



New York City
Police Pension Fund, Subchapter Two
Performance Overview as of March 31, 2020

Total Fund Overview

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

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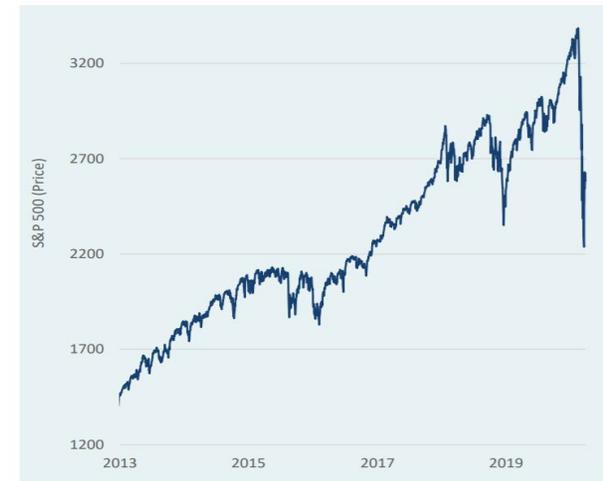
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1Q20 Capital Markets Commentary



- **US Equity** – The world of investing has been introduced to an unprecedented event in 2020. Benchmark indexes suffered a major decline at the close of Q1 2020. The year 2020 started off on a positive note following a strong 2019 but the market began to decline as concerns over the COVID-19 outbreak. As the virus spread, investors were more inclined to sell equities to raise cash. As a result, the S&P 500 suffered, as did so many other indexes, and delivered a -19.6% quarterly return. Relatively speaking, US large-cap stocks were the best performers while the US small-cap stocks were the worst performers. However, with the passing of the CARES Act at the end of the month, investors started to move back to risk assets and markets have recovered some of their losses. Moving forward, the impact of the CARES Act should be seen having a positive effect in the recovery of both personal and economic health.

S&P 500



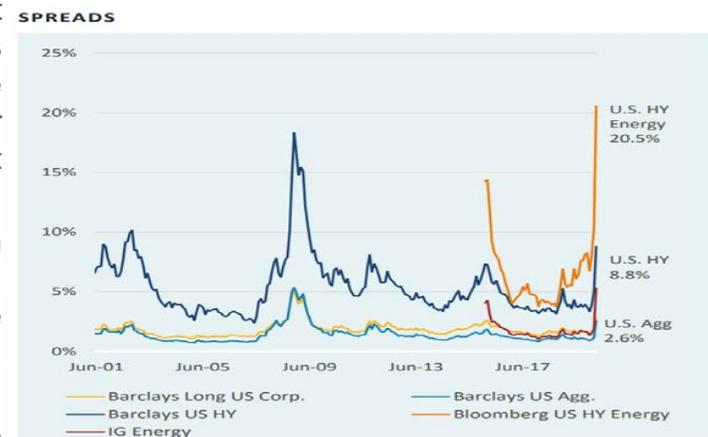
Source: Standard & Poor's, as of 3/31/20

- **International Equity** – No country or area of the market was spared during the selloff. Both international developed and emerging markets stocks underperformed US large-cap stocks. There was not much of a difference in the local currencies due to currency weakness versus the dollar. Economic growth in the U.K. was already nonexistent during the fourth quarter, before the country had to deal with the virus in earnest. Across continental Europe, quarantine efforts are starting to bear fruit as cases in Italy and Spain appear to be approaching a peak. China has recently been relaxing severe travel restrictions while the official Purchasing Manager's Index for China indicates that manufacturing in the country expanded during March after a dramatic slowdown.

1Q20 Capital Markets Commentary



- Fixed Income** – The US Treasury yield curve fell dramatically during the quarter. Government bonds saw yields fall as investors sought out assets perceived to be lower risk. The 10-year Treasury yield ended the quarter at 0.70%, down 122 basis points. The FOMC decreased its overnight rate by a total of 1.50% during two unscheduled meetings in March. The Fed also announced quantitative easing measures totaling at least \$700 billion over the coming months. On April 9th, the Federal Reserve announced an additional \$2.3 Trillion program aimed towards providing financing to small businesses and municipalities. The program included \$1M-\$ 5M sized loans at an interest rate of 2.5% to 4.0% with a four-year maturity. This move involved Fed purchases of certain types of low-grade speculative debt, a reversal from comments just weeks earlier that the Federal Reserve would stick to investment-grade debt purchases.
- Corporate bonds were the worst-performing spread sector in March (on a duration-adjusted basis) and underperformed similar-duration U.S. Treasuries by 1,040 bps. Within the corporate sector, Utilities were the weakest performers, followed by Industrials and Financials.
- Oil prices dropped 54% to \$20.48 per barrel from \$44.76 at the end of February due to fallout from the coronavirus and the price war between Saudi Arabia and Russia.



Source: Barclays, Bloomberg, as of 3/31/20

1Q20 Capital Markets Commentary



- **Real Estate** – Over recent years, the Real Estate sector has been made very attractive in an environment of low and falling interest rates. However, because of the COVID-19 pandemic, the real estate investments trusts (REITs) are struggling. Since the economic shut-down, funding has dried up and commercial property demand has declined. Looking forward, the sector will be very dependent on the speed at which the economy recovers.
- **Infrastructure** – The infrastructure industry has remained strong and in good health in the quarter compared to other asset classes. While traditionally, the energy and transport sectors have been the most active, since the global pandemic these sectors have seen a slowdown in activity while there has been a significant increase in telecoms and social infrastructure deals. The coronavirus outbreak has changed the way we communicate and our everyday lifestyle, so the infrastructure investment industry is beginning to focus on this new aspect of connection.
- **Private Equity** – Before the impending market dislocation, venture capital fundraising was on pace to eclipse 2019, while total deal volume and number of deals had plateaued. \$21 Billion of venture capital was raised in the US in Q1 2020, constituting 40% of capital raised in 2019. Deal value and number of deals in the quarter represented 25% and 19% of 2019's totals, respectively.
- **Hedge Funds** – Hedge Funds returned -10.5% over the quarter, with the worse performance in March of -8.9%. The March return alone was a bigger loss than the Global Financial Crisis peak in October 2008 of -8.1%. Hedge funds did better to conserve investor capital compared to the public market, despite the losses.

1Q20 Performance Commentary



- **Total Plan** – Over the first quarter of 2020 (1Q20), the Total Fund returned -10.1% on a net-of-fee basis which outperformed the policy benchmark return of -10.7%. In the trailing 12 months, the Total Fund returned -1.5%, underperforming the policy benchmark return of -0.9%. According to the Wilshire TUCS Universe of public plans over \$5 billion, the median return over the same period was -1.5%, placing the Total Fund above the median public plan.
 - Over the trailing three-, five- and ten-year periods, the Total Fund returned 4.7%, 5.1%, and 7.6%, respectively, closely matching the policy benchmark returns of 4.7%, 5.1%, and 7.7%, respectively.
- **Total Domestic Equity Composite** – The Total Fund has \$10.8 billion, or 28.5% invested in domestic equity. The allocation decreased with the market's appreciation from 33.1% to 28.5%. The composite remains predominately passively invested with approximately 70% of the composite invested passively across market cap segments.
 - For 1Q20, the Domestic Equity Composite returned -21.8%, underperforming the Russell 3000 index return of -20.9%.
 - In the active segments: Small-Cap Active and Mid-Cap Active outperformed their indexes. The Emerging Manager segment also slightly outperformed its benchmark.
 - The composite was restructured with the change in the small cap managers. Ceredex and PIMCO RAFI US Small Cap were defunded with William Blair, Cooke & Bieler, and Pzena on boarded.

1Q20 Performance Commentary



- **Total World ex-USA Composite** – The Total Fund has \$3.0 billion, or 7.8% invested in developed international equities. The composite allocation is 72.4% Large & Mid active, 7.7% Small Cap Active, and 19.9% passive.
 - For 1Q20, the Total World ex-USA Composite outperformed its index. The Composite returned a -21.9% versus the index return of -24.0%. Security selection was rewarded as the managers were invested in cyclical securities. The value and small cap active outperformed its benchmark.
- **Hedge Funds** - The Total Fund has \$2.5 billion of 6.7% invested in hedge funds that includes both direct and funds-to-funds. This segment helped provide downside protection as the program returned -2.0% versus a benchmark return of -7.1%. The direct segment outperformed the funds-of-funds. In the direct segment, Brevan Howard had a stellar quarter and returned 32.6%.
- **Total Emerging Markets Composite** – The Total Fund has \$1.8 billion or 4.8% invested in emerging markets. The composite allocation is 63% active and 37% passive. For the quarter, the Emerging Markets Composite underperformed its policy return. The composite returned -26.4% versus the policy return of -23.6%.

1Q20 Performance Commentary



- **Total Fixed Income Composite** – The Total Fund has \$14.2 billion, or 37.4% invested in fixed income securities. The structure of the composite is: 46.9% in Structured Fixed Income (the allocation of the Structured Fixed Income & ETI is: 64.7% in Total Treasuries & Agencies, 19.2% in Total Mortgages, and 16.1% in Total Investment Grade Credit), 10.5% in Opportunistic Fixed Income (OFI), 13.4% in TIPS, 13.7% in Enhanced Yield, 4.3% in Bank Loans, 5.1% in Convertible Bonds, 0.6% in Fund of Funds, 3.1% in Targeted Investments, and 2.4% in Short-Term Cash.
 - For 1Q20, the Total Fixed Income Composite returned 1.7%. Relative to their respective benchmarks, high yield, and bank loans, outperformed while convertible bonds underperformed.

Wilshire Consulting



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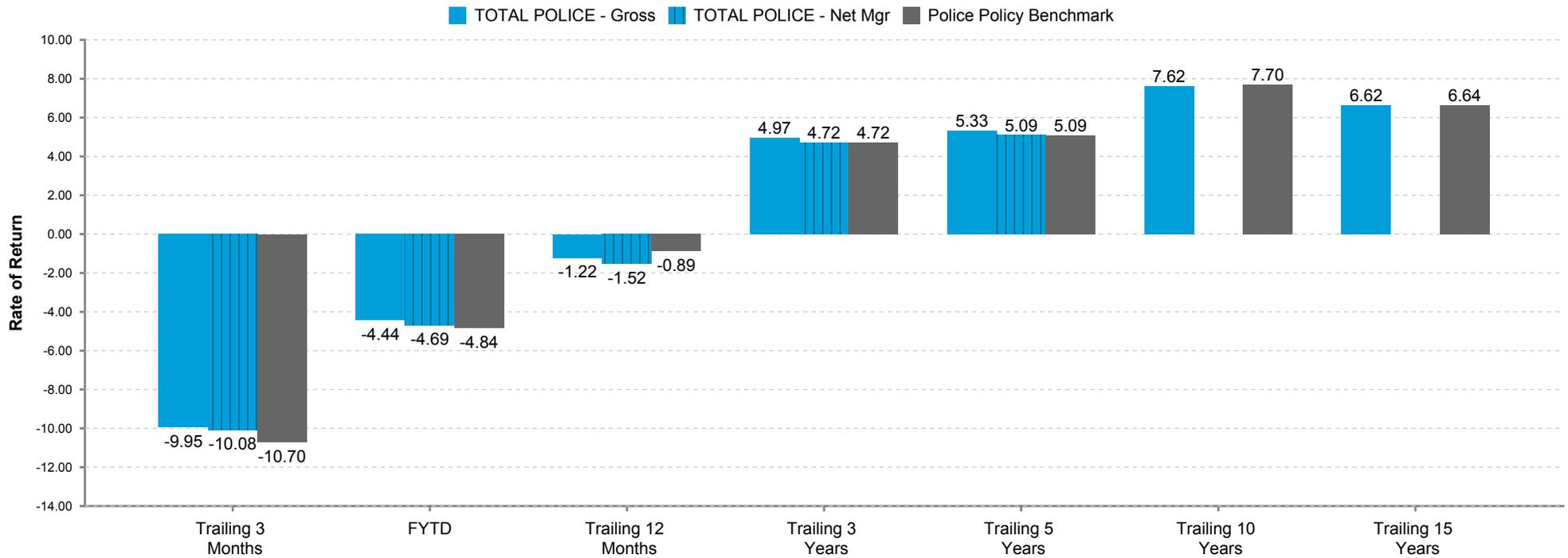
Total Portfolio Returns: March 31, 2020



Market Value (Billions)

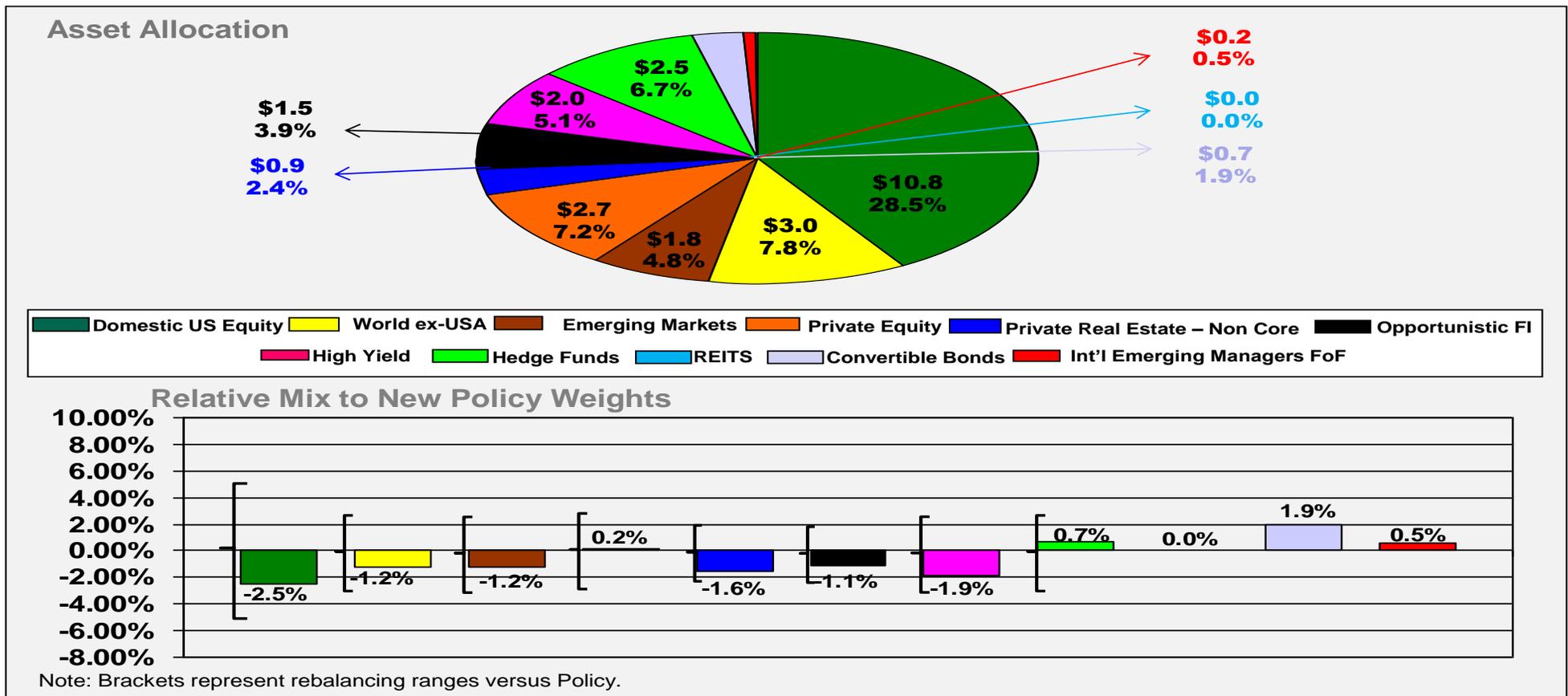
\$38.0

TOTAL POLICE

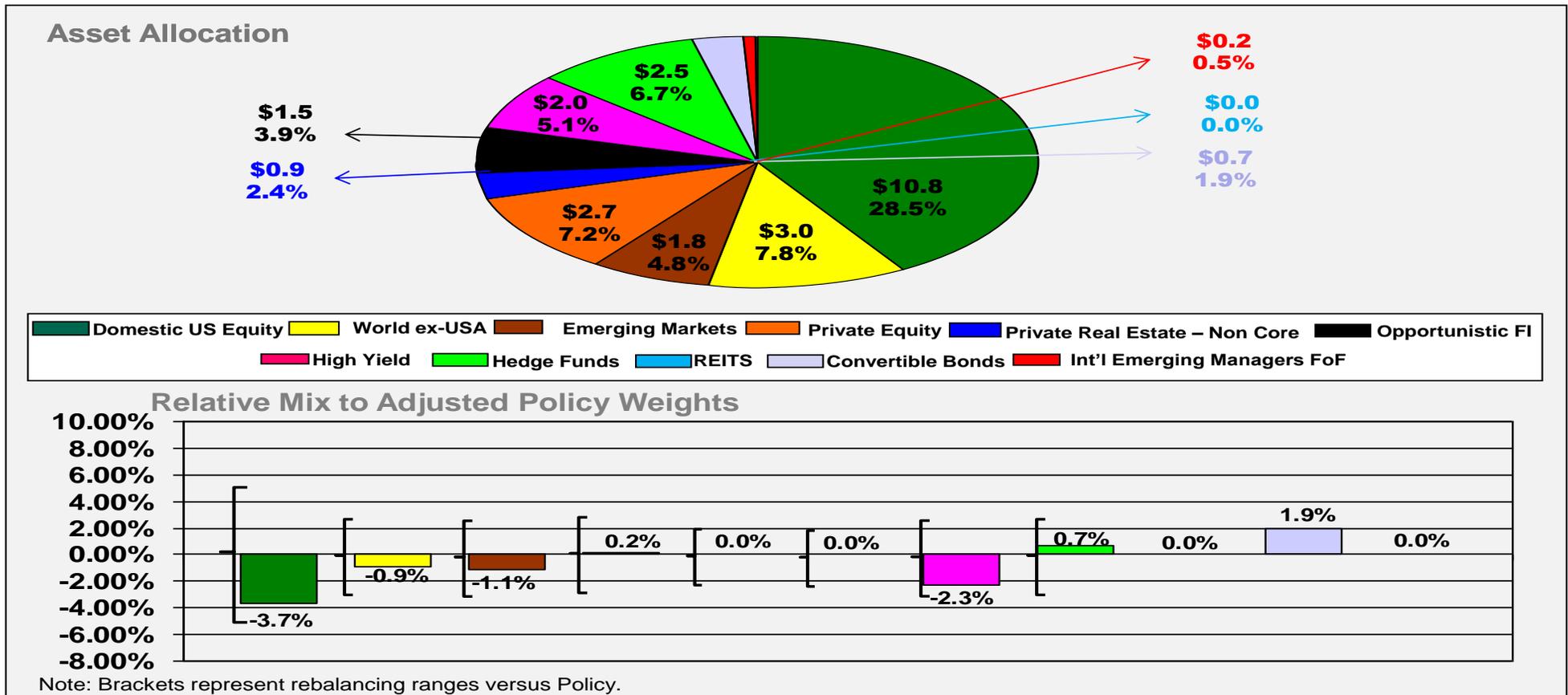


	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 10 Years	Benchmark 10 Years
Standard Deviation						
TOTAL POLICE	7.6	8.2	5.3	7.5	7.7	8.2

Portfolio Asset Allocation – Growth

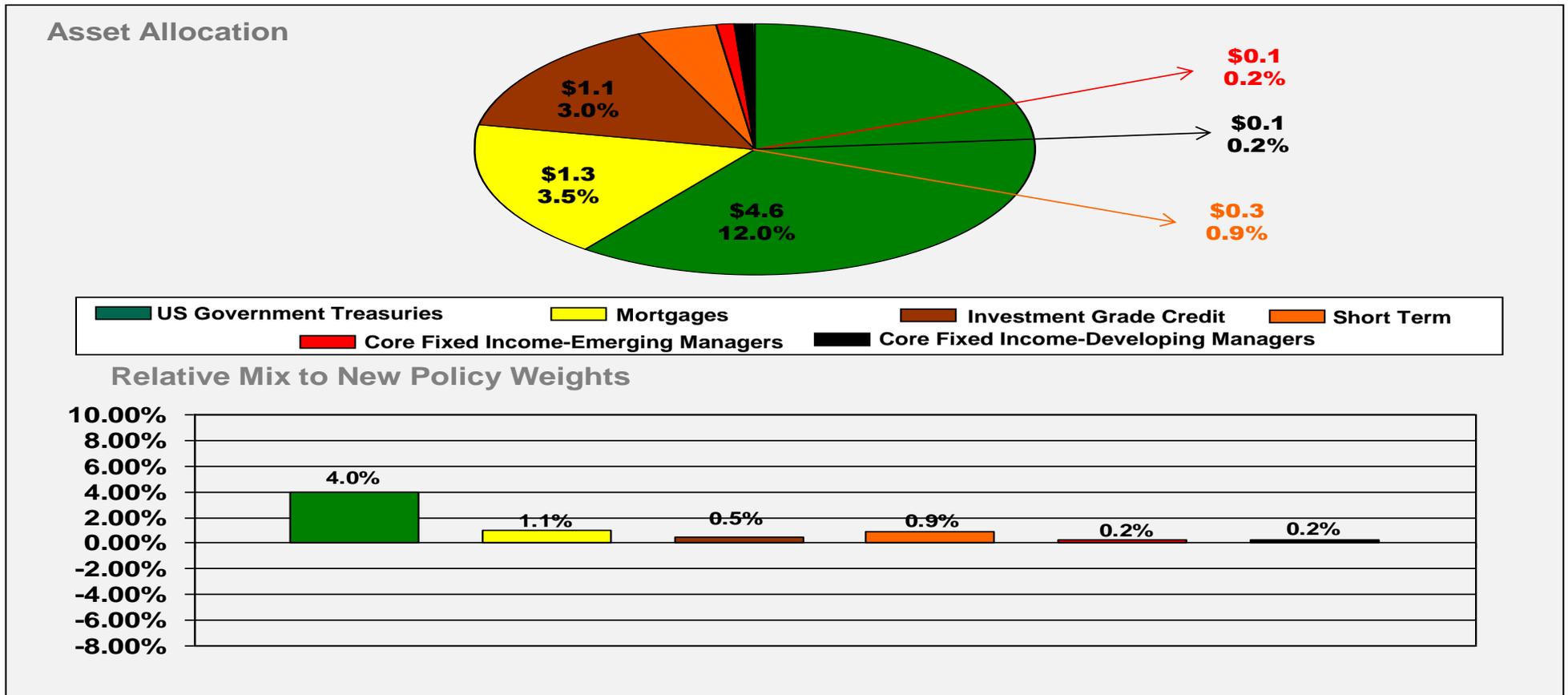


Portfolio Asset Allocation – Growth

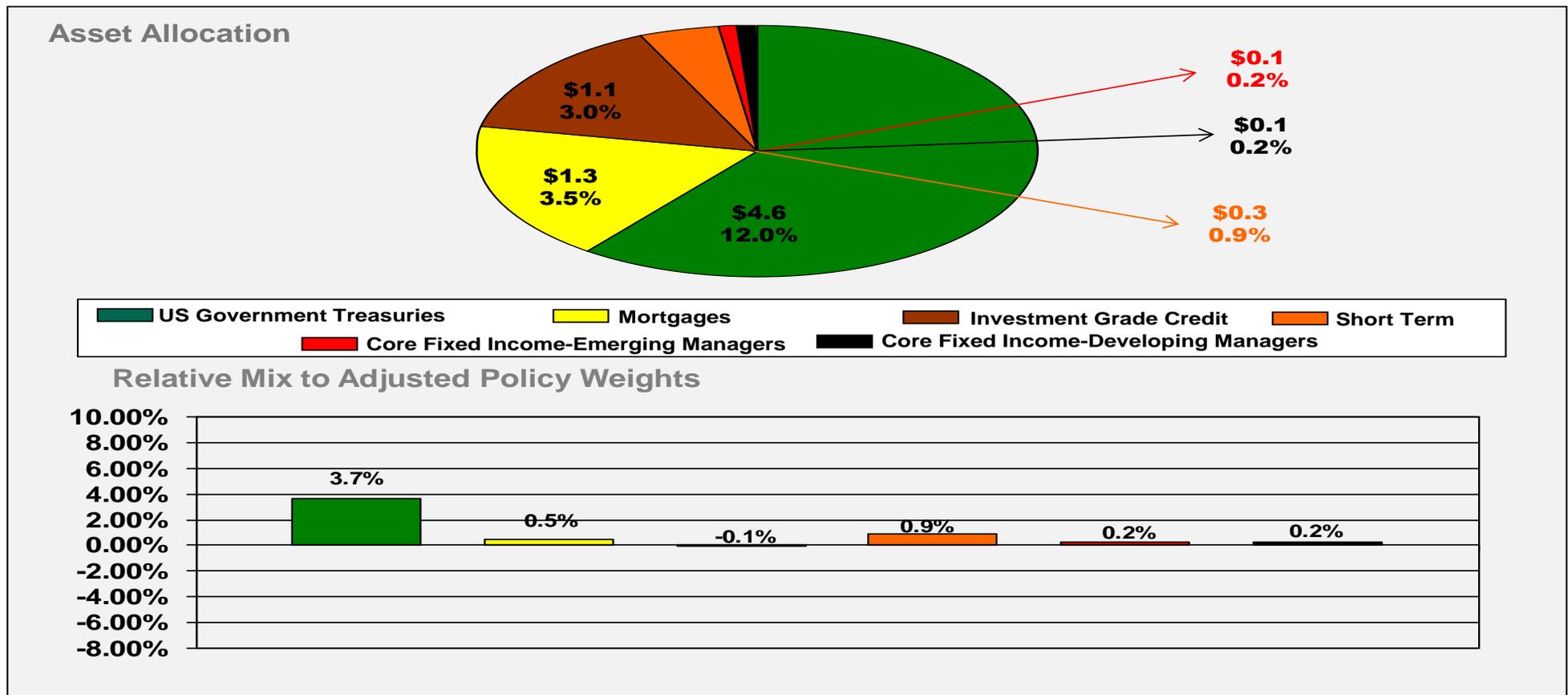


Note: On March 31, 2020 Police's combined Fixed Income and Cash portfolios have a duration of 8.6 years. The duration of the Barclays US Aggregate Index was 5.7 years on that date.

Portfolio Asset Allocation – Deflation Protection

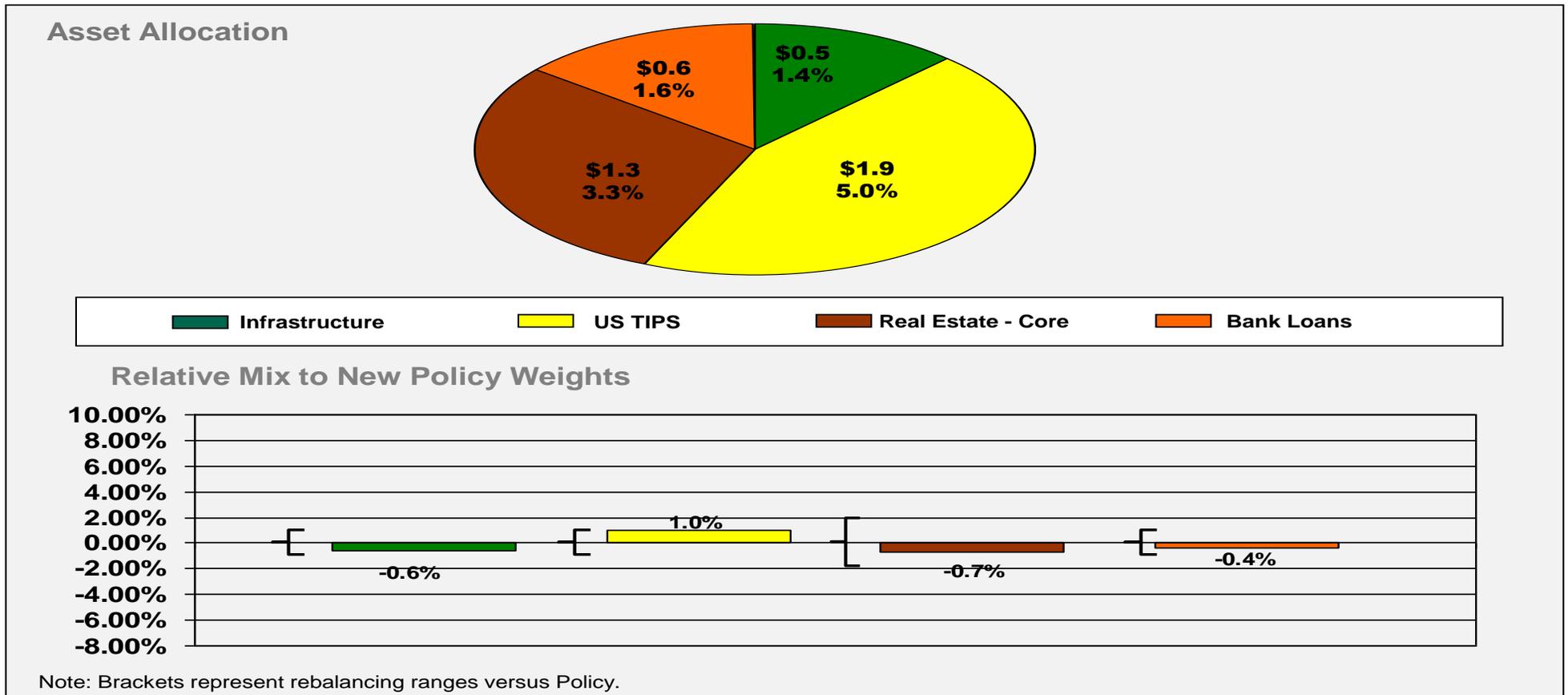


Portfolio Asset Allocation – Deflation Protection

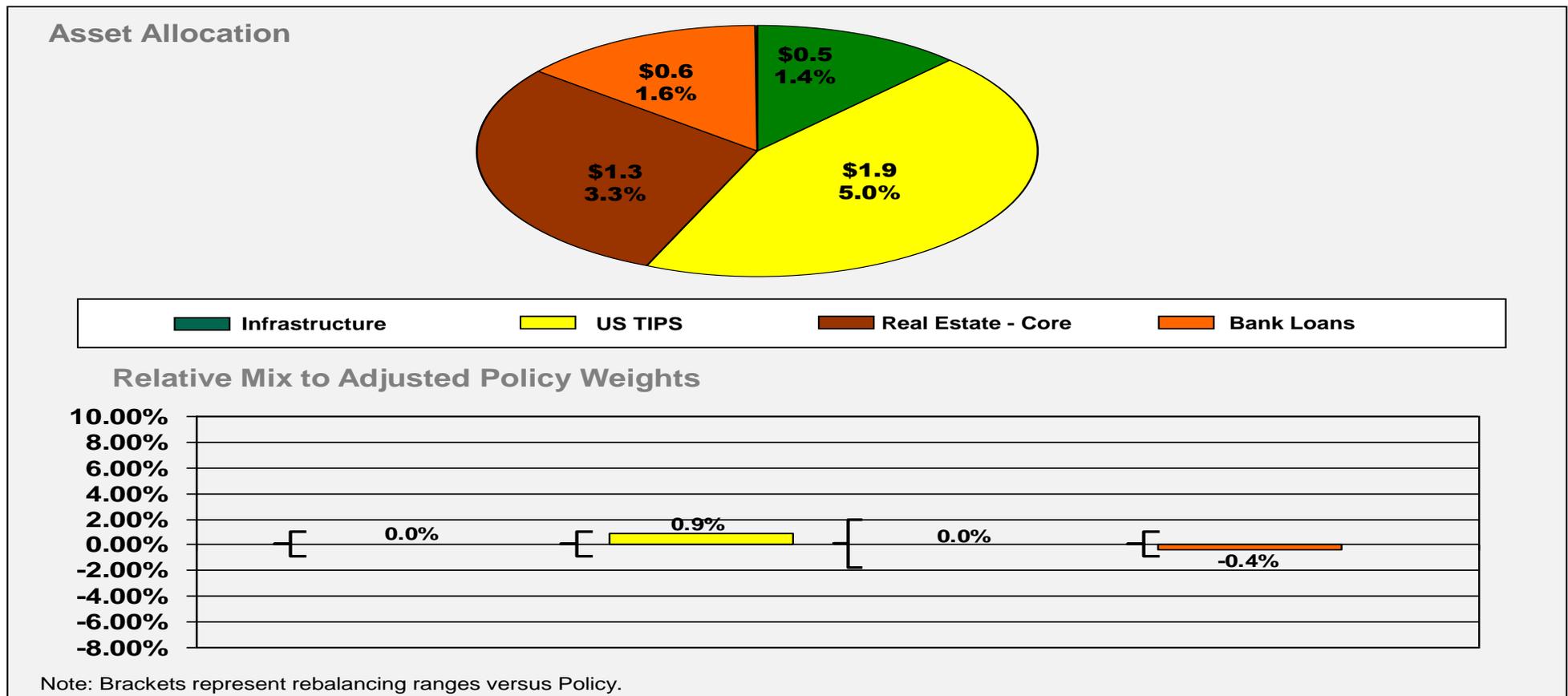


Note: On March 31, 2020 Police's combined Fixed Income and Cash portfolios have a duration of 8.6 years. The duration of the Barclays US Aggregate Index was 5.7 years on that date.

Portfolio Asset Allocation – Inflation Protection

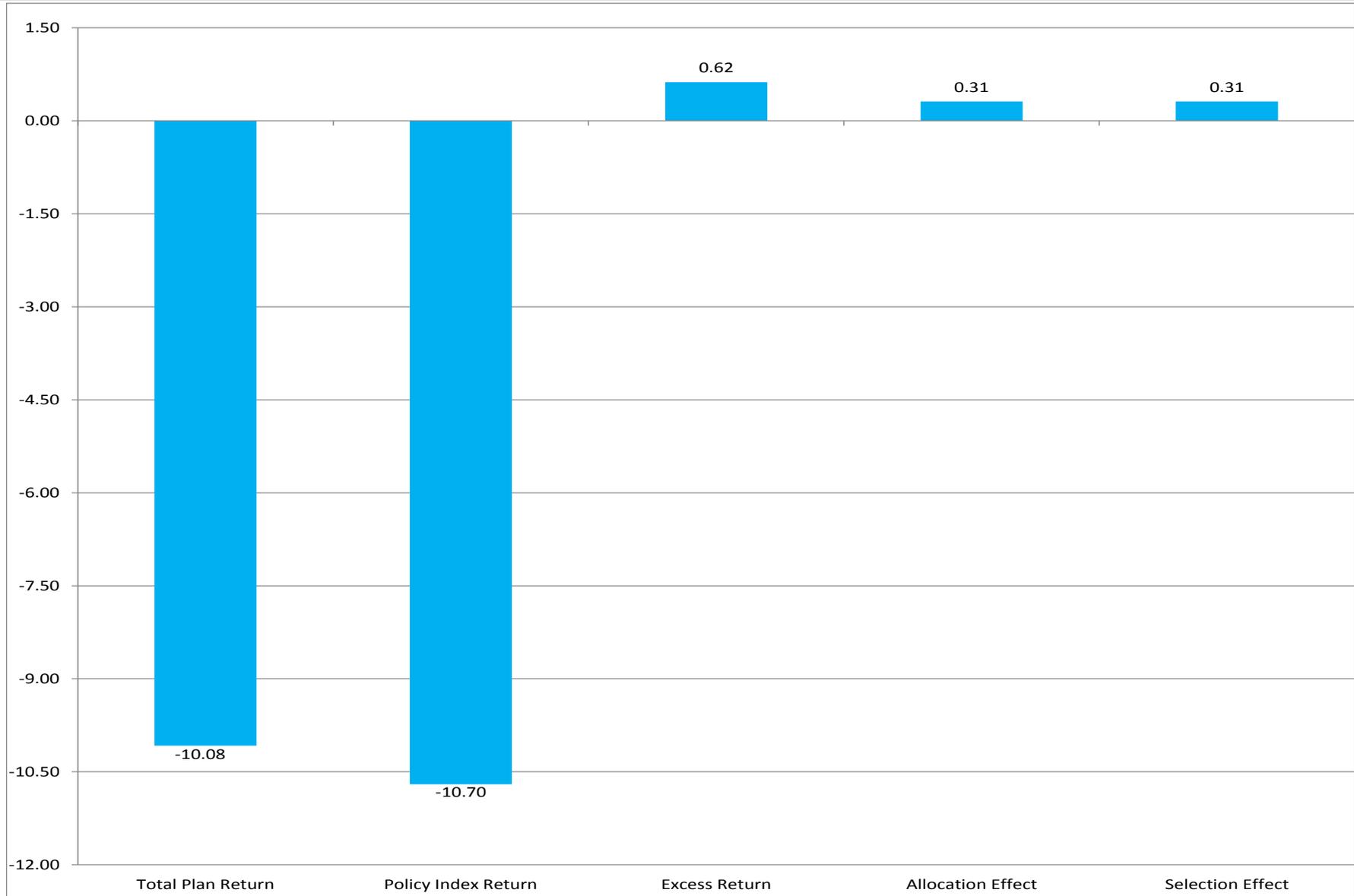


Portfolio Asset Allocation – Inflation Protection

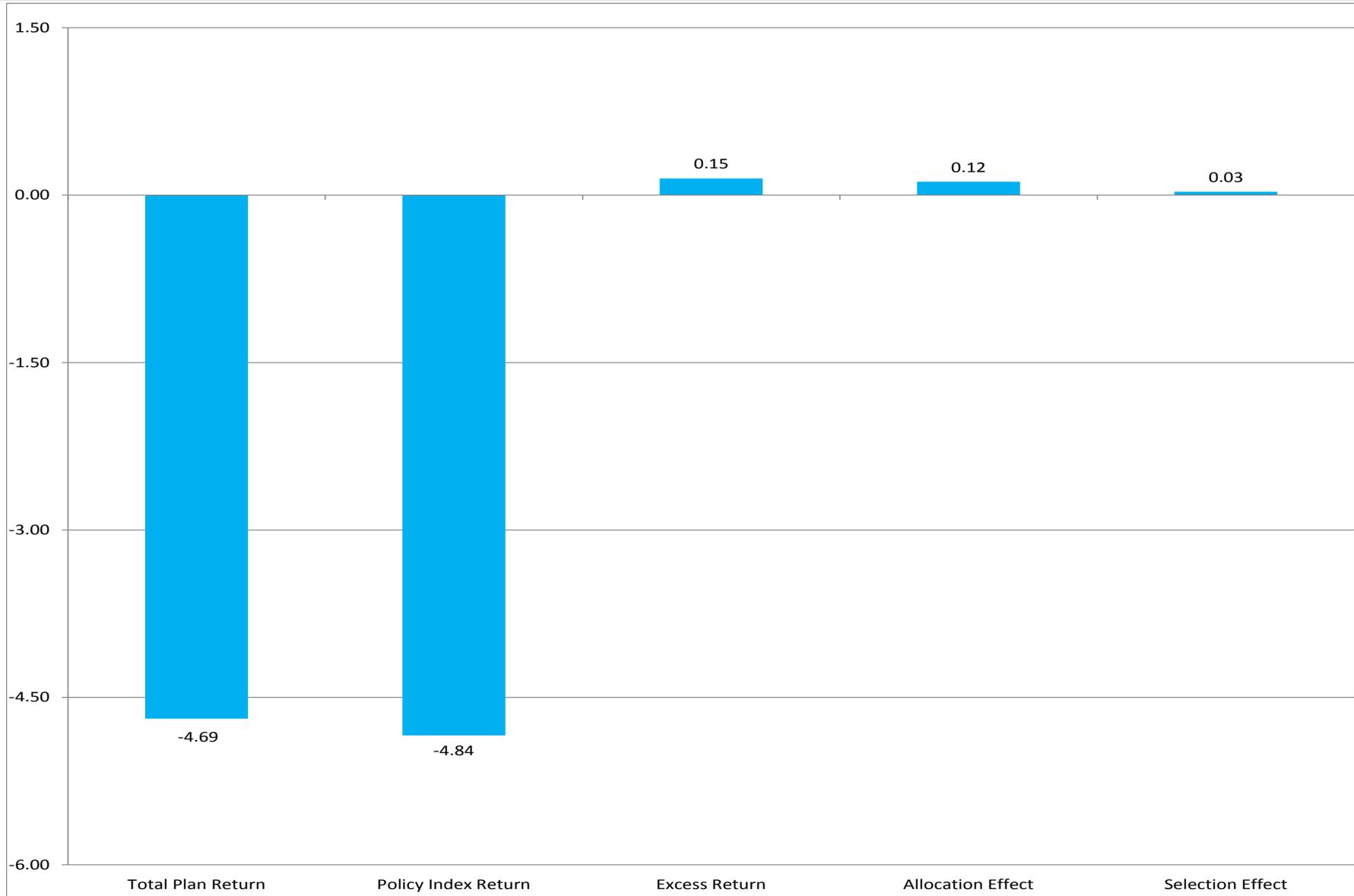


Note: On March 31, 2020 Police's combined Fixed Income and Cash portfolios have a duration of 8.6 years. The duration of the Barclays US Aggregate Index was 5.7 years on that date.

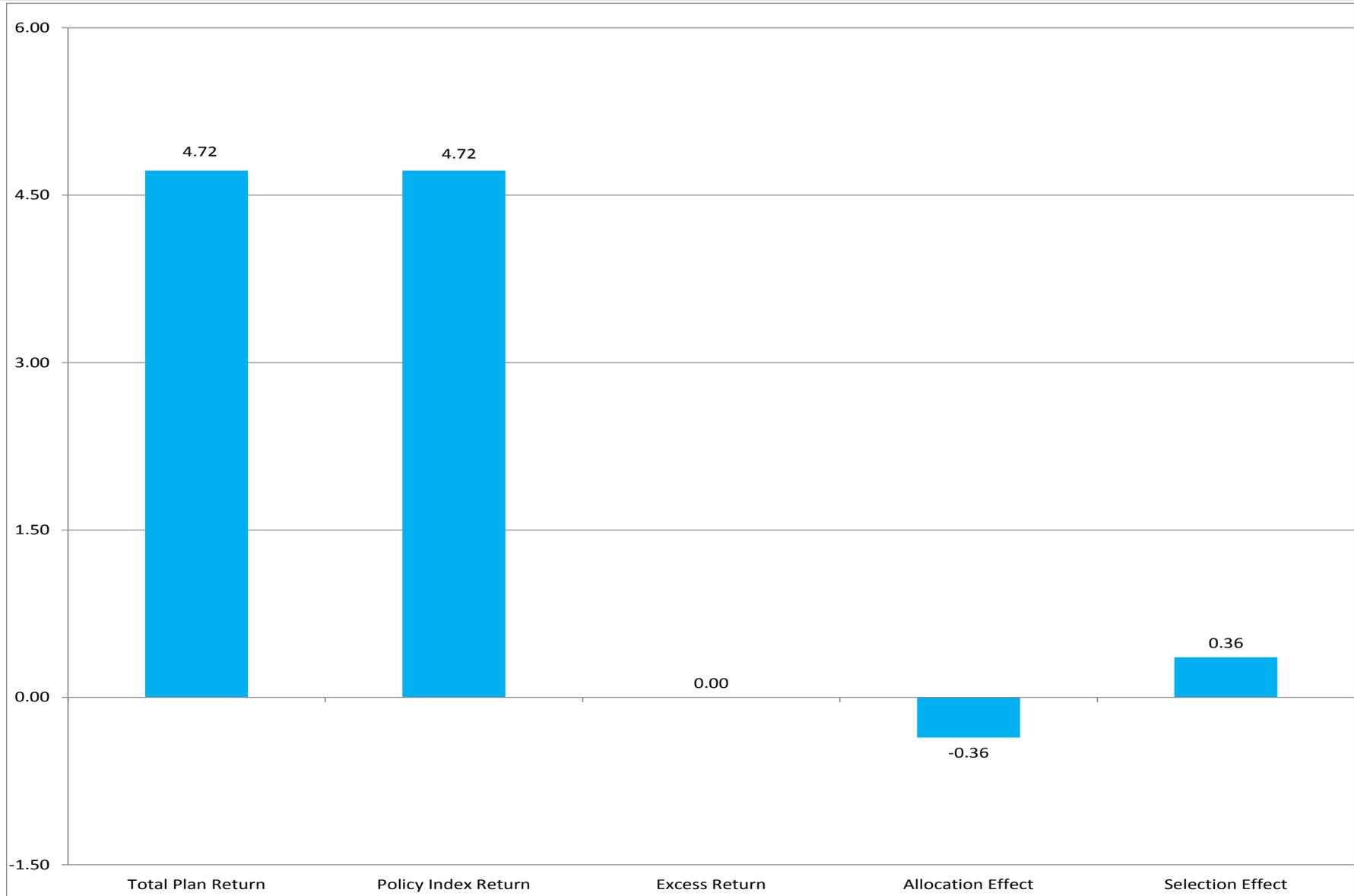
Performance Attribution: Total Plan - Quarter Ending: March 31, 2020



Performance Attribution: Total Plan - Fiscal Year to Date: March 31, 2020



Performance Attribution: Total Plan - 3 Years Ending: March 31, 2020





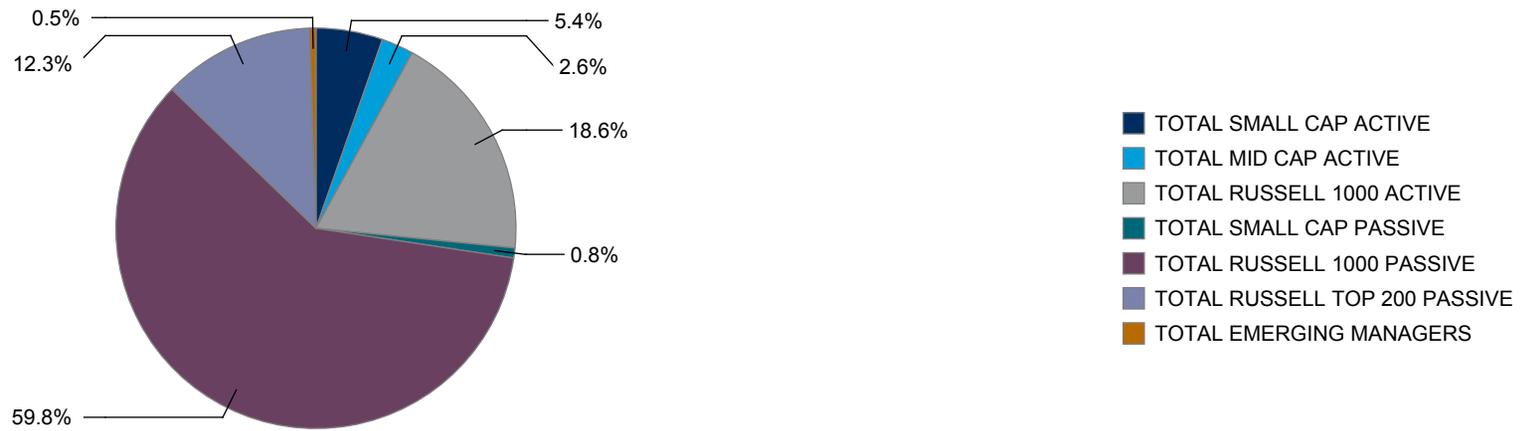
Allocation Effect - Asset Class Breakdown				
	Quarter	FYTD	3 Years	Benchmark
TOTAL POLICE	0.31	0.12	-0.36	Police Policy Benchmark
TOTAL DOMESTIC EQUITY	0.08	0.05	-0.11	RUSSELL 3000
TOTAL WORLD ex-USA	0.02	0.01	-0.01	MSCI World Ex USA IMI Net
TOTAL EMERGING MARKETS	0.04	0.02	0.00	MSCI Emerging Markets
TOTAL INTERNATIONAL FOF	0.00	0.00	0.00	MSCI ACWI Ex US IMI Net
TOTAL HEDGE FUNDS	0.00	-0.02	-0.04	HFRI Fund of Funds Composite Index plus 1%
TOTAL REAL ESTATE SECURITIES				Dow Jones US Select Securities Index
TOTAL PRIVATE EQUITY	-0.09	-0.08	-0.10	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	-0.02	-0.02	-0.02	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	-0.02	-0.01	-0.01	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	-0.01	-0.01	0.00	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.05	0.00	-0.03	FTSE USBIG Treasury 1-3 Y Index
TOTAL US TREASURY INTERMEDIATE	0.00	0.00	-0.04	FTSE USBIG Treasury/Agency 1-10 y
TOTAL ACTIVE GOVERNMENT	1.26	1.04	0.70	NYC - Treasury Agency Plus Five
TOTAL US TREASURY LONG DURATION	-1.17	-1.09	-0.94	FTSE Treasury 10+
TOTAL INVESTMENT GRADE CREDIT	-0.03	-0.02	-0.11	NYC - Investment Grade Credit
TOTAL MORTGAGES	-0.01	0.01	0.03	FTSE MORTGAGE INDEX
TOTAL ETI	0.00	0.00	0.00	ETI Custom Benchmark
TOTAL CORE FI- DEVELOPING MGRS	0.03	0.02	0.00	BBG BARC Agg
TOTAL CORE FI- EMERGING MGRS	0.03	0.02	0.00	BBG BARC Agg
TOTAL HIGH YIELD	0.04	0.09	0.26	High Yield Custom Benchmark
TOTAL BANK LOANS	0.01	0.02	0.04	Credit Suisse Lev Loan Index
TOTAL TIPS MANAGERS	0.05	0.03	0.03	BBG BARC Gbl Inf-Lk: US TIPS (Dly)
TOTAL CONVERTIBLE BONDS	-0.04	-0.03	0.05	ICE BofA All US Conv Ex Mandatory
TOTAL OPPORTUNISTIC FIXED	0.00	0.01	0.00	OFI - JPMGHY / CSFB 50/50 Blend Plus 300
TOTAL CASH	0.10	0.07	-0.04	

Selection Effect - Asset Class Breakdown				
	Quarter	FYTD	3 Years	Benchmark
TOTAL POLICE	0.31	0.03	0.36	Police Policy Benchmark
TOTAL DOMESTIC EQUITY	-0.29	-0.40	-0.59	RUSSELL 3000
TOTAL WORLD ex-USA	0.18	0.23	0.47	MSCI World Ex USA IMI Net
TOTAL EMERGING MARKETS	-0.16	-0.20	-0.20	MSCI Emerging Markets
TOTAL INTERNATIONAL FOF	0.01	0.01	0.02	MSCI ACWI Ex US IMI Net
TOTAL HEDGE FUNDS	0.39	0.23	0.37	HFRI Fund of Funds Composite Index plus 1%
TOTAL REAL ESTATE SECURITIES				Dow Jones US Select Securities Index
TOTAL PRIVATE EQUITY	-0.35	-0.37	-0.33	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	0.01	-0.02	0.06	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	0.04	0.09	0.21	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	0.00	0.03	0.11	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.00	0.00	0.02	FTSE USBIG Treasury 1-3 Y Index
TOTAL US TREASURY INTERMEDIATE	0.00	0.00	0.01	FTSE USBIG Treasury/Agency 1-10 y
TOTAL ACTIVE GOVERNMENT	0.01	0.01	0.01	NYC - Treasury Agency Plus Five
TOTAL US TREASURY LONG DURATION	0.05	0.05	0.04	FTSE Treasury 10+
TOTAL INVESTMENT GRADE CREDIT	-0.04	-0.03	-0.01	NYC - Investment Grade Credit
TOTAL MORTGAGES	-0.02	-0.02	-0.02	FTSE MORTGAGE INDEX
TOTAL ETI	0.01	0.00	0.02	ETI Custom Benchmark
TOTAL CORE FI- DEVELOPING MGRS	0.00	0.00	0.00	BBG BARC Agg
TOTAL CORE FI- EMERGING MGRS	0.00	0.00	0.00	BBG BARC Agg
TOTAL HIGH YIELD	0.02	0.03	-0.01	High Yield Custom Benchmark
TOTAL BANK LOANS	0.03	0.04	0.02	Credit Suisse Lev Loan Index
TOTAL TIPS MANAGERS	0.00	0.00	0.01	BBG BARC Gbl Inf-Lk: US TIPS (Dly)
TOTAL CONVERTIBLE BONDS	-0.01	-0.02	-0.09	ICE BofA All US Conv Ex Mandatory
TOTAL OPPORTUNISTIC FIXED	0.45	0.37	0.21	OFI - JPMGHY / CSFB 50/50 Blend Plus 300
TOTAL CASH	0.01	0.01	0.02	

Total Domestic Equity Asset Allocations: March 31, 2020



	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL DOMESTIC EQUITY	\$10.8	28.5

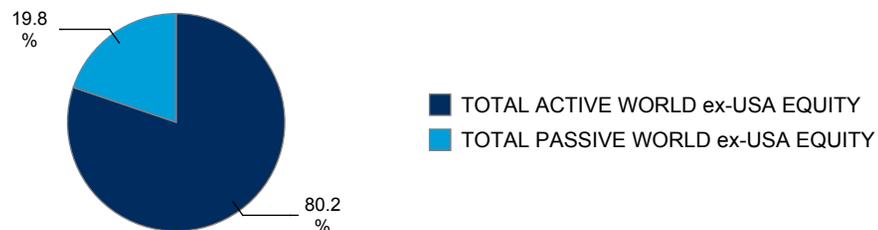


	<u>Policy Weight</u>	<u>Actual Weight</u>	<u>Under/Over Weight</u>	<u>Quarterly Returns</u>		
				<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL ACTIVE SMALL CAP	5.5	5.4	(0.1)	(28.4)	(30.6)	2.2
TOTAL ACTIVE MID CAP	2.5	2.6	0.1	(24.1)	(27.1)	2.9
TOTAL RUSSELL 1000 ACTIVE	18.0	18.6	0.6	(26.4)	(20.2)	(6.2)
TOTAL SMALL CAP PASSIVE	1.0	0.8	(0.1)	(32.1)	(30.6)	(1.5)
TOTAL RUSSELL 1000 PASSIVE	59.1	59.9	0.8	(20.0)	(20.2)	0.2
TOTAL RUSSELL TOP 200 PASSIVE	13.4	12.3	(1.1)	(17.6)	(17.7)	0.1
TOTAL EMERGING MANAGERS	0.6	0.5	(0.1)	(30.5)	(30.6)	0.1

World ex-USA Equity Asset Allocation: March 31, 2020



	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL WORLD ex-USA	\$3.0	7.8

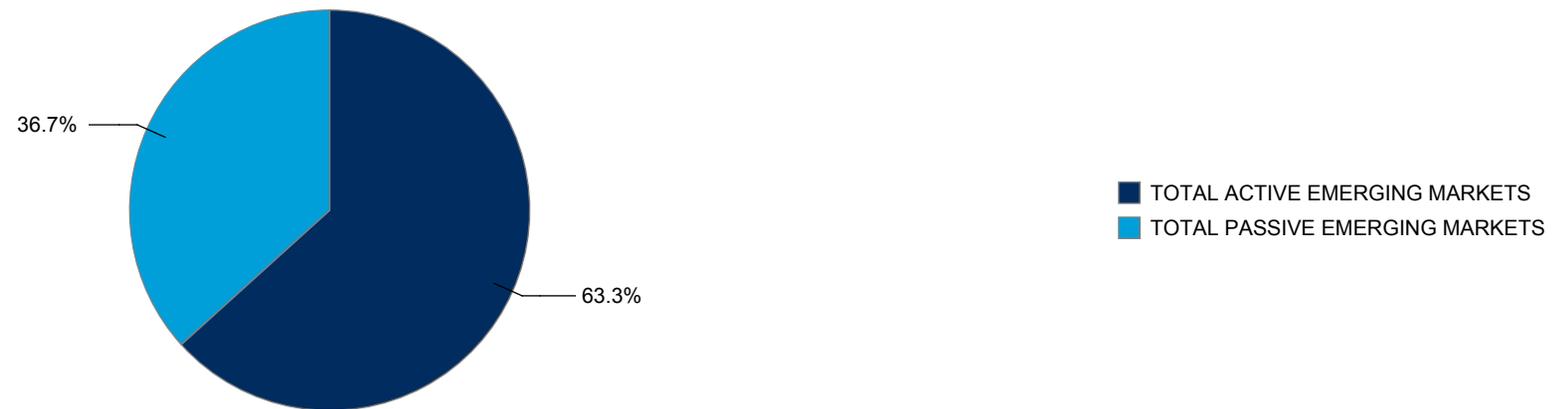


	<u>Asset Weight</u>	<u>Quarterly Returns</u>		
		<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL WORLD ex-USA LARGE & MID ACTIVE	72.43	(20.88)	(23.26)	2.38
TOTAL WORLD ex-USA SMALL CAP ACTIVE	7.74	(24.05)	(27.73)	3.68
TOTAL WORLD ex-USA LARGE & MID CAP PASSIVE	13.50	(23.06)	(23.26)	0.20
TOTAL WORLD ex-USA SMALL CAP PASSIVE	6.32	(28.14)	(28.39)	0.25
TOTAL WORLD ex-USA	100.00	(21.93)	(24.00)	2.07

Emerging Markets Equity Asset Allocation: March 31, 2020



	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL EMERGING MARKETS	\$1.8	4.8

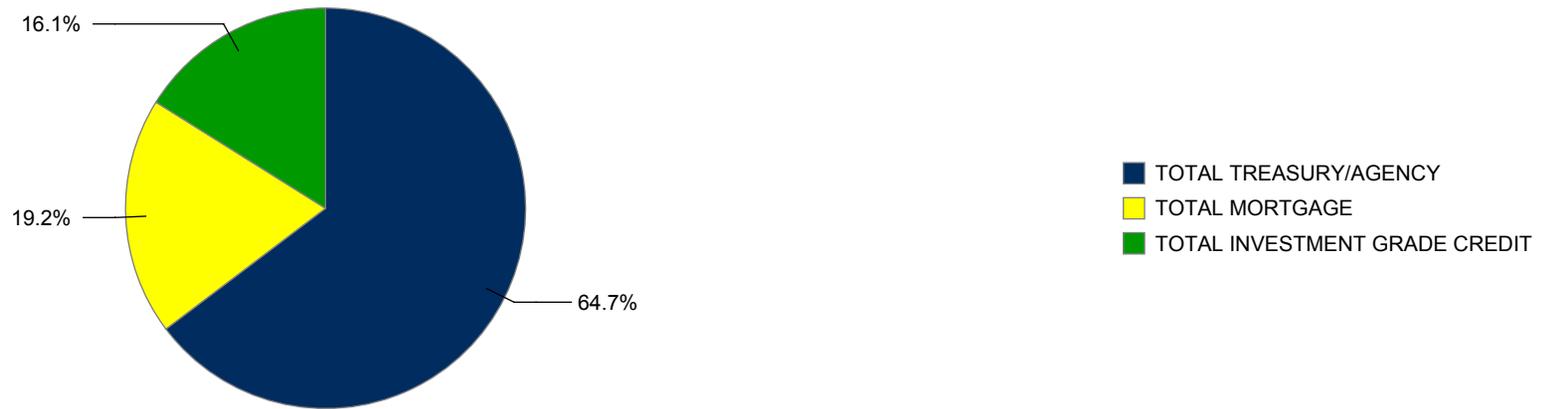


	<u>Asset Weight</u>	<u>Quarterly Returns</u>		
		<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL ACTIVE EMERGING MARKETS	63.32	(27.83)	(23.60)	(4.23)
TOTAL PASSIVE EMERGING MARKETS	36.68	(23.64)	(23.60)	(0.04)
TOTAL EMERGING MARKETS	100.00	(26.35)	(23.60)	(2.75)

Structured Fixed Income Asset Allocation: March 31, 2020



	<u>Market Value (Billions)</u>	<u>% of plan</u>
TOTAL STRUCTURED + ETI	\$7.0	18.5

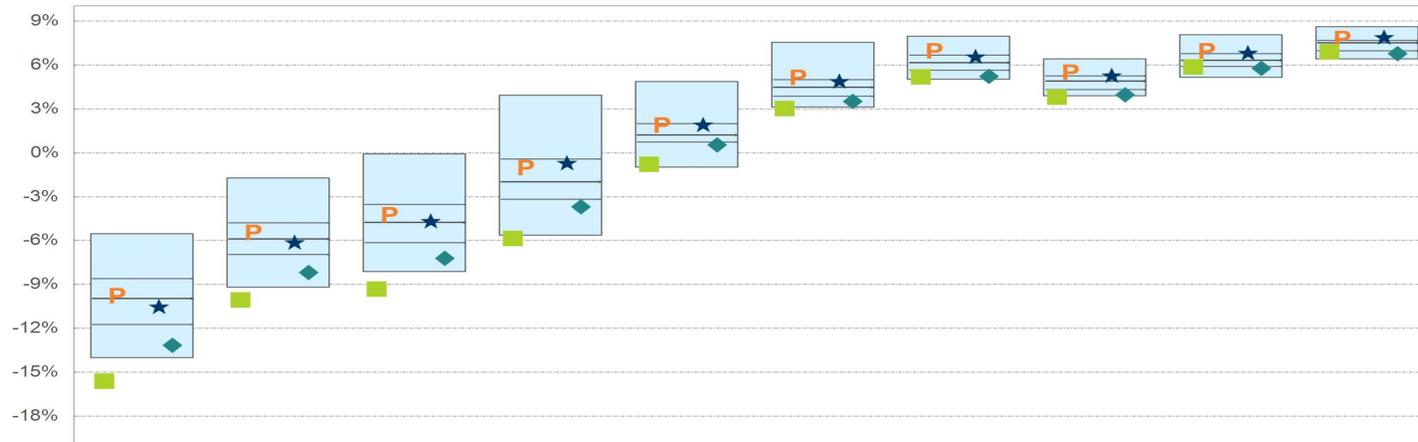


	<u>Policy Weight</u>	<u>Actual Weight</u>	<u>Under/Over Weight</u>	<u>Quarterly Returns</u>		
				<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL TREASURY/AGENCY	61.54	64.69	3.15	16.64	20.62	(3.98)
TOTAL MORTGAGE	19.23	19.18	(0.05)	2.84	3.27	(0.44)
TOTAL INVESTMENT GRADE CREDIT	19.23	16.13	(3.10)	(4.59)	(3.01)	(1.58)



City of New York Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$10 Billion
Cumulative Periods Ending : March 31, 2020

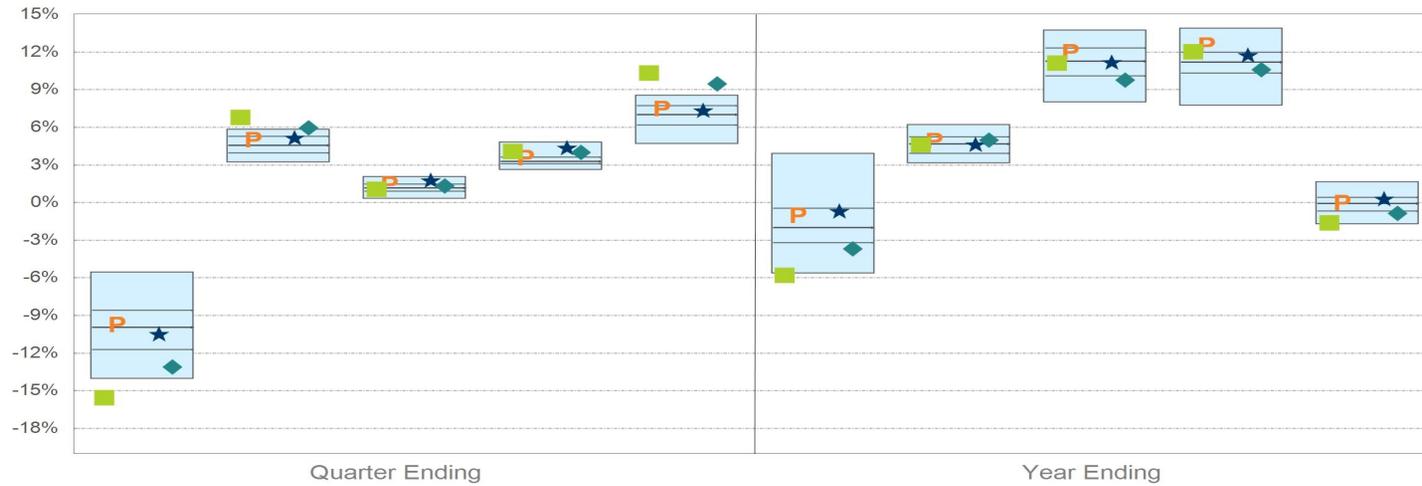


Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	-5.54	-1.73	-0.06	3.93	4.85	7.53	7.96	6.40	8.07	8.60
25th	-8.60	-4.78	-3.54	-0.44	1.99	5.00	6.68	5.24	6.77	7.69
50th	-9.95	-5.88	-4.76	-1.98	1.23	4.47	6.15	4.90	6.33	7.51
75th	-11.72	-6.94	-6.14	-3.19	0.72	3.85	5.64	4.33	5.89	6.95
95th	-14.00	-9.18	-8.12	-5.62	-0.97	3.13	5.03	3.89	5.14	6.43
No. Of Obs	48	47	46	45	45	45	45	45	45	42
P Total System - Police	-9.95 (50)	-5.62 (39)	-4.44 (40)	-1.22 (40)	1.71 (36)	4.97 (31)	6.76 (19)	5.33 (23)	6.77 (25)	7.62 (35)
★ Police Policy Benchmark	-10.70 (60)	-6.30 (56)	-4.84 (50)	-0.89 (29)	1.73 (31)	4.72 (43)	6.39 (36)	5.09 (34)	6.63 (31)	7.70 (22)
■ Public Mkt Equiv 25	-15.79 (100)	-10.26 (100)	-9.50 (100)	-6.04 (100)	-0.98 (96)	2.83 (96)	5.00 (96)	3.60 (100)	5.68 (79)	6.72 (79)
◆ Public Mkt Equiv 35	-13.35 (90)	-8.39 (88)	-7.39 (85)	-3.90 (84)	0.33 (77)	3.31 (91)	5.03 (96)	3.78 (96)	5.57 (87)	6.58 (82)



City of New York Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$10 Billion
Consecutive Time Periods: March 31, 2020



Percentile Rankings	Mar 20	Dec 19	Sep 19	Jun 19	Mar 19	Mar 20	Mar 19	Mar 18	Mar 17	Mar 16
5th	-5.54	5.86	2.06	4.82	8.55	3.93	6.21	13.77	13.90	1.65
25th	-8.60	5.28	1.46	3.61	7.71	-0.44	5.23	12.33	12.00	0.41
50th	-9.95	4.57	1.18	3.28	7.01	-1.98	4.66	11.28	11.21	-0.06
75th	-11.72	3.97	0.91	3.09	6.19	-3.19	3.91	10.09	10.31	-0.69
95th	-14.00	3.24	0.36	2.66	4.70	-5.62	3.17	8.03	7.75	-1.68
No. Of Obs	48	47	47	47	48	45	48	48	48	48
P Total System - Police	-9.95 (50)	4.80 (41)	1.25 (37)	3.37 (45)	7.28 (39)	-1.22 (40)	4.72 (45)	11.81 (35)	12.33 (13)	-0.22 (58)
★ Police Policy Benchmark	-10.70 (60)	4.93 (35)	1.56 (17)	4.14 (7)	7.12 (41)	-0.89 (29)	4.42 (60)	10.98 (54)	11.53 (45)	0.07 (45)
■ Public Mkt Equiv 25	-15.79 (100)	6.57 (1)	0.84 (83)	3.83 (13)	10.10 (1)	-6.04 (100)	4.36 (62)	10.89 (56)	11.78 (37)	-1.83 (99)
◆ Public Mkt Equiv 35	-13.35 (90)	5.72 (9)	1.09 (63)	3.77 (15)	9.22 (1)	-3.90 (84)	4.74 (43)	9.55 (81)	10.36 (72)	-1.08 (79)

**POLICE RETIREMENT SYSTEM
INVESTMENT FEES INCURRED FOR FISCAL YEAR ENDED JUNE 30, 2019**

INVESTMENT STYLE (EQUITIES)	Avg. Market Value FY 2019 (\$MM)	Base Mgr. Fees (\$M)	Partnership Expenses (\$M)	Base Mgr. Fees & Partnership	Performance / Carry Fees in (\$M)	Performance / Carry Fees in BPS	Total Net All Investment Mgr. Expenses in (\$M)	Total Net All in BPS
Total US Equities	12,600.62	9,048.52	-	7.18	1,999.34	1.59	11,047.86	8.77
Small Cap Active:								
Small Cap Growth	803.38	4,544.31	-	56.56	-	-	4,544.31	56.56
Small Cap Value	209.02	2,071.27	-	99.09	-	-	2,071.27	99.09
Small Cap Core	291.22	1,608.70	-	55.24	-	-	1,608.70	55.24
Small Cap Fundamental Index	157.53	552.45	-	35.07	-	-	552.45	35.07
	145.60	311.90	-	21.42	-	-	311.90	21.42
Mid Cap Active:								
Mid Cap Growth	566.20	2,370.55	-	41.87	1,999.34	35.31	4,369.89	-
Mid Cap Value	-	-	-	-	-	-	-	-
Mid Cap Core	244.87	1,412.74	-	57.69	-	-	1,412.74	57.69
	321.33	957.82	-	29.81	1,999.34	62.22	2,957.15	92.03
Russell 1000 Fundamental	1,896.61	1,546.01	-	8.15	-	-	1,546.01	8.15
Legato (Emerging Manager- Equity)	69.82	347.20	-	49.73	-	-	347.20	49.73
U.S. Environmental Managers	-	-	-	-	-	-	-	-
Total US Active Equities	3,336.00	8,808.07	-	26.40	1,999.34	5.99	10,807.41	32.40
Small Cap Passive:								
Small Cap Passive	97.89	4.13	-	0.42	-	-	4.13	0.42
Mid Cap Passive:								
Mid Cap Passive	-	-	-	-	-	-	-	-
Russell / S&P Passive:								
Russell 1000 Growth Passive	-	-	-	-	-	-	-	-
Russell 1000 Value Passive	-	-	-	-	-	-	-	-
Russell 1000 Core Passive	7,592.25	150.52	-	0.20	-	-	150.52	0.20
Passive Russell 3000	-	-	-	-	-	-	-	-
Passive S&P 500	-	-	-	-	-	-	-	-
Passive Russell Top 200	1,574.48	85.80	-	0.54	-	-	85.80	0.54
Total US Passive Equities	9,264.62	240.45	-	0.26	-	-	240.45	0.26

**POLICE RETIREMENT SYSTEM
INVESTMENT FEES INCURRED FOR FISCAL YEAR ENDED JUNE 30, 2019**

	Avg. Market Value FY 2019 (\$MM)	Base Mgr. Fees (\$M)	Partnership Expenses (\$M)	Base Mgr. Fees & Partnership	Performance / Carry Fees in (\$M)	Performance / Carry Fees in BPS	Total Net All Investment Mgr. Expenses in (\$M)	Total Net All in BPS
Total International Equities	6,099.91	15,861.89	-	26.00	-	-	15,861.89	26.00
Global Equity	-	-	-	-	-	-	-	-
Active Total Global Equities	-	-	-	-	-	-	-	-
Active Total World Ex USA:	2,811.67	8,296.24	-	29.51	-	-	8,296.24	29.51
World Ex-USA Large & Mid Active	2,390.53	6,624.96	-	27.71	-	-	6,624.96	27.71
World Ex-USA Small Cap Active	420.81	1,671.28	-	39.72	-	-	1,671.28	39.72
Total World Ex USA	0.33	-	-	-	-	-	-	-
Total Progress Intl.	-	-	-	-	-	-	-	-
NON-U.S. Activist	-	-	-	-	-	-	-	-
NON-U.S. Environmental Managers	-	-	-	-	-	-	-	-
Active Emerging Markets	1,531.08	6,079.50	-	39.71	-	-	6,079.50	39.71
International Fund of Funds	237.87	1,012.92	-	42.58	-	-	1,012.92	42.58
Total Active International Equities	4,580.61	15,388.67	-	33.60	-	-	15,388.67	33.60
Int'l Passive Equities:								
World Ex-USA Small Cap Passive	108.41	53.96	-	4.98	-	-	53.96	4.98
World Ex-USA Large & Mid Cap Passive	586.88	67.72	-	1.15	-	-	67.72	1.15
Passive Global	-	-	-	-	-	-	-	-
Passive Emerging Markets	824.01	225.29	-	2.73	-	-	225.29	2.73
Total Int'l Passive Equities	1,519.30	346.98	-	2.28	-	-	346.98	2.28
REITS Active Equities	-	-	-	-	-	-	-	-
Total Equities	18,700.53	24,910.42	-	13.32	1,999.34	1.07	26,909.75	14.39

**POLICE RETIREMENT SYSTEM
INVESTMENT FEES INCURRED FOR FISCAL YEAR ENDED JUNE 30, 2019**

	Avg. Market Value FY 2019 (\$MM)	Base Mgr. Fees (\$M)	Partnership Expenses (\$M)	Base Mgr. Fees & Partnership	Performance / Carry Fees in (\$M)	Performance / Carry Fees in BPS	Total Net All Investment Mgr. Expenses in (\$M)	Total Net All in BPS
INVESTMENT STYLE (FIXED INCOME)								
Total Fixed Income	13,662.99	14,829.34	-	10.85	7.50	0.01	14,836.83	10.86
Structured Program:	6,741.13	2,608.25	-	3.87	7.50	0.01	2,615.75	3.88
Government Treas/Agency Sector	3,286.99	870.63	-	2.65	7.50	0.02	878.13	2.67
Long Duration Treasury	1,395.05	138.47	-	0.99	-	-	138.47	0.99
Mortgage Sector	854.88	386.65	-	4.52	-	-	386.65	4.52
Investment Grade Credit Sector	1,204.21	1,212.50	-	10.07	-	-	1,212.50	10.07
Developing Managers	74.83	148.43	-	19.84	-	-	148.43	19.84
Emerging Managers	80.26	273.50	-	34.07	-	-	273.50	34.07
TIPS:	2,481.70	307.20	-	1.24	-	-	307.20	1.24
Active TIPS Managers	438.86	241.84	-	5.51	-	-	241.84	5.51
Passive TIPS Managers	2,042.84	65.37	-	0.32	-	-	65.37	0.32
High Yield	1,981.41	6,037.32	-	30.47	-	-	6,037.32	30.47
Bank Loans	755.12	1,887.11	-	24.99	-	-	1,887.11	24.99
Convertible Bonds	750.49	2,792.99	-	37.22	-	-	2,792.99	37.22
ETI - Access - RBC	84.45	154.61	-	18.31	-	-	154.61	18.31
ETI - AFL-CIO HIT	159.78	619.94	-	38.80	-	-	619.94	38.80
Other ETI Programs	157.17	-	-	-	-	-	-	-
Short Term (Internal)	396.65	-	-	-	-	-	-	-
Total Public Markets	32,363.51	39,739.75	-	12.28	2,006.84	0.62	41,746.59	12.90

**POLICE RETIREMENT SYSTEM
INVESTMENT FEES INCURRED FOR FISCAL YEAR ENDED JUNE 30, 2019**

INVESTMENT STYLE (PRIVATE MARKETS)	Avg. Market Value FY 2019 (\$MM)	Base Mgr. Fees (\$M)	Partnership Expenses (\$M)	Base Mgr. Fees & Partnership	Performance / Carry Fees in (\$M)	Performance / Carry Fees in BPS	Total Net All Investment Mgr. Expenses in (\$M)	Total Net All in BPS
Hedge Funds	2,766.45	21,192.75	1,024.64	80.31	9,944.04	35.95	32,161.44	116.26
Private Equity	2,532.50	34,622.41	8,835.30	171.60	53,208.38	210.10	96,666.09	381.70
Private Real Estate	1,920.00	18,580.45	8,064.54	138.78	17,716.21	92.27	44,361.19	231.05
Infrastructure	357.08	6,564.07	1,514.34	93.51	1,446.18	40.50	9,524.59	110.25
Opportunistic Fixed Income	1,237.69	11,492.57	4,797.18	131.61	2,008.81	16.23	18,298.56	147.84
Total Private Markets	8,813.71	92,452.24	24,236.01	132.39	84,323.61	95.67	201,011.86	228.07
Total Overall	41,177.23	132,192.00	24,236.01	37.99	86,330.45	20.97	242,758.45	58.95

The overall carried interest and incentive fees paid by POLICE in Fiscal Year : 20.97 BPS

General Footnotes:

- 1) Private Markets expense data is restricted to the partnerships that have provided expense templates. In the event where there is no expense data, financial statements are prorated for each of the participants of the LP and/or adjusted for cash flows as reported by our custodian bank for carried interest realized.
- 2) Infrastructure's expense data is based off the total committed amounts rather than current market value due to its early fund life juncture.

**NYC POLICE DEPARTMENT PENSION FUND
SECURITIES LENDING INCOME
March 31, 2020**

	U. S. FIXED INCOME	U. S. EQUITY	INTERNATIONAL EQUITY	TOTAL
1989	254,000	-	-	254,000
1990	288,000	-	-	288,000
1991	464,000	0	-	464,000
1992	996,000	138,000	126,000	1,260,000
1993	1,852,000	434,000	203,000	2,489,000
1994	1,846,000	815,000	317,000	2,978,000
1995	1,465,000	888,000	224,000	2,577,000
1996	1,465,000	1,051,000	379,000	2,895,000
1997	1,632,000	1,793,000	599,000	4,024,000
1998	2,770,000	2,517,000	1,006,000	6,293,000
1999	2,681,000	2,713,000	1,184,000	6,578,000
2000	2,697,000	2,899,000	1,520,000	7,116,000
2001	3,947,000	3,595,000	1,980,000	9,522,000
2002	2,646,000	3,401,000	1,725,000	7,772,000
2003	1,238,000	2,257,000	1,859,000	5,354,000
2004	1,515,000	2,306,000	2,097,000	5,918,000
2005	2,333,000	3,172,000	2,503,000	8,008,000
2006	2,104,000	5,043,000	2,243,000	9,390,000
2007	4,582,000	8,425,000	2,727,000	15,734,000
2008	13,856,000	16,383,000	3,872,000	34,111,000
2009	5,163,000	9,110,000	2,695,000	16,968,000
2010	2,405,000	5,813,000	1,979,000	10,197,000
2011	3,060,000	8,287,000	3,253,000	14,600,000
2012	4,213,000	10,047,000	2,545,000	16,805,000
2013	2,980,000	11,363,000	2,255,000	16,598,000
2014	3,478,000	6,803,000	5,786,000	16,067,000
2015	3,692,000	7,281,000	7,489,000	18,462,000
2016	4,070,000	11,406,000	6,506,000	21,982,000
2017	5,912,000	8,631,000	4,480,000	19,023,000
2018	7,031,949	6,808,922	3,412,832	17,253,704
2019	4,489,228	5,671,849	2,523,145	12,684,222
2020 (3 months)	1,258,235	849,232	437,798	2,545,265
Since Inception	<u>98,383,412</u>	<u>149,901,004</u>	<u>67,925,775</u>	<u>316,210,191</u>

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

Appendix A

Consolidated Performance Report

Consolidated Performance Report

Through March 31, 2020



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2019	2019	2018	2017	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
EQUITY RETURN DETAIL																
56	POLICE-TOTAL SMALL CAP PASSIVE - GROSS	90	0.24	(32.13)	(27.73)	(32.13)	(0.65)	28.07	(9.65)	16.88	(25.76)	(3.84)	0.01	2.86	10/01/2013	
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			
	POLICE-TOTAL SMALL CAP PASSIVE - NET MGR			(32.13)	(27.73)	(32.13)	(0.65)	28.06	(9.66)	16.87	(25.76)	(3.85)	0.01			
	RUSSELL 2000 (DAILY)			(30.61)	(25.55)	(30.61)	(3.31)	25.52	(11.01)	14.65	(23.99)	(4.64)	(0.25)	2.51		
	EXCESS RETURN			(1.51)	(2.18)	(1.51)	2.66	2.54	1.36	2.22	(1.77)	0.79	0.26	0.35		
66	POLICE-TOTAL MIDCAP - GROSS	277	0.73	(24.08)	(19.70)	(24.08)	1.69	30.17	(14.95)	23.25	(17.67)	(0.93)	2.05	8.84	6.66	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.06)	(0.18)	(0.06)	(0.85)	(1.01)	(0.36)	(0.45)	(0.62)	(0.52)	(0.47)			
	POLICE-TOTAL MIDCAP - NET MGR			(24.14)	(19.88)	(24.14)	0.84	29.16	(15.30)	22.80	(18.29)	(1.45)	1.58			
	RUSSELL MIDCAP (DAILY)			(27.07)	(21.54)	(27.07)	7.83	30.54	(9.06)	18.52	(18.31)	(0.81)	1.85	8.77	7.64	
	EXCESS RETURN			2.93	1.66	2.93	(6.99)	(1.38)	(6.25)	4.28	0.02	(0.64)	(0.27)	0.07	(0.98)	
86	POLICE-TOTAL RUSSELL 1000 ACTIVE - GROSS	2,015	5.30	(26.40)	(19.63)	(26.40)	4.53	23.96	(6.85)	17.41	(18.32)	(1.29)	2.16	8.41	6.50	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.03)	(0.06)	(0.03)	(0.12)	(0.11)	(0.11)	(0.18)	(0.08)	(0.11)	(0.12)			
	POLICE-TOTAL RUSSELL 1000 ACTIVE - NET MGR			(26.43)	(19.69)	(26.43)	4.42	23.84	(6.96)	17.23	(18.40)	(1.40)	2.05			
	RUSSELL 1000 (DAILY)			(20.22)	(11.77)	(20.22)	10.02	31.43	(4.78)	21.69	(8.03)	4.64	6.22	10.39	7.60	
	EXCESS RETURN			(6.21)	(7.92)	(6.21)	(5.60)	(7.58)	(2.17)	(4.46)	(10.38)	(6.04)	(4.18)	(1.99)	(1.10)	
96	POLICE-TOTAL RUSSELL 1000 PASSIVE - GROSS	6,494	17.07	(20.02)	(11.57)	(20.02)	10.24	31.48		(7.73)				0.57	04/01/2018	
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		(0.00)				(0.00)		
	POLICE-TOTAL RUSSELL 1000 PASSIVE - NET MGR			(20.02)	(11.57)	(20.02)	10.24	31.48		(7.74)				0.57		
	RUSSELL 1000 (DAILY)			(20.22)	(11.77)	(20.22)	10.02	31.43		(8.03)				0.26		
	EXCESS RETURN			0.20	0.20	0.20	0.22	0.05		0.29				0.31		
106	POLICE-TOTAL RUSSELL TOP 200 PASSIVE - GROSS	1,332	3.50	(17.63)	(7.98)	(17.63)	10.97	31.75		(3.99)				2.83	05/01/2018	
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.01)	(0.00)		(0.01)				(0.01)		
	POLICE-TOTAL RUSSELL TOP 200 PASSIVE - NET MGR			(17.63)	(7.98)	(17.63)	10.97	31.74		(3.99)				2.82		
	RUSSELL TOP 200 INDEX (DAILY)			(17.70)	(8.03)	(17.70)	10.89	31.75		(4.08)				2.76		
	EXCESS RETURN			0.06	0.05	0.06	0.08	(0.01)		0.09				0.06		
116	POLICE-TOTAL FUND OF FUNDS - GROSS	52	0.14	(30.46)	(26.26)	(30.46)	0.44	23.95	(7.81)		(24.70)			(5.09)	05/01/2017	
	ESTIMATED INVESTMENT FEES			(0.09)	(0.28)	(0.09)	(0.50)	(0.62)	(0.46)		(0.37)			(0.48)		
	POLICE-TOTAL FUND OF FUNDS - NET MGR			(30.55)	(26.53)	(30.55)	(0.06)	23.33	(8.27)		(25.08)			(5.58)		
	RUSSELL 2000 (DAILY)			(30.61)	(25.55)	(30.61)	(3.31)	25.52	(11.01)		(23.99)			(5.12)		
	EXCESS RETURN			0.07	(0.98)	0.07	3.25	(2.19)	2.74		(1.09)			(0.45)		

Consolidated Performance Report

Through March 31, 2020



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2019	2019	2018	2017	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
EQUITY RETURN DETAIL																
128	POLICE-TOTAL WORLD ex-USA - GROSS	2,967	7.80	(21.88)	(15.41)	(21.88)	0.23	25.50	(14.42)	31.18	(12.52)	0.39	1.82	4.15	4.76	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.04)	(0.15)	(0.04)	(0.25)	(0.30)	(0.21)	(0.36)	(0.21)	(0.25)	(0.27)			
	EST MANAGEMENT FEES			(0.04)	(0.15)	(0.04)	(0.25)	(0.30)	(0.21)	(0.36)	(0.21)	(0.25)	(0.27)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL WORLD ex-USA - NET MGR			(21.93)	(15.56)	(21.93)	(0.02)	25.20	(14.63)	30.82	(12.73)	0.14	1.55			
	WORLD EX-USA CUSTOM BM			(24.00)	(18.34)	(24.00)	0.16	22.91	(14.68)	26.40	(15.48)	(2.10)	(0.49)	2.93	3.97	
	EXCESS RETURN			2.07	2.78	2.07	(0.18)	2.30	0.05	4.42	2.75	2.24	2.05	1.22	0.79	
138	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID ACTIVE - GROSS	2,149	5.65	(20.83)	(14.22)	(20.83)	1.31	26.54	(13.50)	31.96	(11.24)	1.61	2.17	1.95	11/01/2013	
	ESTIMATED INVESTMENT FEES			(0.06)	(0.18)	(0.06)	(0.28)	(0.35)	(0.24)	(0.35)	(0.25)	(0.28)	(0.28)	(0.28)		
	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID ACTIVE - NET MGR			(20.88)	(14.40)	(20.88)	1.03	26.19	(13.74)	31.61	(11.49)	1.33	1.88	1.67		
	NYC CUSTOM WORLD EX-USA LG & MID ACT INDEX			(23.26)	(18.00)	(23.26)	1.29	22.49	(14.09)	25.18	(14.89)	(1.95)	(0.70)	(0.24)		
	EXCESS RETURN			2.38	3.60	2.38	(0.26)	3.70	0.35	6.42	3.41	3.28	2.58	1.90		
148	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP ACTIVE - GROSS	230	0.60	(24.00)	(17.35)	(24.00)	(6.36)	22.73	(18.37)	35.53	(15.15)	(1.80)	2.30	3.88	05/01/2013	
	ESTIMATED INVESTMENT FEES			(0.04)	(0.23)	(0.04)	(0.45)	(0.55)	(0.40)	(0.62)	(0.34)	(0.44)	(0.48)			
	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP ACTIVE - NET MGR			(24.05)	(17.58)	(24.05)	(6.81)	22.18	(18.76)	34.90	(15.49)	(2.24)	1.82			
	S&P EPAC SMALL CAP USD NET			(27.73)	(20.55)	(27.73)	(6.38)	23.71	(18.58)	33.47	(18.67)	(3.48)	0.27	2.49		
	EXCESS RETURN			3.68	2.97	3.68	(0.44)	(1.53)	(0.18)	1.44	3.18	1.24	1.56	1.39		
158	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP PASSIVE - GROSS	187	0.49	(28.13)	(20.02)	(28.13)	(5.95)	25.70	(17.95)	33.51	(18.46)	(2.87)	1.12	1.32	02/01/2014	
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.08)	(0.02)	(0.04)	(0.03)	(0.03)		
	POLICE-TOTAL TOTAL WORLD ex-USA SMALL CAP PASSIVE - NET MGR			(28.14)	(20.04)	(28.14)	(5.98)	25.67	(17.97)	33.44	(18.49)	(2.90)	1.09	1.29		
	WORLD EX USA SC PASSIVE CUSTOM BM			(28.39)	(20.44)	(28.39)	(6.17)	25.41	(18.07)	33.31	(19.04)	(3.15)	0.80	0.96		
	EXCESS RETURN			0.25	0.40	0.25	0.19	0.26	0.10	0.12	0.55	0.24	0.29	0.33		
168	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID CAP PASSIVE - GROSS	400	1.05	(23.05)	(17.75)	(23.05)	1.44	22.76	(14.04)	24.59	(14.49)	(1.81)	(0.59)	2.12	02/01/2011	
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)			
	POLICE-TOTAL TOTAL WORLD ex-USA LARGE & MID CAP PASSIVE - NET MGR			(23.06)	(17.76)	(23.06)	1.43	22.75	(14.05)	24.58	(14.49)	(1.81)	(0.60)			
	NYC CUSTOM WORLD EX US INDEX			(23.26)	(18.00)	(23.26)	1.29	22.49	(14.09)	24.12	(14.89)	(2.07)	(0.87)	1.83		
	EXCESS RETURN			0.20	0.24	0.20	0.14	0.26	0.04	0.47	0.40	0.26	0.27	0.29		

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2019	2019	2018	2017	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
EQUITY RETURN DETAIL																
180	POLICE-EMERGING MARKETS - GROSS	1,833	4.82	(26.29)	(21.70)	(26.29)	2.40	18.09	(14.52)	38.77	(20.67)	(2.92)	(0.60)	0.63	5.83	11/01/1996
	ESTIMATED INVESTMENT FEES			(0.05)	(0.16)	(0.05)	(0.27)	(0.32)	(0.22)	(0.42)	(0.22)	(0.27)	(0.28)			
	POLICE-EMERGING MARKETS - NET MGR			(26.35)	(21.86)	(26.35)	2.12	17.77	(14.74)	38.36	(20.89)	(3.19)	(0.88)			
	MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	1.21	18.42	(14.57)	37.28	(17.69)	(1.62)	(0.37)	0.68		
	EXCESS RETURN			(2.75)	(3.68)	(2.75)	0.92	(0.65)	(0.17)	1.07	(3.20)	(1.57)	(0.52)	(0.06)		
190	POLICE-EMERGING MARKETS ACTIVE - GROSS	1,161	3.05	(27.75)	(23.56)	(27.75)	2.97	17.78	(14.52)	39.79	(22.32)	(3.66)	(0.68)	0.59	6.38	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.08)	(0.24)	(0.08)	(0.41)	(0.47)	(0.34)	(0.61)	(0.32)	(0.39)	(0.43)			
	POLICE-EMERGING MARKETS ACTIVE - NET MGR			(27.83)	(23.80)	(27.83)	2.56	17.32	(14.86)	39.18	(22.63)	(4.05)	(1.11)			
	MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	1.21	18.42	(14.57)	37.28	(17.69)	(1.62)	(0.37)	0.68	6.11	
	EXCESS RETURN			(4.23)	(5.61)	(4.23)	1.36	(1.11)	(0.29)	1.89	(4.95)	(2.43)	(0.74)	(0.09)	0.26	
200	POLICE-EMERGING MARKETS PASSIVE - GROSS	672	1.77	(23.63)	(18.15)	(23.63)	1.44	18.79	(14.46)	37.41	(17.57)	(1.53)	(0.25)	(1.05)	04/01/2011	
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.00)	(0.02)	(0.03)	0.00	(0.15)	(0.02)	(0.04)	(0.05)			
	POLICE-EMERGING MARKETS PASSIVE - NET MGR			(23.64)	(18.16)	(23.64)	1.42	18.76	(14.45)	37.26	(17.59)	(1.57)	(0.30)			
	MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	1.21	18.42	(14.57)	37.28	(17.69)	(1.62)	(0.37)	(1.12)		
	EXCESS RETURN			(0.04)	0.02	(0.04)	0.21	0.34	0.11	(0.02)	0.10	0.05	0.07	0.07		
210	POLICE-TOTAL INTERNATIONAL FUND OF FUND - GROSS	206	0.54	(22.39)	(16.25)	(22.39)	0.60	25.71	(14.63)		(12.44)			(1.03)	05/01/2017	
	ESTIMATED INVESTMENT FEES			(0.09)	(0.31)	(0.09)	(0.48)	(0.62)	(0.42)		(0.43)			(0.48)		
	POLICE-TOTAL INTERNATIONAL FUND OF FUND - NET MGR			(22.48)	(16.56)	(22.48)	0.12	25.10	(15.05)		(12.87)			(1.51)		
	MSCI ACWI EX USA IMI NET			(24.11)	(18.55)	(24.11)	0.26	21.63	(14.76)		(16.32)			(3.15)		
	EXCESS RETURN			1.63	1.99	1.63	(0.14)	3.47	(0.29)		3.45			1.64		

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ALTERNATIVE EQUITY RETURN DETAIL															
228	POLICE-TOTAL HEDGE FUNDS* - NET MGR	2,695	7.09	4.43	3.98	4.43	4.54	5.49	2.12	9.66	8.21	6.20	3.88	4.24	07/01/2011
	HFRI FUND OF FUNDS COMPOSITE INDEX + 1%			(8.55)	(6.16)	(8.55)	2.16	9.47	(3.06)	8.84	(4.53)	0.96	1.01	2.56	
	EXCESS RETURN			12.98	10.14	12.98	2.38	(3.98)	5.17	0.82	12.73	5.24	2.88	1.68	
238	POLICE-TOTAL DIRECT HEDGE FUNDS* - NET MGR	2,609	6.86	5.11	4.49	5.11	4.80	5.46	2.31	10.38	8.88	6.62	4.17	5.24	01/01/2012
	HFRI FUND OF FUNDS COMPOSITE INDEX + 1%			(8.55)	(6.16)	(8.55)	2.16	9.47	(3.06)	8.84	(4.53)	0.96	1.01	3.36	
	EXCESS RETURN			13.66	10.65	13.66	2.64	(4.01)	5.36	1.54	13.41	5.66	3.17	1.88	
248	POLICE-TOTAL PERMAL HEDGE FUNDS* - NET MGR	87	0.23	(12.40)	(10.20)	(12.40)	0.06	5.97	(0.71)	2.18	(8.71)	(2.07)	(1.41)	0.79	07/01/2011
	HFRI FUND OF FUNDS COMPOSITE INDEX + 1%			(8.55)	(6.16)	(8.55)	2.16	9.47	(3.06)	8.84	(4.53)	0.96	1.01	2.56	
	EXCESS RETURN			(3.85)	(4.04)	(3.85)	(2.10)	(3.49)	2.35	(6.66)	(4.18)	(3.03)	(2.41)	(1.77)	

*Information provided by Alpha Frontier.

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ALTERNATIVE EQUITY RETURN DETAIL																
266	POLICE-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - GROSS	2,734	7.19	3.60	11.40	3.60	14.29	11.94	18.79	21.49	16.39	17.01	15.18	14.06	13.62	04/01/2004
	ESTIMATED INVESTMENT FEES			(0.21)	(0.87)	(0.21)	(1.13)	(1.21)	(0.83)	(1.04)	(0.99)	(1.02)	(1.01)			
	POLICE-TOTAL PRIVATE EQUITY (TIME WEIGHTED) - NET MGR			3.39	10.53	3.39	13.16	10.72	17.96	20.45	15.40	15.99	14.17			
	NYC R3000 +3% LAGGED			9.88	17.42	9.88	12.01	6.00	21.06	22.22	34.86	17.97	14.55	17.16	13.51	
	EXCESS RETURN			(6.50)	(6.89)	(6.50)	1.15	4.72	(3.10)	(1.77)	(19.46)	(1.98)	(0.38)	(3.10)	0.10	
276	POLICE-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - GROSS	2,167	5.70	4.30	8.03	4.30	8.47	7.20	11.19	12.77	10.33	10.95	11.83	14.26	8.65	04/01/2004
	ESTIMATED INVESTMENT FEES			(2.07)	(2.52)	(2.07)	(0.54)	(0.69)	(0.62)	(0.70)	(2.79)	(1.36)	(1.12)			
	POLICE-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED) - NET MGR			2.22	5.51	2.22	7.93	6.51	10.58	12.07	7.54	9.58	10.71			
	NCREIF NFI-ODCE NET + 100 BP			1.00	3.91	1.00	6.51	5.43	8.43	7.72	4.97	6.91	8.55			
	EXCESS RETURN			1.22	1.60	1.22	1.42	1.08	2.15	4.34	2.58	2.68	2.17			
286	POLICE-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - GROSS	521	1.37	1.49	9.08	1.49	13.56	13.99	16.11	20.56	13.32	16.52	13.72		15.41	12/01/2013
	ESTIMATED INVESTMENT FEES			(0.36)	(1.25)	(0.36)	(1.45)	(1.48)	(1.50)	(3.15)	(1.62)	(1.91)	(1.72)		(2.73)	
	POLICE-TOTAL INFRASTRUCTURE (TIME WEIGHTED) - NET MGR			1.12	7.84	1.12	12.11	12.51	14.61	17.41	11.70	14.62	11.99		12.68	
	CPI + 4%			0.79	4.01	0.79	5.75	6.38	6.02	6.20	5.58	5.99	5.87		5.61	
	EXCESS RETURN			0.33	3.82	0.33	6.36	6.12	8.59	11.21	6.12	8.63	6.12		7.07	

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FIXED INCOME RETURN DETAIL																
298	POLICE-TOTAL FIXED INCOME - GROSS	14,238	37.43	1.71	4.92	1.71	7.61	10.57	(0.23)	5.56	8.27	5.23	4.16	5.14	8.06	02/01/1980
	ESTIMATED INVESTMENT FEES			(0.03)	(0.10)	(0.03)	(0.13)	(0.14)	(0.12)	(0.13)	(0.14)	(0.13)	(0.13)			
	EST MANAGEMENT FEES			(0.03)	(0.10)	(0.03)	(0.13)	(0.14)	(0.12)	(0.13)	(0.14)	(0.13)	(0.13)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL FIXED INCOME - NET MGR			1.67	4.81	1.67	7.48	10.42	(0.35)	5.43	8.13	5.10	4.03			
306	POLICE-TOTAL FIXED INCOME (ex ALTERNATIVE CREDIT & CASH) - GROSS	9,831	25.84	6.16	9.34	6.16	8.47	10.79	(0.71)	4.78	13.41	6.54	4.58	4.81	11/01/2013	
	ESTIMATED INVESTMENT FEES			(0.02)	(0.06)	(0.02)	(0.08)	(0.08)	(0.07)	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)		
	EST MANAGEMENT FEES			(0.02)	(0.06)	(0.02)	(0.08)	(0.08)	(0.07)	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)		
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POLICE-TOTAL FIXED INCOME (ex ALTERNATIVE CREDIT & CASH) - NET MGR			6.14	9.28	6.14	8.39	10.71	(0.79)	4.70	13.32	6.47	4.49	4.72		
314	POLICE-TOTAL STRUCTURED FIXED INCOME - GROSS	6,592	17.33	10.41	13.48	10.41	9.51	10.80	(0.85)	5.16	18.19	8.08	5.41	5.61	7.73	01/01/1985
	ESTIMATED INVESTMENT FEES			(0.01)	(0.04)	(0.01)	(0.04)	(0.05)	(0.04)	(0.06)	(0.05)	(0.05)	(0.06)			
	POLICE-TOTAL STRUCTURED FIXED INCOME - NET MGR			10.40	13.45	10.40	9.47	10.75	(0.89)	5.10	18.14	8.03	5.36			
	NYC CUSTOM STRUCTURED INDEX-POLICE			12.56	16.45	12.56	10.80	13.17	(1.29)	6.95	22.21	9.93				
	EXCESS RETURN			(2.16)	(3.00)	(2.16)	(1.34)	(2.42)	0.39	(1.84)	(4.06)	(1.90)				
324	POLICE-TOTAL GOVERNMENT - GROSS	4,552	11.97	16.65	19.45	16.65	9.77	10.48	(0.99)	4.82	24.71	9.88	5.76	6.44	7.57	02/01/1987
	ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.02)	(0.03)	(0.02)	(0.04)	(0.03)	(0.03)	(0.04)			
	POLICE-TOTAL GOVERNMENT - NET MGR			16.64	19.42	16.64	9.75	10.45	(1.02)	4.79	24.68	9.85	5.72			
	FTSE TREASURY 10+			20.62	24.82	20.62	12.24	14.89	(1.89)	8.60	32.36	13.34	7.28	8.99	8.29	
	EXCESS RETURN			(3.98)	(5.40)	(3.98)	(2.49)	(4.44)	0.87	(3.82)	(7.68)	(3.49)	(1.56)	(2.55)	(0.73)	
334	POLICE-TOTAL MORTGAGE - GROSS	905	2.38	2.21	4.39	2.21	6.66	6.87	1.00	2.61	6.74	4.05	2.92	3.66	6.31	02/01/1987
	ESTIMATED INVESTMENT FEES			(0.01)	(0.03)	(0.01)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)			
	POLICE-TOTAL MORTGAGE - NET MGR			2.20	4.36	2.20	6.61	6.83	0.95	2.55	6.69	4.01	2.87			
	FTSE MORTGAGE INDEX			3.27	5.63	3.27	6.39	6.68	1.01	2.47	7.83	4.32	3.07	3.38	6.16	
	EXCESS RETURN			(1.08)	(1.27)	(1.08)	0.23	0.15	(0.06)	0.08	(1.14)	(0.32)	(0.20)	0.28	0.15	
344	POLICE-TOTAL INVESTMENT GRADE CREDIT - GROSS	1,135	2.98	(4.57)	(0.30)	(4.57)	10.56	14.56	(2.19)	6.74	4.07	3.99	3.36	5.09	6.90	01/01/1987
	ESTIMATED INVESTMENT FEES			(0.02)	(0.07)	(0.02)	(0.11)	(0.11)	(0.09)	(0.10)	(0.10)	(0.10)	(0.10)			
	POLICE-TOTAL INVESTMENT GRADE CREDIT - NET MGR			(4.59)	(0.38)	(4.59)	10.45	14.44	(2.28)	6.65	3.97	3.89	3.26			
	NYC - INVESTMENT GRADE CREDIT			(3.01)	0.91	(3.01)	10.13	13.40	(1.90)	6.04	5.02	4.11	3.28	4.67		
	EXCESS RETURN			(1.58)	(1.29)	(1.58)	0.32	1.05	(0.38)	0.61	(1.05)	(0.22)	(0.02)	0.42		

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FIXED INCOME RETURN DETAIL																
356	POLICE-TOTAL CORE FI- DEVELOPING MGRS - GROSS	81	0.21	0.57	3.36	0.57	7.97	10.01	(0.99)	4.18	6.65	4.08	3.37	4.21	4.88	05/01/2009
	ESTIMATED INVESTMENT FEES			(0.05)	(0.15)	(0.05)	(0.22)	(0.22)	(0.20)	(0.20)	(0.21)	(0.21)	(0.21)			
	POLICE-TOTAL CORE FI- DEVELOPING MGRS - NET MGR			0.52	3.21	0.52	7.75	9.79	(1.19)	3.98	6.44	3.87	3.16			
	BBG BARC AGG (DLY)			3.15	5.68	3.15	7.87	8.72	0.01	3.54	8.93	4.82	3.36	3.88	4.21	
	EXCESS RETURN			(2.63)	(2.47)	(2.63)	(0.12)	1.08	(1.20)	0.43	(2.49)	(0.95)	(0.20)	0.33	0.67	
366	POLICE-TOTAL CORE FI- EMERGING MGRS - GROSS	88	0.23	1.33	3.97	1.33	8.22	9.25	0.29	4.51	7.38	4.74	3.50	3.35	06/01/2012	
	ESTIMATED INVESTMENT FEES			(0.08)	(0.26)	(0.08)	(0.37)	(0.37)	(0.34)	(0.48)	(0.36)	(0.43)	(0.35)			
	POLICE-TOTAL CORE FI- EMERGING MGRS - NET MGR			1.25	3.71	1.25	7.85	8.88	(0.05)	4.02	7.01	4.31	3.15			
	BBG BARC AGG (DLY)			3.15	5.68	3.15	7.87	8.72	0.01	3.54	8.93	4.82	3.36	3.07		
	EXCESS RETURN			(1.90)	(1.97)	(1.90)	(0.02)	0.16	(0.06)	0.48	(1.92)	(0.51)	(0.21)	0.28		
376	POLICE-TOTAL TIPS - GROSS	1,901	5.00	1.78	3.96	1.78	4.84	8.46	(1.25)	3.10	6.92	3.54	2.72	3.55	3.91	06/01/2005
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.00)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)			
	POLICE-TOTAL TIPS - NET MGR			1.78	3.94	1.78	4.82	8.44	(1.27)	3.09	6.90	3.52	2.70			
	BBG BARC GBL INF-LK: US TIPS (DLY)			1.69	3.87	1.69	4.84	8.43	(1.26)	3.01	6.85	3.46	2.67	3.48	3.79	
	EXCESS RETURN			0.08	0.07	0.08	(0.02)	0.01	(0.00)	0.08	0.05	0.06	0.03	0.07	0.12	
386	POLICE-TOTAL CONVERTIBLE BONDS - GROSS	725	1.91	(12.97)	(6.90)	(12.97)	7.25	17.38	(0.17)	14.74	(4.67)	3.84	4.11	6.60	6.14	07/01/2008
	ESTIMATED INVESTMENT FEES			(0.08)	(0.26)	(0.08)	(0.40)	(0.44)	(0.38)	(0.43)	(0.35)	(0.39)	(0.40)			
	POLICE-TOTAL CONVERTIBLE BONDS - NET MGR			(13.05)	(7.15)	(13.05)	6.85	16.94	(0.55)	14.31	(5.02)	3.45	3.70			
	ICE BOFA ALL US CONV EX MANDATORY			(12.93)	(6.46)	(12.93)	8.00	22.89	0.65	15.70	(2.79)	5.67	5.62	8.51	7.83	
	EXCESS RETURN			(0.12)	(0.70)	(0.12)	(1.15)	(5.95)	(1.19)	(1.39)	(2.23)	(2.22)	(1.92)	(1.90)	(1.69)	
396	POLICE-TOTAL TARGETED INVESTMENTS (NO CASH) - GROSS	445	1.17	4.15	6.41	4.15	9.52	8.85	1.03	3.83	10.24	5.81	5.24	8.01	12/01/1984	
	ESTIMATED INVESTMENT FEES			(0.04)	(0.13)	(0.04)	(0.21)	(0.19)	(0.21)	(0.21)	(0.18)	(0.20)	(0.21)	(0.22)	(0.10)	
	POLICE-TOTAL TARGETED INVESTMENTS - NET MGR			4.11	6.28	4.11	9.31	8.67	0.82	3.62	10.06	5.61	4.30	5.02	7.91	
	POLICE CUSTOM BENCHMARK (NO CASH)			3.35	5.81	3.35	7.19	7.60	0.96	3.08	8.50	4.76	3.48	3.87		
	EXCESS RETURN			0.76	0.47	0.76	2.12	1.07	(0.15)	0.54	1.56	0.85	0.83	1.15		

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	FYE 2019	2019	2018	2017	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date	
ALTERNATIVE CREDIT INCOME RETURN DETAIL																
408	POLICE-TOTAL HIGH YIELD - GROSS	1,956	5.14	(12.26)	(8.41)	(12.26)	7.39	14.99	(2.82)	6.93	(5.85)	0.81	2.45	5.59	7.06	10/01/1994
	ESTIMATED INVESTMENT FEES			(0.07)	(0.22)	(0.07)	(0.33)	(0.36)	(0.30)	(0.34)	(0.30)	(0.32)	(0.33)			
	POLICE-TOTAL HIGH YIELD - NET MGR			(12.33)	(8.63)	(12.33)	7.07	14.63	(3.12)	6.59	(6.14)	0.49	2.12			
	HIGH YIELD CUSTOM BENCHMARK			(12.68)	(9.21)	(12.68)	7.48	14.32	(2.34)	7.03	(6.94)	0.67	2.41	5.34	6.29	
	EXCESS RETURN			0.35	0.58	0.35	(0.41)	0.31	(0.78)	(0.44)	0.79	(0.18)	(0.29)	0.24	0.77	
418	POLICE- TOTAL BANK LOANS - GROSS	611	1.61	(11.21)	(8.32)	(11.21)	3.79	8.33	1.13	4.72	(7.16)	0.24	1.97		3.02	12/01/2012
	ESTIMATED INVESTMENT FEES			(0.06)	(0.20)	(0.06)	(0.31)	(0.32)	(0.30)	(0.31)	(0.27)	(0.30)	(0.31)			
	POLICE-TOTAL BANK LOANS - NET MGR			(11.27)	(8.51)	(11.27)	3.49	8.02	0.82	4.41	(7.43)	(0.06)	1.67			
	CSFB LEVERAGED LOAN INDEX			(13.19)	(10.92)	(13.19)	4.15	8.17	1.14	4.25	(9.51)	(0.73)	1.21		2.32	
	EXCESS RETURN			1.92	2.40	1.92	(0.66)	(0.16)	(0.32)	0.17	2.08	0.67	0.46		0.70	
428	POLICE-TOTAL OPPORTUNISTIC FIXED INCOME - GROSS	1,492	3.92	0.49	2.93	0.49	5.30	5.47	6.41	7.93	4.72	5.24	5.11	8.78	7.71	10/01/2007
	ESTIMATED INVESTMENT FEES			(0.06)	(0.15)	(0.06)	(0.15)	(0.18)	(0.17)	(0.10)	(0.17)	(0.16)	(0.17)			
	POLICE-TOTAL OPPORTUNISTIC FIXED INCOME - NET MGR			0.43	2.78	0.43	5.15	5.29	6.23	7.83	4.55	5.08	4.95			
	OPPORTUNISTIC FIXED INCOME JPMGHY / CSFB 50/50 BLEND PLUS 300			(13.39)	(9.16)	(13.39)	9.26	14.66	2.36	9.42	(6.48)	2.67	4.99	7.55	7.76	
	EXCESS RETURN			13.82	11.94	13.82	(4.11)	(9.37)	3.87	(1.59)	11.02	2.41	(0.04)	1.23	(0.05)	
CASH SUMMARY																
440	Short Term - POLICE - GROSS	347	0.91	0.47	1.47	0.47	2.34	2.25	1.96	1.13	2.11	1.87	1.37	0.89		04/01/1982
	ESTIMATED INVESTMENT FEES			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Short Term - POLICE - NET MGR			0.47	1.47	0.47	2.34	2.25	1.96	1.13	2.11	1.87	1.37	0.89		
444	Cash Account	1	-													
446	Securities Lending	0	-													
448	KKR Cash Account	0	-													

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

Appendix B

Public Markets Manager Performance Detail

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
EQUITY SUMMARY										
US EQUITY										
BlackRock US SCG R2000	35	0.09	(25.76)	(20.79)	(25.76)	28.39	(9.14)	22.26	11.29	(1.30)
RUSSELL 2000 GROWTH DAILY			(25.76)	(20.76)	(25.76)	28.48	(9.31)	22.17	11.32	(1.38)
Excess			0.01	(0.04)	0.01	(0.09)	0.17	0.09	(0.02)	0.08
BlackRock US SCV R2000	54	0.14							31.71	(7.38)
RUSSELL 2000 VALUE DAILY									31.74	(7.47)
Excess									(0.03)	0.09
Brown Asset Mgmt US SCG	193	0.51	(15.50)	(14.33)	(15.50)	29.71	0.98	28.92	10.23	8.62
RUSSELL 2000 GROWTH DAILY			(25.76)	(20.76)	(25.76)	28.48	(9.31)	22.17	11.32	(1.38)
Excess			10.27	6.43	10.27	1.23	10.29	6.75	(1.09)	10.00
William Blair-US SCG	91	0.24	(24.63)		(24.63)					
RUSSELL 2000 GROWTH DAILY			(25.76)		(25.76)					
Excess			1.14		1.14					
Ceredex US SCV	0	0.00					(11.72)	10.61	29.38	(4.74)
RUSSELL 2000 VALUE DAILY							(12.86)	7.84	31.74	(7.47)
Excess							1.15	2.77	(2.36)	2.73
Cooke and Bieler-US SCV	36	0.09	(35.68)		(35.68)					
RUSSELL 2000 VALUE DAILY			(35.66)		(35.66)					
Excess			(0.02)		(0.02)					
Pzena-US SCV	48	0.13	(43.14)		(43.14)					
RUSSELL 2000 VALUE DAILY			(35.66)		(35.66)					
Excess			(7.48)		(7.48)					

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
Dalton US SCV	104	0.27	(34.98)	(28.79)	(34.98)	24.83	(17.30)	8.38	25.01	(3.32)
RUSSELL 2000 VALUE DAILY			(35.66)	(30.60)	(35.66)	22.39	(12.86)	7.84	31.74	(7.47)
Excess			0.68	1.80	0.68	2.44	(4.43)	0.55	(6.73)	4.15
DFA US SCC	113	0.30	(32.61)	(28.35)	(32.61)	21.78	(12.54)	11.53	25.08	(3.86)
RUSSELL 2000 (DAILY)			(30.61)	(25.55)	(30.61)	25.52	(11.01)	14.65	21.31	(4.41)
Excess			(2.00)	(2.80)	(2.00)	(3.74)	(1.52)	(3.12)	3.77	0.56
RAFI US SCE	0	0.00					(11.57)	9.74	27.83	(6.65)
RUSSELL 2000 (DAILY)							(11.01)	14.65	21.31	(4.41)
Excess							(0.56)	(4.91)	6.52	(2.23)
Iridian US MCC	0	0.00					(23.30)	23.36	4.19	(3.71)
RUSSELL MIDCAP (DAILY)							(9.06)	18.52	13.80	(2.44)
Excess							(14.24)	4.84	(9.60)	(1.27)
Wellington US MCC	277	0.73	(24.14)	(19.86)	(24.14)	32.70	(7.35)	25.05	12.30	1.76
S&P 400 MIDCAP INDEX (DAILY)			(29.70)	(24.80)	(29.70)	26.20	(11.08)	16.24	20.74	(2.18)
Excess			5.56	4.94	5.56	6.50	3.73	8.80	(8.44)	3.93
BlackRock US LMC R1000 Core	6,494	17.07	(20.02)	(11.57)	(20.02)	31.48				
RUSSELL 1000 (DAILY)			(20.22)	(11.77)	(20.22)	31.43				
Excess			0.20	0.20	0.20	0.06				
SSGA US LMC Top 200 Core	1,332	3.50	(17.63)	(7.98)	(17.63)	31.74				
RUSSELL TOP 200 INDEX (DAILY)			(17.70)	(8.03)	(17.70)	31.75				
Excess			0.06	0.05	0.06	(0.01)				
PIMCO RAFI US LMCE	1,090	2.87	(27.72)	(20.60)	(27.72)	25.42	(6.92)	16.84	15.73	(3.09)
RUSSELL 1000 (DAILY)			(20.22)	(11.77)	(20.22)	31.43	(4.78)	21.69	12.05	0.92
Excess			(7.50)	(8.83)	(7.50)	(6.01)	(2.13)	(4.84)	3.68	(4.01)

1 Name changed from SSGA MSCI EAFE Small Cap Index 12.2017

2 Assets were in transition from 9/29/17 to 11/30/17

3 Assets were in transition from 9/29/17 to 2/11/19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
Legal General US LMCE	925	2.43	(24.84)	(18.59)	(24.84)					
RUSSELL 1000 (DAILY)			(20.22)	(11.77)	(20.22)					
Excess			(4.61)	(6.82)	(4.61)					
FUND OF FUNDS										
POLICE-FUND OF FUNDS	52	0.14	(30.55)	(26.53)	(30.55)	23.33	(8.27)			
RUSSELL 2000 (DAILY)			(30.61)	(25.55)	(30.61)	25.52	(11.01)			
Excess			0.07	(0.98)	0.07	(2.19)	2.74			
POLICE-TOTAL LEGATO	52	0.14	(30.55)	(26.53)	(30.55)	23.33	(8.20)			
RUSSELL 2000 (DAILY)			(30.61)	(25.55)	(30.61)	25.52	(11.01)			
Excess			0.07	(0.98)	0.07	(2.19)	2.82			
NON - US EQUITY										
Baillie Gifford WorldxUS LMCC	636	1.67	(13.84)	(4.61)	(13.84)	37.00	(15.37)	44.17	0.70	(3.81)
NYC Developed Growth Benchmark			(23.26)	(18.00)	(23.26)	22.49	(14.09)	27.77	(3.04)	4.09
Excess			9.42	13.39	9.42	14.51	(1.28)	16.40	3.74	(7.90)
Walter Scott WorldxUS LMCC	637	1.68	(15.20)	(7.63)	(15.20)	28.51	(7.68)	28.04	5.03	0.28
NYC Developed Growth Benchmark			(23.26)	(18.00)	(23.26)	22.49	(14.09)	27.77	(3.04)	4.09
Excess			8.06	10.38	8.06	6.02	6.41	0.27	8.07	(3.81)
Causeway WorldxUS LMCV	405	1.06	(30.95)	(24.61)	(30.95)	21.35	(18.34)	28.22	0.52	(2.39)
NYC Developed Value Benchmark			(23.26)	(18.00)	(23.26)	22.49	(14.09)	22.77	5.02	(5.68)
Excess			(7.69)	(6.61)	(7.69)	(1.14)	(4.25)	5.45	(4.51)	3.29
Sprucegrove WorldxUS LMCC	462	1.22	(28.59)	(25.81)	(28.59)	17.62	(13.67)	27.15	11.10	(9.44)
NYC Developed Value Benchmark			(23.26)	(18.00)	(23.26)	22.49	(14.09)	22.77	5.02	(5.68)
Excess			(5.33)	(7.81)	(5.33)	(4.87)	0.42	4.38	6.08	(3.75)
Acadian WorldxUS SCC	164	0.43	(25.51)	(19.37)	(25.51)	21.82	(19.22)	38.38	6.41	8.68
S&P EPAC Small Cap USD NET			(27.73)	(20.55)	(27.73)	23.71	(18.58)	33.47	1.34	8.58
Excess			2.22	1.18	2.22	(1.89)	(0.65)	4.91	5.07	0.09

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
Fidelity WorldxUS SCC	25	0.06					(18.22)	31.34	(0.91)	11.97
S&P EPAC Small Cap USD NET							(18.58)	33.47	1.34	8.58
Excess							0.36	(2.13)	(2.24)	3.38
Alger EAFE SCC	41	0.11	(28.66)	(21.70)	(28.66)					
MSCI EAFE SMALL CAP NET (DAILY)			(27.52)	(19.52)	(27.52)					
Excess			(1.13)	(2.18)	(1.13)					
SSGA WorldxUS LMC NYC Custom IDX	400	1.05	(23.06)	(17.76)	(23.06)	22.75	(14.05)	24.58	1.30	(0.54)
NYC Custom World ex US Index			(23.26)	(18.00)	(23.26)	22.49	(14.09)	24.12	1.00	(0.81)
Excess			0.20	0.24	0.20	0.26	0.04	0.47	0.30	0.27
SSGA WorldxUS SC Custom IDX ¹	187	0.49	(28.14)	(20.04)	(28.14)	25.67	(17.97)	33.43	2.77	9.86
World ex USA SC PASSIVE CUSTOM BM			(28.39)	(20.44)	(28.39)	25.41	(18.07)	33.31	2.18	9.59
Excess			0.25	0.40	0.25	0.26	0.10	0.12	0.59	0.27
EMERGING MARKETS										
DFA EM	260	0.68	(31.75)	(30.25)	(31.75)	9.73	(12.06)	33.64	17.39	(19.39)
MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	18.42	(14.57)	37.28	11.19	(14.92)
Excess			(8.15)	(12.07)	(8.15)	(8.69)	2.50	(3.64)	6.20	(4.48)
Baillie Gifford EM	356	0.94	(26.06)	(19.21)	(26.06)	28.50	(15.37)	54.14	2.78	(8.00)
MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	18.42	(14.57)	37.28	11.19	(14.92)
Excess			(2.46)	(1.02)	(2.46)	10.08	(0.80)	16.86	(8.41)	6.92
Parametric EM	232	0.61	(30.07)	(27.29)	(30.07)	14.20	(14.33)	29.65	13.87	(15.72)
MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	18.42	(14.57)	37.28	11.19	(14.92)
Excess			(6.47)	(9.10)	(6.47)	(4.22)	0.24	(7.63)	2.68	(0.80)
Acadian EM	313	0.82	(24.49)	(19.98)	(24.49)	15.71	(17.27)	40.45	12.65	(15.05)
MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	18.42	(14.57)	37.28	11.19	(14.92)
Excess			(0.90)	(1.80)	(0.90)	(2.71)	(2.70)	3.16	1.46	(0.13)

¹ Name changed from SSGA MSCI EAFE Small Cap Index 12.2017

² Assets were in transition from 9/29/17 to 11/30/17

³ Assets were in transition from 9/29/17 to 2/1/19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
BlackRock MSCI EM Core	672	1.77	(23.64)	(18.16)	(23.64)	18.76	(14.44)	37.26	11.17	(14.91)
MSCI EMERGING MARKETS			(23.60)	(18.18)	(23.60)	18.42	(14.57)	37.28	11.19	(14.92)
Excess			(0.04)	0.02	(0.04)	0.34	0.13	(0.02)	(0.02)	0.01
INTERNATIONAL FOF										
POLICE-TOTAL INTERNATIONAL FOF	206	0.54	(22.48)	(16.56)	(22.48)	25.10	(15.05)			
MSCI ACWI ex USA IMI Net			(24.11)	(18.55)	(24.11)	21.63	(14.76)			
Excess			1.63	1.99	1.63	3.47	(0.29)			
POLICE-TOTAL INTERNATIONAL FIS	100	0.26	(22.59)	(17.38)	(22.59)	22.55	(14.14)			
MSCI ACWI ex USA IMI Net			(24.11)	(18.55)	(24.11)	21.63	(14.76)			
Excess			1.52	1.17	1.52	0.92	0.62			
POLICE-TOTAL INTERNATIONAL LEADING EDGE	106	0.28	(22.37)	(15.76)	(22.37)	27.61	(16.50)			
MSCI ACWI ex USA IMI Net			(24.11)	(18.55)	(24.11)	21.63	(14.76)			
Excess			1.74	2.79	1.74	5.97	(1.74)			
FIXED INCOME SUMMARY										
STRUCTURED FIXED INCOME										
BlackRock Mortgages	805	2.12	2.14	4.31	2.14	6.89	0.97	2.56	2.29	1.81
FTSE MORTGAGE INDEX			3.27	5.63	3.27	6.68	1.01	2.47	1.59	1.56
Excess			(1.14)	(1.32)	(1.14)	0.21	(0.04)	0.10	0.71	0.25
Neuberger Berman Mortgages	100	0.26	2.67	4.77	2.67	6.35	0.78	2.39	1.52	1.42
FTSE MORTGAGE INDEX			3.27	5.63	3.27	6.68	1.01	2.47	1.59	1.56
Excess			(0.61)	(0.85)	(0.61)	(0.33)	(0.23)	(0.07)	(0.07)	(0.15)
T Rowe Price Credit	446	1.17	(5.43)	(1.04)	(5.43)	14.56	(2.39)	6.89	6.04	0.02
NYC - Investment Grade Credit			(3.01)	0.91	(3.01)	13.40	(1.90)	6.04	5.56	(0.65)
Excess			(2.41)	(1.95)	(2.41)	1.17	(0.48)	0.85	0.48	0.67

1 Name changed from SSGA MSCI EAFE Small Cap Index 12.2017

2 Assets were in transition from 9/29/17 to 11/30/17

3 Assets were in transition from 9/29/17 to 2/11/19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
BlackRock Credit	215	0.56	(3.19)	0.84	(3.19)	14.09	(1.96)	6.44	5.48	(0.57)
NYC - Investment Grade Credit			(3.01)	0.91	(3.01)	13.40	(1.90)	6.04	5.56	(0.65)
Excess			(0.17)	(0.07)	(0.17)	0.69	(0.05)	0.40	(0.07)	0.07
Taplin Credit	100	0.26	(4.60)	(0.15)	(4.60)	15.66	(3.47)	7.61	9.54	(3.98)
NYC - Investment Grade Credit			(3.01)	0.91	(3.01)	13.40	(1.90)	6.04	5.56	(0.65)
Excess			(1.59)	(1.06)	(1.59)	2.26	(1.56)	1.58	3.98	(3.34)
Prudential Credit	257	0.67	(4.12)	(0.05)	(4.12)	13.91	(1.93)	6.35	6.05	(0.32)
NYC - Investment Grade Credit			(3.01)	0.91	(3.01)	13.40	(1.90)	6.04	5.56	(0.65)
Excess			(1.11)	(0.95)	(1.11)	0.51	(0.02)	0.32	0.50	0.33
Fidelity Credit	118	0.31	(4.92)	(0.95)	(4.92)	14.79	(2.26)	6.28	5.80	(0.09)
NYC - Investment Grade Credit			(3.01)	0.91	(3.01)	13.40	(1.90)	6.04	5.56	(0.65)
Excess			(1.91)	(1.86)	(1.91)	1.40	(0.35)	0.25	0.24	0.56
SSGA LI Treasury	1,513	3.98	13.99	16.64	13.99	10.66	(0.21)	5.01	1.62	0.49
NYC - Treasury Agency Plus Five			13.78	16.22	13.78	10.40	(0.05)	4.66	1.21	0.72
Excess			0.20	0.42	0.20	0.26	(0.16)	0.36	0.41	(0.24)
BlackRock LI Treasury	935	2.46	13.85	16.36	13.85	10.49	(0.18)	4.79	1.21	0.66
NYC - Treasury Agency Plus Five			13.78	16.22	13.78	10.40	(0.05)	4.66	1.21	0.72
Excess			0.07	0.14	0.07	0.10	(0.13)	0.14	(0.00)	(0.06)
SSGA ST Treasury 1-3Y ²	156	0.41	2.81	3.97	2.81	3.60	1.50	3.08		
FTSE USBIG Treasury 1-3 Y Index			2.67	3.79	2.67	3.56	1.56	0.42		
Excess			0.14	0.18	0.14	0.04	(0.06)	2.66		
SSGA IT Treasury 1-10Y ³	7	0.02	5.30	6.56	5.30	5.08	2.04			
FTSE USBIG Treasury/Agency 1-10 y			5.13	6.37	5.13	5.18	1.42			
Excess			0.17	0.18	0.17	(0.09)	0.62			

¹ Name changed from SSGA MSCI EAFE Small Cap Index 12.2017

² Assets were in transition from 9/29/17 to 11/30/17

³ Assets were in transition from 9/29/17 to 2/11/19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
SSGA LT Treasury 10Y Plus	1,942	5.10	21.97	26.23	21.97	14.89	(1.84)	8.54		
FTSE Treasury 10+			20.62	24.82	20.62	14.89	(1.89)	8.60		
Excess			1.34	1.41	1.34	(0.01)	0.05	(0.07)		
CORE FI-EMERGING MANAGERS										
Optimum Quantvest-Core	9	0.02	5.81	7.78	5.81	7.93	0.33	2.64	2.61	0.61
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54	2.65	0.55
Excess			2.67	2.11	2.67	(0.79)	0.32	(0.90)	(0.03)	0.06
Integrity-Core	8	0.02	1.22	3.62	1.22	8.56	(0.03)	3.93		
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54		
Excess			(1.93)	(2.06)	(1.93)	(0.16)	(0.04)	0.39		
Ramirez-Core	21	0.06	(1.93)	0.81	(1.93)	9.67	0.07	4.47	3.64	1.12
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54	2.65	0.55
Excess			(5.08)	(4.87)	(5.08)	0.95	0.06	0.93	0.99	0.57
New Century-Core Plus	23	0.06	2.92	5.16	2.92	8.52	0.12	4.04	2.37	(0.30)
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54	2.65	0.55
Excess			(0.23)	(0.51)	(0.23)	(0.19)	0.11	0.50	(0.28)	(0.85)
Pugh-Core Plus	26	0.07	1.00	3.57	1.00	8.92	(0.42)	4.12	3.48	0.79
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54	2.65	0.55
Excess			(2.15)	(2.11)	(2.15)	0.21	(0.43)	0.58	0.83	0.24
HIGH YIELD										
Brigade High Yield	94	0.25	(13.89)	(10.30)	(13.89)	15.23				
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32				
Excess			(1.21)	(1.09)	(1.21)	0.91				
Eaton Vance High Yield	97	0.26	(12.64)	(8.87)	(12.64)	14.62				
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32				
Excess			0.04	0.33	0.04	0.30				

1 Name changed from SSGA MSCI EAFE Small Cap Index 12.2017

2 Assets were in transition from 9/29/17 to 11/30/17

3 Assets were in transition from 9/29/17 to 2/11/19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
Mackay Shields High Yield	118	0.31	(11.38)	(7.59)	(11.38)	14.40				
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32				
Excess			1.31	1.62	1.31	0.08				
Neuberger Berman High Yield	283	0.74	(12.91)	(9.12)	(12.91)	14.18	(1.99)	5.77	14.72	(4.00)
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32	(2.08)	7.50	17.13	(4.43)
Excess			(0.23)	0.08	(0.23)	(0.14)	0.09	(1.74)	(2.41)	0.44
Nomura High Yield	96	0.25	(13.53)	(10.19)	(13.53)	13.89				
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32				
Excess			(0.85)	(0.98)	(0.85)	(0.43)				
Oaktree High Yield	206	0.54	(12.00)	(8.44)	(12.00)	13.99	(3.42)	5.87	14.91	(4.75)
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32	(2.08)	7.50	17.13	(4.43)
Excess			0.68	0.76	0.68	(0.32)	(1.34)	(1.63)	(2.22)	(0.31)
Stone Harbor High Yield	188	0.50	(11.59)	(8.89)	(11.59)	14.12	(2.63)	5.86	13.01	(4.47)
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32	(2.08)	7.50	17.13	(4.43)
Excess			1.10	0.32	1.10	(0.20)	(0.54)	(1.64)	(4.11)	(0.04)
T Rowe Price High Yield	583	1.53	(12.54)	(8.48)	(12.54)	15.60	(2.36)	6.79	12.36	(1.13)
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32	(2.08)	7.50	17.13	(4.43)
Excess			0.15	0.73	0.15	1.28	(0.28)	(0.71)	(4.76)	3.31
Shenkman High Yield	289	0.76	(11.40)	(7.63)	(11.40)	14.29	(5.95)	6.86	11.72	(2.65)
BBG BARC US HY - 2% Issr Cap			(12.68)	(9.21)	(12.68)	14.32	(2.08)	7.50	17.13	(4.43)
Excess			1.28	1.57	1.28	(0.03)	(3.86)	(0.64)	(5.40)	1.79
BANK LOANS										
Barings Bank Loans	236	0.62	(12.26)	(9.70)	(12.26)	7.82	0.38	4.47	8.44	0.12
CSFB LEVERAGED LOAN INDEX			(13.19)	(10.92)	(13.19)	8.17	1.14	4.25	9.88	(0.38)
Excess			0.93	1.22	0.93	(0.36)	(0.76)	0.22	(1.43)	0.50

1 Name changed from SSGA MSCI EAFE Small Cap Index 12.2017

2 Assets were in transition from 9/29/17 to 11/30/17

3 Assets were in transition from 9/29/17 to 2/11/19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
Credit Suisse Bank Loans	252	0.66	(10.63)	(7.80)	(10.63)	8.31	1.04	4.66	8.94	2.57
CSFB LEVERAGED LOAN INDEX			(13.19)	(10.92)	(13.19)	8.17	1.14	4.25	9.88	(0.38)
Excess			2.55	3.12	2.55	0.13	(0.10)	0.41	(0.93)	2.96
Guggenheim Bank Loans	2	0.01					1.24	3.82	7.84	2.07
CSFB LEVERAGED LOAN INDEX							1.14	4.25	9.88	(0.38)
Excess							0.10	(0.43)	(2.03)	2.45
Pinebridge Bank Loans	122	0.32	(10.85)	(7.85)	(10.85)					
CSFB LEVERAGED LOAN INDEX			(13.19)	(10.92)	(13.19)					
Excess			2.34	3.07	2.34					
TIPS										
SSGA TIPS	1,425	3.75	1.77	3.93	1.77	8.44	(1.30)	3.06	4.68	(1.35)
BBG BARC Gbl Inf-Lk: US TIPS (Dly)			1.69	3.87	1.69	8.43	(1.26)	3.01	4.68	(1.44)
Excess			0.08	0.06	0.08	0.02	(0.03)	0.05	(0.00)	0.09
BlackRock TIPS	476	1.25	1.80	3.98	1.80	8.43	(1.18)	2.98	4.66	(1.24)
BBG BARC Gbl Inf-Lk: US TIPS (Dly)			1.69	3.87	1.69	8.43	(1.26)	3.01	4.68	(1.44)
Excess			0.10	0.10	0.10	0.00	0.09	(0.02)	(0.02)	0.20
CONVERTIBLE BONDS										
Advent Convertible Bonds	328	0.86	(11.42)	(7.85)	(11.42)	12.79	(1.92)	7.93	7.15	(1.38)
ICE BofA US Convertibles - Yield Alter			(13.81)	(8.49)	(13.81)	15.40	(0.42)	9.45	9.96	(8.77)
Excess			2.40	0.64	2.40	(2.61)	(1.50)	(1.52)	(2.81)	7.40
Victory Convertible Bonds	397	1.04	(14.36)	(6.57)	(14.36)	20.49	0.66	20.63	6.46	(0.24)
ICE BofA All IG US Convertibles			(13.97)	(6.65)	(13.97)	20.88	3.35	20.99	14.23	1.68
Excess			(0.39)	0.07	(0.39)	(0.39)	(2.69)	(0.36)	(7.77)	(1.92)

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
CORE FI-DEVELOPING MANAGERS										
LM Capital-Core Plus	40	0.11	1.66	4.33	1.66	9.75	(1.40)	3.92	3.38	1.02
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54	2.65	0.55
Excess			(1.49)	(1.34)	(1.49)	1.03	(1.41)	0.38	0.74	0.47
GIA-Core Plus	41	0.11	(0.58)	2.12	(0.58)	9.84	(0.98)	4.03	3.93	
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54	2.65	
Excess			(3.73)	(3.56)	(3.73)	1.12	(1.00)	0.49	1.29	
ECONOMICALLY TARGETED INVESTMENTS										
AFL-CIO Housing Investment Trust	177	0.46	3.43	5.14	3.43	7.78	0.16	3.17	1.94	1.13
BBG BARC Agg (Dly)			3.15	5.68	3.15	8.72	0.01	3.54	2.65	0.55
Excess			0.28	(0.53)	0.28	(0.94)	0.15	(0.38)	(0.71)	0.58
RBC Access MBS	92	0.24	3.09	5.40	3.09	7.21	0.49	2.64	1.61	1.83
Access RBC Benchmark			3.77	5.60	3.77	6.05	1.17	1.96	1.52	1.40
Excess			(0.69)	(0.20)	(0.69)	1.16	(0.69)	0.69	0.09	0.43
CPC Construction Facility	5	0.01	(0.41)	2.76	(0.41)	5.36	4.14	6.07	(3.95)	12.90
CPC CONST BENCHMARK			0.83	2.77	0.83	4.09	3.99	3.34	3.03	2.90
Excess			(1.24)	(0.01)	(1.24)	1.27	0.15	2.73	(6.99)	10.01
BOA PPAR FNMA	7	0.02	6.19	10.36	6.19	13.54	2.33	5.21	4.07	42.03
FNMA Plus 85bps			3.46	6.49	3.46	7.80	1.86	3.61	2.38	2.50
Excess			2.73	3.87	2.73	5.74	0.47	1.60	1.69	39.53
BOA PPAR GNMA	6	0.02	5.01	6.15	5.01	8.44	2.42	4.08	3.13	8.04
GNMA Plus 65bps			3.41	5.62	3.41	6.73	1.63	2.53	2.28	2.02
Excess			1.61	0.53	1.61	1.70	0.79	1.56	0.85	6.03
Citibank PPAR FNMA	7	0.02	6.15	15.79	6.15	19.71	2.63	5.26	3.71	6.69
FNMA Plus 85bps			3.46	6.49	3.46	7.80	1.86	3.61	2.38	2.50
Excess			2.69	9.30	2.69	11.91	0.77	1.65	1.33	4.20

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
Citibank PPAR GNMA	3	0.01	5.05	5.06	5.05	5.33	1.90	3.10	2.78	5.08
GNMA Plus 65bps			3.41	5.62	3.41	6.73	1.63	2.53	2.28	2.02
Excess			1.64	(0.56)	1.64	(1.41)	0.27	0.57	0.50	3.06
CFSB PPAR GNMA	1	0.00	4.78	5.12	4.78	5.91	0.99	3.83	3.21	5.90
GNMA Plus 65bps			3.41	5.62	3.41	6.73	1.63	2.53	2.28	2.02
Excess			1.37	(0.50)	1.37	(0.82)	(0.65)	1.30	0.93	3.88
CPC PPAR FNMA	59	0.15	5.95	9.07	5.95	13.18	2.31	5.06	6.15	8.96
FNMA Plus 85bps			3.46	6.49	3.46	7.80	1.86	3.61	2.38	2.50
Excess			2.50	2.58	2.50	5.38	0.45	1.45	3.77	6.46
POLICE-CPC PPAR GNMA	51	0.13	4.73	4.77	4.73	4.95	0.63	2.29	2.21	5.24
GNMA Plus 65bps			3.41	5.62	3.41	6.73	1.63	2.53	2.28	2.02
Excess			1.33	(0.85)	1.33	(1.78)	(1.00)	(0.24)	(0.07)	3.23
JPMC PPAR FNMA	25	0.07	6.14	10.40	6.14	14.68	1.68	9.96	7.94	6.18
FNMA Plus 85bps			3.46	6.49	3.46	7.80	1.86	3.61	2.38	2.50
Excess			2.69	3.91	2.69	6.88	(0.18)	6.35	5.56	3.68
LIIF PPAR FNMA	8	0.02	6.22	13.10	6.22	16.35	2.27	9.55	5.03	6.29
FNMA Plus 85bps			3.46	6.49	3.46	7.80	1.86	3.61	2.38	2.50
Excess			2.76	6.61	2.76	8.55	0.41	5.94	2.65	3.79
LIIF PPAR GNMA	1	0.00	3.62	4.79	3.62	5.54	2.53	2.52	3.88	3.92
GNMA Plus 65bps			3.41	5.62	3.41	6.73	1.63	2.53	2.28	2.02
Excess			0.21	(0.83)	0.21	(1.19)	0.89	(0.01)	1.61	1.91
LISC PPAR FNMA	1	0.00	10.71	15.92	10.71	14.95				
FNMA Plus 85bps			3.46	6.49	3.46	7.80				
Excess			7.25	9.43	7.25	7.15				

1 Name changed from SSGA MSCI EAFE Small Cap Index 12.2017

2 Assets were in transition from 9/29/17 to 11/30/17

3 Assets were in transition from 9/29/17 to 2/11/19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2020

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2019	2018	2017	2016	2015
NCBCI PPAR FNMA	0	0.00	4.67	5.67	4.67	4.08	2.00	1.75	3.46	4.97
FNMA Plus 85bps			3.46	6.49	3.46	7.80	1.86	3.61	2.38	2.50
Excess			1.21	(0.82)	1.21	(3.72)	0.15	(1.86)	1.07	2.47
NCBCI PPAR GNMA	1	0.00	4.40	4.18	4.40	3.69	1.23	3.01	3.51	5.53
GNMA Plus 65bps			3.41	5.62	3.41	6.73	1.63	2.53	2.28	2.02
Excess			0.99	(1.44)	0.99	(3.04)	(0.41)	0.48	1.23	3.52
NHS PPAR GNMA	0	0.00	4.31	3.45	4.31	2.90	0.54	(2.93)	3.58	4.90
GNMA Plus 65bps			3.41	5.62	3.41	6.73	1.63	2.53	2.28	2.02
Excess			0.90	(2.17)	0.90	(3.84)	(1.09)	(5.46)	1.30	2.89
Wells Fargo PPAR FNMA	1	0.00	6.10	10.96	6.10	21.71				
FNMA Plus 85bps			3.46	6.49	3.46	7.80				
Excess			2.64	4.47	2.64	13.91				
CASH										
Short Term POLICE	347	0.91	0.47	1.47	0.47	2.25	1.96	1.13	0.89	0.47
ICE BofA US 3-Month Treasury Bill			0.57	1.61	0.57	2.28	1.87	0.86	0.33	0.05
Excess			(0.10)	(0.14)	(0.10)	(0.04)	0.08	0.27	0.56	0.41
KKR SP CASH ACCOUNT	-0	0.00								
Cash Account	1	0.00								
Securities Lending	0	0.00								

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

Appendix C

Alternative Assets Manager Performance Detail

Alternative Assets Manager Performance Detail

Through December 31, 2019



	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
TOTAL PRIVATE EQUITY		7,002,839,324	5,564,192,415	5,519,616,735	2,728,804,734	1.48	10.8%
TOTAL LIQUIDATED		604,482,557	657,094,437	795,787,181	55,150	1.21	5.1%
TOTAL ACTIVE		6,398,356,767	4,907,097,978	4,723,829,554	2,728,749,584	1.52	11.9%
TOTAL ACTIVE							
Cypress Merchant Banking Partners II, L.P.	1999	45,172,972	53,944,269	50,584,154	24,183	0.94	-1.2%
Lincolnshire Equity Fund II, L.P.	1999	11,038,409	11,556,880	22,613,645	243,195	1.98	24.6%
SCP Private Equity Partners II, L.P.	2000	25,000,000	28,057,160	10,857,159	2,717,892	0.48	-8.1%
Solera Partners, L.P.	2000	9,999,888	13,369,506	20,817,577	81,194	1.56	7.4%
Apollo Investment Fund V, L.P.	2001	35,000,000	54,551,027	107,618,495	304,021	1.98	38.8%
CVC European Equity Partners III, L.P.	2001	25,000,000	29,700,915	74,439,614	1,699,553	2.56	41.0%
Landmark Equity Partners XI, L.P.	2002	30,000,000	28,518,970	43,831,911	72,023	1.54	23.3%
Ares Corporate Opportunities Fund, L.P.	2003	35,000,000	41,988,154	62,593,160	582,383	1.50	13.2%
Blackstone Capital Partners IV, L.P.	2003	46,253,267	57,243,283	139,513,063	1,236,804	2.46	36.3%
FS Equity Partners V, L.P.	2003	15,000,000	12,851,976	25,116,883	1,312,080	2.06	15.4%
FdG Capital Partners II LP	2004	25,000,000	26,938,873	31,142,933	1,461,999	1.21	3.7%
Lincolnshire Equity Fund III, L.P.	2004	15,000,000	15,001,893	21,212,913	5,743,365	1.80	28.1%
Markstone Capital Partners, LP	2004	10,000,000	11,724,772	4,955,651	68,054	0.43	-39.5%
Medica III Investments (International) L.P.	2004	10,000,000	10,000,000	4,237,089	2,406,000	0.66	-7.5%
Yucaipa American Alliance Fund I, LP	2004	20,000,000	29,967,488	35,202,784	1,420,123	1.22	4.7%
Arlington Capital Partners II, L.P.	2005	20,000,000	20,236,733	35,601,071	45,078	1.76	11.3%
Blackstone Mezzanine Partners II, L.P.	2005	11,954,147	13,356,475	17,778,894	159,467	1.34	7.8%
Carlyle Partners IV, L.P.	2005	50,000,000	51,537,550	100,903,803	1,293,570	1.98	13.0%
FirstMark Capital I, L.P. (fka FirstMark IV)	2005	10,000,000	10,927,097	37,049,724	30,652,592	6.20	32.1%
JP Morgan Fleming (Tranche A)	2005	40,000,000	39,978,833	40,332,416	10,785,102	1.28	4.6%
New Mountain Partners II, L.P.	2005	7,741,935	7,011,896	13,507,602	83,059	1.94	13.6%
Palladium Equity Partners III, L.P.	2005	25,000,000	27,049,705	48,491,817	1,447,724	1.85	14.4%
Psilos Group Partners III, L.P.	2005	12,500,000	13,287,792	6,410,270	11,761,489	1.37	4.3%
Snow Phipps Group, L.P.	2005	10,000,000	11,913,742	10,457,308	4,382,051	1.25	4.8%
USPF II Institutional Fund, L.P.	2005	20,000,000	26,379,750	30,753,066	2,802,217	1.27	4.0%
Aisling Capital II, LP	2006	2,500,000	2,945,044	2,852,895	127,276	1.01	0.2%
Apollo Investment Fund VI, L.P.	2006	45,000,000	57,919,123	86,669,134	910,633	1.51	8.7%
Ares Corporate Opportunities Fund II, L.P.	2006	15,000,000	16,428,261	27,406,387	25,925	1.67	13.1%

Information provided by the New York City Police Retirement Systems Consultants

Alternative Assets Manager Performance Detail

Through December 31, 2019



	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Arsenal Capital Partners II, LP	2006	10,000,000	12,195,086	19,452,632	4,254,021	1.94	12.1%
Atlantic Equity Partners IV, L.P.	2006	25,124,928	24,311,807	4,274,904	14,062,568	0.75	-3.2%
Avista Capital Partners, L.P.	2006	20,000,000	26,295,958	32,016,285	325,243	1.23	4.4%
Blackstone Capital Partners V, L.P.	2006	42,087,697	44,813,712	71,189,966	1,543,177	0.39	-20.8%
Capital Partners Private Equity Income Fund, L.P.	2006	15,000,000	14,476,277	33,181,704	340,121	2.32	21.1%
Catterton Partners VI, L.P.	2006	20,000,000	22,775,054	35,761,963	6,004,456	1.83	11.3%
Coller International Partners V, L.P.	2006	10,000,000	8,744,365	11,598,430	760,577	1.41	8.0%
Euro Choice III L.P.	2006	26,710,165	26,875,176	29,701,826	1,805,216	1.17	3.1%
Falconhead Capital Partners II, L.P.	2006	15,000,000	16,846,651	16,818,185	3,470,998	1.20	3.5%
First Reserve Fund XI, L.P.	2006	20,000,000	21,253,053	13,803,370	819,596	0.69	-8.1%
GF Capital Private Equity Fund, L.P.	2006	10,000,000	10,488,825	13,672,386	4,467,282	1.73	11.6%
InterMedia Partners VII, L.P.	2006	12,500,000	14,599,097	14,795,867	(15,513)	1.01	0.2%
Landmark Equity Partners XIII, L.P.	2006	10,000,000	9,611,868	10,450,828	2,372,335	1.33	5.5%
MidOcean Partners III, L.P.	2006	38,823,185	46,380,826	91,070,481	5,657,577	2.09	13.0%
NB Co-Investment Partners LP	2006	60,000,000	60,616,170	85,745,060	4,101,557	1.48	8.9%
Permira IV, L.P.	2006	16,126,554	17,593,382	25,416,279	2,091,906	1.56	8.6%
RRE Ventures IV, L.P.	2006	15,000,000	19,052,223	12,141,259	13,733,335	1.36	4.3%
Terra Firma Capital Partners III, L.P.	2006	15,529,017	15,742,445	6,102,718	1,218,058	0.47	-9.1%
The Fourth Cinven Fund	2006	13,531,938	14,218,068	20,526,269	(8,662)	1.44	7.3%
Thomas, McNerney & Partners II, L.P.	2006	10,000,000	10,139,667	22,044,274	1,033,907	2.28	16.7%
Carlyle Partners V, L.P.	2007	50,000,000	51,532,052	85,213,809	6,969,113	1.79	13.7%
Comvest Investment Partners III, L.P.	2007	15,000,000	19,429,668	26,719,980	70,958	1.38	7.5%
Constellation Venture Capital III, L.P.	2007	15,000,000	17,295,938	8,712,259	4,609,507	0.77	-4.1%
FTVentures III, LP	2007	7,500,000	8,231,525	16,022,587	2,235,643	2.22	15.7%
Gleacher Mezzanine Fund II, L.P.	2007	10,000,000	9,197,768	12,187,028	75,307	1.33	10.6%
GSO Capital Opportunities Fund LP	2007	17,500,000	26,202,290	37,188,395	257,110	1.43	17.3%
Highland Consumer Fund I LP	2007	10,000,000	10,016,060	6,120,655	2,008,780	0.81	-2.8%
Montreux Equity Partners IV, L.P.	2007	10,000,000	10,000,000	5,522,350	8,079,418	1.36	4.5%
New Mountain Partners III, L.P.	2007	35,000,000	35,653,120	47,462,355	27,331,419	2.10	13.5%
Olympus Capital Asia III, L.P.	2007	20,000,000	23,404,664	11,953,414	6,458,554	0.79	-5.1%
PCG Clean Energy & Technology Fund (East), LLC	2007	40,000,000	36,190,929	9,315,169	4,201,823	0.37	-13.3%
Pegasus Partners IV, L.P.	2007	15,000,000	18,225,016	13,800,466	3,080,904	0.93	-1.4%
Pine Brook Capital Partners, L.P.	2007	15,000,000	17,034,149	21,219,552	674,729	1.29	6.8%

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	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Quaker BioVentures II, L.P.	2007	15,000,000	14,444,055	12,870,505	2,442,918	1.06	1.3%
SCP Vitalife Partners II Fund	2007	15,000,000	15,074,774	1,184	8,856,325	0.59	-5.9%
Trilantic Capital Partners IV L.P.	2007	45,856,523	47,868,579	70,629,425	4,578,616	1.57	13.5%
United States Power Fund III, L.P.	2007	15,000,000	17,746,993	18,308,108	3,426,792	1.22	3.6%
Vista Equity Partners Fund III, L.P.	2007	20,000,000	21,464,283	51,079,934	1,880,307	2.47	26.9%
Aisling Capital III, LP	2008	7,000,000	7,896,464	18,009,956	688,935	2.37	26.2%
Apollo Investment Fund VII, L.P.	2008	50,000,000	61,204,659	96,600,411	7,118,034	1.69	22.5%
Ares Corporate Opportunities Fund III, L.P.	2008	25,000,000	30,533,959	60,593,466	5,134,442	2.15	20.5%
Avista Capital Partners II, L.P.	2008	35,000,000	46,027,792	72,128,865	5,000,691	1.68	14.9%
Blue Wolf Capital Fund II, L.P.	2008	15,000,000	16,300,742	18,854,994	6,058,303	1.53	9.3%
Bridgepoint Europe IV	2008	13,327,269	13,523,775	18,263,849	2,228,332	1.52	9.8%
Crestview Partners II, L.P.	2008	22,500,000	26,177,948	33,800,196	11,580,956	1.73	13.5%
CVC European Equity Partners V, L.P.	2008	34,246,280	36,990,385	66,959,033	4,262,068	1.93	16.2%
Euro Choice IV L.P.	2008	19,360,518	17,913,130	18,214,869	7,683,502	1.45	7.4%
First Reserve Fund XII, L.P.	2008	20,000,000	22,216,378	11,104,060	3,013,893	0.64	-10.2%
GCM Grosvenor NYCPPF Emerging Manager Fund, L.P.	2008	59,909,091	75,029,107	69,337,599	37,793,115	1.43	10.0%
GI Partners Fund III L.P.	2008	17,500,000	18,907,003	29,485,670	180,802	1.57	13.0%
Landmark Equity Partners XIV, L.P.	2008	27,250,000	26,541,159	30,548,131	4,265,610	1.31	9.4%
Levine Leichtman Capital Partners IV, L.P.	2008	10,000,000	10,707,203	16,918,959	925,570	1.67	18.1%
Milestone Partners III, L.P.	2008	15,000,000	16,394,499	13,980,609	1,797,423	0.96	-0.7%
NGN BioMed Opportunity II, L.P.	2008	10,000,000	9,575,911	6,673,105	4,719,771	1.19	2.6%
Onex Partners III LP	2008	15,000,000	16,404,302	21,830,176	5,522,603	1.67	12.3%
Paladin III (NY City), L.P.	2008	30,000,000	41,065,348	29,908,122	58,898,027	2.16	13.7%
Riverstone/Carlyle Global Energy & Power Fund IV, L.P.	2008	15,000,000	17,401,737	16,563,787	2,720,060	1.11	2.8%
Yucaipa American Alliance Fund II, LP	2008	50,000,000	68,624,624	66,020,091	45,519,025	1.63	8.8%
Yucaipa Corporate Initiatives Fund II, LP	2008	14,030,930	13,778,130	8,227,223	4,075,236	0.89	-1.7%
FS Equity Partners VI, L.P.	2009	20,000,000	20,104,995	47,435,328	14,183,556	3.06	24.1%
Lexington Capital Partners VII, L.P.	2009	20,000,000	17,846,217	23,430,979	4,631,687	1.57	13.9%
Lincolnshire Equity Fund IV, L.P.	2009	7,500,000	8,033,139	9,239,001	3,208,189	1.55	10.4%
NorthBound Emerging Manager Custom Fund LP	2009	20,000,000	17,467,088	23,789,323	5,533,933	1.68	13.1%
Scale Venture Partners III, LP	2009	10,000,000	9,894,906	25,501,764	2,561,105	2.84	23.0%
Welsh, Carson, Anderson & Stowe XI, L.P.	2009	22,500,000	22,500,000	29,116,850	7,709,866	1.64	12.0%
Comvest Investment Partners IV, L.P.	2010	45,000,000	46,167,934	74,289,503	7,301,224	1.77	28.5%

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	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Snow Phipps II, L.P.	2010	17,500,000	20,303,477	14,863,182	12,768,508	1.36	8.9%
Trident V, L.P.	2010	40,000,000	46,608,482	52,167,466	24,589,977	1.65	11.3%
American Securities Partners VI, L.P.	2011	50,000,000	53,692,799	80,636,521	25,837,687	1.98	21.7%
Ampersand 2011	2011	12,500,000	12,500,000	20,229,541	19,159,899	3.15	22.5%
AXA Secondary Fund V B L.P.	2011	80,000,000	65,913,485	104,547,940	1,244,553	1.61	15.5%
BC European Capital IX	2011	65,880,735	71,523,240	69,266,266	44,956,458	1.60	12.7%
BDCM Opportunity Fund III, L.P.	2011	20,000,000	28,785,404	13,843,051	26,714,763	1.41	8.5%
Blackstone Capital Partners VI, L.P.	2011	35,000,000	36,861,935	31,818,008	26,386,609	1.58	12.1%
EQT VI, L.P.	2011	48,737,105	50,602,887	69,511,341	18,390,198	1.74	14.2%
Pegasus Partners V, L.P.	2011	14,552,940	18,009,763	15,765,091	12,584,382	1.57	11.5%
Vista Equity Partners Fund IV, L.P.	2011	70,000,000	71,618,867	91,762,767	47,801,928	1.95	17.2%
Wellspring Capital Partners V, L.P.	2011	22,500,000	23,638,255	26,392,886	10,050,587	1.54	14.9%
Ares Corporate Opportunities Fund IV, L.P.	2012	50,000,000	52,838,688	33,009,041	47,820,858	1.53	12.6%
Green Equity Investors VI, L.P.	2012	55,000,000	59,299,122	41,960,965	62,504,725	1.76	16.1%
Neuberger Berman Strategic Co-Investment II LP	2012	60,000,000	57,069,637	55,631,239	25,391,463	1.42	12.0%
<u>NYCPPF - 2012 Emerging Manager Program</u>	<u>2012</u>	<u>45,000,000</u>	<u>45,312,550</u>	<u>23,651,219</u>	<u>49,163,587</u>	<u>1.61</u>	<u>15.6%</u>
Palladium Equity Partners IV, L.P.	2012	35,000,000	32,933,728	17,048,528	29,905,971	1.43	11.7%
Platinum Equity Capital Partners III, L.P.	2012	50,000,000	43,677,356	58,703,295	26,367,443	1.95	36.6%
Summit Partners Growth Equity Fund VIII-A, L.P.	2012	75,000,000	84,977,685	143,371,446	39,761,933	2.16	26.5%
Trilantic Capital Partners V L.P.	2012	50,000,000	54,776,908	52,733,232	30,857,361	1.53	17.3%
Warburg Pincus Private Equity XI, L.P.	2012	80,000,000	85,115,264	87,558,201	50,135,570	1.62	13.3%
Apollo Investment Fund VIII, L.P.	2013	100,000,000	91,954,789	42,682,260	86,195,024	1.40	12.3%
Carlyle Partners VI, L.P.	2013	60,000,000	63,425,223	27,268,870	56,724,034	1.32	10.1%
Crestview Partners III (Co-Investment B), L.P.	2013	15,000,000	15,235,058	740,414	16,245,382	1.11	4.3%
Crestview Partners III, L.P.	2013	45,000,000	31,687,447	19,201,973	22,509,945	1.32	12.0%
Landmark - NYC Fund I, L.P.	2013	23,000,000	19,516,097	13,264,995	14,545,317	1.42	14.2%
Landmark Equity Partners XV, L.P.	2013	67,000,000	49,670,183	36,541,175	26,407,512	1.27	11.6%
ASF VI B L.P.	2014	60,000,000	46,711,976	35,816,576	30,835,302	1.43	12.5%
ASF VI B NYC Co-Invest L.P.	2014	20,000,000	16,050,653	14,705,427	8,088,299	1.42	12.6%
Carlyle Partners VI, L.P. (Side Car)	2014	6,600,000	4,798,851	276,667	4,380,937	0.97	-0.8%
CVC Capital Partners VI, L.P.	2014	88,071,835	89,285,220	40,167,664	92,394,546	1.48	16.0%
Lexington Capital Partners VIII, L.P.	2014	80,000,000	69,548,071	35,143,296	57,036,139	1.33	17.1%
Olympus Growth Fund VI, L.P.	2014	35,000,000	29,307,573	13,224,758	25,990,263	1.34	12.1%

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	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
Vista Equity Partners Fund V, L.P.	2014	85,000,000	98,754,619	101,988,111	84,412,512	1.89	21.8%
American Securities Partners VII, L.P.	2015	37,000,000	29,966,918	4,491,819	24,220,919	0.96	-2.2%
ASF VII B L.P.	2015	44,500,000	19,274,154	4,326,824	21,466,955	1.34	17.1%
ASF VII B NYC Co-Invest L.P.	2015	22,000,000	12,750,758	3,437,042	16,832,078	1.59	29.1%
Bridgepoint Europe V Co-Invest	2015	8,145,854	7,563,632	3,321,506	10,859,855	1.87	31.8%
Bridgepoint Europe V L.P.	2015	29,691,120	29,117,067	10,450,353	28,134,309	1.33	14.1%
Centerbridge Capital Partners III, L.P.	2015	11,100,000	9,076,935	3,755,045	8,700,873	1.37	16.4%
EQT VII, L.P.	2015	77,003,845	74,843,009	34,385,018	78,023,671	1.50	21.1%
<u>NYCPPF - 2015 Emerging Manager Program</u>	<u>2015</u>	<u>59,750,000</u>	<u>29,633,442</u>	<u>5,502,465</u>	<u>32,624,021</u>	<u>1.29</u>	<u>21.1%</u>
Siris Partners III, L.P.	2015	15,000,000	13,533,137	7,106,423	10,226,608	1.28	12.4%
Warburg Pincus Private Equity XII, L.P.	2015	97,000,000	90,926,389	9,154,697	107,063,428	1.28	13.9%
Welsh, Carson, Anderson & Stowe XII, L.P.	2015	37,000,000	33,032,871	15,305,990	38,920,288	1.64	26.1%
Apax IX USD, L.P.	2016	60,000,000	55,411,184	1,577,762	76,231,622	1.40	29.5%
Platinum Equity Capital Partners IV, L.P.	2016	52,500,000	44,918,211	12,470,112	46,740,112	1.32	22.5%
Vista Equity Partners Fund VI, L.P.	2016	75,000,000	81,943,220	18,719,365	97,053,298	1.41	17.6%
Ares Corporate Opportunities Fund V, L.P.	2017	44,000,000	37,883,524	4,133,041	37,603,609	1.10	8.7%
BC European Capital X	2017	42,058,066	27,058,394	546,034	31,938,316	1.20	15.1%
BCEC X Co-Investment	2017	16,986,513	15,669,976	-	20,252,682	1.29	21.2%
Green Equity Investors VII, L.P.	2017	44,000,000	30,700,086	394,137	37,000,757	1.22	13.4%
KKR Americas Fund XII, L.P.	2017	75,000,000	35,926,600	494,426	40,150,071	1.13	10.8%
Palladium Equity Partners V, L.P.	2017	23,333,333	6,450,154	77,805	5,409,415	0.85	NM
Warburg Pincus Financial Sector, L.P.	2017	62,000,000	34,221,112	3,162,000	33,663,141	1.08	NM
Apollo Investment Fund IX, L.P.	2018	154,000,000	27,920,986	224,949	25,009,985	0.90	NM
Bridgepoint Europe VI	2018	83,503,632	12,329,802	-	13,465,373	1.09	NM
Bridgepoint Europe VI Co-Invest	2018	20,914,077	3,461,035	-	3,637,852	1.05	NM
CVC Capital Partners VII, L.P.	2018	91,844,306	45,915,732	386,364	49,068,782	1.08	NM
EQT VIII Co-Investment	2018	27,868,094	15,194,041	-	16,308,559	1.07	NM
EQT VIII, L.P.	2018	76,723,931	33,860,064	944,475	36,362,069	1.10	NM
Platinum Equity Capital Partners IV Co-Investment, L.P.	2018	7,500,000	5,250,000	-	7,218,989	1.38	NM
Platinum Equity Small Cap Fund, L.P.	2018	28,500,000	4,835,117	-	3,024,237	0.63	NM
Siris Partners IV, L.P.	2018	62,000,000	28,515,549	-	33,397,075	1.17	NM
Vista Equity Partners Fund VII, L.P.	2018	124,500,000	30,521,781	90,120	29,417,897	0.97	NM
Apax X USD L.P.	2019	66,500,000	-	-	(461,742)	-	N/A

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	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
ASF VIII B L.P.	2019	111,000,000	7,426,046	325	11,183,306	1.51	NM
ASF VIII B NYC Co-Invest L.P.	2019	55,500,000	2,203,257	-	4,124,275	1.87	NM
Blackstone Capital Partners VIII L.P.	2019	69,500,000	-	-	-	-	N/A
Crestview Partners IV (Co-Investment), L.P.	2019	16,666,667	-	-	42,750	-	NM
Crestview Partners IV, L.P.	2019	50,000,000	-	-	96,955	-	NM
KKR European Fund V (USD)	2019	50,150,000	-	-	(483,927)	-	N/A
Lexington Capital Partners IX	2019	74,625,000	5,284,943	-	9,386,036	1.78	NM
Lexington IX Co-Invest	2019	24,875,000	-	-	(27,914)	-	N/A
Lindsay Goldberg V	2019	55,500,000	-	-	-	-	N/A
<i><u>NYCPPF - 2019 Emerging Manager Program</u></i>	<i><u>2019</u></i>	<i><u>75,250,000</u></i>	<i><u>3,303,589</u></i>	<i><u>-</u></i>	<i><u>3,614,103</u></i>	<i><u>1.09</u></i>	<i><u>NM</u></i>
Platinum Equity Capital Partners V, L.P.	2019	119,000,000	405,741	-	307,196	0.76	NM
Trilantic Capital Partners VI (North America) L.P.	2019	40,000,000	9,885,095	8,850	8,818,312	0.89	NM
Warburg Pincus Global Growth, L.P.	2019	80,000,000	12,767,068	-	11,703,072	0.92	NM
Welsh, Carson, Anderson & Stowe XIII, L.P.	2019	62,000,000	454,788	-	(1,180,342)	(2.60)	NM
Green Equity Investors VIII Coinvest N, L.P.	2020	23,200,000	-	-	-	-	N/A
Green Equity Investors VIII, L.P.	2020	69,500,000	-	-	-	-	N/A
Platinum Equity Capital Partners V Co-Investment, L.P.	2020	29,750,000	-	-	-	-	N/A

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	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
TOTAL PRIVATE REAL ESTATE			3,473,678,294	2,863,628,766	1,899,384,516	2,144,200,405	1.41	8.6%
TOTAL PRIVATE REAL ESTATE								
PRISA SA	2006	Core Portfolio	21,000,000	22,590,656	9,324,392	30,245,165	1.75	0.05
Prologis Targeted U.S. Logistics Fund	2006	Core Portfolio	10,000,000	13,594,865	4,983,979	20,732,142	1.89	0.06
RREEF America REIT II	2006	Core Portfolio	21,000,000	27,724,347	15,301,950	30,879,528	1.67	5.3%
UBS Trumbull Property Fund	2006	Core Portfolio	61,000,000	94,023,872	94,683,058	49,135,265	1.53	6.3%
Colony Realty Partners II	2007	Core Portfolio	20,000,000	21,420,211	5,540,084	-	0.26	-13.4%
Heitman HART	2007	Core Portfolio	28,000,000	46,252,479	18,252,479	62,666,037	1.75	7.4%
JP Morgan Special Situation Property Fund	2007	Core Portfolio	15,000,000	17,613,742	6,535,318	22,205,238	1.63	4.7%
JP Morgan Strategic Property Fund	2007	Core Portfolio	56,000,000	62,422,616	1,810,834	130,701,000	2.12	7.7%
PRISA II	2007	Core Portfolio	60,278,867	63,729,327	22,726,417	93,162,292	1.82	5.9%
LaSalle Property Fund	2010	Core Portfolio	115,000,000	100,973,168	21,035,348	125,746,088	1.45	10.1%
Almanac Realty Securities VI	2012	Core Portfolio	50,000,000	33,444,956	36,587,072	8,883,280	1.36	11.5%
Almanac Realty Securities VI (Sidecar II)	2012	Core Portfolio	15,000,000	5,829,583	5,302,452	3,610,212	1.53	14.0%
NYC Asset Investor #2 LLC	2013	Core Portfolio	60,000,000	60,259,071	25,136,824	45,458,368	1.17	4.2%
MetLife Core Property Fund	2014	Core Portfolio	99,000,000	88,633,082	10,971,845	101,035,034	1.26	9.8%
Almanac Realty Securities VII	2015	Core Portfolio	50,000,000	39,601,872	31,871,957	21,806,561	1.36	14.2%
Almanac Realty Securities VII (Sidecar II)	2016	Core Portfolio	20,000,000	10,142,088	9,188,416	6,197,708	1.52	18.3%
Exeter Industrial Core Club Fund II	2016	Core Portfolio	19,000,000	18,259,000	2,514,600	20,171,981	1.24	13.2%
Jamestown Premier Property Fund	2016	Core Portfolio	26,000,000	31,195,989	13,782,005	24,237,125	1.22	8.0%
NYCRS Artemis Co-Investment (SEM)	2016	Core Portfolio	35,000,000	40,163,907	15,422,552	34,048,778	1.23	16.2%
USAA Eagle Real Estate Fund	2016	Core Portfolio	75,000,000	70,530,886	-	83,673,089	1.19	7.5%
Brookfield Premier Real Estate Partners	2017	Core Portfolio	61,000,000	68,406,181	8,224,169	82,552,319	1.33	11.3%
Carlyle Property Investors	2017	Core Portfolio	61,000,000	66,620,723	6,378,327	71,808,238	1.17	8.1%
Lion Industrial Trust - 2007	2017	Core Portfolio	110,000,000	97,118,447	6,260,929	116,250,722	1.26	14.8%
Almanac Realty Securities VIII	2019	Core Portfolio	42,000,000	4,054,140	72,351	3,568,335	0.90	(0.25)
Almanac Realty Securities VIII (Sidecar II)	2019	Core Portfolio	28,000,000	2,820,108	70,757	2,961,065	1.08	20.8%
Artemis Real Estate Partners Income and Growth Fund	2019	Core Portfolio	18,000,000	2,972,998	-	2,985,110	1.00	0.8%
Harrison Street Core Property Fund, L.P.	2019	Core Portfolio	20,000,000	20,061,134	256,273	20,314,941	1.00	2.6%
Heitman Core Real Estate Debt Income Trust	2019	Core Portfolio	28,000,000	29,568,538	1,568,538	30,003,830	1.07	7.0%
HSRE-Centre Street Core Co-Investment, L.P.	2019	Core Portfolio	10,000,000	6,310,680	88,085	6,440,759	1.03	4.7%
Exeter Industrial Core Fund III, LP	2020	Core Portfolio	63,600,000	-	-	(167,287)	N/A	N/A
Blackstone Fund IV	2004	Non-Core Portfolio	15,000,000	19,220,353	26,647,725	566,035	1.42	10.3%
The City Investment Fund I	2004	Non-Core Portfolio	70,000,000	69,030,360	69,808,600	112,405	1.01	0.3%
Canyon Johnson Urban Fund II	2005	Non-Core Portfolio	20,000,000	17,977,405	7,949,305	66,584	0.45	-10.4%
AREA Real Estate Investment Fund V, LP	2006	Non-Core Portfolio	5,000,000	5,000,004	5,400,981	339,190	1.15	1.7%
Blackstone Real Estate Partners VI	2007	Non-Core Portfolio	40,000,000	44,681,307	86,420,919	3,075,066	2.00	13.3%
Carlyle Realty Partners V	2007	Non-Core Portfolio	20,000,000	25,363,459	33,026,831	3,899,475	1.46	8.6%
Colony Investors VIII	2007	Non-Core Portfolio	20,000,000	21,249,679	9,077,487	400,052	0.45	-11.5%
Metropolitan Workforce Housing Fund (SEM)	2007	Non-Core Portfolio	7,000,000	7,006,513	8,372,246	131,372	1.21	3.9%

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

Alternative Assets Manager Performance Detail

Through December 31, 2019



	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
AG Realty Fund VII	2008	Non-Core Portfolio	25,000,000	23,454,500	34,815,911	610,161	1.51	12.6%
American Value Partners Fund I (SEM)	2008	Non-Core Portfolio	15,000,000	11,355,858	10,239,833	1,167,107	1.00	0.1%
Ares European Real Estate Fund III, LP	2008	Non-Core Portfolio	30,000,000	30,487,500	33,237,500	571,882	1.11	2.6%
PRISA III	2008	Non-Core Portfolio	30,000,000	35,657,776	-	103,536,226	2.90	11.8%
Silverpeak Legacy Partners III	2008	Non-Core Portfolio	30,000,000	13,301,089	2,649,052	2,089,660	0.36	-10.6%
Stockbridge Real Estate Fund III	2008	Non-Core Portfolio	27,000,000	26,998,145	16,829,753	14,887,666	1.17	2.3%
Westbrook Real Estate Fund VII	2008	Non-Core Portfolio	10,000,000	11,217,214	10,557,579	2,671,747	1.18	2.8%
Thor Urban Property Fund II	2009	Non-Core Portfolio	20,000,000	27,398,054	27,390,625	6,152,577	1.22	5.9%
Walton Street Real Estate Fund VI	2009	Non-Core Portfolio	30,000,000	26,594,360	30,436,207	10,548,565	1.54	8.5%
Blackstone Real Estate Partners Europe III (USD Vehicle)	2010	Non-Core Portfolio	35,000,000	36,492,427	48,460,723	5,746,523	1.49	10.9%
Westbrook Real Estate Fund VIII	2010	Non-Core Portfolio	35,000,000	41,766,946	48,229,691	6,492,391	1.31	11.0%
Carlyle Realty Partners VI	2011	Non-Core Portfolio	40,000,000	38,480,345	62,362,235	4,026,438	1.73	25.0%
H/2 Special Opportunities Fund II	2011	Non-Core Portfolio	25,000,000	25,000,000	36,326,690	1,846,224	1.53	14.1%
Blackstone Real Estate Partners VII	2012	Non-Core Portfolio	100,000,000	123,690,974	158,845,942	49,350,641	1.68	17.1%
Brookfield Strategic Real Estate Partners	2012	Non-Core Portfolio	60,000,000	68,339,131	102,562,814	34,367,937	2.00	20.5%
Divco West Fund III	2012	Non-Core Portfolio	70,000,000	68,667,971	118,691,523	134,765	1.73	23.9%
Taconic New York City Investment Fund LP	2012	Non-Core Portfolio	40,000,000	16,727,272	27,092,715	2,730,238	1.78	15.9%
NYC Asset Investor #1 LLC	2013	Non-Core Portfolio	30,000,000	33,027,783	15,278,554	25,775,759	1.24	5.4%
NYC Asset Investor #3 LLC	2013	Non-Core Portfolio	40,000,000	26,193,791	4,631,128	31,421,590	1.38	9.8%
Blackstone Real Estate Partners Europe IV (USD Vehicle)	2014	Non-Core Portfolio	97,500,000	94,643,307	106,362,499	39,348,513	1.54	15.0%
Carlyle Realty Partners VII	2014	Non-Core Portfolio	60,000,000	53,987,087	51,022,242	27,456,368	1.45	16.0%
Divco West Fund IV	2014	Non-Core Portfolio	70,000,000	69,301,157	105,751,116	10,323,414	1.67	25.6%
Lone Star Real Estate Fund III	2014	Non-Core Portfolio	75,000,000	70,306,161	86,780,891	9,228,109	1.37	14.8%
Avanath Affordable Housing Fund II (SEM)	2015	Non-Core Portfolio	5,000,000	4,861,193	1,365,281	6,578,297	1.63	12.5%
Blackstone Real Estate Partners VIII	2015	Non-Core Portfolio	101,000,000	105,904,121	39,999,322	102,408,058	1.34	16.4%
H/2 Special Opportunities Fund III	2015	Non-Core Portfolio	40,000,000	40,000,000	33,933,698	19,368,242	1.33	11.5%
European Property Investors Special Opportunities IV (EPISO IV)	2016	Non-Core Portfolio	32,413,099	26,735,872	3,519,043	29,107,179	1.22	10.6%
PW Real Estate Fund III LP	2016	Non-Core Portfolio	30,811,730	21,357,229	8,176,096	30,938,442	1.83	34.4%
Westbrook Real Estate Fund X	2016	Non-Core Portfolio	24,000,000	18,962,034	9,431,577	13,050,426	1.19	13.5%
Divco West Fund V	2017	Non-Core Portfolio	40,000,000	21,344,526	-	24,853,811	1.16	8.1%
DRA Growth and Income Fund IX	2017	Non-Core Portfolio	27,000,000	25,503,104	6,255,436	23,953,915	1.18	15.0%
Exeter Industrial Value Fund IV	2017	Non-Core Portfolio	16,000,000	13,600,000	-	15,742,016	1.16	13.0%
H/2 Special Opportunities Fund IV	2017	Non-Core Portfolio	61,000,000	25,870,429	-	28,656,839	1.11	9.3%
KKR CMBS B-Piece SMA	2017	Non-Core Portfolio	81,000,000	72,294,174	9,805,293	73,779,953	1.16	10.0%
Lone Star Real Estate Fund V	2017	Non-Core Portfolio	92,700,000	24,205,221	5,939,072	17,333,644	0.96	-4.5%
Pramerica Real Estate Capital VI (PRECap VI)	2017	Non-Core Portfolio	32,630,522	26,184,950	14,261,512	16,977,570	1.19	18.9%
Basis Investment Group Fund I (SEM)	2018	Non-Core Portfolio	9,500,000	4,674,684	941,168	4,534,270	1.17	13.1%
KKR Real Estate Partners Americas II	2018	Non-Core Portfolio	65,850,000	36,756,722	6,211,426	38,876,650	1.23	27.1%
AERMONT Real Estate Fund IV	2019	Non-Core Portfolio	19,401,963	3,219,225	-	3,428,360	1.06	12.4%
Blackstone Real Estate Partners IX	2019	Non-Core Portfolio	101,000,000	17,464,984	387,664	17,402,972	1.02	3.7%
Brookfield Strategic Real Estate Partners III	2019	Non-Core Portfolio	95,000,000	23,341,732	7,600	24,644,553	1.06	6.2%

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

Alternative Assets Manager Performance Detail

Through December 31, 2019



	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	2020	Non-Core Portfolio	69,992,113	2,391,972	-	2,361,228	0.99	-1.4%
GreenOak Asia III (USD Vehicle)	2020	Non-Core Portfolio	40,000,000	-	-	(183,623)	N/A	N/A

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

Alternative Assets Manager Performance Detail

Through December 31, 2019



	Vintage Year	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
TOTAL INFRASTRUCTURE		874,417,954	459,979,468	107,256,785	480,634,416	1.28	12.9%
TOTAL INFRASTRUCTURE INVESTMENTS							
Brookfield Infrastructure Fund II, L.P.	2013	60,000,000	49,997,130	19,692,325	58,280,664	1.56	12.0%
Global Energy & Power Infrastructure Fund II	2014	40,000,000	40,252,629	30,107,138	26,340,978	1.40	28.7%
IFM Global Infrastructure Fund	2014	60,000,000	80,109,292	29,685,136	94,517,738	1.55	13.0%
Actis Energy 4	2016	39,600,000	26,245,988	3,760,146	30,996,000	1.32	21.9%
Brookfield Infrastructure Fund III, L.P.	2016	61,000,000	32,752,114	5,002,582	34,004,410	1.19	10.0%
Global Infrastructure Partners III-A/B, L.P.	2016	71,000,000	58,006,493	7,876,489	58,229,461	1.14	7.2%
ASF VII Infrastructure L.P.	2017	42,000,000	16,339,047	1,751,298	17,465,949	1.18	20.4%
Axiom Infrastructure North America	2017	42,662,239	43,287,852	3,701,528	44,220,697	1.11	9.6%
EQT Infrastructure III (No.2) SCSp	2017	34,574,172	31,969,729	3,135,058	36,007,908	1.22	15.8%
NYCRS EIG Energy Partners, L.P.	2017	42,350,000	9,460,676	1,170,021	9,293,870	1.11	9.0%
Cardinal NR Sidecar Holdings L.P.	2018	6,560,000	6,600,399	706,623	7,429,931	NM	NM
Global Energy & Power Infrastructure Fund III, L.P.	2018	54,700,000	9,222,939	435,992	9,841,168	NM	NM
KKR Global Infrastructure Investors III L.P.	2018	54,700,000	16,014,092	229,789	15,831,197	NM	NM
NYCRS EIG Energy Partners Co-Investment, L.P.	2018	10,590,000	-	-	-	NM	NM
Ardian Infrastructure Fund V B	2019	45,981,543	2,096,815	2	1,799,516	NM	NM
Brookfield Infrastructure Fund IV (BIF IV): Co-invest	2019	6,000,000	6,000,000	-	6,000,000	NM	NM
Brookfield Infrastructure Fund IV, L.P.	2019	62,000,000	18,266,679	2,658	18,038,628	NM	NM
EQT Infrastructure IV (No.2) USD SCSp	2019	63,500,000	12,376,366	-	12,374,698	NM	NM
EQT Infrastructure IV Co-Investment (Saber)	2019	5,100,000	-	-	-	NM	NM
Global Infrastructure Partners IV-A/B, L.P.	2019	72,100,000	981,229	-	(38,397)	NM	NM

Information provided by the New York City Police Retirement Systems Consultants

Alternative Assets Manager Performance Detail

Through March 31, 2020



	Vintage Year	Commitment - Closing (Base)	Contributions Cumulative (Local)	Distributions Cumulative	Final Market Value	3 Month Base%	Inception IRR%
TOTAL OPPORTUNISTIC FIXED INCOME		1,795,558,838	1,986,721,648	985,602,313	1,508,646,987	0.35%	7.17%
Avenue Special Situations Fund V, L.P.	2007	20,209,326	20,520,314	26,826,898	-		NM
Avenue Europe Special Sit. Fund, L.P.	2008	14,948,621	13,775,563	26,870,440	-		NM
PIMCO DiSCO Fund, L.P.	2008	63,000,000	63,179,655	85,872,192	-		11.23%
Alliance Bernstein PPIP Fund, L.P.	2009	27,775,890	27,775,890	38,205,542	-		15.57%
Torchlight Debt Opportunity Fund III, LLC	2009	35,000,000	37,314,271	55,514,899	-		13.36%
AG GECC PPIP Fund, L.P.	2010	27,000,000	27,052,129	41,724,862	-		20.19%
Avenue Special Situations Fund VI (A), L.P.	2011	45,000,000	46,135,636	45,817,894	3,153,524	0.00%	1.37%
GoldenTree Managed Account	2011	88,000,000	82,502,006	-	135,988,276	-0.72%	6.75%
Marathon Centre Street Partnership, L.P. - Asset Class	2011	140,625,000	228,375,000	99,000,000	205,404,326	1.69%	6.63%
AG Centre Street Partnership, L.P. - CC Asset Class	2012	105,000,000	95,550,000	27,781,909	95,603,286	0.38%	4.84%
Apollo Centre Street Partnership, L.P.	2012	162,500,000	322,819,795	160,254,365	207,180,218	1.18%	5.30%
FCO MA Centre Street L.P.	2012	90,000,000	173,584,221	119,312,772	98,188,793	0.00%	8.51%
OHA Centre Street Partnership, L.P.	2012	112,500,000	157,471,294	44,971,294	172,501,797	-0.02%	7.61%
Contrarian Centre Street Partnership, L.P.	2013	55,000,000	55,000,000	-	54,411,057	-2.81%	-0.21%
Lone Star Fund VIII (U.S.), L.P.	2013	70,000,000	68,907,286	65,246,888	19,994,398	0.00%	11.52%
Oaktree Opportunities Fund IX, L.P.	2013	70,000,000	70,000,000	33,526,801	51,572,964	0.00%	3.95%
Ares Centre Street Partnership, L.P.	2014	90,000,000	82,360,975	-	123,589,826	0.71%	9.27%
Brightwood Capital Fund III, L.P.	2015	22,000,000	17,853,821	9,084,668	12,317,808	0.00%	4.94%
Torchlight Debt Opportunity Fund V, LP	2015	46,000,000	36,800,000	33,971,314	13,212,162	0.20%	11.75%
Brightwood Capital Fund IV, LP	2016	55,000,000	49,500,000	4,913,660	47,978,528	0.00%	4.86%
ICG Centre Street Partnership, L.P.	2017	80,000,000	93,504,056	47,146,442	53,480,601	0.00%	7.70%
KKR OFI SMA	2017	171,000,000	115,435,493	16,278,858	111,680,716	0.00%	10.29%
Maranon Centre Street Partnership, L.P.	2018	64,000,000	55,033,778	1,841,119	56,806,527	1.71%	7.81%
FCO MA Centre Street II (PF) LP	2019	90,000,000	16,695,000	-	16,527,662	0.00%	-7.47%
Torchlight Debt Fund VI, LP	2019	51,000,000	29,575,465	1,439,494	29,054,518	0.00%	7.18%

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

Alternative Assets Manager Performance Detail

Through March 31, 2020



	Market Value	MTD Return%	3 Month Return%	FYTD Return%	YTD Return%	1 Year Return%	3 Year Return%	ITD Return%	ITD Cumulative Return%
TOTAL HEDGE FUNDS	2,695,360,366	1.63%	4.43%	3.98%	4.43%	8.21%	6.20%	4.28%	44.31%
TOTAL DIRECT HEDGE FUNDS	2,608,724,583	2.16%	5.11%	4.49%	5.11%	8.88%	6.62%	5.18%	52.36%
FUND OF FUNDS HEDGE FUNDS	86,635,783	-12.05%	-12.40%	-10.20%	-12.40%	-8.71%	-2.07%	0.79%	7.15%
TOTAL DIRECT HEDGE FUNDS									
Caspian Select Credit Fund, L.P.	75,812,375	-11.90%	-12.13%	-10.65%	-12.13%	-9.07%	-1.51%	2.05%	17.45%
D.E. Shaw Composite Fund, L.L.C.	233,658,082	-0.12%	2.12%	7.07%	2.12%	8.97%	10.90%	12.58%	165.74%
Jefferies Structured Alpha Fund B, LLC	67,659,341	-6.91%	-8.36%	-8.96%	-8.36%	-9.73%		-9.07%	-9.79%
Voloridge Fund, LP	102,462,010	5.83%	-0.91%	14.32%	-0.91%	29.70%		33.38%	36.62%
Voloridge Trading Aggressive Fund, LP	37,635,164	2.51%	5.87%	18.19%	5.87%	28.89%		27.14%	29.71%
Relative Value	517,226,972	-1.71%	-2.02%	3.76%	-2.02%	7.60%	8.63%	9.19%	106.55%
AlphaQuest Original LLC	196,193,344	8.68%	17.46%	20.24%	17.46%	33.69%		9.32%	28.71%
Brevan Howard AH Fund, L.P.	364,902,710	71.40%	134.54%	78.40%	134.54%	93.49%		32.73%	128.37%
Florin Court Capital Fund	121,425,836	1.93%	2.09%	6.16%	2.09%	13.93%		11.68%	20.22%
GreshamQuant - ACAR Fund, LLC	60,301,143	5.84%	11.11%	9.64%	11.11%			9.64%	9.64%
GSA Trend Fund LP	185,388,039	3.81%	3.95%	4.04%	3.95%	7.10%		-0.67%	-1.95%
Key Square Partners LP	156,441,948	-13.82%	-15.36%	-21.15%	-15.36%	-19.71%		-7.37%	-19.51%
Pharo Gaia Fund, LTD.	167,851,353	-15.97%	-11.73%	-12.23%	-11.73%	-5.70%	4.20%	8.39%	41.77%
Pharo Macro Fund, Ltd.	102,979,471	-10.79%	-6.91%	-9.28%	-6.91%	-5.32%	3.56%	6.64%	54.33%
Tactical Trading	1,355,483,843	8.89%	16.87%	11.27%	16.87%	18.03%	8.88%	4.34%	42.51%
DL Partners Opportunities Fund LP	109,149,905	-9.44%	-9.36%	-9.86%	-9.36%	-11.47%		-6.74%	-9.42%
Fir Tree Value Fund, L.P.	866,180	-52.10%	-62.93%	-61.74%	-62.93%	-61.83%	-29.41%	-13.03%	-63.25%
Luxor Capital Partners Liquidating SPV, LLC.	2,090,924	-17.79%	-27.13%	-37.52%	-27.13%	-38.35%		-15.63%	-22.51%
Luxor Capital Partners, LP	163,397,918	-3.49%	-1.05%	3.23%	-1.05%	5.11%	10.07%	2.93%	18.33%
Perry Partners L.P.	1,926,891	-18.46%	-18.46%	-22.79%	-18.46%	-16.60%	-7.66%	-4.66%	-27.84%
Standard General Fund II L.P.	37,338,416	-15.32%	-20.43%	-27.37%	-20.43%	-27.48%	-4.92%	-4.43%	-13.37%
Event Driven	314,770,233	-7.60%	-7.44%	-7.20%	-7.44%	-6.99%	1.57%	1.21%	8.99%
Altimeter Partners Fund LP	50,124,196	-13.61%	-20.96%	-20.58%	-20.96%	-10.64%	5.98%	6.99%	31.79%
Gotham Targeted Neutral, LP	35,765,286	-0.68%	-7.06%	-5.95%	-7.06%	-6.45%	-2.06%	-1.66%	-8.29%
Lansdowne European Absolute Opportunities Fund, L.P.	72,790,552	-5.88%	-14.09%	-17.22%	-14.09%			-18.21%	-18.21%
SRS Partners US, LP	152,090,224	-4.08%	-1.03%	3.46%	-1.03%	8.48%	9.25%	7.72%	47.77%
Turiya Fund LP	110,473,277	-1.40%	-3.03%	2.64%	-3.03%	2.74%	-0.38%	-1.02%	-4.75%
Long/Short Equity	421,243,535	-4.69%	-7.26%	-5.06%	-7.26%	-2.17%	2.74%	3.31%	24.60%
FUND OF FUNDS HEDGE FUNDS									
Fund of Funds Hedge Funds	86,635,783	-12.05%	-12.40%	-10.20%	-12.40%	-8.71%	-2.07%	0.79%	7.15%

Information provided by Alpha Frontier

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

Appendix D

Footnotes

Through March 31, 2020



- The Barclays Capital Aggregate (then known as the Lehman Brothers Aggregate) was used prior to 1/1/89. Effective 1/1/89, in the Government Sector, maturities of less than 5 years were dropped from the Salomon and Lehman indices. From that date until 7/1/99 the benchmark was the NYC Core + 5, from Lehman.
- Effective 7/1/94, the NYC Core + 5 Index includes BBB rated securities.
- Effective 7/1/99, the basis of the NYC Index was changed from Lehman Brothers to Salomon. Also effective 7/1/99, only Salomon indices have been used to compare all fixed income managers.
- Effective 4/1/03, the name of the benchmark provider was changed from Salomon to Citigroup.
- Effective 7/1/03, the “NYC-Loomis” benchmark index for the Loomis Sayles Enhanced Yield portfolio reflects a change from the Citigroup BB&B Index to the more appropriate Merrill Lynch High Yield Master II Index.
- Effective 7/1/09, the Core+5 program was restructured.
- The U.S. Gov’t sector benchmark Index was changed from the Citigroup Core+5 Treasury/Gov’t Sponsored Index to the Citigroup Core+5 Treasury/Agency Index.
- The Corporate and Yankee sectors were combined to form the new Investment Grade Credit sector. The benchmark for the new combined sector is the customized Citigroup Credit Index. For historical performance purposes, the old Corporate sector Index is linked to the new Credit sector Index.
- There were no changes to the Mortgage sector Index.
- Private market investment performance and valuations are generally reported with a quarter lag so data contained in this report does not reflect any impact from the COVID-19 outbreak.

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.
- 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.
- Private market investment performance and valuations are generally reported with a quarter lag so data contained in this report does not reflect any impact from the COVID-19 outbreak.

Page Specific

Pages 11 - 16 - Portfolio Asset Allocation

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

Pages 17 - 19 - 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

Glossary of Terms

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

The indexes and most recent policy weights are as follows:

U.S. Equity: Russell 3000 * 32.52%

International Developed (EAFE) Markets: MSCI World Ex USA IMI Net * 8.67%

Emerging Markets: MSCI Emerging Markets * 5.90%

International Emerging Managers FOF: MSCI ACWI Ex US IMI Net * 0.59%

REITs: Dow Jones Real Estate Securities * 0.00%

Private Equity: Russell 3000 + 300 b.p. per annum * 6.94%

Private Real Estate - Core: NFI - ODCE Net * 3.26%

Private Real Estate - Non Core: NFI - ODCE Net + 200bps * 2.38%

Infrastructure: CPI + 4% * 1.30%

Hedge Funds: HFRI Fund of Funds Composite Index plus 1% * 6.00%

US Treasury Short Term: FTSE USBIG Treasury 1-3Y * 0.00%

US Treasury Intermediate: FTSE USBIG Treasury/Agency 1-10Y * 0.00%

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

US Treasury Long Duration: FTSE Treasury 10+ * 8.39%

Core FI- Developing Mgrs: BBG Barc Agg * 0.00%

Core FI-Emerging Mgrs: BBG Barc Agg * 0.00%

Mortgage: FTSE Mortgage Index * 2.20%

Glossary of Terms

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*ETI: ETI Custom Benchmark * 1.08%*

*Investment Grade Credit: NYC – Investment Grade Credit * 3.28%*

*High Yield: BBG BARC US High Yield 2% Issuer Capped * 7.67%*

*Bank Loans: Credit Suisse Leveraged Loan * 2.00%*

*TIPS: BBG BARC Gbl Inf-Lk: US TIPS (Dly) * 4.18%*

*Convertible Bonds: ICE BofA All US Conv Ex Mandatory * 0.00%*

*Opportunistic Fixed: OFI - JPMGHY / CSFB 50/50 Blend Plus 300 b.p. per annum * 3.66%*

Page 20 – 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.