



New York City  
Police Officers' Variable Supplements Fund  
Performance Overview as of December 31, 2018

# Total Fund Overview

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

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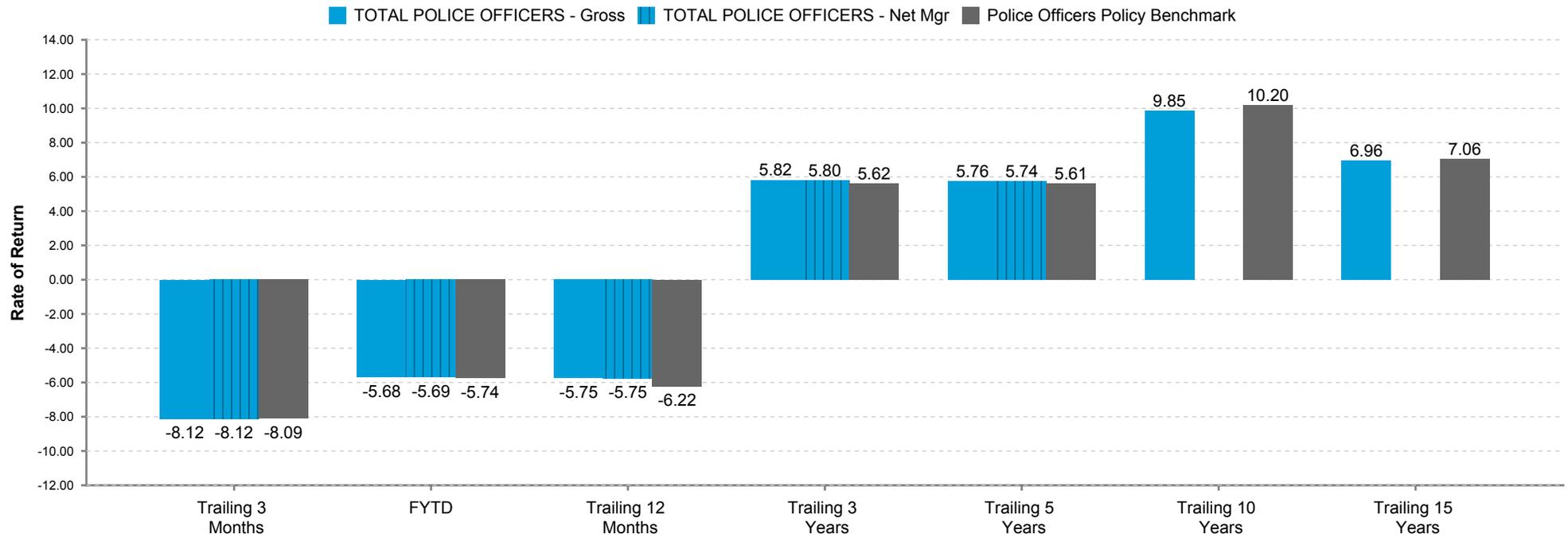
# Total Portfolio Returns: December 31, 2018



**Market Value (Billions)**

\$1.6

TOTAL POLICE OFFICERS



	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 7 Years	Benchmark 7 Years	Plan 10 Years	Benchmark 10 Years
<b>Standard Deviation</b>								
TOTAL POLICE OFFICERS	7.3	7.3	5.8	7.7	7.6	7.7	9.7	10.0

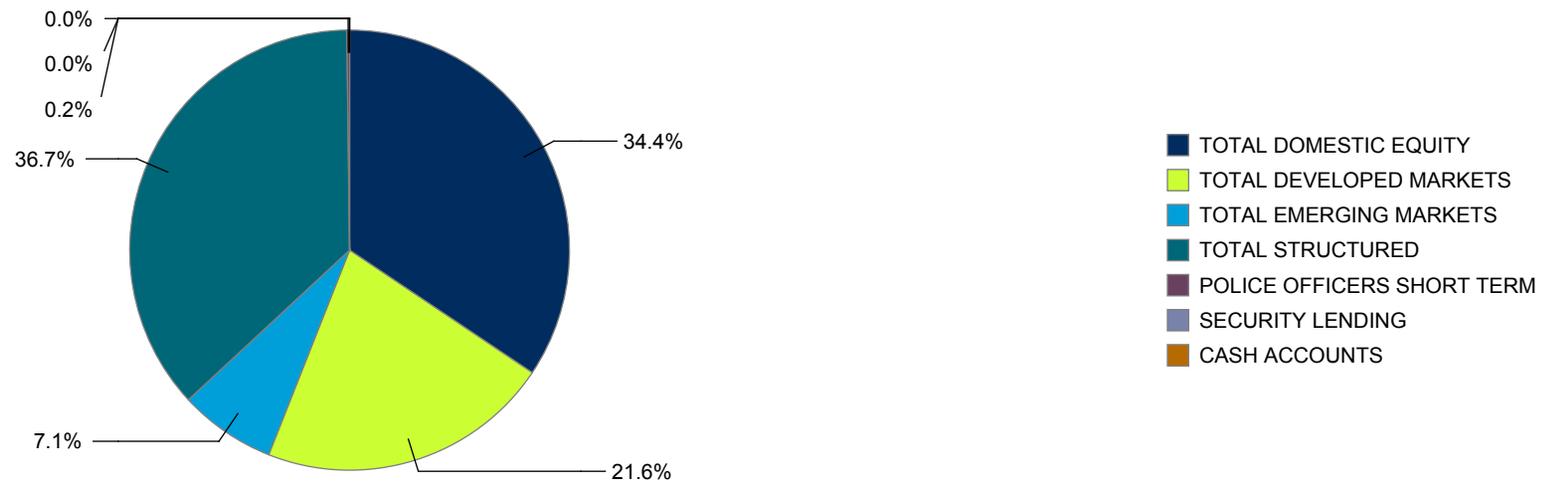


**Market Value (Billions)**

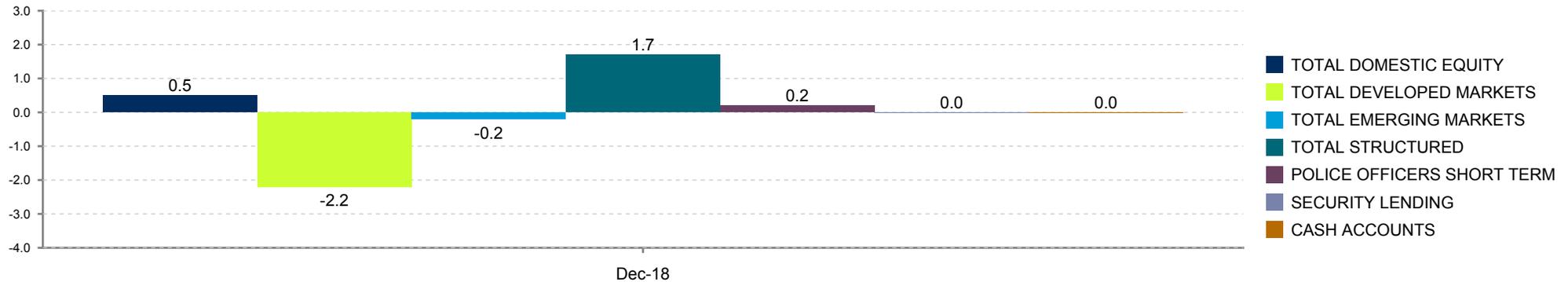
TOTAL POLICE OFFICERS

\$1.6

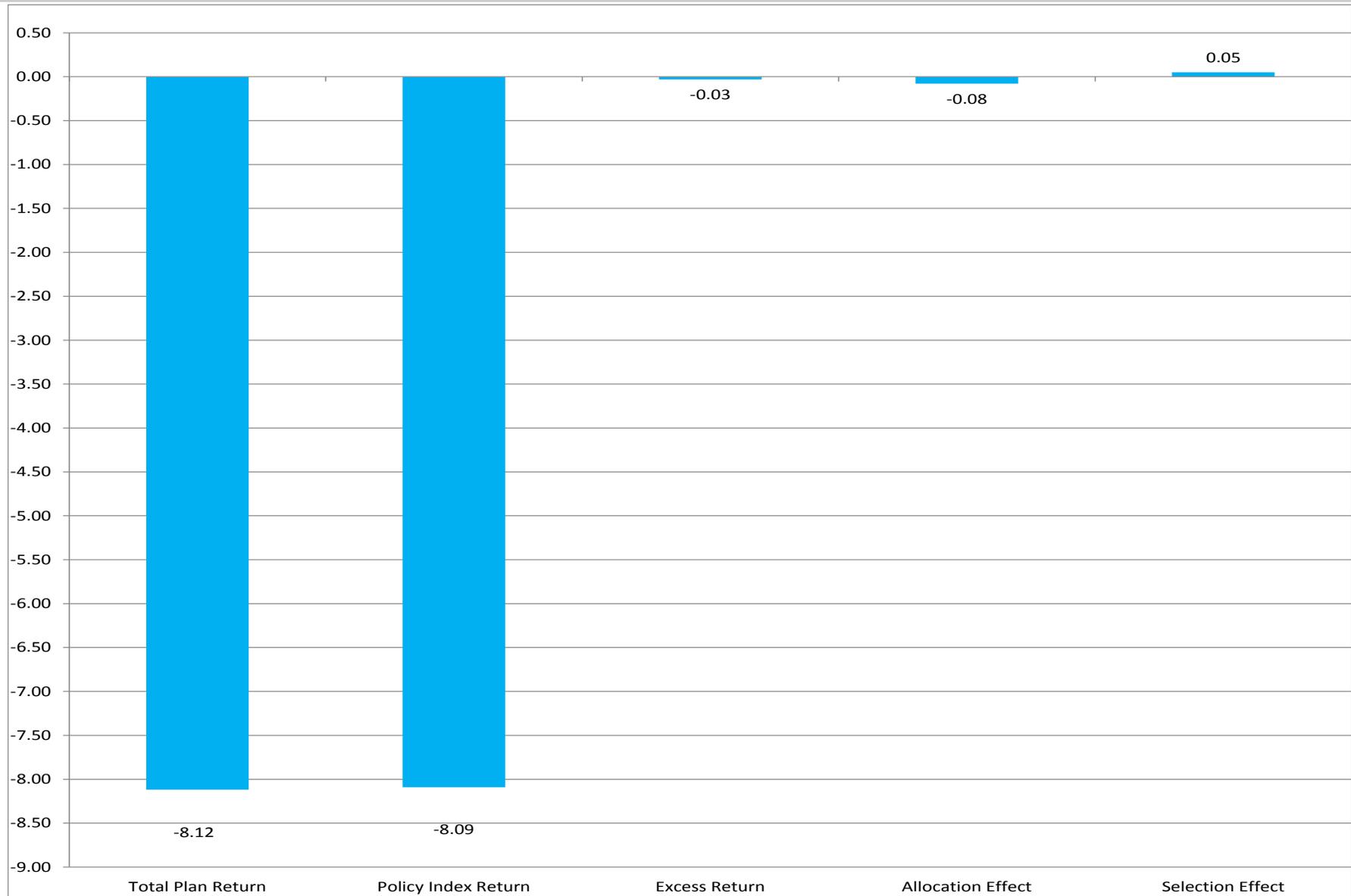
**Asset Allocation**



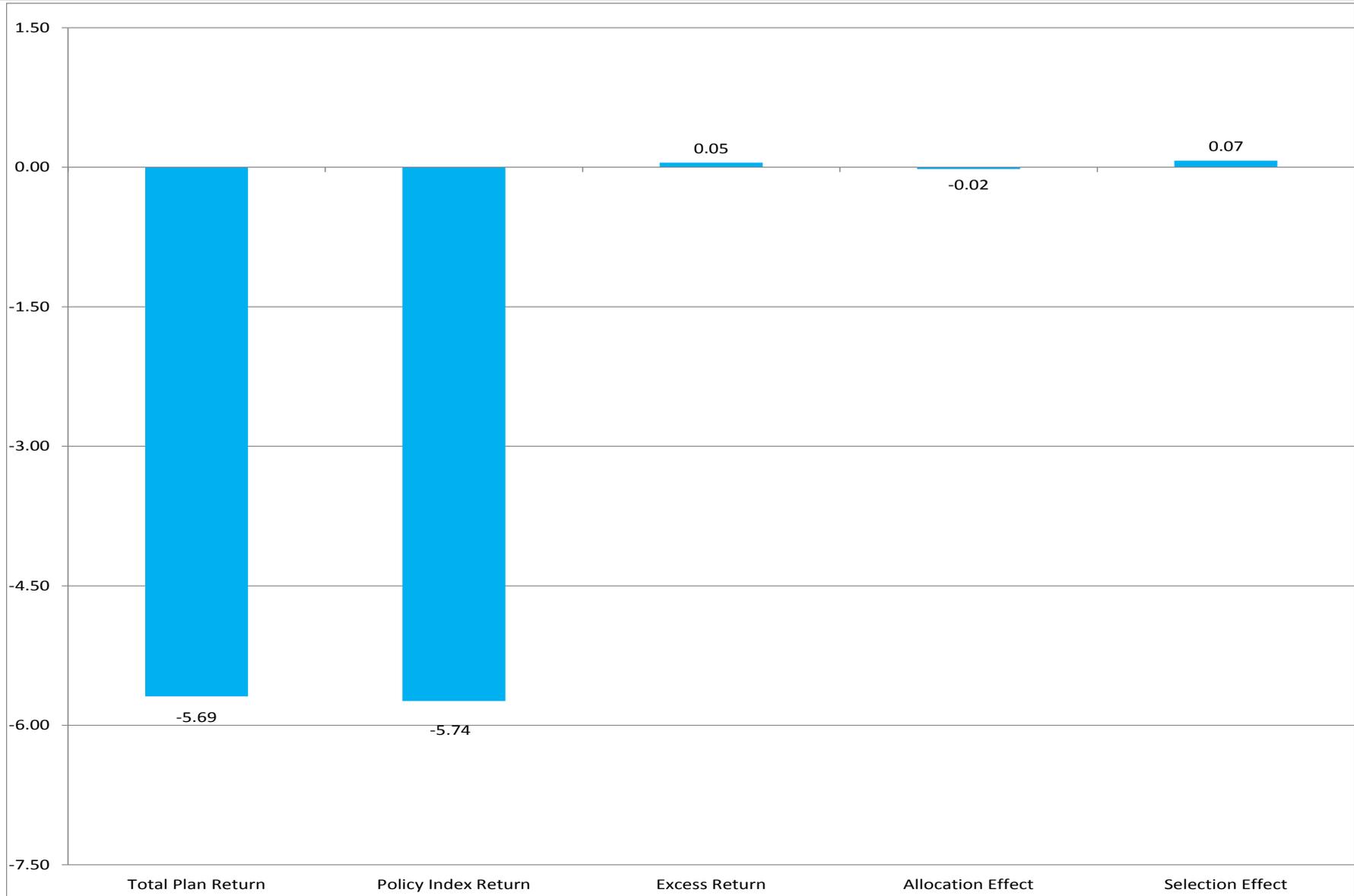
**Relative Mix to Asset Weights**



# Performance Attribution: Total Plan - Quarter Ending: December 31, 2018



**Performance Attribution: Total Plan - Fiscal Year to Date: December 31, 2018**





<b>Allocation Effect - Asset Class Breakdown</b>			
	<u>Quarter</u>	<u>FYTD</u>	<u>Benchmark</u>
TOTAL POLICE OFFICERS	-0.08	-0.02	Police Officers Policy Benchmark
TOTAL DOMESTIC EQUITY	-0.15	-0.10	RUSSELL 3000
TOTAL DEVELOPED ex-US EQUITY	0.09	0.10	MSCI World ex USA IMI Net
TOTAL EMERGING MARKETS	-0.01	0.00	MSCI Emerging Markets
TOTAL STRUCTURED	-0.01	-0.02	Barclays Aggregate

<b>Selection Effect - Asset Class Breakdown</b>			
	<u>Quarter</u>	<u>FYTD</u>	<u>Benchmark</u>
TOTAL POLICE OFFICERS	0.05	0.07	Police Officers Policy Benchmark
TOTAL DOMESTIC EQUITY	0.00	-0.01	RUSSELL 3000
TOTAL DEVELOPED ex-US EQUITY	0.07	0.08	MSCI World ex USA IMI Net
TOTAL EMERGING MARKETS	0.00	0.00	MSCI Emerging Markets
TOTAL STRUCTURED	-0.01	0.00	Barclays Aggregate

## Securities Lending Income

Through December 31, 2018



**NYC POLICE OFFICERS' VARIABLE SUPPLEMENTS FUND**  
**SECURITIES LENDING INCOME**  
**December 31, 2018**

	<u>U. S.</u> <u>FIXED INCOME</u>	<u>U. S.</u> <u>EQUITY</u>	<u>INTERNATIONAL</u> <u>EQUITY</u>	<u>TOTAL</u>
2001	252,000	116,000	81,000	449,000
2002	139,000	72,000	82,000	293,000
2003	51,000	77,000	131,000	259,000
2004	91,000	115,000	126,000	332,000
2005	198,000	228,000	179,000	605,000
2006	169,000	305,000	180,000	654,000
2007	333,000	495,000	165,000	993,000
2008	873,000	881,000	201,000	1,955,000
2009	276,000	581,000	125,000	982,000
2010	85,000	243,000	80,000	408,000
2011	80,000	255,000	91,000	426,000
2012	38,000	271,000	47,000	356,000
2013	160,000	247,000	14,000	421,000
2014	20,000	33,000	140,000	193,000
2015	28,000	51,000	662,000	741,000
2016	40,000	422,000	527,000	989,000
2017	54,000	222,000	365,000	641,000
2018	31,184	159,754	513,412	704,349
Since Inception	<u>2,918,184</u>	<u>4,773,754</u>	<u>3,709,412</u>	<u>11,401,349</u>

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

# **Appendix A**

## **Consolidated Performance Report**

# Consolidated Performance Report

Through December 31, 2018



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014	2013	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>SYSTEM RETURN SUMMARY</b>																
5	POVSF-TOTAL PORTFOLIO - GROSS	1,630	100.00	(8.12)	(5.68)	(5.75)	17.07	7.38	0.80	10.76	20.92	5.82	5.76	9.85	8.24	01/01/1988
	POVSF - ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)		(0.02)	(0.02)			
	EST MANAGEMENT FEES			(0.00)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)		(0.02)	(0.02)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POVSF-TOTAL PORTFOLIO - NET MGR			(8.12)	(5.69)	(5.75)	17.05	7.36	0.78	10.74		5.80	5.74			
	POLICE OFFICERS POLICY BENCHMARK			(8.09)	(5.74)	(6.22)	17.25	7.15	0.31	11.14	21.60	5.62	5.61	10.20		
	EXCESS RETURN			(0.03)	0.05	0.46	(0.20)	0.21	0.47	(0.40)	(0.68)	0.18	0.13	(0.35)		
<b>EQUITY RETURN SUMMARY</b>																
17	POVSF-TOTAL EQUITY - GROSS	1,029	63.10	(13.19)	(9.65)	(9.49)	23.16	8.57	0.67	12.47	31.96	6.57	6.50	11.92	9.08	08/01/1993
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.02)	(0.01)	(0.01)	(0.00)		(0.01)	(0.01)			
	EST MANAGEMENT FEES			(0.00)	(0.00)	(0.00)	(0.02)	(0.01)	(0.01)	(0.00)		(0.01)	(0.01)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	POVSF-TOTAL EQUITY - NET MGR			(13.19)	(9.66)	(9.50)	23.15	8.56	0.67	12.46		6.56	6.50			
25	POVSF-TOTAL DOMESTIC EQUITY - GROSS	561	34.39	(14.31)	(8.24)	(5.08)	21.13	12.88	0.68	12.47	33.49	9.08	8.00	13.22	9.45	07/01/1991
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		(0.00)	(0.00)			
	POVSF-TOTAL DOMESTIC EQUITY - NET MGR			(14.31)	(8.24)	(5.09)	21.13	12.87	0.68	12.46		9.07	8.00			
	RUSSELL 3000 (DAILY)			(14.30)	(8.20)	(5.24)	21.13	12.74	0.48	12.56	33.55	8.97	7.91	13.18	9.53	
	EXCESS RETURN			(0.01)	(0.04)	0.16	(0.00)	0.14	0.20	(0.09)	(0.06)	0.10	0.09	0.04	(0.08)	
35	POVSF-TOTAL SMALL CAP PASSIVE - GROSS	43	2.63	(20.21)	(17.29)	(10.96)	14.65	21.56	(4.36)	4.80		7.46	4.46		6.00	10/01/2013
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)		(0.00)	(0.00)			
	POVSF-TOTAL SMALL CAP PASSIVE - NET MGR			(20.21)	(17.29)	(10.96)	14.65	21.56	(4.36)	4.80		7.46	4.46			
	RUSSELL 2000 (DAILY)			(20.20)	(17.35)	(11.01)	14.65	21.31	(4.41)	4.89		7.36	4.41		5.87	
	EXCESS RETURN			(0.01)	0.06	0.05	0.00	0.25	0.05	(0.10)		0.10	0.05		0.13	
45	POVSF-TOTAL RUSSELL 1000 - GROSS	518	31.78	(13.77)	(7.38)									(4.09)		04/01/2018
	ESTIMATED INVESTMENT FEES			(0.00)	(0.00)									(0.00)		
	POVSF-TOTAL RUSSELL 1000 - NET MGR			(13.77)	(7.38)									(4.10)		
	RUSSELL 1000 (DAILY)			(13.82)	(7.42)									(4.12)		
	EXCESS RETURN			0.05	0.04									0.03		

# Consolidated Performance Report

Through December 31, 2018



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014	2013	3 Year	5 Year	10 Year	ITD	Inception Date
<b>EQUITY RETURN SUMMARY</b>															
57	POVSF-TOTAL DEVELOPED ex-US EQUITY - GROSS	353	21.66	(13.00)	(12.08)	(14.27)	25.22	1.33			2.84			1.89	02/01/2015
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.01)	(0.01)	(0.02)			(0.01)			(0.01)	
	POVSF-TOTAL DEVELOPED ex-US EQUITY - NET MGR			(13.01)	(12.08)	(14.28)	25.21	1.31			2.83			1.88	
	WORLD EX USA CUSTOM BM			(13.28)	(12.43)	(14.68)	26.40	1.15			2.94			2.26	
	EXCESS RETURN			0.28	0.35	0.40	(1.19)	0.16			(0.11)			(0.38)	
67	POVSF-TOTAL EMERGING MARKETS - GROSS	115	7.06	(7.46)	(8.47)	(14.44)								(0.68)	07/01/2017
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	0.00								(0.05)	
	POVSF-TOTAL EMERGING MARKETS - NET MGR			(7.46)	(8.48)	(14.44)								(0.73)	
	MSCI EMERGING MARKETS			(7.46)	(8.48)	(14.57)								(0.65)	
	EXCESS RETURN			0.01	(0.00)	0.13								(0.08)	

# Consolidated Performance Report

Through December 31, 2018



	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014	2013	3 Year	5 Year	10 Year	ITD	Inception Date	
<b>FIXED INCOME RETURN SUMMARY</b>																
79	POVSF-TOTAL FIXED INCOME - GROSS	601	36.90	1.60	1.67	(0.20)	3.58	3.44	(0.34)	7.43	(2.36)	2.26	2.74	4.58	5.97	04/01/1991
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.01)	(0.03)	(0.04)	(0.04)	(0.07)		(0.03)	(0.04)			
	EST MANAGEMENT FEES			(0.00)	(0.01)	(0.01)	(0.03)	(0.04)	(0.04)	(0.07)		(0.03)	(0.04)			
	EST INCENTIVE FEES															
	EST OTHER FEES															
	EST FEE OFFSETS															
	<b>POVSF-TOTAL FIXED INCOME - NET MGR</b>			<b>1.60</b>	<b>1.66</b>	<b>(0.22)</b>	<b>3.55</b>	<b>3.40</b>	<b>(0.38)</b>	<b>7.36</b>		<b>2.23</b>	<b>2.70</b>			
87	POVSF-TOTAL STRUCTURED FIXED INCOME - GROSS	598	36.71	1.61	1.68	(0.24)	3.66	3.57	0.45	7.63	(2.52)	2.32	2.98	4.19	4.93	08/01/2000
	ESTIMATED INVESTMENT FEES			(0.00)	(0.01)	(0.01)	(0.03)	(0.04)	(0.04)	(0.07)		(0.03)	(0.04)			
	<b>POVSF-TOTAL STRUCTURED FIXED INCOME - NET MGR</b>			<b>1.60</b>	<b>1.67</b>	<b>(0.25)</b>	<b>3.63</b>	<b>3.53</b>	<b>0.41</b>	<b>7.55</b>		<b>2.29</b>	<b>2.94</b>			
	BBG BARC AGG (DLY)			1.64	1.65	0.01	3.54	2.65	0.55	5.97	(2.02)	2.06	2.52	3.48	4.72	
	EXCESS RETURN			(0.03)	0.02	(0.26)	0.09	0.88	(0.14)	1.59	(0.50)	0.23	0.42	0.72	0.21	
<b>CASH SUMMARY</b>																
99	POLICE SUPERIOR OFFICERS SHORT TERM - GROSS	3	0.19	0.58	1.09	1.66	0.58	0.60	0.12	0.15	0.18					01/01/1988
	ESTIMATED INVESTMENT FEES			0.00	0.00	0.00		0.00	0.00	0.00	0.00					
	<b>POLICE SUPERIOR OFFICERS SHORT TERM - NET MGR</b>			<b>0.58</b>	<b>1.09</b>	<b>1.66</b>		<b>0.60</b>	<b>0.12</b>	<b>0.15</b>	<b>0.18</b>					
103	CASH ACCOUNTS	0	0.00													
105	SECURITY LENDING	0	0.00													

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

# **Appendix B**

## **Public Markets Manager Performance Detail**

# Public Markets Manager Performance Detail



Net Returns Through December 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
<b>EQUITY SUMMARY</b>									
<b>US EQUITY</b>									
BLACKROCK R2000 GROWTH MTA	22	1.33	(21.58)	(17.20)	(9.14)	22.26	11.29	(1.30)	5.50
RUSSELL 2000 GROWTH DAILY			(21.65)	(17.33)	(9.31)	22.17	11.32	(1.38)	5.60
Excess			0.07	0.12	0.17	0.09	(0.02)	0.08	(0.11)
BLACKROCK R2000 VALUE MTA	21	1.30	(18.74)	(17.38)	(12.79)	7.34	31.71	(7.38)	4.11
RUSSELL 2000 VALUE DAILY			(18.67)	(17.36)	(12.86)	7.84	31.74	(7.47)	4.22
Excess			(0.07)	(0.01)	0.08	(0.49)	(0.03)	0.09	(0.11)
BLACKROCK R1000 GROWTH MTA	0	0.02				30.25	7.06	5.77	12.91
RUSSELL 1000 GROWTH - DAILY						30.21	7.08	5.67	13.05
Excess						0.04	(0.02)	0.10	(0.14)
BLACKROCK R1000 VALUE MTA	0	0.00				13.65	17.31	(3.66)	13.39
RUSSELL 1000 VALUE (DAILY)						13.66	17.34	(3.83)	13.45
Excess						(0.01)	(0.03)	0.17	(0.06)
NYC POVSF BLACKROCK R1000 CORE	517	31.74	(13.77)	(7.38)					
RUSSELL 1000 (DAILY)			(13.82)	(7.42)					
Excess			0.05	0.04					
<b>NON - US EQUITY</b>									
SSGA MTA 126	302	18.51	(12.47)	(11.26)	(13.64)	24.58	1.31		
NYC Custom World ex US Index			(12.78)	(11.64)	(14.09)	24.12	1.00		
Excess			0.32	0.39	0.45	0.47	0.31		
SSGA World ex USA Small Cap <sup>1</sup>	51	3.14	(16.10)	(16.75)	(17.97)				
World ex USA SC PASSIVE CUSTOM BM			(16.16)	(16.88)	(18.07)				
Excess			0.07	0.13	0.10				

# Public Markets Manager Performance Detail



Net Returns Through December 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
<b>EMERGING MARKETS</b>									
EM BLACKROCK	115	7.06	(7.46)	(8.48)	(14.44)				
MSCI EMERGING MARKETS			(7.46)	(8.48)	(14.57)				
Excess			0.01	(0.00)	0.13				
<b>FIXED INCOME SUMMARY</b>									
<b>STRUCTURED FIXED INCOME</b>									
SSGA-US AGG BD INDEX	598	36.71	1.60	1.67	(0.25)				
BBG BARC Agg (Dly)			1.64	1.65	0.01				
Excess			(0.03)	0.02	(0.26)				
<b>CASH</b>									
POLICE OFFICERS SHORT TERM	3	0.19	0.58	1.09	1.66	0.60	0.12	0.15	
91 DAY T-BILL			0.56	1.06	1.87	0.33	0.05	0.02	
Excess			0.02	0.04	(0.21)	0.28	0.07	0.13	
Cash Accounts	0	0.00							
SECURITY LENDING	0	0.00							

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

# Appendix C

## Footnotes

## Footnotes

Through December 31, 2018



- Effective 4/1/03, the name of the Core +5 benchmark index 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.
- The total Core+5 results and benchmark returns combine the three sectors. Historical total Core+5 returns continue to include the old Corporate and Yankee sector returns.

### General Notes

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

### Page Specific

#### Page 4 - Portfolio Asset Allocation

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

#### Pages 5 - 6 - Performance Attribution: Total Plan

- Plan Return at Policy Weights: the return of the Total Plan assuming actual Asset Class results were maintained at target (Adjusted Policy) weights. *Figure = (Return of Asset Class 1 \* Target Weight) plus (Return Of Asset Class 2 \* Target Weight) plus (.....)*
- **Allocation Effect** = Total Plan Return minus Plan Return At Adjusted Policy Weights. Allocation is the Contribution to Performance resulting from an overweight or underweight to an asset class. E.g. an underweight to an Asset Class that under-performs results in a positive Allocation Effect and vice versa.
- **Selection Effect** = Equal to the Custom Benchmark (Adjusted Policy Index) Return minus Plan Return at Adjusted Policy Weights. This illustrates how the Managers have added or removed value based on their Security Selection decisions, e.g., *If the manager's Actual Returns are higher than the Implied Return there will be a positive Selection Effect.*
- **Policy Index = Custom Benchmark**  
*The "policy index" is a custom benchmark representing the weighted average return of the weighted benchmark indexes for each major investment program. Weights may reflect an adjustment of actual policy for outstanding commitments for new or revised programs, such as for private market programs, which are invested gradually, or for any new or updated program requiring the completion of RFPs and contracts. The policy index/custom benchmark is calculated monthly based on adjusted policy weights at the beginning of each month.*

## Glossary of Terms

Through December 31, 2018



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

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

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

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

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

### **Page 7 – Allocation and Selection Effects - Asset Class Breakdown**

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