RUSSELL TOP 200 INDEX (DAILY)										
Excess										



	Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	2021	2020	2019	2018	2017
FUND OF FUNDS										
NYCERS-TOTAL FUND OF FUNDS	\$168	0.20	(9.06)	(6.26)	(9.06)	24.80	19.46	23.40	(8.23)	
RUSSELL 2000 (DAILY)			(7.53)	(9.66)	(7.53)	14.82	19.96	25.52	(11.01)	
Excess			(1.53)	3.41	(1.53)	9.98	(0.50)	(2.12)	2.78	
NYCERS-TOTAL LEGATO	\$168	0.20	(9.06)	(6.26)	(9.06)	24.80	19.46	23.40	(8.17)	
RUSSELL 2000 (DAILY)			(7.53)	(9.66)	(7.53)	14.82	19.96	25.52	(11.01)	
Excess			(1.53)	3.41	(1.53)	9.98	(0.50)	(2.12)	2.84	
NON - US EQUITY										
Causeway WorldxUS LMCC	\$1,439	1.71	(6.48)	(6.35)	(6.48)	9.86	4.77	23.48	(18.52)	27.94
NYC Developed Value Benchmark [1]			(4.81)	(2.46)	(4.81)	12.62	7.59	22.49	(14.09)	22.77
Excess			(1.67)	(3.89)	(1.67)	(2.76)	(2.82)	0.99	(4.43)	5.18
Sprucegrove WorldxUS LMCC	\$1,719	2.04	(6.68)	(8.68)	(6.68)	8.31	4.92	17.97	(13.93)	27.61
NYC Developed Value Benchmark [1]			(4.81)	(2.46)	(4.81)	12.62	7.59	22.49	(14.09)	22.77
Excess			(1.87)	(6.22)	(1.87)	(4.32)	(2.66)	(4.52)	0.16	4.85
Baillie Gifford WorldxUS LMCC	\$1,441	1.71	(22.19)	(29.65)	(22.19)	(5.49)	65.71	36.40	(12.79)	39.40
NYC Developed Growth Benchmark [2]			(4.81)	(2.46)	(4.81)	12.62	7.59	22.49	(14.09)	27.77
Excess			(17.38)	(27.19)	(17.38)	(18.12)	58.13	13.91	1.30	11.63
Walter Scott WorldxUS LMCC	\$1,804	2.14	(12.64)	(7.73)	(12.64)	13.17	21.21	28.56	(7.16)	27.94
NYC Developed Growth Benchmark [2]			(4.81)	(2.46)	(4.81)	12.62	7.59	22.49	(14.09)	27.77
Excess			(7.83)	(5.27)	(7.83)	0.54	13.63	6.07	6.93	0.17
Acadian WorldxUS SCC	\$617	0.73	(5.65)	(4.65)	(5.65)	22.00	15.95	24.57	(19.03)	37.50
S&P EPAC Small Cap USD NET			(9.62)	(10.53)	(9.62)	8.06	13.78	23.71	(18.58)	33.47
Excess			3.97	5.88	3.97	13.94	2.16	0.86	(0.45)	4.03
Algert EAFE SCC	\$139	0.17	(11.27)	(10.72)	(11.27)	11.74	9.65			
MSCI EAFE SMALL CAP NET (DAILY)			(8.53)	(7.64)	(8.53)	10.10	12.34			
Excess			(2.74)	(3.08)	(2.74)	1.64	(2.69)			



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2021	2020	2019	2018	2017
SSGA WorldxUS LMC NYC Custom IDX	\$1,672	1.98	(5.36)	(3.44)	(5.36)	12.33	8.08	22.55	(13.65)	24.53
NYC Custom World ex US Index [3]			(4.81)	(2.46)	(4.81)	12.62	7.59	22.49	(14.09)	24.12
Excess			(0.55)	(0.98)	(0.55)	(0.30)	0.49	0.06	0.44	0.41
SSGA WorldxUS SC Custom IDX [4]	\$805	0.95	(7.44)	(6.60)	(7.44)	11.02	13.26	25.44	(17.72)	33.66
World ex USA SC PASSIVE CUSTOM BM <sup>[5]</sup>			(7.23)	(6.20)	(7.23)	11.14	12.78	25.41	(18.07)	33.31
Excess			(0.21)	(0.40)	(0.21)	(0.12)	0.48	0.03	0.35	0.35
EMERGING MARKETS										
Baillie Gifford EM	\$836	0.99	(12.44)	(25.28)	(12.44)	(10.77)	35.23	24.53	(14.40)	41.25
ERS Baillie Gifford EM Custom Benchmark			(6.97)	(15.62)	(6.97)	(2.54)	8.26	15.10	(13.38)	34.18
Excess			(5.46)	(9.66)	(5.46)	(8.23)	26.96	9.43	(1.02)	7.07
Acadian EM	\$798	0.95	(3.62)	(9.36)	(3.62)	7.75	7.84	12.83	(17.60)	36.05
ERS Acadian EM Custom Benchmark			(6.97)	(15.62)	(6.97)	(2.54)	11.17	15.10	(13.38)	34.18
Excess			3.36	6.27	3.36	10.30	(3.33)	(2.28)	(4.22)	1.86
AQR-EM SCC	\$210	0.25	(1.57)	(6.04)	(1.57)	20.73				
MSCI EMERGING MARKETS			(6.97)	(15.62)	(6.97)	(2.54)				
Excess			5.40	9.59	5.40	23.27				
Parametric EM	\$0	0.00						10.92	(14.77)	30.24
NYCERS Custom EM Index [6]								15.10	(13.38)	34.18
Excess								(4.18)	(1.38)	(3.95)
Pzena-EM ACV	\$346	0.41	3.44	(4.49)	3.44					
MSCI EMERGING MARKETS			(6.97)	(15.62)	(6.97)					
Excess			10.42	11.13	10.42					
RBC-EM ACG	\$248	0.20	(4.24)	(11.10)	(4.24)					
MSCI EMERGING MARKETS	φ240	0.29	(4.24)	(11.10)	(4.24)					
Excess			(6.97)	(15.62)	(6.97)					
LAUG33			2.13	4.00	2.13					



	Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	2021	2020	2019	2018	2017
Sands-EM LCG	\$211	0.25	(17.91)	(29.79)	(17.91)					
MSCI EMERGING MARKETS			(6.97)	(15.62)	(6.97)					
Excess			(10.94)	(14.16)	(10.94)					
UBS-EM ACC	\$231	0.27	(13.62)	(23.45)	(13.62)					
MSCI EMERGING MARKETS			(6.97)	(15.62)	(6.97)					
Excess			(6.65)	(7.83)	(6.65)					
DFA EM	\$595	0.70	(1.43)	(6.06)	(1.43)	9.07	10.08	9.04	(13.70)	34.27
NYCERS Custom EM Index <sup>[6]</sup>			(6.97)	(15.62)	(6.97)	(1.45)	14.99	15.10	(13.38)	34.18
Excess			5.54	9.56	5.54	10.52	(4.90)	(6.06)	(0.31)	0.09
BlackRock MSCI EM Core	\$698	0.83	(5.63)	(14.85)	(5.63)	(3.01)	14.79	15.10	(12.86)	32.90
NYCERS Custom Passive EM Index [7]			(6.97)	(15.62)	(6.97)	(1.45)	14.99	15.10	(12.97)	33.03
Excess			1.34	0.78	1.34	(1.57)	(0.20)	(0.00)	0.11	(0.13)
INTERNATIONAL FOF										
NYCERS-TOTAL INTERNATIONAL FOF	\$580	0.69	(9.10)	(9.51)	(9.10)	9.75	13.90	25.04	(16.27)	
NYC Blended Custom Benchmark for FoF (ERS) [8]			(5.60)	(6.50)	(5.60)	8.95	9.45	21.73	(14.39)	
Excess			(3.50)	(3.00)	(3.50)	0.80	4.45	3.30	(1.88)	
NYCERS-TOTAL INTERNATIONAL BIVIUM	\$196	0.23	(8.13)	(8.54)	(8.13)	12.22	13.13	25.89	(18.08)	
NYC Blended Custom Benchmark for FoF (ERS) [8]			(5.60)	(6.50)	(5.60)	8.95	9.45	21.73	(14.39)	
Excess			(2.53)	(2.04)	(2.53)	3.27	3.68	4.15	(3.69)	
NYCERS-TOTAL INTERNATIONAL XPONANCE	\$189	0.22	(7.81)	(8.48)	(7.81)	8.70	12.37	21.96	(14.84)	
NYC Blended Xponance Benchmark for ERS [9]			(5.60)	(6.50)	(5.60)	8.83	9.45	21.73	(14.39)	
Excess			(2.21)	(1.98)	(2.21)	(0.12)	2.91	0.23	(0.45)	
NYCERS-TOTAL INTERNATIONAL LEADING EDGE	\$195	0.23	(11.25)	(11.41)	(11.25)	8.40	16.02	27.30	(15.78)	
NYC Blended Custom Benchmark for FoF (ERS) [8]			(5.60)	(6.50)	(5.60)	8.95	9.45	21.73	(14.39)	
Excess			(5.65)	(4.91)	(5.65)	(0.55)	6.57	5.56	(1.39)	



	Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	2021	2020	2019	2018	2017
GLOBAL EQUITY										
Fiera-Global	\$422	0.50	(9.86)	0.52	(9.86)	26.27	20.53	34.10		
MSCI World Index			(5.15)	2.21	(5.15)	21.82	15.90	27.67		
Excess			(4.71)	(1.68)	(4.71)	4.45	4.63	6.43		
Morgan Stanley-Global	\$151	0.18	(19.89)		(19.89)					
MSCI AC WORLD (Daily Const)			(5.36)		(5.36)					
Excess			(14.53)		(14.53)					
FIXED INCOME SUMMARY										
STRUCTURED FIXED INCOME										
PIMCO MORT	\$1,357	1.61	(5.62)	(6.30)	(5.62)	(1.34)				
Bloomberg US Mortgage Backed Securities			(4.97)	(5.23)	(4.97)	(1.04)				
Excess			(0.65)	(1.07)	(0.65)	(0.30)				
Wellington Mortgages	\$541	0.64	(4.84)	(5.31)	(4.84)	(0.95)				
Bloomberg US Mortgage Backed Securities			(4.97)	(5.23)	(4.97)	(1.04)				
Excess			0.14	(0.08)	0.14	0.10				
BlackRock Mortgages	\$2,582	3.06	(4.95)	(5.09)	(4.95)	(0.89)	4.86	7.00	0.96	2.69
NYC Custom Mortgage Benchmark [10]			(4.97)	(5.23)	(4.97)	(1.04)	3.91	6.68	1.01	2.47
Excess			0.03	0.14	0.03	0.15	0.95	0.33	(0.05)	0.22
Prudential Corporate	\$0	0.00					9.71	13.56	(1.91)	6.17
NYC - Investment Grade Credit							9.70	13.40	(1.90)	6.04
Excess							0.01	0.17	(0.01)	0.13
	<b></b>									
T Rowe Price-Corporate	\$2,248	2.66	(7.84)	(7.58)	(7.84)	(0.74)	9.39	14.52	(2.41)	6.85
NYC Custom IGC Benchmark [11]			(7.69)	(7.48)	(7.69)	(0.85)	9.70	13.40	(1.90)	6.04
Excess			(0.16)	(0.10)	(0.16)	0.10	(0.31)	1.13	(0.51)	0.81



	Market Value (\$MM)	% of Total								
Voya-Corporate	(\$MM) \$870	1.03	3 Month (7.77)	FYTD	СҮТD (7.77)	2021	2020	2019	2018	2017
Bloomberg U.S. Corporate Inv Grade			(7.69)		(7.69)					
Excess			(0.08)		(0.08)					
			(0.00)		(0.00)					
BlackRock Corporate	\$1	0.00					10.03	13.98	(2.00)	6.38
NYC Custom IGC Benchmark [11]							9.70	13.40	(1.90)	6.04
Excess							0.33	0.59	(0.10)	0.35
Neuberger Berman-Corporate	\$1,454	1.72	(7.76)	(7.60)	(7.76)					
Bloomberg U.S. Corporate Inv Grade			(7.69)	(7.48)	(7.69)					
Excess			(0.08)	(0.12)	(0.08)					
Pinebridge-Corporate	\$822	0.97	(7.30)		(7.30)					
NYC Custom IGC Benchmark [11]			(7.69)		(7.69)					
Excess			0.39		0.39					
BlackRock LI Treasury	\$1,049	1.24	(7.89)	(6.84)	(7.89)	(3.88)	12.48	10.41	(0.19)	4.76
NYC - Treasury Agency Plus Five			(7.98)	(6.75)	(7.98)	(3.78)	12.85	10.40	(0.05)	4.66
Excess			0.08	(0.09)	0.08	(0.10)	(0.38)	0.01	(0.14)	0.10
SSGA LI Treasury	\$789	0.94	(8.01)	(6.93)	(8.01)	(3.69)	13.02	10.53	(0.18)	4.93
NYC - Treasury Agency Plus Five			(7.98)	(6.75)	(7.98)	(3.78)	12.85	10.40	(0.05)	4.66
Excess			(0.04)	(0.18)	(0.04)	0.09	0.16	0.13	(0.13)	0.28
SSGA ST Treasury 1-3Y	\$2,202	2.61	(2.43)	(2.91)	(2.43)	(0.63)	3.10	3.54	1.52	0.40
FTSE US Government Bond 1-3 Years Index			(2.38)	(2.87)	(2.38)	(0.58)	3.09	3.56	1.56	0.42
Excess			(0.05)	(0.05)	(0.05)	(0.05)	0.01	(0.02)	(0.04)	(0.02)
SSGA LT Treasury 10Y Plus	\$606	0.72	(10.17)	(7.37)	(10.17)					
FTSE US Government Bond 10+ Years Index			(10.42)	(7.31)	(10.42)					
Excess			0.25	(0.06)	0.25					



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2021	2020	2019	2018	2017
SSGA IT Treasury 1-10Y [12]	\$2,789	3.31	(4.10)	(4.66)	(4.10)	(1.70)	4.55	5.09	2.05	
USBIG TSY AGN 1-10			(4.06)	(4.64)	(4.06)	(1.66)	5.72	5.18	1.42	
Excess			(0.03)	(0.02)	(0.03)	(0.04)	(1.17)	(0.09)	0.63	
HIGH YIELD										
Oaktree High Yield	\$454	0.54	(3.98)	(2.32)	(3.98)	4.95	7.15	13.98	(3.46)	5.78
Bloomberg U.S. HY - 2% Issuer Cap			(4.82)	(3.31)	(4.82)	5.26	7.05	14.32	(2.08)	7.50
Excess			0.84	0.99	0.84	(0.31)	0.10	(0.34)	(1.38)	(1.72)
Pinebridge High Yield	\$383	0.45	(4.75)	(3.45)	(4.75)	4.77				
ICE BofA US High Yield Index			(4.51)	(2.98)	(4.51)	5.36				
Excess			(0.24)	(0.46)	(0.24)	(0.60)				
Neuberger Berman High Yield	\$480	0.57	(4.61)	(3.64)	(4.61)	4.31	6.04	14.15	(2.00)	5.78
Bloomberg U.S. HY - 2% Issuer Cap			(4.82)	(3.31)	(4.82)	5.26	7.05	14.32	(2.08)	7.50
Excess			0.21	(0.33)	0.21	(0.95)	(1.01)	(0.17)	0.08	(1.73)
Stone Harbor High Yield	\$5	0.01						14.12	(2.62)	5.85
Bloomberg U.S. HY - 2% Issuer Cap								14.32	(2.08)	7.50
Excess								(0.20)	(0.53)	(1.65)
T Rowe Price High Yield	\$520	0.62	(4.19)	(2.17)	(4.19)	6.32	7.03	15.63	(2.36)	7.03
Bloomberg U.S. HY - 2% Issuer Cap			(4.82)	(3.31)	(4.82)	5.26	7.05	14.32	(2.08)	7.50
Excess			0.64	1.13	0.64	1.06	(0.02)	1.32	(0.28)	(0.47)
Shenkman High Yield	\$418	0.50	(3.48)	(2.23)	(3.48)	4.40	6.37	14.32	(3.21)	6.79
Bloomberg U.S. HY - 2% Issuer Cap			(4.82)	(3.31)	(4.82)	5.26	7.05	14.32	(2.08)	7.50
Excess			1.34	1.08	1.34	(0.86)	(0.68)	0.01	(1.12)	(0.71)
Eaton Vance High Yield	\$331	0.39	(4.10)	(2.78)	(4.10)	5.05	5.98	14.56		
Bloomberg U.S. HY - 2% Issuer Cap			(4.82)	(3.31)	(4.82)	5.26	7.05	14.32		
Excess			0.72	0.53	0.72	(0.21)	(1.07)	0.24		



Mackage MyindéStartStar		Market Value	% of Total								
Biomany US HY - 2% Insue Cap       (480)       (531)       (487)       5.88       7.68       14.32         Exerse       0.99       0.98       0.79       0.22       0.69       0.10         Naruze Hy Yevid       556       0.42       (420)       (2.59)       H420       7.12       8.17       13.37         Biomeding US HY - 2% Insuer Cap       (423)       (424)       (2.30)       1.48       5.28       7.68       14.32         Biomeding US HY - 2% Insuer Cap       (424)       (3.31)       (443)       5.28       7.68       14.32	Mackay Shields High Vield	(\$MM) \$367		3 Month	FYTD (2.36)	CYTD (4.03)	<b>2021</b>	<b>2020</b>	2019	2018	2017
Eress       0.79       0.97       0.23       0.99       0.79       0.23       0.99       0.79       0.23       0.99       0.79       0.23       0.99       0.79       0.23       0.99       0.79       0.71       0.81       0.75       0.83       0.75       0.83       0.75       0.83       0.75       0.83       0.75       0.83       0.83       0.75       0.83		<i>4001</i>	0.43								
Normure High Yold         Exist         0.42         (4.00)         7.12         8.17         13.37           Monormory U.S. NY- 29( locan Cap         0.400         0.331         4.420         5.20         7.05         41.32					. ,						
Bookers (JS, HY - 2N issuer Cap       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)         Excess       0.80       0.77       0.80       0.80       1.80       1.20	EXCESS			0.79	0.95	0.79	0.23	0.99	(0.13)		
Bookers (JS, HY - 2N issuer Cap       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)       (4.82)         Excess       0.80       0.77       0.80       0.80       1.80       1.20		<b>0</b> 054		(1.00)	(0.5.1)	(1.00)	- 10		40.07		
Brooms         0.86         0.77         0.85         1.86         1.12         0.08           BANK LOANS         51         0.00         1.12         7.82         0.38         4.47           CSFR LEVERAGED LOAN NDEX         2.78         8.17         1.14         4.25           Excoss         1.16         0.30         0.02         1.12         7.82         0.38         4.47           CSFR LEVERAGED LOAN NDEX         2.78         8.17         1.14         4.25         2.78         8.17         1.14         4.25           Excoss         1.12         7.82         0.31         1.04         4.66           CSFR LEVERAGED LOAN NDEX         2.78         8.17         1.14         4.25           Excoss         1.14         8.31         1.04         4.66           CSFR LEVERAGED LOAN NDEX         2.78         8.17         1.14         4.25           Excoss         1.12         0.02         0.01         1.44         4.55           Excoss         1.14         4.25         1.14         4.25         1.14         4.25           Excoss         1.14         4.25         1.14         4.25         1.14         4.25           Exc		\$354	0.42								
BANK LOANS         1.12         7.82         0.38         4.47           Baringa Bank Loana         \$1         0.00         1.12         7.82         0.38         4.47           Ecoses         (1.86)         (0.28)         (0.70)         0.22           Correl Suisse Bank Loans         50         0.00											
Bath Qaming Bank Leans       S1       0.00       1.12       7.82       0.38       4.47         GSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         Excess       1.12       7.82       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         Excess       2.78       8.17       1.14       4.25         Excess       0.00       5.00       0.42       8.60       0.17       3.41         CSFB LEVERAGED LOAN INDEX       5.1       0.00       5.40       2.78       8.17       1.14       4.25         Excess       5.1       0.00       5.40       2.78       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       5.1       0.00       5.40       2.78       8.17       1.14       4.25         Excess       5.1       0.00       5.1       5.40       2.78       8.17       1.14       4.25         Excess       5.1       0.00       5.1	Excess			0.80	0.77	0.80	1.86	1.12	(0.95)		
Bath Qaming Bank Leans       S1       0.00       1.12       7.82       0.38       4.47         GSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         Excess       1.12       7.82       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         Excess       2.78       8.17       1.14       4.25         Excess       0.00       5.00       0.42       8.60       0.17       3.41         CSFB LEVERAGED LOAN INDEX       5.1       0.00       5.40       2.78       8.17       1.14       4.25         Excess       5.1       0.00       5.40       2.78       8.17       1.14       4.25         CSFB LEVERAGED LOAN INDEX       5.1       0.00       5.40       2.78       8.17       1.14       4.25         Excess       5.1       0.00       5.1       5.40       2.78       8.17       1.14       4.25         Excess       5.1       0.00       5.1											
CSPE LEVERAGED LOAN NDEX       2,78       8.77       1,14       4.25         Eccess       (1,68)       (0,39)       (0,79)       0.22         Credit Suisse Bank Loans       S0       0.00       1.14       4.25         Ceredit Suisse Bank Loans       S0       0.00       1.81       8.31       1.04       4.66         CSFE LEVERAGED LOAN NDEX       2.78       8.17       1.14       4.25         Eccess       (0,63)       0.042       8.07       1.14       4.25         Eccess       (0,63)       0.042       8.07       1.14       4.25         Eccess       (0,63)       0.042       8.07       1.14       4.25         Eccess       (0,63)       (0,42)       8.07       0.17       3.64         CSFE LEVERAGED LOAN NDEX       540       2.78       8.17       1.14       4.25         Eccess       (0,63)       (0,42)       8.00       0.17       3.64         CSFE LEVERAGED LOAN NDEX       51       0.09       6.01       1.14       4.25         Ecces       51       0.00       6.03       0.17       0.14       1.25         Ecces       51       0.00       6.01       1.14       1	BANK LOANS										
Excess       (1.66)       (0.36)       (0.76)       0.22         Credit Suissen Loans       \$0       0       1.81       8.31       1.04       4.56         CSEPS LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         Excess       (0.96)       0.13       (0.10)       0.41         Invesco Bark Loans       \$1       0.00	Barings Bank Loans	\$1	0.00					1.12	7.82	0.38	4.47
S0         0.00         1.81         8.31         1.04         4.66           CSF9 LEVERAGED LOAN INDEX         2.78         8.17         1.14         4.25           Excess         0.00         0.13         0.00         0.13         0.010         0.010           Invesco Bank Loans         \$1         0.00         0.053         (0.42)         8.60         0.17         3.64           CSF9 LEVERAGED LOAN INDEX         5.40         2.78         8.17         1.14         4.25           Excess         (0.63)         (0.42)         8.60         0.17         3.64           CSF9 LEVERAGED LOAN INDEX         5.40         2.78         8.17         1.14         4.25           Excess         (8.03)         (0.42)         0.69         0.697         (0.63)           Bia Bank Loans         \$1         0.00         (8.03)         0.42         (9.07)         (0.61)           CSF9 LEVERAGED LOAN INDEX         51         0.00         (8.03)         0.42         (9.07)         (8.02)         (9.07)         (8.02)         (9.07)         (8.02)         (9.07)         (8.02)         (9.07)         (8.02)         (9.07)         (9.07)         (8.02)         (9.07)         (9.07) <t< td=""><td>CSFB LEVERAGED LOAN INDEX</td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.78</td><td>8.17</td><td>1.14</td><td>4.25</td></t<>	CSFB LEVERAGED LOAN INDEX							2.78	8.17	1.14	4.25
CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         Excess       (9.66)       0.13       (0.10)       0.41         Invesco Bank Loans       S1       0.00       0.63       0.42       8.67       1.14       4.25         Excess	Excess							(1.66)	(0.36)	(0.76)	0.22
CSFB LEVERAGED LOAN INDEX       2.78       8.17       1.14       4.25         Excess       (0.96)       0.13       (0.10)       0.41         Invesco Bank Loans       S1       0.00       5.40       2.78       8.17       1.14       4.25         Excess       (0.63)       (0.42)       8.17       1.14       4.25         Excess       (6.63)       (0.42)       8.17       1.14       4.25         Excess       (6.63)       (3.19)       0.42       (0.97)       (0.61)         CSFB LEVERAGED LOAN INDEX       5.40       2.78       8.17       1.14       4.25         Excess       (6.63)       (3.19)       0.42       (0.97)       (0.61)         CSFB LEVERAGED LOAN INDEX       5.81       0.00       5.81       0.09       0.42       (0.97)       (0.61)         CSFB LEVERAGED LOAN INDEX       5.81       0.00       5.81       0.92       5.81       1.93       1.93       1.14       4.25         StB at Leverade Loans       \$1       0.00       5.81       1.08       8.44       (1.30)       3.06         StGS TIPS       \$2.255       2.65       (2.81)       1.18       (2.81)       5.91       1.08											
Excess       (0.96)       0.13       (0.10)       0.41         Invesco Bank Loans       \$1       0.00       (0.63)       (0.42)       8.60       0.17       3.64         CSFB LEVERAGED LOAN INDEX       5.40       2.78       8.17       1.14       4.25         Excess       (6.03)       (3.19)       0.42       (0.61)       (0.61)         Bain Bank Loans       \$1       0.00	Credit Suisse Bank Loans	\$0	0.00					1.81	8.31	1.04	4.66
Invesco Bank Loans         \$1         0.00         (0.63)         (0.42)         8.60         0.17         3.64           CSFB LEVERAGED LOAN INDEX         5.40         2.78         8.17         1.14         4.25           Excess         (6.03)         (3.19)         0.42         0.97)         (0.61)           Bain Bank Loans         \$1         0.00	CSFB LEVERAGED LOAN INDEX							2.78	8.17	1.14	4.25
SPB LEVERAGED LOAN INDEX       5.40       2.78       8.17       1.14       4.25         Excess       (6.03)       (3.19)       0.42       (0.97)       (0.61)         Bain Bank Loans       \$1       0.00	Excess							(0.96)	0.13	(0.10)	0.41
SPB LEVERAGED LOAN INDEX       5.40       2.78       8.17       1.14       4.25         Excess       (6.03)       (3.19)       0.42       (0.97)       (0.61)         Bain Bank Loans       \$1       0.00											
Excess       (6.03)       (3.19)       0.42       (0.97)       (0.61)         Bain Bank Loans       \$1       0.00	Invesco Bank Loans	\$1	0.00				(0.63)	(0.42)	8.60	0.17	3.64
Sin Bank Loans         Sin         0.00           CSFB LEVERAGED LOAN INDEX         CSFB LEVERAGED LOAN INDEX         V           Excess         V         V           TIPS         S2,235         2.65         (2.81)         1.18         (2.81)         5.91         10.88         8.44         (1.30)         3.06           Bioomberg Global Inff-Linked: U.S. TIPS         (3.02)         1.01         (3.02)         5.96         10.99         8.43         (1.26)         3.01           Excess         0.21         0.17         0.21         (0.05)         (0.11)         0.02         (0.04)         0.05           Bioomberg Global Inff-Linked: U.S. TIPS         S858         1.02         (2.78)         1.13         (2.78)         5.72         11.01         8.42         (1.18)         2.98           Bioomberg Global Inff-Linked: U.S. TIPS         (3.02)         1.01         (3.02)         5.96         10.99         8.43         (1.26)         3.01	CSFB LEVERAGED LOAN INDEX						5.40	2.78	8.17	1.14	4.25
CSFB LEVERAGED LOAN INDEX         Excess         TIPS         SSGA TIPS       \$2,235       2.65       (2.81)       1.18       (2.81)       5.91       10.88       8.44       (1.30)       3.06         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01         Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlockRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01	Excess						(6.03)	(3.19)	0.42	(0.97)	(0.61)
CSFB LEVERAGED LOAN INDEX         Excess         TIPS         SSGA TIPS       \$2,235       2.65       (2.81)       1.18       (2.81)       5.91       10.88       8.44       (1.30)       3.06         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01         Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlockRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01											
Excess         TIPS         SSGA TIPS       \$2,235       2.65       (2.81)       1.18       (2.81)       5.91       10.88       8.44       (1.30)       3.06         Blomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01         Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlackRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01	Bain Bank Loans	\$1	0.00								
TIPS         SSGA TIPS       \$2,235       2.65       (2.81)       1.18       (2.81)       5.91       10.88       8.44       (1.30)       3.06         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01         Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlackRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01	CSFB LEVERAGED LOAN INDEX										
SSGA TIPS       2.65       (2.81)       1.18       (2.81)       5.91       10.88       8.44       (1.30)       3.06         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01         Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlackRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01	Excess										
SSGA TIPS       2.65       (2.81)       1.18       (2.81)       5.91       10.88       8.44       (1.30)       3.06         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01         Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlackRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01											
Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01         Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlackRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01	TIPS										
Excess       0.21       0.17       0.21       (0.05)       (0.11)       0.02       (0.04)       0.05         BlackRock TIPS       \$858       1.02       (2.78)       1.13       (2.78)       5.72       11.01       8.42       (1.18)       2.98         Bloomberg Global Infl-Linked: U.S. TIPS       (3.02)       1.01       (3.02)       5.96       10.99       8.43       (1.26)       3.01	SSGA TIPS	\$2,235	2.65	(2.81)	1.18	(2.81)	5.91	10.88	8.44	(1.30)	3.06
BlackRock TIPS         \$858         1.02         (2.78)         1.13         (2.78)         5.72         11.01         8.42         (1.18)         2.98           Bloomberg Global Infl-Linked: U.S. TIPS         (3.02)         1.01         (3.02)         5.96         10.99         8.43         (1.26)         3.01	Bloomberg Global Infl-Linked: U.S. TIPS			(3.02)	1.01	(3.02)	5.96	10.99	8.43	(1.26)	3.01
Bloomberg Global Infl-Linked: U.S. TIPS (3.02) 1.01 (3.02) 5.96 10.99 8.43 (1.26) 3.01	Excess			0.21	0.17	0.21	(0.05)	(0.11)	0.02	(0.04)	0.05
Bloomberg Global Infl-Linked: U.S. TIPS (3.02) 1.01 (3.02) 5.96 10.99 8.43 (1.26) 3.01											
	BlackRock TIPS	\$858	1.02	(2.78)	1.13	(2.78)	5.72	11.01	8.42	(1.18)	2.98
Excess 0.24 0.12 0.24 (0.23) 0.02 (0.01) 0.08 (0.02)	Bloomberg Global Infl-Linked: U.S. TIPS			(3.02)	1.01	(3.02)	5.96	10.99	8.43	(1.26)	3.01
	Excess			0.24	0.12	0.24	(0.23)	0.02	(0.01)	0.08	(0.02)



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2021	2020	2019	2018	2017
CONVERTIBLE BONDS										
Advent Convertible Bonds	\$927	1.10	(3.70)	(6.09)	(3.70)	0.39	17.21	12.71	(1.64)	7.75
ICE BofA US Convertibles - Yield Alter			(4.40)	(6.58)	(4.40)	2.09	13.34	15.40	(0.42)	9.45
Excess			0.70	0.49	0.70	(1.70)	3.87	(2.69)	(1.22)	(1.69)
Victory Convertible Bonds	\$587	0.70	(1.91)	1.64	(1.91)	11.91	14.91	20.49	0.66	20.54
ICE BofA All IG US Convertibles			(2.20)	3.22	(2.20)	10.42	7.57	20.88	3.35	20.99
Excess			0.29	(1.58)	0.29	1.49	7.35	(0.39)	(2.69)	(0.45)
CORE FI - DEVELOPING MANAGERS										
LM Capital-Core Plus	\$338	0.40	(5.54)	(5.91)	(5.54)	(1.41)	9.60	9.70	(1.14)	3.85
Bloomberg U.S. Aggregate			(5.93)	(5.87)	(5.93)	(1.54)	7.51	8.72	0.01	3.54
Excess			0.40	(0.04)	0.40	0.13	2.10	0.99	(1.15)	0.31
GIA-Core Plus	\$192	0.23	(5.87)	(5.78)	(5.87)	(0.88)	7.85	9.69	(0.81)	4.35
Bloomberg U.S. Aggregate			(5.93)	(5.87)	(5.93)	(1.54)	7.51	8.72	0.01	3.54
Excess			0.06	0.09	0.06	0.66	0.34	0.97	(0.82)	0.80
Pugh-CorePlus	\$49	0.06	(5.94)	(5.97)	(5.94)	(1.29)				
Bloomberg U.S. Aggregate			(5.93)	(5.87)	(5.93)	(1.54)				
Excess			(0.00)	(0.10)	(0.00)	0.25				
ECONOMICALLY TARGETED INVESTMENTS										
AFL-CIO Housing Investment Trust	\$329	0.39	(5.94)	(6.23)	(5.94)	(1.04)	6.20	7.78	0.16	3.17
Bloomberg U.S. Aggregate			(5.93)	(5.87)	(5.93)	(1.54)	7.51	8.72	0.01	3.54
Excess			(0.00)	(0.35)	(0.00)	0.50	(1.31)	(0.94)	0.15	(0.38)
RBC Access MBS	\$163	0.19	(5.57)	(5.77)	(5.57)	(1.03)	6.14	7.21	0.49	2.64
Access RBC Benchmark			(4.67)	(5.12)	(4.67)	(1.46)	4.69	6.05	1.17	1.96
Excess			(0.91)	(0.66)	(0.91)	0.43	1.45	1.16	(0.69)	0.69



	Market Value (\$MM)	% of Total	3 Month	FYTD	СҮТД	2021	2020	2019	2018	2017
CPC Construction Facility	\$12	0.01	0.67	2.26	0.67	3.88	0.67	6.86	4.14	6.07
CPC CONST BENCHMARK			0.62	1.83	0.62	2.42	2.73	4.09	3.99	3.34
Excess			0.04	0.43	0.04	1.46	(2.05)	2.77	0.15	2.73
BOA PPAR FNMA	\$21	0.02	(5.79)	(5.38)	(5.79)	(1.89)	6.12	13.54	2.33	5.21
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80	1.86	3.61
Excess			(0.75)	(0.40)	(0.75)	(1.52)	0.98	5.74	0.47	1.60
BOA PPAR GNMA	\$14	0.02	(4.39)	(4.59)	(4.39)	(1.18)	7.45	8.44	2.42	4.08
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			(0.53)	(0.58)	(0.53)	(0.36)	3.14	1.70	0.79	1.56
Citibank PPAR FNMA	\$21	0.02	(6.28)	(5.67)	(6.28)	(1.56)	7.06	19.71	2.63	5.26
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80	1.86	3.61
Excess			(1.24)	(0.69)	(1.24)	(1.19)	1.92	11.91	0.77	1.65
Citibank PPAR GNMA	\$5	0.01	(3.95)	(4.78)	(3.95)	(1.10)	8.31	5.33	1.90	3.10
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			(0.09)	(0.77)	(0.09)	(0.29)	4.00	(1.41)	0.27	0.57
CFSB PPAR FNMA	\$1	0.00	(6.37)	(5.73)	(6.37)	(2.05)				
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)				
Excess			(1.33)	(0.74)	(1.33)	(1.67)				
CFSB PPAR GNMA	\$2	0.00	(3.83)	(3.64)	(3.83)	0.03	8.01	5.91	0.99	3.83
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			0.03	0.38	0.03	0.84	3.69	(0.82)	(0.65)	1.30
CPC PPAR FNMA	\$98	0.12	(5.75)	(4.08)	(5.75)	1.14	7.00	13.18	2.31	5.06
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80	1.86	3.61
Excess			(0.71)	0.91	(0.71)	1.51	1.87	5.38	0.45	1.45



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2021	2020	2019	2018	2017
CPC PPAR GNMA	\$60	0.07	(3.71)	(3.99)	(3.71)	(0.51)	7.95	4.76	0.86	2.58
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			0.15	0.02	0.15	0.31	3.63	(1.97)	(0.77)	0.05
ECLF PPAR FNMA	\$2	0.00	(6.37)	(5.58)	(6.37)	(1.65)				
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)				
Excess			(1.33)	(0.60)	(1.33)	(1.28)				
JPMC PPAR FNMA	\$85	0.10	(5.84)	(5.34)	(5.84)	(1.84)	8.33	14.68	1.68	9.96
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80	1.86	3.61
Excess			(0.79)	(0.35)	(0.79)	(1.47)	3.19	6.88	(0.18)	6.35
JPMC PPAR GNMA	\$26	0.03	(3.54)	(3.42)	(3.54)	0.35	8.29	5.77	1.99	2.63
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			0.32	0.60	0.32	1.17	3.97	(0.97)	0.36	0.11
LIIF PPAR FNMA	\$11	0.01	(5.80)	(5.26)	(5.80)	(1.75)	6.44	16.35	2.27	9.55
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80	1.86	3.61
Excess			(0.76)	(0.27)	(0.76)	(1.37)	1.30	8.55	0.41	5.94
LIIF PPAR GNMA	\$2	0.00	(2.36)	(1.96)	(2.36)	0.84	6.19	5.54	2.53	2.52
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			1.50	2.06	1.50	1.65	1.87	(1.19)	0.89	(0.01)
LISC PPAR FNMA	\$3	0.00	(6.36)	(5.63)	(6.36)	(1.69)	31.93	14.95		
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80		
Excess			(1.32)	(0.65)	(1.32)	(1.32)	26.80	7.15		
NCBCI PPAR FNMA	\$0	0.00	(3.56)	(3.28)	(3.56)	0.66	8.49	4.08	2.00	1.75
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80	1.86	3.61
Excess			1.49	1.71	1.49	1.03	3.36	(3.72)	0.15	(1.86)



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2021	2020	2019	2018	2017
NCBCI PPAR GNMA	\$1	0.00	(3.43)	(3.13)	(3.43)	0.95	8.16	3.69	1.23	3.01
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			0.43	0.89	0.43	1.77	3.85	(3.04)	(0.41)	0.48
NHS PPAR GNMA	\$0	0.00	(3.18)	(2.77)	(3.18)	1.26	7.11	2.90	0.54	(2.93)
GNMA Plus 65bps			(3.86)	(4.01)	(3.86)	(0.82)	4.31	6.73	1.63	2.53
Excess			0.68	1.25	0.68	2.08	2.80	(3.84)	(1.09)	(5.46)
Wells Fargo PPAR FNMA	\$21	0.03	(6.29)	(5.57)	(6.29)	(1.86)	28.61	21.71		
FNMA Plus 85bps			(5.04)	(4.99)	(5.04)	(0.37)	5.14	7.80		
Excess			(1.25)	(0.58)	(1.25)	(1.48)	23.48	13.91		
CASH										
Short Term NYCERS	\$1,000	1.19	(0.08)	(0.08)	(0.08)	0.06	0.50	2.30	1.95	1.09
ICE BofA US 3-Month Treasury Bill			0.04	0.06	0.04	0.05	0.67	2.28	1.87	0.86
Excess			(0.12)	(0.15)	(0.12)	0.01	(0.17)	0.01	0.07	0.23
Cash Account	\$0	0.00								
Securities Lending	\$0	0.00								



New York City Employees' Retirement System

# **Appendix C**

# **Alternative Assets Manager Performance Detail**



TOTAL PRIVATE EQUITY TOTAL LIQUIDATED TOTAL ACTIVE TOTAL ACTIVE Cypress Merchant Banking Partners II, L.P. Lincolnshire Equity Fund II, L.P. SCP Private Equity Partners II, L.P.	(Cash Flow) 1999 1999 2000 2001 2001 2001 2002	Commitments 14,777,608,596 1,360,051,021 13,417,557,575 45,172,972 18,397,347 27,442,463 40,000,000 19,999,999	Contributions 12,278,435,875 1,531,218,831 10,747,217,044 53,944,269 19,261,466 30,827,225 62,528,643 26,323,260	Distributions 12,272,492,641 1,851,016,832 10,421,475,810 50,584,154 37,755,344 10,819,873 123,295,865	Market Value 8,034,727,259 228,465 8,034,498,794 20,454 20,454 344,684 663,784 340,509	Multiple 1.65 1.21 1.72 0.94 1.98 0.37	ITD IRR% 11.9% 4.9% 13.4% -1.2% 24.6% -13.2%
TOTAL LIQUIDATED TOTAL ACTIVE Cypress Merchant Banking Partners II, L.P. Lincolnshire Equity Fund II, L.P. SCP Private Equity Partners II, L.P.	1999 2000 2001 2001 2002	1,360,051,021 13,417,557,575 45,172,972 18,397,347 27,442,463 40,000,000 19,999,999	1,531,218,831 10,747,217,044 53,944,269 19,261,466 30,827,225 62,528,643	1,851,016,832 10,421,475,810 50,584,154 37,755,344 10,819,873	228,465 8,034,498,794 20,454 344,684 663,784	1.21 1.72 0.94 1.98	4.9% 13.4% -1.2% 24.6%
TOTAL ACTIVE TOTAL ACTIVE Cypress Merchant Banking Partners II, L.P. Lincolnshire Equity Fund II, L.P. SCP Private Equity Partners II, L.P.	1999 2000 2001 2001 2002	13,417,557,575 45,172,972 18,397,347 27,442,463 40,000,000 19,999,999	10,747,217,044 53,944,269 19,261,466 30,827,225 62,528,643	10,421,475,810 50,584,154 37,755,344 10,819,873	8,034,498,794 20,454 344,684 663,784	1.72 0.94 1.98	13.4% -1.2% 24.6%
TOTAL ACTIVE Cypress Merchant Banking Partners II, L.P. Lincolnshire Equity Fund II, L.P. SCP Private Equity Partners II, L.P.	1999 2000 2001 2001 2002	45,172,972 18,397,347 27,442,463 40,000,000 19,999,999	53,944,269 19,261,466 30,827,225 62,528,643	50,584,154 37,755,344 10,819,873	20,454 344,684 663,784	0.94 1.98	-1.2% 24.6%
Cypress Merchant Banking Partners II, L.P. Lincolnshire Equity Fund II, L.P. SCP Private Equity Partners II, L.P.	1999 2000 2001 2001 2002	18,397,347 27,442,463 40,000,000 19,999,999	19,261,466 30,827,225 62,528,643	37,755,344 10,819,873	344,684 663,784	1.98	24.6%
Lincolnshire Equity Fund II, L.P. SCP Private Equity Partners II, L.P.	1999 2000 2001 2001 2002	18,397,347 27,442,463 40,000,000 19,999,999	19,261,466 30,827,225 62,528,643	37,755,344 10,819,873	344,684 663,784	1.98	24.6%
SCP Private Equity Partners II, L.P.	2000 2001 2001 2002	27,442,463 40,000,000 19,999,999	30,827,225 62,528,643	10,819,873	663,784		
	2001 2001 2002	40,000,000 19,999,999	62,528,643		,	0.37	-13.2%
	2001 2002	19,999,999		123,295,865	240 500		
Apollo Investment Fund V, L.P.	2002		26 222 260		540,509	1.98	38.6%
RRE Ventures III, L.P.		~~ ~~ ~ ~ ~ ~ ~	20,525,200	34,078,940	1,369,316	1.35	5.4%
Thomas, McNerney & Partners, L.P.	2002	20,000,000	20,000,000	10,058,105	684,616	0.54	-10.5%
Ares Corporate Opportunities Fund, L.P.	2003	45,000,000	53,984,770	80,476,920	747,862	1.50	13.1%
Blackstone Capital Partners IV, L.P.	2003	34,418,762	38,818,072	100,181,154	(55,187)	2.58	39.7%
FS Equity Partners V, L.P.	2003	25,000,000	21,419,958	41,861,469	2,069,525	2.05	15.3%
FdG Capital Partners II LP	2004	35,000,000	37,714,408	44,952,749	770,175	1.21	3.7%
Lincolnshire Equity Fund III, L.P.	2004	55,000,000	55,006,941	78,246,227	19,654,001	1.78	27.5%
Markstone Capital Partners, LP	2004	40,000,000	46,899,103	19,822,611	272,215	0.43	-32.2%
New York/Fairview Emerging Managers Fund, L.PTranche 1	2004	32,000,000	32,862,069	35,002,679	527,707	1.08	1.3%
Yucaipa American Alliance Fund I, LP	2004	90,000,000	114,094,892	137,148,067	227,580	1.20	3.9%
JP Morgan Fleming (Tranche A)	2005	43,000,000	43,164,397	48,973,759	7,027,817	1.30	4.6%
New Mountain Partners II, L.P.	2005	46,451,615	42,071,397	81,045,604	262,221	1.93	13.6%
Palladium Equity Partners III, L.P.	2005	35,000,000	36,370,890	70,548,843	103,163	1.94	16.1%
Snow Phipps Group, L.P.	2005	20,000,000	24,501,774	22,021,223	11,594,757	1.37	5.9%
USPF II Institutional Fund, L.P.	2005	65,000,000	85,734,194	99,947,469	2,776,867	1.20	3.1%
Aisling Capital II, LP	2006	6,680,102	7,854,064	7,775,060	238,696	1.02	0.4%
Ampersand 2006	2006	25,000,000	25,000,000	78,074,782	673,552	3.15	17.0%
Apollo Investment Fund VI, L.P.	2006	90,000,000	115,838,240	173,338,314	1,660,132	1.51	8.6%
Ares Corporate Opportunities Fund II, L.P.	2006	50,000,000	54,760,870	91,388,541	62,703	1.67	13.1%
BDCM Opportunity Fund II, L.P.	2006	25,000,000	37,203,442	101,469,671	2,849,300	2.80	18.4%
Blackstone Capital Partners V, L.P.	2006	121,624,827	129,565,095	210,272,478	2,540,891	1.64	8.0%
Catterton Partners VI, L.P.	2006	45,000,000	51,243,868	88,601,068	11,102,837	1.95	11.6%
Fairview Ventures Fund III, L.P.	2006	25,000,000	26,860,461	56,281,492	10,121,958	2.47	15.0%
First Reserve Fund XI, L.P.	2006	45,000,000	47,820,682	30,880,319	6,551	0.65	-9.8%
GF Capital Private Equity Fund, L.P.	2006	20,000,000	20,729,120	27,032,655	11,839,484	1.88	12.0%



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
Landmark Equity Partners XIII, L.P.	2006	50,000,000	48,059,342	63,519,033	166,031	1.33	5.4%
MidOcean Partners III, L.P.	2006	58,234,777	69,841,321	143,381,742	12,267,751	2.23	13.6%
RRE Ventures IV, L.P.	2006	35,000,000	44,529,980	58,411,349	27,793,485	1.94	7.8%
The Fourth Cinven Fund	2006	69,344,692	72,910,892	105,361,467	46,160	1.45	7.4%
Thomas, McNerney & Partners II, L.P.	2006	25,000,000	25,349,167	55,484,019	796,637	2.22	16.4%
Carlyle Partners V, L.P.	2007	70,000,000	72,385,953	125,232,956	5,790,541	1.81	13.7%
Co-Investment Partners Europe, L.P.	2007	39,910,104	42,601,283	53,409,400	515,122	1.27	4.5%
Constellation Venture Capital III, L.P.	2007	25,000,000	28,826,564	24,421,101	629,209	0.87	-1.9%
FTVentures III, LP	2007	24,201,990	26,802,873	52,454,701	7,508,096	2.24	15.8%
GSO Capital Opportunities Fund LP	2007	45,000,000	67,377,298	95,627,284	786,508	1.43	17.3%
Halyard Capital Fund II, L.P.	2007	25,000,000	21,774,615	26,849,871	6,250,435	1.52	7.0%
Montreux Equity Partners IV, L.P.	2007	20,000,000	20,000,000	11,044,696	16,465,408	1.38	4.0%
Nautic Partners VI, L.P.	2007	30,000,000	33,519,335	75,143,850	7,024,688	2.45	18.7%
New Mountain Partners III, L.P.	2007	100,000,000	102,308,020	250,501,449	2,695,311	2.47	14.6%
PCG Clean Energy & Technology Fund (East), LLC	2007	90,000,000	81,429,594	23,944,273	11,097,316	0.43	-9.9%
Pegasus Partners IV, L.P.	2007	30,000,000	36,610,033	27,833,056	5,084,844	0.90	-1.9%
Pine Brook Capital Partners, L.P.	2007	30,000,000	34,068,301	42,439,115	3,963,564	1.36	7.8%
Quaker BioVentures II, L.P.	2007	20,000,000	19,358,740	19,972,887	2,663,092	1.17	3.2%
RLJ Equity Partners Fund I, L.P.	2007	20,000,000	22,197,034	25,661,463	7,468,915	1.49	8.1%
SCP Vitalife Partners II Fund	2007	20,000,000	20,099,698	1,579	4,578,291	0.23	-13.1%
StarVest Partners II, L.P.	2007	25,000,000	25,159,680	12,838,046	9,786,339	0.90	-1.3%
Trilantic Capital Partners IV L.P.	2007	69,028,637	70,369,187	107,068,779	3,217,049	1.57	13.2%
United States Power Fund III, L.P.	2007	65,000,000	76,903,642	91,685,129	10,442,491	1.33	4.6%
Vista Equity Partners Fund III, L.P.	2007	30,000,000	32,273,142	76,639,447	3,060,769	2.47	26.9%
Aisling Capital III, LP	2008	14,000,000	15,795,192	37,253,299	85,583	2.36	26.0%
Apollo Investment Fund VII, L.P.	2008	100,000,000	122,675,907	211,777,176	2,156,924	1.74	22.6%
Ares Corporate Opportunities Fund III, L.P.	2008	75,000,000	91,895,841	194,522,102	3,386,777	2.15	20.3%
Avista Capital Partners II, L.P.	2008	75,000,000	98,630,998	154,561,847	5,596,371	1.62	14.3%
Blue Wolf Capital Fund II, L.P.	2008	25,000,000	27,497,673	46,459,204	186,500	1.70	10.7%
Bridgepoint Europe IV	2008	26,641,911	27,310,693	37,228,532	4,447,197	1.53	9.6%
Crestview Partners II, L.P.	2008	50,000,000	60,747,537	86,501,552	40,123,339	2.08	15.3%
First Reserve Fund XII, L.P.	2008	45,000,000	49,986,866	25,420,165	1,728,202	0.54	-15.1%
GCM Grosvenor NYCERS Emerging Manager Fund, L.P.	2008	116,737,374	147,518,724	153,678,165	82,452,840	1.60	11.0%
GI Partners Fund III L.P.	2008	45,000,000	48,627,007	76,237,582	19,488	1.57	13.0%



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
Landmark Equity Partners XIV, L.P.	2008	109,120,000	106,508,080	131,565,168	11,982,446	1.35	9.6%
Leeds Equity Partners V, L.P.	2008	60,000,000	55,563,349	135,412,913	9,845,114	2.61	18.7%
Levine Leichtman Capital Partners IV, L.P.	2008	35,000,000	37,477,097	59,355,428	3,472,236	1.68	17.9%
New York/Fairview Emerging Managers Fund, L.PTranche 2	2008	45,000,000	45,593,762	94,931,771	38,453,915	2.93	19.2%
NGN BioMed Opportunity II, L.P.	2008	20,000,000	19,151,821	13,346,209	9,263,784	1.18	2.2%
Onex Partners III LP	2008	75,000,000	82,261,325	122,123,611	12,631,348	1.64	11.4%
Paladin III (NY City), L.P.	2008	30,000,000	42,282,356	80,914,215	28,708,573	2.59	14.9%
Riverstone/Carlyle Global Energy & Power Fund IV, L.P.	2008	45,000,000	51,825,886	55,805,660	344,477	1.08	2.1%
Yucaipa American Alliance Fund II, LP	2008	120,000,000	164,699,094	176,494,894	107,748,011	1.73	8.7%
Yucaipa Corporate Initiatives Fund II, LP	2008	42,092,788	41,334,383	28,259,832	8,676,778	0.89	-1.5%
FS Equity Partners VI, L.P.	2009	32,500,000	32,781,995	92,678,267	18,701,751	3.40	24.4%
Lexington Capital Partners VII, L.P.	2009	50,000,000	44,653,226	65,241,857	9,271,262	1.67	14.2%
Lincolnshire Equity Fund IV, L.P.	2009	27,500,000	29,724,486	34,141,280	9,091,207	1.45	8.5%
Welsh, Carson, Anderson & Stowe XI, L.P.	2009	40,000,000	40,000,000	60,166,949	7,123,183	1.68	11.8%
JP Morgan Fleming (Tranche B)	2010	35,000,000	36,831,358	42,515,237	33,995,185	2.08	12.7%
Snow Phipps II, L.P.	2010	30,000,000	36,285,675	32,618,121	20,118,015	1.45	9.2%
Trident V, L.P.	2010	110,000,000	129,403,224	160,253,151	76,865,381	1.83	11.9%
American Securities Partners VI, L.P.	2011	80,000,000	89,635,184	153,432,816	49,372,811	2.26	22.6%
Ampersand 2011	2011	25,000,000	25,000,000	80,968,121	780,885	3.27	21.9%
AXA Secondary Fund V B L.P.	2011	120,000,000	98,870,221	157,696,849	954,282	1.60	15.4%
BC European Capital IX	2011	131,614,598	149,237,154	164,900,337	129,664,582	1.97	15.0%
BDCM Opportunity Fund III, L.P.	2011	45,000,000	66,546,355	47,812,331	66,434,240	1.72	10.4%
Blackstone Capital Partners VI, L.P.	2011	120,000,000	128,627,486	167,694,370	57,166,162	1.75	12.5%
EQT VI, L.P.	2011	106,290,644	113,346,224	197,880,243	276,405	1.75	13.6%
Pegasus Partners V, L.P.	2011	20,789,916	26,375,424	22,725,995	15,861,853	1.46	8.5%
Platinum Equity Capital Partners III, L.P.	2011	100,000,000	85,672,971	165,004,387	30,754,782	2.28	36.9%
Vista Equity Partners Fund IV, L.P.	2011	100,000,000	105,264,982	133,593,497	81,631,664	2.04	16.1%
Wellspring Capital Partners V, L.P.	2011	40,000,000	42,416,359	58,105,102	13,185,318	1.68	15.5%
Ares Corporate Opportunities Fund IV, L.P.	2012	125,000,000	133,358,612	191,229,683	66,917,306	1.94	15.9%
Green Equity Investors VI, L.P.	2012	120,000,000	133,956,257	138,989,577	160,722,774	2.24	17.6%
NYCERS - 2012 Emerging Manager Program	<u>2012</u>	128,600,000	<u>134,056,981</u>	201,258,935	<u>136,761,080</u>	<u>2.52</u>	<u>23.2%</u>
Palladium Equity Partners IV, L.P.	2012	55,000,000	55,697,016	30,831,464	51,623,734	1.48	9.8%
Trilantic Capital Partners V L.P.	2012	70,000,000	77,682,356	87,318,381	37,492,118	1.61	15.8%
Warburg Pincus Private Equity XI, L.P.	2012	110,000,000	116,066,956	143,289,561	60,257,103	1.75	13.1%



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
Apollo Investment Fund VIII, L.P.	2013	140,000,000	132,702,083	132,960,824	79,114,820	1.60	12.4%
ASF VI B L.P.	2013	83,000,000	67,923,806	87,566,330	13,995,042	1.50	13.1%
Carlyle Partners VI, L.P.	2013	75,000,000	80,970,448	93,173,484	74,990,373	2.08	18.0%
Crestview Partners III, L.P.	2013	66,000,000	55,766,660	29,476,748	56,000,924	1.53	13.9%
Landmark - NYC Fund I, L.P.	2013	25,000,000	22,832,761	26,120,658	13,928,909	1.75	16.9%
Landmark Equity Partners XV, L.P.	2013	75,000,000	60,205,101	57,424,606	31,410,674	1.48	14.0%
ASF VI B NYC Co-Invest L.P.	2014	27,000,000	22,900,108	26,821,131	9,269,986	1.58	14.0%
Bridgepoint Europe V L.P.	2014	61,859,154	58,919,181	63,121,196	54,089,363	1.99	20.9%
Carlyle Partners VI, L.P. (Side Car)	2014	8,250,000	6,012,016	6,983,105	7,326,146	2.38	16.7%
Crestview Partners III (Co-Investment B), L.P.	2014	22,000,000	22,781,960	1,085,940	29,719,146	1.35	7.0%
CVC Capital Partners VI, L.P.	2014	123,412,132	132,890,298	115,664,442	156,504,251	2.05	19.8%
Lexington Capital Partners VIII, L.P.	2014	110,000,000	99,886,176	86,511,788	82,651,160	1.69	19.9%
Olympus Growth Fund VI, L.P.	2014	75,000,000	76,069,635	57,577,140	61,362,741	1.56	14.2%
Vista Equity Partners Fund V, L.P.	2014	125,000,000	155,387,004	168,054,684	182,816,211	2.26	22.0%
ASF VII B L.P.	2015	94,500,000	57,056,462	35,039,748	63,333,702	1.72	21.2%
ASF VII B NYC Co-Invest L.P.	2015	46,000,000	30,276,362	26,333,748	30,396,515	1.87	23.7%
Bridgepoint Europe V Co-Invest	2015	18,346,681	16,788,035	14,275,771	32,624,373	2.79	31.6%
Centerbridge Capital Partners III, L.P.	2015	23,700,000	30,391,549	22,086,165	27,178,215	1.62	20.4%
EQT VII, L.P.	2015	162,452,283	173,843,199	231,219,644	137,704,179	2.12	26.6%
NYCERS - 2015 Emerging Manager Program	<u>2015</u>	158,750,000	139,072,204	50,141,789	221,764,931	<u>1.96</u>	<u>32.2%</u>
Siris Partners III, L.P.	2015	31,000,000	32,488,997	24,926,724	24,418,573	1.52	14.5%
Warburg Pincus Private Equity XII, L.P.	2015	205,500,000	205,440,895	112,831,676	311,654,175	2.07	22.6%
Welsh, Carson, Anderson & Stowe XII, L.P.	2015	78,500,000	73,888,581	90,153,280	97,295,863	2.54	31.6%
American Securities Partners VII, L.P.	2016	80,000,000	77,778,215	29,313,498	103,940,763	1.71	17.0%
Apax IX USD, L.P.	2016	127,000,000	128,023,781	87,720,778	220,828,464	2.41	34.3%
BCEC X Co-Investment	2016	35,731,613	35,904,797	1,579,565	71,259,360	2.03	24.6%
Platinum Equity Capital Partners IV, L.P.	2016	111,000,000	107,536,119	97,257,159	124,525,654	2.06	29.9%
Vista Equity Partners Fund VI, L.P.	2016	158,000,000	184,807,827	134,901,171	265,222,057	2.17	24.2%
Ares Corporate Opportunities Fund V, L.P.	2017	95,000,000	101,866,359	40,934,649	95,066,316	1.34	12.3%
BC European Capital X	2017	88,953,279	87,589,538	3,413,185	131,658,710	1.54	17.6%
CVC Capital Partners VII, L.P.	2017	155,149,173	139,249,658	9,265,580	222,871,102	1.67	35.6%
Green Equity Investors VII, L.P.	2017	95,000,000	84,487,433	54,966,479	142,570,146	2.34	31.2%
KKR Americas Fund XII, L.P.	2017	158,000,000	147,100,397	49,144,330	278,171,667	2.23	42.9%
Palladium Equity Partners V, L.P.	2017	33,333,333	20,235,953	2,134,948	23,231,936	1.25	13.2%



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
Warburg Pincus Financial Sector, L.P.	2017	104,000,000	93,317,322	10,319,920	155,493,601	1.78	29.1%
Apollo Investment Fund IX, L.P.	2018	256,000,000	153,139,263	46,000,111	161,802,300	1.36	28.8%
ASF VIII B L.P.	2018	174,000,000	75,880,170	11,523,002	116,926,309	1.69	62.3%
Bridgepoint Europe VI	2018	121,662,712	74,278,999	9,467,944	90,518,213	1.35	24.9%
EQT VIII Co-Investment	2018	40,187,961	22,218,497	29,272,986	37,552,249	3.01	56.1%
EQT VIII, L.P.	2018	111,081,009	98,944,890	45,255,279	163,235,996	2.11	49.4%
Platinum Equity Capital Partners IV Co-Investment, L.P.	2018	16,000,000	11,221,788	2,232,710	20,789,521	2.05	26.1%
Platinum Equity Small Cap Fund, L.P.	2018	41,000,000	25,190,694	6,703,129	26,679,486	1.33	19.3%
Siris Partners IV, L.P.	2018	89,000,000	56,623,854	10,248,837	79,968,301	1.59	26.3%
Vista Equity Partners Fund VII, L.P.	2018	177,500,000	130,613,938	1,165,995	190,635,887	1.47	27.8%
Apax X USD L.P.	2019	104,500,000	50,351,011	-	60,526,098	1.20	NM
ASF VIII B NYC Co-Invest L.P.	2019	87,000,000	18,772,996	-	43,500,833	2.32	123.6%
Blackstone Capital Partners VIII L.P.	2019	109,000,000	35,659,456	1,192,592	44,188,675	1.27	NM
Bridgepoint Europe VI Co-Invest	2019	30,561,550	18,123,297	-	26,348,400	1.45	24.4%
Crestview Partners IV (Co-Investment), L.P.	2019	23,666,667	6,242,039	24,422	11,505,363	1.85	NM
Crestview Partners IV, L.P.	2019	71,000,000	19,044,819	70,490	30,580,291	1.61	NM
KKR European Fund V (USD)	2019	83,250,000	51,361,520	4,525,584	55,880,940	1.18	NM
Lexington Capital Partners IX	2019	106,500,000	66,574,592	12,765,621	94,992,924	1.62	86.3%
Lexington IX Co-Invest	2019	35,500,000	17,396,775	713,455	27,500,997	1.62	NM
Lindsay Goldberg V	2019	87,000,000	25,847,039	1,305,468	34,301,120	1.38	NM
NYCERS - 2019 Emerging Manager Program	<u>2019</u>	258,600,000	55,026,049	1,796,254	77,535,375	<u>1.44</u>	NM
Platinum Equity Capital Partners V, L.P.	2019	157,000,000	155,385,264	12,153,702	198,947,296	1.36	56.9%
Trilantic Capital Partners VI (North America) L.P.	2019	51,000,000	34,416,888	386,977	44,212,063	1.30	27.8%
Warburg Pincus Global Growth, L.P.	2019	125,500,000	106,568,108	909,875	139,772,508	1.32	27.4%
Welsh, Carson, Anderson & Stowe XIII, L.P.	2019	89,000,000	52,939,111	8,372,532	61,955,330	1.33	43.2%
BC Partners Fund XI	2020	110,000,000	34,057,403	-	34,387,361	1.01	NM
Clearlake Capital Partners VI, L.P.	2020	47,000,000	38,174,394	1,607,779	60,899,113	1.64	NM
EQT IX (No. 2) USD SCSP	2020	92,125,000	67,785,489	2,953,705	78,896,508	1.21	NM
EQT IX Co-Investment	2020	25,125,000	24,945,834	-	28,291,416	1.13	NM
FTV VI	2020	21,500,000	18,705,000	-	28,349,126	1.52	NM
Green Equity Investors VIII Coinvest N, L.P.	2020	36,300,000	25,940,109	-	28,459,253	1.10	NM
Green Equity Investors VIII, L.P.	2020	109,000,000	84,336,575	119,354	89,881,693	1.07	NM
Hg Genesis 9, L.P.	2020	51,973,406	26,197,179	-	33,616,874	1.28	NM
KKR Asian Fund IV SCSp	2020	103,000,000	19,574,829	-	15,212,806	0.78	NM



	Vintage Year					Investment	
	(Cash Flow)	Commitments	Contributions	Distributions	Market Value	Multiple	ITD IRR%
NYC-NorthBound Emerging Managers Program LP	2020	262,000,000	31,440,000	-	44,702,782	1.42	NM
Valor Equity Partners V, L.P.	2020	26,000,000	17,596,766	-	24,263,453	1.38	NM
Apax Digital Fund II	2021	45,000,000	-	-	(580,292)	-	N/A
Ares Corporate Opportunities Fund VI Co-Invest	2021	60,000,000	-	-	-	-	N/A
Ares Corporate Opportunities Fund VI, L.P.	2021	100,000,000	38,168,252	11,173,976	32,464,545	1.14	NM
BC Partners XI Metro Co-Investment L.P.	2021	50,000,000	14,288,960	-	15,058,476	1.05	NM
Centerbridge Capital Partners IV – N Co-Invest, L.P.	2021	32,000,000	8,409,897	-	8,414,281	1.00	NM
Centerbridge Capital Partners IV, L.P.	2021	64,000,000	10,585,992	-	12,745,350	1.20	NM
Clearlake Capital Partners VII, L.P.	2021	144,000,000	-	-	(929,754)	-	N/A
CVC Capital Partners VIII, L.P.	2021	174,885,840	33,913,528	-	34,713,448	1.02	NM
Grain Communications Opportunity Fund III, L.P.	2021	21,000,000	7,614,784	2,707	6,627,138	0.87	NM
Harbourvest Centre Street Co-Investment Fund L.P.	2021	172,000,000	40,850,000	-	42,193,557	1.03	NM
Insight Partners XII	2021	96,000,000	33,652,775	-	33,947,047	1.01	NM
Insight Partners XII Buyout Annex Fund, L.P.	2021	32,000,000	12,000,000	-	12,008,579	1.00	NM
KKR North America Fund XIII, L.P.	2021	160,000,000	-	-	(336,443)	-	N/A
One Rock Capital Partners III, L.P.	2021	43,000,000	13,152,693	4,401,917	13,466,696	1.36	NM
Platinum Equity Capital Partners V Co-Investment, L.P.	2021	39,250,000	38,725,935	1,542,301	53,306,435	1.42	NM
Reverence Capital Partners Opportunities Fund V	2021	42,000,000	-	-	(97,571)	-	N/A
Reverence Capital Partners Opportunities Fund V Parallel	2021	15,000,000	-	-	-	-	N/A
Stellex Capital Partners II	2021	51,500,000	12,946,322	1,704	11,835,849	0.91	NM
The Resolute Fund V, L.P.	2021	72,000,000	21,741,157	25,559	42,670,327	1.96	NM
Vistria Fund IV, L.P.	2021	48,000,000	8,723,078	-	8,357,617	0.96	NM
Warburg Pincus Financial Sector II, L.P.	2021	84,500,000	13,444,760	-	20,936,651	1.56	NM
Permira VIII L.P.	2022	146,155,264	-	-	-	-	N/A
TPG Rise Climate Co-Invest, L.P.	2022	91,666,667	-	-	-	-	N/A
TPG Rise Climate, L.P.	2022	45,833,333	-	-	(439,259)	-	N/A



			Original	Total	Total		Total Value	
	Vintage Year	Style Sector	Commitment	Contributions	Distrubutions	Market Value	Multiple	Net IRR%
TOTAL PRIVATE REAL ESTATE			7,750,489,895	6,255,241,345	4,198,795,649	5,320,329,792	1.52	8.8%
TOTAL PRIVATE REAL ESTATE JP Morgan Strategic Property Fund	2006	Cara Dartfalia	136,000,000	196,148,712	321,049,768	56,317,758	1.92	6.6%
		Core Portfolio	, ,	, ,	, ,	, ,		
PRISA	2006	Core Portfolio	86,000,000	92,673,389	46,458,331	142,630,119	2.04	5.5%
Prologis Targeted US Logistics Fund	2006	Core Portfolio	40,000,000	39,531,218	16,746,555	84,281,012	2.56	8.6%
RREEF America REIT II	2006	Core Portfolio	162,000,000	189,537,802	70,379,635	238,297,655	1.63	6.4%
UBS Trumbull Property Fund	2006	Core Portfolio	156,000,000	252,005,241	287,513,580	107,781,062	1.57	5.8%
Heitman America Real Estate Trust, L.P.	2007	Core Portfolio	115,000,000	206,471,401	139,839,675	259,541,627	1.93	7.7%
JP Morgan Special Situation Property Fund	2007	Core Portfolio	90,000,000	124,311,742	65,853,518	158,630,234	1.81	5.6%
PRISA II	2007	Core Portfolio	141,518,761	150,922,667	66,865,130	251,467,763	2.11	6.4%
LaSalle Property Fund	2010	Core Portfolio	132,000,000	131,620,297	31,926,638	174,299,672	1.57	9.7%
NYC Asset Investor #2	2013	Core Portfolio	75,000,000	76,276,228	32,373,418	56,909,685	1.17	3.1%
MetLife Core Property Fund	2014	Core Portfolio	50,000,000	50,000,000	17,061,414	76,228,556	1.87	10.3%
Almanac Realty Securities VII	2015	Core Portfolio	65,000,000	61,713,609	47,553,230	37,781,238	1.38	12.8%
Almanac Realty Securities VII (Sidecar IV)	2015	Core Portfolio	20,000,000	15,371,945	11,226,832	10,791,398	1.43	14.4%
USAA Eagle Real Estate Fund	2015	Core Portfolio	90,000,000	99,317,673	16,558,590	116,349,085	1.34	7.2%
Artemis Co-Investment	2016	Core Portfolio	53,000,000	61,648,725	55,854,296	38,425,606	1.53	17.1%
Brookfield Premier Real Estate Partners	2016	Core Portfolio	169,000,000	192,925,253	23,925,253	250,715,029	1.42	12.8%
Exeter Core Industrial Club Fund II	2016	Core Portfolio	28,000,000	27,270,526	7,550,162	62,784,061	2.58	29.7%
Jamestown Premier Property Fund	2016	Core Portfolio	48,721,196	57,152,915	21,683,196	40,201,071	1.08	2.4%
Carlyle Property Investors	2017	Core Portfolio	91,000,000	109,778,375	18,778,375	154,258,172	1.58	13.3%
Lion Industrial Trust	2017	Core Portfolio	90,000,000	110,529,723	20,529,723	210,978,402	2.09	21.5%
Almanac Realty Securities VIII	2018	Core Portfolio	51,000,000	18,214,137	1,790,203	20,108,381	1.20	14.7%
Almanac Realty Securities VIII (Sidecar II)	2018	Core Portfolio	34,000,000	12,432,837	1,202,039	15,674,773	1.36	25.0%
Heitman Core Real Estate Debt Income Trust	2018	Core Portfolio	127,000,000	123,631,758	10,312,042	123,439,546	1.08	5.9%
Artemis Income and Growth Fund	2019	Core Portfolio	61,000,000	30,211,100	6,912,133	26,227,971	1.10	7.7%
Harrison Street Core Property Fund	2019	Core Portfolio	90,000,000	99,908,686	8,100,127	106,476,744	1.15	6.9%
Harrison Street Core Property Fund Co-Investment	2019	Core Portfolio	45,000,000	28,740,602	2,154,255	38,447,626	1.41	15.5%
Cortland Growth and Income, L.P.	2020	Core Portfolio	107,000,000	113,653,101	6,653,101	146,533,882	1.35	NM
Exeter Core Industrial Fund III	2020	Core Portfolio	72,100,000	64,890,000	1,598,443	86,892,599	1.35	NM
LaSalle GPS Co-Investment Program - Core	2020	Core Portfolio	80,800,000	25,513,810	1,598,445	28,626,887	1.30	NM
RREEF Core Plus Industrial Fund	2021	Core Portfolio	112,500,000	39,667,833	292,833	46,228,508	1.12	NM
	2021	Core Portfolio		39,007,033	- 292,633		N/A	NM
TPG Real Estate Thematic Advantage Core-Plus JV IV, L.P.			135,000,000	-		(345,898)		
Blackstone Real Estate Partners IV L.P.	2004	Non-Core Portfolio	30,000,000	38,393,533	54,112,660	1,014,755	1.44	10.3%
Apollo Real Estate Investment Fund V	2006	Non-Core Portfolio	25,000,000	25,000,000	29,086,035	27,119	1.16	1.9%
American Value Partners Fund I	2007	Non-Core Portfolio	55,000,000	39,320,163	41,373,738	1,361,932	1.09	1.8%
Blackstone Real Estate Partners VI L.P.	2007	Non-Core Portfolio	110,000,000	123,465,884	244,047,082	3,122,712	2.00	13.3%
Carlyle Realty Partners V, L.P.	2007	Non-Core Portfolio	17,000,000	25,886,945	37,815,090	484,526	1.48	8.7%
Metropolitan Workforce Housing Fund	2007	Non-Core Portfolio	14,000,000	14,013,027	16,744,531	254,498	1.21	3.8%
Westbrook Real Estate Fund VII, L.P.	2007	Non-Core Portfolio	40,000,000	44,072,091	44,661,820	6,235,319	1.15	2.4%
Ares European Real Estate Fund III	2008	Non-Core Portfolio	30,000,000	30,487,501	33,492,499	294,657	1.11	2.6%

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.



			Original	Total	Total		Total Value	
	Vintage Year	Style Sector	Commitment	Contributions	Distrubutions	Market Value	Multiple	Net IRR%
Blackstone Real Estate Partners Europe III - USD	2008	Non-Core Portfolio	50,000,000	52,909,520	71,891,797	4,904,699	1.45	10.2%
Capri Urban Investors	2008	Non-Core Portfolio	60,000,000	60,000,000	37,238,770	1,330,420	0.64	-5.7%
PRISA III	2008	Non-Core Portfolio	50,000,000	131,390,735	70,992,237	236,299,682	2.34	12.6%
Silverpeak Legacy Partners III	2008	Non-Core Portfolio	50,000,000	23,641,372	4,775,145	2,195,301	0.29	-12.3%
Stockbridge Real Estate III	2008	Non-Core Portfolio	27,000,000	26,998,145	16,829,753	21,307,672	1.41	4.1%
Thor Urban Property Fund II	2008	Non-Core Portfolio	40,000,000	54,796,108	56,147,962	1,477,316	1.05	1.7%
Walton Street Real Estate Fund VI	2009	Non-Core Portfolio	50,000,000	44,323,933	50,723,633	18,657,152	1.57	8.2%
Westbrook Real Estate Fund VIII, L.P.	2009	Non-Core Portfolio	50,000,000	59,800,058	68,952,803	7,046,722	1.27	9.7%
Carlyle Realty Partners VI, L.P.	2011	Non-Core Portfolio	70,000,000	75,993,040	108,600,411	5,720,808	1.50	20.0%
H2 Special Opportunities Fund II	2011	Non-Core Portfolio	40,000,000	40,045,335	58,385,494	630,120	1.47	13.2%
Blackstone Real Estate Partners VII L.P.	2012	Non-Core Portfolio	170,000,000	217,791,714	285,114,636	83,801,368	1.69	15.8%
Brookfield Strategic Real Estate Partners	2012	Non-Core Portfolio	100,000,000	122,011,236	194,517,882	45,890,662	1.97	19.1%
Taconic New York City Investment Fund	2012	Non-Core Portfolio	70,000,000	29,272,728	47,996,467	4,785,367	1.80	15.6%
Blackstone Real Estate Partners Europe IV L.P USD	2013	Non-Core Portfolio	169,000,000	168,961,825	208,845,109	40,059,715	1.47	12.5%
Lone Star Real Estate Fund III, L.P.	2013	Non-Core Portfolio	100,000,000	95,639,471	128,733,407	432,030	1.35	14.1%
NYC Asset Investor #1	2013	Non-Core Portfolio	50,000,000	59,721,756	29,597,233	32,937,813	1.05	1.0%
NYC Asset Investor #3	2013	Non-Core Portfolio	50,000,000	35,418,874	6,489,635	40,595,417	1.33	6.1%
Carlyle Realty Partners VII, L.P.	2014	Non-Core Portfolio	80,000,000	73,897,494	84,525,471	23,546,918	1.46	13.4%
DivcoWest Fund IV	2014	Non-Core Portfolio	23,000,000	22,770,380	35,231,230	3,781,962	1.71	25.3%
H2 Special Opportunities III	2014	Non-Core Portfolio	65,000,000	67,503,668	63,491,727	20,320,143	1.24	7.5%
Blackstone Real Estate Partners VIII L.P.	2015	Non-Core Portfolio	151,000,000	169,171,213	144,251,060	139,574,258	1.68	18.1%
Tristan European Property Investors Special Opp IV	2015	Non-Core Portfolio	49,652,367	44,997,602	16,019,847	47,358,714	1.41	10.6%
DivcoWest Fund V	2016	Non-Core Portfolio	60,000,000	45,973,082	11,986,630	48,689,888	1.32	9.4%
H2 Special Opportunities IV	2016	Non-Core Portfolio	91,000,000	91,699,867	5,038,581	115,202,230	1.31	12.4%
PW Real Estate Fund III	2016	Non-Core Portfolio	50,138,484	38,506,722	19,389,697	88,848,622	2.81	36.0%
Westbrook Real Estate Fund X	2016	Non-Core Portfolio	36,000,000	34,777,245	29,172,613	13,829,441	1.24	11.0%
Basis Investment Group Real Estate Fund I	2017	Non-Core Portfolio	17,000,000	17,633,247	7,747,557	13,943,595	1.23	12.1%
DRA Growth and Income Fund IX	2017	Non-Core Portfolio	49,000,000	53,057,776	41,106,812	40,514,770	1.54	19.3%
Exeter Industrial Value Fund IV, L.P.	2017	Non-Core Portfolio	30,000,000	28,201,677	57,725,041	4,500,380	2.21	31.6%
NYCRS-KKR CMBS Retention Partners	2017	Non-Core Portfolio	122,000,000	110,348,681	32,459,816	105,568,594	1.25	7.4%
Pramerica Real Estate Capital VI	2017	Non-Core Portfolio	60,660,234	61,723,250	46,383,775	27,918,110	1.20	11.3%
KKR Real Estate Partners Americas II	2018	Non-Core Portfolio	118,700,000	118,829,240	119,951,212	59,488,957	1.51	26.6%
Aermont Capital Real Estate Fund IV	2019	Non-Core Portfolio	75,648,852	39,619,702	-	39,047,366	0.99	-1.3%
Blackstone Real Estate Partners Europe VI L.P.	2019	Non-Core Portfolio	99,000,000	43,270,100	3,219,700	56,407,626	1.38	32.6%
Blackstone Real Estate Partners IX L.P.	2019	Non-Core Portfolio	166,000,000	111,298,006	24,479,415	145,111,880	1.52	44.2%
Brookfield Strategic Real Estate Partners III, L.P.	2019	Non-Core Portfolio	170,000,000	129,739,253	21,189,896	138,791,802	1.23	14.9%
Grosvenor Real Estate Emerging Manager SMA	2019	Non-Core Portfolio	236,000,000	72,978,711	7,505,031	66,654,364	1.02	NM
Westbrook Real Estate Fund XI	2019	Non-Core Portfolio	83,000,000	19,250,282	5,690,545	15,405,384	1.10	NM
DivcoWest Fund VI	2020	Non-Core Portfolio	82,000,000	19,855,084	1,338,852	17,435,179	0.95	NM
DRA Growth and Income Fund X	2020	Non-Core Portfolio	59,000,000	26,881,626	9,614,059	25,078,023	1.29	NM
ElmTree U.S. Net Lease Fund IV, L.P.	2020	Non-Core Portfolio	68,000,000	20,402,733	914,363	23,641,137	1.20	NM
Exeter Industrial Value Fund V, L.P.	2020	Non-Core Portfolio	49,000,000	34,300,000	-	54,048,724	1.58	NM

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.



			Original	Total	Total		Total Value	
	Vintage Year	Style Sector	Commitment	Contributions	Distrubutions	Market Value	Multiple	Net IRR%
GreenOak Asia III	2020	Non-Core Portfolio	87,000,000	63,576,972	40,942,564	28,653,315	1.09	NM
KKR RE Europe II	2020	Non-Core Portfolio	83,250,000	24,405,921	-	37,924,062	1.55	NM
KKR Real Estate Securities Dislocation Opportunity Co-Investment Stra		Non-Core Portfolio	98,000,000	58,708,223	56,305,131	22,430,167	1.34	NM
Pramerica Real Estate Capital VII	2020	Non-Core Portfolio	88,000,000	7,869,668	174,197	8,438,768	1.09	NM
Almanac Realty Securities IX Sidecar	2021	Non-Core Portfolio	45,000,000	-	-	-	N/A	NM
Almanac Realty Securities IX, L.P.	2021	Non-Core Portfolio	90,000,000	-	-	(221,911)	N/A	NM
Basis Investment Group Real Estate Fund II	2021	Non-Core Portfolio	48,000,000	10,032,560	2,859,340	7,105,980	0.99	NM
Brookfield Strategic Real Estate Partners IV	2021	Non-Core Portfolio	174,000,000	-	-	(1,275,023)	N/A	NM
Cerberus Institutional Real Estate Partners V SMA	2021	Non-Core Portfolio	89,000,000	23,267,974	-	26,919,827	1.16	NM
KKR Real Estate Partners Americas III SCSp	2021	Non-Core Portfolio	135,000,000	34,460,955	-	32,125,140	0.93	NM
LaSalle GPS Co-investment Program - Non-Core	2021	Non-Core Portfolio	121,200,000	19,270,660	-	19,125,545	0.99	NM
LBA Logistics Value Fund IX	2021	Non-Core Portfolio	81,000,000	-	-	(286,949)	N/A	NM
Mesirow Financial Real Estate Value Fund IV	2021	Non-Core Portfolio	34,500,000	6,679,074	-	7,926,423	1.19	NM
NYC Hudson Multifamily Green Fund	2021	Non-Core Portfolio	113,100,000	22,424,140	-	22,274,437	0.99	NM
Rialto Real Estate Fund IV - Debt, LP	2021	Non-Core Portfolio	102,000,000	46,432,260	4,173,165	46,633,937	1.09	NM

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.



		Original	Total	Total		Total Value	
	Vintage Year	Commitment	Contributions	Distrubutions	Market Value	Multiple	Net IRR%
TOTAL INFRASTRUCTURE		2,538,409,877	1,211,124,856	423,237,779	1,243,599,859	1.38	13.3%
TOTAL INFRASTRUCTURE INVESTMENTS							
Brookfield Infrastructure Fund II, L.P.	2013	75,000,000	66,451,471	54,171,148	71,961,824	1.90	13.3%
Global Energy & Power Infrastructure Fund II	2013	45,000,000	48,176,820	45,073,056	19,343,856	1.90	15.5%
IFM Global Infrastructure Fund	2014					1.34	17.0%
KKR Global Infrastructure Investors II L.P.	2014	75,000,000	100,136,579 82,536,472	45,072,250	134,722,044	1.80	17.9%
		77,000,000	, ,	106,922,566	37,402,070		
Actis Energy 4	2016	64,300,000	53,398,039	20,905,920	51,373,000	1.35	12.3%
ASF VII Infrastructure L.P.	2016	66,000,000	41,774,418	5,274,219	55,775,164	1.46	19.9%
Brookfield Infrastructure Fund III, L.P.	2016	91,000,000	58,621,479	18,740,105	60,194,930	1.35	10.1%
Global Infrastructure Partners III-A/B, L.P.	2016	106,000,000	97,342,256	25,751,575	110,166,289	1.40	10.5%
Axium Infrastructure North America	2017	67,104,915	69,386,552	14,881,059	75,595,887	1.30	9.9%
EQT Infrastructure III (No.2) SCSp	2017	56,194,835	60,763,243	23,863,434	93,079,702	1.92	24.6%
NYCRS EIG Energy Partners, L.P.	2017	65,880,000	28,369,869	12,217,076	20,569,360	1.16	7.9%
Cardinal NR Sidecar Holdings L.P.	2018	10,500,000	10,570,901	3,083,348	15,018,922	1.71	19.9%
EQT Infrastructure IV (No.2) USD SCSp	2018	101,500,000	87,699,301	13,173,714	93,749,889	1.22	14.9%
Global Infrastructure Partners IV-A/B, L.P.	2018	117,400,000	25,252,200	1	23,866,513	0.95	-6.5%
KKR Global Infrastructure Investors III L.P.	2018	87,500,000	56,089,595	11,818,325	41,039,957	0.94	-3.8%
Ardian Infrastructure Fund V B	2019	75,841,477	18,764,913	1,191,791	20,836,406	1.17	14.8%
Brookfield Infrastructure Fund IV Co-Investment (Snow)	2019	10,000,000	10,042,407	1,061,124	12,601,883	1.36	16.5%
Brookfield Infrastructure Fund IV, L.P.	2019	101,000,000	67,505,361	10,330,116	69,776,224	1.19	12.7%
Global Energy & Power Infrastructure Fund III, L.P.	2019	87,500,000	44,501,180	8,042,597	42,861,198	1.14	11.9%
Actis Energy 5	2020	113,000,000	1,921,949	-	(1,033,924)	NM	NM
BIS NYC Infrastructure Emerging Manager Opportunities Fund, L.P.	2020	71,660,000	3,902,277	-	4,013,544	NM	NM
EQT Infrastructure IV Co-Investment (B) SCSp (Saber)	2020	8,400,000	8,484,000	509,835	9,933,679	1.18	12.4%
EQT Infrastructure IV Co-Investment (F) SCSp (Connect)	2020	15,700,000	13,653,777	-	16,545,227	1.21	22.9%
EQT Infrastructure IV Co-Investment (G) SCSp (Lightspeed)	2020	12,712,770	12,754,645	-	16,215,737	1.27	17.6%
EQT Infrastructure V (No.2) USD SCSp	2020	135,000,000	40,565,023	1,141,856	37,714,628	NM	NM
ASF VIII Infrastructure B L.P.	2021	147,000,000	8,309,812	7,562	9,161,462	NM	NM
Axium Infrastructure North America	2021	97,750,880	205,493	-	-	NM	NM
Basalt Infrastructure Partners III	2021	114,000,000	41,350,271	-	41,429,047	NM	NM
KKR Global Infrastructure Investors IV (USD) SCSp	2021	205,000,000	-	-	271,065	NM	NM
NYCRS EIG Energy Partners Co-Investment, L.P.	2021	16,470,000	-	-	_	-	0.0%
Stonepeak Infrastructure Fund IV, L.P.	2021	171,000,000	32,717,071	5,101	35,396,833	NM	NM

Through December 31, 2021



		Original	Total	Total	Total Value		
	Vintage Year	Commitment	Contributions	Distrubutions	Market Value	Multiple	Net IRR%
Stonepeak Patagonia (Co-Invest) Holdings LP (Project Panther)	2021	27,495,000	-	-	-	NM	NM
Stonepeak Tiger (Co-Invest) Holdings (I-B) LP	2021	23,500,000	19,877,480	-	24,017,444	NM	NM



		Commitment -	Contributions			3 Month	Inception
	Vintage Year	Closing (Base)	Cumulative (Local)	Distributions Cumulative	Final Market Value	Base%	IRR%
TOTAL OPPORTUNISTIC FIXED INCOME		3,549,161,715	2,783,125,712	1,688,015,060	3,196,146,017	-0.18%	7.99%
Avenue Special Situations Fund V, L.P.	2007	75,784,973	75,784,973	-	-	-	10.89%
Avenue Europe Special Sit. Fund, L.P.	2008	27,497,430	27,497,430	-	-	-	14.01%
PIMCO DiSCO Fund, L.P.	2008	150,000,000	150,000,000	-	-	-	11.23%
Alliance Bernstein PPIP Fund, L.P	2009	41,697,493	41,697,493	-	-	-	15.51%
AG GECC PPIP Fund, L.P.	2010	27,000,000	27,000,000	-	-	-	20.19%
Avenue Special Situations Fund VI (A), L.P.	2011	70,000,000	70,000,000	72,515,200.00	7,405,955.00	0.00%	2.30%
GoldenTree Managed Account	2011	140,000,000	140,000,000	-	258,079,510.82	-2.49%	6.77%
Marathon Centre Street Partnership, L.P Asset Class	2011	218,750,000	181,562,500	224,000,000.00	381,929,711.52	-0.91%	7.86%
AG Centre Street Partnership, L.P CC Asset Class	2012	180,000,000	166,421,016	47,626,130.00	237,502,775.00	0.21%	5.61%
Apollo Centre Street Partnership, L.P.	2012	340,416,667	172,884,195	415,383,478.00	307,210,480.22	-0.09%	6.71%
FCO MA Centre Street L.P.	2012	140,000,000	122,948,028	247,972,937.43	126,399,718.78	0.00%	8.77%
OHA Centre Street Partnership, L.P.	2012	262,500,000	262,500,000	73,107,048.71	426,605,106.04	1.07%	8.58%
Contrarian Centre Street Partnership, L.P Asset Class	2013	90,000,000	90,000,000	-	114,367,795.22	-0.38%	3.45%
Lone Star Fund VIII (U.S.), L.P.	2013	100,000,000	90,017,364	99,580,559.66	19,796,112.35	0.00%	9.15%
Oaktree Opportunities Fund IX, L.P.	2013	100,000,000	100,000,000	67,426,125.33	74,686,122.99	0.00%	5.74%
Ares Centre Street Partnership, L.P.	2014	140,000,000	140,000,000	-	242,257,122.63	0.00%	9.16%
Brightwood Capital Fund III, L.P.	2015	35,000,000	28,000,000	28,483,534.60	10,086,557.99	0.00%	6.77%
Torchlight Debt Opportunity Fund V, LP	2015	67,000,000	53,600,000	63,032,158.00	7,689,826.00	0.94%	10.85%
Brightwood Capital Fund IV, LP	2016	87,500,000	87,500,000	32,474,288.00	75,247,085.00	0.00%	7.50%
ICG Centre Street Partnership, L.P.	2017	120,000,000	101,759,814	90,140,765.18	109,068,159.47	0.00%	7.83%
KKR OFI SMA	2017	272,000,000	155,450,782	61,228,705.00	211,434,435.64	0.00%	10.66%
Maranon Centre Street Partnership, L.P.	2018	103,000,000	97,848,888	2,585,703.72	119,126,966.35	1.59%	8.64%
FCO MA Centre Street II (ER) LP	2019	140,000,000	68,317,338	105,608,288.57	100,432,688.52	0.00%	22.30%
Torchlight Debt Fund VI, LP -	2019	84,000,000	75,600,000	31,626,245.00	86,660,741.01	0.83%	8.21%
FCO MA Centre Street II EXP (ER) LP	2020	70,000,000	18,555,621	820,038.10	20,808,511.00	0.00%	15.39%
GCM Grosvenor NYC Emerging OFI Managers, L.P Class A	2020	116,000,000	56,961,983	14,609,536.62	56,410,404.09	0.00%	17.57%
KKR-NYC Credit C L.P.	2020	51,515,152	30,136,366	-	31,601,404.47	0.00%	7.81%
Marathon Centre Street Partnership, L.P Asset Class - Subsequent Comn	2020	87,500,000	67,812,500	-	86,405,644.20	-2.84%	30.69%
Torchlight Debt Fund VII, LP	2020	88,000,000	26,400,000	4,453,803.00	26,912,399.00	-0.79%	2.10%
400 Capital Centre Street LP	2021	70,000,000	40,669,421	5,340,515.10	41,721,780.92	0.00%	5.03%
Brightwood Capital Fund V, LP	2022	54,000,000	16,200,000	-	16,299,003.00	0.00%	0.00%

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



		MTD	3 Month	FYTD	YTD	1 Year	3 Year	ITD	ITD Cumulative
	Market Value	Return%							
TOTAL HEDGE FUNDS	1,128,720	-0.62%	-1.05%	2.27%	-1.05%	11.78%	-2.52%	2.55%	31.05%
TOTAL DIRECT HEDGE FUNDS	1,128,720	-0.62%	-1.05%	2.27%	-1.05%	11.78%	-2.52%	3.23%	38.53%
FUND OF FUNDS HEDGE FUNDS		0.00%		0.00%	0.00%			1.83%	12.03%
TOTAL DIRECT HEDGE FUNDS									
Luxor Capital Partners Liquidating SPV, LLC.	1,128,720	-0.62%	-1.05%	2.96%	-1.05%	8.83%	-19.97%	-6.09%	-30.31%
Perry Partners L.P.	-	0.00%		1.50%	0.00%	37.31%	16.91%	3.88%	38.26%
Event Driven	1,128,720	-0.62%	-1.05%	2.27%	-1.05%	11.78%	-2.52%	0.67%	6.83%
FUND OF FUNDS HEDGE FUNDS									
Fund of Funds Hedge Funds	-	0.00%		0.00%	0.00%			1.83%	12.03%

Information provided by Alpha Frontier



New York City Employees' Retirement System

# **Appendix D**

# Footnotes



#### **General Notes**

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

#### Page Specific

#### Pages 8 - 13 - Portfolio Asset Allocation

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

#### Pages 14 - 16 - 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



month. The indexes and most recent policy weights are as follows: U.S. Equity: Russell 3000 \* 28.35% International Developed (EAFE) Markets: MSCI World ex USA IMI \* 11.71% International Active-Global: MSCI World Net Dividends Index \* 0.39% Emerging Markets: MSCI Custom ERS Emerging Markets (Net) \* 5.02% International Emerging Managers FOF: NYC Blended Custom Benchmark for FoF \* 0.69% 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 \* 3.50% Private Real Estate – Non Core: NFI - ODCE Net + 200bps \* 2.46% Infrastructure: CPI + 4% \* 1.52% Hedge Funds: HFRI Fund of Funds Composite Index plus 1% \* 0.00% US Treasury Short Term: FTSE US Government Bond 1-3 Years Index \* 3.03% US Treasury Intermediate: USBIGTSY AGN 1-10 \* 3.54% Active Government: NYC Treasury Agency + 5 \* 2.53% US Treasury Long Duration: FTSE US Government Bond 10+ Years Index \* 1.01% Core FI-Developing Managers: Bloomberg U.S. Aggregate \* 0.00% Core FI-Emerging Managers: Bloomberg U.S. Aggregate \* 0.00%

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



Mortgage: Bloomberg US Mortgage Backed Securities \* 6.34% ETI: ETI Custom Benchmark \* 1.09% Investment Grade Corporate: NYC Custom IGC Benchmark \* 7.29% High Yield: Bloomberg U.S. HY - 2% Issuer Cap \* 4.09% Bank Loans: Credit Suisse Leveraged Loan \* 0.00% TIPS: Bloomberg Global Infl-Linked: U.S. TIPS \* 3.62% 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 \* 3.81%

#### Page 17 – 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 March 31, 2022



- [1] NYC Developed Value Benchmark: Beginning 8.2017 benchmark changed from MSCI EAFE Value Net to MSCI World ex USA Net Index.
- [2] NYC Developed Growth Benchmark: Beginning 8.2017 benchmark changed from MSCI EAFE Growth to MSCI World ex USA Net Index.
- [3] NYC Custom 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] NYCERS Custom EM Index: Beginning 7.2018 benchmark changed from FTSE Custom NYCERS All Emerging Index to MSCI Custom NYCERS Emerging Markets.
- [7] NYCERS Custom Passive EM Index: Beginning 4.2021 benchmark changed from MSCI Custom NYCERS Emerging Markets Net to MSCI Emerging Markets.
- [8] NYC Blended Custom Benchmark for FoF: Beginning 5.2021 benchmark composition changed from 85% MSCI World ex USA IMI NR / 15% MSCI Custom NYCERS Emerging Markets Net to MSCI ACWI ex USA IMI Net.
- [9] NYC Blended Xponance Benchmark for ERS: Beginning 4.2021 benchmark changed from NYC Blended Custom Benchmark for FoF to MSCI ACWI ex USA IMI Net.
- [10] NYC Custom Mortgage Benchmark: Beginning 9.2020 benchmark changed from FTSE Mortgage Index to Bloomberg US Mortgage Backed Securities.
- [11] NYC Custom IGC Benchmark: Beginning 3.2021 benchmark changed from NYC Investment Grade Credit to Bloomberg U.S. Corporate Inv Grade.
- [12] Assets were in transition from 9/29/17 to 2/11/19

ETI Quarterly Report (Public):

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

Lenders	Bank o	f	Citi Comm	nunity	Carver Fed	leral	The Comr	munity	JP Morg	gan	Low Income		NCB Cap	oital	Neighborhood	Wells		Local Initiativ	es	Bellweth	er	NYC	
	Americ	а	Developr	ment	Savings Ba	ank	Preservatio	on Corp	Chase	e	Investment Fu	nd	Impac	t	Housing Service	Fargo		Support Cor	р	Enterpris	se	HDC	
Contractual Commitment	\$80.00	)	\$40.0	0	\$10.00	)	\$290.	00	\$145.0	)0	\$25.00		\$17.00	0	\$3.00	\$70.00		\$12.00		\$12.00		\$20.00	
Current Market Value	\$34.25	5	\$25.6	5	\$2.74		\$158.	23	\$111.8	38	\$13.21		\$1.68	3	\$0.37	\$21.49		\$3.08		\$2.38		\$0.00	
	<b>Dollars</b>	<u>Units</u>	<b>Dollars</b>	<u>Units</u>	<b>Dollars</b>	<b>Units</b>	<b>Dollars</b>	<u>Units</u>	<b>Dollars</b>	<u>Units</u>	<u>Dollars</u>	<u> Jnits</u>	<b>Dollars</b>	<u>Units</u>	Dollars Units	Dollars U	<u>nits</u>	<u>Dollars</u> L	Inits	Dollars L	<u> Jnits</u>	Dollars U	<b>Jnits</b>
<u>Commitments Q1</u>																							
<u>(included in total)</u>																							
Bronx	\$0.00	0	\$0.00	0	\$0.00	0	\$21.14	596	\$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	2.11	48	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Manhattan	0.00	0	0.00	0	0.00	0	6.08	108	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	1.68	69	0.00	0	0.00	0
Queens	0.00	0	0.00	0	0.00	0	1.03	30	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Staten Island	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Outside of NYC	0.00	0	0.00	0	0.00	0	5.88	130	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Total	\$0.00	0	\$0.00	0	\$0.00	0	\$36.24	912	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00 0	\$0.00	0	\$1.68	69	\$0.00	0	\$0.00	0
Delivered Q1																							
(included in total)																							
Bronx	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00 0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0
Brooklyn	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Manhattan	0.00	0	0.00	0	0.00	0	0.00	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
Queens	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Staten Island	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Outside of NYC	0.00	0	0.00	0	0.00	0	0.00	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
Total	\$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
Total Commitments																							
Bronx	\$0.00	0	\$0.00	0	\$0.00	0	\$37.43	974	\$12.22	178	\$0.00	0	\$0.00	0	\$0.00 0	\$0.00	0	\$2.85	90	\$1.28	101	\$0.00	0
Brooklyn	0.00	0	1.05	0	0.00	0	8.01	531	1.51	67	1.09	95	0.00	0	0.00 0	8.70	130	1.01	74	0.00	0	0.00	0
Manhattan	0.00	0	0.00	0	0.00	0	15.38	347	0.95	28	2.72	173	0.00	0	0.00 0	0.00	0	5.49	178	0.00	0	0.00	0
Queens	0.00	0	0.00	0	0.00	0	3.22	100	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Staten Island	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Outside of NYC	0.00	0	0.00	0	0.00	0	12.63	325	3.53	74	0.00	0	0.00	0	0.00 0	0.00	0	0.00	0	0.00	0	0.00	0
Total	\$0.00	0	\$1.05	0	\$0.00	0	\$76.67	2,277	\$18.20	347	\$3.81	268	\$0.00	0	\$0.00 0	\$8.70	130	\$9.35	342	\$1.28	101	\$0.00	0
Historical Investments	+0.00	<b>.</b>	Ψ1. <b>UU</b>	~	Ψ <b>υ.υυ</b>	~	<i><b>T</b></i> <b>1 1 1 1 1</b>	_,_,,	Ψ I <b>U</b> , <b>E V</b>	971	40.01		<i>40.00</i>	~	40.00 V	<i></i>		45.55		¥ 1120	. • •	~ · · · · ·	$\dashv$
Bronx	\$18.31	1,276	\$14.26	802	\$0.00	0	\$132.77	8,167	\$92.78	2,862	\$3.06	178	\$0.00	0	\$0.00 0	\$3.94	90	\$1.27	48	\$0.00	0	\$0.00	0
Brooklyn	\$10.51 6.92	1,270	\$14.20 9.49	481	\$0.00 0.00	0	137.25	5,649	۶ <u>92</u> .78 28.70	2,002 836	\$3.00 5.78	401	\$0.00 0.00	0	0.66 7	\$3.94 0.00	50	۶۱.27 1.86	40 82	\$0.00 2.48	360	\$0.00 0.00	0
Manhattan	7.24	142	9.49 3.70	283	0.00 3.74	236	99.42	5,049 5,171	53.31	1,695	7.11	401	0.00 1.98	123	0.50 15		203	0.00	02	0.00	000	0.00	0
Queens	15.17	293	0.80	205 54	0.00	220 م	99.42 24.05	5,171 897	21.35	755		407 0	0.00	125	0.00 0	0.00	205 0	0.00	0	0.00	0	0.00	0
Staten Island	0.00	2 <del>9</del> 5 م	0.80	۲ <u>۲</u>	0.00	0	24.05 0.26	<i>ر</i> ون م	21.55 1.28		0.00	0	0.00	0	0.00 0	1.26	67	0.00	0	0.00	0	0.00	0
		39		41	0.00	0		0 6 / 1		35 123		0		0			07		0		0		0
Outside of NYC	1.61	39	2.11	41	0.00	U	20.73	641	5.55	123	0.00	U	0.00	U	0.00 0	0.00	U	0.00	U	0.00	U	0.00	U
Total	\$49.25	1,898	\$30.36	1,661	\$3.74	236	\$414.47	20,533	\$202.98	6,306	\$15.95	986	\$1.98	123	\$1.17 22	\$22.09	360	\$3.13	130	\$2.48	360	\$0.00	0

Note: Dollar amount listed in millions

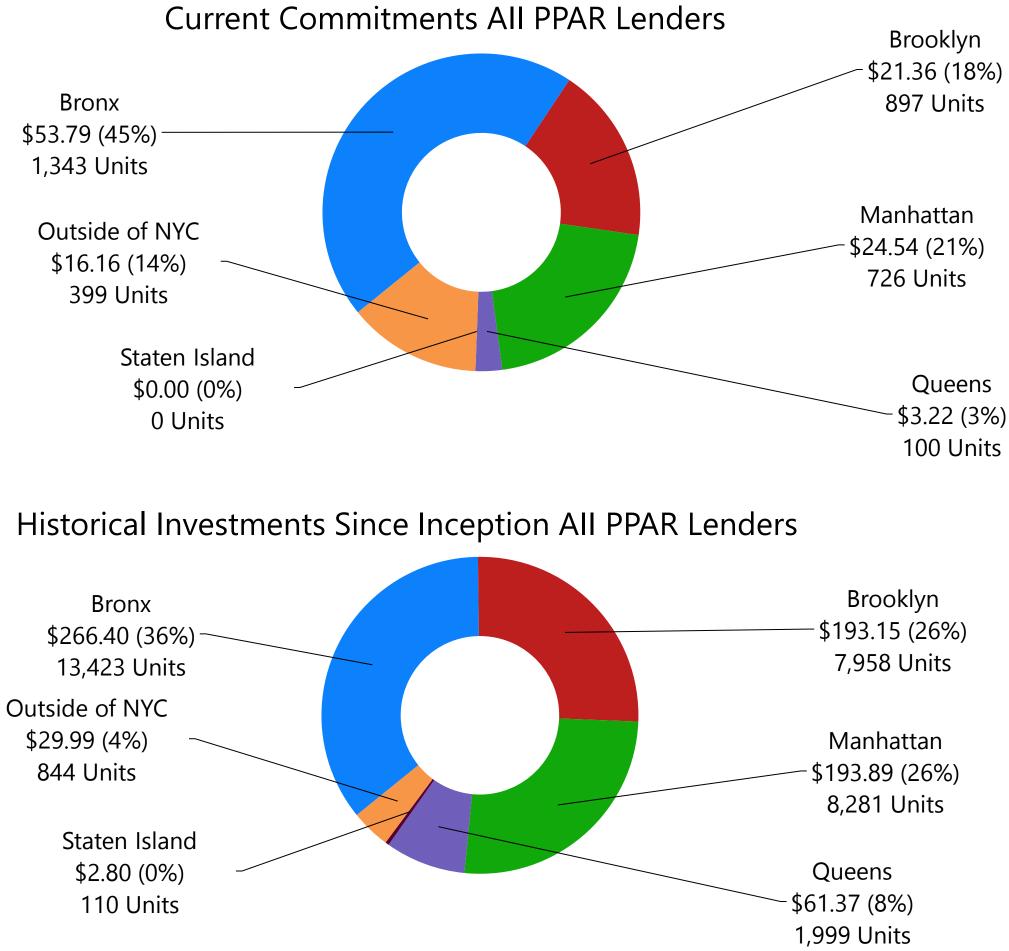
\*\* Total Committed Units decreased by 1 unit under LIIF

## The City of New York - Office of the Comptroller

## **Collateral Benefits as of 3/31/2022**

## **<u>Public/Private Apartment Rehabilitation Program (PPAR)</u>**

Lenders	All Lender	Totals
Contractual Commitment	\$724.	00
Current Market Value	\$374.	97
	<u>Dollars</u>	<u>Units</u>
<u>Commitments Q1</u>		
<u>(included in total)</u>		
Bronx	\$21.14	596
Brooklyn	2.11	48
Manhattan	7.76	177
Queens	1.03	30
Staten Island	0.00	0
Outside of NYC	5.88	130
Total	\$37.92	981
Delivered Q1		
<u>(included in total)</u>		
Bronx	\$0.00	0
Brooklyn	0.00	0
Manhattan	0.00	0
Queens	0.00	0
Staten Island	0.00	0
Outside of NYC	0.00	0
Total	\$0.00	0
Total Commitments		
Bronx	\$53.79	1,343
Brooklyn	21.36	897
Manhattan	24.54	726
Queens	3.22	100
Staten Island	0.00	0
Outside of NYC	16.16	399
Total	\$119.07	3,465
Historical Investments		
Bronx	\$266.40	13,423
Brooklyn	193.15	7,958
Manhattan	193.89	8,281
Queens	61.37	1,999
Staten Island	2.80	110
Outside of NYC	29.99	844
Total	\$747.60	32,615



Note: Dollar amount listed in millions

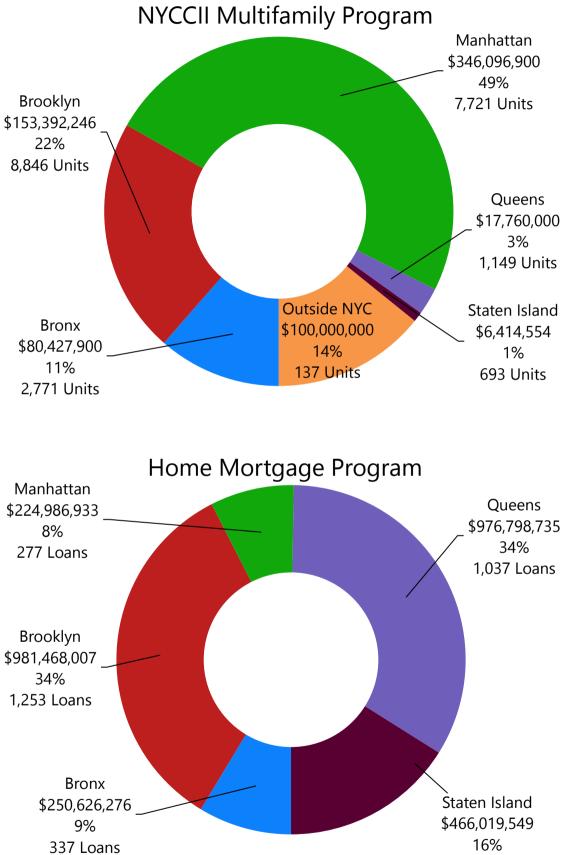
**The City of New York - Office of the Comptroller** 

## **Collateral Benefits as of 3/31/2022**

### **AFL-CIO Housing Investment Trust (HIT)** Market Value \$329.30 million<sup>1</sup>

### NYC Community Investment Initiative (NYCCII)

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



### **HIT Home Mortgage Program**

	NYCCII Phase 2002 - 200		NYCCII Phase 2006 - 201		Grand Tota	h	Manhattan
Borough	\$ Amount	Loans	\$ Amount	Loans	\$ Amount	Loans	\$224,986,933
Bronx	\$32,544,168	41	\$218,082,108	296	\$250,626,276	337	8%
Brooklyn	116,575,736	138	864,892,271	1,115	981,468,007	1,253	277 Loans
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	Brooklyn
Total	\$348,300,563	446	\$2,551,598,937	3,088	\$2,899,899,500	3,534	\$981,468,007 34%
NYCERS Loans	Phase I:	134	Phase II:	780	Total:	914	1,253 Loans

<sup>1</sup>Interest is reinvested

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

**The City of New York - Office of the Comptroller** 

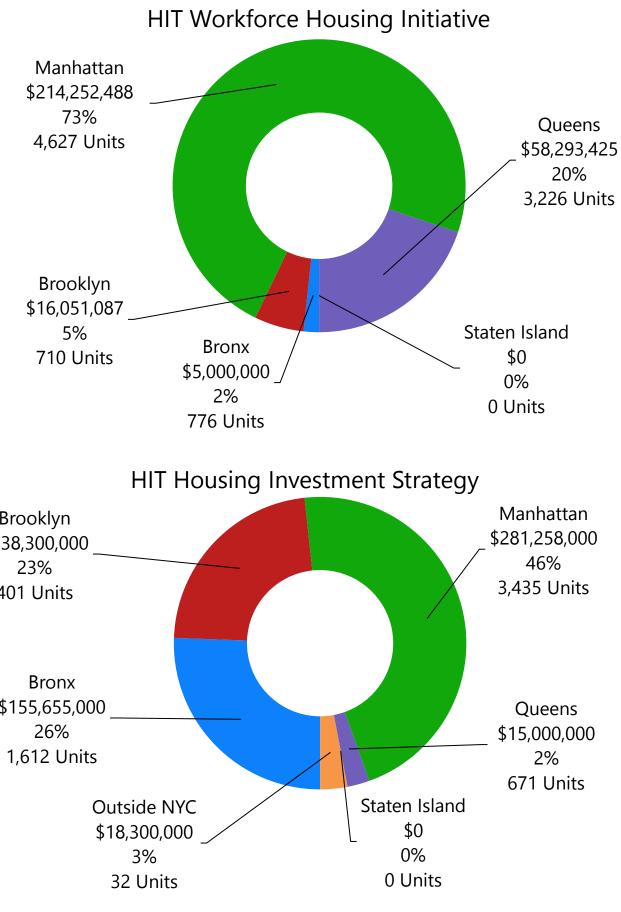
**Collateral Benefits as of 3/31/2022** 

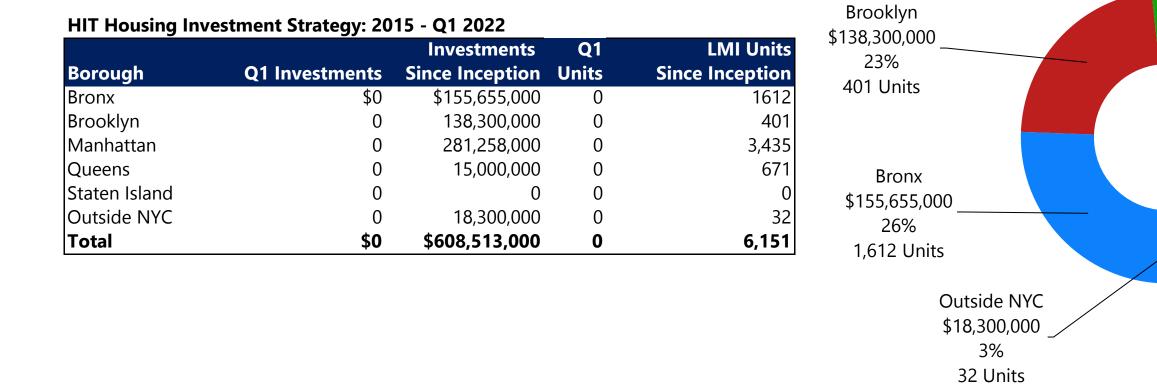
630 Loans

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

### NYC Workforce Housing Initiative: 2009 - 2015

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





The City of New York - Office of the Comptroller

## **Collateral Benefits as of 3/31/2022**

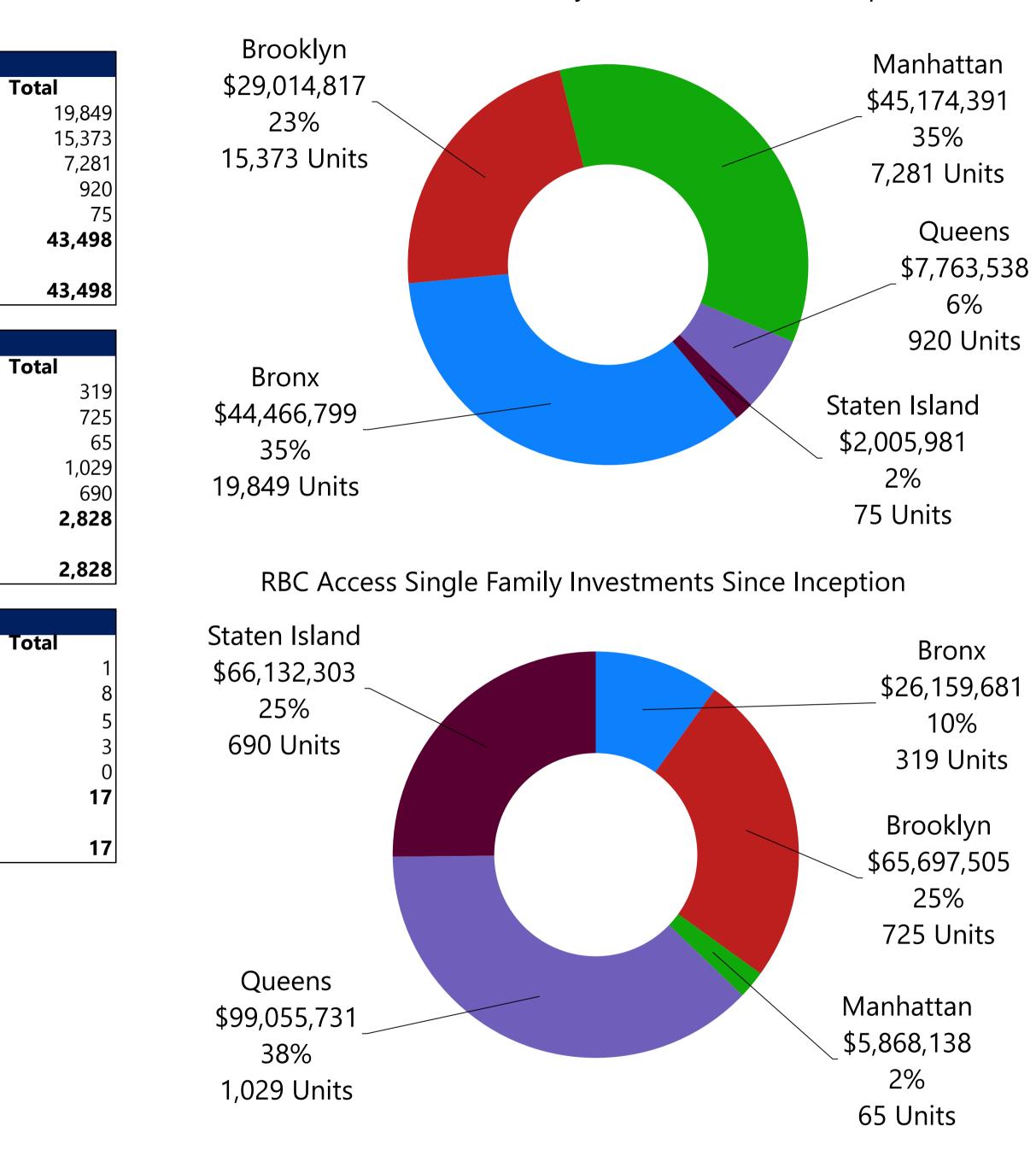
## **RBC ACCESS CAPITAL STRATEGIES (Since Inception 2/1/07)**

## \$162 million Allocated (36% of total account) Market Value \$162.71 million

Multifamily Investments Detail	\$ Inv	vested'	Units <sup>2</sup>
	Q1	Total	Q1
Bronx	\$0	\$44,466,799	0
Brooklyn	0	29,014,817	0
Manhattan	0	45,174,391	0
Queens	0	7,763,538	0
Staten Island	0	2,005,981	0
Total NYCERS Multifamily Investments	\$0	\$128,425,526	0
Multifamily Total All Systems	\$0	\$356,737,572	0
Single Family Investments Detail	\$ Inv	vested	Units
	Q1	Total	Q1
Bronx	\$1,849,133	\$26,159,681	10
Brooklyn	1,540,956	65,697,505	7
Manhattan	145,260	5,868,138	1
Queens	2,485,190	99,055,731	14
Staten Island	1,590,919	66,132,303	9
Total NYCERS Single Family Investments	\$7,611,458	\$262,913,358	41
Single Family Total All Systems	\$21,142,938	\$730,314,884	41
Other Investments Detail	\$ Inv	vested	Loans
	Q1	Total	Q1
Bronx	<b>\$</b> 0	\$243,000	0
Brooklyn	0	1,940,545	0
Manhattan	0	875,846	0
Queens	0	195,636	0
Staten Island	0	0	0
Total NYCERS Other Investments	\$0	\$3,255,026	0
Other Investments Total All Systems	\$0	\$9,041,740	0
Grand Total NYCERS	\$7,611,458	\$394,593,910	
Grand Total All Systems	\$21,142,938	\$1,096,094,195	

<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.

The City of New York - Office of the Comptroller



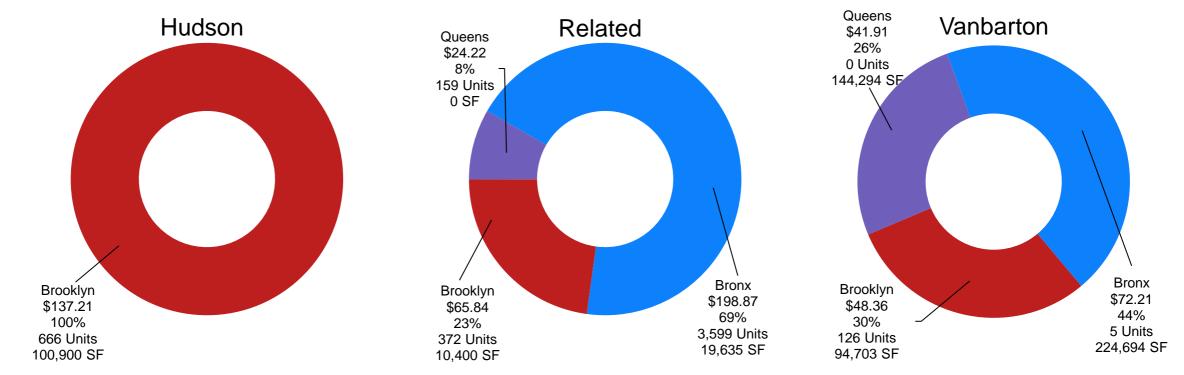
**RBC** Access Multifamily Investments Since Inception

Page 112 of 236

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

**Total Market Value \$129.71 million** 

	Hudson				Related				Vanbarton	(Emmes)				
	Market Val	ue \$39.80	6 million		Market Valu	Market Value \$56.91 million				Market Value \$32.94 million				
	Gross				Gross				Gross					
	Capital	Total	Workforce		Capital	Total	Workforce		Capital	Total	Workforce			
<u>Borough</u>	Invested	Units	Units	Comm. SF	Invested	Units	Units	Comm. SF	Invested	Units	Units	Comm. SF		
Bronx	\$0.00	0	0	0	\$198.87	3,599	3,356	19,635	\$72.21	5	2	224,694		
Brooklyn	137.21	666	666	100,900	65.84	372	212	10,400	48.36	126	61	94,703		
Manhattan	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0		
Queens	0.00	0	0	0	24.22	159	151	0	41.91	0	0	144,294		
Staten Island	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0		
Outside NYC	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0		
Totals	\$137.21	666	666	100,900	\$288.93	4,130	3,719	30,035	\$162.48	131	63	463,691		



\*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

The City of New York - Office of the Comptroller

## **Collateral Benefits as of 3/31/2022**

Private Equity Quarterly Report (Public):



## **Private Equity Monitoring Report**

For the period ended December 31, 2021

Report Prepared For:

New York City Employees' Retirement System





## **Table of Contents**

١.	Executive Summary	1
	Performance Summary Portfolio Performance vs. Benchmarks Portfolio Diversification By Strategy By Fund Geographic Focus	2 2 2
II.	Market Overview	3
Cap	pital Markets Overview	3
	Public Equity Markets Debt Markets	
Priv	vate Equity Market Overview	6
	Fundraising Investment Activity Exit Environment	8
.	Portfolio Review	.10
	Quarterly Highlights Investment Performance Since Inception Performance Performance by Vintage Year Portfolio Periodic Returns vs. Russell 3000® Index Performance by Strategy / Sub-Strategy Performance by Strategy Performance by Sub-Strategy Portfolio Diversification By Strategy/Sub-Strategy By Fund Geographic Focus By Fund Geographic Focus By Fund Geographic Focus By Fund Currency	11 11 12 13 13 14 14 15 15 15 16 16
	By Investment Manager Portfolio Cash Flow Analysis Year to Date Cash Flow Activity Quarterly Cash Flow Activity Invested Capital by Vintage Year Portfolio Company-Level Analysis Geographic Exposure Public Market Exposure	18 19 20 21 21
IV.	Appendix	
	Private Equity Portfolio Subsequent Commitments	25



### **Important Information**

This document is meant only to provide a broad overview for discussion purposes. All information provided here is subject to change. This document is for informational purposes only and does not constitute an offer to sell, a solicitation to buy, or a recommendation for any security, or as an offer to provide advisory or other services by StepStone Group LP, StepStone Group Real Assets LP, StepStone Group Real Estate LP, StepStone Conversus LLC, Swiss Capital Alternative Investments AG and StepStone Group Europe Alternative Investments Limited or their subsidiaries or affiliates (collectively, "**StepStone**") in any jurisdiction in which such offer, solicitation, purchase or sale would be unlawful under the securities laws of such jurisdiction. The information contained in this document should not be construed as financial or investment advice on any subject matter. StepStone expressly disclaims all liability in respect to actions taken based on any or all of the information in this document. This document is confidential and solely for the use of StepStone and the existing and potential clients of StepStone to whom it has been delivered, where permitted. By accepting delivery of this presentation, each recipient undertakes not to reproduce or distribute this presentation in whole or in part, nor to disclose any of its contents (except to its professional advisors), without the prior written consent of StepStone. While some information used in the presentation has been obtained from various published and unpublished sources considered to be reliable, StepStone does not guarantee its accuracy or completeness and accepts no liability for any direct or consequential losses arising from its use. Thus, all such information is subject to independent verification by prospective investors.

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.

The presentation is being made based on the understanding that each recipient has sufficient knowledge and experience to evaluate the merits and risks of investing in private market products. All expressions of opinion are intended solely as general market commentary and do not constitute investment advice or a guarantee of returns. All expressions of opinion are as of the date of this document, are subject to change without notice and may differ from views held by other businesses of StepStone.

All valuations are based on current values calculated in accordance with StepStone's Valuation Policies and may include both realized and unrealized investments. Due to the inherent uncertainty of valuation, the stated value may differ significantly from the value that would have been used had a ready market existed for all of the portfolio investments, and the difference could be material. The long-term value of these investments may be lesser or greater than the valuations provided.

StepStone Group LP, its affiliates and employees are not in the business of providing tax, legal or accounting advice. Any tax-related statements contained in these materials are provided for illustration purposes only and cannot be relied upon for the purpose of avoiding tax penalties. Any taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Prospective investors should inform themselves and take appropriate advice as to any applicable legal requirements and any applicable taxation and exchange control regulations in the countries of their citizenship, residence or domicile which might be relevant to the subscription, purchase, holding, exchange, redemption or disposal of any investments. Each prospective investor is urged to discuss any prospective investment with its legal, tax and regulatory advisors in order to make an independent determination of the suitability and consequences of such an investment.

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

Each of StepStone Group LP, StepStone Group Real Assets LP, StepStone Group Real Estate LP and StepStone Conversus LLC is an investment adviser registered with the Securities and Exchange Commission ("SEC"). StepStone Group Europe LLP is authorized and regulated by the Financial Conduct Authority, firm reference number 551580. StepStone Group Europe Alternative Investments Limited ("SGEAIL") is an SEC Registered Investment Advisor and an Alternative Investment Fund Manager authorized by the Central Bank of Ireland and Swiss Capital Alternative Investments AG ("SCAI") is an SEC Exempt Reporting Adviser and is licensed in Switzerland as an Asset Manager for Collective Investment Schemes by the Swiss Financial Markets Authority FINMA. Such registrations do not imply a certain level of skill or training and no inference to the contrary should be made.

In relation to Switzerland only, this document may qualify as "advertising" in terms of Art. 68 of the Swiss Financial Services Act (FinSA). To the extent that financial instruments mentioned herein are offered to investors by SCAI, the prospectus/offering document and key information document (if applicable) of such financial instrument(s) can be obtained free of charge from SCAI or from the GP or investment manager of the relevant collective investment scheme(s). Further information about SCAI is available in the SCAI Information Booklet which is available from SCAI free of charge.

All data is as of December 31, 2021 unless otherwise noted.

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



### I. Executive Summary

The New York City Employees' Retirement System ("NYCERS") established the Alternative Investment Program (the "Program") on January 1, 1997 on behalf of its beneficiaries to participate in attractive long-term investment opportunities and to provide diversification to its overall pension investment portfolio.

StepStone Group LP ("StepStone") was engaged by NYCERS on September 1, 2011 to provide private equity advisory services for prospective investment opportunities and monitoring and reporting services for existing and new investments.

Since inception through December 31, 2021, the Program has committed US\$14.6 billion to 258 partnership investments (the "Portfolio"). This quarterly monitoring report covers the performance of the Portfolio as of December 31, 2021 as well as significant activity that occurred during the fourth quarter of 2021.

#### **Performance Summary**

US\$ in millions	December 31, 2021	September 30, 2021	December 31, 2020	Quarterly Change	Yearly Change
Number of Managers	122	120	118	2	4
Number of Investments	258	253	240	5	18
Committed Capital <sup>1</sup>	\$14,585.0	\$14,250.9	\$13,212.1	\$334.1	\$1,373.0
Contributed Capital	\$12,278.4	\$11,718.2	\$10,710.4	\$560.3	\$1,568.1
Distributed Capital	\$12,272.5	\$11,641.3	\$10,493.1	\$631.2	\$1,779.4
Market Value	\$8,034.7	\$7,573.2	\$6,000.6	\$461.5	\$2,034.1
Total Value	\$20,307.2	\$19,214.5	\$16,493.7	\$1,092.7	\$3,813.5
Total Gain/(Loss)	\$8,028.8	\$7,496.4	\$5,783.3	\$532.4	\$2,245.4
Unfunded Commitment <sup>2</sup>	\$3,785.2	\$3,949.1	\$3,872.7	(\$163.9)	(\$87.5)
Total Exposure <sup>3</sup>	\$11,819.9	\$11,522.4	\$9,873.3	\$297.6	\$1,946.7
DPI <sup>4</sup>	1.00x	0.99x	0.98x	0.01x	0.02x
TVM <sup>5</sup>	1.65x	1.64x	1.54x	0.01x	0.11x
IRR <sup>6</sup>	11.9%	11.7%	10.7%	+ 23 bps	+ 123 bps
TVM Net of StepStone Fees <sup>7</sup>	1.65x	1.64x	1.54x	0.01x	0.11x
IRR Net of StepStone Fees <sup>7</sup>	11.9%	11.7%	10.6%	+ 22 bps	+ 123 bps

<sup>1</sup>Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations.

<sup>2</sup> Unfunded Commitment represents the aggregate remaining commitments to partnership investments.

<sup>3</sup> Total Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>4</sup> DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

<sup>5</sup> TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVM is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

<sup>6</sup> IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund manager's fees, expenses and carried interest.

<sup>7</sup>TVM and IRR Net of StepStone fees represent TVM and IRR net of fees paid by NYCERS to StepStone. IRR and TVM for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

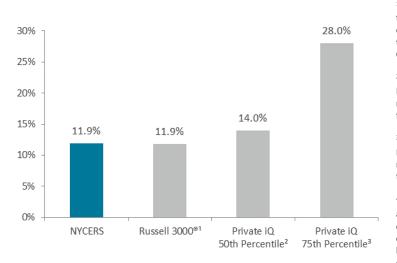
Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.



#### **Portfolio Performance vs. Benchmarks**

The Portfolio's performance is measured against a dollar-weighted public benchmark, which produced the return that would have been earned if NYCERS's private equity cash flows were invested in the Russell 3000<sup>®</sup> Index<sup>1</sup>.

The following graph illustrates Portfolio IRR performance versus benchmarks as of December 31, 2021.



<sup>1</sup>Return is a dollar-weighted PME+ calculation of daily changes in the Russell 3000<sup>®</sup> Index. Russell Investment Group is the source and owner of the trademark, service marks and copyrights related to the Russell Indexes. Russell<sup>®</sup> is a trademark of Russell Investment Group.

<sup>2</sup>Private iQ benchmark reflects Equity (all sub-sectors), Mezzanine, Distressed, Oil & Gas Assets asset classes, 50th percentile, or median, IRR at December 31, 2021 for funds with vintage years from 1998 through 2021. Note: Data may be subject to change.

<sup>3</sup>Private iQ benchmark reflects Equity (all sub-sectors), Mezzanine, Distressed, Oil & Gas Assets asset classes, 50th percentile, or median, IRR at December 31, 2021 for funds with vintage years from 1998 through 2021. Note: Data may be subject to change.

The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. 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**

#### **By Strategy**

	Market \	/alue	Unfunded Con	nmitment	Total Exposure		
As of December 31, 2021 (US\$ in millions)	\$	% of Total	\$	% of Total	\$	% of Total	
Buyout	\$4,986.0	62.1%	\$2,067.6	54.6%	\$7,053.6	59.7%	
Growth Equity	1,026.7	12.8%	244.5	6.5%	1,271.3	10.8%	
Special Situations	779.5	9.7%	495.3	13.1%	1,274.8	10.8%	
Energy	26.4	0.3%	11.4	0.3%	37.8	0.3%	
Secondaries	425.7	5.3%	245.9	6.5%	671.6	5.7%	
Co-Investment	550.4	6.9%	478.5	12.6%	1,028.9	8.7%	
Other	195.3	2.4%	11.3	0.3%	206.6	1.7%	
Multi-Strategy	44.7	0.6%	230.6	6.1%	275.3	2.3%	
Total	\$8,034.7	100.0%	\$3,785.2	100.0%	\$11,819.9	100.0%	

#### **By Fund Geographic Focus**

	Market Value		Unfunded Con	nmitment	Total Exposure		
As of December 31, 2021 (US\$ in millions)	\$	% of Total		% of Total		% of Total	
North America	\$4,893.8	60.9%	\$2,415.8	63.8%	\$7,309.6	61.8%	
Global	1,580.7	19.7%	627.5	16.6%	2,208.2	18.7%	
Western Europe	1,540.2	19.2%	657.7	17.4%	2,197.8	18.6%	
Rest of World	20.1	0.2%	84.3	2.2%	104.3	0.9%	
Total	\$8,034.7	100.0%	\$3,785.2	100.0%	\$11,819.9	100.0%	

Fund Geographic Focus is based on a number of factors, including the GP-stated geographic focus, the number of investments within each region, invested capital by region, the location of the firm's offices and investment professionals, and the underlying fund currency.

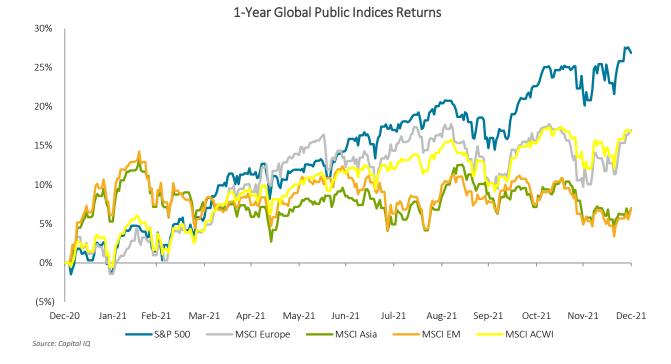


### **II. Market Overview**

#### **Capital Markets Overview**

#### **Public Equity Markets**

US and Euro equities made gains during the quarter, with the S&P 500 hitting a new high at the end of the year, as economic resilience offset concerns over the Omicron variant of COVID-19. Emerging and Asian markets lagged behind following a market sell-off due to concerns over the new variant and fears of additional lockdowns. Additionally, the Chicago Board Option Exchange's Volatility Index ("VIX") decreased to 17.2.



The following table shows the returns of four major MSCI indices, as well as the S&P 500 and the S&P 500 Total Return Index, over various time horizons through December 31, 2021. Returns for time periods greater than one year are annualized. Indices remained relatively flat during the quarter, with emerging markets and the MSCI Asia posting negative returns.

	3 Mo	1 Yr	3 Yr	5 Yr	10 Yr
MSCI Asia	(1.8%)	7.0%	14.6%	10.0%	8.9%
MSCI Europe	5.7%	17.0%	15.6%	10.8%	8.8%
MSCI EM	(0.8%)	7.0%	13.7%	9.9%	6.2%
MSCI ACWI	6.4%	16.8%	18.3%	12.3%	9.7%
S&P 500	10.6%	26.9%	23.9%	16.3%	14.3%
S&P 500 Total Return*	11.0%	28.7%	26.1%	18.5%	16.6%

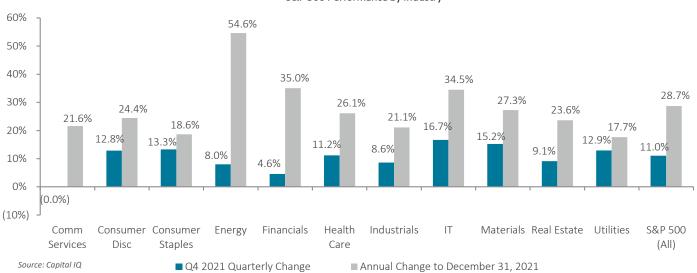
For the period ended December 31, 2021

\*Includes reinvestment of dividends.

Source: Capital IQ



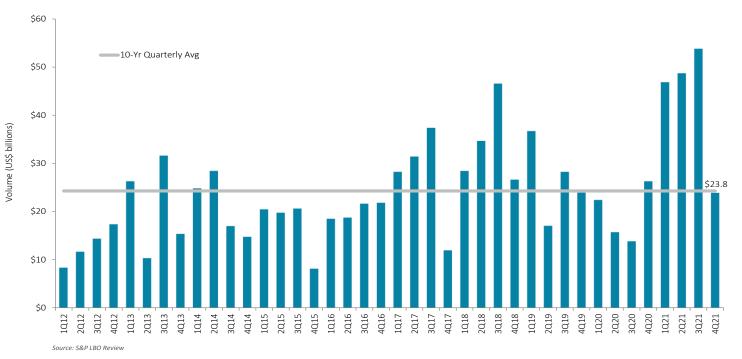
The chart below shows the quarterly and annual returns of the S&P 500 Total Return and each GIC sector for the period ending December 31, 2021. All sectors, with the exception of Comm Services, posted positive quarterly changes.



S&P 500 Performance by Industry

#### **Debt Markets**

US LBO debt volume totaled US\$23.8 billion during the fourth quarter of 2021, a decrease of 55.6% quarter-over-quarter and down 9.2% year-over-year. Fourth quarter volume fell significantly from the high of US\$53.7 billion last quarter but remains in line with the 10-year quarterly average of US\$24.3 billion. The following chart shows the quarterly volume of US LBO new loan issuance for the past ten years.

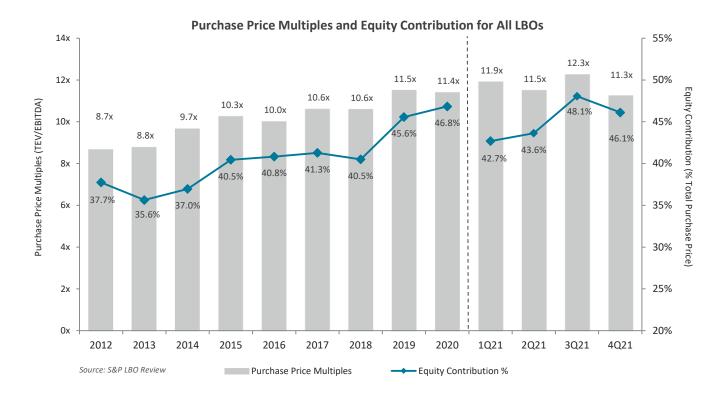


The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

4 of 28



The weighted average purchase price multiple for U.S. LBO deals dropped quarter-over-quarter at 11.3x total enterprise value ("TEV") to EBITDA but remain above the 10-year average of 10.2x. The average debt multiple of large corporate U.S. LBO loans increased from 5.5x to 6.2x, while equity contributions for U.S. LBOs decreased slightly from 48.1% to 46.1%. The following chart compares purchase price multiples and equity contribution percentages for U.S. LBO deals.

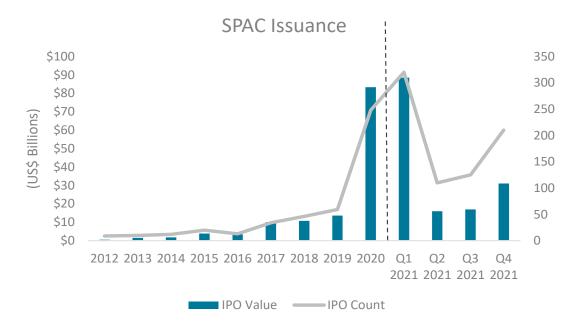




#### **Private Equity Market Overview**

#### **SPAC Review**

SPAC issuance ticked back up in the fourth quarter of 2021, with 210 SPACs raising US\$31.0 billion, compared to US\$17.0 billion being raised by 125 SPACs during the prior quarter.

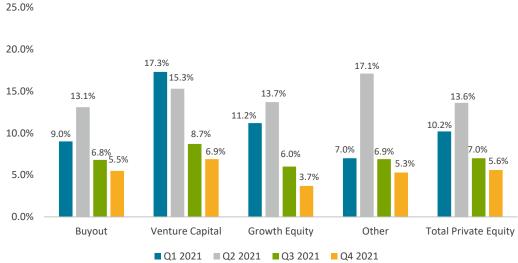


Source: S&P Global Market Intelligence Q4 2021 Global Capital Markets Activity.

#### Private Equity Performance

Private equity returns for Q4 2021 trended downward compared to recent periods at 5.6%. Venture Capital funds generated the best quarterly returns of 6.9% during the quarter, but still performed poorly compared to its average of 13.8% during the prior three quarters.

**Quarterly Returns** 



Source: StepStone Portfolio Analytics & Reporting ("SPAR") Omni Universe Benchmark Composite. SPAR data are continuously updated; values are subject to change. Based on Q4 NAVs reported as of May 1, 2022.

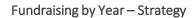


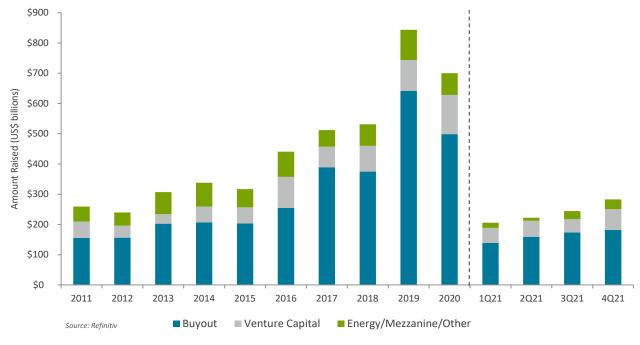
#### Fundraising

Global private equity fundraising totaled US\$282.8 billion in the fourth quarter, representing an increase of 15.8% quarterover-quarter and 38.8% compared to the fourth quarter of 2020. Buyout fundraising, which represented 64.4% of the total amount raised for the quarter, totaled US\$182.3 billion, an increase of 5.2% from the prior quarter and an increase of 36.0% compared to the prior year period. Venture Capital raised US\$68.9 billion in the fourth quarter, an increase of 55.2% quarterover-quarter and an increase of 62.7% compared to the fourth quarter of 2020. The charts below depict annual private equity fundraising activity by geography and strategy.



Fundraising by Year – Geography



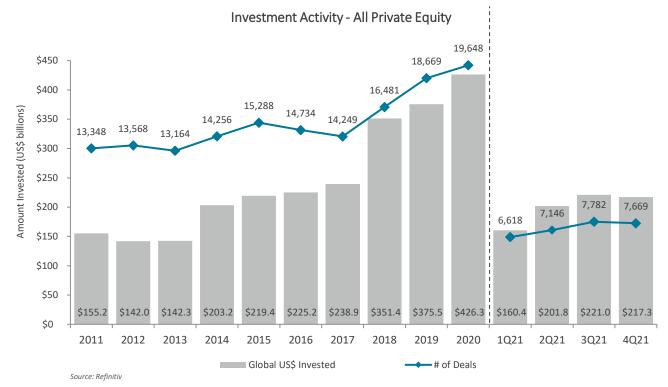


7 of 28

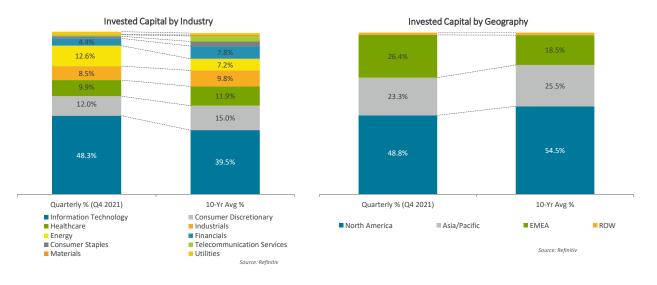


#### **Investment Activity**

Private equity funds invested US\$217.3 billion globally during the fourth quarter, representing a quarter-over-quarter decrease of 1.7% but an increase of 74.3% from the fourth quarter of 2020. The average investment size during the quarter was US\$28.3 million, a decrease of 0.2% compared to the average investment size of US\$28.4 million in the third quarter of 2021.



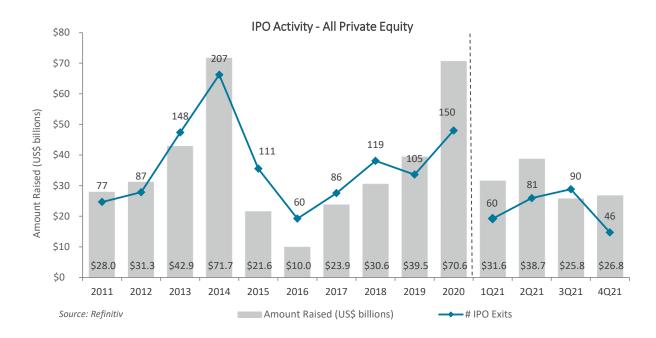
The graphs below depict the percentage of invested capital by industry and geography for the fourth quarter of 2021 and over the last ten years. Companies operating in the Information Technology sector continue to account for a significant portion of the invested capital, with 48.3% of the capital deployed in the fourth quarter. Geographically, investment activity in EMEA remains above its 10-year average, comprising 26.4% of total capital invested in the fourth quarter while investments in the North American region represented 48.8% of total capital invested during the quarter, slightly less than its 10-year average of 54.5%.



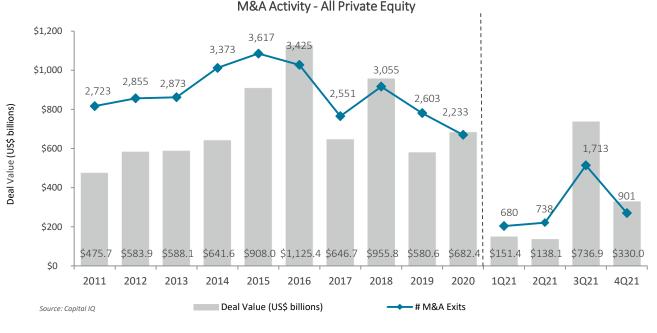


#### **Exit Environment**

In the fourth quarter, the number of private equity-backed IPOs decreased by 48.9% compared to the prior quarter and by 4.2% compared to the fourth quarter of 2020, with US\$26.8 billion raised in 46 IPOs. The largest IPO of the fourth quarter was completed by Rivian Automotive LLC (NASDAQ: RIVN) in November, which raised US\$13.7 billion in one of the largest IPOs ever, representing almost half of the total value for all IPOs during the quarter.



The number of private equity-backed Mergers and Acquisitions M&A ("M&A") activity halved quarter-over-quarter, with 901 private equity backed M&A deals totaling \$330.0 billion. The largest M&A deals of the quarter were the US\$48.6 billion acquisition of Altimeter Growth Corp. by Grab Holdings Limited (NasdaqGS:GRAB) and the US\$31.7 billion acquisition of Kansas City Southern by Canadian Pacific Railway Limited (TSX:CP). Together these deals represented 24.3% of the total value for all deals during the quarter. The graph below shows the deal value and the number of M&A deals.





### **III. Portfolio Review**

### **Quarterly Highlights**

- Cash Flow Activity During the fourth quarter of 2021, the Portfolio made US\$560.3 million of contributions and received US\$631.2 million of distributions, for a net cash inflow of US\$70.9 million, compared to a net cash inflow of US\$26.5 million during the prior quarter and a net cash inflow of US\$166.2 million during the fourth quarter of 2020. Contributions increased 9.7% from the prior quarter and increased 138.8% from the fourth quarter of 2020. The most recent four quarter average of the Program's contributions is US\$392.0 million. Distributions increased 17.5% from the prior quarter of 2020. The most recent four quarter and increased 57.5% from the fourth quarter of 2020. The most recent four quarter average of the Program's distributions.
- Recent Portfolio Activity During the fourth quarter of 2021, net of cash flow activity, the valuation of the Portfolio increased by US\$532.4 million, or 7.1%, from the prior quarter. The increase in Portfolio value is primarily attributable to the strong performance of Mega Buyout funds during the quarter, which generated a US\$183.5 million increase in valuation from the prior quarter-end. During the last twelve months, net of cash flow activity, the valuation of the Portfolio increased by US\$2.2 billion, or 38.8%, from the quarter ended December 31, 2020.
- **New Investment Commitments** The Program closed on five new investment commitments during the fourth quarter of 2021, totaling US\$339.5 million.

As of December 31, 2021 (US\$ in millions)	Month Closed	Strategy	Geographic Focus	Committe	ed Capital
Reverence Capital Partners Opportunities Fund V L.P.	October 2021	Buyout	North America	\$	42.0
Reverence Capital Partners Opportunities Fund V (Parallel) L.P.	October 2021	Co-Investment	North America		15.0
Permira VIII L.P.	November 2021	Buyout	Western Europe		145.0
TPG Rise Climate, L.P.	December 2021	Buyout	North America		45.8
TPG Rise Climate Co-Invest, L.P.	December 2021	Co-Investment	North America		91.7
Total				\$	339.5

 Subsequent Investment Commitments – Subsequent to quarter-end through May 19, 2022, the Program has closed on 17 new investment commitments, totaling US\$1.1 billion.

As of May 19, 2022 (US\$ in millions)	Month Closed	Strategy	Geographic Focus	Committe	d Capital
FTV VII, L.P.	January 2022	Growth Equity	North America	\$	59.6
FTV VII Co-Invest	January 2022	Co-Investment	North America		13.4
Raine Partners IV LP	February 2022	Growth Equity	North America		32.0
Welsh, Carson, Anderson & Stowe XIV, L.P.	February 2022	Buyout	North America		96.0
Welsh, Carson, Anderson & Stowe XIV N Co-Invest L.P.	February 2022	Co-Investment	North America		32.0
Green Equity Investors IX	March 2022	Buyout	North America		120.0
Thoma Bravo Fund XV, L.P.	April 2022	Buyout	North America		123.0
Thoma Bravo Co-Invest Opportunities Fund XV, L.P.	April 2022	Co-Investment	North America		41.0
GEI IX Co-Invest N, L.P.	April 2022	Co-Investment	North America		40.0
Platinum Equity Capital Partners Fund VI	April 2022	Special Situations	North America		156.0
PECP VI Co-Invest, L.P.	April 2022	Co-Investment	North America		52.0
LightBay Investment Partners II, LP	April 2022	Buyout	North America		27.0
Lexington Capital Partners X, L.P.	April 2022	Secondaries	Global		96.0
Lexington X Co-Invest Partners B, L.P.	April 2022	Co-Investment	Global		32.0
Hg Genesis 10	May 2022	Buyout	Western Europe		67.1
Hg Saturn 3, L.P.	May 2022	Buyout	Western Europe		49.2
Hg N1 Co-Invest L.P.	May 2022	Co-Investment	Western Europe		24.6
Total				\$	1,060.9



#### **Investment Performance**

#### **Since Inception Performance**

US\$ in millions	December 31, 2021	September 30, 2021	December 31, 2020	Quarterly Change	Yearly Change
Active Investments				enange	enunge
Number of Managers	93	92	91	1	2
Number of Investments	212	208	196	4	16
Committed Capital <sup>1</sup>	\$13,225.0	\$12,913.3	\$11,927.3	\$311.6	\$1,297.7
Contributed Capital	\$10,747.2	\$10,214.3	\$9,260.1	\$532.9	\$1,487.1
Distributed Capital	\$10,421.5	\$9,843.6	\$8,720.1	\$5577.9	\$1,701.3
Market Value	\$8,034.5	\$7,573.7	\$6,001.0	\$460.8	\$2,033.5
Total Value	\$18,456.0	\$17,417.3	\$14,721.2	\$1,038.7	\$3,734.8
Total Gain/(Loss)	\$7,708.8	\$7,202.9	\$5,461.1	\$505.8	\$2,247.7
Unfunded Commitment <sup>2</sup>	\$3,785.2	\$3,949.1	\$3,872.7	(\$163.9)	(\$87.5)
Total Exposure <sup>3</sup>	\$11,819.7	\$11,522.8	\$9,873.7	\$296.9	\$1,946.0
DPI <sup>4</sup>	0.97x		0.94x	0.01x	0.03x
TVM <sup>5</sup>	1.72x		1.59x	0.01x	0.13x
IRR <sup>6</sup>	13.4%		11.8%	+ 25 bps	+ 155 bps
Exited Investments					
Number of Managers	41	40	39	1	2
Number of Investments	46	45	44	1	2
Committed Capital <sup>1</sup>	\$1,360.1	\$1,337.6	\$1,284.8	\$22.5	\$75.3
Contributed Capital	\$1,531.2	\$1,503.8	\$1,450.3	\$27.4	\$80.9
Distributed Capital	\$1,851.0	\$1,797.7	\$1,773.0	\$53.3	\$78.0
Market Value	\$0.2	(\$0.4)	(\$0.4)	664540	\$0.7
Total Value	\$1,851.2	\$1,797.3	\$1,772.5	\$54.0	\$78.7
Total Gain/(Loss)	\$320.0	\$293.4	\$322.2	\$26.6	(\$2.2)
Unfunded Commitment <sup>2</sup>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Exposure <sup>3</sup>	\$0.2	(\$0.4)	(\$0.4)	\$0.7	\$0.7
DPI <sup>4</sup>	1.21x		1.22x	0.01x	-0.01x
TVM <sup>5</sup>	1.21x		1.22x	0.01x	-0.01x
IRR <sup>6</sup>	4.9%	4.7%	5.3%	+ 22 bps	- 42 bps
Total Portfolio					
Number of Managers	122	120	118	2	4
Number of Investments	258	253	240	5	18
Committed Capital <sup>1</sup>	\$14,585.0	\$14,250.9	\$13,212.1	\$334.1	\$1,373.0
Contributed Capital	\$12,278.4	\$11,718.2	\$10,710.4	\$560.3	\$1,568.1
Distributed Capital	\$12,272.5	\$11,641.3	\$10,493.1	\$631.2	\$1,779.4
Market Value	\$8,034.7	\$7,573.2	\$6,000.6	\$461.5	\$2,034.1
Total Value	\$20,307.2	\$19,214.5	\$16,493.7	\$1,092.7	\$3,813.5
Total Gain/(Loss)	\$8,028.8	\$7,496.4	\$5,783.3	\$532.4	\$2,245.4
Unfunded Commitment <sup>2</sup>	\$3,785.2	\$3,949.1	\$3,872.7	(\$163.9)	(\$87.5)
Total Exposure <sup>3</sup>	\$11,819.9	\$11,522.4	\$9,873.3	\$297.6	\$1,946.7
DPI <sup>4</sup>	1.00x	0.99x	0.98x	0.01x	0.02x
TVM <sup>5</sup>	1.65x	1.64x	1.54x	0.01x	0.11x
IRR <sup>6</sup>	11.9%	11.7%	10.7%	+ 23 bps	+ 123 bps
TVM Net of StepStone Fees <sup>7</sup>	1.65x	1.64x	1.54x	0.01x	0.11x
IRR Net of StepStone Fees <sup>7</sup>	11.9%		10.6%	+ 22 bps	+ 123 bps
init Net of stepstolle rees	11.9%	11.7%	10.0%	+ 22 ups	+ 123 DP

<sup>1</sup>Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations. Total committed includes underlying fund commitments to the EM 2012, 2015, and EM 2019 Programs.

<sup>2</sup> Unfunded Commitment represents the aggregate remaining commitments to partnership investments.

<sup>3</sup> Total Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>4</sup> DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital. <sup>5</sup> TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVM is calculated as Total Value,

which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

<sup>6</sup> IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund manager's fees, expenses and carried interest.

<sup>7</sup>TVM and IRR Net of StepStone fees represent TVM and IRR net of fees paid by NYCERS to StepStone. IRR and TVM for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

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



#### Performance by Vintage Year

The following table and chart illustrate the Portfolio's since inception investment performance by vintage year as of December 31, 2021 relative to the median quartile U.S. All Private Equity TVM and IRR benchmarks as provided by Burgiss Private iQ. Performance of funds that are less than two years old are not meaningful. Note that Burgiss Private iQ data is continuously updated and is therefore subject to change.

s of Decem	ber 31, 2021 (US	\$ in millions)										
Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded Commitment	Total Exposure	TVM	IRR	PME Return <sup>1</sup>	PME Spread <sup>2</sup>	Private iQ U.S. All PE 50th Percentile TVM	Private iQ U.S. All PE 50th Percentile IRR
1998	\$50.0	\$50.2	\$69.1	\$0.0	\$0.0	\$0.0	1.37x	6.3%	3.4%	2.9%	1.38x	6.4%
1999	88.6	102.1	140.3	0.4	-	0.4	1.38x	7.6%	6.2%	1.4%	0.89x	(1.4%)
2000	116.9	137.2	173.9	0.7	-	0.7	1.27x	5.0%	5.2%	-0.3%	1.19x	2.9%
2001	98.1	128.5	206.6	1.7	2.8	4.5	1.62x	19.3%	7.7%	11.6%	1.44x	7.5%
2002	100.0	124.8	180.8	0.7	-	0.7	1.45x	16.4%	7.1%	9.3%	1.49x	10.2%
2003	104.4	114.2	222.5	2.8	11.9	14.6	1.97x	22.3%	6.9%	15.4%	1.54x	9.7%
2004	433.6	475.7	545.6	21.5	6.6	28.1	1.19x	4.2%	8.0%	-3.8%	1.49x	8.2%
2005	520.7	577.4	728.4	21.8	14.0	35.8	1.30x	5.1%	7.0%	-1.9%	1.39x	6.4%
2006	992.9	1,122.8	1,663.3	82.2	24.1	106.3	1.55x	7.9%	8.9%	-1.0%	1.44x	6.4%
2007	940.2	1,011.1	1,301.3	109.0	57.5	166.5	1.39x	7.0%	11.9%	-5.0%	1.63x	10.4%
2008	1,235.1	1,433.9	2,048.2	371.3	75.9	447.2	1.69x	11.8%	14.0%	-2.3%	1.57x	10.4%
2009	179.2	182.4	292.5	44.2	8.1	52.3	1.85x	14.8%	14.9%	-0.2%	2.17x	17.6%
2010	175.0	202.5	235.4	131.0	6.0	137.0	1.81x	11.7%	14.0%	-2.2%	1.73x	12.4%
2011	888.7	931.0	1,349.8	446.1	82.5	528.6	1.93x	16.3%	14.2%	2.1%	2.05x	16.6%
2012	509.4	549.5	645.4	382.9	35.0	417.9	1.87x	15.4%	14.3%	1.1%	2.10x	17.1%
2013	524.1	483.0	516.0	328.5	84.4	412.9	1.75x	15.5%	14.9%	0.5%	2.00x	18.4%
2014	601.5	626.1	597.7	655.8	82.4	738.2	2.00x	20.0%	15.8%	4.3%	2.12x	19.2%
2015	685.5	644.8	576.1	743.5	89.9	833.5	2.05x	24.7%	17.7%	7.0%	1.85x	19.5%
2016	533.2	557.8	368.4	845.7	63.6	909.3	2.18x	27.2%	18.9%	8.2%	1.90x	24.5%
2017	780.9	720.5	173.3	1,142.5	126.7	1,269.2	1.83x	28.8%	21.2%	7.7%	1.87x	29.6%
2018	1,125.7	724.5	173.3	983.4	444.6	1,428.0	1.60x	34.8%	26.0%	8.8%	1.64x	30.9%
2019	1,169.5	666.2	43.0	886.7	529.7	1,416.4	1.40x	46.6%	27.6%	19.0%	1.44x	33.5%
2020	902.0	404.0	4.7	486.3	502.5	988.8	NM	NM	NM	NM	NM	NM
2021	1,546.1	308.2	17.1	346.8	1,253.2	1,600.0	NM	NM	NM	NM	NM	NM
Total	\$14,585.0	\$12,278.4	\$12,272.5	\$8,034.7	\$3,785.2	\$11,819.9	1.65x	11.9%	11.9%	0.0%	1.54x	14.0%

<sup>1</sup> Russell 3000 PME+

<sup>2</sup> PME Spread is calculated as IRR minus PME Return.





#### Portfolio Periodic Returns vs. Russell 3000<sup>®</sup> Index

As of December 31, 2021	3 Month	1 Year	3 Year	5 Year	10 Year	Since Inception
NYCERS IRR	7.0%	37.9%	24.7%	19.6%	14.1%	11.9%
Russell 3000 <sup>®1</sup>	9.3%	25.6%	25.9%	17.9%	16.3%	11.9%
Russell 3000 <sup>®</sup> + 300 bps <sup>2</sup>	12.3%	28.6%	28.9%	20.9%	19.3%	14.9%
NYCERS Outperformance/(Underperformance)						
vs. Russell 3000 <sup>®</sup> + 300 bps <sup>2</sup>	(5.3%)	9.3%	(4.2%)	(1.2%)	(5.2%)	(3.0%)

<sup>1</sup>Return is a dollar-weighted PME+ calculation of daily changes in the Russell 3000<sup>®</sup> Index. Russell Investment Group is the source and owner of the trademark, service marks and copyrights related to the Russell Indexes. Russell<sup>®</sup> is a trademark of Russell Investment Group.

<sup>2</sup>Return is a dollar-weighted PME+ calculation of daily changes in the Russell 3000<sup>9</sup> Index plus a 300 basis point illiquidity premium (the Opportunity Cost Benchmark). Note: The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. 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.

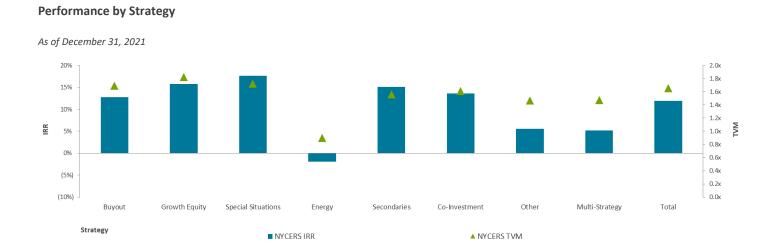
#### Performance by Strategy / Sub-Strategy

The following table and charts illustrate the Portfolio's since inception investment performance by strategy and sub-strategy as of December 31, 2021.

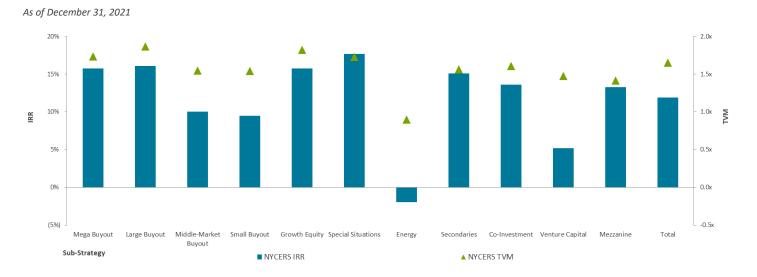
As of December 31, 2021 (US\$ in millions)

Strategy / Sub-Strategy	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded Commitment	Total Exposure	TVM	IRR
Buyout	\$8,723.6	\$7,737.2	\$8,121.6	\$4,986.0	\$2,067.6	\$7,053.6	1.69x	12.7%
Mega Buyout	3,244.6	2,460.5	1,765.4	2,499.2	1,102.6	3,601.8	1.73x	15.7%
Large Buyout	2,258.8	2,146.9	2,703.4	1,309.1	416.3	1,725.4	1.87x	16.1%
Middle-Market Buyout	1,985.7	1,781.9	1,975.7	777.6	466.2	1,243.8	1.55x	10.0%
Small Buyout	1,234.5	1,347.8	1,677.2	400.1	82.5	482.6	1.54x	9.5%
Growth Equity	1,085.5	888.7	594.2	1,026.7	244.5	1,271.3	1.82x	15.8%
Special Situations	1,435.7	1,150.1	1,206.7	779.5	495.3	1,274.8	1.73x	17.7%
Energy	355.0	393.7	327.7	26.4	11.4	37.8	0.90x	-1.9%
Secondaries	1,027.1	777.9	789.3	425.7	245.9	671.6	1.56x	15.1%
Co-Investment	973.2	504.3	261.5	550.4	478.5	1,028.9	1.61x	13.6%
Other	722.9	795.2	971.5	195.3	11.3	206.6	1.47x	5.6%
Venture Capital	656.5	704.3	843.8	194.5	8.5	203.1	1.47x	5.2%
Mezzanine	66.3	90.9	127.7	0.8	2.8	3.6	1.41x	13.3%
Multi-Strategy	262.0	31.4	-	44.7	230.6	275.3	NM	NM
FoF	262.0	31.4	-	44.7	230.6	275.3	NM	NM
Total	\$14,585.0	\$12,278.4	\$12,272.5	\$8,034.7	\$3,785.2	\$11,819.9	1.65x	11.9%





Performance by Sub-Strategy





### **Portfolio Diversification**

The following tables illustrate the Portfolio's diversification by strategy and fund geographic focus as of December 31, 2021.

#### By Strategy/Sub-Strategy

	Market	/alue	Unfunded Cor	nmitment	Total Exp	osure
As of December 31, 2021 (US\$ in millions)	\$	% of Total	\$	% of Total	\$	% of Total
Buyout	\$4,986.0	62.1%	\$2,067.6	54.6%	\$7,053.6	59.7%
Mega Buyout	2,499.2	31.1%	1,102.6	29.1%	3,601.8	30.5%
Large Buyout	1,309.1	16.3%	416.3	11.0%	1,725.4	14.6%
Middle-Market Buyout	777.6	9.7%	466.2	12.3%	1,243.8	10.5%
Small Buyout	400.1	5.0%	82.5	2.2%	482.6	4.1%
Growth Equity	1,026.7	12.8%	244.5	6.5%	1,271.3	10.8%
Special Situations	779.5	9.7%	495.3	13.1%	1,274.8	10.8%
Energy	26.4	0.3%	11.4	0.3%	37.8	0.3%
Secondaries	425.7	5.3%	245.9	6.5%	671.6	5.7%
Co-Investment	550.4	6.9%	478.5	12.6%	1,028.9	8.7%
Other	195.3	2.4%	11.3	0.3%	206.6	1.7%
Venture Capital	194.5	2.4%	8.5	0.2%	203.1	1.7%
Mezzanine	0.8	0.0%	2.8	0.1%	3.6	0.0%
Multi-Strategy	44.7	0.6%	230.6	6.1%	275.3	2.3%
FoF	44.7	0.6%	230.6	6.1%	275.3	2.3%
Total	\$8,034.7	100.0%	\$3,785.2	100.0%	\$11,819.9	100.0%

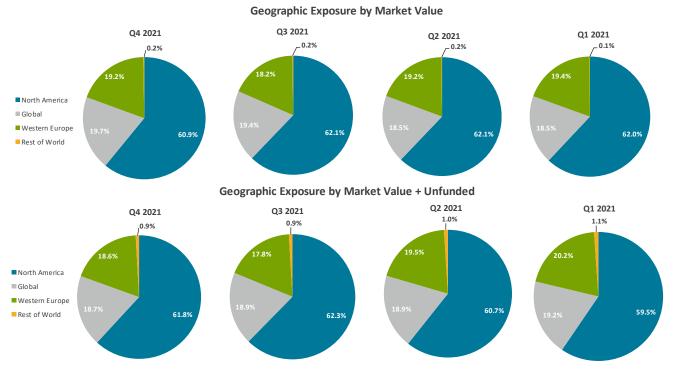
#### **By Fund Geographic Focus**

	Market V	/alue	Unfunded Con	nmitment	Total Exp	osure
As of December 31, 2021 (US\$ in millions)	\$	% of Total	\$	% of Total	\$	% of Total
North America	\$4,893.8	60.9%	\$2,415.8	63.8%	\$7,309.6	61.8%
Global	1,580.7	19.7%	627.5	16.6%	2,208.2	18.7%
Western Europe	1,540.2	19.2%	657.7	17.4%	2,197.8	18.6%
Rest of World	20.1	0.2%	84.3	2.2%	104.3	0.9%
Total	\$8,034.7	100.0%	\$3,785.2	100.0%	\$11,819.9	100.0%

Fund Geographic Focus is based on a number of factors, including the GP-stated geographic focus, the number of investments within each region, invested capital by region, the location of the firm's offices and investment professionals, and the underlying fund currency.



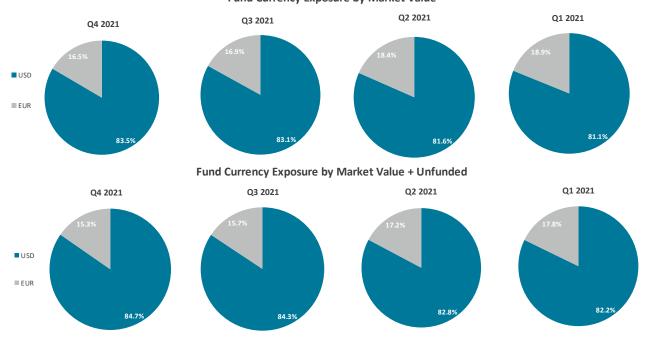
#### **By Fund Geographic Focus**



The following charts illustrate the Portfolio's diversification by fund geographic focus for the most recent four quarters as of December 31, 2021.

#### **By Fund Currency**

The following charts illustrate the Portfolio's diversification by fund currency for the most recent four quarters as of December 31, 2021.



Fund Currency Exposure by Market Value

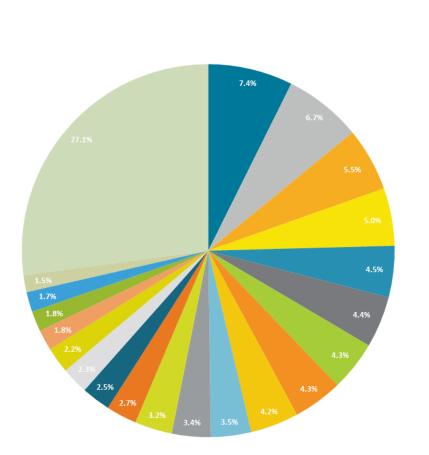
16 of 28



#### **By Investment Manager**

As of December 31, 2021, the Portfolio was highly diversified by investment manager, with 20 managers comprising US\$8.6 billion, or 72.9% of total exposure. The remaining 73 managers comprised 27.1% of total exposure as of quarter-end.

Portfolio Total Exposure by Investment Manager As of December 31, 2021



- Vista Equity Partners (7.4%)
- Warburg Pincus (6.7%)
- KKR (5.5%)
- CVC Capital Partners (5.0%)
- Platinum Equity (4.5%)
- EQT Partners (4.4%)
- Ardian (4.3%)
- BC Partners (4.3%)
- Leonard Green & Partners (4.2%)
- Apollo Management (3.5%)
- Apax Partners (3.4%)
- Ares Management (3.2%)
- Lexington Partners (2.7%)
- Neuberger Berman (2.5%)
- Bridge point Capital (2.3%)
- Crestview Partners (2.2%)
- Clearlake (1.8%)
- The Blackstone Group (1.8%)
- Welsh, Carson, Anderson & Stowe (1.7%)
- HarbourVest Partners, LLC (1.5%)
- Remaining 73 managers (27.1%)



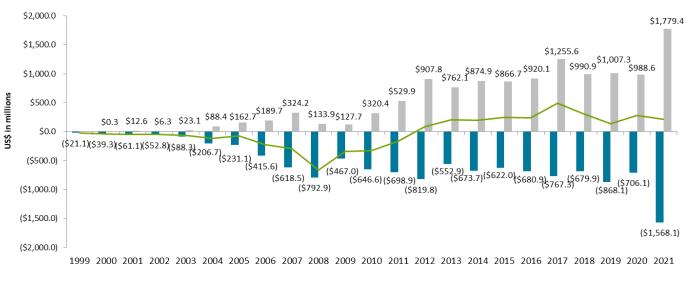
#### **Portfolio Cash Flow Analysis**

The following yearly and quarterly cash flow analysis is based on actual Portfolio cash flows during those time periods.

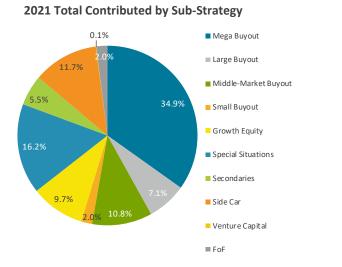
#### Year to Date Cash Flow Activity

During the twelve months ended December 31, 2021, the Portfolio made US\$1,568.1 million of contributions and received US\$1,779.4 million of distributions, for a net cash inflow of US\$211.3 million, compared to a net cash inflow of US\$282.5 million during the same period in the prior year. The graph below illustrates cash flow activity since inception by calendar year.

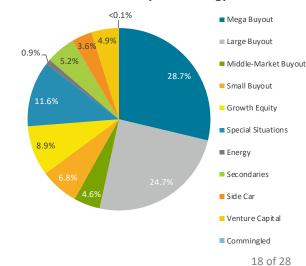
Buyout funds were the most active in terms of cash flow activity during 2021. Buyout funds drew down US\$857.8 million or 54.7% of total contributions during 2021, and distributed US\$1779.4 million, or 64.9% of total distributions during 2021.



Calendar Year Contributed Distributed — Net Cash Flow



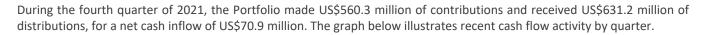
2021 Total Distributed by Sub-Strategy

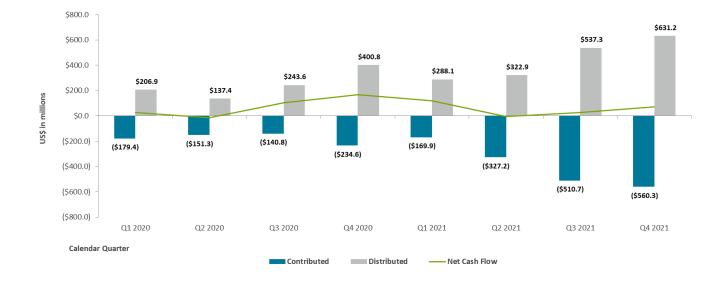


New York City Employees' Retirement System Quarterly Monitoring Report



#### **Quarterly Cash Flow Activity**





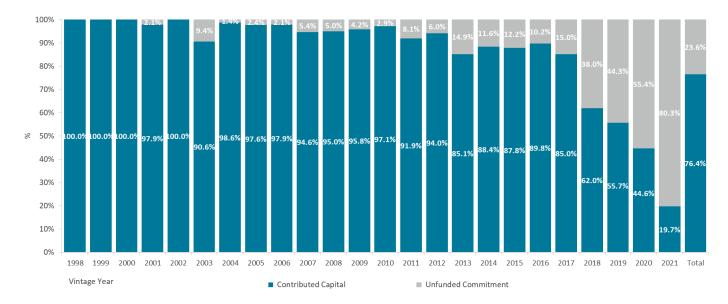
Buyout funds were the most active in terms of cash flow activity during the fourth quarter of 2021. Buyout funds drew down US\$307.3 million or 54.8% of total contributions during the quarter, and distributed US\$377.7 million, or 59.8% of total distributions during the quarter.





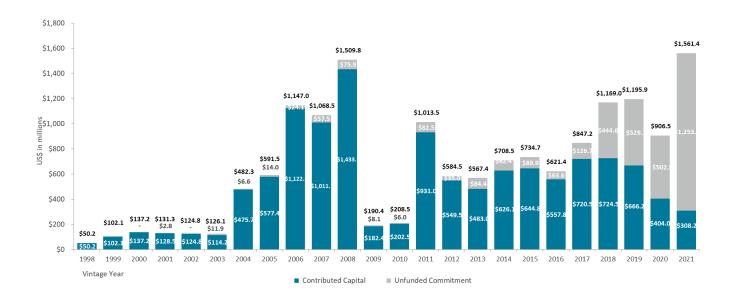
#### **Invested Capital by Vintage Year**

The following chart illustrates cumulative capital contributions as a percentage of total capital commitments, by fund vintage year, as of December 31, 2021.



Capital Contributions to Unfunded by Vintage Year (%)

The following chart illustrates cumulative capital contributions relative to unfunded commitment, by fund vintage year, as of December 31, 2021.



#### Capital Contributions to Unfunded by Vintage Year (US\$)



#### **Portfolio Company-Level Analysis**

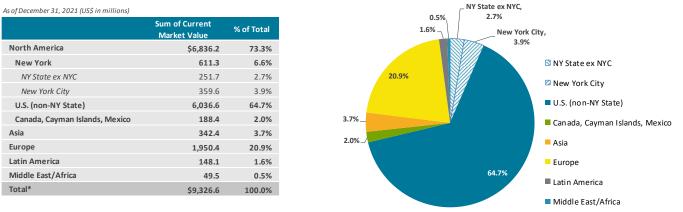
#### **Geographic Exposure**

The following charts illustrate the Portfolio's total investment cost and current market value exposure by geography at the portfolio company level as of December 31, 2021. Please note that the geography is based upon the corporate headquarters of each portfolio company.

#### Geographic Exposure by Total Cost

s of December 31, 2021 (US\$ in millions)			NY State ex NYC, 0.8% 2.2%	
	Sum of Total Cost	% of Total	1.4% New York City, 5.0%	
North America	\$8,520.2	77.0%		🖾 NY State ex NYC
New York	800.1	7.2%		IN I State ex NTC
NY State ex NYC	243.9	2.2%	17.8%	🛛 New York City
New York City	556.3	5.0%	2.9%_	U.S. (non-NY State)
U.S. (non-NY State)	7,539.6	68.2%		
Canada, Cayman Islands, Mexico	180.5	1.6%	1.6%	📕 Canada, Cayman Isla
Asia	324.4	2.9%		Asia
Europe	1,971.7	17.8%		_ / 0.04
Latin America	154.3	1.4%		Europe
Middle East/Africa	89.2	0.8%	68.2%	Latin America
Total	\$11,059.8	100.0%		
				Middle East/Africa

#### Geographic Exposure by Current Market Value

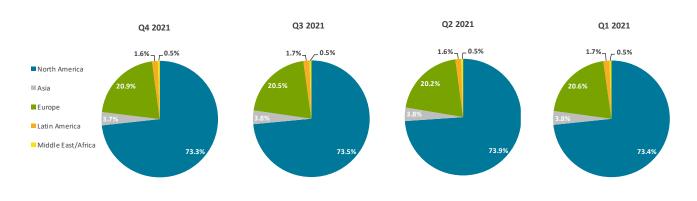


\* Total portfolio company market value will not equal the Portfolio's market value due to a fund's cash holding and rounding estimates.



#### **Geographic Exposure**

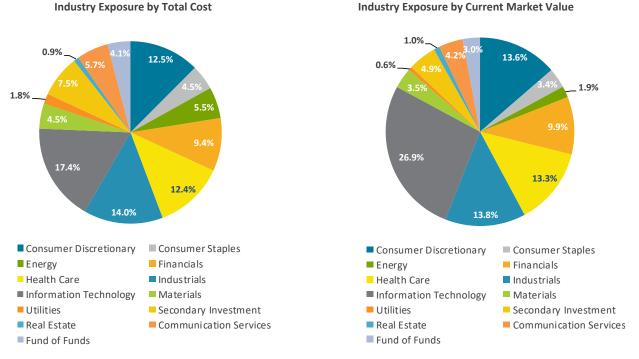
The following charts illustrate the Portfolio's current exposure by geography at the portfolio company level for the most recent four quarters. Please note that the geography is based upon the corporate headquarters of each portfolio company.



#### Geographic Exposure by Current Market Value

#### **Industry Exposure**

The following charts illustrate the Portfolio's total investment cost and current market value exposure by industry at the portfolio company level as of December 31, 2021. Please note that the Financials category includes investments in various debt securities.

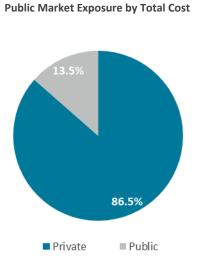


Industry Exposure by Current Market Value

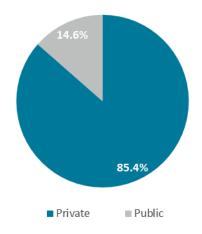


#### **Public Market Exposure**

As of quarter-end, publicly traded investments comprised 13.5% of the Portfolio's total investment cost and 14.6% of the Portfolio's exposed market value. The following charts illustrate the total investment and current market value exposure at the portfolio company level.



#### Public Market Exposure Current Market Value





## IV. Appendix



#### New York City Employees' Retirement System Private Equity Portfolio As of December 31, 2021 (in USD)

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR <sup>1</sup>	PME Return <sup>2</sup>	PME Spread <sup>3</sup>
	vestments									
1999 1999	Cypress Merchant Banking Partners II, L.P. Lincolnshire Equity Fund II, L.P.	3/29/1999 : 10/20/1999	5 45,172,972 \$ 18,397,347	53,944,269 19,261,466	\$ 50,584,154 \$ 37,755,344	20,454 344,684	0.94x 1.98x	(1.2%) 24.6%	5.5%	(6.7% 17.6%
2000	SCP Private Equity Partners II, L.P.	6/15/2000	27,442,463	30,827,225	10,819,873	663,784	0.37x	(13.2%)		(18.4%
2001	Apollo Investment Fund V, L.P.	4/13/2001	40,000,000	62,528,643	123,295,865	340,509	1.98x	38.6%	8.3%	30.3%
2001	RRE Ventures III, L.P.	7/6/2001	19,999,999	26,323,260	34,078,940	1,369,316	1.35x	5.4%	6.6%	(1.2%
2002	Thomas, McNerney & Partners, L.P.	10/9/2002	20,000,000	20,000,000	10,058,105	684,616	0.54x	(10.5%)		(21.1%
2003	FS Equity Partners V, L.P.	1/20/2003	25,000,000	21,419,958	41,861,469	2,069,525	2.05x	15.3%	5.2%	10.1%
2003 2003	Blackstone Capital Partners IV, L.P. Ares Corporate Opportunities Fund, L.P.	2/26/2003 4/1/2003	34,418,762 45,000,000	38,818,072 53,984,770	100,181,154 80,476,920	(55,187) 747,862	2.58x 1.50x	39.7% 13.1%	7.6% 7.4%	32.2% 5.7%
2003	Markstone Capital Partners, LP	1/30/2004	40,000,000	46,899,103	19,822,611	272,215	0.43x	(32.2%)		(42.5%
2004	FdG Capital Partners II LP	8/30/2004	35,000,000	37,714,408	44,952,749	770,175	1.21x	3.7%	6.8%	(3.1%
2004	Lincolnshire Equity Fund III, L.P.	10/1/2004	55,000,000	55,006,941	78,246,227	19,654,001	1.78x	27.5%	12.4%	15.1%
2004	Yucaipa American Alliance Fund I, LP	10/1/2004	90,000,000	114,094,892	137,148,067	227,580	1.20x	3.9%	10.5%	(6.7%
2004	New York/Fairview Emerging Managers Fund, L.PTranche 1	10/21/2004	32,000,000	32,862,069	35,002,679	527,707	1.08x	1.3%	8.7%	(7.4%)
2005	Palladium Equity Partners III, L.P.	11/12/2004	35,000,000	36,370,890		103,163	1.94x	16.1%	11.9%	4.2%
2005 2005	New Mountain Partners II, L.P. Snow Phipps Group, L.P.	1/12/2005 9/7/2005	46,451,615 20,000,000	42,071,397 24,501,774	81,045,604 22,021,223	262,221 11,594,757	1.93x 1.37x	13.6% 5.9%	4.4% 12.1%	9.2%
2005	USPF II Institutional Fund, L.P.	11/23/2005	65,000,000	85,734,194	99,947,469	2,776,867	1.20x	3.1%	7.6%	(4.5%)
2005	JP Morgan Fleming (Tranche A)	12/21/2005	43,000,000	43,164,397	48,973,759	7,027,817	1.30x	4.6%	11.1%	(6.5%)
2006	Aisling Capital II, LP	1/12/2006	6,680,102	7,854,064	7,775,060	238,696	1.02x	0.4%	8.0%	(7.6%)
2006	BDCM Opportunity Fund II, L.P.	3/29/2006	25,000,000	37,203,442	101,469,671	2,849,300	2.80x	18.4%	11.8%	6.6%
2006	Blackstone Capital Partners V, L.P.	4/13/2006	121,624,827	129,565,095	210,272,478	2,540,891	1.64x	8.0%	8.4%	(0.4%)
2006	Apollo Investment Fund VI, L.P.	5/10/2006	90,000,000	115,838,240	173,338,314	1,660,132	1.51x	8.6%	7.6%	1.0%
2006	Landmark Equity Partners XIII, L.P.	5/11/2006	50,000,000	48,059,342	63,519,033	166,031	1.33x	5.4%	6.7%	(1.4%)
2006 2006	Ares Corporate Opportunities Fund II, L.P. Fairview Ventures Fund III, L.P.	5/23/2006 6/29/2006	50,000,000	54,760,870 26,860,461	91,388,541 56,281,492	62,703 10,121,958	1.67x 2.47x	13.1% 15.0%	3.8% 13.1%	9.3% 1.9%
2006	Ampersand 2006	8/14/2006	25,000,000 25,000,000	25,000,000	78,074,782	673,552	2.47x 3.15x	17.0%	9.0%	8.0%
2006	Thomas, McNerney & Partners II, L.P.	11/30/2006	25,000,000	25,349,167	55,484,019	796,637	2.22x	16.4%	11.6%	4.8%
2006	Catterton Partners VI, L.P.	12/14/2006	45,000,000	51,243,868	88,601,068	11,102,837	1.95x	11.6%	9.3%	2.2%
2006	First Reserve Fund XI, L.P.	12/14/2006	45,000,000	47,820,682	30,880,319	6,551	0.65x	(9.8%)		(16.9%)
2006	RRE Ventures IV, L.P.	12/19/2006	35,000,000	44,529,980	58,411,349	27,793,485	1.94x	7.8%	12.0%	(4.3%)
2006	MidOcean Partners III, L.P.	12/21/2006	58,234,777	69,841,321	143,381,742	12,267,751	2.23x	13.6%	10.1%	3.5%
2006	GF Capital Private Equity Fund, L.P.	12/22/2006	20,000,000	20,729,120		11,839,484	1.88x	12.0%	13.1%	(1.1%)
2006	The Fourth Cinven Fund	1/22/2007	69,344,692	72,910,892	105,361,467	46,160	1.45x	7.4%	7.5%	(0.2%)
2007 2007	Pegasus Partners IV, L.P. FTVentures III, LP	1/29/2007 3/1/2007	30,000,000	36,610,033	27,833,056	5,084,844 7,508,096	0.90x 2.24x	(1.9%) 15.8%	11.3%	(13.2%) 5.4%
2007	Co-Investment Partners Europe, L.P.	3/19/2007	24,201,990 39,910,104	26,802,873 42,601,283	52,454,701 53,409,400	515,122	1.27x	4.5%	15.3%	(10.7%)
2007	Montreux Equity Partners IV, L.P.	3/27/2007	20,000,000	20,000,000	11,044,696	16,465,408	1.38x	4.0%	11.1%	(7.1%)
2007	Quaker BioVentures II, L.P.	3/30/2007	20,000,000	19,358,740	19,972,887	2,663,092	1.17x	3.2%	12.7%	(9.6%)
2007	SCP Vitalife Partners II Fund	4/13/2007	20,000,000	20,099,698	1,579	4,578,291	0.23x	(13.1%)	2.9%	(16.1%)
2007	Nautic Partners VI, L.P.	5/14/2007	30,000,000	33,519,335	75,143,850	7,024,688	2.45x	18.7%	12.3%	6.4%
2007	Constellation Venture Capital III, L.P.	5/22/2007	25,000,000	28,826,564	24,421,101	629,209	0.87x	(1.9%)		(18.3%)
2007	United States Power Fund III, L.P.	6/28/2007	65,000,000	76,903,642	91,685,129	10,442,491	1.33x	4.6%	10.0%	(5.4%)
2007 2007	Halyard Capital Fund II, L.P. Carlyle Partners V, L.P.	7/2/2007 7/6/2007	25,000,000 70,000,000	21,774,615 72,385,953	26,849,871 125,232,956	6,250,435 5,790,541	1.52x 1.81x	7.0% 13.7%	10.3% 11.1%	(3.3%) 2.5%
2007	PCG Clean Energy & Technology Fund (East), LLC	7/6/2007	90,000,000	81,429,594	23,944,273	11,097,316	0.43x	(9.9%)		(22.9%)
2007	GSO Capital Opportunities Fund LP	7/16/2007	45,000,000	67,377,298	95,627,284	786,508	1.43x	17.3%	10.2%	7.2%
2007	StarVest Partners II, L.P.	8/1/2007	25,000,000	25,159,680	12,838,046	9,786,339	0.90x	(1.3%)		(15.3%)
2007	New Mountain Partners III, L.P.	8/9/2007	100,000,000	102,308,020	250,501,449	2,695,311	2.47x	14.6%	13.2%	1.4%
2007	Vista Equity Partners Fund III, L.P.	10/3/2007	30,000,000	32,273,142	76,639,447	3,060,769	2.47x	26.9%	10.0%	16.8%
2007	Trilantic Capital Partners IV L.P.	10/22/2007	69,028,637	70,369,187	107,068,779	3,217,049	1.57x	13.2%	11.1%	2.1%
2007	RLJ Equity Partners Fund I, L.P.	11/30/2007	20,000,000	22,197,034	25,661,463	7,468,915	1.49x	8.1%	14.3%	(6.2%)
2007 2008	Pine Brook Capital Partners, L.P. Paladin III (NY City), L.P.	1/11/2008 1/8/2008	30,000,000 30,000,000	34,068,301 42,282,356	42,439,115 80,914,215	3,963,564 28,708,573	1.36x 2.59x	7.8% 14.9%	12.2% 13.0%	(4.4%)
2008	Apollo Investment Fund VII, L.P.	1/28/2008	100,000,000	42,282,336	211,777,176	2,156,924	2.59x 1.74x	22.6%	13.0%	8.8%
2008	NGN BioMed Opportunity II, L.P.	2/11/2008	20,000,000	19,151,821	13,346,209	9,263,784	1.18x	2.2%	15.3%	(13.1%)
2008	Riverstone/Carlyle Global Energy & Power Fund IV, L.P.	3/3/2008	45,000,000	51,825,886		344,477	1.08x	2.1%	14.0%	(11.8%)
2008	Yucaipa American Alliance Fund II, LP	3/28/2008	120,000,000	164,699,094	176,494,894	107,748,011	1.73x	8.7%	13.2%	(4.4%)
2008	Levine Leichtman Capital Partners IV, L.P.	4/8/2008	35,000,000	37,477,097	59,355,428	3,472,236	1.68x	17.9%	14.4%	3.5%
2008	New York/Fairview Emerging Managers Fund, L.PTranche 2	5/28/2008	45,000,000	45,593,762	94,931,771	38,453,915	2.93x	19.2%	14.1%	5.1%
2008	Yucaipa Corporate Initiatives Fund II, LP	6/23/2008	42,092,788	41,334,383	28,259,832	8,676,778	0.89x	(1.5%)		(14.2%)
2008 2008	Leeds Equity Partners V, L.P. GI Partners Fund III L.P.	7/28/2008	60,000,000	55,563,349 48,627,007	135,412,913	9,845,114	2.61x 1.57x	18.7% 13.0%	14.1% 15.3%	4.5%
2008	Ares Corporate Opportunities Fund III, L.P.	7/29/2008 7/30/2008	45,000,000 75,000,000	48,627,007 91,895,841	76,237,582 194,522,102	19,488 3,386,777	2.15x	20.3%	15.5%	(2.4%) 8.2%
2008	GCM Grosvenor NYCERS Emerging Manager Fund, L.P.	8/22/2008	116,737,374	147,518,724	153,678,165	82,452,840	1.60x	11.0%	14.5%	(3.6%)
2008	First Reserve Fund XII, L.P.	8/25/2008	45,000,000	49,986,866		1,728,202	0.54x	(15.1%)		(32.3%)
2008	Landmark Equity Partners XIV, L.P.	9/19/2008	109,120,000	106,508,080		11,982,446	1.35x	9.6%	14.8%	(5.1%)
2008	Crestview Partners II, L.P.	10/1/2008	50,000,000	60,747,537		40,123,339	2.08x	15.3%	15.2%	0.1%
2008	Avista Capital Partners II, L.P.	11/5/2008	75,000,000	98,630,998	154,561,847	5,596,371	1.62x	14.3%	14.8%	(0.5%)
2008	Blue Wolf Capital Fund II, L.P.	11/14/2008	25,000,000	27,497,673	46,459,204	186,500	1.70x	10.7%	15.4%	(4.6%)
2008	Bridgepoint Europe IV	11/14/2008	26,641,911	27,310,693		4,447,197	1.53x	9.6%	15.0%	(5.4%)
2008	Aisling Capital III, LP	11/20/2008	14,000,000	15,795,192	37,253,299	85,583	2.36x	26.0%	14.3%	11.7%
2008	Onex Partners III LP Welsh Carson Anderson & Stowe XI, L.P.	12/10/2008 2/10/2009	75,000,000	82,261,325 40,000,000		12,631,348 7,123,183	1.64x	11.4%	15.3%	(3.9%)
2009 2009	Welsh, Carson, Anderson & Stowe XI, L.P. FS Equity Partners VI, L.P.	7/27/2009	40,000,000 32,500,000	40,000,000 32,781,995	60,166,949 92,678,267	7,123,183 18,701,751	1.68x 3.40x	11.8% 24.4%	15.2% 15.2%	(3.5%) 9.1%
2009	Lincolnshire Equity Fund IV, L.P.	8/5/2009	27,500,000	29,724,486	34,141,280	9,091,207	1.45x	8.5%	14.0%	(5.5%)
2009	Lexington Capital Partners VII, L.P.	12/3/2009	50,000,000	44,653,226		9,271,262	1.67x	14.2%	14.8%	(0.6%)
2010	Snow Phipps II, L.P.	1/8/2010	30,000,000	36,285,675		20,118,015	1.45x	9.2%	14.8%	(5.6%)
2010	JP Morgan Fleming (Tranche B)	2/26/2010	35,000,000	36,831,358		33,995,185	2.08x	12.7%	14.6%	(1.9%)



#### New York City Employees' Retirement System Private Equity Portfolio As of December 31, 2021 (in USD)

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR <sup>1</sup>	PME Return <sup>2</sup>	PME Spread <sup>3</sup>
2010	Trident V, L.P.		\$ 110,000,000 \$	129,403,224			1.83x	11.9%	13.6%	(1.7%)
2011 2011	Blackstone Capital Partners VI, L.P. Ampersand 2011	1/24/2011 3/11/2011	120,000,000 25,000,000	128,627,486 25,000,000		57,166,162 780,885	1.75x 3.27x	12.5% 21.9%	13.6% 13.0%	(1.1%) 8.9%
2011	BDCM Opportunity Fund III, L.P.	4/8/2011	45,000,000	66,546,355		66,434,240	1.72x	10.4%	14.6%	(4.2%)
2011	AXA Secondary Fund V B L.P.	6/16/2011	120,000,000	98,870,221		954,282	1.60x	15.4%	14.8%	0.7%
2011	Wellspring Capital Partners V, L.P.	7/1/2011	40,000,000	42,416,359		13,185,318	1.68x	15.5%	13.0%	2.5%
2011	EQT VI, L.P.	8/1/2011	106,290,644	113,346,224		276,405	1.75x 1.46x	13.6% 8.5%	13.0% 15.5%	0.6%
2011 2011	Pegasus Partners V, L.P. BC European Capital IX	8/16/2011 9/19/2011	20,789,916 131,614,598	26,375,424 149,237,154		15,861,853 129,664,582	1.46x 1.97x	15.0%	15.5%	(6.9%) 0.1%
2011	American Securities Partners VI, L.P.	11/18/2011	80,000,000	89,635,184		49,372,811	2.26x	22.6%	14.5%	8.1%
2011	Vista Equity Partners Fund IV, L.P.	11/30/2011	100,000,000	105,264,982		81,631,664	2.04x	16.1%	14.7%	1.5%
2012	Warburg Pincus Private Equity XI, L.P.	5/24/2012	110,000,000	116,066,956		60,257,103	1.75x	13.1%	13.9%	(0.8%)
2012	Trilantic Capital Partners V L.P.	9/20/2012	70,000,000	77,682,356		37,492,118	1.61x	15.8%	14.5%	1.3%
2012	Palladium Equity Partners IV, L.P.	10/10/2012	55,000,000	55,697,016		51,623,734	1.48x	9.8%	16.1%	(6.3%)
2012 2012	Ares Corporate Opportunities Fund IV, L.P. Green Equity Investors VI, L.P.	11/5/2012 11/30/2012	125,000,000 120,000,000	133,358,612 133,956,257		66,917,306 160,722,774	1.94x 2.24x	15.9% 17.6%	13.2% 15.1%	2.7% 2.5%
2012	Platinum Equity Capital Partners III, L.P.	1/14/2013	100,000,000	85,672,971		30,754,782	2.24x	36.9%	14.3%	22.6%
2012	NYCERS - 2012 Emerging Manager Program <sup>4</sup>	6/21/2013	128,600,000	134,056,981		136,761,080	2.52x	23.2%	15.0%	8.2%
2013	Carlyle Partners VI, L.P.	7/3/2013	75,000,000	80,970,448		74,990,373	2.08x	18.0%	15.1%	2.8%
2014	Carlyle Partners VI, L.P. (Side Car)	9/23/2014	8,250,000	6,012,016	6,983,105	7,326,146	2.38x	16.7%	14.7%	2.1%
2013	Landmark Equity Partners XV, L.P.	10/30/2013	75,000,000	60,205,101		31,410,674	1.48x	14.0%	14.6%	(0.6%)
2013	Apollo Investment Fund VIII, L.P.	12/11/2013	140,000,000	132,702,083		79,114,820	1.60x	12.4%	15.5%	(3.1%)
2013 2014	Landmark - NYC Fund I, L.P. CVC Capital Partners VI, L.P.	12/24/2013 2/18/2014	25,000,000 123,412,132	22,832,761 132,890,298		13,928,909 156,504,251	1.75x 2.05x	16.9% 19.8%	13.3% 16.2%	3.6% 3.6%
2014	Crestview Partners III, L.P.	3/3/2015	66,000,000	55,766,660		56,000,924	1.53x	13.9%	16.6%	(2.7%)
2014	Crestview Partners III (Co-Investment B), L.P.	12/17/2015	22,000,000	22,781,960		29,719,146	1.35x	7.0%	18.4%	(11.4%)
2014	Olympus Growth Fund VI, L.P.	1/21/2014	75,000,000	76,069,635		61,362,741	1.56x	14.2%	16.2%	(2.0%)
2013	ASF VI B L.P.	5/9/2014	83,000,000	67,923,806	87,566,330	13,995,042	1.50x	13.1%	12.9%	0.1%
2014	ASF VI B NYC Co-Invest L.P.	5/9/2014	27,000,000	22,900,108		9,269,986	1.58x	14.0%	11.2%	2.8%
2014	Vista Equity Partners Fund V, L.P.	9/8/2014	125,000,000	155,387,004		182,816,211	2.26x	22.0%	14.8%	7.2%
2014 2015	Lexington Capital Partners VIII, L.P. Siris Partners III, L.P.	1/8/2015 5/4/2015	110,000,000 31,000,000	99,886,176 32,488,997		82,651,160 24,418,573	1.69x 1.52x	19.9% 14.5%	16.6% 16.2%	3.3%
2015	Centerbridge Capital Partners III, L.P.	5/21/2015	23,700,000	30,391,549		24,418,575	1.62x	20.4%	10.2%	3.0%
2015	Welsh, Carson, Anderson & Stowe XII, L.P.	8/26/2015	78,500,000	73,888,581		97,295,863	2.54x	31.6%	17.6%	13.9%
2015	Warburg Pincus Private Equity XII, L.P.	12/21/2015	205,500,000	205,440,895	112,831,676	311,654,175	2.07x	22.6%	18.4%	4.3%
2015	ASF VII B L.P.	12/29/2015	94,500,000	57,056,462		63,333,702	1.72x	21.2%	19.9%	1.3%
2015	ASF VII B NYC Co-Invest L.P.	12/29/2015	46,000,000	30,276,362		30,396,515	1.87x	23.7%	16.5%	7.3%
2015 2016	EQT VII, L.P. American Securities Partners VII, L.P.	1/8/2016 1/19/2016	162,452,283 80,000,000	173,843,199 77,778,215		137,704,179 103,940,763	2.12x 1.71x	26.6% 17.0%	17.0% 19.3%	9.6%
2018	Bridgepoint Europe V L.P.	2/8/2016	61,859,154	58,919,181		54,089,363	1.71x 1.99x	20.9%	19.5%	(2.3%)
2015	Bridgepoint Europe V Co-Invest	8/16/2016	18,346,681	16,788,035		32,624,373	2.79x	31.6%	17.2%	14.4%
2015	NYCERS - 2015 Emerging Manager Program <sup>5</sup>	2/22/2016	158,750,000	139,072,204		221,764,931	1.96x	32.2%	21.1%	11.0%
2016	Vista Equity Partners Fund VI, L.P.	6/28/2016	158,000,000	184,807,827	134,901,171	265,222,057	2.17x	24.2%	18.0%	6.2%
2016	Platinum Equity Capital Partners IV, L.P.	3/21/2017	111,000,000	107,536,119		124,525,654	2.06x	29.9%	18.6%	11.3%
2018	Platinum Equity Capital Partners IV Co-Investment, L.P.	9/7/2018	16,000,000	11,221,788		20,789,521	2.05x	26.1%	18.6%	7.5%
2016	Apax IX USD, L.P.	5/12/2017	127,000,000	128,023,781		220,828,464	2.41x	34.3%	20.0%	14.3%
2017 2017	Green Equity Investors VII, L.P. Ares Corporate Opportunities Fund V, L.P.	5/12/2017 6/22/2017	95,000,000 95,000,000	84,487,433 101,866,359		142,570,146 95,066,316	2.34x 1.34x	31.2% 12.3%	20.1% 19.3%	11.1% (7.0%)
2017	KKR Americas Fund XII, L.P.	10/31/2017	158,000,000	147,100,397		278,171,667	2.23x	42.9%	20.9%	22.0%
2017	BC European Capital X	12/14/2017	88,953,279	87,589,538		131,658,710	1.54x	17.6%	20.4%	(2.9%)
2016	BCEC X Co-Investment	3/24/2017	35,731,613	35,904,797	1,579,565	71,259,360	2.03x	24.6%	19.9%	4.7%
2017	Warburg Pincus Financial Sector, L.P.	1/5/2018	104,000,000	93,317,322		155,493,601	1.78x	29.1%	22.1%	6.9%
2018	Platinum Equity Small Cap Fund, L.P.	6/27/2018	41,000,000	25,190,694		26,679,486	1.33x	19.3%	25.9%	(6.6%)
2018	EQT VIII, L.P.	8/10/2018	111,081,009	98,944,890 22,218,497		163,235,996	2.11x	49.4%	27.2%	22.2%
2018 2017	EQT VIII Co-Investment CVC Capital Partners VII, L.P.	11/2/2018 12/4/2018	40,187,961 155,149,173	139,249,658		37,552,249 222,871,102	3.01x 1.67x	56.1% 35.6%	22.8% 23.8%	33.3% 11.8%
2017	Palladium Equity Partners V, L.P.	2/11/2019	33,333,333	20,235,953		23,231,936	1.25x	13.2%	28.0%	(14.9%)
2018	Vista Equity Partners Fund VII, L.P.	2/13/2019	177,500,000	130,613,938		190,635,887	1.47x	27.8%	25.1%	2.8%
2019	Welsh, Carson, Anderson & Stowe XIII, L.P.	3/14/2019	89,000,000	52,939,111	8,372,532	61,955,330	1.33x	43.2%	33.6%	9.6%
2018	Siris Partners IV, L.P.	3/15/2019	89,000,000	56,623,854		79,968,301	1.59x	26.3%	23.1%	3.3%
2018	Apollo Investment Fund IX, L.P.	3/15/2019	256,000,000	153,139,263		161,802,300	1.36x	28.8%	24.2%	4.6%
2018	ASF VIII B L.P.	3/15/2019	174,000,000	75,880,170		116,926,309		62.3%	37.4%	24.9%
2019 2019	ASF VIII B NYC Co-Invest L.P. Warburg Pincus Global Growth, L.P.	3/15/2019 3/26/2019	87,000,000 125,500,000	18,772,996 106,568,108		43,500,833 139,772,508	2.32x 1.32x	123.6% 27.4%	25.3% 27.3%	98.3% 0.1%
2019	Bridgepoint Europe VI	4/1/2019	121,662,712	74,278,999		90,518,213	1.35x	24.9%	28.7%	(3.8%)
2019	Bridgepoint Europe VI Co-Invest	5/7/2019	30,561,550	18,123,297		26,348,400	1.45x	24.4%	29.7%	(5.4%)
2019	Trilantic Capital Partners VI (North America) L.P.	8/8/2019	51,000,000	34,416,888	386,977	44,212,063	1.30x	27.8%	24.2%	3.7%
2019	NYCERS - 2019 Emerging Manager Program <sup>6</sup>	9/25/2019	258,600,000	55,026,049		77,535,375	1.44x	NM		N/A
2019	Lexington Capital Partners IX	12/20/2019	106,500,000	66,574,592		94,992,924	1.62x	86.3%	27.4%	58.9%
2019	Lexington IX Co-Invest	9/29/2020	35,500,000	17,396,775		27,500,997	1.62x	NM		N/A
2019	Platinum Equity Capital Partners V, L.P.	12/27/2019	157,000,000	155,385,264		198,947,296	1.36x	56.9%	26.2%	30.7%
2021 2019	Platinum Equity Capital Partners V Co-Investment, L.P. KKR European Fund V (USD)	7/1/2021 1/15/2020	39,250,000	38,725,935		53,306,435	1.42x 1.18x	NM NM		N/A
2019	FTV VI	3/18/2020	83,250,000 21,500,000	51,361,520 18,705,000		55,880,940 28,349,126		NM		N/A N/A
2020	Lindsay Goldberg V	4/29/2020	87,000,000	25,847,039		34,301,120		NM		N/A
2019	Blackstone Capital Partners VIII L.P.	5/19/2020	109,000,000	35,659,456		44,188,675	1.27x	NM		N/A
2020	Clearlake Capital Partners VI, L.P.	5/22/2020	47,000,000	38,174,394		60,899,113	1.64x	NM		N/A
2020	Green Equity Investors VIII, L.P.	10/19/2020	109,000,000	84,336,575		89,881,693	1.07x	NM		N/A
2020	Green Equity Investors VIII Coinvest N, L.P.	5/20/2020	36,300,000	25,940,109	-	28,459,253	1.10x	NM	NM NM	N/A



#### New York City Employees' Retirement System Private Equity Portfolio As of December 31, 2021 (in USD)

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR <sup>1</sup>	PME Return <sup>2</sup>	PME Spread <sup>3</sup>
2019	Crestview Partners IV, L.P.	10/28/2020	\$ 71,000,000 \$	19,044,819	\$ 70,490	\$ 30,580,291	1.61x	NM	NM	N/A
2019	Crestview Partners IV (Co-Investment), L.P.	10/28/2020	23,666,667	6,242,039	24,422	11,505,363	1.85x	NM	NM	N/A
2019	Apax X USD L.P.	11/10/2020	104,500,000	50,351,011	-	60,526,098	1.20x	NM	NM	N/A
2020	Valor Equity Partners V, L.P.	1/28/2021	26,000,000	17,596,766	-	24,263,453	1.38x	NM	NM	N/A
2020	EQT IX (No. 2) USD SCSP	2/5/2021	92,125,000	67,785,489	2,953,705	78,896,508	1.21x	NM	NM	N/A
2020	EQT IX Co-Investment	4/12/2021	25,125,000	24,945,834	-	28,291,416	1.13x	NM	NM	N/A
2020	Hg Genesis 9, L.P.	3/2/2021	51,973,406	26,197,179	-	33,616,874	1.28x	NM	NM	N/A
2020	BC Partners Fund XI	7/30/2021	110,000,000	34,057,403	-	34,387,361	1.01x	NM	NM	N/A
2021	BC Partners XI Metro Co-Investment L.P.	4/13/2021	50,000,000	14,288,960	-	15,058,476	1.05x	NM	NM NM	N/A
2021	Grain Communications Opportunity Fund III, L.P.	4/30/2021	21,000,000	7,614,784	2,707	6,627,138	0.87x	NM	NM	N/A
2020	KKR Asian Fund IV SCSp	5/27/2021	103,000,000	19,574,829	-	15,212,806	0.78x	NM	NM	N/A
2020	NYC-NorthBound Emerging Managers Program LP	5/5/2021	262,000,000	31,440,000	-	44,702,782	1.42x	NM	NM NM	N/A
2021	One Rock Capital Partners III, L.P.	6/1/2021	43,000,000	13,152,693	4,401,917	13,466,696	1.36x	NM	NM	N/A
2021	Stellex Capital Partners II	4/22/2021	51,500,000	12,946,322	1,704	11,835,849	0.91x	NM	NM	N/A
2021	Warburg Pincus Financial Sector II, L.P.	7/26/2021	84,500,000	13,444,760	-	20,936,651	1.56x	NM	NM	N/A
2021	Harbourvest Centre Street Co-Investment Fund L.P.	8/12/2021	172,000,000	40,850,000	-	42,193,557	1.03x	NM	NM	N/A
2021	Insight Partners XII Buyout Annex Fund, L.P.	8/25/2021	32,000,000	12,000,000	-	12,008,579	1.00x	NM	NM	N/A
2021	Insight Partners XII	8/27/2021	96,000,000	33,652,775	-	33,947,047	1.01x	NM	NM	N/A
2021	The Resolute Fund V, L.P.	9/7/2021	72,000,000	21,741,157	25,559	42,670,327	1.96x	NM	NM NM	N/A
2021	Ares Corporate Opportunities Fund VI, L.P.	10/13/2022	100,000,000	38,168,252	11,173,976	32,464,545	1.14x	NM	NM	N/A
2021	Vistria Fund IV, L.P.	10/14/2021	48,000,000	8,723,078	-	8,357,617	0.96x	NM	NM	N/A
2021	Centerbridge Capital Partners IV – N Co-Invest, L.P.	10/28/2021	32,000,000	8,409,897	-	8,414,281	1.00x	NM	NM NM	N/A
2021	Centerbridge Capital Partners IV, L.P.	12/6/2021	64,000,000	10,585,992	-	12,745,350	1.20x	NM	NM	N/A
2021	CVC Capital Partners VIII, L.P.	12/14/2021	174,885,840	33,913,528	-	34,713,448	1.02x	NM	NM	N/A
2021	KKR North America Fund XIII, L.P.	N/A	160,000,000	-	-	(336,443)	-	N/A	N/A	N/A
2021	Apax Digital Fund II	N/A	45,000,000	-	-	(580,292)	-	N/A	N/A	N/A
2021	Ares Corporate Opportunities Fund VI Co-Invest	N/A	60,000,000	-	-	-	-	N/A	N/A	N/A
2021	Clearlake Capital Partners VII, L.P.	N/A	144,000,000	-	-	(929,754)	-	N/A	N/A	N/A
2021	Reverence Capital Partners Opportunities Fund V	N/A	42,000,000	-	-	(97,571)	-	N/A	N/A	N/A
2021	Reverence Capital Partners Opportunities Fund V Parallel	N/A	15,000,000	-	-	-	-	N/A	N/A	N/A
2022	Permira VIII L.P.	N/A	146,155,264	-	-	-	-	N/A	N/A	N/A
2022	TPG Rise Climate, L.P.	N/A	45,833,333	-	-	(439,259)	-	N/A	N/A	N/A
2022	TPG Rise Climate Co-Invest, L.P.	N/A	91,666,667	-	-	-	-	N/A	N/A	N/A
Total Port	tfolio <sup>7</sup>		\$ 14,777,608,596 \$	12,278,435,875	\$ 12,272,492,641	\$ 8,034,727,259	1.65x	11.9%	11.9%	0.0%

<sup>1</sup> Performance for funds with less than eight (8) quarters of activity is not meaningful.

<sup>2</sup> Russell 3000 PME+ or Long-Nickels PME for investments with no distributed capital as of quarter-end.

<sup>3</sup> PME Spread is calculated as IRR minus PME Return.

<sup>4</sup>NYCRR5 - 2012 Emerging Manager Program includes the total commitment amount of \$128.6 million. The Program's original commitment amount of \$150 million was subsequently revised to \$128.6 million, all of which has been committed as of December 31, 2021. The remaining \$21.4 million was reallocated to the NYCERS - 2015 Emerging Manager Program mount of \$155 Emerging Manager Program includes the total commitment amount of \$150 million. The Program's original commitment amount of \$201.4 million, which included the original \$180.0 million commitment and the \$21.4 million reallocation

<sup>8</sup> NYCERS - 2015 Emerging Manager Program includes the total commitment amount of \$158.8 million. The Program's original commitment amount of \$201.4 million, which included the original \$180.0 million commitment and the \$21.4 million reallocation from the NYCERS - 2012 Emerging Manager Program, was subsequently revised to \$158.8 million. As of December 31, 2021, all \$158.8 million has been committed, and the remaining \$10.7 million was reallocated to the NYCERS - 2019 Emerging Manager Program.

<sup>6</sup>NYCERS - 2019 Emerging Manager Program commitment amount totals \$258.6 million, which includes the Program's original \$216.0 million commitment and the \$42.6 million reallocation from the NYCERS - 2015 Emerging Manager Program. As of December 31, 2021, \$66.0 million has been committed.

<sup>7</sup> Total Portfolio includes liquidated investments.

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

The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. 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.

Note: IRsp 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 has performance of fund investments due to a number of factors, such as the lack of industry valuation standards and the differences in the investment tage and strategy of various funds. Until a fund is injudiated, typically over 10 to 12 years, the IRR is only an interim estimated return. The IRR calculated in early years of a fund is not meaningful given the *i*-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 calculated by StepStone Group LP ("StepStone"), a consultant to the New York CIty Employees? Retirement System, based on information provided by the general partners (e.g. cash flows and valuations). The IRRs calculations and other information contained in this report have not been reviewed or confirmed by the general partners. The result of the Racluclations and other information contained in this report have not been reviewed or confirmed by the general partners. The result of the Racluclations can be affected by cash-flow timing, the accounting treatment of carried interest, fund management flees, advisory flees, organizational fees, other rund expenses, sale of distributed stock, and valuations. IRR and TVPI for certain whiches may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Retireved/recycled amounts increase contributed capital.



#### New York City Employees' Retirement System Subsequent Commitments As of December 31, 2021 (in USD)

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	D	istributed Capita	I	Market Value	Multiple	IRR <sup>1</sup>	PME Return <sup>2</sup>	PME Spread <sup>3</sup>
Commitm	ents Closed Subsequent to as of Date											
2022	FTV VII, L.P.	N/A	\$ 59,579,960 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	FTV VII Co-Invest	N/A	\$ 13,405,490 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A
2022	Raine Partners IV LP	N/A	\$ 32,000,000 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A
2022	Welsh, Carson, Anderson & Stowe XIV, L.P.	N/A	\$ 96,000,000 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	Welsh, Carson, Anderson & Stowe XIV N Co-Invest L.P.	N/A	\$ 32,000,000 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A
2022	Green Equity Investors IX	N/A	\$ 120,000,000 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A
2022	Thoma Bravo Fund XV, L.P.	N/A	\$ 123,000,000 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	Thoma Bravo Co-Invest Opportunities Fund XV, L.P.	N/A	\$ 41,000,000 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	GEI IX Co-Invest N, L.P.	N/A	\$ 40,000,000 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A
2022	Platinum Equity Capital Partners Fund VI	N/A	\$ 156,000,000 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A
2022	PECP VI Co-Invest, L.P.	N/A	\$ 52,000,000 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	LightBay Investment Partners II, LP	N/A	\$ 27,000,000 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	Lexington Capital Partners X, L.P.	N/A	\$ 96,000,000 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A
2022	Lexington X Co-Invest Partners B, L.P.	N/A	\$ 32,000,000 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	Hg Genesis 10	N/A	\$ 67,088,475 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	Hg Saturn 3, L.P.	N/A	\$ 49,200,000 \$	-	Ş		\$	-	N/A	N/A	N/A	N/A
2022	Hg N1 Co-Invest L.P.	N/A	\$ 24,600,000 \$	-	Ş	- 1	\$	-	N/A	N/A	N/A	N/A
Total Com	mitments Closed Subsequent to as of Date		\$ 1,060,873,925 \$	-	Ş	-	\$	-	N/A	N/A	N/A	N/A

<sup>1</sup> Performance for funds with less than eight (8) quarters of activity is not meaningful.

<sup>2</sup> Russell 3000 PME+

<sup>3</sup> PME Spread is calculated as IRR minus PME Return.

<sup>\*</sup>PME Spread is calculated as IRR minus PME Return. 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 early years of a fund is not meaningful given the *i*-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 IP ("StepStone"), a consultant to the New York City Employees' Retirement System, based on information provided by the general partners (e.g. cash flows and valuations). The IRR calculations and other information contained in this report tare contained in this report tare to been reviewed or confirmed by the general partners. The result of the IRR calculations and other information contained in this report tare to been reviewed or confirmed by the general partners. The result of the IRR calculations and other information contained in this report tare not been reviewed or confirmed by the general partners. The result of the IRR calculations and been 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.IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

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

Real Estate Quarterly Report (Public):



# Quarterly Real Estate Report

For the period ended December 31, 2021



NYC Employees' Retirement System



# **IMPORTANT INFORMATION**

This document is meant only to provide a broad overview for discussion purposes. All information provided here is subject to change. This document is for informational purposes only and does not constitute an offer to sell, a solicitation to buy, or a recommendation for any security, or as an offer to provide advisory or other services by StepStone Group LP, StepStone Group Real Assets LP, StepStone Group Real Estate LP, StepStone Conversus LLC, Swiss Capital Alternative Investments AG and StepStone Group Europe Alternative Investments Limited or their subsidiaries or affiliates (collectively, "StepStone") in any jurisdiction in which such offer, solicitation, purchase or sale would be unlawful under the securities laws of such jurisdiction. The information contained in this document should not be construed as financial or investment advice on any subject matter. StepStone expressly disclaims all liability in respect to actions taken based on any or all of the information in this document. This document is confidential and solely for the use of StepStone and the existing and potential clients of StepStone to whom it has been delivered, where permitted. By accepting delivery of this presentation, each recipient undertakes not to reproduce or distribute this presentation in whole or in part, nor to disclose any of its contents (except to its professional advisors), without the prior written consent of StepStone. While some information used in the presentation has been obtained from various published and unpublished sources considered to be reliable, StepStone does not guarantee its accuracy or completeness and accepts no liability for any direct or consequential losses arising from its use. Thus, all such information is subject to independent verification by prospective investors.

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

The presentation is being made based on the understanding that each recipient has sufficient knowledge and experience to evaluate the merits and risks of investing in private market products. All expressions of opinion are intended solely as general market commentary and do not constitute investment advice or a guarantee of returns. All expressions of opinion are as of the date of this document, are subject to change without notice and may differ from views held by other businesses of StepStone.

All valuations are based on current values calculated in accordance with StepStone's Valuation Policies and may include both realized and unrealized investments. Due to the inherent uncertainty of valuation, the stated value may differ significantly from the value that would have been used had a ready market existed for all of the portfolio investments, and the difference could be material. The long-term value of these investments may be lesser or greater than the valuations provided.

StepStone Group LP, its affiliates and employees are not in the business of providing tax, legal or accounting advice. Any tax-related statements contained in these materials are provided for illustration purposes only and cannot be relied upon for the purpose of avoiding tax penalties. Any taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Prospective investors should inform themselves and take appropriate advice as to any applicable legal requirements and any applicable taxation and exchange control regulations in the countries of their citizenship, residence or domicile which might be relevant to the subscription, purchase, holding, exchange, redemption or disposal of any investments. Each prospective investor is urged to discuss any prospective investment with its legal, tax and regulatory advisors in order to make an independent determination of the suitability and consequences of such an investment.

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

Each of StepStone Group LP, StepStone Group Real Assets LP, StepStone Group Real Estate LP and StepStone Conversus LLC is an investment adviser registered with the Securities and Exchange Commission ("SEC"). StepStone Group Europe LLP is authorized and regulated by the Financial Conduct Authority, firm reference number 551580. StepStone Group Europe Alternative Investments Limited ("SGEAIL") is an SEC Registered Investment Advisor and an Alternative Investment Fund Manager authorized by the Central Bank of Ireland and Swiss Capital Alternative Investments AG ("SCAI") is an SEC Exempt Reporting Adviser and is licensed in Switzerland as an Asset Manager for Collective Investment Schemes by the Swiss Financial Markets Authority FINMA. Such registrations do not imply a certain level of skill or training and no inference to the contrary should be made.

In relation to Switzerland only, this document may qualify as "advertising" in terms of Art. 68 of the Swiss Financial Services Act (FinSA). To the extent that financial instruments mentioned herein are offered to investors by SCAI, the prospectus/offering document and key information document (if applicable) of such financial instrument(s) can be obtained free of charge from SCAI or from the GP or investment manager of the relevant collective investment scheme(s). Further information about SCAI is available in the SCAI Information Booklet which is available from SCAI free of charge.

#### All data is as of December 31, 2021 unless otherwise noted.

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



#### **Executive Summary**

StepStone Group LP ("StepStone") was engaged by NYC Employees' Retirement System ("NYCERS") to provide Real Estate services for prospective investment opportunities, as well as portfolio management on NYCERS' portfolio (the "Portfolio"). Inception date of the Portfolio was on December 2002.

The following table illustrates the Portfolio's since inception investment performance as of December 31, 2021 as well as the change in performance from the prior quarter-end and the end of the same quarter in the prior year. The Portfolio's since inception net Internal Rate of Return ("IRR") now stands at 8.7% at December 31, 2021, which is up 51.2 basis points quarter-over-quarter.

#### Performance Summary

	INCEPTION TO	INCEPTION TO	INCEPTION TO	QUARTERLY	ANNUAL
	DECEMBER 31, 2021	SEPTEMBER 30, 2021	DECEMBER 31, 2020	CHANGE	CHANGE
Number of Managers	56	54	52	2	4
Number of Investments	108	106	95	2	13
Number of Active Managers	48	48	46	0	2
Number of Active Investments	96	96	85	0	11
Active Investments Only				(in	USD millions
Committed Capital	\$7,750.5	\$7,751.4	\$6,636.3	-0.9	1,114.2
Contributed Capital	6,255.2	6,186.4	5,492.2	68.8	763.0
Distributed Capital	4,198.8	4,105.1	3,535.2	93.7	663.6
Net Asset Value	5,320.3	4,941.4	4,109.6	378.9	1,210.7
Total Gain	3,263.9	2,860.1	2,152.6	403.8	1,111.2
Unfunded	2,481.3	2,484.9	2,018.1	-3.6	463.2
Total Exposure	7,801.6	7,426.3	6,127.7	375.3	1,673.9
Since Inception Returns, Includes Liq	uidated Investments				
DPI	0.70x	0.70x	0.69x	0.00x	0.02x
TVM Gross of Fees	1.58x	1.58x	1.50x	0.01x	0.08x
IRR Gross of Fees	11.1%	10.6%	9.6%	0.5%	1.5%
TVM Net of Fees	1.50x	1.46x	1.39x	0.04x	0.11x
IRR Net of Fees	8.7%	8.2%	7.3%	0.5%	1.4%

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

-Number of Managers and Investments include active funds. Liquidated funds are not included.

-Committed Capital represents original commitments to partnership investments.

-Unfunded Commitment represents the aggregate remaining commitments to partnership investments.

-Total Exposure represents the sum of Market Value and Unfunded Commitment.

-DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital interest. DPI is calculated as Distributions divided by Contributions.

-TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to Contributions, without consideration for time. TVM is calculated as Total Value, which is comprised of Market Value plus Distributions, divided by Contributions.

-IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarterend. IRR is net of fund manager's fees, expenses, and carried interest.

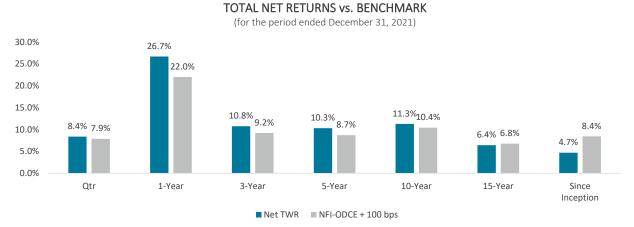
-TVM and IRR Net of fees represent TVM and IRR net of fees.

-DPI, TVM and IRR are since inceptions values up until the current quarter.



#### **Portfolio Performance vs Benchmarks**

The Portfolio's Total Time Weighted Returns ("TWR") are measured against the NFI-ODCE benchmark plus 100 basis points. The NCREIF Fund Index – Open End Diversified Core Equity ("NFI-ODCE") is a capitalization weighted return index with an inception date of December 31, 1977. The NFI-ODCE contains data from 27 core, open-end funds investing in the United States. For the current quarter, the NFI-ODCE contained performance data from 3,271 investments, totaling over \$321.0 billion of gross real estate assets. The NFI-ODCE differs from the NCREIF Property Index because it includes leverage, reports returns gross and net of fees, and all reporting funds must qualify according the NFI-ODCE diversification and other standards (e.g., fund level leverage below 40%). The referenced benchmark is shown for general market comparison and is not meant to represent any particular fund. An investor cannot directly invest in the NFI-ODCE index. Moreover, the benchmark does 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 inception date is 4Q 2002

#### **Portfolio Diversification**

The following charts outline the Portfolio's diversification by strategy and geographic regions, the limits of which are governed by the Policy Statement and Annual Plan. Funds that do not yet have NAVs are not included in the Allocation by Region analysis.

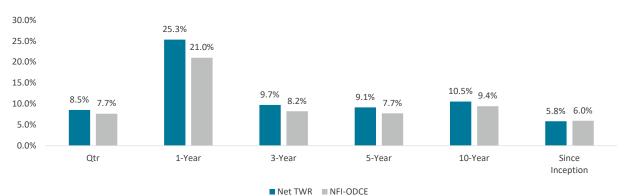
					(in l	USD millions)	
Allocation by Strategy	Net Asset	Net Asset Value		ded	Total Exposure		
	\$	%	\$	%	\$	%	
Core	3,167.0	60%	425.8	17%	3,592.8	46%	
Non-Core	2,153.3	40%	2,055.5	83%	4,208.8	54%	
Total	5,320.3	100%	2,481.3	100%	7,801.6	100%	
Emerging	120.6	2%	194.1	8%	314.8	4%	
Debt	469.6	9%	221.0	9%	690.6	9%	
Debt	469.6	9%	221.0	9%	690.6		

Allocation by Region	Net Asset	Net Asset Value		ded	Total Exposure		
	\$	%	\$	%	\$	%	
North America	4,674.6	88%	2,180.1	88%	6,854.7	88%	
Europe	508.2	10%	237.0	10%	745.2	10%	
Asia	123.8	2%	57.7	2%	181.6	2%	
Rest of World	13.7	0%	6.4	0%	20.1	0%	
Total	5,320.3	100%	2,481.3	100%	7,801.6	100%	



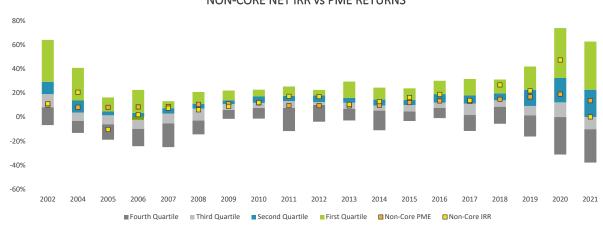
#### Core and Non-Core Performance vs Benchmarks

The following graphs measure the Portfolio's Core and Non-Core performance against chosen benchmarks. The Portfolio's Core Time Weighted Returns are benchmarked against the NFI-ODCE. The Portfolio uses IRR by vintage year as a measurement of its Non-Core performance. A public market equivalent ("PME") of 60% Russell 3000 and 40% Barclays Capital Aggregate Bond Index is used to measure the Portfolio's Non-Core Performance. The PME is calculated using the Portfolio cash flows to produce a return that would have been earned if the Portfolio cash flows were invested in the PME.



#### CORE NET TWR vs. BENCHMARK

-Core Portfolio inception date is 4Q 2006



## NON-CORE NET IRR vs PME RETURNS

The referenced indices/benchmarks are shown for general market comparisons and are not meant to represent any particular fund. 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.

2010

11.7%

11.9%

2011 2012

9.4%

17.1%

9.4%

16.9%

9.2%

10.4%

9.8%

12.8%

11.9%

16.2% 18.7%

2013 2014 2015 2016 2017 2018 2019

13.3% 12.8%

13.7%

14.7%

26.6%

16.7%

21 7%

2009

8.8%

11.0%

Vintage Year

Non-Core PME

Non-Core IRR

2002

9.8%

11.1%

2004

8.0%

20.5%

2005

8.0%

-10.4%

2006

8.3%

1 9%

2007 2008

8.6%

7.3%

10.4%

5.9%

2020

18.9%

47 2%

2021

N/M



#### **Portfolio Profile**

New York City Employees Retirement Systems has allocated 7.5% of the total plan to Real Estate. The Real Estate Portfolio's objective is to generate a total net return that exceeds the Benchmark NFI-ODCE +100 bps total net return measured over full market cycles.

NYC ERS - Real Estate	
Total Plan Assets (\$)	\$88,233,000,000
Real Estate Allocation (%)	7.5%
Real Estate Allocation (\$)	\$6,617,475,000
Real Estate Core Allocation (%)	3.5%
Real Estate Core Allocation (\$)	\$3,088,155,000
Real Estate Non-Core Allocation (%)	4.0%
Real Estate Non-Core Allocation (\$)	\$3,529,320,000
Number of Active Managers	48
Number of Active Investments	96

Core/Core-Plus - Active Investr	ments Only
Net Asset Value	\$3,166,980,225
Unfunded	\$425,793,990
Commitment	\$2,753,639,957
Total Exposure	\$3,592,774,215
Total Exposure as a % of Target	116.3%
NAV as a % of Target	102.6%
% Plan Assets (NAV / Exposure)	3.6% / 4.1%
Non-Core - Active Investme	nts Only
Net Asset Value	\$2,153,349,568
Unfunded	\$2,055,484,224
Commitment	\$4,996,849,938
Total Exposure	\$4,208,833,792
Total Exposure as a % of Target	119.3%
NAV as a % of Target	61.0%
% Plan Assets (NAV / Exposure)	2.4% / 4.8%
Total Portfolio - Active Investm	nents Only
Net Asset Value	\$5,320,329,792
Unfunded	\$2,481,278,215
Commitment	\$7,750,489,895
Total Exposure	\$7,801,608,007
Total Exposure as a % of Target	117.9%
NAV as a % of Target	80.4%
% Plan Assets (NAV / Exposure)	6.0% / 8.8%

Net Returns - Active and Liquidated Inv	vestments
Quarterly TWR	8.4%
1-Year TWR	26.7%
2-Year TWR	13.1%
3-Year TWR	10.8%
5-Year TWR	10.3%
10-Year TWR	11.3%
15-Year TWR	6.4%
ITD TWR	4.7%
ITD Benchmark NFI-ODCE + 100 bps	8.4%
Net IRR	8.7%
TVM	1.5x

Note: Beginning in Q1-2020, Total, Core/Core-Plus, and Non-Core real estate allocations changed to 7.5%, 3.5%, and 4%, respectively



0.69%

0.49% 0.47% 0.44%

0.43%

## Percent Contribution to Current-Quarter Return

	ore Core	
PW Real Estate Fund III LP		
Lion Industrial Trust		
Brookfield Premier Real Estate Partners		
RREEF America REIT II		0
Heitman America Real Estate Trust, L.P.		0.4
Blackstone Real Estate Partners IX		0.4
Cortland Growth and Income, L.P.		0.36%
Blackstone Real Estate Partners VIII		0.33%
Prudential PRISA II Prudential PRISA III		0.32%
Carlyle Property Investors		0.29%
KKR Real Estate Partners Americas II		0.27%
KKR Real Estate Partners Europe II		0.27%
Exeter Core Industrial Fund III		0.23%
Exeter Industrial Value Fund V, L.P.		0.22%
JP Morgan Special Situation Property Fund		0.22%
Prologis Targeted US Logistics Fund		0.20%
Brookfield Strategic Real Estate Partners III		0.20%
LaSalle Property Fund		0.18%
Prudential PRISA		0.17%
H/2 Special Opportunities Fund IV		0.14%
USAA Eagle Real Estate Fund		0.13%
MetLife Core Property Fund		0.13%
NYCRS Artemis Co-Investment		0.11%
Exeter Industrial Core Club Fund II		0.11%
UBS Trumbull Property Fund Divco West Fund V		0.10%
Blackstone Real Estate Partners Europe VI L.P.		0.09%
JP Morgan Strategic Property Fund		0.08%
Stockbridge Real Estate III		0.07%
NYC Asset Investor #3 LLC (Hudson)		0.07%
Cerberus Institutional Real Estate Partners V SMA		0.07%
LaSalle GPS Co-Investment Program - Core		0.06%
ElmTree U.S. Net Lease Fund IV, L.P.		0.06%
RREEF Core Plus Industrial Fund		0.06%
Harrison Street Core Property Fund		0.05%
Blackstone Real Estate Partners VII L.P.		0.05%
Pramerica Real Estate Capital VI Exeter Industrial Value Fund IV, L.P.		0.05%
H/2 Special Opportunities Fund III		0.04%
Almanac Realty Securities VIII		0.04%
Artemis Income and Growth Fund		0.04%
Heitman Core Real Estate Debt Income Trust		0.04%
NYC Asset Investor #2 LLC (Related)		0.04%
Almanac Realty Securities VIII (Sidecar II)		<ul> <li>0.03%</li> </ul>
Brookfield Strategic Real Estate Partners		0.03%
DRA Growth and Income Fund IX		0.03%
NYCRS-KKR CMBS Retention Partners		0.03%
Walton Street Real Estate Fund VI Taconic New York City Investment Fund LP		0.03%
KKR Real Estate Securities Dislocation Opportunity Co-Investment Strategy		0.03%
Carlyle Realty Partners VI		0.02%
European Property Investors Special Opp IV		0.02%
Grosvenor Real Estate Emerging Manager SMA		0.02%
Mesirow Financial Real Estate Value Fund IV		0.02%
Westbrook REF XI		0.02%
Harrison Street Core Property Fund Co-Investment		0.01%
Pramerica Real Estate Capital VII (USD)		0.01%
Carlyle Realty Partners V, L.P.		0.01%
Westbrook Real Estate Fund X		0.01%
Rialto Real Estate Fund IV - Debt, LP DRA Growth and Income Fund X		0.01%
Basis Investment Group Real Estate Fund I		0.01%
Almanac Realty Securities VII		0.01%
Divco West Fund IV		0.00%
Carlyle Realty Partners VI, L.P.		0.00%
Almanac Realty Securities VII (Sidecar IV)		0.00%
Lone Star Real Estate Fund III, L.P.		0.00%
Blackstone Real Estate Partners VI		0.00%
Apollo Real Estate Investment Fund V	0.00%	
Metropolitan Workforce Housing Fund	0.00%	
Blackstone Real Estate Partners IV	0.00%	
Ares European Real Estate Fund III Westbrook Real Estate Fund VII	0.00%	
Westbrook Real Estate Fund VII Westbrook Real Estate Fund VIII, L.P.	0.00%	
Capri Urban Investors	0.00%	
NYC Hudson Multifamily Green Fund	0.00%	
LaSalle GPS Co-investment Program - Non-Core	0.00%	
DivcoWest Fund VI	0.00%	
Silverpeak Legacy Partners III	-0.01%	
Thor Urban Property Fund II	-0.01%	1
Blackstone Real Estate Partners Europe III - USD	-0.01%	1
Blackstone Real Estate Partners Europe IV	-0.01%	
Jamestown Premier Property Fund GreenOak Asia III	-0.01% -0.03%	
NYC Asset Investor #1 LLC (Vanbarton)	-0.03%	
KKR Real Estate Partners Americas III SCSp	-0.06%	
Aermont Capital Real Estate Fund IV	-0.25%	



# Percent Contribution to 1-Year Return

Lion Industrial Trust	ore Core
Heitman America Real Estate Trust, L.P.	1.33%
Blackstone Real Estate Partners VIII	1.25%
Blackstone Real Estate Partners IX	1.19%
KKR Real Estate Partners Americas II	1.18%
Prudential PRISA III	1.13%
Prudential PRISA II Brookfield Premier Real Estate Partners	1.10%
Exeter Industrial Core Club Fund II	0.93%
Carlyle Property Investors	0.93%
RREEF America REIT II	0.91%
Cortland Growth and Income, L.P.	0.90%
H/2 Special Opportunities Fund IV	0.84%
PW Real Estate Fund III LP	0.74%
JP Morgan Special Situation Property Fund	0.69%
LaSalle Property Fund	0.69%
Prologis Targeted US Logistics Fund	0.68%
Blackstone Real Estate Partners VII L.P. Exeter Core Industrial Fund III	0.63%
Prudential PRISA	0.59%
Exeter Industrial Value Fund IV, L.P.	0.55%
Exeter Industrial Value Fund V, L.P.	0.52%
Brookfield Strategic Real Estate Partners III	0.51%
USAA Eagle Real Estate Fund	0.48%
JP Morgan Strategic Property Fund	0.48%
DRA Growth and Income Fund IX	0.45%
NYCRS Artemis Co-Investment	0.43%
MetLife Core Property Fund	0.41%
UBS Trumbull Property Fund	0.37%
Blackstone Real Estate Partners Europe VI L.P.	0.32%
KKR Real Estate Securities Dislocation Opportunity Co-Investment Strategy NYCRS-KKR CMBS Retention Partners	0.29%
NYCKS-KKK CMBS Retention Partners Divco West Fund V	0.28%
Harrison Street Core Property Fund	0.23%
Harrison Street Core Property Fund Co-Investment	0.22%
Aermont Capital Real Estate Fund IV	0.18%
DRA Growth and Income Fund X	0.16%
Brookfield Strategic Real Estate Partners	0.14%
Carlyle Realty Partners VII	0.13%
Stockbridge Real Estate III	0.12%
H/2 Special Opportunities Fund III	0.12%
Heitman Core Real Estate Debt Income Trust	0.11%
NYC Asset Investor #2 LLC (Related)	0.10%
Westbrook REF XI ElmTree U.S. Net Lease Fund IV, L.P.	0.09%
European Property Investors Special Opp IV	0.09%
Pramerica Real Estate Capital VI	0.09%
Almanac Realty Securities VII	0.08%
Artemis Income and Growth Fund	0.08%
Rialto Real Estate Fund IV - Debt, LP	0.08%
Almanac Realty Securities VIII	0.07%
Walton Street Real Estate Fund VI	.0.07%
Almanac Realty Securities VIII (Sidecar II)	0.07%
NYC Asset Investor #3 LLC (Hudson)	0.06%
GreenOak Asia III	0.06%
Westbrook Real Estate Fund X	0.05%
Basis Investment Group Real Estate Fund I Taconic New York City Investment Fund LP	0.03%
Grosvenor Real Estate Emerging Manager SMA	0.03%
Lone Star Real Estate Fund III, L.P.	0.02%
Pramerica Real Estate Capital VII (USD)	0.02%
Divco West Fund IV	0.02%
Carlyle Realty Partners V, L.P.	0.02%
Almanac Realty Securities VII (Sidecar IV)	0.02%
Blackstone Real Estate Partners IV	0.01%
Carlyle Realty Partners VI, L.P.	0.01%
Blackstone Real Estate Partners VI	0.01%
Westbrook Real Estate Fund VII Ares European Real Estate Fund III	0.00%
Ares European Real Estate Fund II Apollo Real Estate Investment Fund V	0.00%
Apolio Real Estate Investment Fund V Metropolitan Workforce Housing Fund	0.00%
H/2 Special Opportunities Fund II	0.00%
Westbrook Real Estate Fund VIII, L.P.	0.00%
American Value Partners Fund I	0.00%
Silverpeak Legacy Partners III	-0.01%
Thor Urban Property Fund II	-0.01%
DivcoWest Fund VI	-0.01%
Capri Urban Investors	-0.02%
Blackstone Real Estate Partners Europe III - USD	-0.02%
Jamestown Premier Property Fund	-0.03%
NYC Asset Investor #1 LLC (Vanbarton)	-0.03%
Blackstone Real Estate Partners Europe IV	-0.07%



## Percent Contribution to 3-Year Return

Lion Industrial Trust		0.8
Blackstone Real Estate Partners VIII		0.74%
Prudential PRISA III		0.66%
Prudential PRISA II		0.50%
KKR Real Estate Partners Americas II		0.50%
Heitman America Real Estate Trust, L.P.		0.49%
PW Real Estate Fund III LP		0.48%
Carlyle Property Investors		0.46%
Brookfield Premier Real Estate Partners		0.41%
JP Morgan Strategic Property Fund		0.39%
RREEF America REIT II		0.36%
Prologis Targeted US Logistics Fund		0.33%
JP Morgan Special Situation Property Fund		0.32%
Exeter Industrial Core Club Fund II		0.30%
Prudential PRISA		0.28%
LaSalle Property Fund		0.28%
Exeter Industrial Value Fund IV, L.P.		0.25%
NYCRS-KKR CMBS Retention Partners		0.20%
NYCRS Artemis Co-Investment		0.20%
DRA Growth and Income Fund IX		0.20%
MetLife Core Property Fund		0.19%
USAA Eagle Real Estate Fund		0.16%
Blackstone Real Estate Partners VII L.P.		0.16%
Divco West Fund V		0.11%
European Property Investors Special Opp IV		0.11%
Almanac Realty Securities VII		0.10%
Carlyle Realty Partners VII		0.09%
Heitman Core Real Estate Debt Income Trust		0.08%
UBS Trumbull Property Fund		0.07%
Pramerica Real Estate Capital VI		0.07%
Brookfield Strategic Real Estate Partners		0.06%
Stockbridge Real Estate III		0.05%
Westbrook Real Estate Fund X		0.05%
Almanac Realty Securities VIII (Sidecar II)		0.03%
Basis Investment Group Real Estate Fund I		0.03%
Almanac Realty Securities VII (Sidecar IV)		0.03%
NYC Asset Investor #3 LLC (Hudson)		0.03%
Carlyle Realty Partners V, L.P.		0.02%
Lone Star Real Estate Fund III, L.P.		0.02%
Blackstone Real Estate Partners IV		0.01%
Blackstone Real Estate Partners VI		0.01%
Divco West Fund IV		0.01%
Walton Street Real Estate Fund VI		0.01%
Taconic New York City Investment Fund LP		0.01%
Apollo Real Estate Investment Fund V		0.00%
Ares European Real Estate Fund III		0.00%
Metropolitan Workforce Housing Fund	0.00%	
Silverpeak Legacy Partners III	-0.01%	
Carlyle Realty Partners VI, L.P.	-0.01%	
H/2 Special Opportunities Fund III	-0.01%	
Blackstone Real Estate Partners Europe III - USD	-0.02%	
Westbrook Real Estate Fund VII	-0.02%	
H/2 Special Opportunities Fund II	-0.02%	
American Value Partners Fund I	-0.02%	
Westbrook Real Estate Fund VIII, L.P.	-0.02%	
Jamestown Premier Property Fund	-0.02%	
Blackstone Real Estate Partners Europe IV		
	010170	
Capri Urban Investors	-0.04%	
H/2 Special Opportunities Fund IV		
Thor Urban Property Fund II	-0.09%	
Almanac Realty Securities VIII NYC Asset Investor #1 LLC (Vanbarton)	-0.09%	



## Portfolio Compliance Checklist

Category	Requirement	Portfolio Status
Benchmark	Comprised of NFI-ODCE +100 bps	Portfolio returns outperform the benchmark over the quarter, one, three, five, and ten- year time periods, while underperforming the fifteen-year benchmark by 37 basis points.
Portfolio Construction	Core/Core-Plus (3.5%) Non-Core (4%)	Market value plus unfunded commitment place the Portfolio at 46.1% Core/Core-Plus and 53.9% Non-Core. Based on market value, the Portfolio is 59.5% Core/Core-Plus and 40.5% Non-Core.
Real Estate Allocation	Target 7.5%	Market value plus unfunded commitment place the Portfolio at 8.8% of total plan assets.
Property Type Diversification	Up to 40% Multifamily Up to 35% Industrial Up to 45% Office Up to 35% Retail Up to 25% Hotel Up to 20% Other	All property type allocations are compliant.
Geographic Diversification	Diversified geographically; Max 25% Ex-U.S.	All geographic allocations are compliant.
LTV	65.0%	The leverage (39.7%) is compliant.
Manager Exposure	20% of real estate allocation	All manager allocations are compliant.

Note: Beginning in Q1-2020, Total, Core/Core-Plus, and Non-Core real estate allocations changed to 7.5%, 3.5%, and 4%, respectively.



# **Portfolio Review**

### **Quarterly Highlights**

#### Cash Flow Activity

- During the fourth quarter of 2021, the Portfolio made US\$68.8 million of contributions and received US\$93.7 million of distributions, for a net cash inflow of US\$24.8 million, compared to a net cash outflow of US\$38.7 million during the third quarter of 2021. Contributions decreased 78.5% from the prior quarter and decreased 68.3% from the fourth quarter of 2020. The last twelve month ("LTM") quarterly average of the Portfolio's contributions is US\$248.3 million. Distributions decreased 66.7% from the prior quarter and decreased 23.3% from the fourth quarter of 2020. The LTM quarterly average of the Portfolio's distributions is US\$248.3 million.

#### **Recent Portfolio Activity**

- During the fourth quarter of 2021, net of cash flow activity, the Portfolio's value increased US\$403.8 million, or 8.2%, from the prior quarter. During the LTM period, net of cash flow activity, the Portfolio's value increased US\$1,111.2 million, or 27.0%, from the fourth quarter of 2020.

#### New Investment Commitments

- During the fourth quarter of 2021, the Portfolio closed on three new investments, totaling US\$233.0 million of committed capital.

					(in USD millions)
Fund Name	Month Closed	Sub- Strategy	Geographic Focus	Investment Type	Committed Capital
ElmTree U.S. Net Lease Fund IV, L.P.	Oct. 2021	Non-Core	North America	Follow-On Investment	17.0
TPG Real Estate Thematic Advantage Core-Plus JV IV, L.P.	Oct. 2021	Core	US	New Investment	135.0
LBA Logistics Value Fund IX	Dec. 2021	Non-Core	US	New Investment	81.0

#### Subsequent Investment Commitments

During the first quarter of 2022, the Portfolio closed on one new investment, totaling US\$150.0 million of committed capital.

Fund Name	Month Sub- Closed Strategy		Geographic Focus	Investment Type	(in USD millions) Committed Capital
TPG Real Estate Partners IV, L.P.	Feb. 2022	Non-Core	OECD	New Investment	150.0



## Since Inception Investment Performance

			(in USD mil	lions; includes all	investments,
	INCEPTION TO	INCEPTION TO SEPTEMBER 30, 2021	INCEPTION TO	QUARTERLY CHANGE	ANNUAL CHANGE
Number of Managers	56	54	52	2	4
Number of Investments	108	106	95	2	13
Committed Capital	\$8,399.9	\$8,167.8	\$7,052.7	232.1	1,347.2
Contributed Capital	6,840.3	6,541.2	5,847.0	299.1	993.3
Distributed Capital	4,921.6	4,588.4	4,018.5	333.3	903.2
Net Asset Value	5,320.3	4,941.4	4,109.6	378.9	1,210.7
Total Gain	3,401.7	2,988.6	2,281.1	413.1	1,120.6
Unfunded	2,481.3	2,484.9	2,018.1	-3.6	463.2
Total Exposure	7,801.6	7,426.3	6,127.7	375.3	1,673.9
DPI	0.70x	0.70x	0.69x	0.00x	0.02x
TVM Gross of Fees	1.58x	1.58x	1.50x	0.01x	0.08x
IRR Gross of Fees	11.1%	10.6%	9.6%	0.5%	1.5%
TVM Net of Fees	1.50x	1.46x	1.39x	0.04x	0.11x
IRR Net of Fees	8.7%	8.2%	7.3%	0.5%	1.4%

### Portfolio Periodic Returns vs Benchmark

	Qtr	1-Year	3-Year	5-Year	10-Year	15-Year	Since Inception
Net TWR	8.4%	26.7%	10.8%	10.3%	11.3%	6.4%	4.7%
NFI-ODCE + 100 bps	7.9%	22.0%	9.2%	8.7%	10.4%	6.8%	8.4%
Out/(Under) Performance	0.5%	4.7%	1.6%	1.6%	0.9%	-0.4%	-3.7%

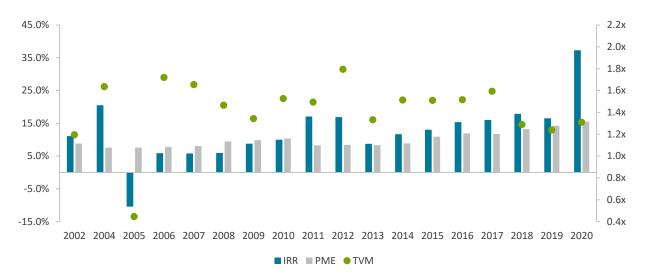


#### Performance by Vintage Year

The following table and chart illustrate the Portfolio's since inception investment performance by vintage year as of December 31, 2021, relative to a blended PME benchmark comprised of Russell 3000 and Barclays Capital Aggregate Bond Index at a 50/50 ratio. The PME benchmark is used to measure the Portfolio's performance, using the respective vintage year Portfolio cash flows to produce a return that would have been earned if those same vintage year cash flows were invested in the PME.

								(in U	SD millions; in	cludes liquidated investments)	
Vintage										PME	PME
Year	Commitment	Contributions	Distributions	NAV	Unfunded	Exposure	TVM	DPI	IRR	Returns	Spread
2002	15.0	13.7	16.4	0.0	0.0	0.0	1.2x	1.2x	11.1%	8.8%	2.3%
2004	355.0	331.3	540.7	1.0	0.0	1.0	1.6x	1.6x	20.5%	7.5%	13.0%
2005	40.0	36.0	16.0	0.0	0.0	0.0	0.4x	0.4x	-10.4%	7.6%	-18.0%
2006	625.0	819.6	780.2	629.3	13.0	642.3	1.7x	0.9x	5.9%	7.8%	-1.9%
2007	697.5	841.7	711.0	681.1	26.5	707.6	1.7x	0.8x	5.8%	8.1%	-2.3%
2008	323.4	384.4	295.6	267.8	9.0	276.8	1.5x	0.7x	5.9%	9.5%	-3.5%
2009	140.0	147.9	172.9	25.7	10.8	36.5	1.3x	1.2x	8.8%	9.8%	-1.1%
2010	162.0	161.6	72.3	174.3	0.0	174.3	1.5x	0.4x	10.0%	10.4%	-0.4%
2011	110.0	116.0	167.0	6.4	23.0	29.4	1.5x	1.4x	17.1%	8.3%	8.8%
2012	340.0	369.1	527.6	134.5	71.1	205.6	1.8x	1.4x	16.9%	8.4%	8.5%
2013	484.0	454.2	434.4	170.9	68.8	239.7	1.3x	0.9x	8.7%	8.3%	0.4%
2014	218.0	214.2	200.3	123.9	40.5	164.4	1.5x	0.9x	11.7%	8.9%	2.8%
2015	383.7	398.9	250.5	351.9	47.7	399.6	1.5x	0.6x	13.0%	10.9%	2.1%
2016	535.9	550.0	174.6	658.7	33.2	691.9	1.5x	0.3x	15.4%	11.9%	3.4%
2017	459.7	491.3	224.7	557.7	30.2	587.9	1.6x	0.3x	16.0%	11.7%	4.3%
2018	330.7	273.1	133.3	218.7	85.2	303.9	1.3x	0.3x	17.9%	13.2%	4.7%
2019	1,025.6	575.0	79.3	632.6	517.6	1,150.2	1.2x	0.1x	16.5%	14.3%	2.3%
2020	793.4	434.5	117.5	451.1	368.0	819.1	1.3x	0.2x	37.3%	15.5%	21.8%
2021	1,361.1	227.7	7.3	234.8	1,136.7	1,371.5	1.1x	0.0x	N/M	N/M	N/M
and Total	8,399.9	6,840.3	4,921.6	5,320.3	2,481.3	7,801.6	1.5x	0.7x	8.7%	8.8%	-0.1%

The PME Spread is calculated as the IRR minus the blended PME. Performance of funds that are less than one year old are not meaningful. Note that Russell 3000 and Barclays Capital Aggregate Bond Index data are continuously updated and are therefore subject to change.



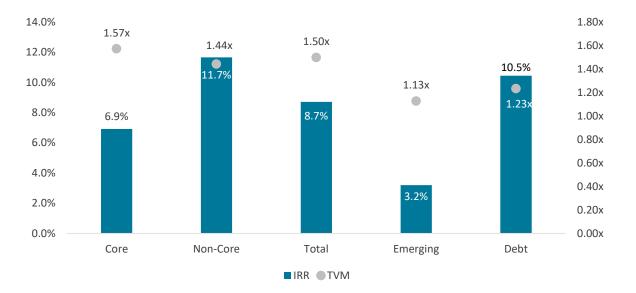


#### Performance by Strategy<sup>1</sup>

The following table and charts illustrate the Portfolio's since inception investment performance by strategy and substrategy as of December 31, 2021.

								(in U	6D million	s; include	es liquidate	d investments)
	No. of										PME	
Strategy	Investments	Commitment	Contributions	Distributions	NAV	Unfunded	Exposure	тум	IRR	PME	Spread	Leverage
Core	33	2,863.6	2,916.7	1,418.9	3,167.0	425.8	3,592.8	1.57x	6.9%	7.7%	-0.8%	35.6%
Non-Core	75	5,536.2	3,923.5	3,502.8	2,153.3	2,055.5	4,208.8	1.44x	11.7%	10.2%	1.5%	45.7%
Total	108	8,399.9	6,840.3	4,921.6	5,320.3	2,481.3	7,801.6	1.50x	8.7%	8.6%	0.1%	39.7%
Emerging	7	408.0	237.2	146.8	120.6	194.1	314.8	1.13x	3.2%	N/A	N/A	19.1%
Debt	11	860.7	672.6	359.8	469.6	221.0	690.6	1.23x	10.5%	N/A	N/A	29.2%

The following chart illustrates the IRR and TVM of the Portfolio's various strategies and sub-strategies side by side. Both metrics are important to measure investment returns. IRR takes into account the time value of money and is generally favored by investors that are more yield driven over shorter investment horizons. The TVM equity multiple is the ratio of distributions plus current market value over the amount of capital contributed.





### Portfolio Diversification

The following charts outline the Portfolio's diversification by strategy and geographic regions, the limits of which are governed by the Policy Statement and Annual Plan. Fund's that do not yet have NAV are not included in the Allocation by Region analysis.

				(in l	JSD millions)	
Net Asset	Net Asset Value		ded	Total Exposure		
\$	%	\$	%	\$	%	
3,167.0	60%	425.8	17%	3,592.8	46%	
2,153.3	40%	2,055.5	83%	4,208.8	54%	
5,320.3	100%	2,481.3	100%	7,801.6	100%	
120.6	2%	194.1	8%	314.8	4%	
469.6	9%	221.0	9%	690.6	9%	
	\$ 3,167.0 2,153.3 <b>5,320.3</b> 120.6	\$         %           3,167.0         60%           2,153.3         40% <b>5,320.3 100%</b> 120.6         2%	\$%\$3,167.060%425.82,153.340%2,055.55,320.3100%2,481.3120.62%194.1	\$%\$3,167.060%425.817%2,153.340%2,055.583%5,320.3100%2,481.3100%120.62%194.18%	Net Asset Value         Unfunded         Total Ex           \$         %         \$         %         \$           3,167.0         60%         425.8         17%         3,592.8           2,153.3         40%         2,055.5         83%         4,208.8           5,320.3         100%         2,481.3         100%         7,801.6           120.6         2%         194.1         8%         314.8	

Allocation by Region	Net Asset	Value	Unfund	ded	Total Exposure		
	\$	%	\$	%	\$	%	
North America	4,674.6	88%	2,180.1	88%	6,854.7	88%	
Europe	508.2	10%	237.0	10%	745.2	10%	
Asia	123.8	2%	57.7	2%	181.6	2%	
Rest of World	13.7	0%	6.4	0%	20.1	0%	
Total	5,320.3	100%	2,481.3	100%	7,801.6	100%	

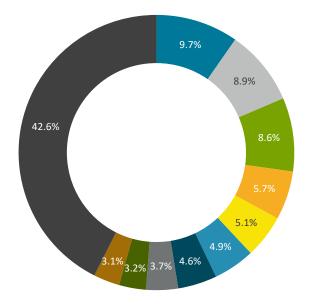


### **Top 10 – Manager Holdings**

As of the fourth quarter of 2021, the Portfolio is well diversified by manager, with 48 active managers and US\$7.8 billion total exposure.

								(in USD million:	s;includes a	ictive inves	stments)
								Potential			
	No. of							Exposure % of			
Manager	Investments	Commitment	Contributions	Distributions	NAV	Unfunded	Exposure	Portfolio	IRR	TVM	DPI
PGIM Real Estate	5	426.2	444.6	230.9	666.8	88.7	755.4	9.7%	7.5%	2.02x	0.52x
The Blackstone Group	8	945.0	925.3	1,036.0	474.0	218.6	692.6	8.9%	14.4%	1.63x	1.12x
Brookfield	4	613.0	444.7	239.6	434.1	240.6	674.8	8.6%	16.4%	1.52x	0.54x
KKR	5	557.0	346.8	208.7	257.5	189.7	447.2	5.7%	17.5%	1.34x	0.60x
Heitman Capital Management	2	242.0	330.1	150.2	383.0	13.7	396.7	5.1%	7.7%	1.62x	0.45x
LaSalle Investment Management	3	334.0	176.4	31.9	222.1	157.2	379.3	4.9%	9.9%	1.44x	0.18x
Deutsche Asset & Wealth Management	2	274.5	229.2	70.7	284.5	73.1	357.7	4.6%	6.5%	1.55x	0.31x
Almanac Realty Investors	6	305.0	107.7	61.8	84.1	207.9	292.0	3.7%	13.8%	1.35x	0.57x
Carlyle Group	4	258.0	285.6	249.7	184.0	62.9	246.9	3.2%	13.7%	1.52x	0.87x
Grosvenor Capital Management	1	236.0	73.0	7.5	66.7	171.9	238.6	3.1%	2.1%	1.02x	0.10x
Total - Top 10 Managers	40	4,190.6	3,363.3	2,286.9	3,056.8	1,424.2	4,480.9	57.4%	10.1%	1.59x	0.68x

Exposure by Manager



- PGIM Real Estate (9.7%)
- The Blackstone Group (8.9%)
- Brookfield (8.6%)
- KKR (5.7%)
- Heitman Capital Management (5.1%)
- LaSalle Investment Management (4.9%)
- Deutsche Asset & Wealth Management (4.6%)
- Almanac Realty Investors (3.7%)
- Carlyle Group (3.2%)
- Grosvenor Capital Management (3.1%)
- Other (42.6%)

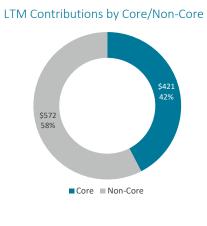


#### **Portfolio Cash Flow Analysis**

During 2021, the Portfolio contributed US\$993 million and received US\$903 million of distributions, for a net cash outflow of US\$90 million.



During the Last-Twelve-Months ("LTM") period ended December 31, 2021, the Portfolio contributed US\$993 million and received US\$903 million of distributions, for a net cash outflow of US\$90 million.

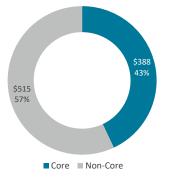


LTM Contributions by Strategy



Emerging Managers Debt Equity





#### LTM Distributions by Strategy



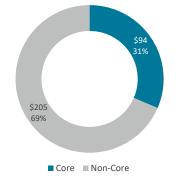


#### **Quarterly Cash Flow Analysis**

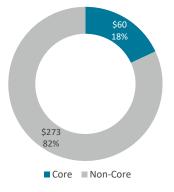
During the quarter, the Portfolio contributed US\$299 million and received US\$333 million of distributions, for a net cash inflow of US\$34 million.



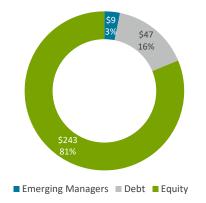
#### Quarterly Contributions by Core/Non-Core



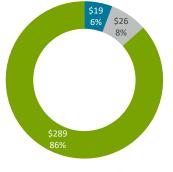
Quarterly Distributions by Core/Non-Core



Quarterly Contributions by Strategy



Quarterly Distributions by Strategy

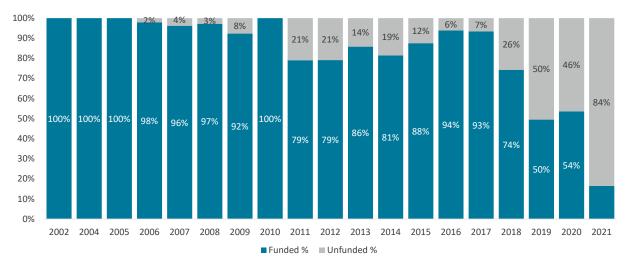


Emerging Managers Debt Equity



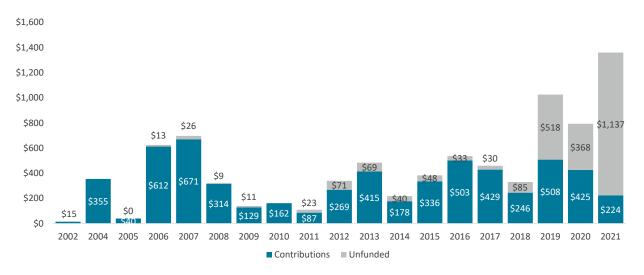
#### **Vintage Year Analysis**

The following chart illustrates cumulative capital contributions as a percentage of total capital commitments, by fund vintage year, as of December 31, 2021.



Unfunded Commitments by Vintage Year (%)

The following chart illustrates cumulative capital contributions relative to unfunded commitment, by fund vintage year, as of December 31, 2021.



#### Funded and Unfunded Commitment by Vintage Year (USD millions)\*

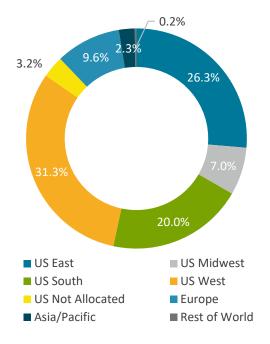
\*The calculation for Capital Contribution for the chart "Funded and Unfunded Commitment by Vintage Year" is comprised of Commitment minus Unfunded.



### **Portfolio Exposure Analysis**

The following charts illustrates the Portfolio's exposure by Geography and Property Type as of December 31, 2021.

	Exposure					
		NFI				
Geography	NAV	ODCE				
New York State	10.3%	7.3%				
US East (Non-NY)	16.1%	22.1%				
US East	26.3%	29.3%				
US Midwest	7.0%	6.9%				
US South	20.0%	19.3%				
US West	31.3%	44.4%				
US Not Allocated	3.2%	0.0%				
United States	87.9%	100.0%				
Europe	9.6%	0.0%				
Asia/Pacific	2.3%	0.0%				
Rest of World	0.2%	0.0%				



8.2% 4.5% 31.2% 6.6%	22.0%
Office	Industrial
Retail	Residential
Hotel/Lodging	Other Real Estate

	Exposure				
Property Type	NAV	NFI ODCE			
Office	22.0%	26.5%			
Industrial	27.5%	27.7%			
Retail	6.6%	11.6%			
Residential	31.2%	28.1%			
Hotel/Lodging	4.5%	0.0%			
Other Real Estate <sup>2</sup>	8.2%	6.1%			

<sup>2</sup>Other includes land, self-storage, leisure and other specialty real estate



### **Portfolio Performance**

								(in	USD millions;ir	ncludes active i	investments)
	Vintage	First	<b>.</b>					_			122
Fund Core Investments	Year	Cash Flow	Commitment	Contributions	Distributions	NAV	Unfunded	Exposure	TVM	DPI	IRR
	2006	0/20/2000	\$156.0	6252 Q	6207 F	6107.0	ćo o	¢107.0	1 57.	1 1 4	F 00/
UBS Trumbull Property Fund		9/28/2006		\$252.0	\$287.5	\$107.8	\$0.0	\$107.8	1.57x	1.14x	5.8%
PRISA	2006	9/29/2006	\$86.0	\$92.7	\$46.5	\$142.6	\$0.0	\$142.6	2.04x	0.50x	5.5%
Prologis Targeted US Logistics Fund	2006	10/1/2006	\$40.0	\$39.5	\$16.7	\$84.3	\$10.5	\$94.8	2.56x	0.42x	8.6%
RREEF America REIT II	2006	10/2/2006	\$162.0	\$189.5	\$70.4	\$238.3	\$0.0	\$238.3	1.63x	0.37x	6.4%
JP Morgan Strategic Property Fund	2006	12/5/2006	\$136.0	\$196.1	\$321.0	\$56.3	\$0.0	\$56.3	1.92x	1.64x	6.6%
JP Morgan Special Situation Property Fund	2007	1/5/2007	\$90.0	\$124.3	\$65.9	\$158.6	\$0.0	\$158.6	1.81x	0.53x	5.6%
Heitman America Real Estate Trust, L.P.	2007	3/29/2007	\$115.0	\$206.5	\$139.8	\$259.5	\$0.0	\$259.5	1.93x	0.68x	7.7%
PRISAII	2007	6/29/2007	\$141.5	\$150.9	\$66.9	\$251.5	\$0.0	\$251.5	2.11x	0.44x	6.4%
LaSalle Property Fund	2010	7/1/2010	\$132.0	\$131.6	\$31.9	\$174.3	\$0.0	\$174.3	1.57x	0.24x	9.7%
NYC Asset Investor #2	2013	7/9/2013	\$75.0	\$76.3	\$32.4	\$56.9	\$2.4	\$59.3	1.17x	0.42x	3.1%
MetLife Core Property Fund	2014	7/1/2014	\$50.0	\$50.0	\$17.1	\$76.2	\$0.0	\$76.2	1.87x	0.34x	10.3%
Almanac Realty Securities VII	2015	4/24/2015	\$65.0	\$61.7	\$47.6	\$37.8	\$12.5	\$50.3	1.38x	0.77x	12.8%
USAA Eagle Real Estate Fund	2015	12/1/2015	\$90.0	\$99.3	\$16.6	\$116.3	\$0.0	\$116.3	1.34x	0.17x	7.2%
Almanac Realty Securities VII (Sidecar IV)	2015	12/9/2015	\$20.0	\$15.4	\$11.2	\$10.8	\$5.3	\$16.1	1.43x	0.73x	14.4%
Jamestown Premier Property Fund	2016	2/4/2016	\$48.7	\$57.2	\$21.7	\$40.2	(\$0.0)	\$40.2	1.08x	0.38x	2.4%
Artemis Co-Investment	2016	2/24/2016	\$53.0	\$61.6	\$55.9	\$38.4	\$3.9	\$42.4	1.53x	0.91x	17.1%
Exeter Core Industrial Club Fund II	2016	5/20/2016	\$28.0	\$27.3	\$7.6	\$62.8	\$0.7	\$63.5	2.58x	0.28x	29.7%
Brookfield Premier Real Estate Partners	2016	11/22/2016	\$169.0	\$192.9	\$23.9	\$250.7	\$0.0	\$250.7	1.42x	0.12x	12.8%
Lion Industrial Trust	2017	1/3/2017	\$90.0	\$110.5	\$20.5	\$211.0	\$0.0	\$211.0	2.09x	0.19x	21.5%
Carlyle Property Investors	2017	7/3/2017	\$91.0	\$109.8	\$18.8	\$154.3	\$0.0	\$154.3	1.58x	0.17x	13.3%
Heitman Core Real Estate Debt Income Trust	2018	11/7/2018	\$127.0	\$123.6	\$10.3	\$123.4	\$13.7	\$137.1	1.08x	0.08x	5.9%
Almanac Realty Securities VIII (Sidecar II)	2018	12/21/2018	\$34.0	\$12.4	\$1.2	\$15.7	\$21.7	\$37.4	1.36x	0.10x	25.0%
Almanac Realty Securities VIII	2018	12/21/2018	\$51.0	\$18.2	\$1.8	\$20.1	\$33.3	\$53.4	1.20x	0.10x	14.7%
Harrison Street Core Property Fund Co-Investment	2019	5/13/2019	\$45.0	\$28.7	\$2.2	\$38.4	\$16.6	\$55.0	1.41x	0.07x	15.5%
Harrison Street Core Property Fund	2019	10/4/2019	\$90.0	\$99.9	\$8.1	\$106.5	\$0.0	\$106.5	1.15x	0.08x	6.9%
Artemis Income and Growth Fund	2019	10/18/2019	\$61.0	\$30.2	\$6.9	\$26.2	\$34.4	\$60.7	1.10x	0.23x	7.7%
Exeter Core Industrial Fund III	2020	2/19/2020	\$72.1	\$64.9	\$1.6	\$86.9	\$7.2	\$94.1	1.36x	0.02x	51.1%
Cortland Growth and Income, L.P.	2020	7/1/2020	\$107.0	\$113.7	\$6.7	\$146.5	\$0.0	\$146.5	1.35x	0.06x	24.5%
RREEF Core Plus Industrial Fund	2020	4/5/2021	\$112.5	\$39.7	\$0.3	\$46.2	\$73.1	\$119.4	1.17x	0.01x	N/M
LaSalle GPS Co-Investment Program - Core	2021	8/17/2021	\$80.8	\$25.5	\$0.0	\$28.6	\$55.3	\$83.9	1.12x	0.00x	N/M
TPG Real Estate Thematic Advantage Core-Plus JV IV, L.P.		N/A	\$135.0	\$0.0	\$0.0	(\$0.3)	\$135.0	\$134.7	-	-	-
Fotal: Active Core Investments	2023	14/75	\$2,753.6	\$2,802.1	\$1,358.7	\$3,167.0	\$425.8	\$3,592.8	1.62x	0.48x	7.5%

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses. IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.



								(in	USD millions;ir	icludes active i	investments)
	Vintage	First									
Fund	Year	Cash Flow	Commitment	Contributions	Distributions	NAV	Unfunded	Exposure	TVM	DPI	IRR
Non-Core Investments											
Blackstone Real Estate Partners IV LP.	2004	5/14/2004	\$30.0	\$38.4	\$54.1	\$1.0	\$0.0	\$1.0	1.44x	1.41x	10.3%
Apollo Real Estate Investment Fund V	2006	6/15/2006	\$25.0	\$25.0	\$29.1	\$0.0	\$2.5	\$2.5	1.16x	1.16x	1.9%
Blackstone Real Estate Partners VI L.P.	2007	7/28/2006	\$110.0	\$123.5	\$244.0	\$3.1	\$5.6	\$8.7	2.00x	1.98x	13.3%
Metropolitan Workforce Housing Fund	2007	7/12/2007	\$14.0	\$14.0	\$16.7	\$0.3	\$0.0	\$0.3	1.21x	1.19x	3.8%
Carlyle Realty Partners V, LP.	2007	8/27/2007	\$17.0	\$25.9	\$37.8	\$0.5	\$1.4	\$1.9	1.48x	1.46x	8.7%
American Value Partners Fund I	2007	10/18/2007	\$55.0	\$39.3	\$41.4	\$1.4	\$15.7	\$17.0	1.09x	1.05x	1.8%
Westbrook Real Estate Fund VII, L.P.	2007	12/3/2007	\$40.0	\$44.1	\$44.7	\$6.2	\$3.8	\$10.0	1.15x	1.01x	2.4%
Ares European Real Estate Fund III	2008	5/20/2008	\$30.0	\$30.5	\$33.5	\$0.3	\$0.0	\$0.3	1.11x	1.10x	2.6%
Capri Urban Investors	2008	6/3/2008	\$60.0	\$60.0	\$37.2	\$1.3	\$0.0	\$1.3	0.64x	0.62x	-5.7%
Silverpeak Legacy Partners III	2008	6/4/2008	\$50.0	\$23.6	\$4.8	\$2.2	\$0.0	\$2.2	0.29x	0.20x	-12.3%
Stockbridge Real Estate III	2008	9/9/2008	\$27.0	\$27.0	\$16.8	\$21.3	\$0.0	\$21.3	1.41x	0.62x	4.1%
PRISA III	2008	9/30/2008	\$50.0	\$131.4	\$71.0	\$236.3	(\$0.0)	\$236.3	2.34x	0.54x	12.6%
Blackstone Real Estate Partners Europe III - USD	2008	10/24/2008	\$50.0	\$52.9	\$71.9	\$4.9	\$6.0	\$10.9	1.45x	1.36x	10.2%
Thor Urban Property Fund II	2008	10/30/2008	\$40.0	\$54.8	\$56.1	\$1.5	\$3.0	\$4.4	1.05x	1.02x	1.7%
Walton Street Real Estate Fund VI	2009	4/27/2009	\$50.0	\$44.3	\$50.7	\$18.7	\$6.5	\$25.1	1.57x	1.14x	8.2%
Westbrook Real Estate Fund VIII, L.P.	2009	12/28/2009	\$50.0	\$59.8	\$69.0	\$7.0	\$4.3	\$11.4	1.27x	1.15x	9.7%
H2 Special Opportunities Fund II	2011	2/14/2011	\$40.0	\$40.0	\$58.4	\$0.6	\$0.0	\$0.6	1.47x	1.46x	13.2%
Carlyle Realty Partners VI, L.P.	2011	9/28/2011	\$70.0	\$76.0	\$108.6	\$5.7	\$23.0	\$28.7	1.50x	1.43x	20.0%
Blackstone Real Estate Partners VII L.P.	2012	4/13/2012	\$170.0	\$217.8	\$285.1	\$83.8	\$18.9	\$102.7	1.69x	1.31x	15.8%
Taconic New York City Investment Fund	2012	7/5/2012	\$70.0	\$29.3	\$48.0	\$4.8	\$40.7	\$45.5	1.80x	1.64x	15.6%
Brookfield Strategic Real Estate Partners	2012	9/20/2012	\$100.0	\$122.0	\$194.5	\$45.9	\$11.4	\$57.3	1.97x	1.59x	19.1%
NYC Asset Investor #1	2013	6/25/2013	\$50.0	\$59.7	\$29.6	\$32.9	\$14.3	\$47.2	1.05x	0.50x	1.0%
NYC Asset Investor #3	2013	9/20/2013	\$50.0	\$35.4	\$6.5	\$40.6	\$14.6	\$55.2	1.33x	0.18x	6.1%
Blackstone Real Estate Partners Europe IV L.P USD	2013	12/23/2013	\$169.0	\$169.0	\$208.8	\$40.1	\$31.3	\$71.4	1.47x	1.24x	12.5%
DivcoWest Fund IV	2014	1/15/2014	\$23.0	\$22.8	\$35.2	\$3.8	\$2.1	\$5.8	1.71x	1.55x	25.3%
Lone Star Real Estate Fund III, L.P.	2013	2/28/2014	\$100.0	\$95.6	\$128.7	\$0.4	\$6.3	\$6.7	1.35x	1.35x	14.1%
Carlyle Realty Partners VII, L.P.	2014	7/1/2014	\$80.0	\$73.9	\$84.5	\$23.5	\$38.4	\$62.0	1.46x	1.14x	13.4%
H2 Special Opportunities III	2014	12/29/2014	\$65.0	\$67.5	\$63.5	\$20.3	\$0.0	\$20.3	1.24x	0.94x	7.5%
Blackstone Real Estate Partners VIII L.P.	2015	8/18/2015	\$151.0	\$169.2	\$144.3	\$139.6	\$23.0	\$162.6	1.68x	0.85x	18.1%
Tristan European Property Investors Special Opp IV	2015	12/18/2015	\$49.7	\$45.0	\$16.0	\$47.4	\$6.8	\$54.2	1.41x	0.36x	10.6%
Westbrook Real Estate Fund X	2016	7/18/2016	\$36.0	\$34.8	\$29.2	\$13.8	\$2.9	\$16.7	1.24x	0.84x	11.0%
PW Real Estate Fund III	2016	10/7/2016	\$50.1	\$38.5	\$19.4	\$88.8	\$11.6	\$100.5	2.81x	0.50x	36.0%
H2 Special Opportunities IV	2016	11/15/2016	\$91.0	\$91.7	\$5.0	\$115.2	\$0.0	\$115.2	1.31x	0.05x	12.4%

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses. IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.



Fund	Vintage Year	First Cash Flow	Commitment	Contributions	Distributions	NAV	Unfunded	Exposure	TVM	DPI	IRR
Non-Core Investments (continued)	i cui	cushriow	commencent	contributions	Distributions		omunaca	Exposure		BH	inter
DivcoWest Fund V	2016	12/21/2016	\$60.0	\$46.0	\$12.0	\$48.7	\$14.0	\$62.7	1.32x	0.26x	9.4%
DRA Growth and Income Fund IX	2017	3/9/2017	\$49.0	\$53.1	\$41.1	\$40.5	\$4.2	\$44.7	1.54x	0.77x	19.3%
Pramerica Real Estate Capital VI	2017	4/20/2017	\$60.7	\$61.7	\$46.4	\$27.9	\$8.5	\$36.4	1.20x	0.75x	11.3%
Exeter Industrial Value Fund IV, L.P.	2017	9/20/2017	\$30.0	\$28.2	\$57.7	\$4.5	\$1.7	\$6.2	2.21x	2.05x	31.6%
NYCRS-KKR CMBS Retention Partners	2017	9/27/2017	\$122.0	\$110.3	\$32.5	\$105.6	\$13.2	\$118.8	1.25x	0.29x	7.4%
Basis Investment Group Real Estate Fund I	2017	11/16/2017	\$17.0	\$17.6	\$7.7	\$13.9	\$2.6	\$16.5	1.23x	0.44x	12.1%
KKR Real Estate Partners Americas II	2018	2/9/2018	\$118.7	\$118.8	\$120.0	\$59.5	\$16.5	\$76.0	1.51x	1.01x	26.6%
Brookfield Strategic Real Estate Partners III, L.P.	2019	4/12/2019	\$170.0	\$129.7	\$21.2	\$138.8	\$55.2	\$194.0	1.23x	0.16x	14.9%
Aermont Capital Real Estate Fund IV	2019	4/18/2019	\$75.6	\$39.6	\$0.0	\$39.0	\$36.0	\$75.1	0.99x	0.00x	-1.3%
Blackstone Real Estate Partners IX L.P.	2019	9/23/2019	\$166.0	\$111.3	\$24.5	\$145.1	\$74.0	\$219.1	1.52x	0.22x	44.2%
Blackstone Real Estate Partners Europe VI L.P.	2019	11/20/2019	\$99.0	\$43.3	\$3.2	\$56.4	\$59.7	\$116.1	1.38x	0.07x	32.6%
DRA Growth and Income Fund X	2020	3/25/2020	\$59.0	\$26.9	\$9.6	\$25.1	\$39.3	\$64.4	1.29x	0.36x	36.5%
GreenOak Asia III	2020	4/16/2020	\$87.0	\$63.6	\$40.9	\$28.7	\$56.5	\$85.1	1.09x	0.64x	17.4%
Grosvenor Real Estate Emerging Manager SMA	2019	5/19/2020	\$236.0	\$73.0	\$7.5	\$66.7	\$171.9	\$238.6	1.02x	0.10x	2.1%
ElmTree U.S. Net Lease Fund IV, L.P.	2020	7/16/2020	\$68.0	\$20.4	\$0.9	\$23.6	\$47.9	\$71.5	1.20x	0.04x	30.4%
KKR Real Estate Securities Dislocation Opportunity Co-Investment Strategy	2020	10/9/2020	\$98.0	\$58.7	\$56.3	\$22.4	\$0.6	\$23.0	1.34x	0.96x	56.2%
Exeter Industrial Value Fund V, L.P.	2020	10/23/2020	\$49.0	\$34.3	\$0.0	\$54.0	\$14.7	\$68.7	1.58x	0.00x	103.9%
DivcoWest Fund VI	2020	11/6/2020	\$82.0	\$19.9	\$1.3	\$17.4	\$62.8	\$80.2	0.95x	0.07x	-10.0%
Westbrook Real Estate Fund XI	2019	12/22/2020	\$83.0	\$19.3	\$5.7	\$15.4	\$69.8	\$85.2	1.10x	0.30x	19.3%
Rialto Real Estate Fund IV - Debt, LP	2021	1/14/2021	\$102.0	\$46.4	\$4.2	\$46.6	\$55.9	\$102.5	1.09x	0.09x	N/M
Pramerica Real Estate Capital VII (USD)	2020	1/28/2021	\$88.0	\$7.9	\$0.2	\$8.4	\$80.1	\$88.6	1.09x	0.02x	N/M
Mesirow Financial Real Estate Value Fund IV	2021	6/10/2021	\$34.5	\$6.7	\$0.0	\$7.9	\$27.8	\$35.8	1.19x	0.00x	N/M
Basis Investment Group Real Estate Fund II	2021	6/30/2021	\$48.0	\$10.0	\$2.9	\$7.1	\$40.7	\$47.8	0.99x	0.29x	N/M
NYC Hudson Multifamily Green Fund	2021	7/1/2021	\$113.1	\$22.4	\$0.0	\$22.3	\$90.7	\$113.0	0.99x	0.00x	N/M
Cerberus Institutional Real Estate Partners V SMA	2021	7/19/2021	\$89.0	\$23.3	\$0.0	\$26.9	\$65.7	\$92.7	1.16x	0.00x	N/M
KKR RE Europe II	2020	9/1/2021	\$83.3	\$24.4	\$0.0	\$37.9	\$58.8	\$96.8	1.55x	0.00x	N/M
LaSalle GPS Co-investment Program - Non-Core	2021	9/28/2021	\$121.2	\$19.3	\$0.0	\$19.1	\$101.9	\$121.1	0.99x	0.00x	N/M
KKR Real Estate Partners Americas III SCSp	2021	11/23/2021	\$135.0	\$34.5	\$0.0	\$32.1	\$100.5	\$132.7	0.93x	0.00x	N/M
Almanac Realty Securities IX, L.P.	2021	N/A	\$90.0	\$0.0	\$0.0	(\$0.2)	\$90.0	\$89.8	-	-	-
Almanac Realty Securities IX Sidecar	2021	N/A	\$45.0	\$0.0	\$0.0	\$0.0	\$45.0	\$45.0	-	-	
LBA Logistics Value Fund IX	2021	N/A	\$81.0	\$0.0	\$0.0	(\$0.3)	\$81.0	\$80.7	-	-	-
Brookfield Strategic Real Estate Partners IV	2021	N/A	\$174.0	\$0.0	\$0.0	(\$1.3)	\$174.0	\$172.7	-	-	-
Total: Active Non-Core Investments			\$4,996.8	\$3,453.2	\$2,840.1	\$2,153.3	\$2,055.5	\$4,208.8	1.45x	0.82x	11.2%
Total: Active Investments			\$7,750.5	\$6,255.2	\$4.198.8	\$5.320.3	\$2.481.3	\$7.801.6	1.52x	0.67x	8.8%

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses. IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

Infrastructure Quarterly Report (Public):



# Infrastructure Monitoring Report

For the period ended December 31, 2021

Report Prepared For:

New York City Employees' Retirement System





# **Table of Contents**

١.	Executive Summary	1
	Allocation Summary Performance Summary Portfolio Performance vs. Benchmarks Portfolio Diversification	2 3
١١.	Infrastructure Market Overview	4
	Market Update	4
III.	Portfolio Review	7
	Quarterly Highlights         Performance by Vintage Year         Performance by Strategy and Industry Focus         Performance by Geographic Focus         Portfolio Diversification         By Strategy, Geography and Industry Focus         By Investment Manager         Portfolio Cash Flow Analysis         Quarterly Cash Flow Activity         Annual Cash Flow Activity         Net Funded and Unfunded Commitments by Vintage Year         Portfolio Company-Level Analysis         Geographic Exposure and Performance         Industry Exposure and Performance	8 9 9 .10 .11 .11 .11 .12 .13 .13
IV.	Risk Management Matrix	.15



# **Important Information**

This document is meant only to provide a broad overview for discussion purposes. All information provided here is subject to change. This document is for informational purposes only and does not constitute an offer to sell, a solicitation to buy, or a recommendation for any security, or as an offer to provide advisory or other services by StepStone Group LP, StepStone Group Real Assets LP, StepStone Group Real Estate LP, StepStone Conversus LLC, Swiss Capital Alternative Investments AG and StepStone Group Europe Alternative Investments Limited or their subsidiaries or affiliates (collectively, "StepStone") in any jurisdiction in which such offer, solicitation, purchase or sale would be unlawful under the securities laws of such jurisdiction. The information contained in this document should not be construed as financial or investment advice on any subject matter. StepStone expressly disclaims all liability in respect to actions taken based on any or all of the information in this document. This document is confidential and solely for the use of StepStone and the existing and potential clients of StepStone to whom it has been delivered, where permitted. By accepting delivery of this presentation, each recipient undertakes not to reproduce or distribute this presentation in whole or in part, nor to disclose any of its contents (except to its professional advisors), without the prior written consent of StepStone. While some information used in the presentation has been obtained from various published and unpublished sources considered to be reliable, StepStone does not guarantee its accuracy or completeness and accepts no liability for any direct or consequential losses arising from its use. Thus, all such information is subject to independent verification by prospective investors.

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.

The presentation is being made based on the understanding that each recipient has sufficient knowledge and experience to evaluate the merits and risks of investing in private market products. All expressions of opinion are intended solely as general market commentary and do not constitute investment advice or a guarantee of returns. All expressions of opinion are as of the date of this document, are subject to change without notice and may differ from views held by other businesses of StepStone.

All valuations are based on current values calculated in accordance with StepStone's Valuation Policies and may include both realized and unrealized investments. Due to the inherent uncertainty of valuation, the stated value may differ significantly from the value that would have been used had a ready market existed for all of the portfolio investments, and the difference could be material. The long-term value of these investments may be lesser or greater than the valuations provided.

StepStone Group LP, its affiliates and employees are not in the business of providing tax, legal or accounting advice. Any tax-related statements contained in these materials are provided for illustration purposes only and cannot be relied upon for the purpose of avoiding tax penalties. Any taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Prospective investors should inform themselves and take appropriate advice as to any applicable legal requirements and any applicable taxation and exchange control regulations in the countries of their citizenship, residence or domicile which might be relevant to the subscription, purchase, holding, exchange, redemption or disposal of any investments. Each prospective investor is urged to discuss any prospective investment with its legal, tax and regulatory advisors in order to make an independent determination of the suitability and consequences of such an investment.

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

Each of StepStone Group LP, StepStone Group Real Assets LP, StepStone Group Real Estate LP and StepStone Conversus LLC is an investment adviser registered with the Securities and Exchange Commission ("SEC"). StepStone Group Europe LLP is authorized and regulated by the Financial Conduct Authority, firm reference number 551580. StepStone Group Europe Alternative Investments Limited ("SGEAIL") is an SEC Registered Investment Advisor and an Alternative Investment Fund Manager authorized by the Central Bank of Ireland and Swiss Capital Alternative Investments AG ("SCAI") is an SEC Exempt Reporting Adviser and is licensed in Switzerland as an Asset Manager for Collective Investment Schemes by the Swiss Financial Markets Authority FINMA. Such registrations do not imply a certain level of skill or training and no inference to the contrary should be made.

In relation to Switzerland only, this document may qualify as "advertising" in terms of Art. 68 of the Swiss Financial Services Act (FinSA). To the extent that financial instruments mentioned herein are offered to investors by SCAI, the prospectus/offering document and key information document (if applicable) of such financial instrument(s) can be obtained free of charge from SCAI or from the GP or investment manager of the relevant collective investment scheme(s). Further information about SCAI is available in the SCAI Information Booklet which is available from SCAI free of charge.

All data is as of December 31, 2021 unless otherwise noted.

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



# I. Executive Summary

New York City Employees' Retirement System ("NYCERS") 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 NYCERS 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 NYCERS 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 December 31, 2021, the Program has committed US\$2,538.4 million to 33 partnership investments (the "Portfolio"). This quarterly monitoring report covers the performance of the Portfolio as of December 31, 2021 as well as significant activity that occurred during the fourth quarter of 2021.

#### **Allocation Summary**

NYCERS has an Infrastructure allocation target of 4% of total pension assets. As of December 31, 2021, the market value of NYCERS Infrastructure Program represented approximately 1.4% of total pension assets, an eight-basis point increase from the prior quarter.

US\$ in millions*	December 31, 2021	September 30, 2021	December 31, 2020	Quarterly Change	Yearly Change
Total Pension Assets*	\$88,233.0	\$86,071.0	\$79,760.0	\$2,162.0	\$8,473.0
Total Infrastructure Assets	\$1,243.6	\$1,142.5	\$939.7	\$101.1	\$303.9
% Allocation to Infrastructure (Target of 4%)	1.4%	1.3%	1.2%	+8 bps	23 bps

\*NYCERS total Pension Assets and total Infrastructure Assets are as of quarter-end (or, if not yet available, the most recent month-end prior to quarter-end) as reported by The New York City Comptroller's Office on www.comptroller.nyc.gov



#### **Performance Summary**

As of December 31, 2021, the Infrastructure Program has achieved a Total Value to Paid-In multiple of 1.4x invested capital and an IRR of 13.4%.

US\$ in millions*	December 31, 2021	September 30, 2021	December 31, 2020	Quarterly Change	Yearly Change
Number of Managers	12	12	10	0	2
Number of Investments	33	32	26	1	7
Committed Capital <sup>1</sup>	\$2,538.4	\$2,511.6	\$1,751.0	\$26.8	\$787.4
Contributed Capital	\$1,211.1	\$1,114.8	\$925.3	\$96.3	\$285.8
Distributed Capital	\$423.2	\$355.8	\$269.8	\$67.4	\$153.4
Market Value	\$1,243.6	\$1,142.5	\$939.7	\$101.1	\$303.9
Total Value	\$1,666.8	\$1,498.4	\$1,209.6	\$168.5	\$457.3
Total Gain/(Loss)	\$455.7	\$383.6	\$284.2	\$72.1	\$171.5
Unfunded Commitment	\$1,443.7	\$1,500.0	\$926.0	(\$56.3)	\$517.6
Exposure <sup>2</sup>	\$2,687.3	\$2,642.5	\$1,865.8	\$44.8	\$821.5
DPI <sup>3</sup>	0.3x	0.3x	0.3x	0.0x	0.1x
TVPI <sup>4</sup>	1.4x	1.3x	1.3x	0.0x	0.1x
IRR <sup>5</sup>	13.3%	12.4%	12.1%	0.9%	1.2%
TVPI Net of StepStone Fees <sup>6</sup>	1.4x	1.3x	1.3x	0.1x	0.1x
IRR Net of StepStone Fees <sup>6</sup>	13.3%	12.4%	12.1%	0.9%	1.2%

\* Note that amounts may not total due to rounding. 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.

<sup>1</sup>Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations. Note that the Base/(US\$) committed capital for foreign currency-denominated investments as of respective quarter-end dates is calculated as follows: (total net amount funded in Base currency) + (unfunded commitment in Local currency \* quarter-end exchange rate). StepStone utilizes S&P Capital IQ as the source for quarter-end exchange rates to calculate committed capital.

<sup>2</sup> Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>3</sup> DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

<sup>4</sup> TVPI, or Total Value to Paid-In Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVPI is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

<sup>5</sup> IRR, or Internal Rate of Return, is a performance metric that 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.

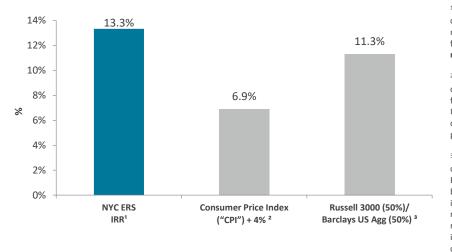
<sup>6</sup> TVPI and IRR Net of StepStone fees represent TVPI and IRR net of fees paid by NYCERS to StepStone through the quarter-end date. IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.



#### Portfolio Performance vs. Benchmarks

The performance benchmark for the Infrastructure Portfolio is to meet or exceed the Consumer Price Index ("CPI") plus 4% net of fees over a rolling 5-year period. The Infrastructure Portfolio's performance is also measured against a dollar-weighted public benchmark, which produced the return that would have been earned if NYCERS's infrastructure cash flows were invested in an index of 50% Russell 3000<sup>®</sup> and 50% Barclays U.S. Aggregate<sup>®</sup>. The Infrastructure Portfolio is expected to generate a total return, net of investment management fees, of at least 6.5%.

The following graph illustrates Portfolio IRR performance versus benchmarks as of December 31, 2021.



<sup>1</sup>NYCERS 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.** 

<sup>2</sup>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.

<sup>3</sup> Benchmark is a dollar-weighted PME+ calculation of daily changes in 50% of the Russell 3000<sup>®</sup> Index and 50% of the Barclays U.S. Aggregate<sup>®</sup> 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.

	Marke	t Value	Unfunded (	Commitment	Ехро	sure
s of December 31, 2021. (US\$ In millions)	\$	% of Total	\$	% of Total	\$	% of Total
By Strategy:						
Core	926.0	73.6%	1,183.1	81.9%	2,109.1	78.1%
Non-Core	331.9	26.4%	260.6	18.1%	592.6	21.9%
Total	1,258.0	100.0%	1,443.7	100.0%	2,701.6	100.0%
By Geographic Focus:						
Global	411.7	32.7%	771.2	53.4%	1,182.9	43.8%
North America	170.6	13.6%	324.4	22.5%	495.0	18.3%
OECD	675.7	53.7%	348.1	24.1%	1,023.8	37.9%
Total	1,258.0	100.0%	1,443.7	100.0%	2,701.6	100.0%
By Industry Focus:						
Communication	66.7	5.3%	33.2	2.3%	99.9	3.7%
Diversified	980.6	78.0%	1,006.1	69.7%	1,986.7	73.5%
Energy	133.1	10.6%	240.3	16.6%	373.4	13.8%
Secondaries	64.9	5.2%	164.1	11.4%	229.1	8.5%
Transportation	12.6	1.0%	-	0.0%	12.6	0.5%
Total	1,258.0	100.0%	1,443.7	100.0%	2,701.6	100.0%



# **II. Infrastructure Market Overview**

#### **Market Update**

#### **UK & Europe Infrastructure Activity**

During the quarter, high levels of deal activity continued across the renewables and utilities sectors. Vinci completed its takeover of ACS's energy business, Cobra IS, for €4.9 billion. Schroders acquired a 75% stake in renewable infrastructure manager, Greencoat Capital, for £358 million. Rubis agreed the purchase of an 80% stake in French power producer, Photosol, for an equity consideration of €376 million. Canada Pension Plan Investment Board ("CPPIB") has agreed to invest US\$300m (~£226m) for a 6% stake in UK-based energy supplier Octopus Energy. BlackRock partnered with Ionity to invest €700m into Ionity's EV charging network across Europe. EQT Infrastructure also announced its sale of its German heating business line, GETEC, to JP Morgan Asset Management for €4 billion. Greencoat's UKW purchased a 15.7% stake in Burbo Bank Extension offshore wind farm from AIP for £250 million. JPMorgan Asset Management announced that it had agreed to buy 60% of Falck Renewables for €1.5 billion. IFM Global Infrastructure acquired a 10.83% ownership in Naturgy, a Madrid listed utility, for €2.32 billion. Macquarie, via its Super Core fund, bought German gas utility, Thyssengas, from DIF Capital Partners and EDF Invest for ~€775 million.

The transport sector saw relatively strong deal activity. HICL bought a 25% stake in Road Management Group for £25 million, increasing HICL's exposure to 58.3%. Basalt agreed to acquire Nobina, a leading bus operator in Scandinavia, for an equity price of SEK 9.32 billion (~€900 million). 3i Infrastructure purchased a 92% stake in UK portable and temporary traffic light provider, SRL Traffic Systems, for £191 million. Additionally, AMP Capital agreed to sell its 50% stake in Esvagt, a Danish offshore energy services vessel operator, to 3i Infrastructure for £268 million. Eight sites of Welcome Break, the UK motorway service area operator, have been sold by M3 Capital Partners for £475 million to Arjun and Blackstone.

During the quarter in the telecommunications sector, Deutsche Telekom established a joint-venture with IFM Investors to build a network of 4 million Fibre-to-the-Home ("FTTH") connections across rural Germany for €900 million. Downing invested £145 million into UK regional telecoms company, Broadway Partners. Infratil acquired a 40% stake in UK-based data centre operator, Kao Data, for a price ranging between £120-130 million.

#### North America Infrastructure Activity

During the quarter, 74 infrastructure transactions were closed in North America with an aggregate value of US\$54.9 billion. The energy sector was the most active with 38 transactions and a total value of US\$20.5 billion, followed by the telecommunications sector with 18 deals with a total value of US\$26.1 billion. Activity in the transportation sector was fairly muted with six transactions totalling US\$5.2 billion in value.

Activity in the renewables space increased during quarter, with activity dominated by solar and wind transactions. In July, Orix Corporation closed its acquisition of an 80% stake in Spanish wind and solar developer Elawan Energy for US\$908 million. Elawan Energy's portfolio includes a 1.2 GW operating projects portfolio, 350 MW of which are from US operating wind generation projects and a 7.8 GW renewables development pipeline. In August, NextEra closed its acquisition of a 391 MW portfolio of four US wind farms from Brookfield Renewable for US\$733 million. In the same month, KKR closed its undisclosed minority stake investment in renewables developer, Sol Systems for US\$1.0 billion. In September, Axium Infrastructure closed its acquisition of an 80% stake in Recurrent Energy's 350 MW solar and 1,400 MWh storage pre-construction projects in North America for US\$550 million.



The midstream sector experienced an uptick in deal activity with respect to aggregate transaction value from the prior quarter. In August, Hartree Partners closed its acquisition of the Pine Prairie and Southern Pines natural gas storage facilities owned Plains All American for US\$850 million. In September, Brookfield Infrastructure Partners closed its acquisition of Inter Pipeline, a Canadian petroleum and natural gas transportation company for US\$10.8 billion.

The telecommunications sector experienced a strong uptick in deal activity over the last quarter. In July, Mapletree Industrial Trust closed its acquisition of a portfolio of 29 US data centres from Sila Realty Trust for US\$1.3 billion. In August, Stonepeak closed its acquisition of Astound, a US fibre network provider, for US\$8.1 billion from TPG Capital. In the same month, Blackstone closed its acquisition of QTS Realty Trust, a US data centre REIT, for US\$10.0 billion. In September, Macquarie Infrastructure Partners V closed its acquisition of Cincinnati Bell, a major US telecommunications network operator for US\$2.9 billion. In the same month, ISQ Global Infrastructure Fund III closed its acquisition of 14 data centres and other data infrastructure assets in North America and Europe for US\$2.2 billion from GTT Communications.

The utilities sector experienced a slight decline relative to the preceding quarter. In July, the Queensland Investment Corporation and Ullico closed their acquisition of a major district heating and cooling utilities company CenTrio for US\$1.9 billion. In September, Oaktree Capital Management acquired Priority Power Management, an energy utilities services company for US\$250 million.

In the transportation sector, EQT closed its acquisition of First Group's North American transportation assets for US\$4.6 billion and Fortress Transport closed its acquisition of Transtar LLC, which houses US Steel's six railroad assets, for US\$640 million.

Several notable signed but uncompleted transactions were also announced during the quarter. EQT announced that it will acquire a 100% stake in Covanta Holdings for US\$5.3 billion. ArcLight Capital announced that it will acquire a 100% stake in a fleet of 13 gas-fired power plants from Public Service Enterprise Group for US\$1.9 billion. CPPIB announced that it has agreed to acquire a 100% stake in Ports America for US\$4.0 billion. Enbridge announced that it will acquire a crude oil export platform Moda Ingleside Energy Center for US\$3.0 billion.

#### Australia and New Zealand Infrastructure Activity

During the quarter, the Australian infrastructure market saw robust deal flow and transactions that had previously been put on hold resumed as investor confidence continued to recover.

In the waste sector, after initially launching a process in Mar-Qtr-2021, Macquarie Infrastructure and Real Assets ("MIRA") finalised a A\$3.45 per share takeover of Australian waste management company Bingo Industries, implying an equity valuation of A\$2.3 billion. MIRA first approached Bingo in Jan-2021 alongside CPE Capital; however, CPE Capital subsequently exited the process. Also in the waste sector, Australian waste manager Cleanaway agreed to acquire a small parcel of Suez's Sydney waste assets for A\$501 million that includes two landfill sites and five waste transfer stations. The acquisition is subject to Australian Competition and Consumer Commission approval.

In the telecommunications sector, Telstra announced the sale of a 49% shareholding in its InfraCo Towers business to a consortium comprised of the Future Fund, Commonwealth Superannuation Corporation, and SunSuper for A\$2.8 billion. The transaction values the mobile tower business at A\$5.9 billion on an EV basis and a 28x EBITDA multiple, and members of the consortium will become strategic partners in the business. Also in telecommunications, Vocus shareholders voted in favour to accept the takeover offer from MIRA and Aware Super launched during the prior quarter for A\$5.50 per share in cash, implying an equity valuation of A\$3.4 billion.

In the social infrastructure sector, Infratil agreed to acquire a majority interest in Pacific Radiology Group, New Zealand's largest diagnostic imaging provider for NZ\$350 million. The transaction represents Infratil's second healthcare sector



acquisition, following the acquisition of Australia radiology provider Qscan for A\$735 million in Oct-2020. Also in social infrastructure, AMP Capital is close to finalising a further acquisition of a 10% interest in the New Royal Adelaide Hospital PPP. The sale, to be acquired from Australian Social Infrastructure Partners (a vehicle owned by Morrison & Co and Infratil), will take AMP Capital's ownership to 27%.

In the transport sector, Infrastructure Capital Group acquired a 49% interest in Australian bus operator Kinetic from Canadian pension fund OPTrust. Subsequent to quarter end, IFM Investors and Global Infrastructure Partners together lodged a A\$22.3 billion scheme takeover for Sydney Airport. Sydney Airport's Board is currently reviewing the bid, which is subject to Foreign Investment Review Board approval and regulatory clearances.



### III. Portfolio Review

#### **Quarterly Highlights**

LICE in millions

• **New Investment Commitments** – During the fourth quarter of 2021, the Program closed on one new investment commitment totaling US\$27.5 million. This is shown on the table below.

Investment	Month and Year Closed	Vintage Year	Strategy	Geographic Focus	Industry Focus	Committed Capital
Stonepeak Patagonia (Co-Invest) Holdings LP (Project Panther)	December 2021	2021	Infrastructure	North America	Diversified	\$27.5
Total						\$27.5

• **Subsequent Investment Commitment** – Subsequent to quarter-end, the Program closed on two new investment commitments totaling US\$138.8 million. This is shown on the table below.

US\$ in millions						
Investment	Month and Year Closed	Vintage Year	Strategy	Geographic Focus	Industry Focus	Committed Capital
InfraVia European Fund V	February 2022	2021	Infrastructure	Europe	Diversified	\$118.0
Ardian Infra Fund V Co-Invest Eden	February 2022	2021	Infrastructure	Europe	Communication	\$20.8
Total						\$138.8

- Cash Outflow Increased During the fourth quarter of 2021, the Program made US\$96.3 million of contributions and received US\$67.4 million of distributions, for a net cash outflow of US\$28.9 million. This compared to a net cash outflow of US\$80.3 million during the prior quarter.
- Valuation Increased During the fourth quarter of 2021, net of cash flow activity, the valuation of the Portfolio increased by approximately US\$72.1million, or 6.2%, from the prior quarter. The valuation increase primarily reflects the increase in value of underlying investments in EQT Infrastructure III and Global Infrastructure Partners Funds III & IV.
- New Underlying Fund Investments During the fourth quarter of 2021, ten investment positions were added to the Portfolio.

US\$ in millions								
Company	Fund(s)	Investment Date	Stage	Industry	Country	Exposed Invested Capital	Exposed Market Value	тум
ASTM	ARDIAN Infrastructure Fund V B S.C.S., SICAV-RAIF	Nov-21	Private	Transportation	Italy	18.0	23.6	1.3x
Naturgy	IFM Global Infrastructure Fund	Oct-21	Public	Utilities	Spain	14.3	19.6	1.4x
Covanta Holding Corp.	EQT Infrastructure V (No.2) USD SCSp	Nov-21	Private	Other	United States	5.0	5.0	1.0x
Solarpack	EQT Infrastructure V (No.2) USD SCSp	Nov-21	Private	Renewables	Spain	3.3	3.1	1.0x
Cypress Creek Renewables	EQT Infrastructure V (No.2) USD SCSp	Nov-21	Private	Renewables	United States	3.2	3.3	1.0x
Centric Infrastructure Group	Global Energy & Power Infrastructure Fund III, L.P.	Oct-21	Private	Utilities	United States	2.8	2.8	1.0x
Pinnacle Midland Gas HoldCo, LLC	NYCRS EIG Energy Partners, L.P.	Dec-21	Private	Utilities	United States	1.2	1.2	1.0x
Aterion Industrial Infra Fund II, FCR	BIS NYC Infrastructure Emerging Manager Opportunities Fund, L.P.	Nov-21	Private	Other	Spain	0.6	0.5	0.9x
U.K. Residential Infrastructure (BOXT)	Brookfield Infrastructure Fund IV, L.P.	Dec-21	Private	Utilities	United Kingdom	0.3	0.3	1.0x
Navigator CO2 Ventures	Global Energy & Power Infrastructure Fund III, L.P.	Nov-21	Private	Renewables	United States	0.1	0.1	1.0x

Company Exits – During the fourth quarter of 2021, two investment positions exited the Portfolio.

US\$ in millions								
Company	Fund(s)	Investment Date	Exit Date	Industry	Country	Invested Capital	Total Value	тум
Hivory SAS (fka SFR Filiale SAS)	KKR Global Infrastructure Investors III L.P.	Nov-18	Nov-21 Private	Telecom	France	4.4	7.1	1.6x
Hivory SAS (KKR II)	KKR Global Infrastructure Investors II L.P.	Nov-18	Nov-21 Private	Telecom	France	4.7	7.7	1.6x



#### Performance by Vintage Year

The following table illustrates the Portfolio's since-inception investment performance by vintage year as of December 31, 2021. Note that the performance of funds that are less than two years old is not meaningful.

Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Total Value	Total Gain/ (Loss)	Unfunded Commitment	Exposure	DPI	τνρι	IRR
2013	\$75.0	\$66.5	\$54.2	\$72.0	\$126.1	\$59.7	\$13.5	\$85.4	0.8x	1.9x	13.3%
2014	197.0	230.8	197.1	191.5	388.5	157.7	4.8	196.3	0.9x	1.7x	14.3%
2016	327.3	251.1	70.7	277.5	348.2	97.0	107.5	385.0	0.3x	1.4x	11.8%
2017	189.2	158.5	51.0	189.2	240.2	81.7	44.7	233.9	0.3x	1.5x	16.4%
2018	316.9	179.6	28.1	173.7	201.8	22.1	157.2	330.9	0.2x	1.1x	8.2%
2019	274.3	140.8	20.6	146.1	166.7	25.9	140.6	286.7	0.1x	1.2x	13.1%
2020	356.5	81.3	1.7	83.4	85.0	3.8	275.4	358.8	NM	NM	NM
2021	802.2	102.5	0.0	110.3	110.3	7.8	700.0	810.2	NM	NM	NM
al	\$2,538.4	\$1,211.1	\$423.2	\$1,243.6	\$1,666.8	\$455.7	\$1,443.7	\$2,687.3	0.3x	1.4x	13.3%

#### Performance by Strategy and Industry Focus

The following table illustrates the Portfolio's since-inception investment performance by strategy and industry focus as of December 31, 2021.

As of December 31. 2021 (USS in millions)

Strategy/Industry	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Total Value	Total Gain/ (Loss)	Unfunded Commitment	Exposure	DPI	турі	IRR
Core	\$2,031.6	\$931.9	\$363.6	\$926.0	\$1,289.7	\$357.8	\$1,183.1	\$2,109.1	0.4x	1.4x	12.6%
Communication	51.0	19.9	-	24.0	24.0	4.1	31.1	55.1	NM	NM	NM
Diversified	1,542.8	730.8	292.0	741.7	1,033.7	302.8	882.8	1,624.4	0.4x	1.4x	12.2%
Energy	214.9	121.0	65.3	82.8	148.1	27.1	105.1	187.8	0.5x	1.2x	13.5%
Secondaries	213.0	50.1	5.3	64.9	70.2	20.1	164.1	229.1	0.1x	1.4x	20.3%
Transportation	10.0	10.0	1.1	12.6	13.7	3.6	-	12.6	0.1x	1.4x	16.5%
Non-Core	\$506.8	\$279.2	\$59.6	\$317.6	\$377.2	\$97.9	\$260.6	\$578.2	0.2x	1.3x	17.4%
Communication	36.8	34.9	0.5	42.7	43.2	8.3	2.1	44.8	0.0x	1.2x	17.2%
Diversified	292.7	189.0	38.2	224.5	262.7	73.7	123.3	347.9	0.2x	1.4x	20.4%
Energy	177.3	55.3	20.9	50.3	71.2	15.9	135.2	185.6	0.4x	1.3x	10.6%
Total	\$2,538.4	\$1,211.1	\$423.2	\$1,243.6	\$1,666.8	\$455.7	\$1,443.7	\$2,687.3	0.3x	1.4x	13.3%

#### Performance by Geographic Focus

The following table and charts illustrate the Portfolio's since-inception investment performance by geographic focus as of December 31, 2021.

As of December 31, 2021 (US\$ in millions)

Geographic Focus	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Total Value	Total Gain/ (Loss)	Unfunded Commitment	Exposure	DPI	τνρι	IRR
Global	\$1,097.9	\$359.0	\$119.9	\$397.3	\$517.2	\$158.2	\$771.2	\$1,168.6	0.3x	1.4x	14.3%
North America	479.7	161.1	30.2	170.6	200.8	39.7	324.4	495.0	0.2x	1.2x	12.2%
OECD	960.9	691.0	273.2	675.7	948.8	257.8	348.1	1,023.8	0.4x	1.4x	12.9%
Total	\$2,538.4	\$1,211.1	\$423.2	\$1,243.6	\$1,666.8	\$455.7	\$1,443.7	\$2,687.3	0.3x	1.4x	13.3%

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



### **Portfolio Diversification**

#### By Strategy, Geography and Industry Focus

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%.

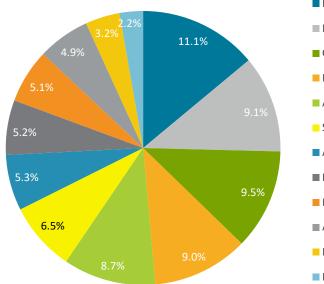
Actual percentages may differ substantially from these targets during the initial years of the Program. The following table illustrates the current diversification of the Portfolio by fund strategy, geography and industry focus.

	Marke	t Value	Unfunded (	Commitment	Ехро	sure
As of December 31, 2021. (US\$ In millions)	\$	% of Total	\$	% of Total	\$	% of Total
By Strategy:						
Core	926.0	74.5%	1,183.1	81.9%	2,109.1	78.5%
Non-Core	317.6	25.5%	260.6	18.1%	578.2	21.5%
Total	1,243.6	100.0%	1,443.7	100.0%	2,687.3	100.0%
By Geographic Focus:						
Global	397.3	31.9%	771.2	53.4%	1,168.6	43.5%
North America	170.6	13.7%	324.4	22.5%	495.0	18.4%
OECD	675.7	54.3%	348.1	24.1%	1,023.8	38.1%
Total	1,243.6	100.0%	1,443.7	100.0%	2,687.3	100.0%
By Industry Focus:						
Communication	66.7	5.4%	33.2	2.3%	99.9	3.7%
Diversified	966.2	77.7%	1,006.1	69.7%	1,972.3	73.4%
Energy	133.1	10.7%	240.3	16.6%	373.4	13.9%
Secondaries	64.9	5.2%	164.1	11.4%	229.1	8.5%
Transportation	12.6	1.0%	-	0.0%	12.6	0.5%
Total	1,243.6	100.0%	1,443.7	100.0%	2,687.3	100.0%



#### **By Investment Manager**

As of December 31, 2021, the Program had made 33 investment commitments to 12 managers. NYCERS 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.



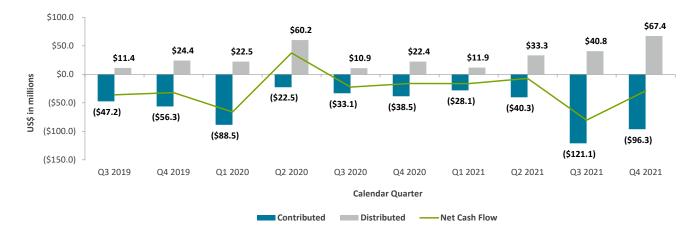




#### **Portfolio Cash Flow Analysis**

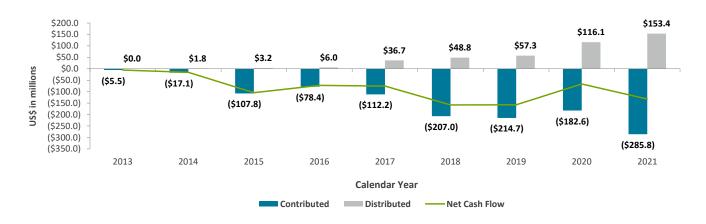
#### **Quarterly Cash Flow Activity**

During the fourth quarter of 2021, the Program made US\$96.3 million of contributions and received US\$67.4 million of distributions, for a net cash outflow of US\$28.9 million. As of December 31, 2021, 25 fund investments in the Portfolio had cash flow activity. As the Program's commitment and investment activity increases, net cash outflow is expected to increase. The graph below illustrates cash flow activity since inception by calendar quarter.



#### **Annual Cash Flow Activity**

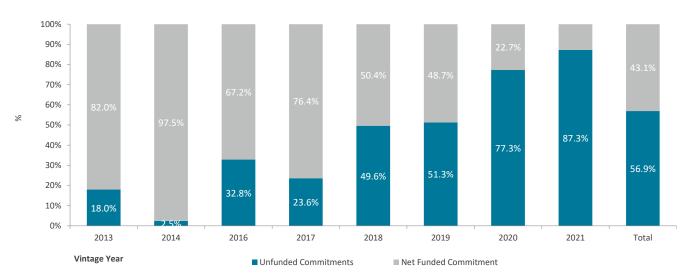
During 2021, the Program made US\$285.8 million of contributions and received US\$153.4 million of distributions, for a net cash outflow of US\$132.4 million. The graph below illustrates cash flow activity since inception by calendar year.





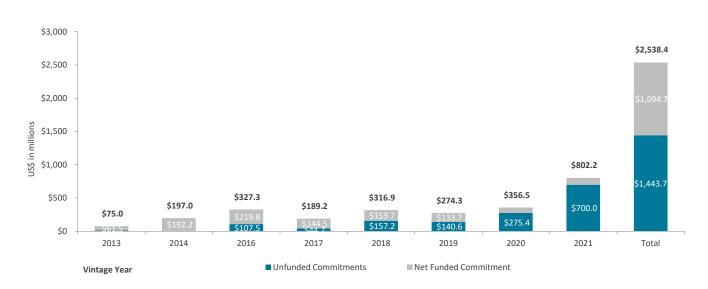
#### Net Funded and Unfunded Commitments by Vintage Year

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 December 31, 2021. Overall, the Portfolio was 56.9% unfunded as of quarter-end.



Net Funded and Unfunded Commitment by Vintage Year (%)

The following chart illustrates the Portfolio's net funded commitments relative to total capital commitments, by fund vintage year, as of December 31, 2021. Overall, the Portfolio had US\$1,443.7 million of unfunded commitments as of quarter-end.



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

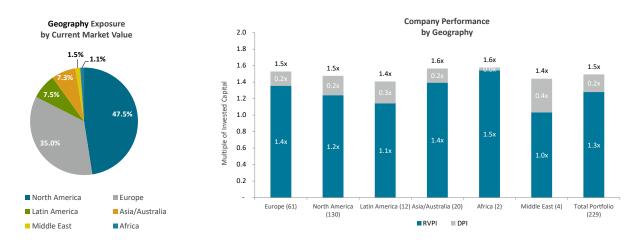


#### **Portfolio Company-Level Analysis**

As of quarter-end, the Portfolio had exposure to 229 unique unrealized portfolio companies/investment positions. As the Portfolio matures, the number of unique 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.

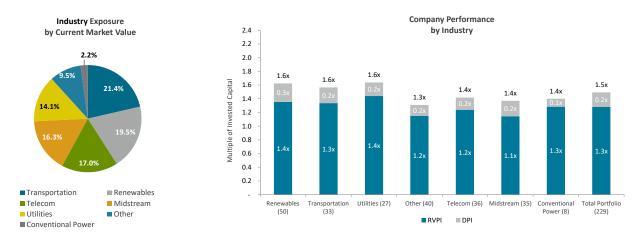
#### **Geographic Exposure and Performance**

The following charts illustrate the Portfolio's current exposure and performance by geographic region at the portfolio company level.



#### **Industry Exposure and Performance**

The following charts illustrate the Portfolio's current exposure and performance by industry at the portfolio company level.



\*Multiples may not add to total multiple due to rounding.



#### **Public Market Exposure**

As of quarter-end, publicly traded investments comprised 9.8% of the Portfolio's exposed market value. The following chart illustrates the current public market exposure at the portfolio company level.

# 9.8% 90.2% Private Public

#### Public Market Exposure Current Market Value



### IV. Risk Management Matrix

Category	Requirement	Status	Status Notes
Allocation	NYC ERS has an Infrastructure allocation target of 4% of total pension assets.	~	The market value of NYC ERS Infrastructure Program represents approximately 1.4% 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 <sup>®</sup> Index and 50% of the Barclays U.S. Aggregate <sup>®</sup> Index. The Infrastructure Portfolio is expected to generate a total return, net of investment management fees, of at least 6.5%.	✓	As of December 31, 2021, the Portfolio outperformed the CPI and PME benchmark by 6.4% and 2.0%, 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 78.5% exposure to Core investments and 21.5% 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%.	$\checkmark$	The Program is in compliance with the average leverage limitation. The current leverage level is 38.8% <sup>1</sup> .
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 December 31, 2021.

#### New York City Employees' Retirement System Infrastructure Portfolio As of December 31, 2021

Vintage Year	Investment	Closing Date	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded	τνρι	IRR
Active Investme	nts:								
2013	Brookfield Infrastructure Fund II, L.P.	7/8/2013	\$75,000,000	\$66,451,471	\$54,171,148	\$71,961,824	\$13,473,815	1.9x	13.3%
2014	IFM Global Infrastructure Fund	1/2/2014	\$75,000,000	\$100,136,579	\$45,072,250	\$134,722,044	-	1.8x	12.1%
2014	Global Energy & Power Infrastructure Fund II	4/16/2014	\$45,000,000	\$48,176,820	\$45,073,056	\$19,343,856	\$1,710,575	1.3x	17.0%
2014	KKR Global Infrastructure Investors II L.P.	6/12/2015	\$77,000,000	\$82,536,472	\$106,922,566	\$37,402,070	\$3,118,137	1.7x	17.9%
2016	Global Infrastructure Partners III-A/B, L.P.	1/29/2016	\$106,000,000	\$97,342,256	\$25,751,575	\$110,166,289	\$20,008,596	1.4x	10.5%
2016	Brookfield Infrastructure Fund III, L.P.	4/15/2016	\$91,000,000	\$58,621,479	\$18,740,105	\$60,194,930	\$37,893,031	1.3x	10.1%
2016	Actis Energy 4	12/16/2016	\$64,300,000	\$53,398,039	\$20,905,920	\$51,373,000	\$24,143,183	1.4x	12.3%
2017	EQT Infrastructure III (No.2) SCSp	2/18/2017	\$56,194,835	\$60,763,243	\$23,863,434	\$93,079,702	\$3,961,918	1.9x	24.6%
2016	ASF VII Infrastructure L.P.	4/24/2017	\$66,000,000	\$41,774,418	\$5,274,219	\$55,775,164	\$25,432,666	1.5x	19.9%
2017	Axium Infrastructure North America (2017)	8/14/2017	\$67,104,915	\$69,386,552	\$14,881,059	\$75,595,887	-	1.3x	9.9%
2017	NYCRS EIG Energy Partners, L.P.	8/14/2017	\$65,880,000	\$28,369,869	\$12,217,076	\$20,569,360	\$40,722,084	1.2x	7.9%
2021	NYCRS EIG Energy Partners Co-Investment, L.P.	1/12/2018	\$16,470,000	-	-	-	\$16,470,000	-	0.0%
2018	KKR Global Infrastructure Investors III L.P.	3/29/2018	\$87,500,000	\$56,089,595	\$11,818,325	\$41,039,957	\$35,765,931	0.9x	-3.8%
2019	Global Energy & Power Infrastructure Fund III, L.P.	7/3/2018	\$87,500,000	\$44,501,180	\$8,042,597	\$42,861,198	\$46,151,682	1.1x	11.9%
2018	Cardinal NR Sidecar Holdings L.P.	10/5/2018	\$10,500,000	\$10,570,901	\$3,083,348	\$15,018,922	-	1.7x	19.9%
2018	EQT Infrastructure IV (No.2) USD SCSp	12/20/2018	\$101,500,000	\$87,699,301	\$13,173,714	\$93,749,889	\$24,853,738	1.2x	14.9%
2019	Ardian Infrastructure Fund V B	3/4/2019	\$75,841,477	\$18,764,913	\$1,191,791	\$20,836,406	\$57,077,896	1.2x	14.8%
2018	Global Infrastructure Partners IV-A/B, L.P.	3/11/2019	\$117,400,000	\$25,252,200	\$1	\$23,866,513	\$96,566,410	0.9x	-6.5%
2019	Brookfield Infrastructure Fund IV, L.P.	5/10/2019	\$101,000,000	\$67,505,361	\$10,330,116	\$69,776,224	\$37,401,300	1.2x	12.7%
2020	EQT Infrastructure IV Co-Investment (B) SCSp (Saber)	7/30/2019	\$8,400,000	\$8,484,000	\$509,835	\$9,933,679	-	1.2x	12.4%
2019	Brookfield Infrastructure Fund IV Co-Investment (Snow)	10/25/2019	\$10,000,000	\$10,042,407	\$1,061,124	\$12,601,883	-	1.4x	16.5%
2020	EQT Infrastructure IV Co-Investment (G) SCSp (Lightspeed)	6/11/2020	\$12,712,770	\$12,754,645	-	\$16,215,737	-	1.3x	17.6%
2020	Actis Energy 5	6/30/2020	\$113,000,000	\$1,921,949	-	(\$1,033,924)	\$111,078,051	NM	NM
2020	BIS NYC Infrastructure Emerging Manager Opportunities Fund, L.P.	7/3/2020	\$71,660,000	\$3,902,277	-	\$4,013,544	\$67,757,723	NM	NM
2020	EQT Infrastructure IV Co-Investment (F) SCSp (Connect)	8/18/2020	\$15,700,000	\$13,653,777	-	\$16,545,227	\$2,093,394	1.2x	22.9%
2020	EQT Infrastructure V (No.2) USD SCSp	10/29/2020	\$135,000,000	\$40,565,023	\$1,141,856	\$37,714,628	\$94,505,498	NM	NM
2021	Basalt Infrastructure Partners III	2/5/2021	\$114,000,000	\$41,350,271	-	\$41,429,047	\$72,649,729	NM	NM
2021	Stonepeak Infrastructure Fund IV, L.P.	2/16/2021	\$171,000,000	\$32,717,071	\$5,101	\$35,396,833	\$138,293,529	NM	NM
2021	Stonepeak Tiger (Co-Invest) Holdings (I-B) LP	4/16/2021	\$23,500,000	\$19,877,480	-	\$24,017,444	\$3,622,520	NM	NM
2021	KKR Global Infrastructure Investors IV (USD) SCSp	5/24/2021	\$205,000,000	-	-	\$271,065	\$205,000,000	NM	NM
2021	ASF VIII Infrastructure B L.P.	8/3/2021	\$147,000,000	\$8,309,812	\$7,562	\$9,161,462	\$138,690,188	NM	NM
2021	Axium Infrastructure North America (2021)	9/3/2021	\$97,750,880	\$205,493	-	-	\$97,750,880	NM	NM
2021	Stonepeak Patagonia (Co-Invest) Holdings LP (Project Panther)	12/10/2021	\$27,495,000	-	-	-	\$27,495,000	NM	NM
Total			\$2,538,409,877	\$1,211,124,856	\$423,237,779	\$1,243,599,859	\$1,443,687,474	1.4x	13.3%

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 meaning the given the *I*-Curve effect. The actual IRR performance of any fund is not hown 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 are calculated by the general partners. The result of the IRR calculation may differ from that generated by the general partners. Differences in RR calculations can be affected by cash-flow timing, the accounting treatment of carried interest, fund management fees, advisory fees, organizational fees, other fund expreses, sale of distributed stock, and valuations.

Risk Quarterly Report (Public):

#### Total Plan Summary

Risk Summa	iry		Asset Cla	ss Contribut	ion to Risk		
Statistic Total Risk	Value 11.81	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR
		Total	83,669,741,694	100.00	11.81	11.81	100.00
Benchmark Risk	11.27	EQUITY	53,122,317,324	63.49	17.46	11.02	93.34
Active Risk	1.77	-					
Portfolio Beta	1.04	FIXED INCOME	30,547,424,370	36.51	3.95	0.79	6.66
Effective Duration	2.11						

COMPANY: NYCRS - NYCERS PORTFOLIO: NYCERS\_Total Plan BENCHMARK: NYCERS\_Policy POSITIONS: 28,496 CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 83,669,741,694 ACCEPTED: 28,163

Asset Class Allocation



#### Risk Factor Breakdown

		Risk De	composition			
		Portfolio			Active	
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation
Total Risk	11.81	100.00	1.00	1.77	100.00	1.00
Local Market Risk	11.36	96.19	1.00	1.72	97.44	0.99
Common Factor Risk	11.32	95.85	1.00	1.55	87.80	0.94
Equity	10.19	86.29	0.98	0.49	27.84	0.49
Fixed Income	0.43	3.67	0.31	-0.05	-2.81	-0.17
Private Real Estate	0.53	4.49	0.71	0.01	0.46	0.05
Private Equity	0.16	1.39	0.12	1.10	62.31	0.79
Selection Risk	0.04	0.34	0.06	0.17	9.63	0.31
Currency Risk	0.45	3.81	0.46	0.05	2.56	0.20

Active Risk from Risk Factors

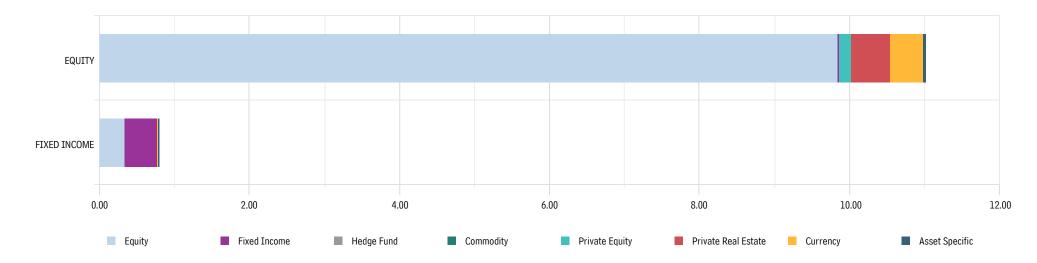


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without limitation, and results obtained from use of the Report, or any information and there up on the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information and therein, including, without the results obtained from use of the Report.

COMPANY: NYCRS - NYCERS PORTFOLIO: NYCERS\_Total Plan BENCHMARK: NYCERS\_Policy POSITIONS: 28,496 CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 83,669,741,694 ACCEPTED: 28,163

#### Risk Contribution Breakdown by Risk Type

							Risk Contribution							
Asset Name	Mkt Value	Weight (%)	Eff Weight (%)	Total Risk	%CR to Total Risk	Port Risk Contribution	Equity	Fixed Income	Hedge Fund	Commodity	Private Real Estate	Private Equity	Currency	Asset Specific
Total	83,669,741,694	100.00	-	11.81	100.00	11.81	10.19	0.43	0.00	0.00	0.53	0.16	0.45	0.04
EQUITY	53,122,317,324	63.49	-	17.46	93.34	11.02	9.84	0.02	0.00	0.00	0.53	0.16	0.44	0.04
FIXED INCOME	30,547,424,370	36.51	-	3.95	6.66	0.79	0.35	0.42	0.00	0.00	0.00	0.01	0.01	0.00



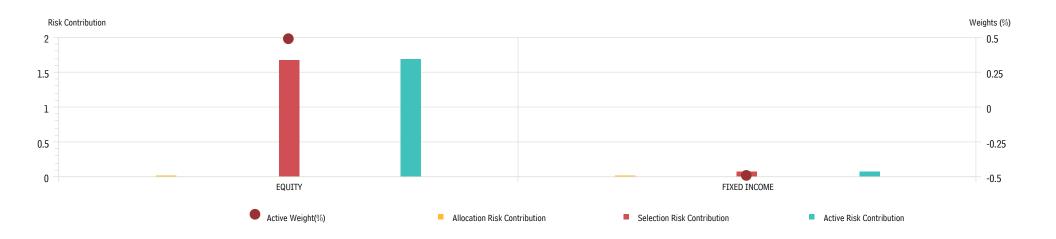


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provides are thereby disclaimed. Neither MSCI nor MSCI's software or data provides are software or liable tor results obtained from use of the Report, or any information rand sec, whether direct, indirect, indident, indirect, indirect, indire

COMPANY: NYCRS - NYCERS PORTFOLIO: NYCERS\_Total Plan BENCHMARK: NYCERS\_Policy POSITIONS: 28,496 CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 83,669,741,694 ACCEPTED: 28,163

#### Allocation Selection

		Allocation				Active		
Asset Class	Active Weight(%)	Volatility	Correlation	Risk Contribution	Volatility	Correlation	Risk Contribution	<b>Risk Contribution</b>
Active Total Risk				0.02			1.75	1.77
EQUITY	0.49	5.65	0.23	0.01	2.67	0.99	1.68	1.68
FIXED INCOME	-0.49	9.62	-0.23	0.01	0.66	0.29	0.07	0.08



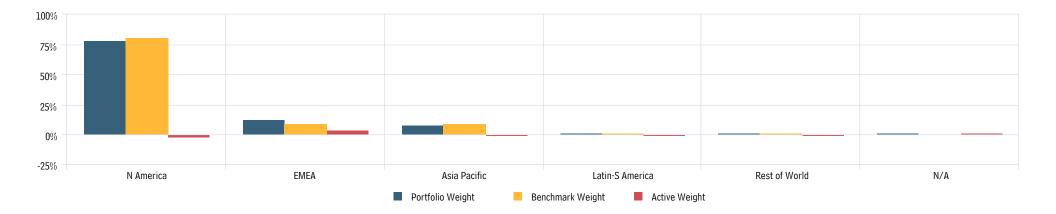


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers hall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without limitation, any results obtained from use of the Report, or any information any party in reliance upon the Report, or any information any party in reliance upon the Report, or any interve upon there information contained therein, including, without the order of the Report.

COMPANY: NYCRS - NYCERS PORTFOLIO: NYCERS\_Total Plan BENCHMARK: NYCERS\_Policy POSITIONS: 28,496 CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 83,669,741,694 ACCEPTED: 28,163

#### Portfolio Allocation by Region

		Weight (%)					
Region	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	0.00	11.81	1.77	100.00	0.02
N America	78.34	80.13	-1.79	10.93	1.43	81.15	0.00
EMEA	12.27	9.36	2.91	18.42	0.30	16.81	0.04
Asia Pacific	8.09	9.38	-1.29	16.85	0.03	1.59	0.01
Latin-S America	0.61	0.69	-0.08	28.89	-0.00	-0.02	0.04
Rest of World	0.42	0.44	-0.02	8.28	0.00	0.06	-0.01
N/A	0.27	0.00	0.27	17.94	0.01	0.41	0.03





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provides are thereby disclaimed. Neither MSCI nor MSCI's software or data provides are software or liable tor results obtained from use of the Report, or any information rand sec, whether direct, indirect, indident, indirect, indirect, indire

#### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	0.00	11.81	1.77	100.00	0.02
United States	76.30	77.76	-1.46	10.82	1.38	78.44	0.00
United Kingdom	3.29	2.20	1.08	19.60	0.13	7.28	0.04
Japan	2.25	2.55	-0.30	17.00	0.01	0.56	0.01
Canada	1.39	2.13	-0.74	17.16	0.03	1.59	0.02
Switzerland	1.33	1.17	0.16	15.83	0.02	1.11	0.03
France	1.31	1.33	-0.01	19.59	-0.00	-0.11	0.04
Germany	1.30	0.96	0.34	20.14	0.01	0.72	0.04
China International	1.29	1.75	-0.47	26.26	0.00	0.00	-0.01
Taiwan	1.01	1.13	-0.12	21.92	0.00	0.02	0.01
Netherlands	0.98	0.69	0.30	21.92	0.02	1.17	0.03
India	0.94	0.92	0.02	25.52	0.01	0.50	0.03
S. Korea	0.92	0.89	0.03	24.09	0.00	0.14	0.02
Australia	0.67	0.95	-0.28	22.03	-0.00	-0.10	0.03
Denmark	0.54	0.29	0.26	20.79	0.01	0.65	0.04
Brazil	0.54	0.42	0.12	35.51	0.01	0.47	0.04
Euro. Monetary Union	0.52	0.00	0.52	27.22	0.04	2.39	0.07
Italy	0.50	0.35	0.15	24.52	0.01	0.81	0.04
Sweden	0.50	0.39	0.11	26.93	0.01	0.82	0.06
Spain	0.50	0.29	0.20	19.10	0.01	0.42	0.03
Hong Kong	0.48	0.33	0.15	21.76	0.00	0.05	-0.01
Ireland	0.35	0.24	0.11	14.01	0.01	0.32	0.02
Singapore	0.28	0.17	0.11	18.17	0.00	0.09	0.02
N/A	0.27	0.00	0.27	17.86	0.01	0.41	0.03
Belgium	0.25	0.18	0.07	18.08	0.00	0.23	0.02
China	0.21	0.45	-0.25	31.50	0.00	0.28	-0.01
Caymans	0.19	0.05	0.15	8.06	-0.00	-0.13	-0.02
South Africa	0.17	0.29	-0.11	28.96	-0.00	-0.22	0.04
Norway	0.15	0.09	0.06	26.24	0.01	0.36	0.04
Poland	0.15	0.05	0.10	28.94	0.01	0.35	0.06
Mexico	0.14	0.19	-0.05	24.44	-0.00	-0.03	0.03

COMPANY: NYCRS - NYCERS PORTFOLIO: NYCERS\_Total Plan BENCHMARK: NYCERS\_Policy POSITIONS: 28,496 CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 83,669,741,694 ACCEPTED: 28,163

Portfolio Weight		Benchr	mark Weight	Act	tive Weight	i
United States						
United Kingdom		7				
Japan		- <b>F</b>				
Canada		- <u> </u>				
Switzerland						
France						
Germany						
China International		- <b>F</b>				
Taiwan		- <b>}</b> -				
Netherlands						
India						
S. Korea						
Australia		1				
Denmark						
Brazil						
Euro. Monetary Union						
Italy						
Sweden						
Spain						
Hong Kong						
Ireland						
Singapore						
N/A						
Belgium						
China						
Caymans						
South Africa						
Norway						
Poland						
Mexico						
-20	26	0%	20%	40%	60%	80%



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without limitation, and results obtained from use of the Report, or any information and there up on the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information and therein, including, without the results obtained from use of the Report.

CURRENCY: USD

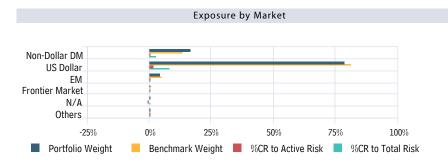
ANALYSIS DATE: March 31, 2022

MARKET VALUE: 83,669,741,694

ACCEPTED: 28,163

### BarraOne Total Plan Summary

Portfolio Allocation by Currency



Devel	oped Market Curr	ency	Emerging Market Currency				
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	65,913,124,872.08	80.27	69.51	New Taiwan Dollar	846,301,864.59	0.02	1.18
Euro	4,671,386,654.45	6.36	8.74	Indian Rupee	785,988,980.21	0.49	1.26
British Pound Sterling	2,277,892,555.99	7.23	4.51	Korean Won	722,235,547.30	0.11	1.32
Japanese Yen	1,839,221,297.87	0.36	2.31	Brazilian Real	425,969,326.76	0.44	0.88
Hong Kong Dollar	1,297,796,243.91	0.22	1.90	Chinese Yuan	170,526,236.74	0.19	0.25

COMPANY: NYCRS - NYCERS

BENCHMARK: NYCERS\_Policy

POSITIONS: 28,496

PORTFOLIO: NYCERS\_Total Plan

#### Top 15 Currencies by Weight%

1

1

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	-0.00	11.81	11.81	100.00	1.77	100.00
US Dollar	78.78	81.16	-2.38	10.60	8.21	69.51	1.42	80.27
Euro	5.58	3.36	2.23	21.09	1.03	8.74	0.11	6.36
British Pound Sterling	2.72	1.62	1.10	23.30	0.53	4.51	0.13	7.23
Japanese Yen	2.20	2.37	-0.17	17.38	0.27	2.31	0.01	0.36
Hong Kong Dollar	1.55	1.98	-0.42	26.45	0.22	1.90	0.00	0.22
Swiss Franc	1.27	1.10	0.16	16.59	0.18	1.49	0.02	1.12
New Taiwan Dollar	1.01	1.13	-0.12	21.92	0.14	1.18	0.00	0.02
Canadian Dollar	0.99	1.39	-0.39	22.34	0.20	1.65	0.02	0.95
Indian Rupee	0.94	0.91	0.03	25.52	0.15	1.26	0.01	0.49
Korean Won	0.86	0.88	-0.02	24.28	0.16	1.32	0.00	0.11
Australian Dollar	0.63	0.86	-0.23	23.29	0.13	1.07	-0.00	-0.16
Danish Krone	0.54	0.28	0.26	20.80	0.08	0.68	0.01	0.65
Brazilian Real	0.51	0.40	0.10	36.81	0.10	0.88	0.01	0.44
Swedish Krona	0.43	0.38	0.05	26.39	0.10	0.82	0.01	0.48
Singapore Dollar	0.28	0.13	0.15	18.21	0.04	0.32	0.00	0.10

MSCI 💮

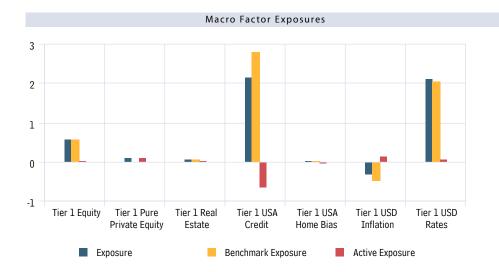
While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information contained herein, anduding, victor use for a particular purpose are hereby disclaimed. Neither MSCI not MSCI's software of data providers shall be responsible or liable for results obtained from use of the Report, or any information or any party in reliance upon the Report, or for any delaws, inaccurateise, errors of the Report.

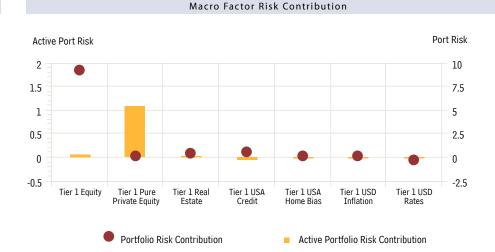
### BarraOne Tier 1 USA Factor Summary

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 - NYCERS PORTFOLIO: NYCERS\_Total Plan BENCHMARK: NYCERS\_Policy POSITIONS: 28,496 MODEL: MAC.L Tier 1 USA

CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 83,669,741,694 ACCEPTED: 28,163





	Risk D	ecomposi	tion					
		Exposure			Contri	bution		Tier 1 Fac
Risk Source	Exposure	Benchmar k Exposure	Active Exposur e	Portfolio Risk Cont ribution	% Portfolio Risk	Active Portfolio Risk Contr ibution	% Active Risk	Equity Pure Priv Real Esta USA Crec USD Infla
Total Risk	-	-	-	11.81	100.00	1.77	100.00	USD Rate
Local Market Risk	-	-	-	11.36	96.19	1.72	97.44	Commodi USA Hom
Common Factor Risk	-	-	-	11.32	95.85	1.55	87.80	USATION
Factor Residual Risk	-	-	-	0.92	7.77	0.48	27.11	
Interaction within Common Factor Risk	-	-	-	N/A	-	N/A	-	
Unassigned Factors	-	-	-	10.40	88.08	1.07	60.69	
Tier 1 Equity	0.59	0.58	0.01	9.23	78.15	0.06	3.51	Risk
Tier 1 Pure Private Equity	0.10	0.00	0.10	0.16	1.37	1.08	61.25	Equit
Tier 1 Real Estate	0.06	0.06	0.00	0.50	4.20	0.00	0.22	Fixed
Tier 1 USA Credit	2.14	2.79	-0.65	0.59	4.98	-0.05	-3.11	Inter
Tier 1 USA Home Bias	0.03	0.04	-0.00	0.10	0.82	-0.00	-0.16	Priva
Tier 1 USD Inflation	-0.32	-0.47	0.15	0.10	0.83	-0.01	-0.69	Priva
Tier 1 USD Rates	2.12	2.05	0.07	-0.27	-2.28	-0.01	-0.33	
Specific Risk	-	-	-	0.04	0.34	0.17	9.64	
Currency Risk	-	-	-	0.45	3.81	0.05	2.56	
Currency/Market Interaction	-	-	-	N/A	-	N/A	-	

	Tier 1	Macro Factor Scheme has six factors
actor	Exposure Type	Description
rivate Equity state redit flation ates odities ome Bias	Sensitivities (durations) Sensitivities (durations)	USA Private Equity

	Factor Residua	ıl Risk		
Risk Source	Portfolio Risk Contribution	% Portfolio Risk	Active Portfolio Risk Contribution	% Active Risk
Equity	0.86	7.31	0.43	24.47
Fixed Income	0.02	0.14	0.02	1.33
Interaction within Factor Residual Risk	N/A	-	N/A	-
Private Equity	0.00	0.02	0.02	1.07
Private Real Estate	0.03	0.29	0.00	0.24

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

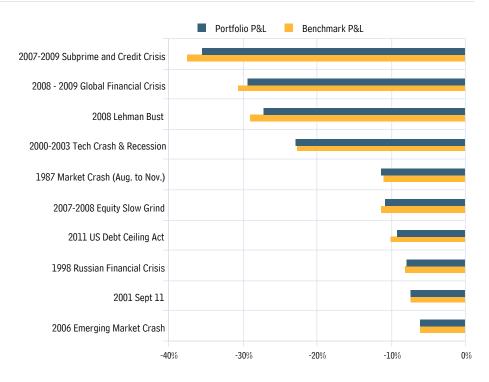
Report Provided by the Office of the New York City Comptroller Bureau of Asset Management

#### Stress Scenarios

	Top 10 Best Scenar	ios	
Scenario	Portfolio P&L	Benchmark P&L	Market Change (\$)
2001 Fed Rate Cut	4.39	4.46	3,675,391,330
2003 Iraq War	2.28	2.33	1,911,031,198
1997-1998 Asian Financial Crisis	1.53	0.40	1,281,357,255
1995 US Dollar Rally	1.50	1.45	1,254,233,294
2010 Peripheral European Bond Crisis (Oc	1.30	1.43	1,085,562,946
1999 Brazilian Real Crisis (Peak)	1.29	1.23	1,078,505,937
1994 Mexican Peso Crisis	0.67	0.61	561,191,774
2011 Egyptian Unrest	0.33	0.33	272,512,705
1998 LTCM Collapse	-1.26	-1.19	-1,053,352,958
2011 Japanese Earthquake	-1.33	-1.38	-1,109,399,341

Portfolio P&L Benchmark P&L 2001 Fed Rate Cut 2003 Irag War 1997-1998 Asian Financial Crisis 1995 US Dollar Rally 2010 Peripheral European Bond Crisis (Oct.26 to N... 1999 Brazilian Real Crisis (Peak) 1994 Mexican Peso Crisis 2011 Egyptian Unrest 1998 LTCM Collapse 2011 Japanese Earthquake -2% 0% 2% 4% 6% COMPANY: NYCRS - NYCERS PORTFOLIO: NYCERS\_Total Plan BENCHMARK: NYCERS\_Policy POSITIONS: 28,496 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 83,669,741,694 ACCEPTED: 28,163

Top 10 Worst Scenarios									
Scenario	Portfolio P&L	Benchmark P&L	Market Change (\$)						
2007-2009 Subprime and Credit Crisis	-35.50	-37.39	-29,705,533,490						
2008 - 2009 Global Financial Crisis	-29.34	-30.58	-24,551,463,751						
2008 Lehman Bust	-27.16	-28.93	-22,721,583,030						
2000-2003 Tech Crash & Recession	-22.87	-22.63	-19,135,961,635						
1987 Market Crash (Aug. to Nov.)	-11.32	-11.00	-9,469,842,794						
2007-2008 Equity Slow Grind	-10.75	-11.35	-8,994,619,304						
2011 US Debt Ceiling Act	-9.23	-10.03	-7,718,863,648						
1998 Russian Financial Crisis	-7.99	-8.10	-6,687,244,412						
2001 Sept 11	-7.40	-7.35	-6,189,884,663						
2006 Emerging Market Crash	-6.17	-6.11	-5,164,630,661						



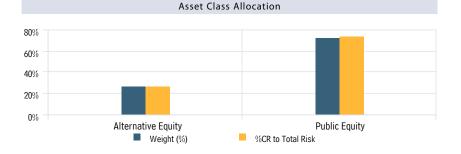


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provides are thereby disclaimed. Neither MSCI nor MSCI's software or data provides are software or liable tor results obtained from use of the Report, or any information rand sec, whether direct, indirect, indident, indirect, indirect, indire

#### Total Plan Summary

Risk Summ	ary		Asset Class Contribution to Risk						
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR		
Total Risk	17.46	Total	53,122,317,324	100.00	17.46	17.46	100.00		
Benchmark Risk	16.70	Alternative Equity	14,459,093,447	27.22	18.29	4.63	26.53		
Active Risk	2.67	Public Equity	38,663,223,877	72.78	17.80	12.83	73.47		
Portfolio Beta	1.03								

COMPANY: NYCRS - NYCERS PORTFOLIO: EQUITY BENCHMARK: EQUITY POSITIONS: 18,194 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 53,122,317,324 ACCEPTED: 17,940

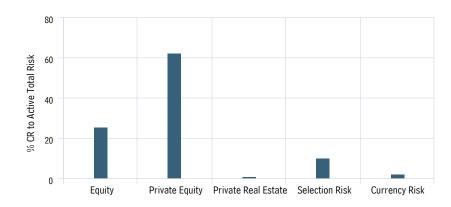


#### Risk Factor Breakdown

Risk Decomposition

	I	Portfolio			Active	
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation
Total Risk	17.46	100.00	1.00	2.67	100.00	1.00
Local Market Risk	16.80	96.21	1.00	2.61	97.99	0.99
Common Factor Risk	16.73	95.84	1.00	2.34	87.69	0.94
Equity	15.64	89.55	0.99	0.67	25.22	0.51
Style	0.40	2.29	0.42	0.51	19.16	0.46
Industry	0.21	1.19	0.26	0.09	3.51	0.23
Country	-0.01	-0.08	-0.08	-0.00	-0.14	-0.06
Market	15.04	86.15	0.98	0.07	2.69	0.21
Fixed Income	0.02	0.10	0.20	-0.00	-0.06	-0.02
Inflation	-0.00	-0.00	0.00	-0.01	-0.22	-0.15
Spread	0.04	0.23	0.68	0.01	0.54	0.25
Term Structure	-0.02	-0.13	-0.26	-0.01	-0.38	-0.14
Private Real Estate	0.83	4.75	0.71	0.02	0.64	0.06
Private Equity	0.25	1.44	0.12	1.65	61.90	0.79
Selection Risk	0.07	0.38	0.06	0.27	10.30	0.32
Currency Risk	0.66	3.79	0.45	0.05	2.01	0.19

Active Risk from Risk Factors



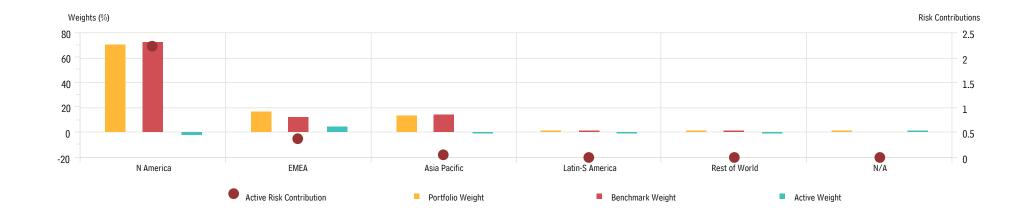


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information or and there upon the responsible or liable for results obtained from use of the Report, or any information provided to you pay to in reliable, information or other exponsible or liable for results obtained from use of the Report, or any information or any april in reliable. Use, inaccuracies, errors in, or omissions of the Report.

#### Portfolio Allocation by Region

COMPANY: NYCRS - NYCERS CURRENCY: USD PORTFOLIO: EQUITY ANALYSIS DATE: March 31, 2022 BENCHMARK: EQUITY MARKET VALUE: 53,122,317,324 POSITIONS: 18,194 ACCEPTED: 17,940 MODEL: MAC.L

		Weight (%)					
Region	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	0.00	17.46	2.67	100.00	0.03
Asia Pacific	12.56	14.16	-1.60	17.08	0.06	2.08	-0.00
EMEA	16.57	11.99	4.58	20.67	0.38	14.41	0.04
Latin-S America	0.83	0.98	-0.15	32.68	0.00	0.08	0.03
N America	69.84	72.52	-2.67	17.99	2.22	83.25	0.02
N/A	0.00	0.00	0.00	16.88	0.00	0.00	0.00
Rest of World	0.20	0.35	-0.15	16.48	0.00	0.18	-0.00
Rest of World	0.20	0.35	-0.15	16.48	0.00	0.18	





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties as a data more than a straight of the responsibility of the approximation contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties as the accuracy, completeness, timeliness, suitability, merchaniability or use for a particular purpose are hereby disclaimed. Neither MSCL and MSCL's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information rankes contained therein, or any losses, (whether direct, indirect, indirect, increation schere) arising from any party in reliance upon the Report, or for any delates, incouracies, errors of the Report.

Mainh+ (0/)

#### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk		%CR to Active TR	MC to Active TR
Total	100.00	100.00	0.00	17.46	2.67	100.00	0.03
United States	67.20	69.94	-2.74	17.99	2.16	81.07	0.06
United Kingdom	4.15	2.57	1.58	23.48	0.18	6.68	0.08
Japan	3.46	3.76	-0.30	17.40	0.02	0.56	0.03
China International	2.03	2.78	-0.75	26.26	0.01	0.40	0.02
Switzerland	1.99	1.75	0.24	16.58	0.03	1.09	0.05
France	1.87	1.92	-0.05	20.63	-0.01	-0.29	0.07
Germany	1.83	1.39	0.44	21.19	0.01	0.37	0.07
Canada	1.67	2.20	-0.54	22.13	0.04	1.32	0.06
Taiwan	1.59	1.80	-0.20	21.92	0.00	0.11	0.03
India	1.48	1.45	0.03	25.52	0.01	0.51	0.05
S. Korea	1.43	1.40	0.03	24.31	0.00	0.13	0.05
Netherlands	1.11	0.74	0.38	27.32	0.02	0.69	0.07
Australia	0.99	1.37	-0.38	23.29	0.00	0.01	0.06
Denmark	0.85	0.45	0.39	20.85	0.01	0.52	0.06
Euro. Monetary Union	0.81	0.00	0.81	27.14	0.06	2.14	0.10
Brazil	0.80	0.64	0.16	36.81	0.01	0.39	0.07
Sweden	0.78	0.60	0.18	27.08	0.02	0.77	0.09
Italy	0.77	0.40	0.36	25.17	0.02	0.61	0.07
Hong Kong	0.75	0.49	0.26	22.01	-0.00	-0.10	0.02
Spain	0.64	0.39	0.25	23.21	0.01	0.39	0.07
Singapore	0.44	0.20	0.23	18.21	0.00	0.01	0.04
China	0.33	0.56	-0.23	31.53	0.01	0.28	0.01
Belgium	0.28	0.16	0.13	23.72	0.00	0.18	0.07
South Africa	0.27	0.45	-0.18	28.94	-0.00	-0.15	0.06
Ireland	0.26	0.10	0.16	25.97	0.01	0.25	0.08
Norway	0.24	0.13	0.11	27.25	0.01	0.35	0.07
Poland	0.24	0.08	0.15	28.99	0.01	0.29	0.08
Indonesia	0.22	0.19	0.02	26.54	0.00	0.03	0.04
Mexico	0.20	0.26	-0.06	26.83	-0.00	-0.02	0.06
Israel	0.19	0.09	0.10	25.97	0.01	0.23	0.07

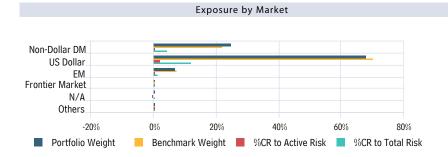
Company: NyCRS - NyCERS Portfolio: Equity Benchmark: Equity Positions: 18,194 Model: Mac.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 53,122,317,324 ACCEPTED: 17,940





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCT's software of data providers shall be responsible or liable for results obtained from use of the Report, or any information or anticine upon the Report, or any information and yan party in reliance upon the Report, or for any devices, information or the Report.

#### Portfolio Allocation by Currency



Company: NyCRS - NyCERS Portfolio: Equity Benchmark: Equity Positions: 18,194 Model: Mac.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 53,122,317,324 ACCEPTED: 17,940

Dev	veloped Market C	Emerging Market Currency					
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	36,011,248,485.85	81.28	68.36	New Taiwan Dollar	846,301,794.79	0.11	1.25
Euro	4,163,064,640.51	4.67	8.62	Indian Rupee	785,988,980.21	0.51	1.34
British Pound Sterling	2,166,084,922.43	6.71	4.68	Korean Won	722,229,778.33	0.12	1.40
Japanese Yen	1,836,696,581.46	0.56	2.46	Brazilian Real	425,969,326.76	0.39	0.94
Hong Kong Dollar	1,297,796,243.91	0.58	2.03	Chinese Yuan	170,526,236.74	0.30	0.26

#### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	0.00	17.46	17.46	100.00	2.67	100.00
US Dollar	67.79	70.09	-2.30	17.95	11.94	68.36	2.17	81.28
Euro	7.84	5.33	2.51	21.81	1.50	8.62	0.12	4.67
British Pound Sterling	4.08	2.57	1.51	23.75	0.82	4.68	0.18	6.71
Japanese Yen	3.46	3.76	-0.30	17.40	0.43	2.46	0.02	0.56
Hong Kong Dollar	2.44	3.14	-0.69	26.45	0.35	2.03	0.02	0.58
Swiss Franc	1.99	1.75	0.24	16.59	0.28	1.58	0.03	1.09
New Taiwan Dollar	1.59	1.80	-0.20	21.92	0.22	1.25	0.00	0.11
Canadian Dollar	1.55	2.20	-0.66	22.54	0.31	1.77	0.03	1.31
Indian Rupee	1.48	1.45	0.03	25.52	0.23	1.34	0.01	0.51
Korean Won	1.36	1.40	-0.04	24.28	0.24	1.40	0.00	0.12
Australian Dollar	0.99	1.37	-0.38	23.29	0.20	1.14	0.00	0.01
Danish Krone	0.85	0.45	0.39	20.85	0.12	0.70	0.01	0.52
Brazilian Real	0.80	0.64	0.16	36.81	0.16	0.94	0.01	0.39
Swedish Krona	0.67	0.60	0.07	26.55	0.15	0.87	0.01	0.48
Singapore Dollar	0.44	0.20	0.23	18.21	0.06	0.34	0.00	0.01

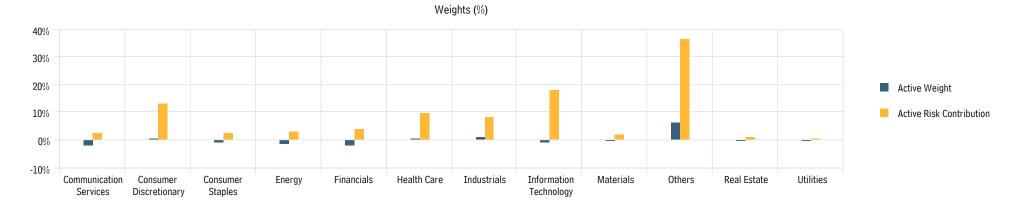


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provides are thereby disclaimed. Neither MSCI nor MSCI's software or data provides are software or liable tor results obtained from use of the Report, or any information rand sec, whether direct, indirect, indident, indirect, indirect, indire

#### Portfolio Allocation by GICS Sector

COMPANY: NYCRS - NYCERS PORTFOLIO: EQUITY BENCHMARK: EQUITY POSITIONS: 18,194 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 53,122,317,324 ACCEPTED: 17,940

	Weight (%)						
GICS Sector	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	0.00	17.46	2.67	100.00	0.03
Communication Services	5.21	7.12	-1.90	19.69	0.07	2.53	0.05
Consumer Discretionary	10.85	10.50	0.35	25.93	0.35	12.96	0.09
Consumer Staples	4.90	5.86	-0.96	13.15	0.07	2.59	0.04
Energy	2.48	3.95	-1.47	26.04	0.07	2.73	0.04
Financials	11.32	13.33	-2.01	19.88	0.10	3.78	0.06
Health Care	11.23	10.80	0.43	15.82	0.26	9.88	0.06
Industrials	9.96	8.85	1.11	19.55	0.22	8.29	0.08
Information Technology	19.19	20.38	-1.19	21.75	0.47	17.80	0.06
Materials	4.12	4.25	-0.13	19.66	0.06	2.15	0.06
Others	15.71	9.52	6.18	15.73	0.97	36.40	0.05
Real Estate	2.70	2.88	-0.18	17.48	0.02	0.88	0.05
Utilities	2.34	2.56	-0.23	13.98	0.00	0.02	0.02





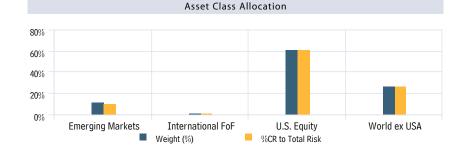
While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information contained herein, anduding, without limitation, avair ratio as a sing from any or action taken by any party in reliance upon the Report, or for any delays, inaccuracies, errors, in or omissions of the Report.

#### **Total Plan Summary**

Risk Summ	ary		Asset Class Contribution to Risk						
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR		
Total Risk	17.80	Total	38,663,223,877	100.00	17.80	17.80	100.00		
Benchmark Risk	17.36	Emerging Markets	4,213,145,813	10.90	19.86	1.84	10.33		
Active Risk	1.19	International FoF	494,534,128	1.28	19.05	0.23	1.28		
Portfolio Beta	1.02	U.S. Equity	23,807,219,634	61.58	18.23	10.96	61.55		
		World ex USA	10,148,324,303	26.25	19.23	4.78	26.84		

c . .. .. .

COMPANY: NYCRS - NYCERS PORTFOLIO: Public Equity BENCHMARK: Public POSITIONS: 17,818 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 38,663,223,877 ACCEPTED: 17,565

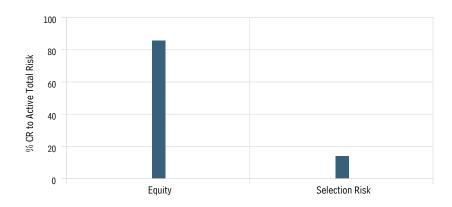


#### Risk Factor Breakdown

Risk Decomposition

		Portfolio		Active			
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation	
Total Risk	17.80	100.00	1.00	1.19	100.00	1.00	
Local Market Risk	17.09	96.00	1.00	1.19	99.73	0.99	
Common Factor Risk	17.01	95.56	0.99	1.02	85.50	0.92	
Equity	17.01	95.57	0.99	1.02	85.51	0.92	
Style	0.26	1.49	0.34	0.68	56.53	0.76	
Industry	0.22	1.25	0.24	0.27	22.22	0.53	
Country	-0.01	-0.07	-0.06	-0.00	-0.28	-0.06	
Market	16.54	92.90	0.99	0.08	7.04	0.31	
Selection Risk	0.08	0.44	0.07	0.17	14.23	0.38	
Currency Risk	0.71	4.00	0.46	0.00	0.27	0.03	

Active Risk from Risk Factors





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information or any party in reliance upon the Report, or for any detained upon the Report.

#### Portfolio Allocation by Region

COMPANY: NYCRS - NYCERS CURRENCY: USD PORTFOLIO: Public Equity BENCHMARK: Public POSITIONS: 17,818 MODEL: MAC.L

ANALYSIS DATE: March 31, 2022 MARKET VALUE: 38,663,223,877 ACCEPTED: 17,565

		Weight (%)					
Region	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	-0.00	17.80	1.19	100.00	0.01
Asia Pacific	15.89	17.84	-1.95	17.57	0.20	16.40	-0.02
EMEA	16.21	15.10	1.11	21.39	0.37	30.94	0.03
Latin-S America	0.98	1.24	-0.26	32.49	0.00	0.32	0.02
N America	66.71	65.37	1.34	18.31	0.62	51.66	0.02
Rest of World	0.20	0.44	-0.24	17.04	0.01	0.69	-0.03





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI") are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without any decision made or any party in reliance upon the Report, or for any decision, no are sorted to a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's fortware in, or omissions of the Report. The results obtained from use of the Report, or any information contained therein, any completeness, timeling arising from any decision made or any party in reliance upon the Report, or for any decision, in contained therein, any completeness of the Report.

Mainlat (0/)

#### Top 30 Countries by Weight%

	Weight (%)						
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	17.80	1.19	100.00	0.01
United States	63.70	62.13	1.57	18.30	0.54	45.41	0.08
Japan	4.35	4.74	-0.39	18.50	0.06	4.96	0.04
United Kingdom	3.56	3.24	0.32	23.99	0.18	15.00	0.10
China International	2.77	3.50	-0.73	26.24	0.06	4.77	0.00
Switzerland	2.30	2.21	0.09	16.71	0.03	2.76	0.07
Taiwan	2.19	2.26	-0.08	21.93	0.01	0.54	0.04
France	2.15	2.42	-0.27	21.98	-0.01	-0.65	0.10
Germany	1.98	1.75	0.23	23.67	0.02	1.91	0.11
S. Korea	1.92	1.76	0.16	24.57	0.01	0.91	0.06
India	1.73	1.83	-0.10	25.57	0.03	2.24	0.06
Canada	1.71	2.78	-1.07	23.20	0.04	2.99	0.07
Netherlands	1.40	0.93	0.47	28.87	0.03	2.92	0.11
Australia	1.16	1.73	-0.57	24.44	0.02	1.37	0.07
Hong Kong	1.01	0.61	0.40	22.14	-0.01	-1.22	0.01
Brazil	0.97	0.81	0.16	36.61	0.01	0.86	0.08
Denmark	0.96	0.57	0.39	20.21	0.00	0.15	0.07
Italy	0.88	0.51	0.37	27.65	0.03	2.57	0.11
Sweden	0.76	0.75	0.01	28.13	0.01	1.18	0.12
Spain	0.64	0.49	0.15	26.64	0.02	1.57	0.10
Singapore	0.55	0.26	0.30	18.52	-0.00	-0.23	0.06
South Africa	0.35	0.57	-0.22	29.70	-0.00	-0.13	0.07
Indonesia	0.28	0.25	0.03	27.39	0.00	0.12	0.05
Ireland	0.27	0.12	0.14	31.75	0.02	1.32	0.15
Mexico	0.27	0.33	-0.06	27.83	0.00	0.09	0.08
Belgium	0.25	0.20	0.05	25.32	-0.00	-0.04	0.08
Thailand	0.24	0.26	-0.02	26.07	0.00	0.33	0.06
Norway	0.22	0.16	0.06	29.17	0.01	0.86	0.07
Finland	0.21	0.20	0.01	29.02	0.01	0.72	0.12
China	0.18	0.70	-0.52	54.27	0.03	2.26	0.01
Poland	0.17	0.10	0.07	32.87	0.00	0.22	0.09

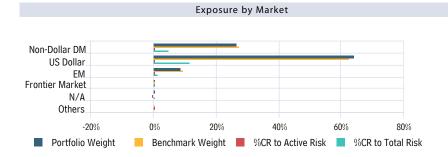
COMPANY: NYCRS - NYCERS PORTFOLIO: Public Equity BENCHMARK: Public POSITIONS: 17,818 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 38,663,223,877 ACCEPTED: 17,565





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI") are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without any decision made or any party in reliance upon the Report, or for any decision, no are sorted to a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's fortware in, or omissions of the Report. The results obtained from use of the Report, or any information contained therein, any completeness, timeling arising from any decision made or any party in reliance upon the Report, or for any decision, in contained therein, any completeness of the Report.

#### Portfolio Allocation by Currency



COMPANY: NYCRS - NYCERS PORTFOLIO: Public Equity BENCHMARK: Public POSITIONS: 17,818 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 38,663,223,877 ACCEPTED: 17,565

De	veloped Market C	Emerging Market Currency					
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	24,838,844,018.13	47.05	64.59	New Taiwan Dollar	846,186,812.97	0.54	1.72
Euro	3,047,340,159.90	10.22	9.30	Korean Won	703,163,809.91	0.95	1.89
Japanese Yen	1,681,083,838.50	4.96	3.30	Indian Rupee	666,811,703.22	2.24	1.55
British Pound Sterling	1,353,573,831.48	15.03	4.04	Brazilian Real	373,591,939.46	0.86	1.13
Hong Kong Dollar	1,290,812,480.24	4.91	2.83	South African Rand	135,586,353.97	-0.13	0.40

#### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	0.00	17.80	17.80	100.00	1.19	100.00
US Dollar	64.24	62.32	1.93	18.30	11.50	64.59	0.56	47.05
Euro	7.88	6.72	1.17	23.47	1.66	9.30	0.12	10.22
Japanese Yen	4.35	4.74	-0.39	18.50	0.59	3.30	0.06	4.96
British Pound Sterling	3.50	3.24	0.26	24.13	0.72	4.04	0.18	15.03
Hong Kong Dollar	3.34	3.95	-0.61	26.50	0.50	2.83	0.06	4.91
Swiss Franc	2.30	2.21	0.09	16.71	0.32	1.81	0.03	2.76
New Taiwan Dollar	2.19	2.26	-0.08	21.93	0.31	1.72	0.01	0.54
Korean Won	1.82	1.76	0.05	24.56	0.34	1.89	0.01	0.95
Indian Rupee	1.72	1.83	-0.10	25.56	0.28	1.55	0.03	2.24
Canadian Dollar	1.60	2.78	-1.17	22.87	0.32	1.81	0.03	2.80
Australian Dollar	1.16	1.73	-0.57	24.44	0.25	1.38	0.02	1.37
Brazilian Real	0.97	0.81	0.16	36.61	0.20	1.13	0.01	0.86
Danish Krone	0.96	0.57	0.39	20.21	0.13	0.72	0.00	0.14
Swedish Krona	0.61	0.75	-0.15	27.28	0.14	0.80	0.00	0.03
Singapore Dollar	0.55	0.26	0.30	18.52	0.08	0.43	-0.00	-0.23

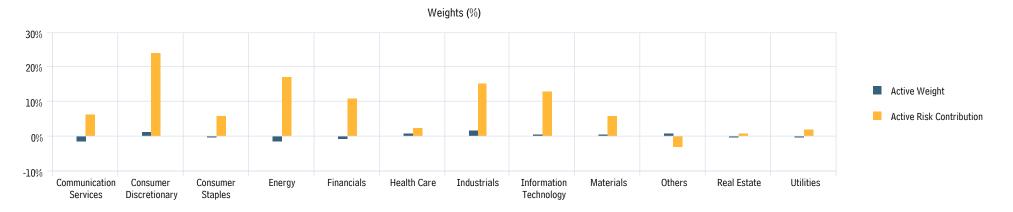


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without limitation, and results obtained from use of the Report, or any information and there up on the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information and therein, including, without the results obtained from use of the Report.

#### Portfolio Allocation by GICS Sector

COMPANY: NYCRS - NYCERS PORTFOLIO: Public Equity BENCHMARK: Public POSITIONS: 17,818 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 38,663,223,877 ACCEPTED: 17,565

		Weight (%)					
GICS Sector	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	17.80	1.19	100.00	0.01
Communication Services	6.15	7.78	-1.62	20.32	0.07	6.03	0.06
Consumer Discretionary	12.59	11.57	1.02	25.31	0.29	24.22	0.11
Consumer Staples	6.42	6.59	-0.17	12.98	0.07	5.90	0.05
Energy	2.80	4.43	-1.63	27.64	0.20	17.01	0.03
Financials	14.38	15.15	-0.77	19.86	0.13	10.80	0.09
Health Care	12.63	11.71	0.91	15.02	0.03	2.43	0.06
Industrials	11.40	9.90	1.50	19.63	0.18	15.09	0.10
Information Technology	22.31	21.88	0.43	21.26	0.15	12.81	0.07
Materials	5.11	5.00	0.11	19.62	0.07	6.00	0.07
Others	0.65	0.00	0.65	0.75	-0.04	-3.20	0.00
Real Estate	3.06	3.14	-0.07	18.71	0.01	0.81	0.07
Utilities	2.50	2.85	-0.35	17.19	0.03	2.10	0.04



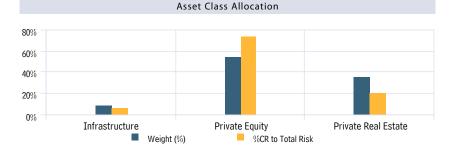


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information contained herein, anduding, victor use for a particular purpose are hereby disclaimed. Neither MSCI not MSCI's software of data providers shall be responsible or liable for results obtained from use of the Report, or any information or any party in reliance upon the Report, or for any delaws, inaccurateise, errors of the Report.

#### Total Plan Summary

ry		Asset Class Contribution to Risk					
Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR	
18.29	Total	14,459,093,447	100.00	18.29	18.29	100.00	
15.19	Infrastructure	1,337,817,876	9.25	14.22	1.10	6.03	
9.11	Private Equity	7,919,518,285	54.77	25.08	13.44	73.49	
1.04	Private Real Estate	5,200,628,580	35.97	13.34	3.74	20.48	
	Value 18.29 15.19 9.11	ValueAsset Class18.29Total15.19Infrastructure9.11Private Equity	Value         Asset Class         Mkt Value           18.29         Total         14,459,093,447           15.19         Infrastructure         1,337,817,876           9.11         Private Equity         7,919,518,285	Value         Asset Class         Mkt Value         Weight (%)           18.29         Total         14,459,093,447         100.00           15.19         Infrastructure         1,337,817,876         9.25           9.11         Private Equity         7,919,518,285         54.77	Value         Asset Class         Mkt Value         Weight (%)         Total Risk           18.29         Total         14,459,093,447         100.00         18.29           15.19         Infrastructure         1,337,817,876         9.25         14.22           9.11         Private Equity         7,919,518,285         54.77         25.08	Value         Asset Class         Mkt Value         Weight (%)         Total Risk         Risk Contribution           18.29         Total         14,459,093,447         100.00         18.29         18.29           15.19         Infrastructure         1,337,817,876         9.25         14.22         1.10           9.11         Private Equity         7,919,518,285         54.77         25.08         13.44	

COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative Equity BENCHMARK: Alternative POSITIONS: 376 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 14,459,093,447 ACCEPTED: 375

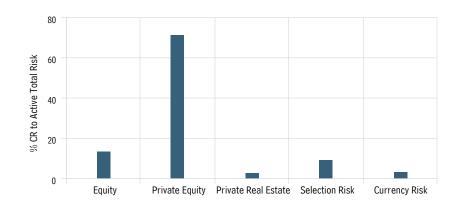


#### Risk Factor Breakdown

**Risk Decomposition** 

	I	Portfolio		Active			
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation	
Total Risk	18.29	100.00	1.00	9.11	100.00	1.00	
Local Market Risk	17.81	97.37	1.00	8.83	96.96	0.99	
Common Factor Risk	17.50	95.70	0.99	8.01	87.89	0.94	
Equity	11.06	60.50	0.88	1.22	13.36	0.34	
Style	0.74	4.04	0.43	0.54	5.98	0.29	
Industry	0.20	1.11	0.23	0.09	0.95	0.11	
Country	-0.01	-0.07	-0.11	-0.01	-0.11	-0.09	
Market	10.14	55.42	0.87	0.60	6.54	0.28	
Fixed Income	0.06	0.34	0.20	-0.00	-0.02	-0.01	
Inflation	-0.00	-0.00	0.00	-0.02	-0.27	-0.12	
Spread	0.13	0.69	0.59	0.05	0.55	0.23	
Term Structure	-0.07	-0.36	-0.20	-0.03	-0.31	-0.12	
Private Real Estate	3.13	17.09	0.72	0.27	2.92	0.11	
Private Equity	3.25	17.77	0.42	6.52	71.63	0.85	
Selection Risk	0.30	1.67	0.13	0.83	9.07	0.30	
Currency Risk	0.48	2.63	0.39	0.28	3.04	0.22	

Active Risk from Risk Factors





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI") are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers to risk for lessing to risk and be representations or warranties as to accuracy, or completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers to risk for results obtained from use of the Report, or any information or analysis contained therein, including, without completeness, timelines, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software contractions, tori or otherwise arising form any arising arising nor any aparty in reliance upon the Report, or any index, index results obtained from use of the Report.

#### Portfolio Allocation by Region

COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative Equity BENCHMARK: Alternative POSITIONS: 376 MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 14,459,093,447 ACCEPTED: 375

		Weight (%)					
Region	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	% of Active TR	MC to Total Tracking Error
Total	100.00	100.00	0.00	18.29	9.11	100.00	0.09
Asia Pacific	3.66	0.00	3.66	13.78	0.07	0.75	0.02
EMEA	17.52	0.00	17.52	20.31	1.22	13.34	0.07
Latin-S America	0.42	0.00	0.42	40.39	0.03	0.30	0.07
N America	78.21	100.00	-21.79	19.53	7.78	85.46	0.04
N/A	0.01	0.00	0.01	16.88	0.00	0.00	0.02
Rest of World	0.19	0.00	0.19	26.20	0.01	0.15	0.07





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provides are thereby disclaimed. Neither MSCI nor MSCI's software or data provides are software or liable tor results obtained from use of the Report, or any information rand sec, whether direct, indirect, indident, indirect, indirect, indire

#### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	0.00	18.29	9.11	100.00	0.09
United States	76.55	100.00	-23.44	19.58	7.62	83.68	0.05
United Kingdom	5.74	0.00	5.74	24.93	0.49	5.34	0.10
Euro. Monetary Union	3.05	0.00	3.05	26.55	0.22	2.46	0.08
Canada	1.57	0.00	1.57	21.25	0.16	1.75	0.11
Germany	1.43	0.00	1.43	15.17	0.04	0.47	0.04
Switzerland	1.19	0.00	1.19	21.24	0.08	0.87	0.08
France	1.12	0.00	1.12	16.40	0.05	0.51	0.05
Japan	1.08	0.00	1.08	12.61	-0.00	-0.01	0.01
Sweden	0.84	0.00	0.84	27.88	0.07	0.82	0.10
India	0.82	0.00	0.82	27.29	0.03	0.38	0.05
China	0.72	0.00	0.72	19.54	0.01	0.09	0.02
Spain	0.63	0.00	0.63	19.48	0.02	0.21	0.04
Denmark	0.55	0.00	0.55	32.12	0.06	0.61	0.11
Australia	0.55	0.00	0.55	20.67	0.01	0.14	0.03
Italy	0.47	0.00	0.47	16.42	0.02	0.17	0.04
Poland	0.40	0.00	0.40	29.43	0.03	0.37	0.10
Belgium	0.36	0.00	0.36	29.89	0.03	0.28	0.08
Brazil	0.36	0.00	0.36	45.94	0.03	0.30	0.09
Netherlands	0.34	0.00	0.34	15.74	0.01	0.12	0.04
Norway	0.27	0.00	0.27	26.03	0.02	0.23	0.09
Israel	0.26	0.00	0.26	29.34	0.02	0.24	0.10
Ireland	0.22	0.00	0.22	11.08	0.00	0.02	0.02
Portugal	0.15	0.00	0.15	18.66	0.01	0.09	0.06
S. Korea	0.13	0.00	0.13	17.96	0.00	0.03	0.03
New Zealand	0.13	0.00	0.13	25.67	0.00	0.04	0.04
Singapore	0.12	0.00	0.12	21.08	0.00	0.03	0.04
Austria	0.12	0.00	0.12	21.75	0.01	0.08	0.07
Czech Rep	0.10	0.00	0.10	26.54	0.01	0.09	0.09
Vietnam	0.07	0.00	0.07	35.54	0.00	0.01	0.03
Finland	0.07	0.00	0.07	28.18	0.01	0.06	0.09

Page 211 of 236 21 of 41

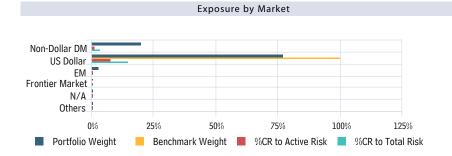
COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative Equity BENCHMARK: Alternative POSITIONS: 376 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 14,459,093,447 ACCEPTED: 375

Portfolio Weight	Benchmark Weight	Active Weight
United States		
United Kingdom		
Euro. Monetary Union		
Canada		
Germany		
Switzerland		
France		
Japan		
Sweden		
India		
China		
Spain		
Denmark		
Australia		
Italy		
Poland		
Belgium		
Brazil		
Netherlands		
Norway		
Israel		
Ireland		
Portugal		
S. Korea		
New Zealand		
Singapore		
Austria		
Czech Rep		
Vietnam		
Finland		
-50%	0%	50%



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI") are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without any decision made or any party in reliance upon the Report, or for any decision, no are sorted to a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's fortware in, or omissions of the Report. The results obtained from use of the Report, or any information contained therein, any completeness, timeling arising from any decision made or any party in reliance upon the Report, or for any decision, in contained therein, any completeness of the Report.

#### Portfolio Allocation by Currency



COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative Equity BENCHMARK: Alternative POSITIONS: 376 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 14,459,093,447 ACCEPTED: 375

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	11,172,404,467.72	83.64	80.90	Indian Rupee	119,177,276.99	0.38	0.63
Euro	1,115,724,480.62	4.54	5.81	Chinese Yuan	99,673,998.21	0.10	0.25
British Pound Sterling	812,511,090.95	5.35	5.74	Polish Zloty	57,429,959.02	0.37	0.34
Canadian Dollar	202,061,630.90	1.77	1.57	Brazilian Real	52,377,387.30	0.30	0.37
Swiss Franc	171,446,215.51	0.88	0.88	Korean Won	19,065,968.42	0.03	0.07

#### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	0.00	18.29	18.29	100.00	9.11	100.00
US Dollar	77.27	100.00	-22.73	19.42	14.79	80.90	7.62	83.64
Euro	7.72	0.00	7.72	18.68	1.06	5.81	0.41	4.54
British Pound Sterling	5.62	0.00	5.62	25.45	1.05	5.74	0.49	5.35
Canadian Dollar	1.40	0.00	1.40	23.86	0.29	1.57	0.16	1.77
Swiss Franc	1.19	0.00	1.19	21.30	0.16	0.88	0.08	0.88
Japanese Yen	1.08	0.00	1.08	12.61	0.04	0.20	-0.00	-0.01
Swedish Krona	0.84	0.00	0.84	27.88	0.17	0.95	0.07	0.82
Indian Rupee	0.82	0.00	0.82	27.29	0.11	0.63	0.03	0.38
Chinese Yuan	0.69	0.00	0.69	20.31	0.04	0.25	0.01	0.10
Danish Krone	0.55	0.00	0.55	32.12	0.11	0.59	0.06	0.61
Australian Dollar	0.55	0.00	0.55	20.67	0.07	0.40	0.01	0.14
Polish Zloty	0.40	0.00	0.40	29.43	0.06	0.34	0.03	0.37
Brazilian Real	0.36	0.00	0.36	45.94	0.07	0.37	0.03	0.30
New Israeli Sheqel	0.26	0.00	0.26	29.34	0.05	0.30	0.02	0.24
Norwegian Krone	0.24	0.00	0.24	29.43	0.05	0.28	0.02	0.23

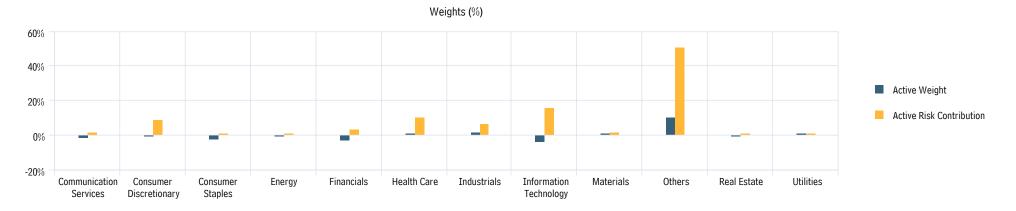


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without limitation, and results obtained from use of the Report, or any information and there up on the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information and therein, including, without the results obtained from use of the Report.

#### Portfolio Allocation by GICS Sector

COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative Equity BENCHMARK: Alternative POSITIONS: 376 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 14,459,093,447 ACCEPTED: 375

		Weight (%)					MC to Active TR
GICS Sector	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	
Total	100.00	100.00	0.00	18.29	9.11	100.00	0.09
Communication Services	2.69	4.57	-1.88	19.35	0.11	1.25	0.05
Consumer Discretionary	6.19	6.35	-0.15	32.48	0.80	8.81	0.11
Consumer Staples	0.83	3.04	-2.22	21.80	0.10	1.15	0.03
Energy	1.65	2.10	-0.45	21.52	0.08	0.91	0.07
Financials	3.12	6.31	-3.19	23.07	0.26	2.80	0.07
Health Care	7.49	7.29	0.20	23.22	0.94	10.27	0.08
Industrials	6.12	4.82	1.30	21.55	0.60	6.57	0.09
Information Technology	10.85	14.62	-3.77	28.18	1.40	15.36	0.08
Materials	1.47	1.37	0.09	24.14	0.14	1.51	0.09
Others	55.95	46.15	9.80	16.22	4.58	50.23	0.03
Real Estate	1.75	1.92	-0.17	14.25	0.10	1.09	0.04
Utilities	1.89	1.45	0.44	6.90	0.00	0.04	0.01

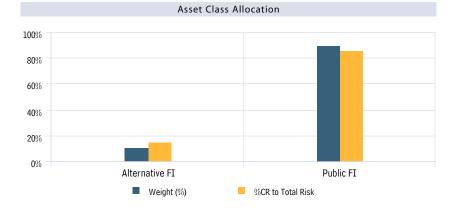


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information contained herein, anduding, without limitation, avair ratio as a sing from any or action taken by any party in reliance upon the Report, or for any delays, inaccuracies, errors, in or omissions of the Report.

### Total Plan Summary

Risk Summar	у	Asset Class Contribution to Risk										
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR					
Total Risk	3.95	Total	30,547,424,370	100.00	3.95	3.95	100.00					
Benchmark Risk	3.94	Alternative FI	3,198,773,463	10.47	10.64	0.56	14.26					
Active Risk	0.66	Public FI	27,348,650,907	89.53	3.94	3.39	85.74					
Portfolio Beta	0.99											
Cont. to Eff. Duration	5.68											
Convexity	0.57											
Yield to Worst (%)	3.48											
OAS to Swap (bp)	144.08											

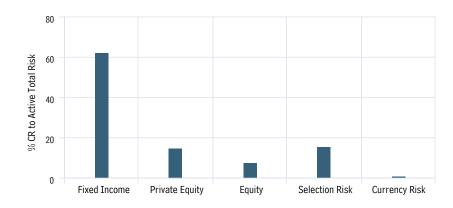
COMPANY: NYCRS - NYCERS PORTFOLIO: FIXED INCOME BENCHMARK: Fixed Income POSITIONS: 10,302 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 30,547,424,370 ACCEPTED: 10,223



### Risk Factor Breakdown

		Risk Dec	omposition			
	ſ	Portfolio			Active	
Risk Source	Risk Contribution	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation
Total Risk	3.95	100.00	1.00	0.66	100.00	1.00
Local Market Risk	3.92	99.17	1.00	0.66	99.12	0.99
Common Factor Risk	3.90	98.71	1.00	0.55	83.46	0.90
Equity	0.39	9.97	0.39	0.05	7.03	0.09
Style	0.06	1.49	0.21	0.03	4.61	0.19
Industry	-0.00	-0.05	-0.01	0.06	8.71	0.25
Market	0.34	8.53	0.42	-0.04	-6.15	-0.09
Fixed Income	3.49	88.33	0.96	0.41	61.75	0.56
Implied Volatility	0.07	1.71	0.48	0.00	0.33	0.12
Inflation	0.09	2.39	0.17	0.09	13.03	0.43
Spread	0.84	21.36	0.41	0.29	44.05	0.53
Term Structure	2.49	62.89	0.64	0.03	4.31	0.29
Private Equity	0.02	0.41	0.06	0.10	14.68	0.38
Selection Risk	0.02	0.45	0.07	0.10	15.66	0.40
Currency Risk	0.03	0.83	0.29	0.01	0.88	0.05

Active Risk from Risk Factors



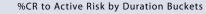
MSCI 🛞

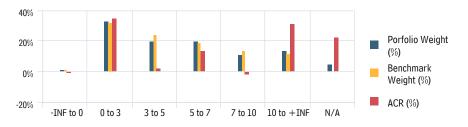
While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you as IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information respects contained therein, or any losses, (whether direct, indirect, indintect, indirect, indirect, indir

### Portfolio by Factor Breakdowns

COMPANY: NYCRS - NYCERS PORTFOLIO: FIXED INCOME BENCHMARK: Fixed Income POSITIONS: 10,302 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 30,547,424,370 ACCEPTED: 10,223

	Top 10 Spread Factor							Top 10 Term Structure											
		Exp	osure (Resid	ual)		Correlation	Contri	ibution (F	lesidual)			Exp	osure (Residu	ual)		Correlation	Contri	bution (Re	esidual)
Spread Factor	Volatility	Portfolio	Benchmark	Active	MCAR	Active Port	to TR	to AR	to AR%	Term Structure	Volatility	Portfolio	Benchmark	Active	MCAR	Active Port	to TR	to AR	to AR%
US Energy HY Spread	42.85	0.22	0.48	-0.26	-0.19	-0.45	0.03	0.05	7.46	USD Rate 30Y	0.67	1.07	0.83	0.23	0.00	0.37	0.44	0.06	8.87
US Consumer Discretionary HY S	45.53	0.63	0.86	-0.23	-0.19	-0.41	0.10	0.04	6.55	USD Rate 50Y	0.67	0.07	0.04	0.03	0.00	0.37	0.03	0.01	1.31
US Bank Loan Financials Spread	22.83	0.13	0.37	-0.24	-0.10	-0.44	0.01	0.02	3.68	USD Rate 2Y	0.78	0.53	0.51	0.02	0.00	0.26	0.19	0.00	0.71
US Agency MBS 30Y OAS	0.27	0.69	0.98	-0.28	-0.00	-0.26	0.05	0.02	3.09	EUR Rate 5Y	0.69	0.03	0.00	0.03	0.00	0.19	0.01	0.00	0.59
US Agency MBS Prepayment 30Y	0.37	-0.23	0.00	-0.23	-0.00	-0.22	0.04	0.02	2.79	USD Rate 1Y	0.68	0.08	0.06	0.02	0.00	0.25	0.02	0.00	0.44
US Financials HY Spread	36.86	0.31	0.43	-0.12	-0.15	-0.40	0.03	0.02	2.71	EUR Rate 10Y	0.64	0.01	0.00	0.01	0.00	0.23	0.00	0.00	0.20
US Agency MBS GNMA 30Y OAS	0.36	0.09	0.25	-0.17	-0.00	-0.26	0.01	0.02	2.35	EUR Rate 20Y	0.65	0.01	0.00	0.01	0.00	0.25	0.00	0.00	0.15
US Bank Loan All Spread	20.94	0.05	0.21	-0.16	-0.10	-0.45	0.00	0.01	2.23	USD Rate 6M	0.61	0.02	0.02	0.00	0.00	0.27	0.00	0.00	0.08
US Industrials HY Spread	40.44	0.23	0.32	-0.08	-0.17	-0.41	0.03	0.01	2.13	GBP Rate 5Y	0.65	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.08
US Bank Loan Telecommunication	22.05	0.05	0.19	-0.14	-0.10	-0.44	0.00	0.01	2.04	GBP Rate 10Y	0.68	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.06





5.58 5.47 0.10		2 Yrs 0.55 0.51 0.04	5 Yrs 0.88 0.90	7 Yrs 0.88 0.89	H 10 Yrs 0.89 0.92	Key Rate 15 Yrs 0.00 0.00	Duration 20 Yrs 1.33 1.29	25 Yrs 0.00	30 Yrs 1.11	40 Yrs 0.00	
5.58 5.47	0.08	0.55 0.51	0.88 0.90	0.88	0.89	0.00	1.33	0.00	1.11		50 Yrs <b>0.07</b>
5.47	0.06	0.51	0.90							0.00	0.07
				0.89	0.92	0.00	1 20	0.00			
0.10	0.02	0.04	0.00			2.00	1.27	0.00	0.83	0.00	0.04
			-0.02	-0.01	-0.04	0.00	0.04	0.00	0.28	0.00	0.04
2/10 5/			15		05	20	40 50		Portfoli Benchn Active		
	3 Yrs 5 Y	3 Yrs 5 Yrs 7 Yrs	3 Yrs 5 Yrs 7 Yrs 10	3 Yrs 5 Yrs 7 Yrs 10 15 Yrs Yrs						3 Yrs       5 Yrs       7 Yrs       10       15       20       25       30       40       50	3 Yrs       5 Yrs       7 Yrs       10       15       20       25       30       40       50

While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCL, Inc. ("MSCL"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information contained herein, anduding, without limitation, avair ratio as a sing from any or action taken by any party in reliance upon the Report, or for any delays, inaccuracies, errors, in or omissions of the Report.

### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	0.00	3.95	0.66	100.00	0.01
United States	92.13	91.07	1.05	3.92	0.69	103.47	0.00
United Kingdom	1.79	1.58	0.21	5.46	-0.01	-1.05	-0.00
Canada	0.92	2.01	-1.10	3.64	0.00	0.09	0.00
Netherlands	0.76	0.60	0.16	12.08	-0.01	-1.39	-0.01
N/A	0.75	0.00	0.75	17.88	-0.01	-1.08	-0.01
Caymans	0.53	0.13	0.40	8.06	-0.01	-1.12	-0.02
Ireland	0.51	0.49	0.02	7.31	0.00	0.09	-0.01
Germany	0.38	0.24	0.14	16.12	-0.01	-0.99	-0.02
France	0.34	0.32	0.02	20.76	0.00	0.74	0.01
Luxembourg	0.29	0.72	-0.43	4.70	0.00	0.70	-0.01
Spain	0.26	0.14	0.12	4.79	0.00	0.14	0.00
Belgium	0.18	0.20	-0.02	15.22	0.00	0.05	0.02
Bermuda	0.18	0.09	0.08	10.38	-0.00	-0.26	-0.01
Switzerland	0.17	0.17	-0.00	3.24	0.00	0.04	0.01
Japan	0.14	0.48	-0.34	4.98	-0.00	-0.50	0.01
Australia	0.11	0.22	-0.12	5.55	-0.00	-0.11	0.01
Chile	0.09	0.02	0.07	4.15	0.00	0.03	0.00
Brazil	0.08	0.04	0.03	22.38	-0.00	-0.53	-0.04
Israel	0.07	0.07	0.00	3.47	0.00	0.19	-0.01
Mexico	0.04	0.08	-0.04	8.18	-0.00	-0.04	-0.00
United Arab Emirates	0.04	0.00	0.04	5.54	-0.00	-0.04	-0.01
Italy	0.04	0.25	-0.21	7.18	0.00	0.16	-0.01
S. Korea	0.02	0.01	0.01	5.76	0.00	0.01	0.01
Colombia	0.02	0.00	0.02	2.78	0.00	0.00	-0.00
Greece	0.02	0.00	0.01	60.24	-0.00	-0.04	-0.02
Denmark	0.02	0.01	0.01	35.39	0.00	0.00	-0.01
New Zealand	0.02	0.03	-0.01	6.04	0.00	0.01	-0.01
Austria	0.02	0.02	-0.01	8.32	0.00	0.01	0.00
Hong Kong	0.02	0.07	-0.06	10.84	-0.00	-0.06	0.00
World	0.01	0.11	-0.10	1.93	-0.00	-0.14	0.01

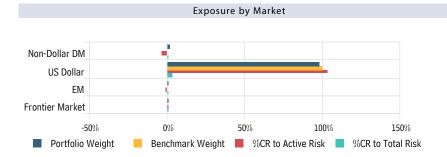
COMPANY: NYCRS - NYCERS PORTFOLIO: FIXED INCOME BENCHMARK: Fixed Income POSITIONS: 10,302 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 30,547,424,370 ACCEPTED: 10,223

Portfolio Weight	Bench	nmark Weight	Act	ive Weight
United States				
United Kingdom				
Canada	- A			
Netherlands				
N/A				
Caymans				
Ireland				
Germany				
France				
Luxembourg				
Spain				
Belgium				
Bermuda				
Switzerland				
Japan				
Australia				
Chile				
Brazil				
Israel				
Mexico				
Inited Arab Emirates				
Italy				
S. Korea				
Colombia				
Greece				
Denmark				
New Zealand				
Austria				
Hong Kong				
World				
-25%	0%	25%	50%	75%



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI") are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without any decision made or any party in reliance upon the Report, or for any decision, no are sorted to a particular purpose are hereby disclaimed. Heither MSCI nor MSCI's fortware in, or omissions of the Report. The results obtained provider and provider information or any party in reliance upon the Report, or for any decision made or any party in reliance upon the Report, or for any decision made or any fort or otherwise in a contains the party.

### Portfolio Allocation by Currency



COMPANY: NYCRS - NYCERS PORTFOLIO: FIXED INCOME BENCHMARK: Fixed Income POSITIONS: 10,302 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 30,547,424,370 ACCEPTED: 10,223

Dev	eloped Market Cur	rency		Emerging Market Currency						
Top Five	Exposure \$ CF	R to AR (%) CR	to TR (%)	Top Five	Exposure \$ (	CR to AR (%)	CR to TR (%)			
US Dollar	29,901,675,559.73	103.50	95.86	United Arab Emirates Di	rham 1,979,835.81	0.00	0.00			
Euro	508,522,840.43	-2.75	3.39	South African Rand	1,409,419.34	-0.01	0.01			
British Pound Sterling	111,807,633.56	-0.76	0.68	Korean Won	5,768.97	0.00	0.00			
Canadian Dollar	9,365,385.47	0.02	0.03	New Taiwan Dollar	69.80	0.00	0.00			
Danish Krone	5,347,704.55	-0.00	0.04	Mexican Peso	0.02	-0.00	0.00			

### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	-0.00	3.95	3.95	100.00	0.66	100.00
US Dollar	97.89	100.00	-2.11	3.88	3.79	95.86	0.69	103.50
Euro	1.66	0.00	1.66	16.67	0.13	3.39	-0.02	-2.75
British Pound Sterling	0.37	0.00	0.37	18.46	0.03	0.68	-0.01	-0.76
Canadian Dollar	0.03	0.00	0.03	10.17	0.00	0.03	0.00	0.02
Danish Krone	0.02	0.00	0.02	37.08	0.00	0.04	-0.00	-0.00
Swedish Krona	0.01	0.00	0.01	11.50	0.00	0.01	-0.00	-0.01
Japanese Yen	0.01	0.00	0.01	16.23	0.00	0.01	0.00	0.01
United Arab Emirates Dirham	0.01	0.00	0.01	0.03	0.00	0.00	0.00	0.00
South African Rand	0.00	0.00	0.00	84.92	0.00	0.01	-0.00	-0.01
Australian Dollar	0.00	0.00	0.00	41.13	0.00	0.01	-0.00	-0.02
Norwegian Krone	0.00	0.00	0.00	232.40	-0.00	-0.04	0.00	0.02
Korean Won	0.00	0.00	0.00	6.57	0.00	0.00	0.00	0.00
Swiss Franc	0.00	0.00	0.00	6.20	0.00	0.00	0.00	0.00
New Taiwan Dollar	0.00	0.00	0.00	3.37	0.00	0.00	0.00	0.00
Singapore Dollar	0.00	0.00	0.00	4.07	0.00	0.00	0.00	0.00



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without limitation, and results obtained from use of the Report, or any information and there up on the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information and there upon the Report, or any information any party in reliance upon the Report, or any information and there upon the Report.

Mainh+ (0/)

### Portfolio Allocation by Bond Sector

		Weight (%)						
Sector	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	0.00	5.58	3.95	0.66	100.00	0.01
Government	41.19	18.42	22.77	2.54	3.80	0.42	64.02	0.01
Mortgage Backed Security	13.11	21.37	-8.26	0.81	5.35	-0.07	-10.82	0.01
Financial	12.99	11.52	1.47	0.55	3.52	0.04	6.37	-0.00
Consumer Discretionary	8.95	12.87	-3.93	0.38	7.49	0.03	5.01	-0.02
Health Care	3.76	5.85	-2.09	0.23	5.86	0.01	0.82	-0.00
Industrial	3.76	6.06	-2.30	0.13	4.85	0.02	2.80	-0.01
Technology	3.11	4.41	-1.30	0.17	8.67	0.01	1.86	-0.01
Energy	2.23	4.79	-2.56	0.12	5.45	0.03	4.48	-0.01
Telecommunications	1.90	3.79	-1.89	0.14	6.24	0.01	1.77	-0.01
Utility	1.76	2.56	-0.80	0.12	8.66	0.00	0.58	0.01
Asset Backed Security	1.49	0.10	1.39	0.07	3.91	0.01	0.90	0.00
Materials	1.37	2.97	-1.60	0.06	4.09	0.01	1.83	-0.01
Consumer Staples	1.18	2.49	-1.31	0.09	5.93	-0.00	-0.43	0.00
Commercial Mortgage Backed	1.11	0.08	1.03	0.02	1.79	0.00	0.33	0.00
Transportation	1.01	1.61	-0.60	0.05	7.03	0.00	0.17	-0.01
Agency	0.83	0.16	0.67	0.05	4.57	0.01	1.75	0.01
Collateralized Loan Obligat	0.19	0.00	0.19	-0.01	17.48	-0.01	-1.99	-0.07
Sovereign	0.06	0.08	-0.02	0.00	3.33	-0.00	-0.09	-0.00
Local/Provincial	0.05	0.12	-0.07	0.00	6.12	-0.00	-0.12	0.01
Supranational	0.01	0.11	-0.10	0.00	1.93	-0.00	-0.14	0.01
Collateralized Debt Obligat	0.01	0.00	0.01	0.00	3.47	0.00	0.02	0.01
Others	-0.06	0.65	-0.72	0.05	1,034.84	0.14	20.90	0.00

COMPANY: NYCRS - NYCERS PORTFOLIO: FIXED INCOME BENCHMARK: Fixed Income POSITIONS: 10,302 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 30,547,424,370 ACCEPTED: 10,223



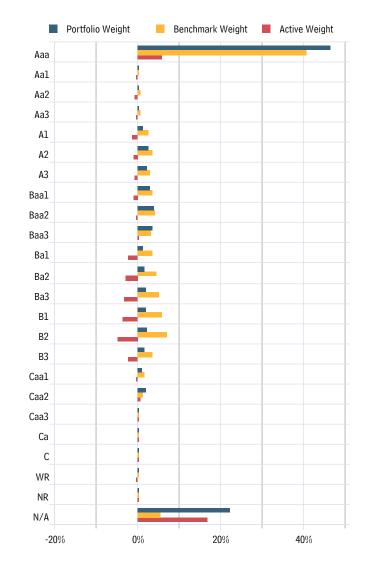
MSCI 🌘

While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, completeness, limitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI softwares shall be responsible or liable for responsible or liable for results obtained from use of the Report, or any information contained herein, including, without limitation, any decision made or action taken by any party in reliance upon the Report, or or any delays, inaccuracies, errors in, or omissions of the Report.

### Portfolio Allocation by Moody's Rating

		Weight (%)						
Rating	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Spread Duration	Total Risk	Active Risk CR	%CR to Active TR
Total	100.00	100.00	0.00	5.58	6.10	3.95	0.66	100.00
Aaa	46.43	40.60	5.82	3.04	6.69	4.17	0.24	35.68
Aal	0.01	0.04	-0.03	0.00	2.84	2.44	-0.00	-0.12
Aa2	0.13	0.68	-0.56	0.02	14.32	9.53	-0.01	-1.21
Aa3	0.19	0.53	-0.34	0.02	13.09	8.63	-0.00	-0.67
Al	1.32	2.49	-1.17	0.11	8.45	5.73	-0.02	-2.49
A2	2.50	3.43	-0.93	0.18	7.52	5.01	-0.01	-2.11
A3	2.13	2.82	-0.69	0.17	7.97	5.38	-0.01	-1.76
Baal	2.81	3.64	-0.83	0.24	8.82	5.96	-0.01	-2.26
Baa2	3.81	4.10	-0.29	0.34	9.05	6.17	-0.00	-0.21
Baa3	3.58	3.37	0.21	0.25	7.01	5.21	0.01	1.00
Bal	1.21	3.48	-2.27	0.07	6.42	5.21	0.02	3.17
Ba2	1.62	4.37	-2.75	0.07	4.51	4.54	0.02	3.31
Ba3	1.95	5.11	-3.16	0.08	4.20	4.34	0.03	5.18
Bl	2.04	5.68	-3.64	0.07	3.79	4.52	0.05	7.57
B2	2.24	6.94	-4.70	0.07	3.57	5.77	0.09	13.24
B3	1.56	3.67	-2.11	0.05	3.50	5.39	0.04	5.75
Caal	1.10	1.49	-0.39	0.03	3.05	6.03	0.01	1.34
Caa2	1.80	1.31	0.50	0.03	2.98	8.46	-0.02	-3.33
Caa3	0.35	0.23	0.12	0.01	3.02	15.83	-0.00	-0.45
Са	0.21	0.05	0.16	0.00	2.29	16.34	-0.01	-1.31
С	0.02	0.02	0.00	0.00	5.01	6.24	0.00	0.06
WR	0.44	0.47	-0.03	0.00	1.75	4.21	-0.00	-0.06
NR	0.22	0.01	0.21	-0.01	22.22	14.27	-0.01	-1.61
Not Rated	22.33	5.46	16.87	0.73	4.31	6.31	0.27	41.30

COMPANY: NYCRS - NYCERS PORTFOLIO: FIXED INCOME BENCHMARK: Fixed Income POSITIONS: 10,302 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 30,547,424,370 ACCEPTED: 10,223





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or no in formation contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI not MSCI's software or data provides results or liable for results obtained from use of the Report, or any information contained perior, including, without limitation, avarranties as in a constrained arising for any aparticity neither action taken by any party in reliance upon the Report, or for any delays, inaccuracies, errors of the Report.

### Total Plan Summary

Risk Summar	у	Asset Class Contribution to Risk									
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR				
Total Risk	3.94	Total	27,348,650,907	100.00	3.94	3.94	100.00				
Benchmark Risk	3.94	Alternative Credit	4,809,024,670	17.58	6.90	0.61	15.46				
Active Risk	1.33	Core Fixed Income	22,539,626,237	82.42	4.23	3.33	84.54				
Portfolio Beta	0.94										
Cont. to Eff. Duration	6.06										
Convexity	0.57										
Yield to Worst (%)	3.23										
OAS to Swap (bp)	83.47										

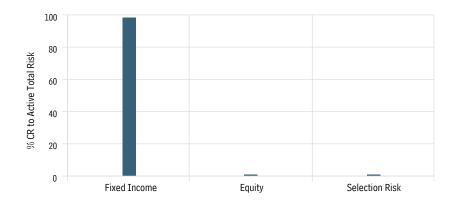
COMPANY: NYCRS - NYCERS PORTFOLIO: Public FI BENCHMARK: Fixed Income POSITIONS: 10,271 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 27,348,650,907 ACCEPTED: 10,192

# Asset Class Allocation

### **Risk Factor Breakdown**

		Risk Dec	omposition						
	I	Portfolio			Active				
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation			
Total Risk	3.94	100.00	1.00	1.33	100.00	1.00			
Local Market Risk	3.94	100.00	1.00	1.33	99.99	1.00			
Common Factor Risk	3.93	99.84	1.00	1.32	98.77	0.99			
Equity	0.14	3.51	0.22	0.01	0.66	0.05			
Style	0.01	0.14	0.03	0.06	4.74	0.39			
Industry	0.01	0.31	0.14	0.02	1.79	0.28			
Market	0.12	3.06	0.24	-0.08	-5.87	-0.58			
Fixed Income	3.79	96.33	0.99	1.31	98.11	0.99			
Implied Volatility	0.06	1.59	0.42	0.00	0.21	0.24			
Inflation	0.00	0.05	0.00	0.09	6.78	0.68			
Spread	0.32	8.25	0.20	0.96	72.11	0.94			
Term Structure	3.40	86.46	0.81	0.25	19.01	0.66			
Selection Risk	0.01	0.16	0.04	0.02	1.22	0.11			

Active Risk from Risk Factors





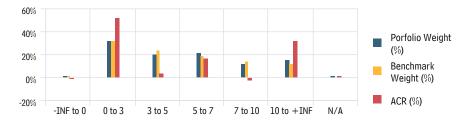
While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provides are thereby disclaimed. Neither MSCI nor MSCI's software or data provides are software or liable tor results obtained from use of the Report, or any information rand sec, whether direct, indirect, indident, indirect, indirect, indire

### Portfolio by Factor Breakdowns

COMPANY: NYCRS - NYCERS PORTFOLIO: Public FI BENCHMARK: Fixed Income POSITIONS: 10,271 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 27,348,650,907 ACCEPTED: 10,192

		То	p 10 Sprea	d Facto	r								Top 10 Te	erm Stru	ucture				
		Exp	osure (Resid	ual)		Correlation	Contri	bution (F	Residual)			Expos	ure (Residu	ual)		Correlation	Contri	ibution (Re	esidual)
Spread Factor	Volatility	Portfolio	Benchmark	Active	MCAR	Active Port	to TR	to AR	to AR%	Term Structure	Volatility	Portfolio Be	nchmark	Active	MCAR	Active Port	to TR	to AR	to AR%
US Bank Loan Consumer Discreti	21.68	0.04	0.87	-0.83	-0.18	-0.85	0.00	0.15	11.46	USD Rate 30Y	0.67	1.19	0.83	0.36	0.00	0.63	0.61	0.15	11.36
US Energy HY Spread	42.85	0.19	0.48	-0.29	-0.38	-0.89	0.00	0.11	8.25	USD Rate 20Y	0.70	1.42	1.29	0.12	0.00	0.68	0.77	0.06	4.43
US Consumer Discretionary HY S	45.53	0.60	0.86	-0.26	-0.38	-0.85	0.04	0.10	7.48	USD Rate 2Y	0.78	0.56	0.51	0.05	0.00	0.55	0.27	0.02	1.74
US Bank Loan Industrials Sprea	20.31	0.01	0.48	-0.47	-0.17	-0.84	0.00	0.08	6.04	USD Rate 50Y	0.67	0.08	0.04	0.04	0.00	0.63	0.04	0.02	1.35
US Bank Loan Financials Spread	22.83	0.02	0.37	-0.34	-0.19	-0.82	0.00	0.06	4.85	USD Rate 1Y	0.68	0.09	0.06	0.02	0.00	0.54	0.03	0.01	0.65
US Industrials HY Spread	40.44	0.17	0.32	-0.15	-0.35	-0.86	0.01	0.05	3.93	USD Rate 10Y	0.78	1.29	1.28	0.01	0.01	0.65	0.81	0.00	0.28
US Financials HY Spread	36.86	0.31	0.43	-0.13	-0.31	-0.85	0.01	0.04	2.94	USD Muni Rates 10Y	0.98	0.00	0.00	0.00	-0.00	-0.02	0.00	-0.00	-0.00
US Agency MBS Prepayment 30Y	0.37	-0.26	0.00	-0.26	-0.00	-0.41	0.06	0.04	2.92	USD Muni Rates 1Y	0.88	0.00	0.00	0.00	-0.00	-0.19	0.00	-0.00	-0.00
US Bank Loan Health Care Sprea	19.52	0.01	0.25	-0.24	-0.16	-0.83	0.00	0.04	2.92	USD Muni Rates 5Y	1.03	0.00	0.00	0.00	-0.00	-0.12	0.00	-0.00	-0.00
US Bank Loan All Spread	20.94	0.01	0.21	-0.20	-0.18	-0.85	0.00	0.04	2.68	USD Muni Rates 2Y	0.96	0.00	0.00	0.00	-0.00	-0.17	0.00	-0.00	-0.00

### %CR to Active Risk by Duration Buckets



						Key	/ Rate	Durat	ion						
									Key Ra	ate Di	uration				
	Cont.1	Γο Eff. D	ur	1 Yr	2 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Y	′rs	20 Yrs	25 Yrs	30 Yrs	40 Yrs	50 Yrs
Portfolio		6.	06	0.09	0.56	0.88	0.90	0.93	0.0	00	1.42	0.00	1.19	0.00	0.08
Benchmark	[	5.	47	0.06	0.51	0.90	0.89	0.92	0.0	00	1.29	0.00	0.83	0.00	0.04
Active		0.	58	0.02	0.05	-0.02	0.01	0.01	0.0	00	0.12	0.00	0.36	0.00	0.04
1.5 1.0 0.5 0.0 -0.5	2 Yrs	3 Yrs	5 Yrs	5 7 Yr	rs 10 Yrs	15 Yrs	20 Yrs	25 Yrs	30 Yrs	40 Yrs			Portfoli Benchm Active		



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information contained herein, anduding, victor use for a particular purpose are hereby disclaimed. Neither MSCI not MSCI's software of data providers shall be responsible or liable for results obtained from use of the Report, or any information or any party in reliance upon the Report, or for any delaws, inaccurateise, errors of the Report.

### Top 30 Countries by Weight%

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	3.94	1.33	100.00	0.01
United States	94.59	91.07	3.52	3.98	1.27	95.46	0.00
United Kingdom	1.46	1.58	-0.12	3.51	0.00	0.18	-0.00
Canada	0.88	2.01	-1.13	3.75	0.00	0.16	-0.00
Ireland	0.50	0.49	0.01	5.50	0.01	0.55	-0.01
Spain	0.28	0.14	0.14	4.80	0.00	0.15	-0.00
Caymans	0.27	0.13	0.14	1.38	0.00	0.26	-0.01
Luxembourg	0.24	0.72	-0.48	5.00	0.01	0.86	-0.03
Netherlands	0.24	0.60	-0.36	5.02	0.00	0.05	-0.00
France	0.22	0.32	-0.10	4.66	-0.00	-0.00	-0.00
Belgium	0.21	0.20	0.00	15.22	0.00	0.06	0.02
Switzerland	0.14	0.17	-0.03	3.38	0.00	0.08	0.01
Japan	0.14	0.48	-0.34	5.12	-0.01	-0.52	0.02
Germany	0.14	0.24	-0.10	3.16	0.00	0.15	-0.01
Australia	0.12	0.22	-0.11	5.42	-0.00	-0.08	0.00
Bermuda	0.11	0.09	0.02	14.92	-0.00	-0.21	-0.04
Chile	0.10	0.02	0.08	4.15	0.00	0.02	-0.00
Israel	0.07	0.07	0.00	2.46	0.00	0.35	-0.04
Italy	0.04	0.25	-0.21	7.05	0.00	0.28	-0.02
Mexico	0.04	0.08	-0.04	6.23	0.00	0.06	-0.01
Brazil	0.04	0.04	-0.00	7.58	0.00	0.01	-0.03
United Arab Emirates	0.03	0.00	0.03	6.62	-0.00	-0.06	-0.03
S. Korea	0.02	0.01	0.02	5.76	0.00	0.02	0.01
Colombia	0.02	0.00	0.02	2.78	-0.00	-0.01	-0.01
Austria	0.02	0.02	-0.00	8.32	0.00	0.01	-0.00
New Zealand	0.02	0.03	-0.01	6.33	0.00	0.02	-0.03
Hong Kong	0.02	0.07	-0.06	10.84	-0.00	-0.05	0.00
World	0.01	0.11	-0.09	1.93	-0.00	-0.15	0.01
Масао	0.01	0.12	-0.11	14.47	0.00	0.34	-0.05
Zambia	0.01	0.00	0.01	3.09	-0.00	-0.00	-0.01
Malta	0.01	0.01	-0.01	4.58	-0.00	-0.01	0.00

COMPANY: NYCRS - NYCERS PORTFOLIO: Public FI BENCHMARK: Fixed Income POSITIONS: 10,271 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 27,348,650,907 ACCEPTED: 10,192

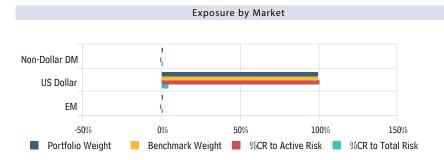
Portfolio Weight	Bench	nmark Weight	Active	Weight
United States				
United Kingdom	<b>     </b> −			
Canada	- A -			
Ireland				
Spain				
Caymans				
Luxembourg				
Netherlands				
France				
Belgium				
Switzerland				
Japan				
Germany				
Australia				
Bermuda				
Chile				
Israel				
Italy	1			
Mexico				
Brazil				
United Arab Emirates				
S. Korea				
Colombia				
Austria				
New Zealand				
Hong Kong				
World				
Масао				
Zambia				
Malta				
-25%	0%	25%	50%	75%



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained herein, including, without a sing form any decision made or anothon ken by any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or for any decision made or anothon ken by any party in reliance upon the Report, or for any decision made or anothon ken by any party in reliance upon the Report, or any information and party in reliance upon the Report, or any information and party in reliance upon the Report, or any information any party in reliance upon the Report, or for any decision made or anothon ken by any party in reliance upon the Report, or any information any party in reliance upon the Report, or any information and party in reliance upon the Report, or any information and party in reliance upon the Report, or any information and party in reliance upon the Report, or any information and the reliance upon the Report, or any information and the reliance upon the Report.

# BarraOne Fixed Income Summary

### Portfolio Allocation by Currency



COMPANY: NYCRS - NYCERS PORTFOLIO: Public FI **BENCHMARK: Fixed Income** POSITIONS: 10,271 MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 27,348,650,907 ACCEPTED: 10,192

De	veloped Market C	Currency		Eme	rging Mark	et Currency	
Top Five	Exposure \$	CR to AR (%)	CR to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	27,348,542,554.62	100.00	100.00	Korean Won	5,768.97	-0.00	0.00
British Pound Sterling	98,298.46	-0.00	0.00	New Taiwan Dollar	69.80	-0.00	0.00
Swiss Franc	2,420.81	0.00	0.00				
Euro	1,794.15	-0.00	0.00				
Danish Krone	0.00	0.00	0.00				

### Top 15 Currencies by Weight%

		Weight (%)						
Currency of Exposure	Portfolio	Benchmark	Active	Total Risk	CR to TR	CR to TR (%)	CR to AR	CR to AR (%)
Total	100.00	100.00	-0.00	3.94	3.94	100.00	1.33	100.00
US Dollar	100.00	100.00	-0.00	3.94	3.94	100.00	1.33	100.00
British Pound Sterling	0.00	0.00	0.00	72.08	0.00	0.00	-0.00	-0.00
Korean Won	0.00	0.00	0.00	6.57	0.00	0.00	-0.00	-0.00
Swiss Franc	0.00	0.00	0.00	6.20	0.00	0.00	0.00	0.00
Euro	0.00	0.00	0.00	6.61	0.00	0.00	-0.00	-0.00
New Taiwan Dollar	0.00	0.00	0.00	3.37	0.00	0.00	-0.00	-0.00
Danish Krone	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



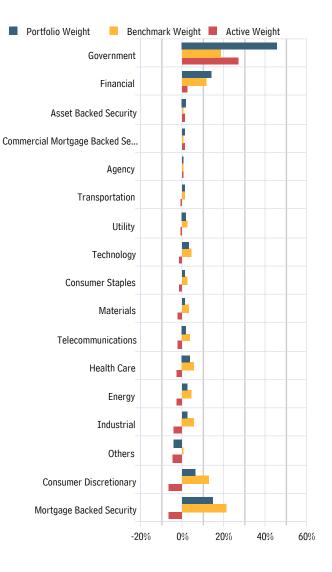
While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCT's software of data providers shall be responsible or liable for results obtained from use of the Report, or any information or anticine upon the Report, or any information and yan party in reliance upon the Report, or for any devices, information or the Report.

### Portfolio Allocation by Bond Sector

MSCI 🌑

		Weight (%)						
Sector	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	6.06	3.94	1.33	100.00	0.01
Government	45.80	18.42	27.38	2.82	3.79	0.92	68.75	0.02
Mortgage Backed Security	14.62	21.37	-6.75	0.90	5.35	-0.15	-11.11	0.02
Financial	14.02	11.52	2.50	0.61	3.55	0.04	3.20	-0.01
Consumer Discretionary	6.46	12.87	-6.41	0.36	6.69	0.21	15.99	-0.04
Health Care	3.59	5.85	-2.26	0.25	5.83	0.04	2.64	-0.01
Technology	3.29	4.41	-1.12	0.19	7.52	0.03	2.56	-0.04
Industrial	2.48	6.06	-3.58	0.13	4.87	0.08	5.92	-0.02
Energy	2.26	4.79	-2.52	0.13	5.51	0.06	4.86	-0.02
Utility	1.92	2.56	-0.64	0.13	8.80	-0.02	-1.72	0.00
Telecommunications	1.88	3.79	-1.91	0.15	6.41	0.03	2.45	-0.01
Asset Backed Security	1.63	0.10	1.54	0.07	3.85	0.01	1.10	0.00
Materials	1.30	2.97	-1.67	0.07	4.07	0.04	2.71	-0.02
Commercial Mortgage Backed	1.23	0.08	1.14	0.02	1.79	0.01	0.50	0.00
Consumer Staples	1.20	2.49	-1.29	0.10	6.31	-0.00	-0.05	0.00
Transportation	1.01	1.61	-0.60	0.05	7.17	0.00	0.14	-0.02
Agency	0.92	0.16	0.76	0.06	4.60	0.03	1.94	0.02
Sovereign	0.06	0.08	-0.02	0.00	1.48	0.00	0.02	-0.00
Local/Provincial	0.05	0.12	-0.07	0.00	5.94	-0.00	-0.10	0.02
Supranational	0.01	0.11	-0.09	0.00	1.93	-0.00	-0.15	0.01
Others	-3.71	0.65	-4.36	0.01	0.14	0.00	0.34	-0.00

COMPANY: NYCRS - NYCERS PORTFOLIO: Public FI BENCHMARK: Fixed Income POSITIONS: 10,271 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 27,348,650,907 ACCEPTED: 10,192

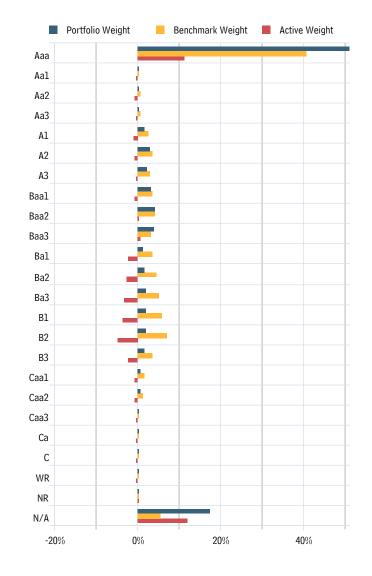


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCT's software of data providers shall be responsible or liable for results obtained from use of the Report, or any information or anticine upon the Report, or any information and yan party in reliance upon the Report, or for any devices, information or the Report.

### Portfolio Allocation by Moody's Rating

		Weight (%)						
Rating	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Spread Duration	Total Risk	Active Risk CR	%CR to Active TR
Total	100.00	100.00	-0.00	6.06	6.24	3.94	1.33	100.00
Aaa	51.83	40.60	11.22	3.39	6.69	4.17	0.51	37.89
Aal	0.01	0.04	-0.02	0.00	2.84	2.44	-0.00	-0.10
Aa2	0.14	0.68	-0.54	0.02	14.32	9.53	-0.01	-1.02
Aa3	0.21	0.53	-0.31	0.03	13.09	8.63	-0.01	-0.55
Al	1.48	2.49	-1.02	0.12	8.45	5.73	-0.03	-2.16
A2	2.79	3.43	-0.64	0.20	7.52	5.01	-0.03	-2.16
A3	2.38	2.82	-0.44	0.19	7.97	5.38	-0.02	-1.62
Baal	3.14	3.64	-0.50	0.27	8.82	5.96	-0.03	-2.10
Baa2	4.26	4.10	0.15	0.38	9.06	6.17	-0.00	-0.13
Baa3	3.99	3.37	0.62	0.27	7.02	5.22	-0.00	-0.11
Bal	1.32	3.48	-2.17	0.08	6.42	5.22	0.03	2.47
Ba2	1.71	4.37	-2.66	0.07	4.51	4.54	0.03	2.58
Ba3	2.02	5.11	-3.09	0.08	4.18	4.28	0.06	4.71
Bl	1.99	5.68	-3.68	0.08	3.89	4.59	0.09	6.91
B2	2.03	6.94	-4.91	0.07	3.82	5.77	0.17	12.67
B3	1.45	3.67	-2.22	0.05	3.65	5.45	0.08	5.75
Caal	0.79	1.49	-0.70	0.03	3.60	6.40	0.03	2.27
Caa2	0.67	1.31	-0.63	0.02	3.59	7.26	0.04	2.68
Caa3	0.05	0.23	-0.19	0.00	3.18	11.84	0.02	1.31
Са	0.01	0.05	-0.04	0.00	1.07	9.73	0.00	0.29
С	0.00	0.02	-0.01	0.00	1.06	7.40	0.00	0.08
WR	0.07	0.47	-0.39	0.00	3.78	2.46	0.01	0.68
NR	0.10	0.01	0.09	0.00	1.36	13.16	-0.00	-0.26
Not Rated	17.55	5.46	12.09	0.70	4.23	4.47	0.40	29.92

COMPANY: NYCRS - NYCERS PORTFOLIO: Public FI BENCHMARK: Fixed Income POSITIONS: 10,271 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 27,348,650,907 ACCEPTED: 10,192



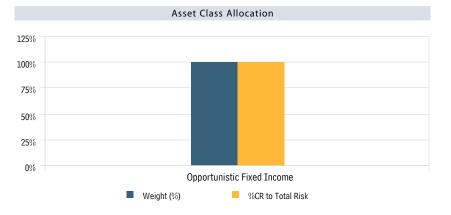


While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contactions evon by any party in reliance upon the Report, or for any decision, adoe or action taken by any party in reliance upon the Report, or for any decision, adoe or action taken by any party in reliance upon the Report, or any information contactions of the Report.

### Total Plan Summary

Risk Summai	гy		Asset Class	Contributio	on to Risk		
Statistic	Value	Asset Class	Mkt Value	Weight (%)	Total Risk	Risk Contribution	%CR to TR
Total Risk	10.64	Total	3,198,773,463	100.00	10.64	10.64	100.00
Benchmark Risk	4.40	Opportunistic Fixed Income	3,198,773,463	100.00	10.64	10.64	100.00
Active Risk	7.24						
Portfolio Beta	2.07						
Cont. to Eff. Duration	2.40						
Convexity	0.56						
Yield to Worst (%)	8.85						
OAS to Swap (bp)	724.92						

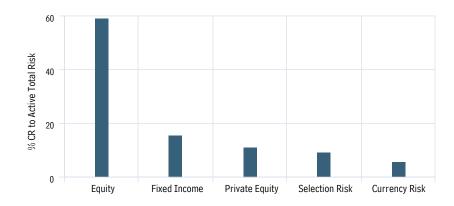
COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative FI BENCHMARK: 50\_HY-50\_LEVLOAN, BB U.S. Corp HY/CS Lvgd Loan POSITIONS: 31 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 3,198,773,463 ACCEPTED: 31



### Risk Factor Breakdown

		Risk Dec	omposition			
	I	Portfolio			Active	
Risk Source	<b>Risk Contribution</b>	% Risk	Correlation	<b>Risk Contribution</b>	% Risk	Correlation
Total Risk	10.64	100.00	1.00	7.24	100.00	1.00
Local Market Risk	10.22	96.05	1.00	6.83	94.38	0.99
Common Factor Risk	9.78	91.98	0.97	6.20	85.60	0.94
Equity	4.13	38.86	0.83	4.26	58.90	0.86
Style	0.77	7.20	0.51	0.81	11.19	0.54
Industry	0.70	6.58	0.31	0.91	12.55	0.40
Country	-0.01	-0.06	-0.06	-0.01	-0.10	-0.07
Market	2.67	25.13	0.79	2.55	35.26	0.75
Fixed Income	5.10	47.93	0.87	1.12	15.50	0.67
Implied Volatility	0.03	0.27	0.38	-0.02	-0.31	-0.27
Spread	5.45	51.24	0.88	1.03	14.26	0.66
Term Structure	-0.38	-3.58	-0.29	0.11	1.55	0.28
Private Equity	0.55	5.19	0.23	0.81	11.20	0.33
Selection Risk	0.43	4.07	0.20	0.64	8.78	0.30
Currency Risk	0.42	3.95	0.39	0.41	5.62	0.38

Active Risk from Risk Factors





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained therein, including, without limitation, and results obtained from use of the Report, or any information and there up on the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information or any party in reliance upon the Report, or any information and there upon the Report, or any information any party in reliance upon the Report, or any information and there upon the Report.

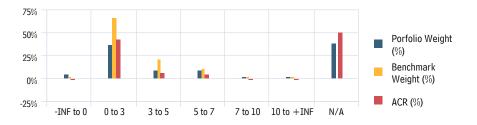
### Portfolio by Factor Breakdowns

COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative FI BENCHMARK: 50\_HY-50\_LEVLOAN, BB U.S. Corp HY/CS Lvgd Loan POSITIONS: 31 MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 3,198,773,463 ACCEPTED: 31

		То	p 10 Sprea	d Facto	r								Top 10 Te	erm Stri	ucture				
		Exp	oosure (Resid	ual)		Correlation	Contri	ibution (R	esidual)			Exp	osure (Resid	ual)		Correlation	Contr	bution (R	esidual)
Spread Factor	Volatility	Portfolio	Benchmark	Active	MCAR	Active Port	to TR	to AR	to AR%	Term Structure	Volatility	Portfolio	Benchmark	Active	MCAR	Active Port	to TR	to AR	to AR%
US Bank Loan Consumer Discreti	21.68	7.70	3.77	3.94	0.13	0.62	1.33	0.53	7.29	USD Rate 5Y	0.80	0.65	0.99	-0.34	-0.00	-0.34	-0.14	0.09	1.30
EU Consumer Discretionary Spre	48.83	1.76	0.02	1.74	0.29	0.60	0.61	0.50	6.97	USD Rate 10Y	0.78	0.33	0.50	-0.17	-0.00	-0.34	-0.07	0.04	0.62
US Corporate HY Spread	39.18	1.35	0.00	1.35	0.28	0.71	0.44	0.38	5.21	USD Rate 2Y	0.78	0.27	0.38	-0.11	-0.00	-0.34	-0.06	0.03	0.40
US Bank Loan Industrials Sprea	20.31	3.30	2.10	1.21	0.12	0.61	0.53	0.15	2.08	USD Rate 20Y	0.70	0.07	0.13	-0.06	-0.00	-0.35	-0.02	0.01	0.20
GB Consumer Discretionary Spre	37.77	0.48	0.03	0.45	0.20	0.54	0.12	0.09	1.28	USD Rate 30Y	0.67	0.02	0.05	-0.02	-0.00	-0.31	-0.00	0.00	0.07
EU Health Care Spread	46.63	0.33	0.06	0.28	0.28	0.59	0.11	0.08	1.06	USD Rate 1Y	0.68	0.03	0.05	-0.02	-0.00	-0.36	-0.01	0.00	0.06
US Health Care HY Spread	42.91	0.60	0.37	0.23	0.28	0.65	0.20	0.06	0.87	USD Rate 1M	0.51	0.06	0.08	-0.02	-0.00	-0.35	-0.01	0.00	0.05
EM BR Spread	47.94	0.21	0.00	0.21	0.28	0.58	0.06	0.06	0.79	USD Muni Rates 10Y	0.98	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00
US Industrials HY Spread	40.44	0.80	0.66	0.15	0.28	0.69	0.26	0.04	0.57	NOK Rate 1M	0.57	-0.00	0.00	-0.00	-0.00	-0.12	0.00	0.00	0.00
US HY Steepener	24.15	-0.03	-0.30	0.27	0.13	0.52	-0.00	0.03	0.47	USD Muni Rates 5Y	1.03	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00

### %CR to Active Risk by Duration Buckets



						Key	/ Rate	Durat	ion						
									Key Ra	ate D	uration				
	Cont.	To Eff. D	ur	1 Yr	2 Yrs	5 Yrs	7 Yrs	10 Yrs	5 15 Y	ſrs	20 Yrs	25 Yrs	30 Yrs	40 Yrs	50 Yrs
Portfolio		1.4	45 (	0.03	0.34	0.79	0.62	0.26	6 O.	00	0.16	0.00	0.02	0.00	0.01
Benchma	ŕk	2.1	22 (	0.05	0.38	0.65	0.57	0.27	<b>′</b> 0.	00	0.13	0.00	0.05	0.00	0.00
Active		-0.2	77 -(	0.02	-0.04	0.14	0.06	-0.02	2 0.	00	0.03	0.00	-0.03	0.00	0.00
1.0 0.5 0.0 -0.5		3 Vrs	5 Vrc	7 Vr	<b>1</b> 0	15	20	25		40	50		Portfoli Benchm Active		
1'	/r 2 Yrs	3 Yrs	5 Yrs	7 Yr	s 10 Yrs	15 Yrs	20 Yrs	25 Yrs	30 Yrs	40 Yrs					



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's offware or data providers shall be responsible or liable for results obtained from use of the Report, or any information contained herein, and or muscas (herein, or any losses, (whether direct, Indirect, Indirect, Indirect, Indirect), and results obtained from use of the Report, or any information and partial reliance upon the Report, or for any decision made or action taken by any party in reliance upon the Report, or for any decision, and or any for the reliance upon the Report, or for any decision made or action taken by any party in reliance upon the Report, or for any decision made or action taken by any party in reliance upon the Report, or for any decision made or action taken by any party in reliance upon the Report, or for any decision made or action taken by any party in reliance upon the Report, or for any decision made or the Report.

### Top 30 Countries by Weight%

COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative FI BENCHMARK: 50\_HY-50\_LEVLOAN, BB U.S. Corp HY/CS Lvgd Loan POSITIONS: 31 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 3,198,773,463 ACCEPTED: 31

		Weight (%)					
Country of Exposure	Portfolio	Benchmark	Active	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	10.64	7.24	100.00	0.07
United States	71.07	86.59	-15.52	10.47	4.86	67.06	0.04
N/A	7.15	0.00	7.15	17.88	0.80	10.98	0.14
Netherlands	5.20	1.10	4.10	15.51	0.36	4.99	0.08
United Kingdom	4.62	1.99	2.63	14.80	0.37	5.12	0.08
Caymans	2.76	0.33	2.43	14.24	0.09	1.27	0.06
Germany	2.43	0.55	1.88	23.07	0.29	3.95	0.12
France	1.38	0.56	0.81	47.37	0.22	3.01	0.14
Canada	1.22	3.39	-2.17	5.22	0.04	0.60	0.02
Bermuda	0.73	0.10	0.64	8.35	0.01	0.11	0.04
Luxembourg	0.72	2.18	-1.46	5.55	0.01	0.11	0.03
Ireland	0.56	0.88	-0.32	26.26	0.06	0.80	0.07
Brazil	0.40	0.00	0.40	36.56	0.07	0.94	0.20
Switzerland	0.36	0.20	0.17	4.32	-0.01	-0.10	0.01
Greece	0.19	0.01	0.17	60.24	0.03	0.40	0.18
Denmark	0.17	0.01	0.15	37.08	0.02	0.30	0.15
Japan	0.13	0.08	0.05	12.14	0.00	0.05	0.02
Liberia	0.10	0.00	0.10	4.68	-0.00	-0.02	0.02
Sweden	0.10	0.09	0.00	10.99	0.00	0.04	0.04
Jersey	0.09	0.03	0.05	7.22	-0.00	-0.00	0.03
Israel	0.09	0.02	0.07	11.05	0.00	0.01	0.04
United Arab Emirates	0.08	0.00	0.08	2.00	-0.00	-0.03	0.01
Euro. Monetary Union	0.08	0.00	0.08	152.27	0.02	0.32	0.05
Spain	0.07	0.05	0.02	7.09	-0.00	-0.00	0.06
Ukraine	0.06	0.00	0.06	18.85	0.00	0.06	0.10
Australia	0.05	0.33	-0.28	31.49	0.01	0.15	0.03
Mexico	0.05	0.00	0.05	34.11	0.01	0.08	0.15
South Africa	0.04	0.00	0.04	84.92	0.01	0.11	0.21
Italy	0.04	0.57	-0.53	13.21	0.00	0.02	0.03
Puerto Rico	0.02	0.00	0.02	15.37	0.00	0.00	0.04
Norway	0.02	0.05	-0.03	242.18	-0.03	-0.37	-0.38

Portfolio Weight	Benc	hmark Weight	Active	Weight
United States				
N/A				
Netherlands				
United Kingdom				
Caymans				
Germany				
France				
Canada				
Bermuda				
Luxembourg				
Ireland				
Brazil				
Switzerland				
Greece				
Denmark				
Japan				
Liberia				
Sweden				
Jersey				
Israel				
United Arab Emirates				
Euro. Monetary Union				
Spain				
Ukraine				
Australia				
Mexico				
South Africa				
Italy				
Puerto Rico				
Norway				
-25%	0%	25%	50%	75%



While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, warranties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Meither MSCI nor MSCI's software or data providers to risults obtained from use of the Report, or any information or any party in reliance upon the Report, or any risults, inccuracies, errors in, or omissions of the Report.

### COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative FI BENCHMARK: 50\_HY-50\_LEVLOAN, BB U.S. Corp HY/CS Lvgd Loan POSITIONS: 31 MODEL: MAC.L

Developed Market Currency

CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 3,198,773,463 ACCEPTED: 31

**Emerging Market Currency** 

### Portfolio Allocation by Currency



		,			5 5		
Top Five	Exposure \$ CF	R to AR (%) CR	R to TR (%)	Top Five	Exposure \$	CR to AR (%)	CR to TR (%)
US Dollar	2,553,133,005.11	72.74	74.23	United Arab Emirates Dir	ham 1,979,835.81	-0.02	0.00
Euro	508,521,046.28	22.23	20.87	South African Rand	1,409,419.34	0.11	0.09
British Pound Sterling	111,709,335.10	4.74	4.48	Mexican Peso	0.02	0.00	0.00
Canadian Dollar	9,365,385.47	0.12	0.17				
Danish Krone	5,347,704.55	0.30	0.25				

### Top 15 Currencies by Weight% Weight (%) Currency of Exposure Portfolio Benchmark Active Total Risk CR to TR CR to TR (%) CR to AR CR to AR (%) Total 100.00 100.00 -0.00 10.64 10.64 100.00 7.24 100.00 US Dollar 79.82 100.00 -20.1810.11 7.90 74.23 5.27 72.74 0.00 15.90 2.22 20.87 22.23 Euro 15.90 16.67 1.61 British Pound Sterling 3.49 0.00 3.49 18.46 0.48 4.48 0.34 4.74 Canadian Dollar 0.29 0.00 0.29 10.17 0.02 0.17 0.01 0.12 0.30 Danish Krone 0.17 0.00 0.17 37.08 0.03 0.25 0.02 Swedish Krona 0.09 0.00 0.09 11.50 0.01 0.06 0.00 0.04 0.08 0.08 0.02 Japanese Yen 0.00 16.23 0.00 0.04 0.00 United Arab Emirates Dirham 0.06 0.00 0.06 0.03 0.00 0.00 -0.00 -0.02 0.04 0.11 South African Rand 0.00 0.04 84.92 0.01 0.09 0.01 Australian Dollar 0.04 0.00 0.04 41.13 0.01 0.07 0.01 0.09 0.02 Norwegian Krone 0.00 0.02 232.40 -0.03 -0.25 -0.03 -0.37 0.00 0.00 0.00 4.07 0.00 -0.00 -0.00 Singapore Dollar 0.00 0.00 0.00 0.00 13.64 0.00 Mexican Peso 0.00 0.00 0.00 Swiss Franc -0.00 0.00 -0.00 6.20 -0.00-0.000.00 0.00



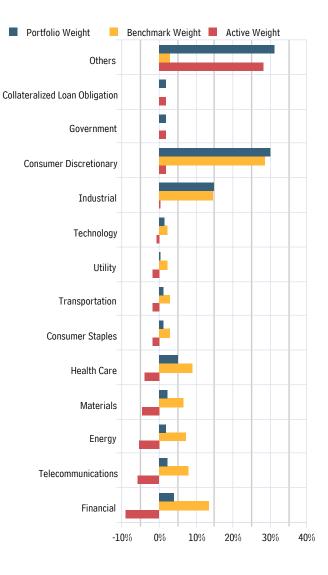
While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provides are thereby disclaimed. Neither MSCI nor MSCI's software or data provides are software or liable tor results obtained from use of the Report, or any information rand sec, whether direct, indirect, indident, indirect, indirect, indire

Weight (%)

### Portfolio Allocation by Bond Sector

COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative FI BENCHMARK: 50\_HY-50\_LEVLOAN, BB U.S. Corp HY/CS Lvgd Loan POSITIONS: 31 MODEL: MAC.L CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 3,198,773,463 ACCEPTED: 31

	weight (%)							
Sector	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Total Risk	Active Risk CR	%CR to Active TR	MC to Active TR
Total	100.00	100.00	-0.00	1.45	10.64	7.24	100.00	0.07
Others	31.11	2.84	28.27	0.38	19.22	4.84	66.91	0.06
Consumer Discretionary	30.22	28.49	1.73	0.53	10.35	1.40	19.33	0.06
Industrial	14.69	14.32	0.37	0.14	6.27	0.14	1.94	0.03
Health Care	5.22	9.16	-3.94	0.09	9.81	0.23	3.15	0.04
Financial	4.15	13.31	-9.16	0.04	5.02	0.01	0.11	0.03
Telecommunications	2.09	8.00	-5.91	0.04	9.94	0.11	1.55	0.03
Materials	2.03	6.57	-4.54	0.03	7.58	0.06	0.79	0.03
Energy	1.92	7.38	-5.46	0.06	5.80	-0.04	-0.54	0.04
Collateralized Loan Obligat	1.86	0.00	1.86	-0.08	17.48	0.15	2.03	0.11
Government	1.78	0.00	1.78	0.15	6.24	-0.09	-1.23	-0.02
Technology	1.59	2.19	-0.61	0.01	43.04	0.37	5.12	0.12
Transportation	1.06	2.79	-1.73	0.01	13.37	0.03	0.37	0.03
Consumer Staples	1.02	2.78	-1.75	0.02	4.05	0.02	0.23	0.02
Utility	0.44	2.08	-1.65	0.01	7.49	0.02	0.23	0.03
Mortgage Backed Security	0.27	0.00	0.27	0.02	4.62	-0.01	-0.15	-0.01
Asset Backed Security	0.21	0.00	0.21	0.00	13.33	0.01	0.08	0.06
Commercial Mortgage Backed	0.14	0.00	0.14	0.00	2.01	-0.00	-0.05	0.00
Collateralized Debt Obligat	0.08	0.00	0.08	0.00	3.47	-0.00	-0.05	-0.01
Sovereign	0.06	0.00	0.06	0.00	24.75	0.00	0.07	0.11
Agency	0.04	0.00	0.04	0.00	37.21	0.01	0.08	0.16
Local/Provincial	0.02	0.10	-0.08	0.00	17.64	0.00	0.04	0.01





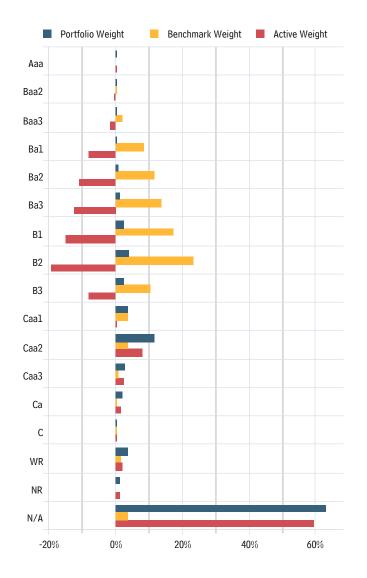
While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report to the Report. The information contained herein, including, without limitation, everanties as to accuracy, completeness, timeliness, suitability, merchantability or use for a particular purpose are hereby disclaimed. Neither MSCI nor MSCI's software or data providers shall be responsible or liable for results obtained from use of the Report, or any information or approximation random syntaxis, incorracies, encores, in or omissions of the Report.

### COMPANY: NYCRS - NYCERS PORTFOLIO: Alternative FI BENCHMARK: 50\_HY-50\_LEVLOAN, BB U.S. Corp HY/CS Lvgd Loan POSITIONS: 31 MODEL: MAC.L

CURRENCY: USD ANALYSIS DATE: March 31, 2022 MARKET VALUE: 3,198,773,463 ACCEPTED: 31

Portfolio Allocation by Moody's Rating

		Weight (%)						
Rating	Portfolio	Benchmark	Active	Cont. To Eff. Dur	Spread Duration	Total Risk	Active Risk CR	%CR to Active TR
Total	100.00	100.00	-0.00	1.45	4.21	10.64	7.24	100.00
Ааа	0.27	0.00	0.27	0.02	6.23	4.62	-0.01	-0.15
Baa2	0.03	0.08	-0.05	0.00	3.58	5.87	0.00	0.02
Baa3	0.10	1.87	-1.76	0.00	4.17	4.10	0.03	0.37
Bal	0.29	8.32	-8.03	0.02	6.56	6.98	0.07	0.99
Ba2	0.87	11.61	-10.74	0.03	4.39	4.80	0.08	1.17
Ba3	1.36	13.77	-12.41	0.05	4.54	5.42	0.08	1.07
Bl	2.43	17.17	-14.74	0.05	3.06	4.40	0.03	0.44
B2	4.00	23.24	-19.24	0.05	2.48	6.94	0.01	0.15
B3	2.44	10.42	-7.98	0.04	2.71	5.78	-0.03	-0.40
Caal	3.80	3.71	0.08	0.04	2.09	6.81	-0.01	-0.18
Caa2	11.45	3.51	7.94	0.07	2.67	9.90	0.28	3.90
Caa3	2.92	0.67	2.25	0.08	3.00	16.83	0.15	2.13
Са	1.93	0.14	1.78	0.01	2.36	16.87	0.11	1.55
С	0.13	0.03	0.09	0.00	5.96	6.47	-0.00	-0.04
WR	3.58	1.64	1.93	0.02	1.39	4.90	0.00	0.01
NR	1.21	0.00	1.21	-0.09	36.94	20.02	0.11	1.46
Not Rated	63.19	3.81	59.38	1.03	4.81	13.22	6.34	87.51





While this Report was prepared using sources, models, information and data believed to be reliable, the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report or the information contained herein, including, without limitation, any results or data provided to you by MSCI, Inc. ("MSCI"), are provided to you AS IS. All expressed or implied representations or warranties of any kind with respect to the Report, or any information contained herein, anduding, victor use for a particular purpose are hereby disclaimed. Neither MSCI not MSCI's software of data providers shall be responsible or liable for results obtained from use of the Report, or any information or any party in reliance upon the Report, or for any delaws, inaccurateise, errors of the Report.

# APPENDICES: -Basket Clause -Liquidity Analysis

### Truste@ & @porting236 As of 03/31/2022

	25.00%
Basket Consumed	19.83%
Remaining Capacity	5.17%

		Basket-Eligi	ible Assets*		
	Non-Basket Assets	Non-Contributing	Contributing	Basket Assets	Total
FIXED INCOME	34.27%	3.53%	0.01%	5.14%	42.95%
U.S. Fixed	15.78%	2.82%	0.01%	4.07%	22.68%
Cash/Equivalent	9.21%			0.00%	9.21%
TIPS	3.31%				3.31%
Convertible Bonds	1.51%	0.01%	0.01%	0.09%	1.63%
OFI	0.02%	0.14%	0.00%	3.28%	3.44%
High Yield	0.27%	2.59%	0.00%	0.68%	3.54%
Bank Loans	0.00%			0.00%	0.00%
ETI Investments	0.93%			0.01%	0.94%
Core/Core Plus	0.54%	0.08%		0.01%	0.62%
U.S. Structured	18.49%	0.71%		1.07%	20.27%
Credit	4.89%	0.71%		0.21%	5.82%
Mortgages	5.65%			0.85%	6.51%
ST Treasury	2.37%				2.37%
Treasury/Agency	1.94%				1.94%
MT Treasury	2.98%				2.98%
LT Treasury	0.65%				0.65%
EQUITY	25.20%	17.18%	6.23%	8.44%	57.05%
Public Equity	25.15%	9.98%	6.23%	0.02%	41.38%
U.S. Equity	24.38%	0.67%	0.42%		25.47%
EAFE	0.26%	6.48%	4.05%	0.00%	10.79%
Emerging Markets	0.11%	2.70%	1.69%	0.01%	4.51%
Global	0.40%	0.13%	0.08%	0.00%	0.61%
Alternative Investments	0.05%	7.19%		8.42%	15.67%
Hedge Funds				0.00%	0.00%
Infrastructure		1.43%		0.00%	1.43%
Private RE/Core	0.00%	3.43%			3.43%
Private RE/Non-Core	0.01%	2.34%			2.35%
Private Equity	0.04%			8.42%	8.47%
TOTAL ASSETS	59.47%	20.70%	6.24%	13.58%	100.00%
	Non-Basket:	80.17%	Basket:	19.83%	

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

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

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



AUM as of March 31, 2022

	Current MV	Today	1 Year	2 Years
PUBLIC EQUITY	\$38,806	\$38,806	\$38,806	\$38,806
U.S.	23,843	23,843	23,843	23,843
EAFE Equity	9,637	9,637	9,637	9,637
Emerging Markets	4,753	4,753	4,753	4,753
Global Equity	573	573	573	573
PUBLIC FIXED INCOME	\$27,694	\$26,978	\$27,308	\$27,308
Short Term Securities	1,001	1,001	1,001	1,001
U.S. Government	7,435	7,435	7,435	7,435
Mortgages	, , , , , , , , , , , , , , , , , , ,		,	
Core Mortgages	4,480	4,480	4,480	4,480
ETI	879	163	493	493
Credit - Investment Grade	7,489	7,489	7,489	7,489
Corporate - High Yield	3,314	3,314	3,314	3,314
Corporate - Bank Loans	3	3	3	3
UST - Inflation Protected	3,093	3,093	3,093	3,093
ALTERNATIVE ASSETS	\$17,864	\$2,399	\$3,200	\$3,200
Private Equity	7,929	0	0	0
Private Real Estate	5,400	0	0	0
Infrastructure	1,336	0	0	0
Opportunistic Fixed Income	3,199	2,399	3,199	3,199
Hedge Funds	1	0	1	1
Total Assets	\$84,364	\$68,183	\$69,313	\$69,313
Total Illiquid \$	Γ	\$16,181	\$15,051	\$15,051
Total Illiquid %			17.8%	17.8%
	L	19.2%	17.0%	17.0%
Unfunded OFI Commitments	\$766			
Unfunded INF Commitments	\$1,416			
Unfunded PE Commitments	\$3,930			
Unfunded RE Commitments	\$2,495			
Total commitments \$	\$8,607			
Total commitments %	10.2%			



## NYCERS Liquidity Profile - Static Analysis

AUM as of March 31, 2022

Denominator Effect - Decrease AUM by One- Third						
Total Illiquid \$	\$16,181	\$15,051	\$15,051			
Total Illiquid %	28.8%	26.8%	26.8%			
Note: Assumes zero realizations, no new commitments and a five-year investment period; funded out of liquids						

			Liquid Assets			
	Current MV	Today	1 Year	2 Years		
Total Assets	\$84,364	\$68,183	\$69,313	\$69,313		
Private Equity, Real Estate, Infra	structure and Oppo	rtunistic Fixed Incon	ne Stress Case			
Unfunded OFI Commitments			\$153	\$306		
Unfunded INF Commitments			\$283	\$566		
Unfunded PE Commitments Draw	n		\$786	\$1,572		
Unfunded RE Commitments Draw	n		\$499	\$998		
Total commitments \$		_	\$1,721	\$3,442		
Total commitments %		-	2.0%	4.1%		
Total Illiquid \$			\$16,772	\$18,493		
Total Illiquid %			19.9%	21.9%		
Note: Assumes zero realizations, n liquids See Assumptions Page for Full Det		and a five-year invest	ment period; funded	out of		
See Assumptions Page for Full Det	tails					

Denominator Effect - Decrease AUM by One-			
Third			
Total Illiquid \$	\$16,181	\$16,772	\$18,493
Total Illiquid %	28.8%	29.8%	32.9%
Note: Assumes zero realizations, no new commitments liquids	and a five-year investm	nent period; funded	out of



## Additional Assumptions

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

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

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

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

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

