



New York City
Board of Education Retirement System
Performance Overview as of March 31, 2018

Total Fund Overview

New York City Board of Education Retirement System

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Through March 31, 2018



New York City Board of Education Retirement System (BERS)

Consultant's Commentary – Through March 31, 2018

Total Fund Performance

The Board of Education Retirement System (BERS) Total Fund returned +0.56% net of fees for the quarter ended March 31, 2018, versus the policy benchmark's return of -0.22%. While it is no great honor for the fund to "lose less" than the benchmark, it is a reflection of the fund's investment policy to have a defensive, diversified allocation and manager selection to preserve value in poor markets. For the nine months of the fiscal year as of March 31, 2018, the Total Fund returned +9.48% net of fees, versus the benchmark return of +7.63%. Several of the fund's equity managers have evidenced significant out performance. The 3-year average annual return is 8.22% (net) versus 7.17%.

Total Fund Asset Allocation

As of March 31, 2018, the BERS Total Fund had \$5.91 billion, up from \$5.86 billion at December 2017. The fund was overweight to stocks versus bonds. Within stocks, the overweight to Emerging Market stocks and underweight to U.S. and developed market stocks had a positive allocation effect on the total fund.

Active U.S. Equity Commentary

As of March 31, 2018, U.S. Equity was \$1.90 billion (32.1%) of the NYBERS Total Fund. The U.S. equity composite was negative in the first quarter of 2018 returning -0.44%. This performance slightly outperformed the Russell 3000 index return of -0.64%.

Active U.S. Equity Managers

- **Wellington** returned +3.31% during the quarter versus +0.77% for S&P Midcap 400 index. For the nine months of the fiscal year as of March 31, 2018, Wellington returned +14.77% versus +8.83% for the S&P Midcap 400 index. Wellington is the only active mid cap U.S. manager. BERS will be participating in the search to expand the allocation to small cap U.S. active management.
- The quarter's performance was driven by strong stock selection in the information technology sector. Portfolio over weights to the IT and health care sectors and an underweight to real estate also contributed. No sectors materially detracted.

Through March 31, 2018



- Six of Wellington's ten contributors were IT stocks. Zillow, the online real estate listing company, led the way after reporting better than expected operating results. GrubHub, an online mobile food ordering company, rose on strong results and an announced partnership with Yum! Brands, the owner of Pizza Hut, Kentucky Fried Chicken, and Taco Bell. ServiceNow, a cloud-based IT services provider, performed well, as did National Instruments, a maker of automatic test equipment and virtual instrumental software. Global Payments, an electronic payments processing company, continues to benefit from positive secular trends in e-commerce and mobile commerce. Finally, MKS Instruments rose based on strong performance in the semiconductor industry.
- Overweight to health care contributed even though the portfolio had winners and losers in this sector. Agios Pharmaceuticals rose after filing for FDA approval for a drug to treat a form of leukemia. Veeva, a provider of cloud-based services for the life sciences industry, reported strong results. Countering these positives were the impact of not holding Bioverative and Abiomed, two health care companies that performed well during the quarter. Wellington's holding in TESARO, a biotech company focused on treating cancer, underperformed based on competitive pressures from rival drugs.

International Equity Commentary

As of March 31, 2018, Developed International Equity was \$800.9 million (13.5%) of the NYBERS Total Fund. Non-U.S. Developed market stocks returned +1.60% in the first quarter of 2018 versus -1.81% for the World ex USA Custom Benchmark.

Active International Equity Managers

- **Sprucegrove** returned -2.10% (net) during the quarter versus -1.81% for the World ex USA Custom Benchmark. For the nine months of the fiscal year as of March 31, 2018, Sprucegrove returned +11.90% versus +8.67% for the World ex USA Custom Benchmark.
- The portfolio continues to represent high quality value style holdings with a projected ROE of 14.3%, which is higher than the World ex USA Index at 11.0% and financial leverage of 2.1x, which is below the World ex USA Index at 2.6x. The portfolio has had a normalized P/E of 13.3x, a 2.0x P/B and a 3.0% dividend yield. These characteristics are consistent with the historical profile of the account. The manager feels their portfolio is attractively valued compared to the market.
- The U.K. was the largest country exposure in the Fund at 22.6%, followed by Japan at 13.0%. Exposure to Emerging Markets was 13.7% and cash was 3.8% of the Fund at quarter end. The portfolio allocation to stocks from the Emerging Markets have contributed to a positive impact on stock selection attribution compared to the EAFE index which has no emerging market stocks.

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Through March 31, 2018



- Over the quarter, the majority of the markets were negative. The largest positive returns in the developed markets were from Finland (+8.2%) and Italy (+5.4%). The weakest returns were from Canada (-7.4%), Australia (-6.2%), Ireland (-5.9%) and New Zealand (-5.1%).
- The top 10 holdings represent +23.2% of the portfolio.
- **Baillie Gifford** returned +5.27% in the quarter versus -1.81% for the World ex USA Custom Benchmark. For the nine months of the fiscal year as of March 31, 2018, Baillie Gifford returned +22.39% versus +8.67% for the World ex USA Custom Benchmark. Growth stock investing and exposure to China was a net positive for the quarter and the year and exposure to China was a net positive for the quarter and the year.
- ASM Lithography, a Dutch semiconductor equipment manufacturer, was the portfolio's largest holding at 5.3%.
- At quarter end, the portfolio had +14.3% invested in Emerging Markets. Emerging Market exposure has been a net positive for the account.
- The top 10 holdings represent +39.6% of the portfolio.
- **Acadian** outperformed for the quarter, +1.53% versus -0.30% for the S&P EPAC Small Cap Index. Acadian also outperformed for the nine months of fiscal year as of March 31, 2018, +17.66% versus +13.36% for the S&P EPAC Small Cap Index.
- Gains realized from stock selection were reduced by value lost from country allocations. Key sources of positive active return included stock selection in China and the Netherlands, along with a combination of stock selection and an underweight position in the U.K. Less successful investments included a combination of stock selection and underweight positions in Japan and Korea, as well as an opportunistic exposure to Canada.
- At quarter end, the portfolio's emerging markets exposure was 12.7%. The portfolio held 1,067 stocks.

Through March 31, 2018



Emerging Markets Equity Commentary

As of March 31, 2018, Emerging Markets Equity was \$514.2 million (8.7%) of the NYBERS Total Fund. Emerging Markets outperformed for the quarter, +2.33% versus +1.42% for the MSCI Emerging Markets, net Index. Emerging Markets also outperformed for the nine months of the fiscal year as of March 31, 2018, +18.35% versus +17.56% for the MSCI Emerging Markets, net Index.

Emerging Markets Equity Managers

- **Acadian** outperformed for the quarter, +2.57% versus +1.42% for the MSCI Emerging Markets, net Index. Acadian also outperformed for the nine months of the fiscal year as of March 31, 2018, +18.68% versus +17.56% for the MSCI Emerging Markets, net Index.
- Gains realized from stock selection were joined with value added from country allocations. Key sources of positive active return included stock selection in China, a combination of stock selection and an underweight position in South Africa, and a combination of stock selection and a market overweight in Thailand. Less successful investments included stock selection in India, a combination of stock selection and an underweight position in Taiwan, and a combination of stock selection and a market overweight in Poland.
- At quarter end, the portfolio held 479 stocks.
- **CONY GT EM BlackRock** outperformed for the quarter, +1.50% versus +1.42% for the MSCI Emerging Markets, net Index. However, CONY GT EM BlackRock underperformed for the nine months of the fiscal year as of March 31, 2018, +17.32% versus +17.56% for the MSCI Emerging Markets, net Index.
- In Latin America, Brazilian equities outperformed and contributed the most to the index's total return. Investor optimism rose on the news that former president Lula da Silva's corruption conviction was upheld, a positive outcome for free-market advocates ahead of the country's October elections.
- In Asia, the March escalation of U.S. / China trade tensions led to market volatility. The conclusion of the U.S. Section 301 investigation of China Intellectual Property (IP) practices determined that the Chinese government acted in a restrictive way to U.S. commerce in regard to IP and technology practices. The U.S. Trade Representative was directed to identify at least \$50bn of Chinese goods to be subject to a 25% tariff. Despite this, the MSCI China Index ended the quarter up 1.8% (in U.S. dollar terms) as investors focused on strong macroeconomic data.

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- In Emerging Europe, Russia performed strongly, benefiting from a central bank interest rate cut. Additionally, the S&P upgraded the country's debt to investment grade, further supporting investment. Elsewhere in Emerging Europe, Polish equities declined -9% as negative effects of internal political discord weighed on market and investor sentiment.
- The strongest returns in the MSCI Emerging Markets Index came from energy (+7.56%). Increases were seen across most sectors, with notable results in health care (+7.07%) and utilities (+3.24%). In contrast, consumer discretionary (-6.09%), telecommunication services (-3.64%), and real estate (-2.06%) posted negative returns for the quarter.

Fixed Income – Structured Manager Composite Commentary

As of March 31, 2018, The Total Structured Portfolio was \$1.11 billion (18.8%) of the NYBERS Total Fund. Structured Fixed Income returned -1.81% in the first quarter versus -1.81% for the benchmark. For the nine months of the fiscal year as of March 31, 2018, Structured Fixed Income returned -0.39% versus -0.20% for the benchmark. During the period short rates rose more than long rates and that effect was negative for the portfolio.

Fixed Income – Structured Manager Composite Managers

- **BlackRock (mortgages)** returned -1.13% in the quarter, outperforming the Citigroup Mortgage index return of -1.23%. For the nine months of the fiscal year as of March 31, 2018, BlackRock (mortgages) returned -0.07% versus -0.15% for the Citigroup Mortgage index.
- Despite the benign prepay environment with subsiding implied rate volatility, demand from domestic banks and overseas investors failed to materialize meaningfully. This plus the Fed's reduced involvement in MBS had a negative effect on the market. The flattening of the yield curve corresponded to weakness across relative value expressions such as coupon swaps and both the 15 year and the 30 year. Coupon swaps broadly underperformed in March as origination selling continued to shift into higher coupons and the carry advantage in FN 4.0s and FN 3.5s eroded.
- The Citigroup Mortgage CMBS Index returned about 41 bps in March but lost return of about -30bps versus the duration-adjusted Treasuries. There was a sharp move in AAA's as a lagged reaction to prior widening in investment grade corporates after February outperformance. To mark-to-market on the year, 10yr AAA's are now 6 bps wider to swaps and 11 bps wider to Treasuries. AA's/A's/BBB- are all about 10 bps tighter to swaps.

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- **Prudential (credit)** returned -2.08% in the quarter, slightly trailing the Investment Grade Credit index return of -2.06%. For the nine months of the fiscal year as of March 31, 2018, Prudential (credit) returned +0.37% versus +0.16% for the Investment Grade Credit index. As noted above credit spreads have been at cyclical and secular lows and recent rate volatility has been a bigger impact than any dramatic increase in defaults

- **SSgA (governments)** returned -2.18% in the quarter, ahead of the -2.22% return for its NYC - Treasury Agency plus five index benchmark. For the nine months of the fiscal year as of March 31, 2018, SSgA (governments) returned -0.97% versus -1.05% for the NYC - Treasury Agency plus five index.

- In U.S. credit markets, positive market sentiment in January pushed option adjusted spreads (OAS) to new cycle lows for investment grade and high yield benchmark indices before equity market volatility fed a deterioration in the outlook for credit in February and March.

- **SSgA 1 -3 Yr. Treasury Index** returned -0.18% in the quarter, slightly behind the Citigroup 1 - 3 Yr. Treasury index return of -0.14%. For the nine months of the fiscal year as of March 31, 2018, the SSgA 1-3 Yr. Treasury Index fell -0.20%, slightly behind the Citigroup 1 - 3 Yr. Treasury index return of -0.16%.

- Over the reporting period, tracking for the strategy was very tight; therefore, an attribution analysis is not applicable.

- **Taplin, Canida & Habacht** returned -2.15% in the quarter versus -2.06% for the Investment Grade Credit index. For the nine months of the fiscal year as of March 31, 2018, Taplin, Canida & Habacht returned +0.49% versus +0.16% for the Investment Grade Credit index.

- Relative performance was benefitted by yield curve management and security selection. Negative absolute returns were driven by the increase in the yield on the 10-year U.S. Treasury, which rose to 2.74% from 2.41% at the end of December, and overall credit spread widening which resulted in lower returns versus Treasuries (-66 basis points of excess return).

- Security selection added to performance for the quarter. In particular, issuers within TMT (technology, media, telecom) and banking contributed to relative performance, while issuers within pharmaceuticals and healthcare were mild detractors.

- Sector selection within credit reduced relative returns as the overweight to corporate credit (-79 basis points of excess return) relative to non-corporate credit (-1 basis point of excess return) diminished relative performance.

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Enhanced Yield Fixed Income & Bank Loans Commentary

As of March 31, 2018, Enhanced Yield Fixed Income & Bank Loans was \$388.2 million (6.6%) of the NYBERS Total Fund. This allocation is in line with the investment policy target. The high yield manager search has been completed and Shenkman and Loomis will be replaced with Nomura and Mackay Shields.

Enhanced Yield Fixed Income & Bank Loans Managers

- **Loomis Sayles** returned -0.94% in the quarter versus -0.91% for the Merrill Lynch High Yield Master II Index. For the nine months of the fiscal year as of March 31, 2018, Loomis Sayles returned +0.76% versus +1.52% for the Merrill Lynch High Yield Master II Index.
- Outperformance was driven primarily by security selection throughout the quarter. High yield credit, US treasury, and non-US dollar sectors were the top contributors.
- On an absolute and excess basis, high yield credit positively contributed to performance as the sector generated the greatest returns within the strategy. Security selection was the major driver in this sector. Exposure across the communications and consumer non-cyclical names moderately aided excess return with the securities issued by Chs/Community Health Sys, Windstream, and Tenet Healthcare having the best performance in this sector.
- Allocation to US treasury positively impacted performance during the quarter and exposure to Non-US Dollar denominated issues generated positive return during the quarter.
- Exposure to emerging market credit detracted from overall performance for the period, particularly in Canadian names, weighed on return for the period. The allocation to convertibles limited performance for the quarter. On an absolute basis, performance in the sector had the greatest negative impact in the strategy. Security selection had the most negative effect in this sector. Exposure to securities issued by Dish Network detracted the most from performance.

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- **Shenkman** returned -0.75% in the quarter, outperforming the -1.01% return for its Citigroup BB&B index benchmark. For the nine months of the fiscal year as of March 31, 2018, Shenkman returned +1.75%, outperforming the +1.48% return for the Citigroup BB&B index.
- For the quarter, Index prices declined \$2.12 to \$98.47, leaving the month-end yield-to-worst and spread-to-worst at 6.35% and +382bps, respectively. Although bonds experienced \$17.4 billion of defaults in the first quarter, the sixth highest dollar total in history, approximately 64% came from iHeart Communications and Claire's Stores.
- The twelve-month trailing default rate now stands at 2.21%, up from 1.27% at the end of 2017, but below the long-term historical average and down significantly from the 3.60% at the beginning of 2017. The primary market continued to track below historical levels and comprise higher-quality issuers as markets dealt with sporadic stretches of equity volatility and rate fluctuations. Refinancing accounted for 74% of issue volume, while ratings quality was healthy as 88.5% was single-B or higher. Meanwhile, investors pulled \$19.3 billion out of high yield mutual funds, with redemptions occurring in all three months of the quarter.
- **Babson** returned +1.32% during the quarter, underperforming the +1.58% return of the Credit Suisse Leveraged Loan Index. For the nine months of the fiscal year as of March 31, 2018, Babson returned +4.04%, outperforming the +3.86% return of the Credit Suisse Leveraged Loan Index.
- Both credit selection and sector allocation contributed unfavorably to results for the period. Within sector allocation cash was a negative contributor even though the average cash position was only 3.22% for the quarter. A lack of meaningful new issue supply put pressure on cash balances. The underweight in the Retail sector was also a negative contributor as this challenged sector rebounded with many of the lower tier names outperforming.
- Within credit selection as well, names in the Retail space hurt performance comparisons. The strong performance of portfolio issuers such as Ascena Group (+7.36%), and Staples (+2.49%) helped but fell short of the performance of Index names such as J.Crew (+23.48%), General Nutrition Centers (+21.62%) and others that did not meet Barings' credit standards. Term Loans from issuers in the Information Technology sector also dragged down performance in the portfolio. Although there were no meaningful individual credit issues the portfolio was overweight names that general underperformed the overall market with the portfolio and the Index returning 1.05% and 1.56%, respectively.
- The Portfolio's worst performing credits for the quarter were in the Energy space with Fieldwood Energy as the poster child. After long term challenges associated with an over-leveraged balance sheet established during the peak of the energy cycle the Company defaulted on its debt obligations. The Company was able to get lender support, however, for a combination balance sheet restructuring and acquisition of additional Gulf of Mexico assets that will position the Company with a more sustainable capital structure and opportunities to generate meaningful cash flow.

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- The primary driver of the yield changes was the continued upward movement in Libor rates during the quarter. After climbing 36 basis points in the fourth quarter of 2017, three-month Libor moved higher by another 61 basis points in the first quarter of 2018. One-month Libor, another base rate option for borrowers, has also moved higher (+32 bps) but by a lesser amount. Whichever base rate option is chosen by issuers in the portfolio the net effect has been to offset part of the spread compression experienced in the market to the benefit of investors in the asset class.

TIPS, ETI, Cash Commentary

As of March 31, 2018, Fixed Income – TIPS, ETI and Cash was \$386.5 million (6.5%) of the NYBERS Total Fund.

Fixed Income – TIPS Managers

- **SSgA (TIPS)** returned -0.78% in the quarter, in line with the -0.79% return for its Barclays Global Inflation Linked Index. SSgA (TIPS) returned +1.37% for the nine months of the fiscal year as of March 31, 2018, ahead of the +1.33% return for its Barclays Global Inflation Linked Index.

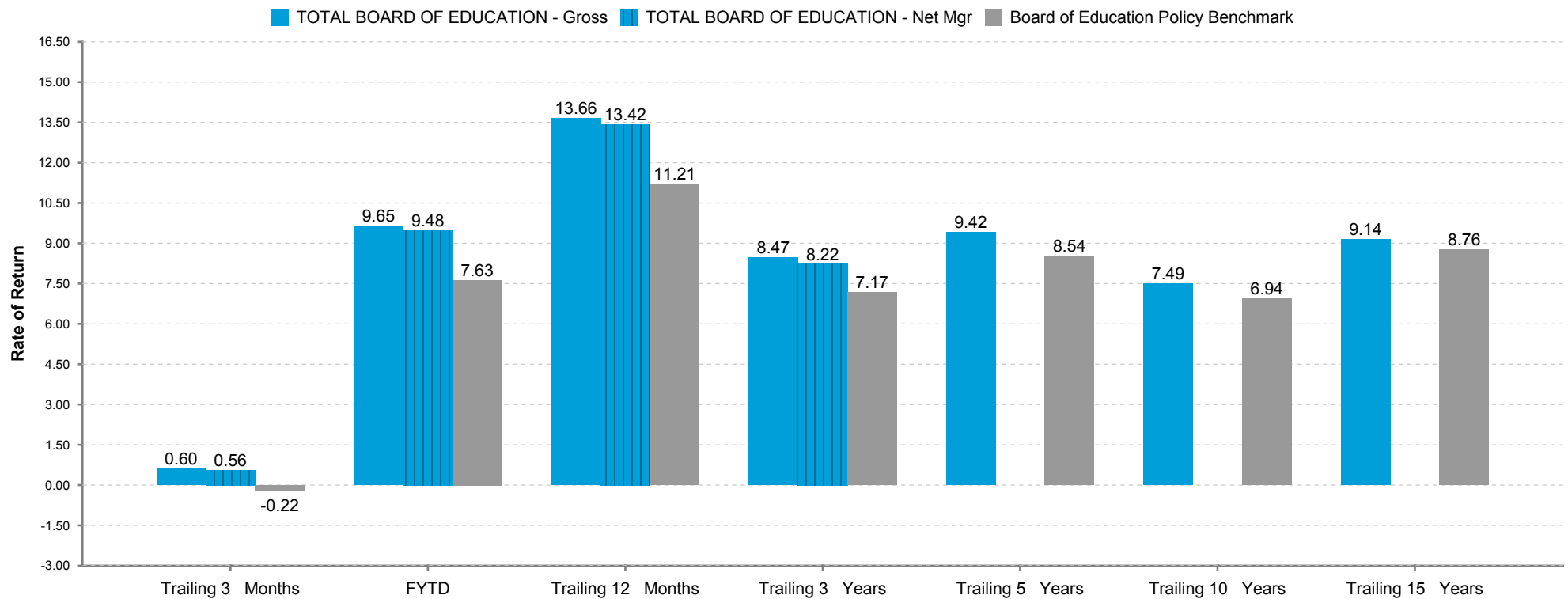
Total Portfolio Returns: March 31, 2018



TOTAL BOARD OF EDUCATION

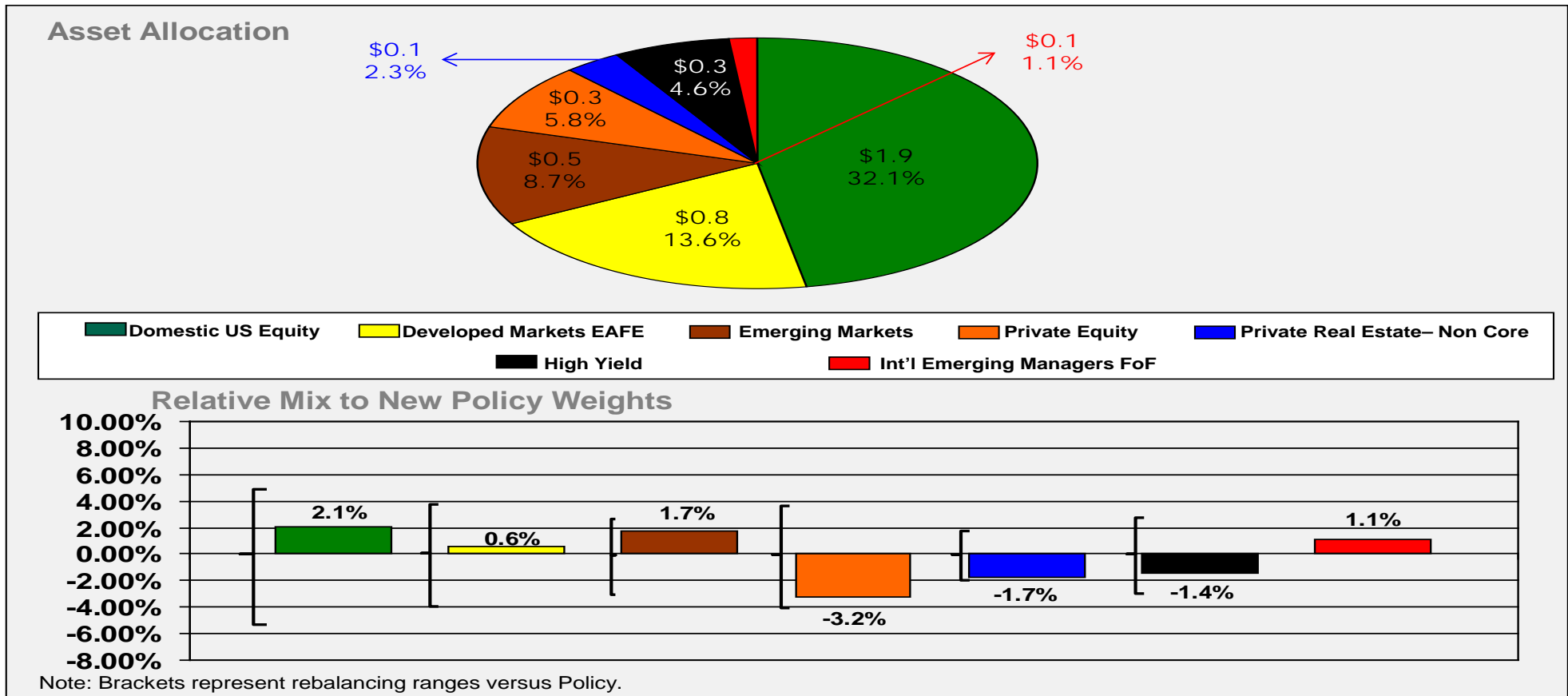
Market Value (Billions)

\$5.9

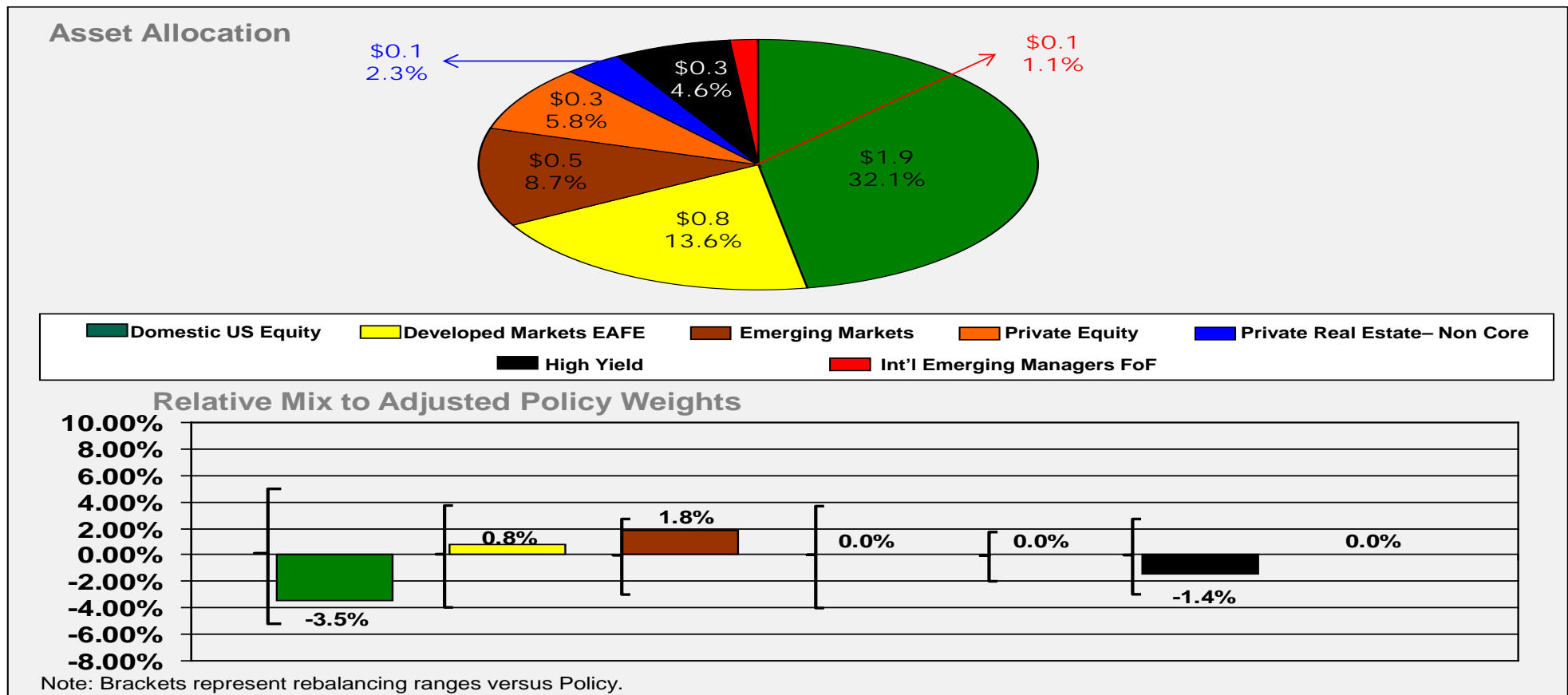


	Plan 3 Years	Benchmark 3 Years	Plan 5 Years	Benchmark 5 Years	Plan 10 Years	Benchmark 10 Years
Standard Deviation						
TOTAL BOARD OF EDUCATION	7.0	6.6	9.4	6.5	11.1	11.5

Portfolio Asset Allocation – Growth



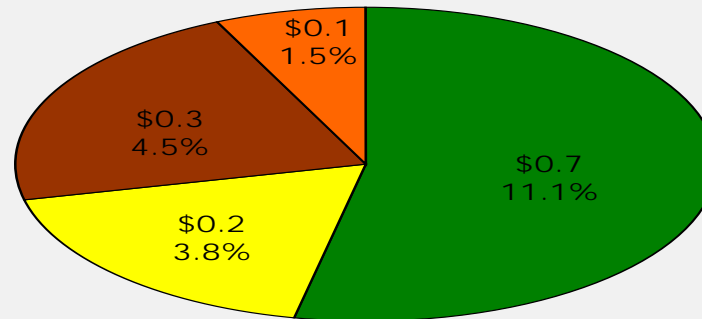
Portfolio Asset Allocation – Growth



Note: On March 29, 2018 BERS' combined Fixed Income and Cash portfolios have a duration of 5.7 years. The duration of the Barclays US Aggregate Index was 6.1 years on that date.

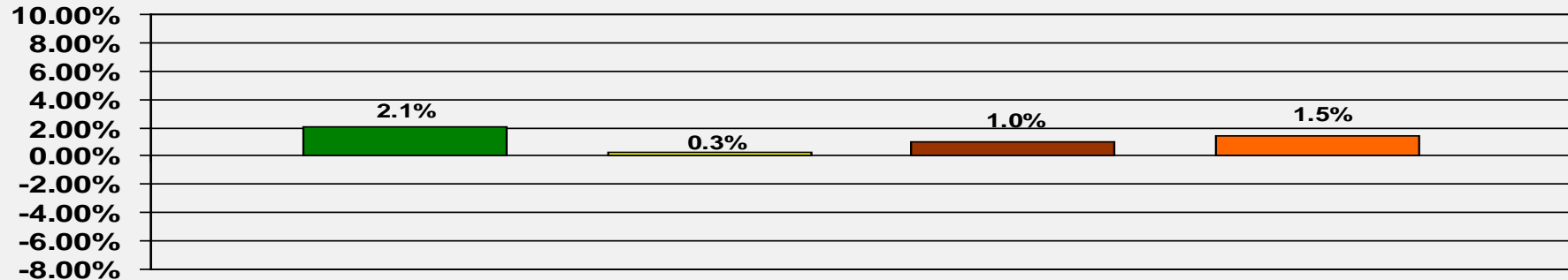
Portfolio Asset Allocation – Deflation Protection

Asset Allocation

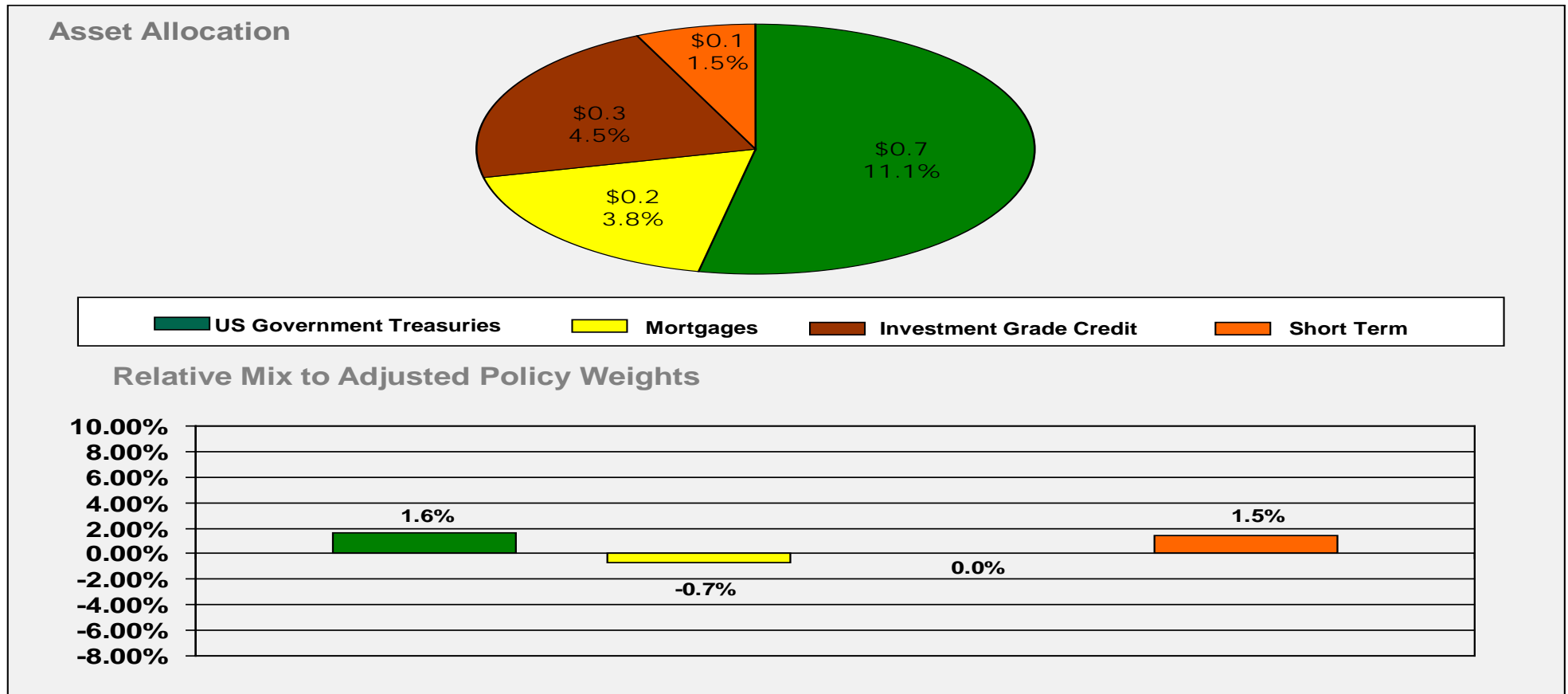


US Government Treasuries Mortgages Investment Grade Credit Short Term

Relative Mix to New Policy Weights

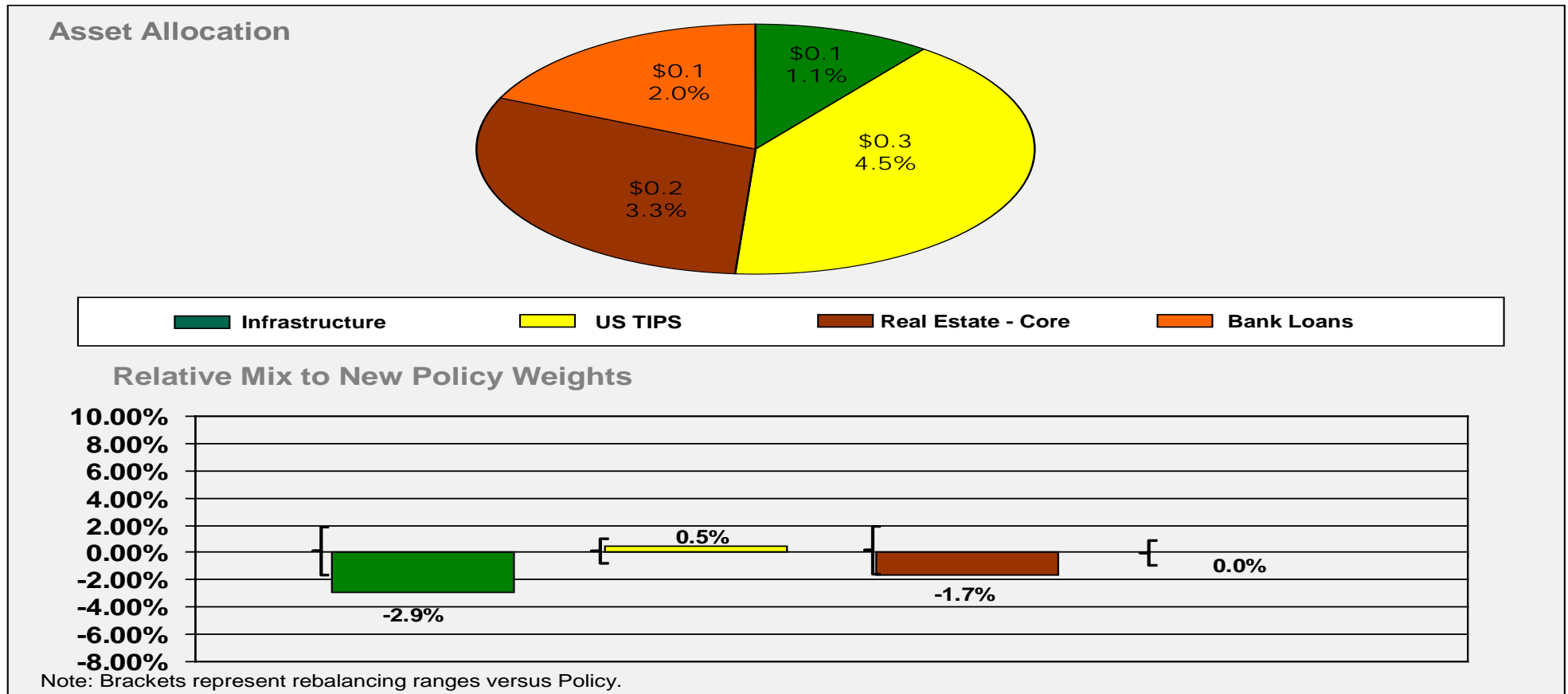


Portfolio Asset Allocation – Deflation Protection

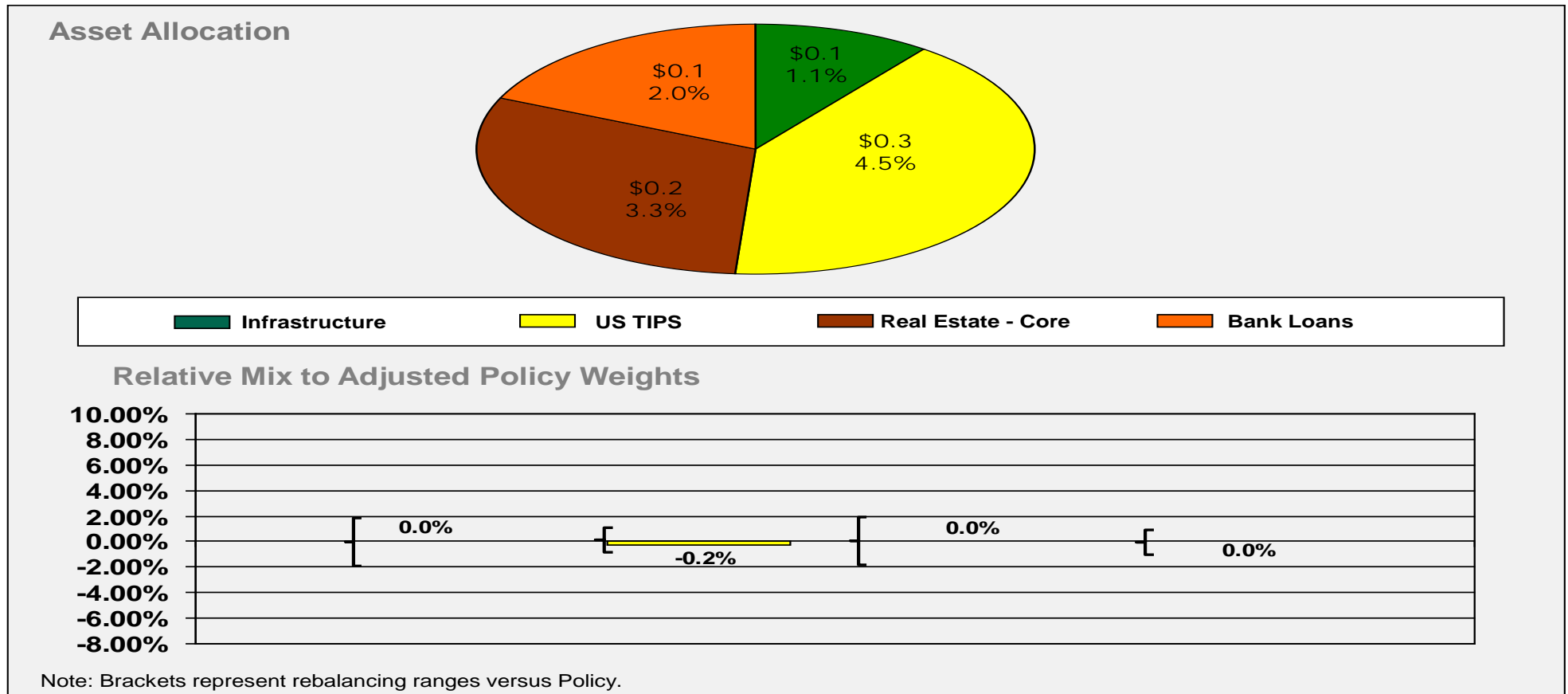


Note: On March 29, 2018 BERS' combined Fixed Income and Cash portfolios have a duration of 5.7 years. The duration of the Barclays US Aggregate Index was 6.1 years on that date.

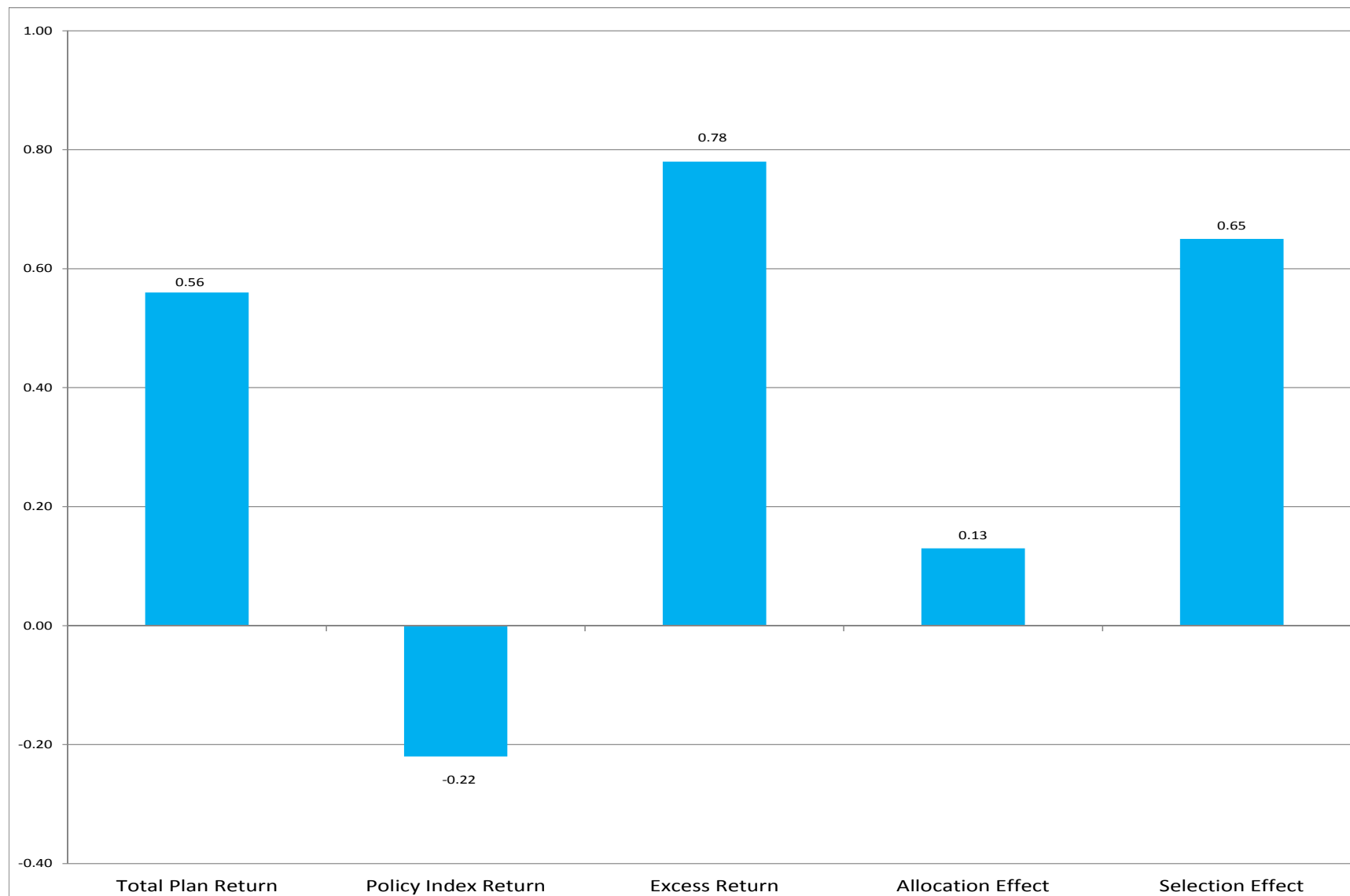
Portfolio Asset Allocation – Inflation Protection

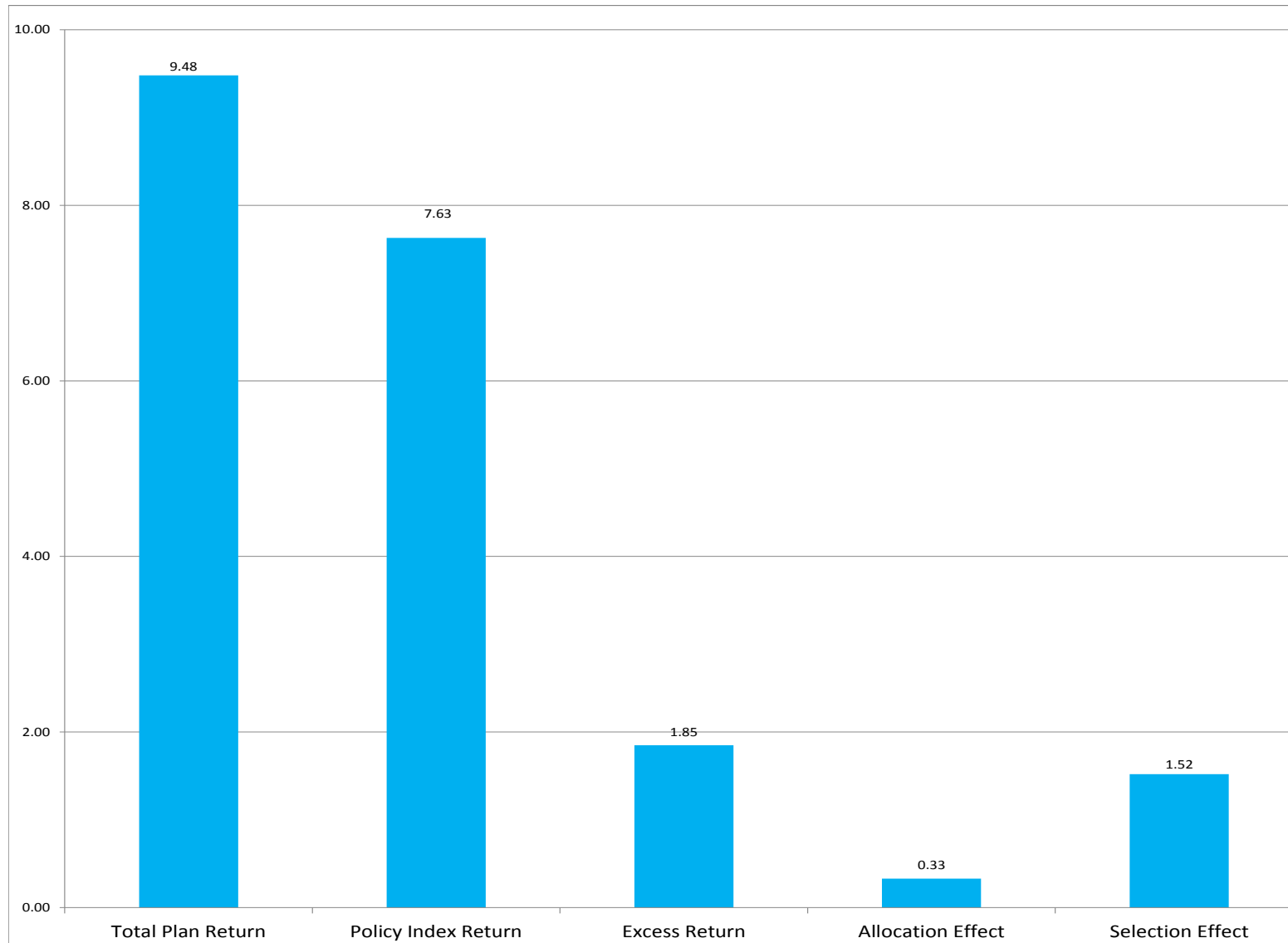


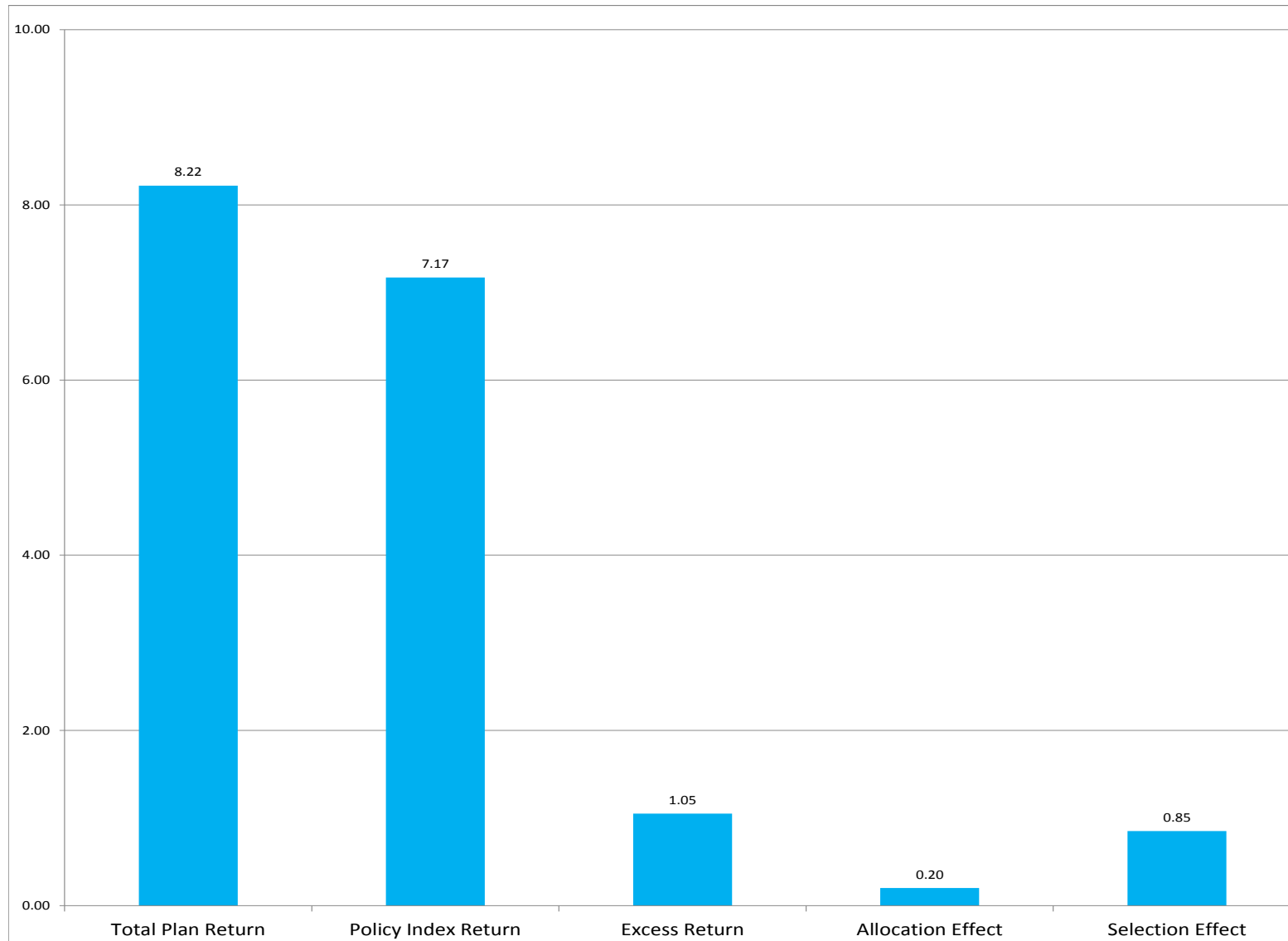
Portfolio Asset Allocation – Inflation Protection



Note: On March 29, 2018 BERS' combined Fixed Income and Cash portfolios have a duration of 5.7 years. The duration of the Barclays US Aggregate Index was 6.1 years on that date.







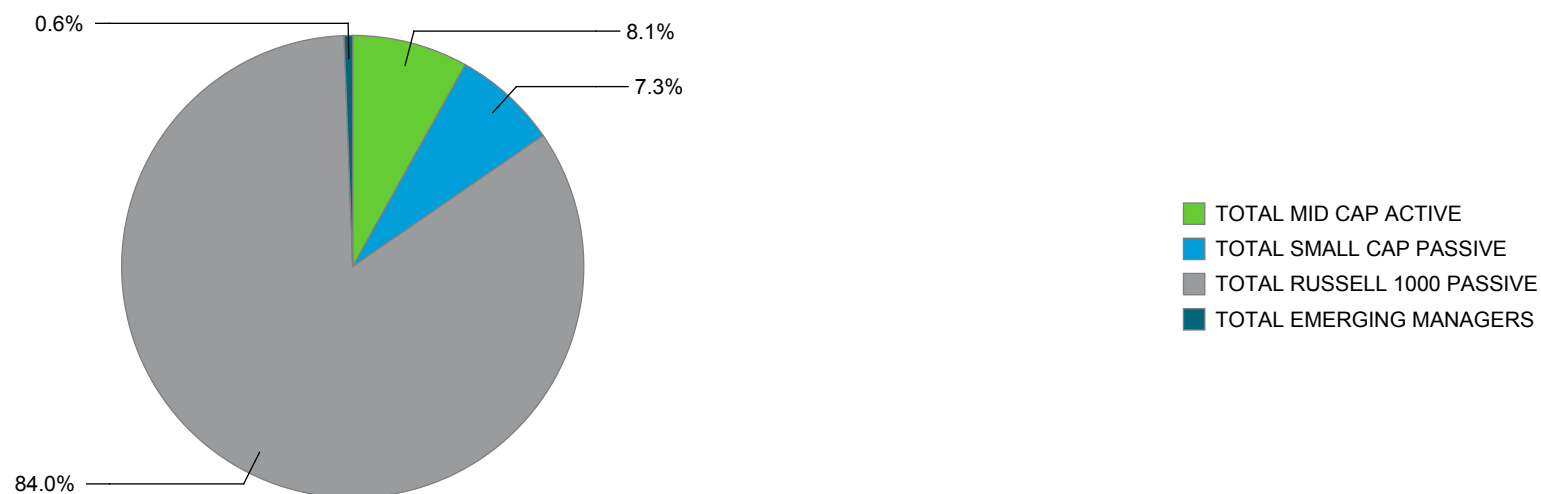
Allocation Effect - Asset Class Breakdown				
	<u>Quarter</u>	<u>FYTD</u>	<u>3 Years</u>	<u>Benchmark</u>
TOTAL BOARD OF EDUCATION	0.13	0.33	0.20	Board of Education Policy Benchmark
TOTAL DOMESTIC EQUITY	0.04	0.05	0.03	RUSSELL 3000
TOTAL DEVELOPED EQUITY	-0.02	0.00	0.08	MSCI World ex USA IMI Net
TOTAL EMERGING MARKETS	0.01	0.07	0.03	MSCI Emerging Markets
TOTAL INTERNATIONAL FOF	0.00	0.00	0.00	MSCI ACWI Ex US IMI Net
TOTAL PRIVATE EQUITY	0.00	0.00	0.00	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	0.00	0.00	-0.01	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	0.00	0.00	0.01	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	0.00	0.00	0.00	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.05	-0.10	-0.12	Citigroup USBIG Treasury 1-3 Y Index
TOTAL ACTIVE GOVERNMENT	0.04	0.27	0.24	NYC - Treasury Agency Plus Five
TOTAL INVESTMENT GRADE CREDIT	-0.01	-0.03	-0.03	NYC - Investment Grade Credit
TOTAL MORTGAGES	0.01	0.06	0.04	CITIGROUP MORTGAGE INDEX
TOTAL ETI	0.00	0.00	0.00	ETI Custom Benchmark
TOTAL HIGH YIELD	0.01	0.07	0.03	CITIGROUP BB&B
TOTAL BANK LOANS	0.00	-0.01	-0.01	Credit Suisse Lev Loan Index
TOTAL TIPS MANAGERS	0.00	0.00	0.00	BBG BARC Gbl Inf-Lk: US TIPS (Dly)
TOTAL CASH	0.01	-0.05	-0.08	

Selection Effect - Asset Class Breakdown				
	<u>Quarter</u>	<u>FYTD</u>	<u>3 Years</u>	<u>Benchmark</u>
TOTAL BOARD OF EDUCATION	0.65	1.52	0.85	Board of Education Policy Benchmark
TOTAL DOMESTIC EQUITY	0.07	0.08	-0.04	RUSSELL 3000
TOTAL DEVELOPED EQUITY	0.47	1.21	0.63	MSCI World ex USA IMI Net
TOTAL EMERGING MARKETS	0.07	0.06	0.09	MSCI Emerging Markets
TOTAL INTERNATIONAL FOF	0.01	0.01	0.00	MSCI ACWI Ex US IMI Net
TOTAL PRIVATE EQUITY	-0.11	-0.16	-0.04	Russell 3K + 300bps
TOTAL PRIVATE REAL ESTATE - CORE	0.02	0.01	0.00	NCREIF ODCE net
TOTAL PRIVATE REAL ESTATE - NON CORE	0.08	0.21	0.09	NCREIF ODCE net + 200bps
TOTAL INFRASTRUCTURE	0.03	0.09	0.06	CPI + 4%
TOTAL US TREASURY SHORT TERM	0.00	0.00	0.00	Citigroup USBIG Treasury 1-3 Y Index
TOTAL ACTIVE GOVERNMENT	0.00	0.01	0.00	NYC - Treasury Agency Plus Five
TOTAL INVESTMENT GRADE CREDIT	0.00	0.01	0.01	NYC - Investment Grade Credit
TOTAL MORTGAGES	0.00	0.00	0.01	CITIGROUP MORTGAGE INDEX
TOTAL ETI	0.00	0.00	0.00	ETI Custom Benchmark
TOTAL HIGH YIELD	0.01	-0.01	-0.02	CITIGROUP BB&B
TOTAL BANK LOANS	-0.01	0.00	-0.01	Credit Suisse Lev Loan Index
TOTAL TIPS MANAGERS	0.00	0.00	0.00	BBG BARC Gbl Inf-Lk: US TIPS (Dly)
TOTAL CASH	0.00	0.00	0.01	

Total Domestic Equity Asset Allocations: March 31, 2018



	<u>Market Value (Billions)</u>	<u>% of Plan</u>
TOTAL DOMESTIC EQUITY	\$1.9	32.1

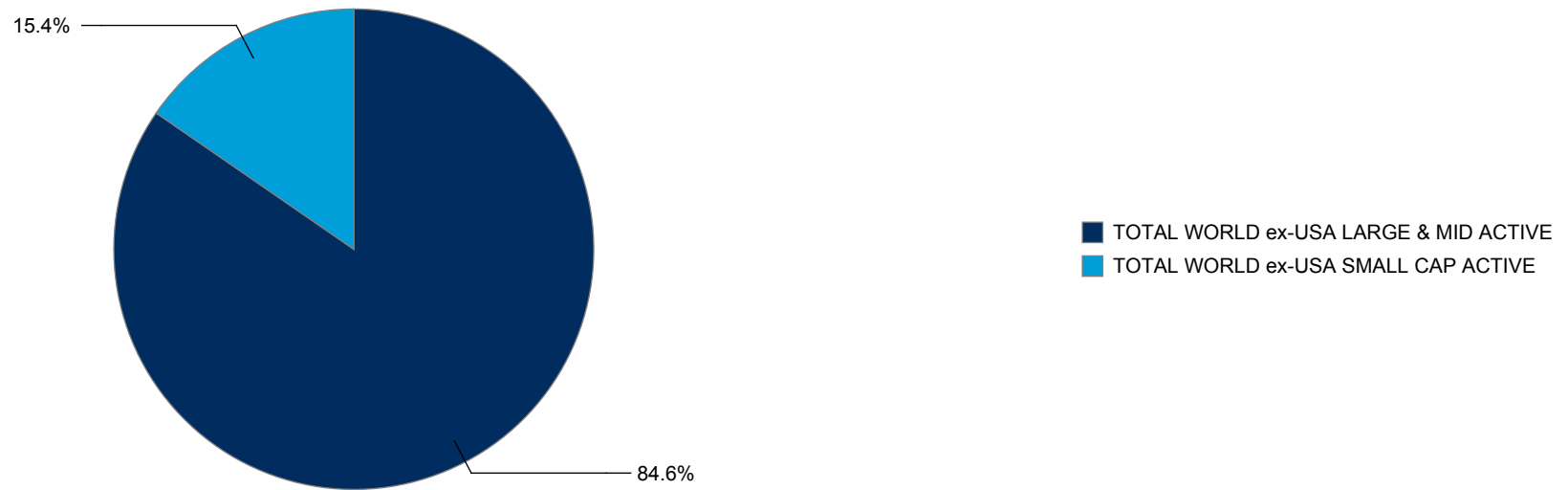


	<u>Policy Weight</u>	<u>Actual Weight</u>	<u>Under/Over Weight</u>	<u>Quarterly Returns</u>		
				<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL MID CAP ACTIVE	7.0	8.1	1.1	3.3	(0.5)	3.8
TOTAL SMALL CAP PASSIVE	7.1	7.3	0.2	0.1	(0.1)	0.2
TOTAL RUSSELL 1000 PASSIVE	67.5	84.0	16.5			
TOTAL RUSSELL TOP 200 PASSIVE	17.9	0.0	(17.9)			
TOTAL EMERGING MANAGERS	0.6	0.6	(0.0)	(0.9)	(0.1)	(0.8)

World ex-USA Equity Asset Allocation: March 31, 2018



	<u>Market Value (Millions)</u>	<u>% of Plan</u>
TOTAL WORLD ex-USA	\$800.9	13.5

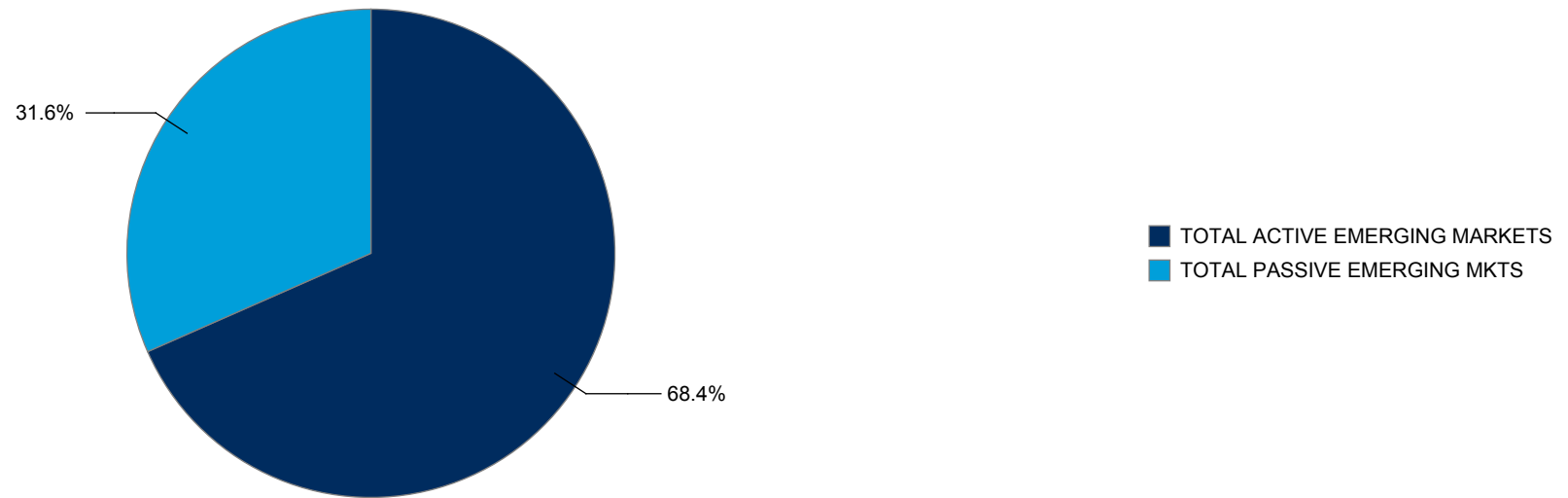


	<u>Asset Weight</u>	<u>Quarterly Returns</u>		
		<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL WORLD ex-USA LARGE & MID ACTIVE	84.63	1.61	(2.04)	3.65
TOTAL WORLD ex-USA SMALL CAP ACTIVE	15.37	1.53	(0.30)	1.83
TOTAL WORLD ex-USA	100.00	1.60	(1.81)	3.40

Emerging Markets Equity Asset Allocation: March 31, 2018



	<u>Market Value (Millions)</u>	<u>% of Plan</u>
TOTAL EMERGING MARKETS	\$514.2	8.7

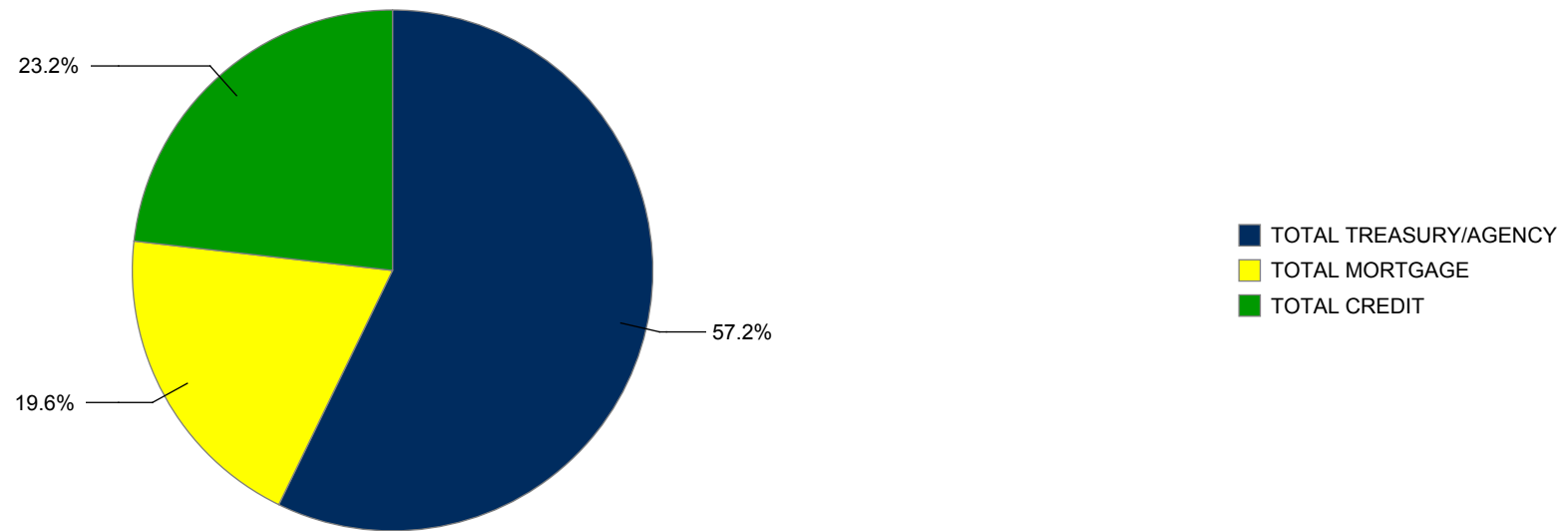


	<u>Asset Weight</u>	<u>Quarterly Returns</u>		
		<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL ACTIVE EMERGING MARKETS	68.43	2.57	1.42	1.15
TOTAL PASSIVE EMERGING MARKETS	31.57	1.50	1.42	0.08
TOTAL EMERGING MARKETS	100.00	2.33	1.42	0.91

Structured Fixed Income Asset Allocation: March 31, 2018



	<u>Market Value (Billions)</u>	<u>% of Plan</u>
TOTAL STRUCTURED + ETI	\$1.1	19.4



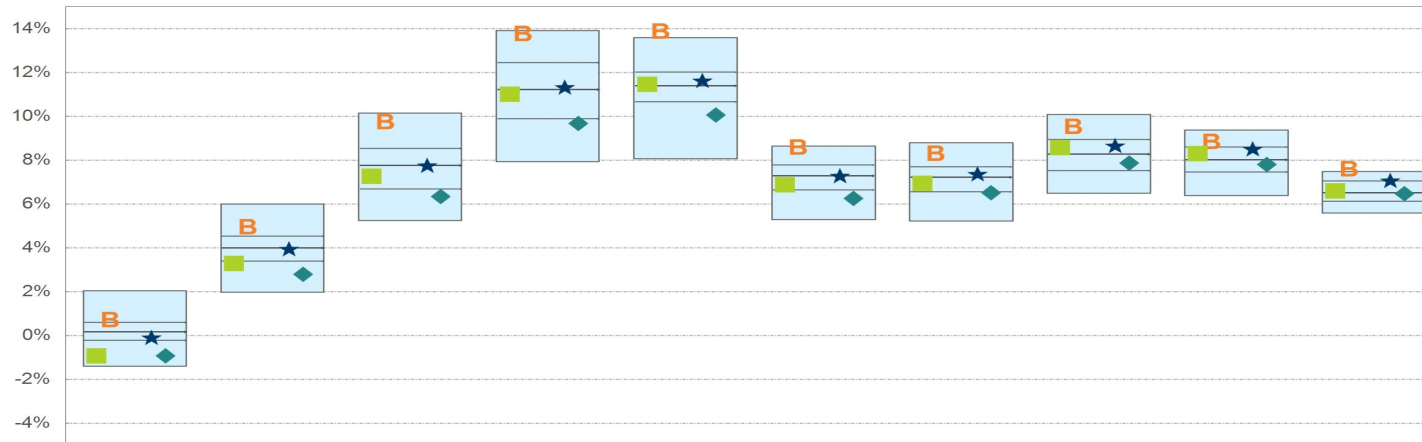
	<u>Policy Weight</u>	<u>Asset Weight</u>	<u>Under/Over Weight</u>	<u>Quarterly Returns</u>		
				<u>Fund</u>	<u>Benchmark</u>	<u>Excess</u>
TOTAL TREASURY/AGENCY	61.54	57.20	(4.34)	(2.01)	(2.22)	0.20
TOTAL MORTGAGE	19.23	19.65	0.42	(1.20)	(1.23)	0.03
TOTAL INVESTMENT GRADE CREDIT	19.23	23.15	3.92	(2.11)	(2.06)	(0.05)

Through March 31, 2018



City of New York Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$1 Billion
Cumulative Periods Ending : March 31, 2018



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	2.03	6.01	10.16	13.93	13.59	8.65	8.79	10.10	9.38	7.49
25th	0.60	4.54	8.55	12.45	12.03	7.79	7.70	8.96	8.60	7.05
50th	0.17	3.99	7.76	11.24	11.40	7.29	7.22	8.29	8.02	6.52
75th	-0.22	3.39	6.69	9.89	10.68	6.65	6.57	7.52	7.46	6.13
95th	-1.40	1.98	5.25	7.94	8.07	5.28	5.22	6.50	6.38	5.59
No. Of Obs	60	60	60	60	60	60	60	60	60	55
B Total System - BOE	0.60 (26)	4.84 (16)	9.65 (11)	13.66 (9)	13.77 (2)	8.47 (9)	8.20 (13)	9.42 (13)	8.73 (18)	7.49 (5)
★ Board of Ed Policy Ben	-0.22 (75)	3.83 (63)	7.63 (56)	11.21 (50)	11.52 (43)	7.16 (53)	7.26 (48)	8.54 (41)	8.38 (33)	6.94 (32)
■ Public Mkt Equiv 25	-1.05 (90)	3.15 (83)	7.15 (68)	10.89 (56)	11.33 (53)	6.76 (73)	6.81 (71)	8.46 (43)	8.17 (43)	6.48 (53)
◆ Public Mkt Equiv 35	-1.06 (90)	2.67 (88)	6.21 (87)	9.55 (81)	9.95 (90)	6.14 (83)	6.39 (78)	7.74 (73)	7.67 (71)	6.34 (59)

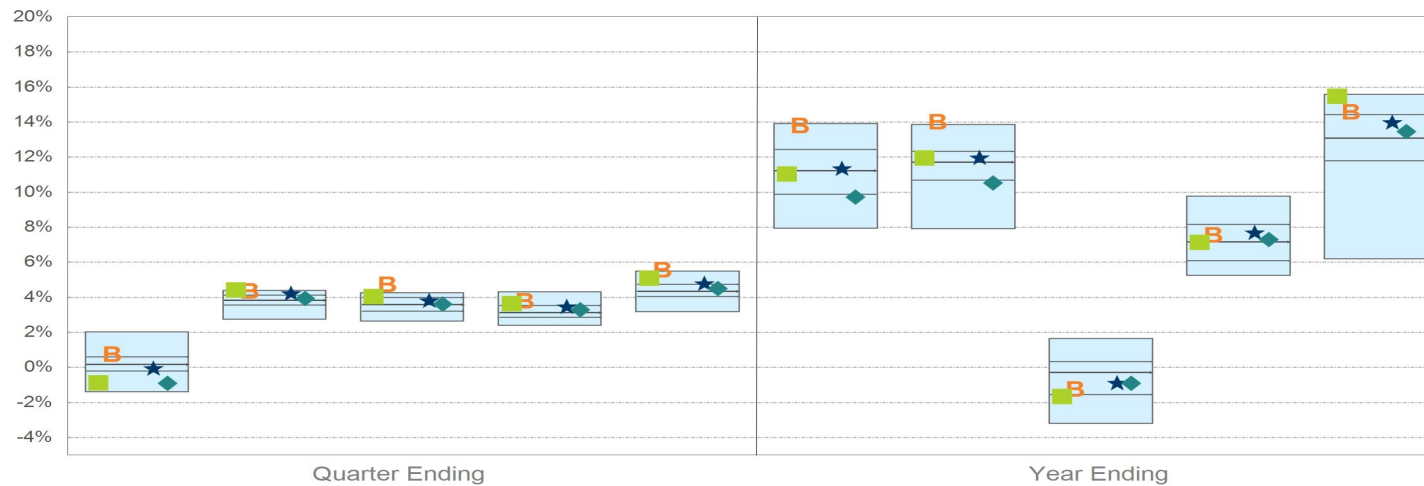
Wilshire Trust Universe Comparison Service® (TUCS®)

Through March 31, 2018



City of New York Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$1 Billion
Consecutive Time Periods: March 31, 2018



Percentile Rankings	Mar 18	Dec 17	Sep 17	Jun 17	Mar 17	Mar 18	Mar 17	Mar 16	Mar 15	Mar 14
5th	2.03	4.39	4.26	4.32	5.49	13.93	13.87	1.65	9.77	15.59
25th	0.60	4.11	3.98	3.54	4.73	12.45	12.33	0.34	8.15	14.43
50th	0.17	3.84	3.59	3.12	4.34	11.24	11.72	-0.30	7.16	13.08
75th	-0.22	3.55	3.21	2.86	4.05	9.89	10.69	-1.55	6.09	11.80
95th	-1.40	2.74	2.64	2.41	3.17	7.94	7.93	-3.19	5.26	6.20
No. Of Obs	60	60	60	60	60	60	60	60	60	60
B Total System - BOE	0.60 (26)	4.21 (14)	4.59 (1)	3.65 (18)	5.41 (7)	13.66 (9)	13.87 (5)	-1.39 (71)	7.40 (46)	14.42 (26)
★ Board of Ed Policy Ben	-0.22 (75)	4.06 (30)	3.66 (45)	3.32 (36)	4.64 (35)	11.21 (50)	11.83 (45)	-1.04 (61)	7.54 (41)	13.84 (35)
■ Public Mkt Equiv 25	-1.05 (90)	4.25 (11)	3.87 (31)	3.49 (26)	4.92 (16)	10.89 (56)	11.78 (46)	-1.83 (83)	6.98 (56)	15.32 (13)
◆ Public Mkt Equiv 35	-1.06 (90)	3.77 (53)	3.45 (68)	3.14 (46)	4.34 (50)	9.55 (81)	10.36 (80)	-1.08 (63)	7.14 (51)	13.29 (43)

Wilshire Trust Universe Comparison Service® (TUCS®)

Actual and Estimated Fees

Through March 31, 2018



BOARD OF EDUCATION RETIREMENT SYSTEM

ACTUAL FEES FOR FISCAL YEAR ENDED JUNE 30, 2017 AND ESTIMATED FEES FOR FY 2018 UPDATED THROUGH DECEMBER 2017

INVESTMENT STYLE (EQUITIES)	Avg. MV FY 2017 (\$MM)	Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS	Actual 2017		Total Fees in (\$M)	Total Fees in BPS	Avg. MV FYTD 12-31-17 (\$MM)	Estimates 2018	
				Incentive Fees in (\$M)	Incentive Fees in BPS				Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS
Total US Equities	1,804.61	1,307.64	7.25	81.98	-	1,389.62	7.70	2,049.37	545.71	2.66
Small Cap Active	-	-	-	-	-	-	-	-	-	-
Small Cap Growth	-	-	-	-	-	-	-	-	-	-
Small Cap Value	-	-	-	-	-	-	-	-	-	-
Small Cap Core	-	-	-	-	-	-	-	-	-	-
Small Cap Fundamental Index	-	-	-	-	-	-	-	-	-	-
Mid Cap Active	134.76	479.17	35.56	81.98	6.08	561.15	41.64	140.94	413.76	29.36
Mid Cap Growth	-	-	-	-	-	-	-	-	-	-
Mid Cap Value	-	-	-	-	-	-	-	-	-	-
Mid Cap Core	134.76	479.17	35.56	81.98	6.08	561.15	41.64	140.94	413.76	29.36
Russell 1000 Fundamental	-	-	-	-	-	-	-	-	-	-
Active Emerging Managers (U.S. Equities)	121.79	739.16	60.69	-	-	739.16	60.69	10.75	52.49	48.81
U.S. Environmental Managers	-	-	-	-	-	-	-	-	-	-
Total US Active Equities	256.55	1,218.33	47.49	81.98	3.20	1,300.31	50.68	151.70	466.25	30.74
Small Cap Passive	-	-	-	-	-	-	-	-	-	-
Small Cap Passive	88.72	3.91	0.44	-	-	3.91	0.44	178.15	7.45	0.42
Mid Cap Passive	-	-	-	-	-	-	-	-	-	-
Mid Cap Passive	-	-	-	-	-	-	-	-	-	-
Russell 1000 Passive	-	-	-	-	-	-	-	-	-	-
Russell 1000 Growth Passive	724.62	54.02	0.75	-	-	54.02	0.75	869.84	36.57	0.42
Russell 1000 Value Passive	734.71	31.39	0.43	-	-	31.39	0.43	849.69	35.43	0.42
Passive Russell 3000	0.01	-	-	-	-	-	-	0.00	-	-
Passive S&P 500	-	-	-	-	-	-	-	-	-	-
Total US Passive Equities	1,548.06	89.31	0.58	-	-	89.31	0.58	1,897.68	79.46	0.42

Actual and Estimated Fees

Through March 31, 2018



BOARD OF EDUCATION RETIREMENT SYSTEM

ACTUAL FEES FOR FISCAL YEAR ENDED JUNE 30, 2017 AND ESTIMATED FEES FOR FY 2018 UPDATED THROUGH DECEMBER 2017

	Actual 2017							Estimates 2018		
	Avg. MV FY 2017 (\$MM)	Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS	Incentive Fees in (\$M)	Incentive Fees in BPS	Total Fees in (\$M)	Total Fees in BPS	Avg. MV FYTD 12-31-17 (\$MM)	Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS
Total International Equities	1,215.56	2,878.36	23.68	-	-	2,878.36	23.68	1,285.05	3,281.64	25.54
Active EAFE Equities	792.16	1,900.17	23.99	-	-	1,900.17	23.99	774.73	1,915.46	24.72
Developed Growth	348.07	862.28	24.77	-	-	862.28	24.77	333.70	857.42	25.69
Developed Value	350.87	737.46	21.02	-	-	737.46	21.02	325.42	689.85	21.20
Developed Small Cap	93.21	300.43	32.23	-	-	300.43	32.23	115.62	368.18	31.84
Developed Core	-	-	-	-	-	-	-	-	-	-
Total Progress Intl.	-	-	-	-	-	-	-	-	-	-
NON-U.S. Environmental Managers	-	-	-	-	-	-	-	-	-	-
Active Emerging Markets	264.24	903.06	34.18	-	-	903.06	34.18	326.25	1,093.56	33.52
Total Active Int'l Fund of Funds	55.71	38.43	6.90	-	-	38.43	6.90	60.36	208.37	34.52
Total Active International Equities	1,112.10	2,841.66	25.55	-	-	2,841.66	25.55	1,161.35	3,217.39	27.70
Int'l Passive Equities	-	-	-	-	-	-	-	-	-	-
Developed Passive	-	-	-	-	-	-	-	-	-	-
Passive Global	-	-	-	-	-	-	-	-	-	-
Passive Emerging Markets	103.45	36.70	3.55	-	-	36.70	3.55	123.70	64.25	5.19
Total Int'l Passive Equities	103.45	36.70	3.55	-	-	36.70	3.55	123.70	64.25	5.19
REITS Active Equities	-	-	-	-	-	-	-	-	-	-

Actual and Estimated Fees

Through March 31, 2018



BOARD OF EDUCATION RETIREMENT SYSTEM

ACTUAL FEES FOR FISCAL YEAR ENDED JUNE 30, 2017 AND ESTIMATED FEES FOR FY 2018 UPDATED THROUGH DECEMBER 2017

INVESTMENT STYLE (FIXED INCOME)	Avg. MV FY 2017 (\$MM)	Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS	Actual 2017		Total Fees in (\$M)	Total Fees in BPS	Avg. MV FYTD 12-31-17 (\$MM)	Estimates 2018	
				Incentive Fees in (\$M)	Incentive Fees in BPS				Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS
Fixed Income	1,501.52	1,660.97	11.06	-	-	1,660.97	11.06	1,623.26	1,785.72	11.00
Structured Program	789.49	365.52	4.63	-	-	365.52	4.63	895.93	441.52	4.93
Government Treas/Agency Sector	296.72	59.70	2.01	-	-	59.70	2.01	449.55	150.09	3.34
Long Duration Treasury	-	-	-	-	-	-	-	-	-	-
Mortgage Sector	200.01	95.68	4.78	-	-	95.68	4.78	177.31	76.81	4.33
Investment Grade Credit Sector	292.75	210.14	7.18	-	-	210.14	7.18	269.07	214.62	7.98
Global Fixed Income	-	-	-	-	-	-	-	-	-	-
Progress Fixed Emerging Managers	-	-	-	-	-	-	-	-	-	-
TIPS	226.68	11.11	0.49	-	-	11.11	0.49	260.70	12.72	0.49
Active TIPS Managers	0.01	-	-	-	-	-	-	-	-	-
Passive TIPS Managers	226.67	11.11	0.49	-	-	11.11	0.49	260.70	12.72	0.49
High Yield	256.13	832.70	32.51	-	-	832.70	32.51	270.09	872.65	32.31
Bank Loans	111.69	374.20	33.50	-	-	374.20	33.50	115.93	381.12	32.88
Convertible Bonds	-	-	-	-	-	-	-	-	-	-
ETI - Access - RBC	6.06	14.17	23.38	-	-	14.17	23.38	8.07	15.33	19.00
ETI - AFL-CIO HIT	15.87	63.28	39.87	-	-	63.28	39.87	16.08	62.38	38.80
Total Public Markets (Externally managed)	4,426.09	5,846.98	13.21	81.98	0.19	5,928.96	13.40	4,901.22	5,613.07	11.45
Other ETI Programs	7.89	-	-	-	-	-	-	8.94	-	-
In-House Short Term	87.70	-	-	-	-	-	-	47.53	-	-
Total Public Markets	4,521.68	5,846.98	12.93	81.98	0.18	5,928.96	13.11	4,957.69	5,613.07	11.32

Actual and Estimated Fees

Through March 31, 2018



BOARD OF EDUCATION RETIREMENT SYSTEM										
ACTUAL FEES FOR FISCAL YEAR ENDED JUNE 30, 2017 AND ESTIMATED FEES FOR FY 2018 UPDATED THROUGH DECEMBER 2017										
INVESTMENT STYLE (PRIVATE MARKETS)	Avg. MV FY 2017 (\$MM)	Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS	Actual 2017		Total Fees in (\$M)	Total Fees in BPS	Avg. MV FYTD 12-31-17 (\$MM)	Estimates 2018	
				Incentive Fees in (\$M)	Incentive Fees in BPS				Mgmt. Fees w/ Partnership Expenses (\$M)	Mgmt. Fees w/ Partnership Expenses in BPS
Hedge Funds	-	-	-	-	-	-	-	-	-	-
Private Equity	250.56	5,689.46	227.07	876.55	34.98	6,566.01	262.06	301.27	3,729.14	123.78
Private Real Estate	288.45	3,667.75	127.16	562.83	19.51	4,230.58	146.67	327.62	3,745.08	114.31
Infrastructure	40.23	1,114.36	98.90	-	-	1,114.36	98.90	52.07	1,278.17	81.93
Opportunistic Fixed Income	-	-	-	-	-	-	-	-	-	-
Total Private Markets	579.24	10,471.57	180.78	1,439.38	24.85	11,910.95	205.63	680.96	8,752.39	128.53
Total Overall	5,100.92	16,318.55	31.99	1,521.36	2.98	17,839.91	34.97	5,638.65	14,365.46	25.48

The overall carried interest and incentive fees paid by BERS in Fiscal Year 2017: 2.98 BPS

General Footnotes:

1) Private Markets data reflect: carried interest realized and/or Incentive fees as stated by its corresponding partnership. Management fees reported are inclusive of partnership expenses associated with the partnership for the stated fiscal year.

2) Infrastructure's expense data is based off the total committed amounts rather than current market value due to its early fund life juncture.

3) Estimated Fees for the Public Markets data does not take into account major rebalancing shifts and is calculated at a fixed NAV. Estimates fees for the Private Markets data is based solely off gross management fee data and is not inclusive of any offsets. Both estimates are considered to be equitably conservative and should be construed as such. Estimates for FY 2018 for Private Equity is provided by the consultant.

Securities Lending Income

Through March 31, 2018



NYC BOARD OF EDUCATION RETIREMENT SYSTEM SECURITIES LENDING INCOME March 31, 2018

	U. S. FIXED INCOME	U. S. EQUITY	INTERNATIONAL EQUITY	TOTAL
1989	70,000	-	-	70,000
1990	79,000	-	-	79,000
1991	111,000	-	-	111,000
1992	122,000	11,000	-	133,000
1993	79,000	32,000	15,000	126,000
1994	93,000	77,000	20,000	190,000
1995	112,000	93,000	12,000	217,000
1996	99,000	76,000	27,000	202,000
1997	101,000	126,000	40,000	267,000
1998	111,000	170,000	60,000	341,000
1999	159,000	263,000	100,000	522,000
2000	193,000	310,000	97,000	600,000
2001	295,000	208,000	159,000	662,000
2002	209,000	143,000	152,000	504,000
2003	153,000	158,000	195,000	506,000
2004	226,000	255,000	174,000	655,000
2005	384,000	479,000	217,000	1,080,000
2006	303,000	734,000	246,000	1,283,000
2007	593,000	1,208,000	272,000	2,073,000
2008	2,514,000	2,266,000	451,000	5,231,000
2009	698,000	1,416,000	367,000	2,481,000
2010	246,000	729,000	326,000	1,301,000
2011	340,000	943,000	599,000	1,882,000
2012	516,000	1,144,000	495,000	2,155,000
2013	349,000	1,325,000	446,000	2,120,000
2014	287,000	512,000	1,387,000	2,186,000
2015	338,000	429,000	1,985,000	2,752,000
2016	418,000	1,585,000	1,685,000	3,688,000
2017	686,000	1,015,000	1,215,000	2,916,000
2018 (3 months)	219,118	156,173	282,282	657,573
Since Inception	10,103,118	15,863,173	11,024,282	36,990,573

**New York City
Board of Education Retirement System**

Appendix A

Consolidated Performance Report

Consolidated Performance Report

Through March 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
SYSTEM RETURN SUMMARY															
5 BERS-TOTAL PORTFOLIO - GROSS	5,911	100.00	0.60	9.65	0.60	19.09	9.44	(0.20)	6.64	18.78	8.47	9.42	7.49	8.92	07/01/1987
BERS - ESTIMATED INVESTMENT FEES			(0.04)	(0.17)	(0.04)	(0.27)	(0.25)	(0.24)	(0.25)		(0.25)				
EST MANAGEMENT FEES - PUBLIC MARKET (ACCRUAL)			(0.02)	(0.07)	(0.02)	(0.10)	(0.13)	(0.14)	(0.15)		(0.12)				
EST MANAGEMENT FEES - ALTERNATIVE MARKETS (CASH)			(0.02)	(0.10)	(0.02)	(0.17)	(0.12)	(0.10)	(0.10)		(0.13)				
EST INCENTIVE FEES															
EST OTHER FEES															
EST FEE OFFSETS															
BERS-TOTAL PORTFOLIO - NET MGR			0.56	9.48	0.56	18.82	9.19	(0.44)	6.39		8.22				
BOARD OF EDUCATION POLICY BENCHMARK			(0.22)	7.63	(0.22)	16.63	8.66	(0.08)	6.93	18.10	7.17	8.54	6.94		
EXCESS RETURN			0.78	1.85	0.78	2.18	0.53	(0.36)	(0.53)	0.68	1.06	0.87	0.55		
EQUITY RETURN DETAIL															
18 BERS-TOTAL EQUITY (INCLUDES PE & RA) - GROSS	4,024	68.08	1.19	13.41	1.19	25.58	10.72	(0.13)	7.08	27.83	10.99	12.21	8.40	9.45	08/01/1993
ESTIMATED INVESTMENT FEES			(0.05)	(0.21)	(0.05)	(0.34)	(0.30)	(0.30)	(0.28)		(0.30)				
EST MANAGEMENT FEES			(0.05)	(0.21)	(0.05)	(0.34)	(0.30)	(0.30)	(0.28)		(0.30)				
EST INCENTIVE FEES															
EST OTHER FEES															
EST FEE OFFSETS															
BERS-TOTAL EQUITY (INCL PE & RA) - NET MGR			1.14	13.20	1.14	25.24	10.42	(0.43)	6.81		10.68				
26 BERS-TOTAL DOMESTIC EQUITY - GROSS	1,899	32.13	(0.43)	10.75	(0.43)	21.47	12.69	0.51	11.27	35.96	10.22	13.19	9.74	9.90	09/01/1991
ESTIMATED INVESTMENT FEES			(0.01)	(0.02)	(0.01)	(0.04)	(0.12)	(0.12)	(0.13)		(0.09)				
BERS-TOTAL DOMESTIC EQUITY - NET MGR			(0.44)	10.73	(0.44)	21.43	12.57	0.39	11.14		10.14				
RUSSELL 3000 (DAILY)			(0.64)	10.48	(0.64)	21.13	12.74	0.48	12.56	33.55	10.22	13.03	9.62	9.77	
EXCESS RETURN			0.20	0.25	0.20	0.29	(0.17)	(0.09)	(1.42)	2.41	(0.09)	0.16	0.12	0.13	
36 BERS-TOTAL SMALL CAP - GROSS	139	2.35	0.03	9.35	0.03	14.47	21.28	(6.44)	3.20	44.74	8.02	11.21	8.58	7.22	04/01/2004
ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.08)	(0.15)		(0.02)				
BERS-TOTAL SMALL CAP - NET MGR			0.03	9.34	0.03	14.47	21.28	(6.52)	3.05		8.00				
RUSSELL 2000 (DAILY)			(0.08)	9.11	(0.08)	14.65	21.31	(4.41)	4.89	38.82	8.39	11.47	9.84	8.48	
EXCESS RETURN			0.12	0.24	0.12	(0.18)	(0.03)	(2.11)	(1.85)	5.92	(0.39)	(0.26)	(1.26)	(1.26)	
46 BERS-TOTAL MID CAP - GROSS	153	2.59	3.38	15.03	3.38	25.33	12.90	2.56	10.77	37.52	12.32	15.01		15.28	10/01/2010
ESTIMATED INVESTMENT FEES			(0.08)	(0.26)	(0.08)	(0.27)	(0.62)	(0.55)	(0.41)		(0.47)				
BERS-TOTAL MID CAP - NET MGR			3.31	14.77	3.31	25.06	12.28	2.01	10.36		11.85				
RUSSELL MIDCAP (DAILY)			(0.46)	9.25	(0.46)	18.52	13.80	(2.44)	13.22	34.76	8.01	12.09		13.64	
EXCESS RETURN			3.77	5.53	3.77	6.54	(1.51)	4.45	(2.86)	2.76	3.84	2.92		1.64	
56 BERS-TOTAL RUSSELL 1000 - GROSS	1,596	27.00													09/01/1993
ESTIMATED INVESTMENT FEES															
BERS-TOTAL RUSSELL 1000 - NET MGR															
RUSSELL 1000 (DAILY)															
EXCESS RETURN															
66 BERS-TOTAL EMERGING MANAGER- GROSS	11	0.19	(0.80)	6.48	(0.80)									7.09	05/01/2017
ESTIMATED INVESTMENT FEES			(0.12)	(0.39)	(0.12)									(0.30)	
BERS-TOTAL EMERGING MANAGER - NET MGR			(0.92)	6.09	(0.92)									6.79	
RUSSELL 2000 (DAILY)			(0.08)	9.11	(0.08)									10.58	
EXCESS RETURN			(0.83)	(3.02)	(0.83)									(3.79)	

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014	2013	3 Year	5 Year	10 Year	ITD	Inception Date
EQUITY RETURN DETAIL															
78 BERS-TOTAL WORLD ex-USA EQUITY - GROSS	801	13.55	1.65	17.42	1.65	35.49	6.19	(4.75)	(4.81)	24.21	10.20	9.37	5.84	8.19	11/01/1992
ESTIMATED INVESTMENT FEES			(0.06)	(0.21)	(0.06)	(0.32)	(0.26)	(0.24)	(0.24)		(0.27)				
BERS-TOTAL WORLD ex-USA EQUITY - NET MGR			1.60	17.20	1.60	35.18	5.93	(4.98)	(5.04)		9.93				
WORLD EX USA CUSTOM BM			(1.81)	8.67	(1.81)	26.40	1.15	0.49	(4.90)	23.54	6.32	7.03	3.18		
EXCESS RETURN			3.40	8.54	3.40	8.77	4.78	(5.48)	(0.14)	0.67	3.61	2.34	2.66		
88 BERS-TOTAL WORLD ex-USA LARGE & MID ACTIVE - GROSS	678	11.47	1.66	17.33	1.66	35.81	6.12	(6.35)	(4.83)		9.68			6.96	11/01/2013
ESTIMATED INVESTMENT FEES			(0.06)	(0.20)	(0.06)	(0.31)	(0.25)	(0.22)	(0.23)		(0.25)			(0.25)	
BERS-TOTAL WORLD ex-USA LARGE & MID ACTIVE - NET MGR			1.61	17.13	1.61	35.51	5.87	(6.57)	(5.05)		9.42			6.71	
NYC CUSTOM WORLD EX-USA LG & MID ACT INDEX			(2.04)	7.75	(2.04)	25.18	1.00	(0.81)	(4.90)		5.41			4.12	
EXCESS RETURN			3.65	9.38	3.65	10.32	4.87	(5.76)	(0.15)		4.01			2.59	
108 BERS-TOTAL WORLD ex-USA SMALL CAP ACTIVE - GROSS	123	2.08	1.61	17.94	1.61	38.82	6.76	9.04	(4.60)		16.07			12.93	05/01/2013
ESTIMATED INVESTMENT FEES			(0.08)	(0.28)	(0.08)	(0.44)	(0.35)	(0.36)	(0.32)		(0.38)				
BERS-TOTAL WORLD ex-USA SMALL CAP ACTIVE - NET MGR			1.53	17.66	1.53	38.38	6.41	8.68	(4.92)		15.69				
S&P EPAC SMALL CAP USD NET			(0.30)	13.36	(0.30)	33.47	1.34	8.58	(3.43)		11.55			10.36	
EXCESS RETURN			1.83	4.30	1.83	4.91	5.07	0.09	(1.49)		4.14			2.56	
118 BERS-TOTAL ACTIVE EMERGING MARKETS - GROSS	352	5.95	2.65	18.98	2.65	40.92	13.14	(14.83)	4.14	(4.70)	10.92	7.05	3.36	9.92	04/01/2004
ESTIMATED INVESTMENT FEES			(0.08)	(0.30)	(0.08)	(0.47)	(0.40)	(0.31)	(0.37)		(0.39)				
BERS-TOTAL ACTIVE EMERGING MARKETS - NET MGR			2.57	18.68	2.57	40.45	12.74	(15.14)	3.77		10.54				
MSCI EMERGING MARKETS			1.42	17.56	1.42	37.28	11.19	(14.92)	(2.19)	(2.60)	8.81	4.99	3.02	9.11	
EXCESS RETURN			1.15	1.12	1.15	3.16	1.55	(0.22)	5.96	(2.10)	1.73	2.07	0.34	0.81	
128 BERS-TOTAL PASSIVE EMERGING MARKETS - GROSS	162	2.75	1.47	17.39	1.47	37.41								28.36	12/01/2016
ESTIMATED INVESTMENT FEES			0.03	(0.05)	0.03	(0.15)								(0.07)	
BERS-TOTAL PASSIVE EMERGING MARKETS - NET MGR			1.50	17.33	1.50	37.26								28.28	
MSCI EMERGING MARKETS			1.42	17.56	1.42	37.28								28.43	
EXCESS RETURN			0.08	(0.23)	0.08	(0.02)								(0.15)	
138 BERS-TOTAL INTERNATIONAL FUND OF FUNDS - GROSS	63	1.06	(0.18)	11.70	(0.18)									15.04	05/01/2017
ESTIMATED INVESTMENT FEES			(0.08)	(0.29)	(0.08)									(0.37)	
BERS-TOTAL INTERNATIONAL FUND OF FUNDS - NET MGR			(0.27)	11.41	(0.27)									14.67	
MSCI ACWI EX USA IMI NET			(1.06)	10.63	(1.06)									14.51	
EXCESS RETURN			0.79	0.77	0.79									0.16	

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	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014	2013	3 Year	5 Year	10 Year	ITD	Inception Date
EQUITY RETURN DETAIL															
150 BERS-TOTAL PRIVATE EQUITY (TIME WEIGHTED)	346	5.85	5.21	15.07	5.21	19.22	10.42	14.26	22.16	15.34	16.04	16.66	10.47	6.92	07/01/2006
NYC R3000 +3% LAGGED			7.11	17.08	7.11	22.22	18.37	2.49	21.24	24.53	14.43	18.84	12.82	12.90	
EXCESS RETURN			(1.90)	(2.01)	(1.90)	(3.00)	(7.96)	11.77	0.92	(9.19)	1.61	(2.18)	(2.35)	(5.98)	
160 BERS-TOTAL PRIVATE REAL ESTATE (TIME WEIGHTED)	335	5.67	4.02	10.72	4.02	13.57	10.75	16.06	13.67	8.64	13.21	13.34		12.33	12/01/2010
NCREIF NFI-ODCE NET + 100 BP			2.22	6.35	2.22	7.72	8.86	15.08	12.56	14.02	10.08	11.51		12.61	
EXCESS RETURN			1.80	4.37	1.80	5.85	1.89	0.98	1.10	(5.39)	3.12	1.83		(0.28)	
170 BERS-TOTAL INFRASTRUCTURE (TIME WEIGHTED)	66	1.12	4.74	17.30	4.74	24.82	9.26	11.63	18.85		14.49			15.90	12/01/2013
CPI + 4%			1.62	5.28	1.62	6.20	6.17	4.69	4.69		5.95			5.54	
EXCESS RETURN			3.13	12.02	3.13	18.62	3.09	6.94	14.17		8.54			10.36	

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Through March 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
FIXED INCOME RETURN DETAIL															
182 BERS-TOTAL FIXED INCOME - GROSS	1,801	30.46	(1.19)	0.60	(1.19)	4.47	6.65	(0.68)	5.69	(0.56)	2.28	2.69	5.21	5.09	04/01/2004
ESTIMATED INVESTMENT FEES			(0.03)	(0.09)	(0.03)	(0.13)	(0.13)	(0.13)	(0.16)		(0.13)				
EST MANAGEMENT FEES			(0.03)	(0.09)	(0.03)	(0.13)	(0.13)	(0.13)	(0.16)		(0.13)				
EST INCENTIVE FEES															
EST OTHER FEES															
EST FEE OFFSETS															
BERS-TOTAL FIXED INCOME - NET MGR			(1.22)	0.51	(1.22)	4.34	6.51	(0.81)	5.53		2.16				
190 BERS-TOTAL STRUCTURED FIXED INCOME - GROSS	1,112	18.82	(1.80)	(0.36)	(1.80)	4.19	3.95	0.26	7.66	(2.38)	1.54	2.33	4.62	7.52	01/01/1985
ESTIMATED INVESTMENT FEES			(0.01)	(0.04)	(0.01)	(0.05)	(0.06)	(0.06)	(0.08)		(0.05)				
BERS-TOTAL STRUCTURED FIXED INCOME - NET MGR			(1.81)	(0.39)	(1.81)	4.14	3.89	0.20	7.58		1.48				
NYC - CORE PLUS FIVE			(1.81)	(0.20)	(1.81)	4.51	3.20	0.41	7.66	(2.79)	1.43	2.23	4.29		
EXCESS RETURN			0.00	(0.19)	0.00	(0.37)	0.70	(0.21)	(0.08)	0.41	0.05	0.10	0.33		
200 BERS-TOTAL TIPS - GROSS	265	4.49	(0.78)	1.38	(0.78)	3.05	4.78	(0.83)	3.37	(8.52)	1.35	0.08	3.11	3.81	06/01/2005
ESTIMATED INVESTMENT FEES			(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.02)	(0.10)		(0.01)				
BERS-TOTAL TIPS - NET MGR			(0.78)	1.37	(0.78)	3.04	4.78	(0.85)	3.27		1.34				
BBG BARC GBL INF-LK: US TIPS (DLY)			(0.79)	1.33	(0.79)	3.01	4.68	(1.44)	3.64	(8.61)	1.30	0.05	2.93	3.64	
EXCESS RETURN			0.01	0.04	0.01	0.04	0.09	0.58	(0.37)	0.09	0.04	0.04	0.19	0.17	
210 BERS-TOTAL HIGH YIELD - GROSS	270	4.56	(0.77)	1.50	(0.77)	7.17	15.96	(4.34)	3.09	8.39	4.57	5.10	8.08	5.97	08/01/1997
ESTIMATED INVESTMENT FEES			(0.08)	(0.25)	(0.08)	(0.36)	(0.36)	(0.32)	(0.34)		(0.34)				
BERS-TOTAL HIGH YIELD - NET MGR			(0.85)	1.26	(0.85)	6.81	15.60	(4.66)	2.75		4.23				
CITIGROUP BB & B			(1.01)	1.48	(1.01)	7.03	15.48	(4.21)	2.78	6.17	4.57	4.55	6.65	5.98	
EXCESS RETURN			0.17	(0.23)	0.17	(0.22)	0.12	(0.45)	(0.04)	2.22	(0.34)	0.55	1.43	(0.01)	
220 BERS- TOTAL BANK LOANS - GROSS	119	2.01	1.40	4.30	1.40	4.81	8.86	0.46	2.34	6.33	4.36	4.33		4.65	12/01/2012
ESTIMATED INVESTMENT FEES			(0.08)	(0.26)	(0.08)	(0.34)	(0.38)	(0.34)	(0.35)		(0.35)				
BERS-TOTAL BANK LOANS - NET MGR			1.32	4.04	1.32	4.47	8.48	0.12	1.99		4.01				
CSFB LEVERAGED LOAN INDEX			1.58	3.86	1.58	4.25	9.88	(0.38)	2.06	6.15	4.33	4.17		4.51	
EXCESS RETURN			(0.26)	0.19	(0.26)	0.22	(1.39)	0.51	(0.07)	0.18	(0.32)	0.17		0.15	
230 BERS-TOTAL TARGETED INVESTMENTS (NO CASH) - GROSS	35	0.59	(1.46)	(0.30)	(1.46)	4.37	2.60	3.60	7.31	(1.66)	2.27	2.89	4.29	6.75	12/01/1984
ESTIMATED INVESTMENT FEES			(0.06)	(0.18)	(0.06)	(0.26)	(0.29)	(0.30)	(0.35)	(0.36)	(0.28)	(0.30)	(0.34)	(0.12)	
BERS-TOTAL BERS TARGETED INVESTMENTS (NO CASH)- NET MGR			(1.52)	(0.49)	(1.52)	4.11	2.31	3.30	6.96	(2.02)	1.99	2.59	3.95	6.63	
BERS CUSTOM BENCHMARK (NO CASH)			(1.19)	(0.00)	(1.19)	3.19	2.43	1.18	5.76	(1.71)	1.38	1.91	3.48		
EXCESS RETURN			(0.33)	(0.48)	(0.33)	0.92	(0.12)	2.12	1.20	(0.31)	0.61	0.68	0.47		

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		Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014	2013	3 Year	5 Year	10 Year	ITD	Inception Date
CASH SUMMARY																
242	BOARD OF ED. SHORT TERM - GROSS	86	1.45	0.36	0.96	0.36	1.10	0.55	0.39	0.28	0.29	0.75	0.58	0.87	2.00	10/01/2000
	ESTIMATED INVESTMENT FEES			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	BOARD OF ED. SHORT TERM - NET MGR			0.36	0.96	0.36	1.10	0.55	0.39	0.28	0.29	0.75	0.58	0.87		
246	CASH ACCOUNTS	0	0.00													
248	SECURITY LENDING	0	0.00													
250	KKR SP CASH ACCOUNT	0	0.00													

New York City
Board of Education Retirement System

Appendix B

Public Markets Manager Performance Detail

Public Markets Manager Performance Detail



Net Returns Through March 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
EQUITY SUMMARY									
US EQUITY									
NYC BERS BLACKROCK R2000 GROWTH	70	1.19	2.40	13.82	2.40	22.26	11.29	(1.30)	5.50
RUSSELL 2000 GROWTH DAILY			2.30	13.64	2.30	22.17	11.32	(1.38)	5.60
Excess			0.10	0.18	0.10	0.09	(0.02)	0.08	(0.11)
NYC BERS BLACKROCK R2000 VALUE	69	1.16	(2.48)	4.69	(2.48)	7.34	31.71	(7.38)	4.11
RUSSELL 2000 VALUE DAILY			(2.64)	4.43	(2.64)	7.84	31.74	(7.47)	4.22
Excess			0.16	0.26	0.16	(0.49)	(0.03)	0.09	(0.11)
Wellington Mgmt MCC	153	2.59	3.31	14.77	3.31	25.06	12.28	1.76	10.96
S&P MID CAP 400			(0.77)	8.83	(0.77)	16.24	20.74	(2.18)	9.77
Excess			4.08	5.94	4.08	8.82	(8.45)	3.94	1.19
NYC BERS BLACKROCK R1000 GROWTH	1	0.01							
RUSSELL 1000 GROWTH - DAILY									
Excess									
NYC BERS BLACKROCK R1000 VALUE	1	0.02							
RUSSELL 1000 VALUE (DAILY)									
Excess									
NYC BERS BLACKROCK R1000 CORE	1,594	26.96							
RUSSELL 1000 (DAILY)									
Excess									
EMERGING MANAGERS									
BERS-TOTAL EMERGING MANAGERS	11	0.19	(0.92)	6.09	(0.92)				
RUSSELL 2000 (DAILY)			(0.08)	9.11	(0.08)				
Excess			(0.83)	(3.02)	(0.83)				

Public Markets Manager Performance Detail



Net Returns Through March 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
BERS-TOTAL LEGATO	11	0.19	(0.92)	6.15	(0.92)				
RUSSELL 2000 (DAILY)			(0.08)	9.11	(0.08)				
Excess			(0.84)	(2.95)	(0.84)				
NON - US EQUITY									
Sprucegrove MTA (BOE)	325	5.49	(2.10)	11.90	(2.10)	27.15	11.14	(9.56)	(3.19)
NYC Developed Value Benchmark			(2.04)	8.23	(2.04)	22.77	5.02	(5.68)	(5.39)
Excess			(0.06)	3.66	(0.06)	4.38	6.12	(3.87)	2.21
Baillie Gifford MTA	353	5.97	5.27	22.39	5.27	44.17	0.70	(3.81)	(6.66)
NYC Developed Growth Benchmark			(2.04)	7.27	(2.04)	27.77	(3.04)	4.09	(4.43)
Excess			7.31	15.12	7.31	16.40	3.74	(7.90)	(2.23)
Acadian	123	2.08	1.53	17.66	1.53	38.38	6.41	8.68	(4.92)
S&P EPAC Small Cap USD NET			(0.30)	13.36	(0.30)	33.47	1.34	8.58	(3.43)
Excess			1.83	4.30	1.83	4.91	5.07	0.09	(1.49)
EMERGING MARKETS									
ACADIAN	352	5.95	2.57	18.68	2.57	40.45	12.74	(15.14)	3.77
MSCI EMERGING MARKETS			1.42	17.56	1.42	37.28	11.19	(14.92)	(2.19)
Excess			1.15	1.12	1.15	3.16	1.55	(0.22)	5.96
BLACKROCK	162	2.75	1.50	17.32	1.50	37.25			
MSCI EMERGING MARKETS			1.42	17.56	1.42	37.28			
Excess			0.08	(0.24)	0.08	(0.03)			
INTERNATIONAL FOF									
BERS-TOTAL INTERNATIONAL FOF	63	1.06	(0.27)	11.41	(0.27)				
MSCI ACWI ex USA IMI Net			(1.06)	10.63	(1.06)				
Excess			0.79	0.77	0.79				

Public Markets Manager Performance Detail



Net Returns Through March 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
BERS-TOTAL INTERNATIONAL FIS	63	1.06	(0.27)	11.41	(0.27)				
MSCI ACWI ex USA IMI Net			(1.06)	10.63	(1.06)				
Excess			0.79	0.77	0.79				
FIXED INCOME SUMMARY									
STRUCTURED FIXED INCOME									
Blackrock Mortgages	191	3.22	(1.13)	(0.07)	(1.13)	3.06	2.32	1.73	
CITIGROUP MORTGAGE INDEX			(1.23)	(0.15)	(1.23)	2.47	1.59	1.56	
Excess			0.10	0.09	0.10	0.59	0.73	0.17	
Prudential - Credit	143	2.41	(2.08)	0.37	(2.08)	6.21	5.86	(0.22)	7.20
NYC - Investment Grade Credit			(2.06)	0.16	(2.06)	6.04	5.56	(0.65)	7.04
Excess			(0.02)	0.21	(0.02)	0.17	0.30	0.43	0.16
Taplin Canida Habacht - Credit	123	2.08	(2.15)	0.49	(2.15)	7.18	8.02	(3.01)	8.68
NYC - Investment Grade Credit			(2.06)	0.16	(2.06)	6.04	5.56	(0.65)	7.04
Excess			(0.09)	0.33	(0.09)	1.14	2.46	(2.36)	1.64
State Street Govt	368	6.22	(2.18)	(0.97)	(2.18)	4.92	1.23	0.45	12.21
NYC - Treasury Agency Plus Five			(2.22)	(1.05)	(2.22)	4.66	1.21	0.72	12.38
Excess			0.04	0.08	0.04	0.27	0.01	(0.27)	(0.16)
SSGA 1-3 Treasury Index	288	4.88	(0.18)	(0.20)	(0.18)	0.45			
Citigroup USBIG Treasury 1-3 Y Index			(0.14)	(0.16)	(0.14)	0.42			
Excess			(0.04)	(0.04)	(0.04)	0.03			
HIGH YIELD									
Loomis Sayles - High Yield	134	2.27	(0.94)	0.76	(0.94)	7.02	19.92	(7.07)	2.83
NYC-Loomis (BoA MLMSTII 7-03/BB&B PRIOR)			(0.91)	1.52	(0.91)	7.48	17.49	(4.64)	2.50
Excess			(0.03)	(0.76)	(0.03)	(0.46)	2.44	(2.43)	0.33

Public Markets Manager Performance Detail



Net Returns Through March 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
Shenkman - High Yield	136	2.29	(0.75)	1.75	(0.75)	6.60	11.62	(1.97)	2.66
CITIGROUP BB & B			(1.01)	1.48	(1.01)	7.03	15.48	(4.21)	2.78
Excess			0.26	0.27	0.26	(0.43)	(3.85)	2.24	(0.13)
BANK LOANS									
Babson BL	119	2.01	1.32	4.04	1.32	4.47	8.48	0.12	1.99
CSFB LEVERAGED LOAN INDEX			1.58	3.86	1.58	4.25	9.88	(0.38)	2.06
Excess			(0.26)	0.19	(0.26)	0.22	(1.39)	0.51	(0.07)
TIPS									
SSGA TIPS	265	4.49	(0.78)	1.37	(0.78)	3.04	4.78		
BBG BARC Gbl Inf-Lk: US TIPS (Dly)			(0.79)	1.33	(0.79)	3.01	4.68		
Excess			0.01	0.04	0.01	0.04	0.09		
ECONOMICALLY TARGETED INVESTMENTS									
ACCESS RBC	10	0.17	(1.47)	(0.48)	(1.47)	2.64	1.61	1.83	6.66
Access RBC Benchmark			(1.02)	(0.35)	(1.02)	1.96	1.52	1.40	5.08
Excess			(0.45)	(0.13)	(0.45)	0.69	0.09	0.43	1.58
AFL-CIO HOUSING INV TRUST	16	0.27	(1.29)	(0.30)	(1.29)	3.17	1.94	1.13	6.10
BBG BARC Agg (Dly)			(1.46)	(0.24)	(1.46)	3.54	2.65	0.55	5.97
Excess			0.17	(0.06)	0.17	(0.38)	(0.71)	0.58	0.14
CPC CONST FACILITY	1	0.01	1.29	4.65	1.29	6.05	(3.95)	12.90	
CPC CONST BENCHMARK			0.92	2.66	0.92	3.34	3.03	2.90	
Excess			0.38	1.99	0.38	2.72	(6.99)	10.01	
BOA-PPAR (FNMA)	1	0.02	(2.37)	(1.95)	(2.37)	5.21	4.07	42.03	13.31
FNMA Plus 85bps			(1.00)	0.57	(1.00)	3.61	2.38	2.50	7.13
Excess			(1.37)	(2.52)	(1.37)	1.60	1.69	39.53	6.19

Public Markets Manager Performance Detail



Net Returns Through March 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
CCD-PPAR (FNMA)	1	0.02	(2.14)	(0.78)	(2.14)	5.26	3.71	6.69	25.71
FNMA Plus 85bps			(1.00)	0.57	(1.00)	3.61	2.38	2.50	7.13
Excess			(1.14)	(1.35)	(1.14)	1.65	1.33	4.20	18.58
CCD-PPAR (GNMA)	0	0.01	(1.81)	(1.48)	(1.81)	3.10	2.78	5.08	15.37
GNMA Plus 65bps			(1.13)	0.17	(1.13)	2.53	2.28	2.02	6.65
Excess			(0.68)	(1.65)	(0.68)	0.57	0.50	3.06	8.72
CFSB-PPAR (GNMA)	0	0.00	(2.14)	(1.88)	(2.14)	3.83	3.21	5.90	15.34
GNMA Plus 65bps			(1.13)	0.17	(1.13)	2.53	2.28	2.02	6.65
Excess			(1.01)	(2.05)	(1.01)	1.30	0.93	3.88	8.69
CPC-PPAR (FNMA)	1	0.02	(2.24)	(0.58)	(2.24)	5.06	6.15	8.96	13.91
FNMA Plus 85bps			(1.00)	0.57	(1.00)	3.61	2.38	2.50	7.13
Excess			(1.24)	(1.15)	(1.24)	1.45	3.77	6.46	6.78
JPMC-PPAR (FNMA)	3	0.05	(2.26)	(1.13)	(2.26)	9.96	7.94	6.18	12.06
FNMA Plus 85bps			(1.00)	0.57	(1.00)	3.61	2.38	2.50	7.13
Excess			(1.25)	(1.70)	(1.25)	6.35	5.56	3.68	4.93
LIIF-PPAR (FNMA)	2	0.03	(2.23)	(1.26)	(2.23)	9.55	5.03	6.29	38.12
FNMA Plus 85bps			(1.00)	0.57	(1.00)	3.61	2.38	2.50	7.13
Excess			(1.23)	(1.82)	(1.23)	5.94	2.65	3.79	30.99
LIIF-PPAR (GNMA)	0	0.00	(1.11)	(0.80)	(1.11)	2.52	3.88	3.92	9.74
GNMA Plus 65bps			(1.13)	0.17	(1.13)	2.53	2.28	2.02	6.65
Excess			0.03	(0.97)	0.03	(0.01)	1.61	1.91	3.09
NCBCI-PPAR (FNMA)	0	0.00	(1.64)	(0.18)	(1.64)	1.75	3.46	4.97	14.93
FNMA Plus 85bps			(1.00)	0.57	(1.00)	3.61	2.38	2.50	7.13
Excess			(0.64)	(0.75)	(0.64)	(1.86)	1.07	2.47	7.81

Public Markets Manager Performance Detail



Net Returns Through March 31, 2018

	Market Value (\$MM)	% of Total	3 Month	FYTD	CYTD	2017	2016	2015	2014
NCBCI-PPAR (GNMA)	0	0.00	(1.82)	(1.40)	(1.82)	3.01	3.51	5.53	16.66
GNMA Plus 65bps			(1.13)	0.17	(1.13)	2.53	2.28	2.02	6.65
Excess			(0.69)	(1.57)	(0.69)	0.48	1.23	3.52	10.01
CASH									
BOARD OF ED. SHORT TERM	86	1.46	0.36	0.96	0.36	1.10	0.55	0.39	0.28
91 DAY T-BILL			0.35	0.91	0.35	0.86	0.33	0.05	0.02
Excess			0.01	0.05	0.01	0.24	0.23	0.35	0.26
CASH ACCOUNTS	0	0.00							
SECURITY LENDING	-0	-0.00							
KKR SP CASH ACCOUNT	0	0.00							

New York City
Board of Education Retirement System

Appendix C

Alternative Assets Manager Performance Detail

Alternative Assets Manager Performance Detail

Through December 31, 2017



	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
TOTAL PRIVATE EQUITY		659,867,323	382,264,700	204,517,466	338,304,174	1.42	11.6%
TOTAL ACTIVE							
Mesirow Financial Private Equity Partnership Fund III, L.P.	2005	57,000,000	55,093,273	74,416,991	18,293,369	1.68	8.6%
Mesirow Financial Private Equity Partnership Fund IV, L.P.	2006	25,000,000	22,842,233	23,872,289	14,719,005	1.69	10.5%
New York Fairview Private Equity Fund, L.P.	2006	19,000,000	17,320,307	16,347,591	7,416,878	1.37	6.1%
Mesirow Financial Private Equity Partnership Fund V, L.P.	2009	45,000,000	37,592,932	26,332,954	39,430,964	1.75	16.3%
Platinum Equity Capital Partners III, L.P.	2012	15,000,000	14,124,212	14,599,412	11,966,811	1.88	47.2%
Warburg Pincus Private Equity XI, L.P.	2012	25,000,000	24,687,640	12,958,804	22,957,806	1.45	13.7%
Apollo Investment Fund VIII, L.P.	2013	20,000,000	15,396,507	3,567,619	17,760,764	1.39	20.7%
Carlyle Partners VI, L.P.	2013	20,000,000	19,290,668	4,271,244	19,800,198	1.25	13.6%
Landmark Equity Partners XV, L.P.	2013	19,000,000	10,558,374	5,887,383	7,247,659	1.24	13.5%
Landmark Equity Partners XV, L.P. - Side Car	2013	6,000,000	4,746,722	1,854,645	4,396,696	1.32	17.5%
CVC Capital Partners VI, L.P.	2014	17,746,623	15,482,987	1,736,755	16,624,512	1.19	13.9%
Crestview Partners III, L.P.	2013	15,000,000	5,741,871	96,110	6,506,204	1.15	8.3%
Crestview Partners III (Co-Investment B), L.P.	2013	5,000,000	3,065,378	72,440	3,628,904	1.21	12.7%
ASF VI, L.P.	2014	15,000,000	9,523,773	2,977,998	10,058,136	1.37	15.1%
ASF VI NYC Co-Invest, L.P.	2014	5,000,000	3,606,391	2,020,600	3,125,350	1.43	16.7%
Carlyle Partners VI, L.P. - Side Car	2014	2,200,000	1,383,054	-	1,466,330	1.06	2.6%
Lexington Capital Partners VIII, L.P.	2014	20,000,000	10,328,549	3,661,707	9,895,262	1.31	28.0%
Vista Equity Partners Fund V, L.P.	2014	25,000,000	25,190,159	5,614,104	28,335,849	1.35	14.8%
Centerbridge Capital Partners III, L.P.	2015	2,500,000	1,210,257	158,944	1,301,083	1.21	14.1%
Siris Partners III, L.P.	2015	3,500,000	2,243,914	152,329	2,383,992	1.13	10.7%
<u>NYCBERS - 2012 Emerging Manager Program</u>	<u>2012</u>	<u>14,650,000</u>	<u>11,719,293</u>	<u>1,194,877</u>	<u>13,048,099</u>	<u>1.22</u>	<u>11.8%</u>
American Securities Partners VII, L.P.	2015	8,000,000	4,025,022	157,201	4,445,015	1.14	N/M
ASF VII, L.P.	2015	10,000,000	2,186,701	126,709	2,630,606	1.26	29.1%
ASF VII B NYC Co-Invest, L.P.	2015	6,000,000	2,690,003	-	3,906,795	1.45	851.2%
<u>NYCBERS - 2015 Emerging Manager Program</u>	<u>2015</u>	<u>40,350,000</u>	<u>2,401,450</u>	<u>270,234</u>	<u>2,650,521</u>	<u>1.22</u>	<u>N/M</u>
Warburg Pincus Private Equity XII, L.P.	2015	21,500,000	10,418,701	212,327	10,767,509	1.05	6.7%
Welsh, Carson, Anderson & Stowe XII, L.P.	2015	10,000,000	4,162,019	236,094	5,308,702	1.33	19.1%
Bridgepoint Europe V, L.P.	2015	8,636,198	4,852,961	769,344	5,323,439	1.26	N/M
Bridgepoint Europe V Co-Invest	2015	2,909,748	1,428,666	-	1,783,222	1.25	N/M
EQT VII, L.P.	2015	17,344,974	10,618,275	292,509	12,604,381	1.21	N/M
Vista Equity Partners Fund VI, L.P.	2016	16,000,000	11,675,641	159,194	12,059,532	1.05	N/M
Apax IX USD, L.P.	2016	13,000,000	6,006,000	-	6,338,968	1.06	N/M
Ares Corporate Opportunities Fund V, L.P.	2017	10,000,000	1,393,363	-	1,330,715	0.96	N/M
Green Equity Investors VII, L.P.	2017	10,000,000	2,672,711	-	2,511,645	0.94	N/M

Information provided by the New York City Board of Education Retirement System Consultants

Alternative Assets Manager Performance Detail

Through December 31, 2017



	Vintage Year (Cash Flow)	Commitments	Contributions	Distributions	Market Value	Investment Multiple	ITD IRR%
BC European Capital X, L.P.	2017	11,934,343	2,838,647	-	2,644,693	0.93	N/M
BC European Capital X Metro Co-Investment L.P.	2017	4,730,302	874,165	-	869,277	0.99	N/M
Platinum Equity Capital Partners IV, L.P.	2017	11,500,000	2,871,883	499,059	2,627,508	1.09	N/M
CVC Capital Partners VII, L.P.	2018	20,365,135	-	-	-	N/A	N/M
Apollo Investment Fund IX, L.P.	2018	32,000,000	-	-	-	N/A	N/M
KKR Americas Fund XII, L.P.	2017	16,000,000	-	-	137,775	N/A	N/M
Warburg Pincus Financial Sector, L.P.	2017	13,000,000	-	-	-	N/A	N/M

Information provided by the New York City Board of Education Retirement System Consultants

Alternative Assets Manager Performance Detail



Through December 31, 2017

	Vintage Year	Style Sector	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
TOTAL PRIVATE REAL ESTATE			438,788,573	325,786,890	121,545,719	327,072,577	1.38	12.3%
TOTAL PRIVATE REAL ESTATE								
LaSalle Property Fund	2010	Core Portfolio	27,600,000	27,600,000	7,641,703	37,619,782	1.64	10.9%
UBS Trumbull Property Fund	2011	Core Portfolio	41,400,000	60,102,702	15,560,868	79,232,767	1.58	9.2%
NYC Asset Investor #2 LLC (Related)	2013	Core Portfolio	11,000,000	10,557,373	1,487,426	14,641,840	1.53	17.1%
MetLife Core Property Fund	2014	Core Portfolio	15,000,000	15,000,000	1,937,055	18,118,616	1.34	10.5%
USAA Eagle Real Estate Fund	2015	Core Portfolio	10,000,000	8,401,005	-	9,750,969	1.16	8.8%
Brookfield Premier Real Estate Partners	2016	Core Portfolio	10,000,000	10,219,958	219,958	11,067,775	1.10	11.8%
Exeter Industrial Core Club Fund II	2016	Core Portfolio	10,000,000	4,030,000	334,381	4,314,162	1.15	14.4%
Jamestown Premier Property Fund	2016	Core Portfolio	5,000,000	5,389,528	794,377	5,438,717	1.16	10.8%
NYCRS Artemis Co-Investment 1	2016	Core Portfolio	11,000,000	6,078,082	3,365,271	4,256,646	1.25	33.7%
Lion Industrial Trust - 2007	2017	Core Portfolio	10,000,000	10,319,763	319,762	11,148,969	1.11	12.4%
Heitman Core Real Estate Debt Income Trust 2	2018	Core Portfolio	10,000,000	-	-	-	N/A	N/A
Franklin Templeton Private Real Estate Fund	2011	Non-Core Portfolio	30,000,000	34,964,566	39,626,088	7,734,164	1.35	20.4%
Brookfield Strategic Real Estate Partners	2012	Non-Core Portfolio	10,000,000	11,681,111	10,504,471	10,198,464	1.77	21.9%
Blackstone Real Estate Partners Europe IV	2013	Non-Core Portfolio	32,500,000	31,157,946	23,033,152	22,150,936	1.45	17.0%
NYC Asset Investor #1 LLC (Vanbarton)	2013	Non-Core Portfolio	10,000,000	11,052,698	1,846,619	12,329,512	1.28	9.6%
NYC Asset Investor #3 LLC (Hudson)	2013	Non-Core Portfolio	8,000,000	4,481,552	837,198	4,784,087	1.25	11.7%
Carlyle Realty Partners VII	2014	Non-Core Portfolio	25,000,000	19,484,388	3,910,589	19,860,622	1.22	13.9%
H/2 Special Opportunities Fund III 2	2014	Non-Core Portfolio	15,000,000	15,000,000	4,247,943	14,168,998	1.23	14.3%
Blackstone Real Estate Partners VIII	2015	Non-Core Portfolio	16,500,000	9,792,866	3,165,964	8,963,909	1.24	18.0%
European Property Investors Special Opp IV	2015	Non-Core Portfolio	11,176,931	5,085,193	314,687	5,346,824	1.11	13.2%
Divco West Fund V	2016	Non-Core Portfolio	10,000,000	2,936,636	-	2,962,090	1.01	1.6%
Exeter Industrial Value Fund IV	2016	Non-Core Portfolio	10,000,000	1,000,000	-	1,003,885	N/M	1.4%
H/2 Special Opportunities Fund IV 2	2016	Non-Core Portfolio	10,000,000	1,168,355	81,350	1,022,398	0.94	-6.4%
Pramerica Real Estate Capital VI 2	2016	Non-Core Portfolio	10,821,998	3,458,364	693,397	3,332,914	N/M	N/M
PW Real Estate Fund III LP	2016	Non-Core Portfolio	10,624,734	3,820,804	650,883	5,407,458	1.59	58.9%
Westbrook Real Estate Fund X Co-Investment	2016	Non-Core Portfolio	10,000,000	2,726,989	368,421	2,573,504	1.08	10.4%
DRA Growth and Income Fund IX	2017	Non-Core Portfolio	10,000,000	3,662,242	486,531	3,539,983	1.10	22.9%
DRA Growth and Income Fund IX Co-investment	2017	Non-Core Portfolio	2,000,000	-	-	-	N/A	N/A
Lone Star Real Estate Fund V 2	2017	Non-Core Portfolio	23,164,910	2,046,281	55,586	1,513,781	N/M	N/M
NYCRS-KKR CMBS Retention Partners 2	2017	Non-Core Portfolio	13,000,000	4,568,487	62,037	4,588,805	N/M	N/M
KKR Real Estate Partners Americas II 2	2018	Non-Core Portfolio	10,000,000	-	-	-	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, 2017



	Vintage Year	Original Commitment	Total Contributions	Total Distributions	Market Value	Total Value Multiple	Net IRR%
TOTAL INFRASTRUCTURE		137,564,578	61,719,937	11,236,134	64,270,123	1.22	14.8%
TOTAL INFRASTRUCTURE							
Brookfield Infrastructure Fund II, L.P.	2013	10,000,000	7,809,765	1,519,136	9,086,592	1.36	13.3%
KKR Global Infrastructure Investors II L.P.	2014	19,000,000	16,066,552	1,343,533	16,510,289	1.11	12.7%
IFM Global Infrastructure Fund	2014	15,000,000	16,309,148	1,309,148	19,712,755	1.29	10.9%
Global Energy & Power Infrastructure Fund II	2014	15,000,000	9,247,016	6,358,266	7,355,628	1.48	55.1%
Global Infrastructure Partners III-A/B, L.P.	2016	12,000,000	3,134,472	171,075	2,699,037	NM	NM
Brookfield Infrastructure Fund III, L.P.	2016	10,000,000	1,881,529	149,017	1,995,010	NM	NM
Actis Energy 4	2016	10,600,000	3,141,372	552	2,907,000	NM	NM
NYCRS EIG Energy Partners, L.P.	2017	11,760,000	564,713	-	558,610	NM	NM
EQT Infrastructure III (No.2) SCSp	2017	9,510,318	2,698,078	385,390	2,383,094	NM	NM
Axiom Infrastructure North America	2017	12,694,260	40,968	-	1,548	NM	NM
ASF VII Infrastructure L.P.	2017	12,000,000	826,324	17	1,060,561	NM	NM

Information provided by the New York City Board of Education Retirement System Consultants

**New York City
Board of Education Retirement System**

Appendix D

Footnotes

Through March 31, 2018



- 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 BofA 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

- Estimated management fees for public market investments are calculated on an accrual basis without adjustment for management fee caps. Alternative investment fees are recorded on a cash basis. 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.

Page Specific

Page 13 - 18 - Portfolio Asset Allocation

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

Pages 19 - 21 - 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.

The indexes and most recent policy weights are as follows:

*U.S. Equity: Russell 3000 * 35.91%*

*International Developed (EAFE) Markets: MSCI World ex USA IMI Net * 12.70%*

*Emerging Markets: MSCI Emerging Markets * 6.90%*

*International Emerging Managers FOF: MSCI ACWI Ex US IMI Net * 1.07%*

*REITs: Dow Jones Real Estate Securities * 0.00%*

*Private Equity: Russell 3000 + 300 b.p. per annum * 5.55%*

*Private Real Estate – Core: NFI - ODCE Net * 3.34%*

Private Real Estate – Non Core: NFI - ODCE Net + 200bps 2.30%*

*Infrastructure: CPI + 4% * 1.11%*

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

*Total Active Government: NYC Treasury Agency + 5 * 9.48%*

*Core Fixed Income: BBG Barc Agg * 0.00%*

*Progress Fixed: BBG Barc Agg * 0.00%*

*Mortgage: Citigroup Mortgage Index * 3.88%*

*ETI: ETI Custom Benchmark * 0.58%*

*Investment Grade Credit: NYC – Investment Grade Credit * 4.46%*

*High Yield: Citigroup BB&B * 6.00%*

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

*TIPS: BBG BARC Gbl Inf-Lk: US TIPS (Dly) * 4.72%*

Through March 31, 2018



Page 22 – 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.