

# NEW JERSEY DIVISION OF INVESTMENT

## Director's Report

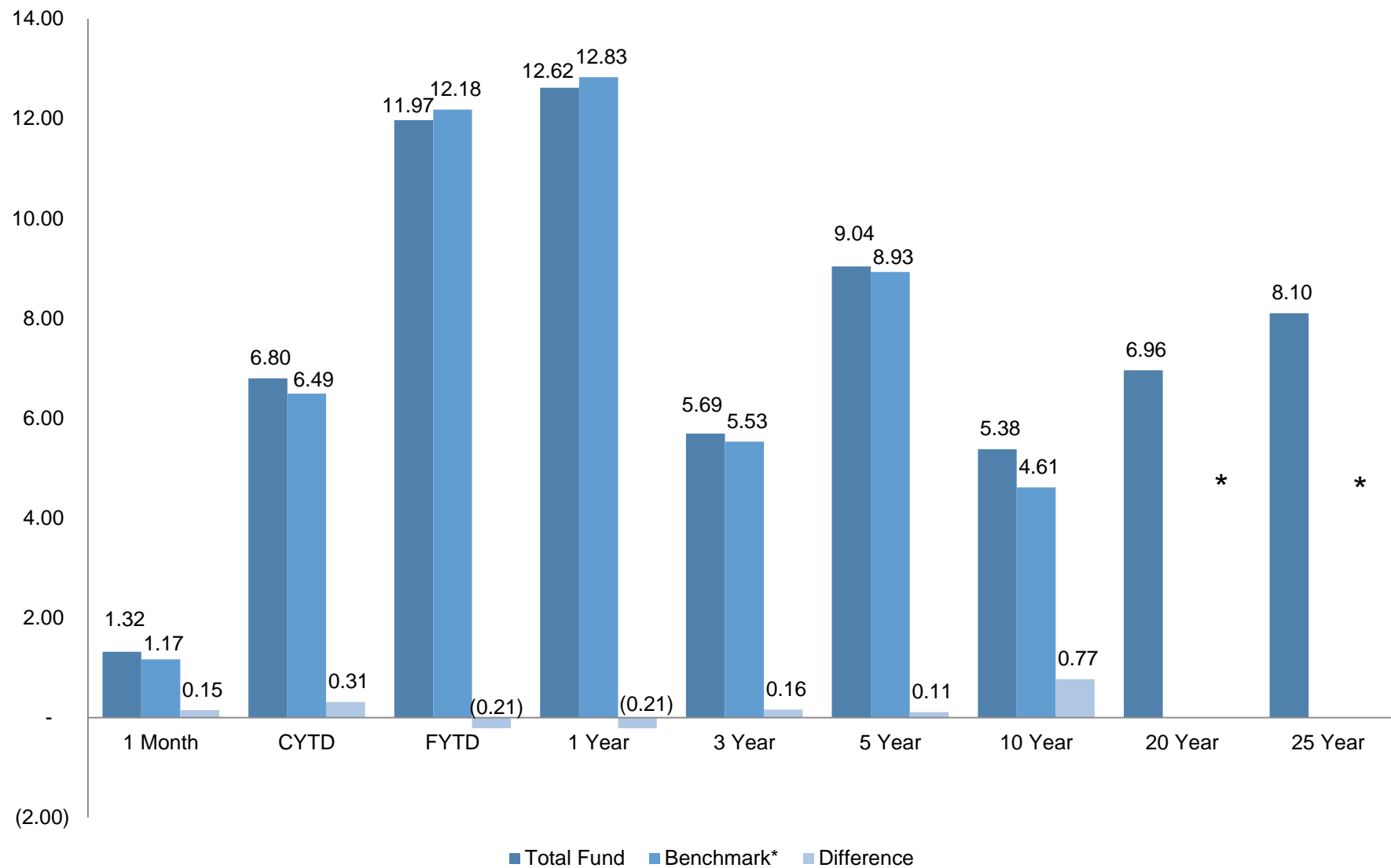
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July 27, 2017

State Investment Council Meeting

*“The mission of the New Jersey Division of Investment is to achieve the best possible return at an acceptable level of risk using the highest fiduciary standards.”*

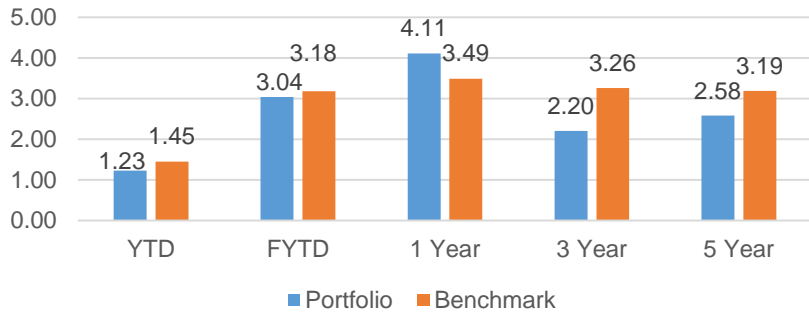
## Total Fund<sup>(1)</sup> Performance as of May 31, 2017



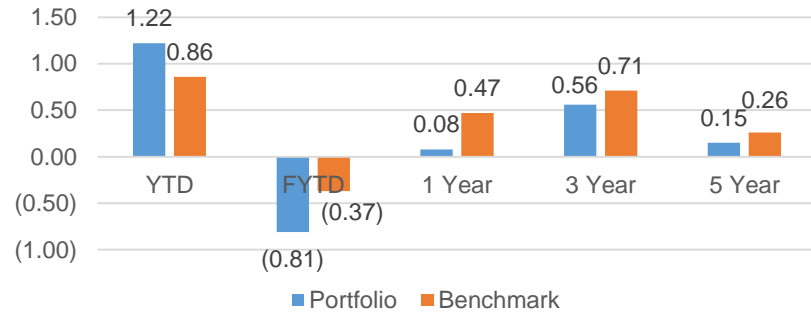
\*Benchmark return not available for 20 and 25-Year period

<sup>(1)</sup> Excluding Police and Fire Mortgage Program

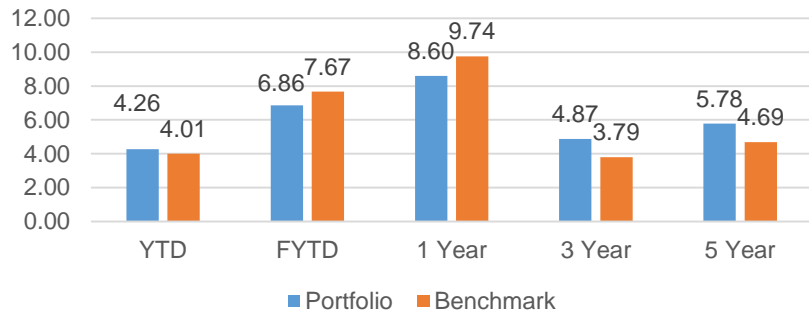
## Risk Mitigation



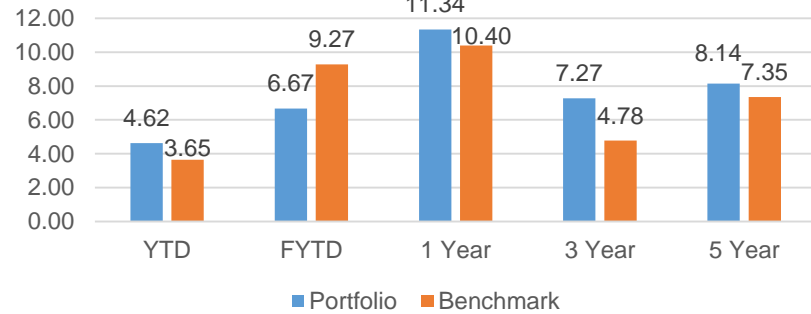
## Liquidity



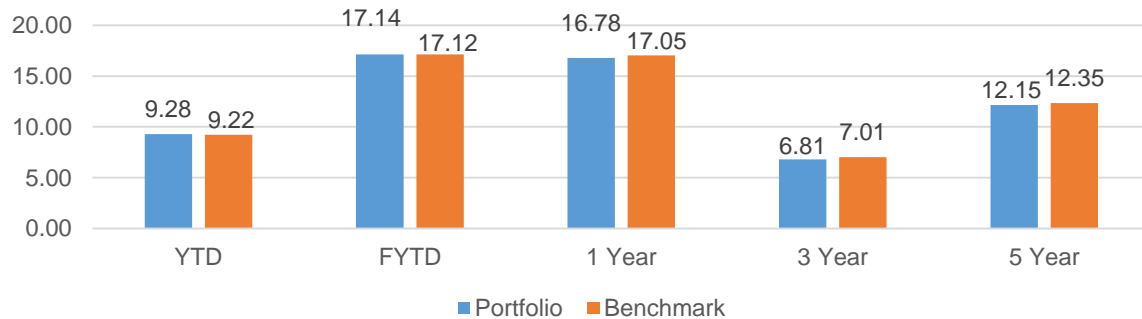
## Income



## Real Return



## Global Growth



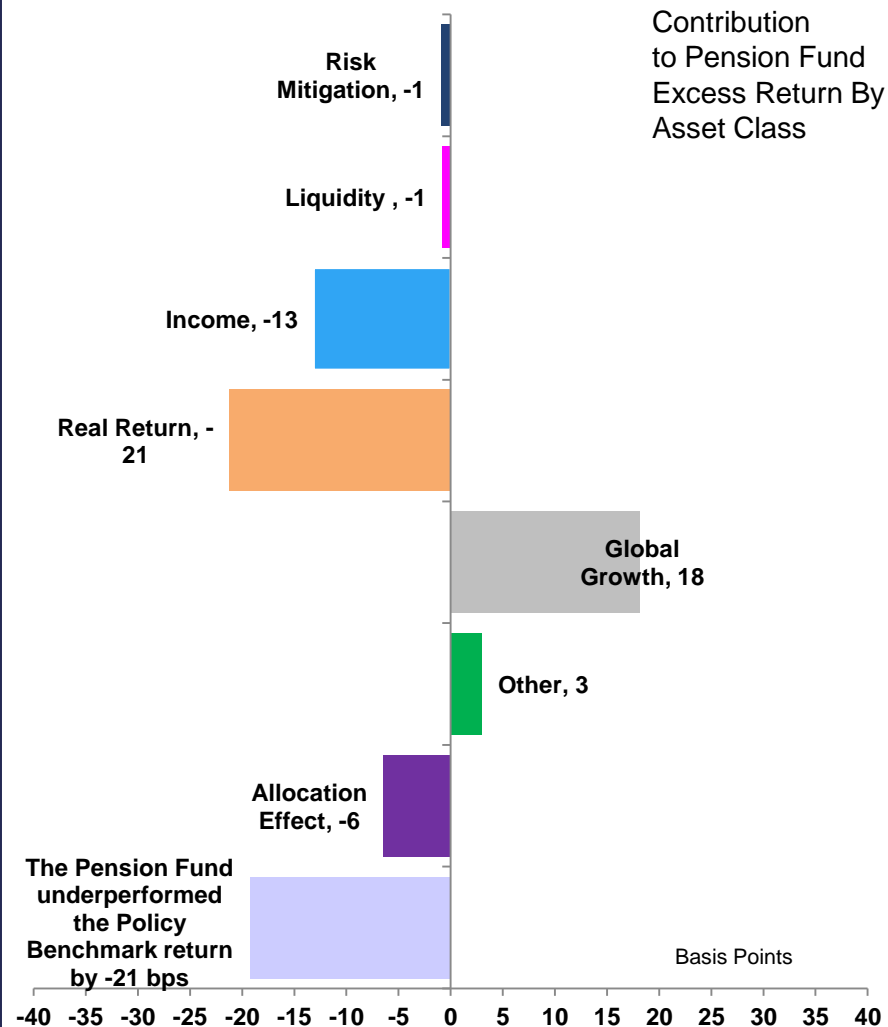
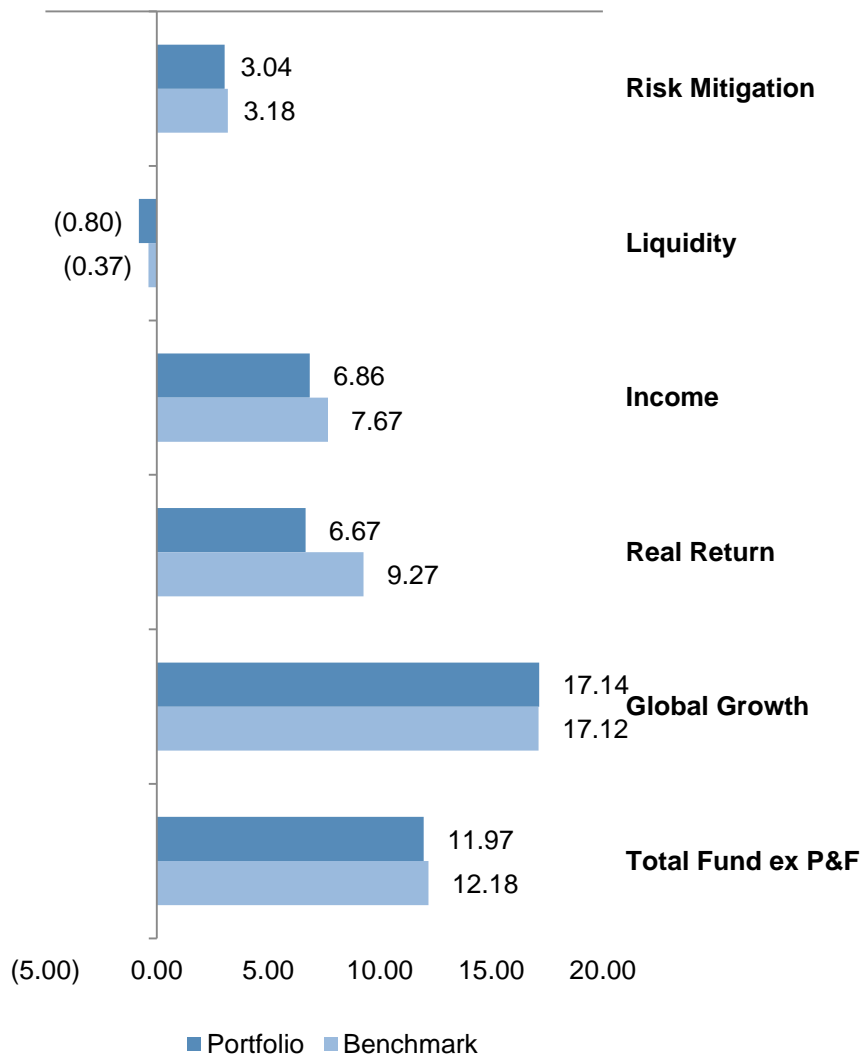
Asset Class	ASSET ALLOCATION <sup>(1)</sup>				PERFORMANCE (for periods ending May 31, 2017) <sup>(2)</sup>								Long Term CMA
	As of May 31, 2017				Calendar YTD		FYTD		Trailing Twelve Months		Trailing Three Years		
	Mkt Value	Actual (%)	Target (%)	Difference	NJ	Bench	NJ	Bench	NJ	Bench	NJ	Bench	
<b>RISK MITIGATION</b>													
Absolute Return HFs	2,889	3.91%	5.00%	-1.09%	1.23%	1.45%	3.04%	3.18%	4.11%	3.49%	2.20%	3.26%	5.39%
Risk Mitigation Hedging	196	0.27%	0.00%	0.27%									
<b>TOTAL RISK MITIGATION</b>	<b>3,085</b>	<b>4.18%</b>	<b>5.00%</b>	<b>-0.82%</b>	<b>1.23%</b>	<b>1.45%</b>	<b>3.04%</b>	<b>3.18%</b>	<b>4.11%</b>	<b>3.49%</b>	<b>2.20%</b>	<b>3.26%</b>	
<b>LIQUIDITY</b>													
Cash Eqv	3,714	5.03%	5.50%	-0.47%	0.44%	0.22%	1.00%	0.40%	1.10%	0.44%	1.05%	0.21%	1.00%
Short Term	476	0.65%	0.00%	0.65%	0.52%	0.22%	1.02%	0.40%	1.17%	0.44%	0.63%	0.21%	
TIPS	361	0.49%	0.00%	0.49%	2.38%	1.94%	-0.24%	0.31%	1.56%	2.50%	0.42%	1.15%	
US Treasuries	1,323	1.79%	3.00%	-1.21%	2.73%	2.04%	-3.62%	-2.16%	-1.70%	0.00%	1.23%	2.01%	1.73%
<b>TOTAL LIQUIDITY</b>	<b>5,874</b>	<b>7.96%</b>	<b>8.50%</b>	<b>-0.54%</b>	<b>1.22%</b>	<b>0.86%</b>	<b>-0.81%</b>	<b>-0.37%</b>	<b>0.08%</b>	<b>0.47%</b>	<b>0.56%</b>	<b>0.71%</b>	
<b>INCOME</b>													
Investment Grade Credit	7,147	9.68%	10.00%	-0.32%	2.89%	2.87%	0.87%	0.80%	2.84%	3.09%	3.24%	3.06%	3.54%
Public High Yield	1,538	2.08%	2.50%	-0.42%	5.05%	4.79%	12.38%	12.55%	13.12%	13.58%	4.99%	4.73%	6.49%
Global Diversified Credit	3,521	4.77%	5.00%	-0.23%	6.20%	4.79%	14.27%	12.55%	16.24%	13.58%	8.52%	4.73%	6.80%
Credit-Oriented HFs	1,871	2.54%	1.00%	1.54%	4.51%	5.39%	10.61%	13.53%	13.13%	15.17%	4.32%	2.45%	6.38%
Debt-Related PE	724	0.98%	2.00%	-1.02%	4.38%	6.02%	8.78%	19.88%	10.32%	25.53%	7.64%	7.91%	9.29%
Debt Related Real Estate	447	0.61%	1.00%	-0.39%	4.86%	1.47%	2.06%	6.06%	-0.47%	14.35%	5.08%	6.45%	6.00%
<b>TOTAL INCOME</b>	<b>15,249</b>	<b>20.66%</b>	<b>21.50%</b>	<b>-0.84%</b>	<b>4.26%</b>	<b>4.01%</b>	<b>6.86%</b>	<b>7.67%</b>	<b>8.60%</b>	<b>9.75%</b>	<b>4.87%</b>	<b>3.79%</b>	
<b>REAL RETURN</b>													
Commodities	187	0.25%	0.00%	0.25%	0.24%	-5.07%	-3.25%	-6.32%	0.98%	-2.45%			4.28%
Private Real Assets	1,883	2.55%	2.50%	0.05%	3.04%	8.06%	10.03%	20.26%	19.09%	17.65%			9.56%
Equity Related Real Estate	3,997	5.42%	6.25%	-0.83%	5.48%	1.88%	5.94%	5.72%	9.10%	7.79%	12.12%	11.04%	8.09%
<b>TOTAL REAL RETURN</b>	<b>6,067</b>	<b>8.22%</b>	<b>8.75%</b>	<b>-0.53%</b>	<b>4.62%</b>	<b>3.65%</b>	<b>6.67%</b>	<b>9.27%</b>	<b>11.34%</b>	<b>10.40%</b>	<b>7.27%</b>	<b>4.78%</b>	
<b>GLOBAL GROWTH</b>													
US Equity	21,376	28.97%	30.00%	-1.03%	8.07%	8.04%	18.56%	17.19%	17.93%	17.52%	8.82%	10.07%	6.80%
Non-US Dev Market Eq	8,936	12.11%	11.50%	0.61%	13.50%	12.82%	18.88%	19.40%	15.43%	15.73%	1.55%	1.28%	7.28%
Emerging Market Eq	4,825	6.54%	6.50%	0.04%	17.03%	17.60%	21.76%	22.68%	26.69%	27.66%	0.96%	1.93%	8.60%
Buyouts/Venture Cap	6,869	9.31%	8.25%	1.06%	3.83%	2.59%	7.97%	9.39%	9.96%	9.46%	13.48%	8.72%	10.08%
Equity-Oriented HFs	1,101	1.49%	0.00%	1.49%	7.44%	5.81%	16.40%	12.56%	14.96%	12.66%	3.41%	5.45%	7.79%
<b>TOTAL GLOBAL GROWTH</b>	<b>43,107</b>	<b>58.41%</b>	<b>56.25%</b>	<b>2.16%</b>	<b>9.28%</b>	<b>9.22%</b>	<b>17.14%</b>	<b>17.12%</b>	<b>16.78%</b>	<b>17.05%</b>	<b>6.81%</b>	<b>7.01%</b>	
<b>OTHER</b>													
OPPORTUNISTIC PE	314	0.43%			11.08%		14.35%		15.39%		9.77%		
OTHER	99	0.13%											
<b>TOTAL FUND <sup>(3)</sup></b>	<b>73,795</b>	<b>100.00%</b>			<b>6.80%</b>	<b>6.49%</b>	<b>11.97%</b>	<b>12.18%</b>	<b>12.62%</b>	<b>12.83%</b>	<b>5.69%</b>	<b>5.53%</b>	
				S&P 500	8.66%		17.16%		17.46%		10.13%		
				Russell 2000	1.48%		20.41%		20.34%		7.99%		
				MSCI EAFE	14.01%		20.48%		16.44%		1.53%		
				MSCI EMF	17.25%		22.51%		27.41%		1.62%		
				Barclays Agg	2.38%		-0.21%		1.58%		2.53%		
				Barclays HY	4.79%		12.54%		13.58%		4.73%		
				Bloomberg Commodities	-5.35%		-6.77%		-2.94%		-14.78%		
				Bloomberg REIT	3.20%		-0.72%		5.89%		8.80%		
				HFRI Fund Weighted Composite	3.26%		7.58%		8.02%		2.87%		

<sup>1</sup> Current assets do not include receivables of \$251 million related to Real Estate secondary sale

<sup>2</sup> Unaudited returns

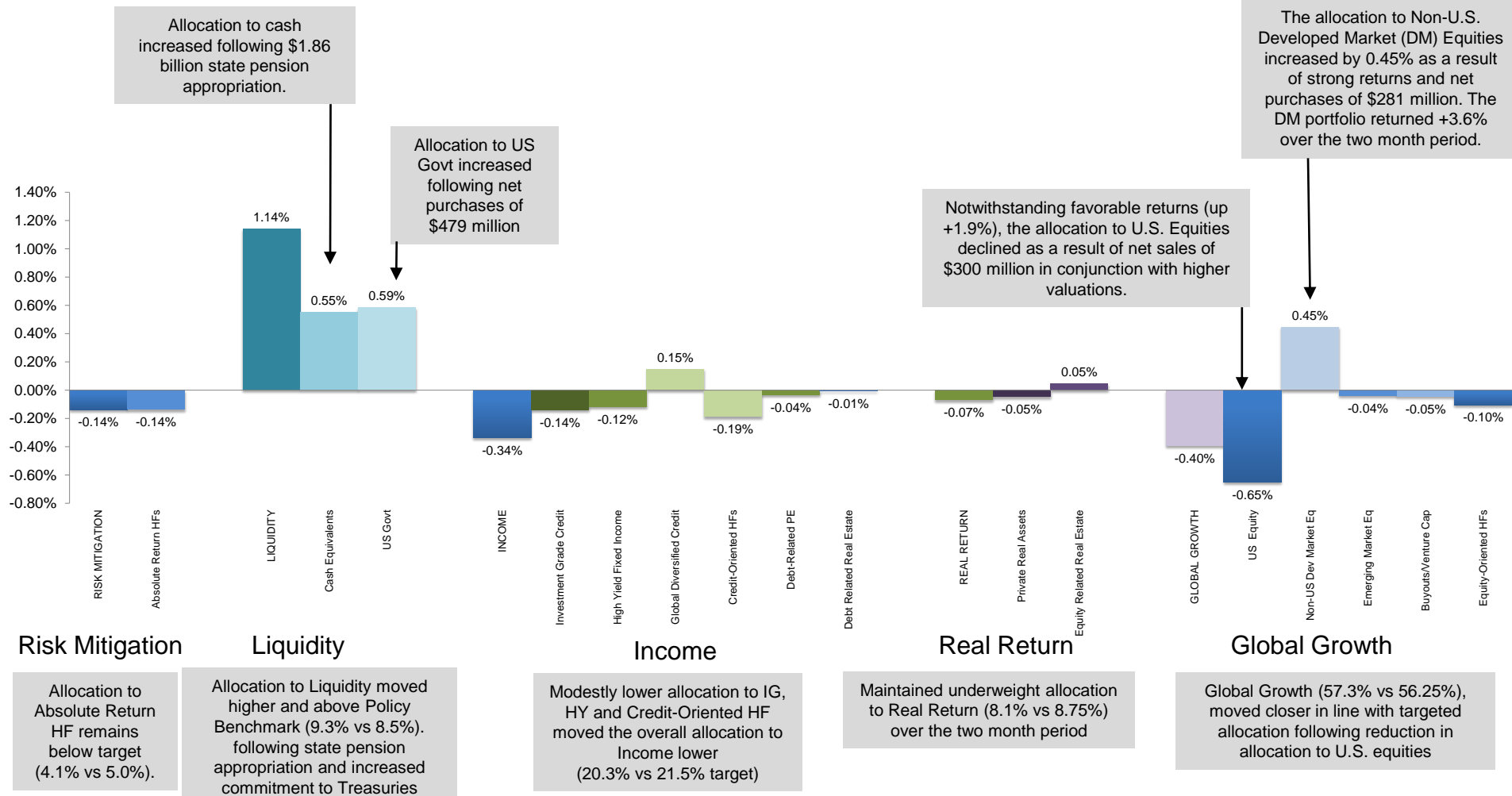
<sup>3</sup> Total Fund Performance excludes Police & Fire Mortgage Program

## Pension Fund Attribution vs. Benchmark Fiscal Year through May 31<sup>st</sup>, 2017



**Allocation Effect indicates the effect of asset allocation bets, i.e. overweights or underweights vs. the target allocations**

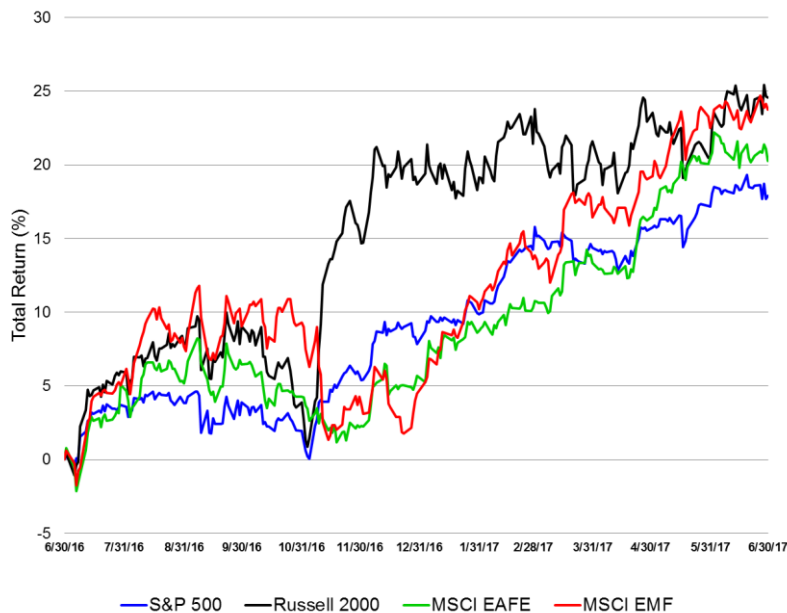
# Pension Fund Update: Change in Sector Allocation from April 30, 2017 – June 30, 2017



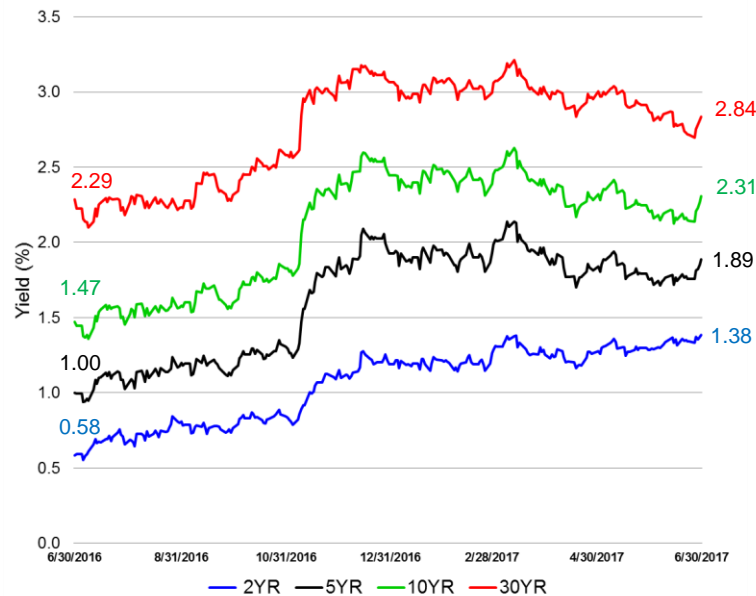
Assets were modestly reallocated out of U.S. Equities and into non-U.S. Developed Markets. The Liquidity bucket allocation increased primarily as a result of the State's pension appropriation. The allocation to hedge fund strategies declined consistent with the asset allocation plan.

## Capital Markets Update (through June 30, 2017)

### Fiscal Year 2017 Equity Market Returns



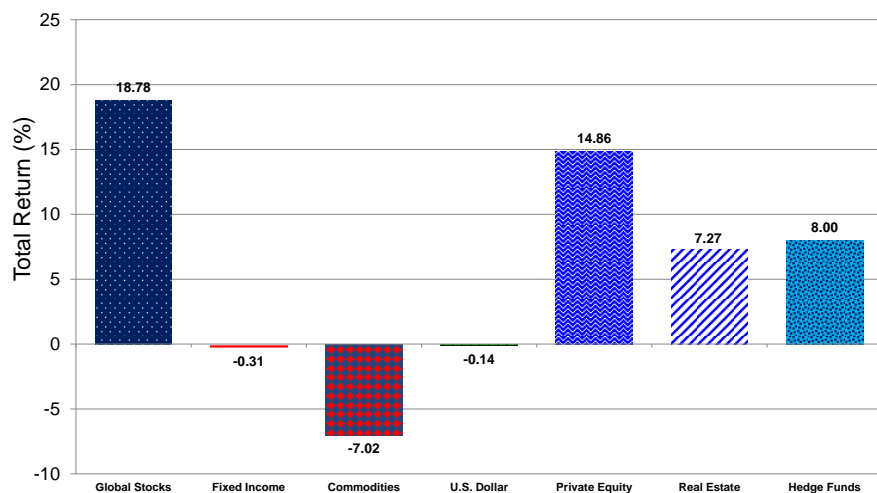
### Fiscal Year 2017 U.S. Treasury Yields



	June 30, 2017	MTD %	CYTD%	FYTD %	3 Yrs %	5 Yrs %	10 Yrs %	
<b>Domestic Equity</b>	S&P 500	0.62	9.34	17.89	9.61	14.62	7.18	1
	Russell 2000	3.45	4.98	24.57	7.35	13.70	6.90	2
<b>International Equity</b>	MSCI EAFE	-0.18	13.81	20.27	1.15	8.69	1.03	3
	MSCI EMF	1.01	18.43	23.74	1.07	3.96	1.91	4
<b>Bond</b>	Barclays Agg	-0.10	2.27	-0.31	2.48	2.21	4.48	5
	Barclays HY	0.14	4.93	12.70	4.48	6.89	7.67	6
	Barclays US Tips	-0.95	0.85	-0.63	0.63	0.27	4.27	7
<b>Commodity</b>	Bloomberg	-0.27	-5.61	-7.02	-15.03	-9.41	-6.95	8
<b>Real Estate</b>	Bloomberg REIT	2.05	5.31	1.31	9.15	10.05	6.23	9
<b>Hedge Funds</b>	HFRI Composite Index	0.39	3.68	8.02	2.57	4.89	2.98	10

## FY17 Capital Markets Review By Quarter: Multi-Asset Class Returns

### Fiscal Year 2017 Select Capital Market Returns <sup>(1)</sup>



During FY17, a strengthening global economic environment and a pronounced rebound in corporate earnings led Global Stocks (+18.78%) to higher valuations. There was somewhat less differentiation of returns across the global equity market, while the U.S Dollar (-0.14%) was roughly unchanged, on average, against major currencies versus the start of the fiscal year. Private Equity (+14.86%) benefited from the global stock rally in conjunction with low borrowing costs and narrowing credit spreads.

During FY17, risky assets outperformed, led by Global Equities, and proved resilient to persistent weakness in Commodities. Private markets benefitted from the investment and economic environment, while higher quality fixed income underperformed as yields increased.

(Returns in US\$)

3Q16	4Q16	1Q17	2Q17	FY17
Global Stocks 5.30	U.S. Dollar 7.15	Global Stocks 6.90	Global Stocks 4.27	Global Stocks 18.78
Hedge Funds 2.98	Private Equity 3.89	Private Equity 3.23	Private Equity 4.06	Private Equity 14.86
Private Equity 2.94	Commodities 2.55	Hedge Funds 2.51	Real Estate 1.55	Hedge Funds 8.00
Real Estate 2.03	Real Estate 1.77	Real Estate 1.73	Fixed Income 1.45	Real Estate 7.27
Fixed Income 0.46	Global Stocks 1.19	Fixed Income 0.82	Hedge Funds 1.14	U.S. Dollar -0.14
U.S. Dollar -0.23	Hedge Funds 1.19	Commodities -2.47	U.S. Dollar -3.21	Fixed Income -0.31
Commodities -3.94	Fixed Income -2.98	U.S. Dollar -3.50	Commodities -3.22	Commodities -7.02

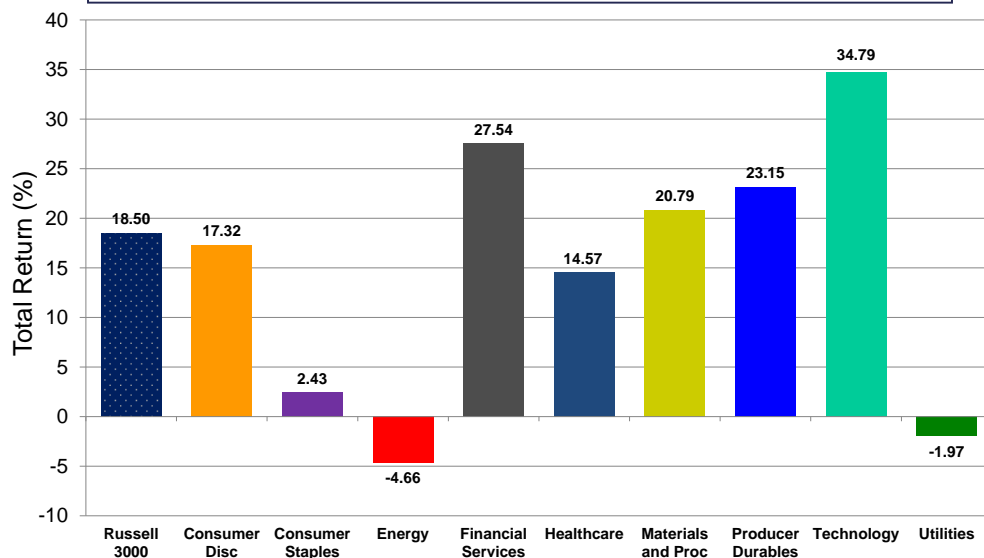
In this environment, the broader Fixed Income (-0.31%) market realized modestly negative returns as yields rose across the curve in anticipation of higher inflation and less policy accommodation. Real Estate (+7.27%) proved resilient versus higher interest rates. Commodities were the worst performer asset class for the third consecutive fiscal year, as energy prices moved lower. Hedge Fund strategies (+8.00%) rebounded with attractive returns across both equity and credit mandates.

(1) FY17 Private Equity and Real Estate returns are presented with a one quarter lag; Private Equity and Hedge Fund returns are preliminary as of July 20, 2017  
Source: Barclays Capital, Bloomberg, Cambridge Associates, Hedge Fund Research, Inc., and National Council of Real Estate Investment Fiduciaries



## FY17 Capital Markets Review By Quarter: US Equity Sector Returns

### Fiscal Year 2017 Select Capital Market Returns



3Q16	4Q16	1Q17	2Q17	FY17
Technology 13.49	Financial Services 13.01	Technology 12.74	Healthcare 7.27	Technology 34.79
Financial Services 5.43	Producer Durables 8.22	Healthcare 8.90	Producer Durables 4.54	Financial Services 27.54
Materials and Proc 4.97	Energy 7.31	Consumer Disc 7.65	Financial Services 3.90	Producer Durables 23.15
Producer Durables 4.61	Materials and Proc 5.95	Materials and Proc 5.96	Technology 3.74	Materials and Proc 20.79
Consumer Disc 3.50	Utilities 2.87	Consumer Staples 5.90	Consumer Disc 2.97	Consumer Disc 17.32
Energy 2.87	Consumer Disc 2.25	Producer Durables 4.05	Materials and Proc 2.50	Healthcare 14.57
Healthcare 2.40	Technology 1.55	Financial Services 3.02	Consumer Staples 0.96	Consumer Staples 2.43
Consumer Staples -2.67	Consumer Staples -1.57	Utilities 1.99	Utilities -1.33	Utilities -1.97
Utilities -5.31	Healthcare -4.22	Energy -6.77	Energy -7.36	Energy -4.66

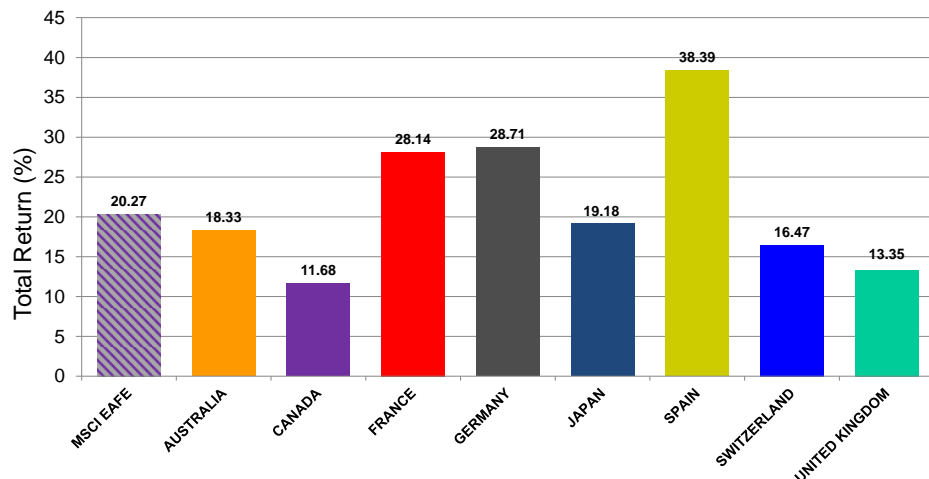
During FY17, the broad US Equity Market returned +18.50%, led by outsized returns in Technology (+34.79%) and Financial Services (+27.54%). Following a strong FY16, higher yielding defensive sectors were among the worst performing sectors in FY17, with Consumer Staples (+2.43%) and Utilities (-1.97%) sharply lagging the broader market. Energy (-4.66%) realized negative returns for a third straight fiscal year as oil prices declined.

From a capitalization standpoint, small cap stocks (+24.57%) outperformed large cap stocks (+18.02%) for the first time since FY13. The U.S. equity market was buoyed by strong earnings growth in early 2017, as well as expectations for lower corporate tax rates, deregulation and increased infrastructure spending. Expectations for higher interest rates adversely impacted higher dividend sectors including utilities and real estate.

During FY17, U.S. equities realized strong returns on the heels of favorable earnings growth and expectations for deregulation and fiscal stimulus. In a reversal from the prior year, higher yielding defensive sectors underperformed in anticipation of rising interest rates.

## FY17 Capital Markets Review By Quarter: International Developed Market Equity Returns

### Fiscal Year 2017 Select Capital Market Returns



(Returns in US\$)

3Q16	4Q16	1Q17	2Q17	FY17
GERMANY 10.01	CANADA 3.26	SPAIN 14.76	FRANCE 9.11	SPAIN 38.39
SPAIN 9.32	FRANCE 2.93	AUSTRALIA 10.98	SWITZERLAND 8.96	GERMANY 28.71
JAPAN 8.60	SPAIN 2.24	GERMANY 8.36	SPAIN 7.89	FRANCE 28.14
AUSTRALIA 7.91	GERMANY 1.45	SWITZERLAND 8.34	GERMANY 6.42	JAPAN 19.18
FRANCE 6.36	AUSTRALIA 0.69	FRANCE 7.28	JAPAN 5.19	AUSTRALIA 18.33
CANADA 4.85	JAPAN -0.16	UNITED KINGDOM 5.04	UNITED KINGDOM 4.72	SWITZERLAND 16.47
UNITED KINGDOM 3.98	UNITED KINGDOM -0.90	JAPAN 4.49	CANADA 0.64	UNITED KINGDOM 13.35
SWITZERLAND 2.62	SWITZERLAND -3.86	CANADA 2.51	AUSTRALIA -1.87	CANADA 11.68

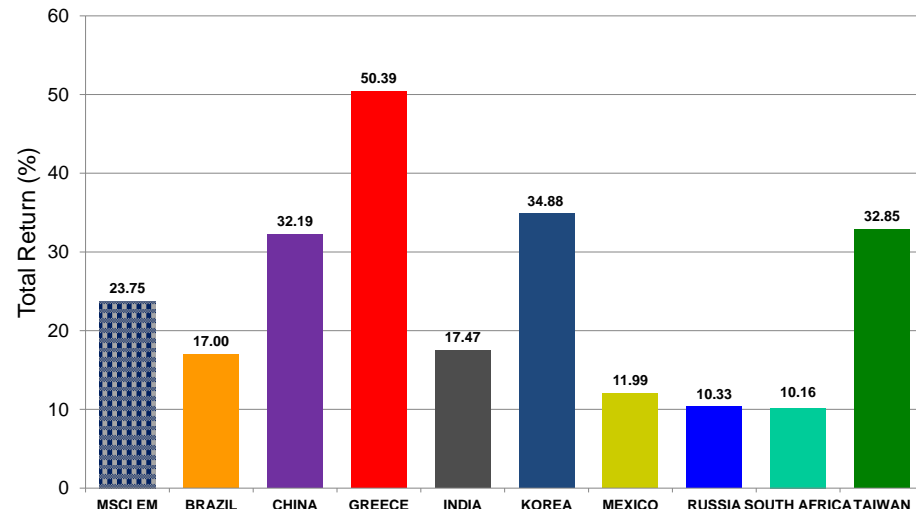
During FY17, International Developed Markets (EAFE) realized strong returns (+20.27%), led by France (+28.14%), Germany (+28.71%) and Spain (+38.39%). Notwithstanding favorable returns in Canada (+11.68%) and the U.K. (+13.35%), relative returns lagged as Canada was adversely impacted by weak energy prices and the U.K. faced an uncertain future following its formal declaration of an exit from the European Union.

Outcomes in key elections spurred strong returns, particularly in France, as uncertainty regarding the stability of the European Union eased somewhat. Spain was the best performing major DM country, largely reflecting a sharp reversal in its financial sector as markets discounted an improving outlook for credit quality and improving profitability within the banking sector.

Strong International DM returns during FY17 marked a sharp reversal from the prior year and the first fiscal year since FY08 that the EAFE index outperformed the Russell 3000 index, supported by more attractive valuations, renewed optimism regarding economic growth prospects, and a tapering of political risk

## FY17 Capital Markets Review By Quarter: International Emerging Market Equity Returns

### Fiscal Year 2017 Select Capital Market Returns



During FY17, International Emerging Markets (EM) realized strong returns (+23.75%), led by China (+32.19%), Korea (+34.88%) and Taiwan (+32.85%). EM proved resilient in the midst of weak commodity prices and heightened geopolitical events, including a failed coup attempt in Turkey and presidential impeachments in Brazil and Korea. Notwithstanding favorable returns in Russia (+10.33%), relative returns lagged as Russia was adversely impacted by weak energy prices.

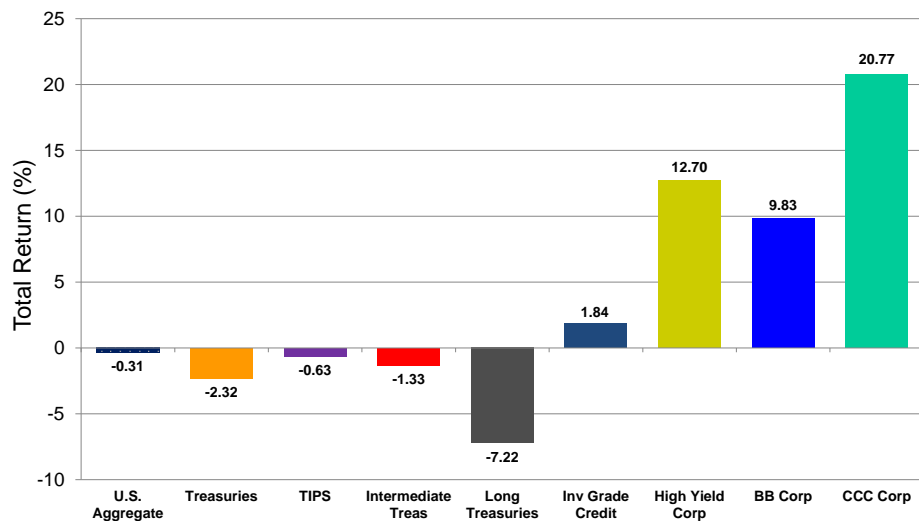
3Q16	4Q16	1Q17	2Q17	(Returns in US\$) FY17
CHINA 13.92	RUSSIA 18.56	INDIA 17.12	GREECE 33.82	GREECE 50.39
TAIWAN 11.71	GREECE 15.33	KOREA 16.85	CHINA 10.57	KOREA 34.88
BRAZIL 11.31	BRAZIL 2.05	MEXICO 16.03	KOREA 10.21	TAIWAN 32.85
KOREA 10.98	TAIWAN -2.18	CHINA 12.93	TAIWAN 8.77	CHINA 32.19
RUSSIA 8.43	SOUTH AFRICA -4.05	TAIWAN 11.78	MEXICO 7.19	INDIA 17.47
SOUTH AFRICA 6.27	KOREA -5.62	BRAZIL 10.37	SOUTH AFRICA 3.53	BRAZIL 17.00
INDIA 5.92	CHINA -7.07	SOUTH AFRICA 4.36	INDIA 2.91	MEXICO 11.99
GREECE 0.96	MEXICO -7.88	GREECE -3.49	BRAZIL -6.67	RUSSIA 10.33
MEXICO -2.24	INDIA -7.99	RUSSIA -4.61	RUSSIA -10.03	SOUTH AFRICA 10.16

Outcomes in key European elections and easing financial sector concerns spurred strong returns in peripheral Europe, with Greece returning +50.39%. Renewed optimism in global economic growth prospects enabled China to realize strong returns despite a downgrade of its sovereign ratings spurred by concerns related to increased leverage. Brazil (+17.00%) underperformed, realizing negative returns during 2Q17 in the midst of another government corruption scandal.

Strong Emerging Market (EM) returns during FY17 marked a sharp reversal from the prior year and the first fiscal year since FY08 that EM outperformed the EAFE index, led by a strong rebound in China, Korea and Taiwan

## FY17 Capital Markets Review By Quarter: Fixed Income Returns

### Fiscal Year 2017 Select Capital Market Returns



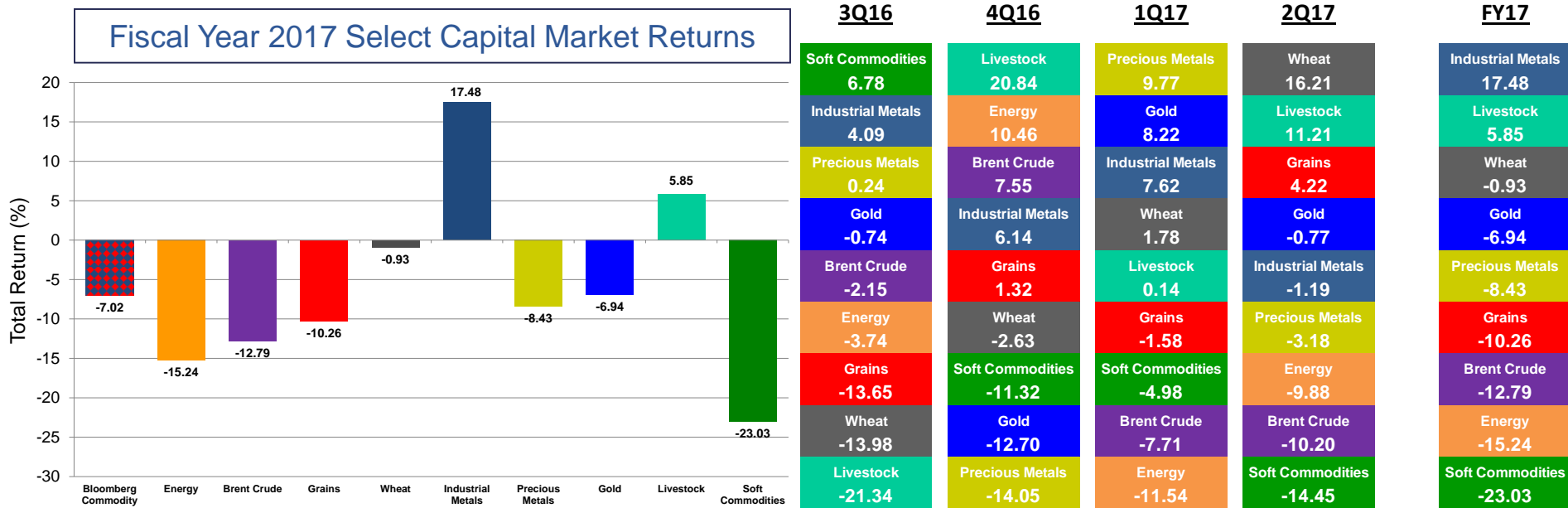
3Q16	4Q16	1Q17	2Q17	FY17
CCC Corp 8.20	CCC Corp 4.70	CCC Corp 4.66	Long Treasuries 3.96	CCC Corp 20.77
High Yield Corp 5.55	High Yield Corp 1.75	High Yield Corp 2.70	BB Corp 2.68	High Yield Corp 12.70
BB Corp 4.36	BB Corp 0.43	BB Corp 2.06	Inv Grade Credit 2.35	BB Corp 9.83
Inv Grade Credit 1.23	Intermediate Treas -2.25	Long Treasuries 1.40	High Yield Corp 2.17	Inv Grade Credit 1.84
TIPS 0.97	TIPS -2.41	Inv Grade Credit 1.30	CCC Corp 1.85	TIPS -0.63
Intermediate Treas -0.26	Inv Grade Credit -2.97	TIPS 1.26	Treasuries 1.19	Intermediate Treas -1.33
Treasuries -0.28	Treasuries -3.84	Treasuries 0.67	Intermediate Treas 0.66	Treasuries -2.32
Long Treasuries -0.36	Long Treasuries -11.67	Intermediate Treas 0.54	TIPS -0.40	Long Treasuries -7.22

During FY17, Fixed Income (US Aggregate) realized negative returns (-0.31%) as interest rates moved higher in conjunction with tighter monetary policy. Investment grade credit (+1.84%) fared modestly better than Treasuries (-2.32%) as spreads narrowed. Lower quality securities significantly outperformed, rebounding from a challenging FY16, as High Yield (+12.70%) spreads tightened by 230 basis points (from 594 to 364 basis points).

Intermediate duration fixed income securities outperformed long duration securities in a rising interest rate environment. Long Treasuries (-7.22%) underperformed, with a return of -11.67% during 4Q16 as the benchmark thirty-year yield rose 75 basis points (from 2.32% to 3.07%). CCC rated corporates (+20.77%) were the best performing quality sector of the credit markets, outperforming duration-matched Treasuries by 2,156 basis points.

During FY17, U.S. Treasuries realized negative returns in a rising interest rate environment. Lower quality securities significantly outperformed as high yield credit spreads tightened sharply.

## FY17 Capital Markets Review By Quarter: Commodities Returns



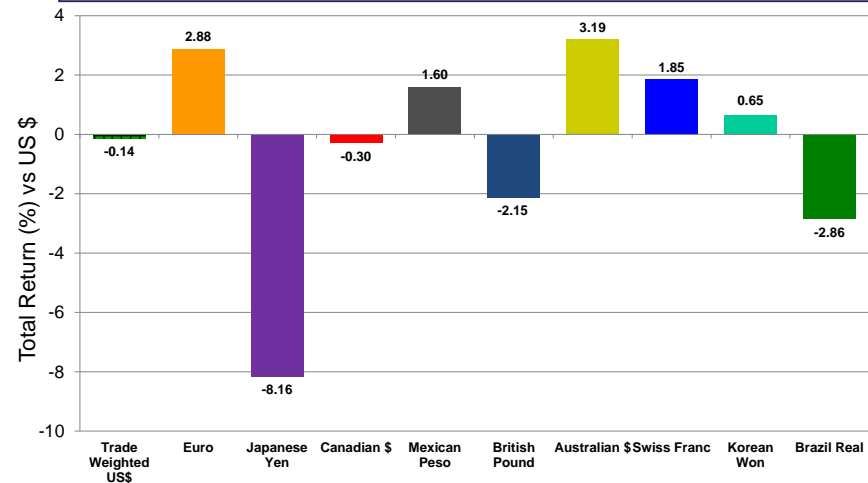
FY17 marked the third consecutive year of negative commodity returns driven by declining energy prices. Brent crude oil and natural gas returned -13% and -10%, respectively. Surplus oil inventories, an insufficient response from OPEC, and a quick ramp up in production following a temporary price rebound led to a -24% peak-to-trough return for crude oil from a January high to the low in June 2017.

Industrial metals (copper, aluminum, zinc and nickel) were the best performing commodities during FY17, fortified by supply disruptions, accelerating industrial activity and an improving Chinese economic outlook. Soft commodities, in contrast, remained weak for three consecutive quarters as cotton was pressured by higher supply yields, coffee suffered from global economic growth concerns and the weak Brazilian real, and supply concerns pushed sugar much lower during the first half of 2017 (down 37%).

The weak energy sector pushed commodities lower for a third consecutive fiscal year, partially offset by a strong recovery in industrial metals as global industrial production accelerated.

## FY17 Capital Markets Review By Quarter: Currency Returns

### Fiscal Year 2017 Select Capital Market Returns



The U.S. Dollar ended FY17 largely unchanged versus a basket of major currencies, strengthening against the Japanese yen while weakening versus the Euro. Yen weakness is partly attributable to the Bank of Japan's continued extraordinary monetary policy accommodation as well as 4Q16 concerns of weakening trade and economic growth prospects. The Mexican peso also weakened in 4Q16, but managed a strong rebound during 2017, at the same time that Emerging Markets broadly realized strong returns.

3Q16	4Q16	1Q17	2Q17	FY17
Korean Won 4.62	Brazil Real 0.23	Mexican Peso 10.72	Euro 7.27	Australian \$ 3.19
Australian \$ 2.86	Canadian \$ -2.32	Korean Won 8.08	Swiss Franc 4.65	Euro 2.88
Japanese Yen 1.82	Swiss Franc -4.66	Australian \$ 5.84	British Pound 3.78	Swiss Franc 1.85
Euro 1.16	British Pound -4.87	Japanese Yen 5.03	Mexican Peso 3.28	Mexican Peso 1.60
Swiss Franc 0.49	Australian \$ -5.95	Brazil Real 4.20	Canadian \$ 2.73	Korean Won 0.65
Brazil Real -1.45	Euro -6.39	British Pound 1.70	Australian \$ 0.79	Canadian \$ -0.30
Canadian \$ -1.54	Mexican Peso -6.48	Swiss Franc 1.59	Japanese Yen -0.85	British Pound -2.15
British Pound -2.55	Korean Won -8.78	Euro 1.28	Korean Won -2.43	Brazil Real -2.86
Mexican Peso -4.99	Japanese Yen -13.39	Canadian \$ 0.91	Brazil Real -5.62	Japanese Yen -8.16

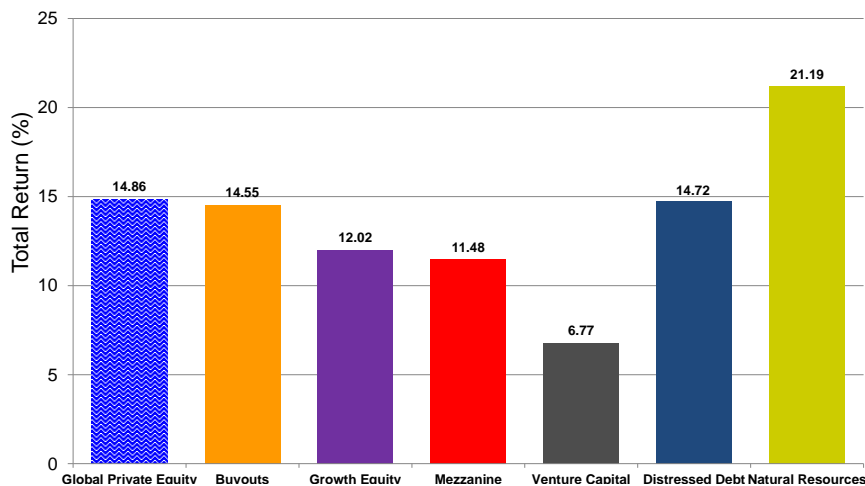
The U.S. dollar reached a 14-year high versus major currencies in late 2016, in response to expectations for fiscal stimulus, including deregulation and tax reform. In contrast, the first half of 2017 proved to be the U.S. dollar's weakest stretch since 2011. The dollar weakened by more than 6% versus a trade-weighted basket of currencies in response to strengthening global economic growth prospects that outpaced U.S. growth expectations and investor speculation that the Fed's path to tighter monetary policy may slow at the same time that global central banks signaled a directional bias toward more restrictive monetary policy.

The U.S. dollar was mixed during FY17, as dollar strength in late 2016 was offset by expectations for accelerating global growth, less accommodative global monetary policy and dollar weakness during 1H17.

## FY17 Capital Markets Review By Quarter: Private Equity Returns

### Fiscal Year 2017 Select Capital Market Returns<sup>(1)</sup>

(Returns in US\$)



2Q16	3Q16	4Q16	1Q17	FY17 (Q lag)
Natural Resources 6.36	Distressed Debt 4.25	Natural Resources 7.74	Buyouts 4.34	Natural Resources 21.19
Mezzanine 3.18	Buyouts 3.93	Distressed Debt 3.75	Growth Equity 4.16	Distressed Debt 14.72
Buyouts 2.84	Natural Resources 3.82	Buyouts 2.76	Distressed Debt 3.37	Buyouts 14.55
Distressed Debt 2.63	Growth Equity 3.81	Mezzanine 2.55	Venture Capital 3.17	Growth Equity 12.02
Growth Equity 1.55	Venture Capital 3.37	Growth Equity 2.03	Mezzanine 2.51	Mezzanine 11.48
Venture Capital 0.20	Mezzanine 2.77	Venture Capital -0.06	Natural Resources 1.93	Venture Capital 6.77

During the twelve months ended March 31, 2017, Global Private Equity (+14.86%) exhibited strong performance led by a sharp rebound in Natural Resources (+21.19%) as energy prices recovered during 2H16. Buyout strategies (+14.55%) benefited from strong valuations, an active M&A environment, and low borrowing costs while Distressed Debt (+14.72%) strategies moved higher in conjunction with a supportive high yield market.

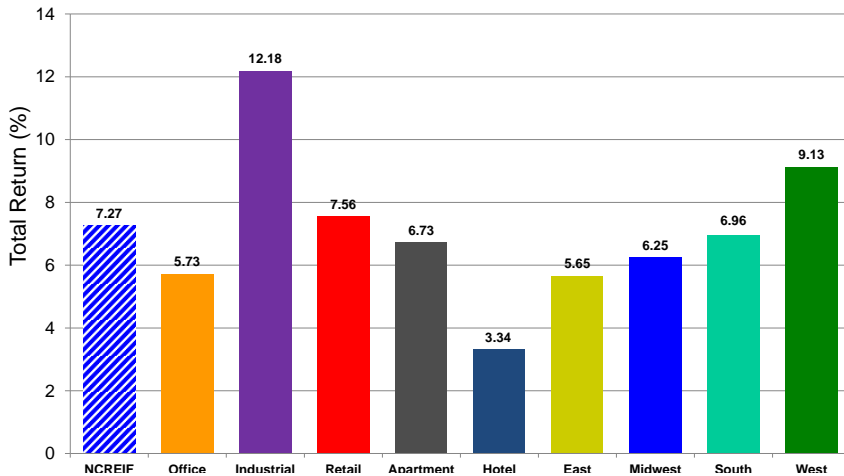
Returns for Venture Capital (+6.77%), while respectable, were somewhat dampened by stretched valuations and spurts of weakness within the IPO market. Mezzanine (+11.48%) enjoyed consistent returns throughout FY17. Overall, strong public equity returns provided a favorable backdrop for the private markets, particularly within Growth Equity (+12.02%).

Global Private Equity realized favorable performance over the last year, led by Buyouts and a sharp rebound in Natural Resources. The investment environment characterized by high equity valuations, outsized high yield returns and low interest rates provided additional support for the private markets.

(1) FY17 Private Equity returns are presented with a one quarter lag; returns are preliminary as of July 20, 2017

## FY17 Capital Markets Review By Quarter: Real Estate Returns

### Fiscal Year 2017 Select Capital Market Returns<sup>(1)</sup>



Notwithstanding low cap rates and pressure from rising global bond yields, Real Estate (+7.27%) earned favorable returns for the twelve months ending March 31, 2017, marking the eighth consecutive year of positive returns. Continued favorable demand for high quality real estate and relatively low levels of construction kept supply in check as income producing assets remained attractive in a moderate growth economy and a low interest rate environment.

2Q16	3Q16	4Q16	1Q17	FY17 (Q lag)
Industrial 2.90	Industrial 2.89	Industrial 3.04	Industrial 2.83	Industrial 12.18
West 2.46	West 2.19	West 2.22	West 1.96	West 9.13
Retail 2.17	Retail 1.98	Apartment 1.67	South 1.83	Retail 7.56
Midwest 1.99	Apartment 1.72	Retail 1.65	Retail 1.56	South 6.96
Apartment 1.88	South 1.56	South 1.62	Midwest 1.36	Apartment 6.73
South 1.77	East 1.49	East 1.36	Apartment 1.30	Midwest 6.25
Office 1.74	Midwest 1.46	Office 1.35	Office 1.26	Office 5.73
East 1.73	Hotel 1.35	Midwest 1.29	East 0.95	East 5.65
Hotel 1.46	Office 1.26	Hotel 0.67	Hotel -0.16	Hotel 3.34

Industrial properties were the best performing sector for each quarter, supported by broad patterns of changes in distribution channels and logistics as the e-commerce sector continues to expand. Similarly, the West was the best performing region of the real estate market for each quarter, buoyed by strength in the technology sector. The fundamental outlook remained constructive, with positive net absorption and limited new supply in most property sectors.

Real Estate continued to realize favorable returns over the last year supported by a constructive fundamental backdrop. Industrial property types and the western region of the U.S. were the best performers throughout the year, benefitting from strength in the technology sector.

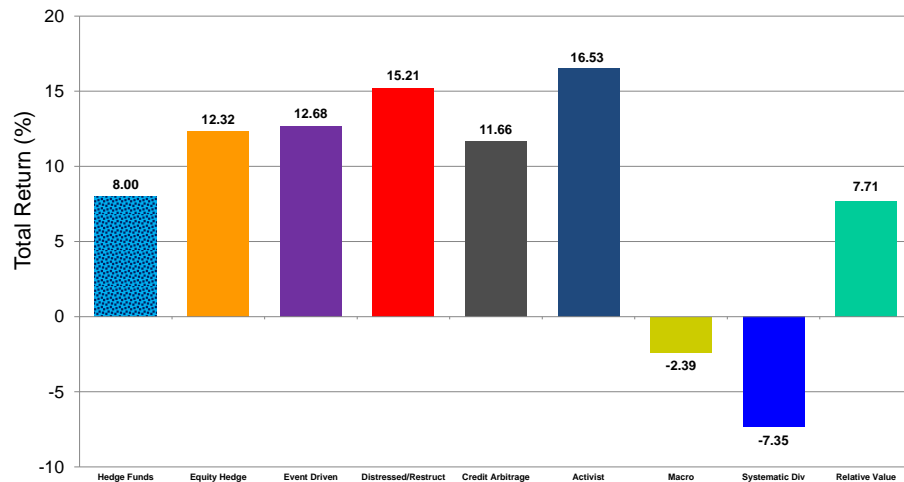
(1) FY17 Real Estate returns are presented with a one quarter lag

Source: National Council of Real Estate Investment Fiduciaries



## FY17 Capital Markets Review By Quarter: Hedge Fund Returns

### Fiscal Year 2017 Select Capital Market Returns <sup>(1)</sup>



3Q16	4Q16	1Q17	2Q17	FY17
Activist 6.31	Distressed/Restruct 5.59	Equity Hedge 3.87	Activist 2.57	Activist 16.53
Distressed/Restruct 5.39	Activist 5.13	Credit Arbitrage 2.73	Equity Hedge 2.29	Distressed/Restruct 15.21
Credit Arbitrage 4.93	Event Driven 3.55	Distressed/Restruct 2.57	Event Driven 1.78	Event Driven 12.68
Equity Hedge 4.59	Credit Arbitrage 2.55	Event Driven 2.44	Credit Arbitrage 0.93	Equity Hedge 12.32
Event Driven 4.50	Relative Value 1.85	Relative Value 2.22	Relative Value 0.63	Credit Arbitrage 11.66
Relative Value 2.95	Equity Hedge 1.25	Activist 1.61	Distressed/Restruct 0.60	Relative Value 7.71
Macro -1.03	Macro -0.65	Macro -0.10	Macro -0.71	Macro -2.39
Systematic Div -2.72	Systematic Div -2.43	Systematic Div -1.20	Systematic Div -1.58	Systematic Div -7.35

During FY17, Hedge Funds (+8.00%) rebounded from disappointing returns in FY16. Distressed strategies (+15.21%) outperformed on the heels of outsized high yield returns and as energy markets recovered during 2H16. Strong returns in the public markets benefited Equity Hedge (+12.32%), Activist (+16.53%), and Credit (+11.66%) strategies. A recovery in M&A activity led to favorable returns for Event Driven (+12.68%).

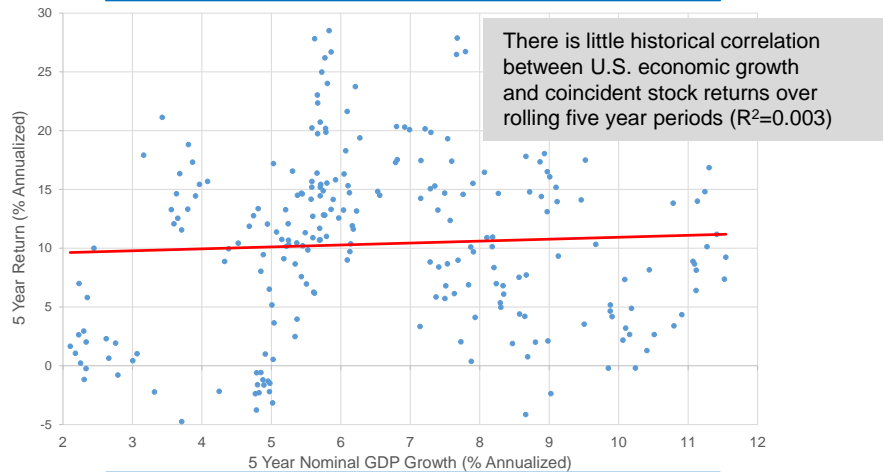
Systematic strategies (-7.35%) realized negative returns, as trend following managers experienced losses, particularly during 4Q16 and 2Q17. Macro strategy returns (-2.39%) were muted as volatility declined sharply. Reversals in currency and commodity markets also adversely impacted macro and systematic strategies.

Most Hedge Fund strategies posted favorable returns during FY17 led by Distressed, Equity and Credit strategies, as financial markets recovered and strengthened. Declining volatility adversely impacted Macro and Systematic strategies.

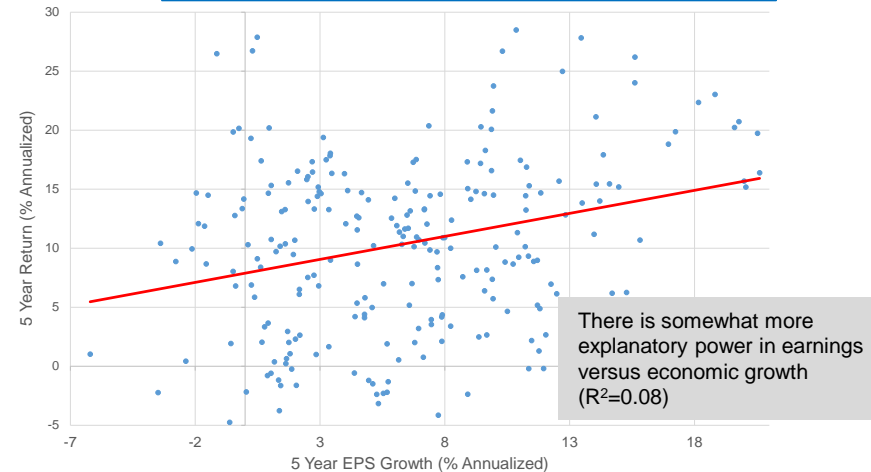
(1) FY17 Hedge Fund returns are preliminary as of July 20, 2017

# Impact of Economic Growth, Earnings and Valuations on Equity Returns

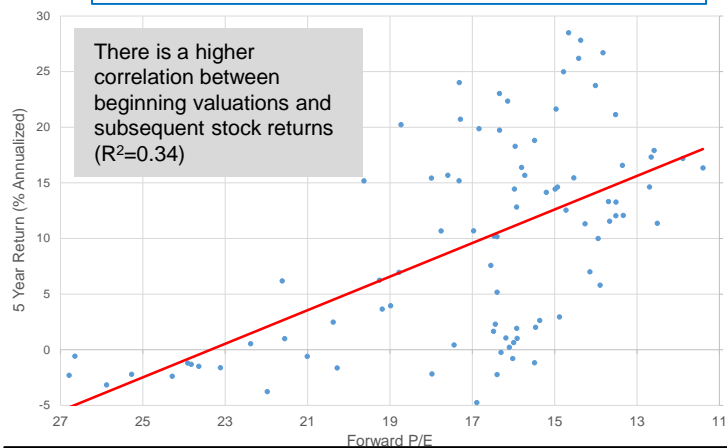
S&P 500 Returns and U.S. GDP Growth  
March 1954 to present



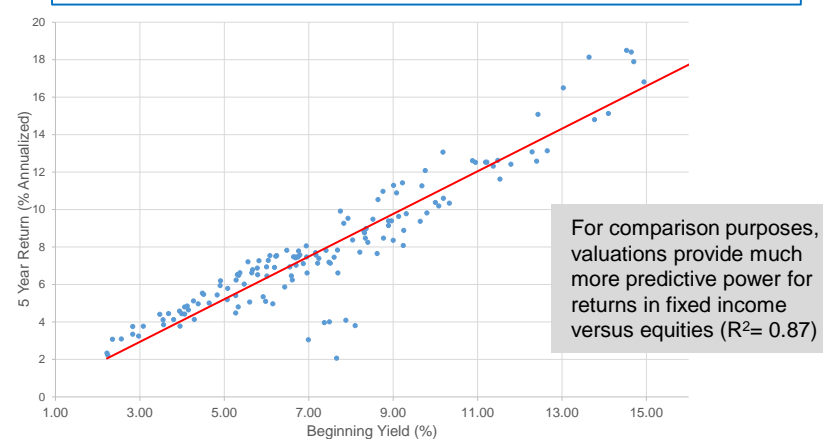
S&P 500 Returns and Earnings Growth  
March 1954 to present



S&P 500 Returns and Valuations  
March 1990 to present



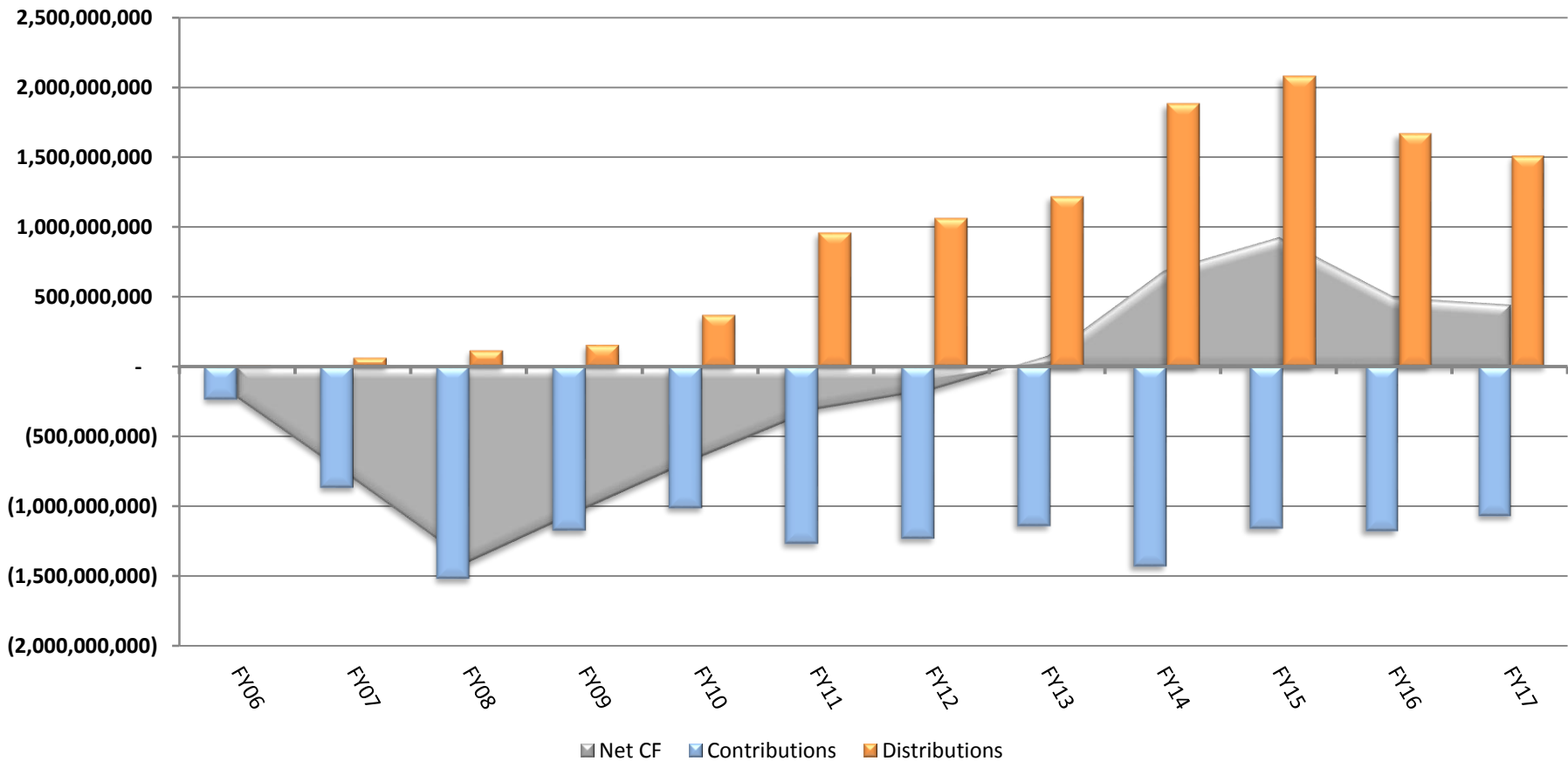
Bloomberg Barclays Agg Returns and Valuations  
March 1976 to present



Beginning valuations have historically provided more predictive power in determining stock returns versus coincident economic growth and earnings

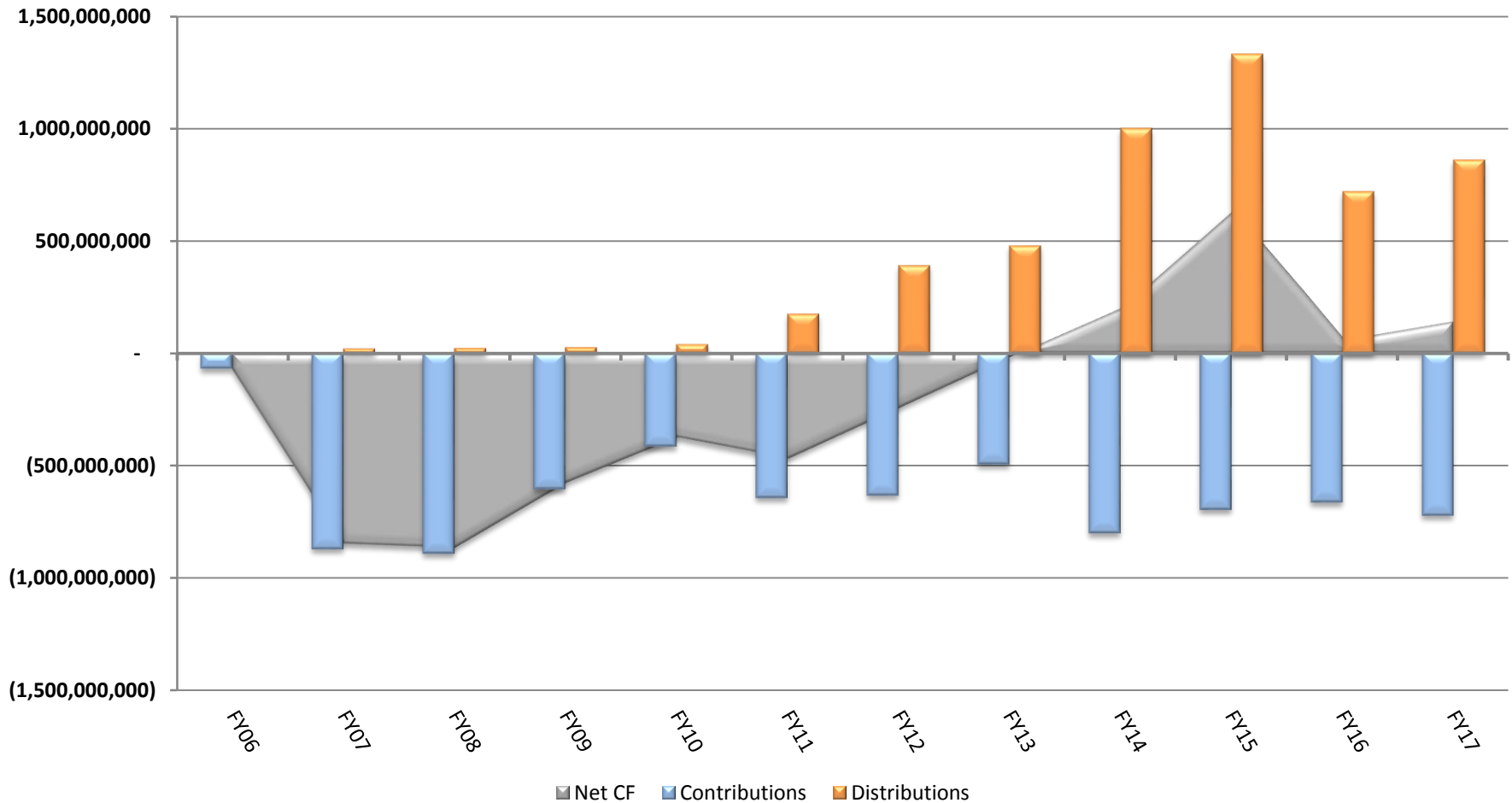
The Private Equity portfolio continues to generate significant distributions as the second quarter of 2017 marked the 19<sup>th</sup> consecutive quarter in which distributions exceeded \$200 million. The portfolio also generated positive net cash flow for the 17<sup>th</sup> time in the last 19 quarters. Total distributions for the fiscal year were \$1.5 billion and the portfolio was cash flow positive by \$443 million. Over the past 5 fiscal years, the portfolio is cash flow positive by \$2.6 billion.

## Private Equity Cash Flows Since Inception



During the second quarter of 2017, the Real Estate portfolio was cash flow positive by \$73 million with \$126 million of contributions and \$198 million of distributions. Total distributions for the fiscal year were \$863 million and the portfolio was cash flow positive by \$142 million. Over the past 5 fiscal years, the portfolio is cash flow positive by \$1 billion.

## Real Estate Cash Flows Since Inception



# Fiscal Year 2017 State Appropriation

On June 30, 2017, the State made the following contributions to the retirement system:

Public Employees' Retirement System	\$ 507,178,000
Teachers' Pension and Annuity Fund	\$ 1,087,919,000
Police and Firemen's Retirement System	\$ 195,221,000
State Police Retirement System	\$ 51,038,000
Judicial Retirement System	\$ 19,677,000
Consolidated Police and Fire Retirement System	\$ <u>575,000</u>
<b>Total</b>	<b><u>\$1,861,608,000</u></b>

The above contributions represent approximately 4/10<sup>th</sup> of the full actuarially recommended contributions determined on the basis of the July 1, 2015 actuarial valuations.

# Lottery

The Legislature has enacted P.L. 2017, c. 98 (the “Act”) pursuant to which the Treasurer has contributed the State Lottery Enterprise for a period of 30 years for the benefit of the Police and Firemen's Retirement System, the Public Employees' Retirement System and the Teachers' Pension and Annuity Fund and deposited the same in Common Pension Fund L, which was created within the Division of Investment by the Act.

Net proceeds of the Lottery Enterprise are now for the exclusive benefit of the three pension funds list above in the percentages shown below:

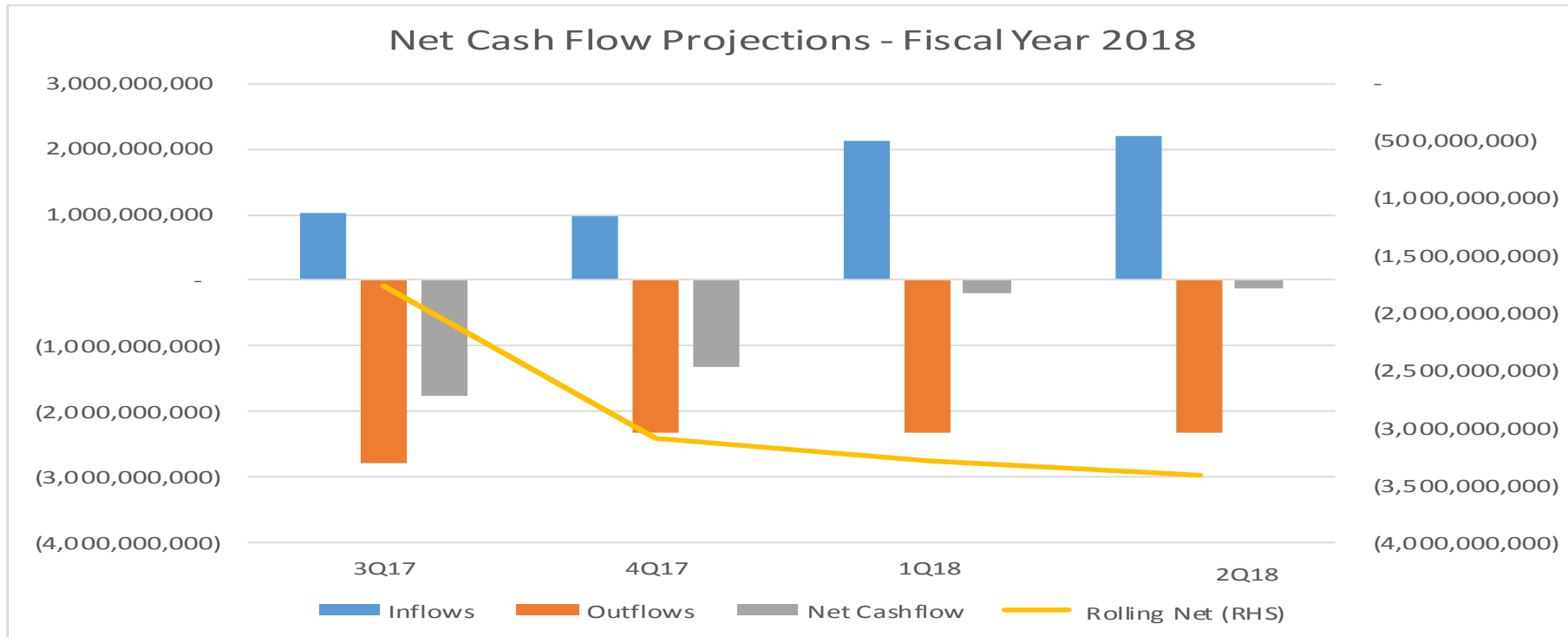
Public Employees Retirement System	21.02%
Teachers Pension and Annuity Fund	77.78%
Police and Fire Retirement System	1.20%

## **Impact on Division of Investment:**

- DOI is tasked with managing the Lottery Revenue on behalf of the three pension funds.
- Net proceeds of the Lottery Enterprise will be transferred to an account managed by Division of Investment on a monthly basis with the first transfer expected to take place in August 2017
- DOI will then transfer the cash to the three pension funds on a pro-rata basis based on the percentages shown above. To the degree any of the three funds have excess cash available, DOI will invest the proceeds as we normally do
- Lottery will continue to be operated by the Division of Lottery
- The Director of the Division of Investment is now a member of the Lottery Commission

# Lottery

Projected Lottery revenues for FY18 are \$1,000,977,000 resulting in an expected average monthly contribution of \$83.4 million. The State has indicated it will contribute \$1.5 billion (\$377 million quarterly) for Fiscal Year 2018.



In total, the DOI projects inflows of \$4.1 billion in Fiscal Year 2018 from the State contributions, Lottery revenue, and Local Employer contributions. Expected transfers to the Pension Funds for benefit payments are \$9 billion for Fiscal Year 2018. Positive cash flows from the alternative investment portfolio are expected to be approximately \$1.5 billion in Fiscal Year 2018.

# Lottery

**STATUTORY FUNDING STATUS**  
**PENSION FUND ACTUARIAL LIABILITIES AND ASSETS**  
 Actuarial Valuations as of July 1, 2016  
 (In Millions)

Retirement System	Before Contribution <sup>(1)</sup>				After Contribution <sup>(1)(2)</sup>			
	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Actuarial Value of Assets <sup>(2)</sup>	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio
<b>State</b>								
PERS	\$8,466.9	\$22,411.7	\$13,944.8	37.8%	\$11,109.9	\$22,411.7	\$11,301.8	49.6%
TPAF	27,169.8	57,866.0	30,696.2	47.0%	36,948.6	57,866.0	20,917.4	63.9%
PFRS	1,928.4	4,676.6	2,748.2	41.2%	2,079.8	4,676.6	2,596.8	44.5%
CP&FPF	3.0	3.3	0.3	90.4%	3.0	3.3	0.3	90.9%
SPRS	1,931.1	3,209.4	1,278.3	60.2%	1,931.1	3,209.4	1,278.3	60.2%
JRS	226.3	629.8	403.5	35.9%	226.3	629.8	403.5	35.9%
POPF	6.1	3.5	-2.6	176.6%	6.1	3.5	-2.6	174.3%
<b>Subtotal</b>	<b>\$39,731.6</b>	<b>\$88,800.3</b>	<b>\$49,068.7</b>	<b>44.7%</b>	<b>\$52,304.8</b>	<b>\$88,800.3</b>	<b>\$36,495.5</b>	<b>58.9%</b>
<b>Local</b>								
PERS	\$21,900.4	\$30,673.9	\$8,773.5	71.4%	\$21,900.4	\$30,673.9	\$8,773.5	71.4%
PFRS	24,420.1	32,793.4	8,373.3	74.5%	24,420.1	32,793.4	8,373.3	74.5%
<b>Subtotal</b>	<b>\$46,320.5</b>	<b>\$63,467.3</b>	<b>\$17,146.8</b>	<b>73.0%</b>	<b>\$46,320.5</b>	<b>\$63,467.3</b>	<b>\$17,146.8</b>	<b>73.0%</b>
<b>Total</b>	<b>\$86,052.1</b>	<b>\$152,267.6</b>	<b>\$66,215.5</b>	<b>56.5%</b>	<b>\$98,625.3</b>	<b>\$152,267.6</b>	<b>\$53,642.3</b>	<b>64.8%</b>

(1) Source: New Jersey Department of the Treasury, Division of Pensions and Benefits. Information was derived from the actuarial valuation reports as of July 1, 2016.

(2) Information was modified to include value of the Lottery Enterprise Contribution.



## Noteworthy Developments

- Betty Carr, Senior Equity Portfolio Manager, retired effective July 1, 2017 after a 45 year career with DOI. Betty was responsible companies in the energy and utilities sectors. Coverage for these sectors has been transferred to other members of the public equity team.

# Alternative Investment Notifications

## **CVC Capital Partners VII, L.P.**

**Background:** In March 2017, the Division presented an investment of up to €100 million in CVC Capital Partners VII, L.P. (the “Fund”), a fund managed by CVC Capital Partners VII Limited (“CVC”). At the March meeting, staff reported, based on information provided by CVC, that the Fund had not engaged a third-party solicitor in connection with New Jersey’s investment.

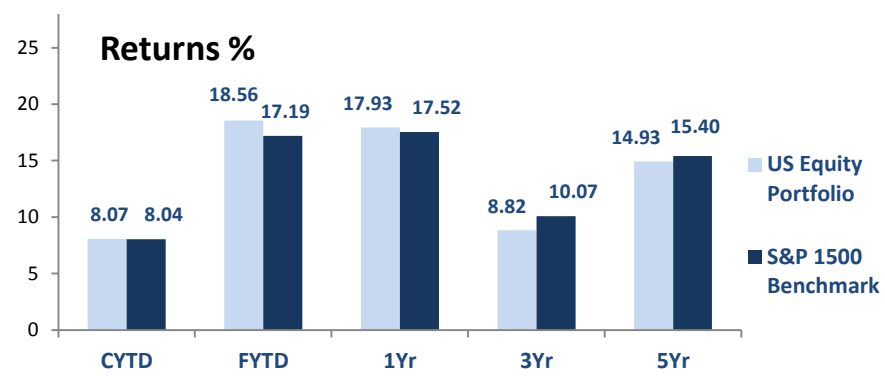
**Modification:** During the negotiation of final documents, CVC informed the Division that it had engaged an affiliated broker-dealer entity, CVC Funding LLC (“CVC Funding”), as its representative for marketing the Fund to investors. CVC apparently did not disclose CVC Funding as a “third party” solicitor during the initial due diligence because of its affiliation with CVC (the majority of CVC’s investor relations team is employed by CVC Funding). No fee was charged to the Fund or its investors (including Common Pension Fund E) for the services provided by CVC Funding. Prior to closing the investment at the end of May, staff determined that CVC Funding complied with the SIC’s Placement Agent Policy.

**Impact on New Jersey:** The use of an affiliated placement agent will have no impact on the investment.

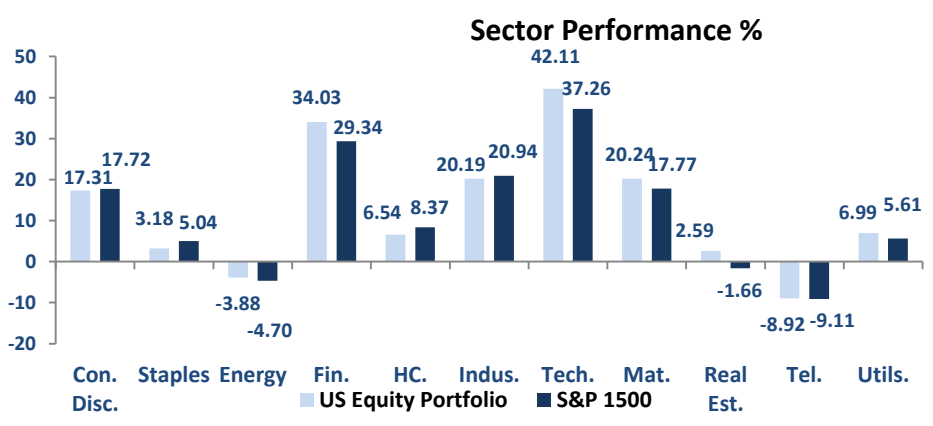
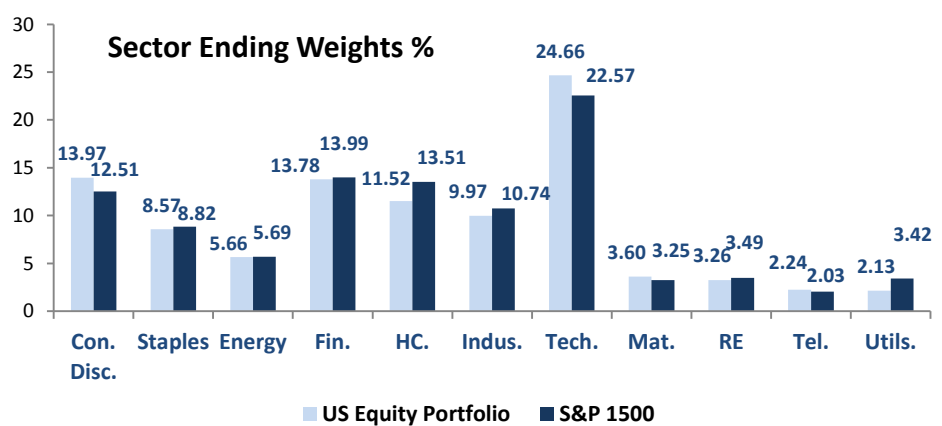
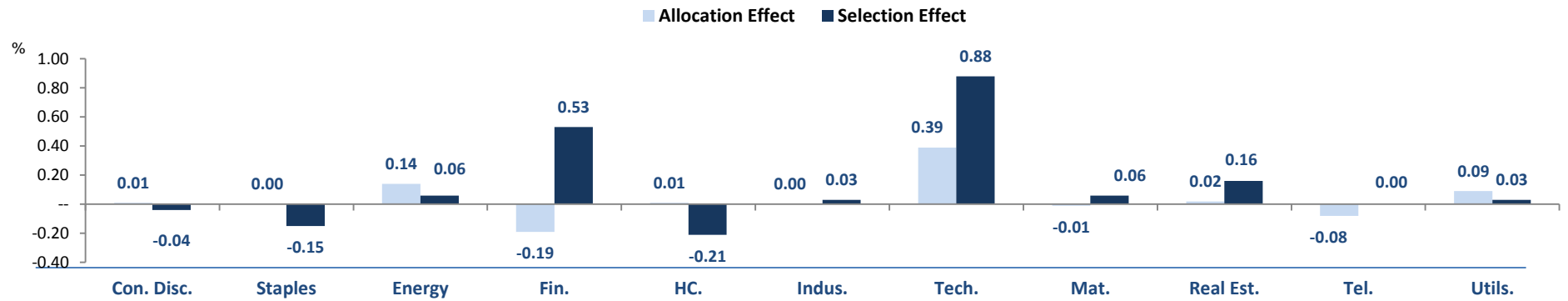
**Purpose of Notification:** The Division is notifying the SIC of these transactions under its Modification Procedures.

# Performance Appendix

The 18.56% return for the US equities portfolio outpaced the S&P 1500 benchmark by 137 basis points during the fiscal year-to-date time period. Large cap growth stocks have led the markets higher, as investors wait for progress on corporate tax reform, deregulation, and increased infrastructure spending. First quarter corporate earnings increased 14.7% year-over-year on revenue growth of 7.8%. Information technology was the best performing sector, increasing 37.26% fiscal year-to-date, ahead of the financials 29.34% return. Telecom services, energy, and real estate were the laggards on higher interest rate expectations and lower oil prices. Stock selection for the fund was strongest among information technology, and financials, while healthcare and consumer staples lagged the benchmark. An overweight allocation to technology also benefited performance.

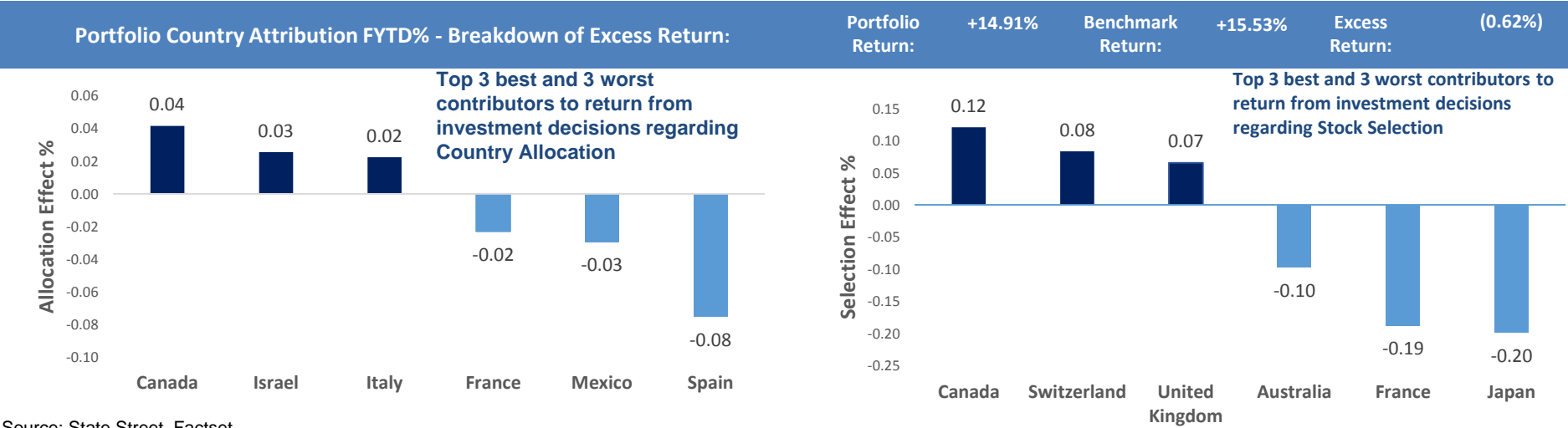
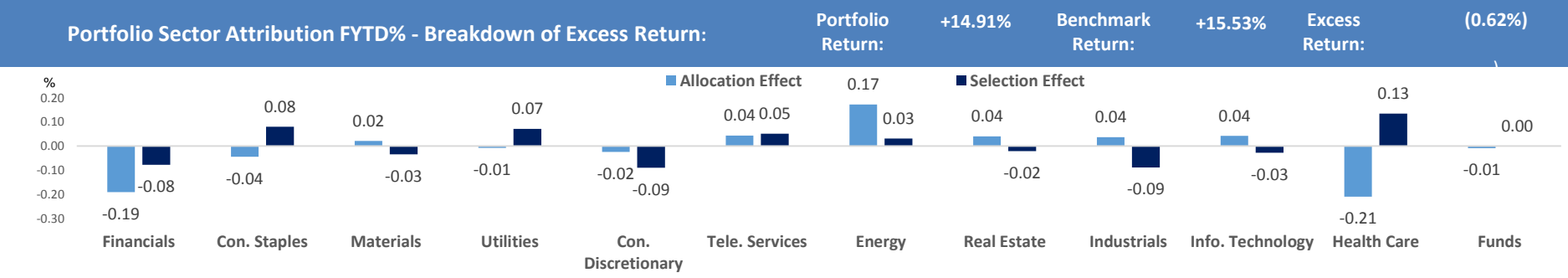
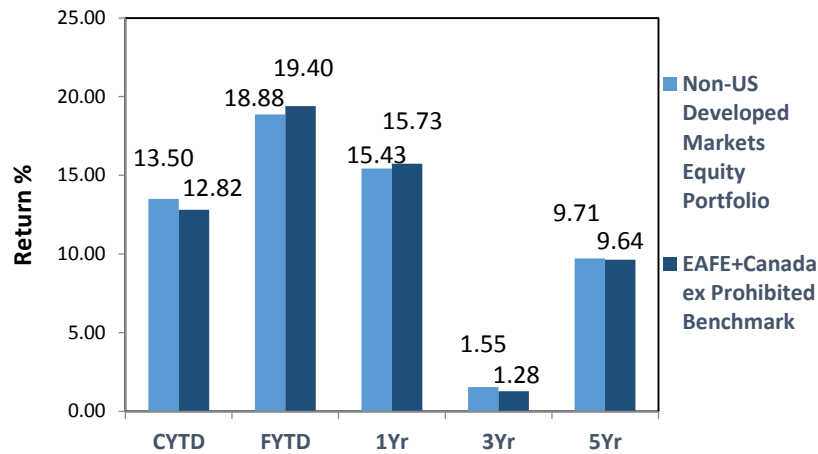


Portfolio Sector Attribution FYTD% - Breakdown of Excess Return:	Portfolio Return:	Benchmark Return:	Excess Return:
	+18.56%	+17.19%	+1.37%



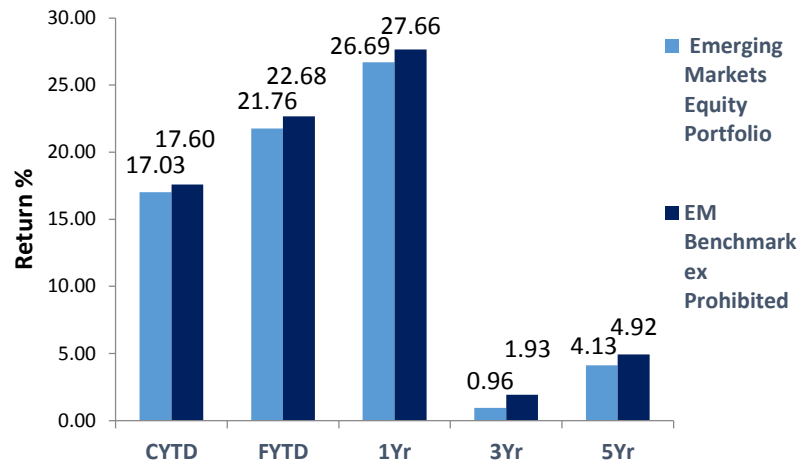
Source: State Street, Factset

For the fiscal year through May 31<sup>st</sup>, the Non-US Developed Markets Equity Portfolio returned 18.88% versus the Benchmark return of 19.40%. Renewed optimism regarding the global growth outlook spurred a strong rally in markets starting at the end of 2016, especially in Europe, as strong macroeconomic data and favorable outcomes in the Dutch and French elections eased some of the uncertainty over the stability of the European Monetary Union. Yet, political and economic instability rose in the UK with the formal declaration to exit the European Union and the unexpected results of the early Parliamentary elections. Portfolio performance benefited from a low exposure to oil which was reflected as an underweight allocation to both the Energy sector and to Canada. Strong stock selection in Canada also added to returns. Detracting from performance was the underweight to and stock selection in Financials (up +32%), as this battered sector experienced a turnaround in sentiment due to a rising perception its bad loan and profitability issues are improving. The overweight allocation to Health Care adversely impacted returns, as this sector underperformed. Stock selection in France and Japan also hurt performance.

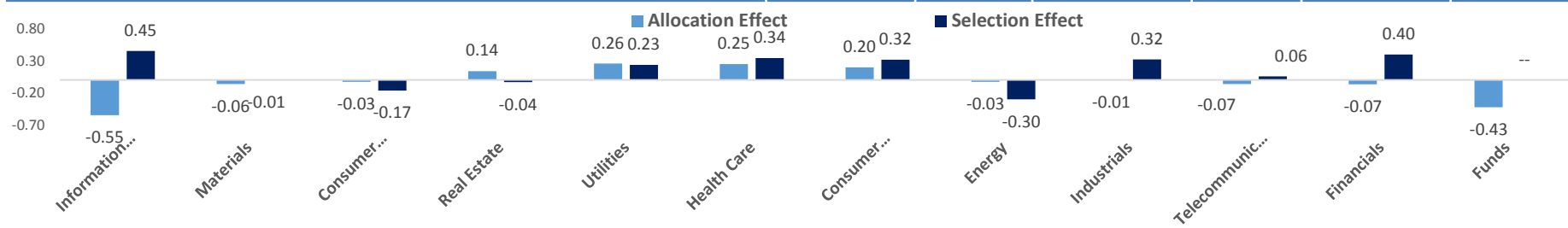


Source: State Street, Factset

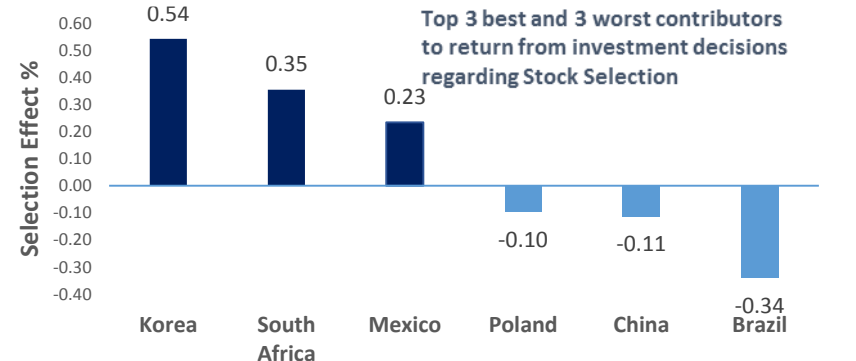
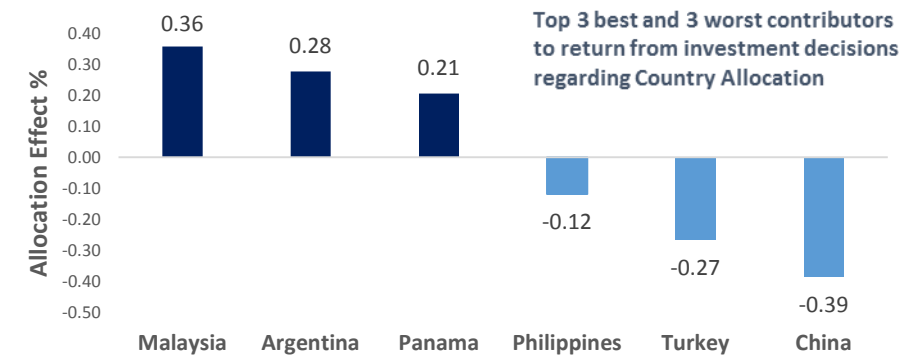
For the fiscal year through May 31<sup>st</sup>, the Emerging Markets Equity Portfolio returned 21.76% versus the Benchmark return of 22.68%. Emerging market equities advanced 2.5% in May, marking the fifth consecutive month of outperformance versus the developed markets and pushing FYTD returns to 23% vs. 20% for developed markets. Emerging Markets continued to show resiliency amidst concerns of economic instability, weak global commodity prices, and geopolitical events – in particular, a failed coup attempt in Turkey and presidential impeachments in South Korea and Brazil. During the month of May, China rose 5.3% despite a downgrade by Moody’s of its sovereign debt. The MSCI Brazil Index declined -5.7%, as a government corruption crisis spiraled and appeared to implicate President Temer. Emmanuel Macron’s presidential election victory in France strengthened the euro and aided returns in European peripheral countries like Hungary and Greece. The Russian market continued its decline, pressured by weak oil prices as well as news over possible ties to Trump’s administration. Portfolio performance benefited the most from strong stock selection in South Korea and an underweight to Malaysia. An underweight to China hurt performance, as did poor stock selection in Brazil. In terms of sectors, Consumer Staples led performance as a result of being underweight combined with strong stock selection, while Energy detracted as a result of poor stock selection.



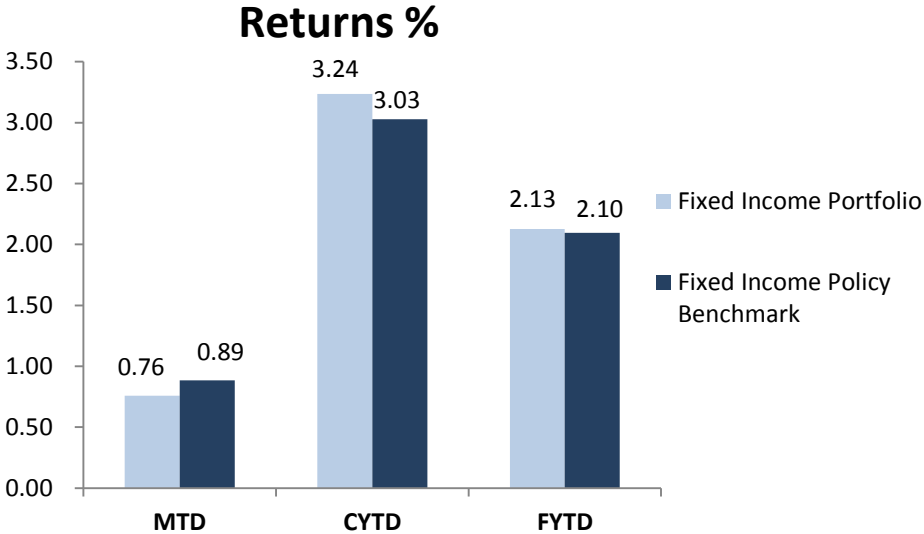
<b>Portfolio Country Attribution FYTD% - Breakdown of Excess Return:</b>	<b>Portfolio Return:</b>	<b>+21.76%</b>	<b>Benchmark Return:</b>	<b>+22.68%</b>	<b>Excess Return:</b>	<b>(0.92%)</b>
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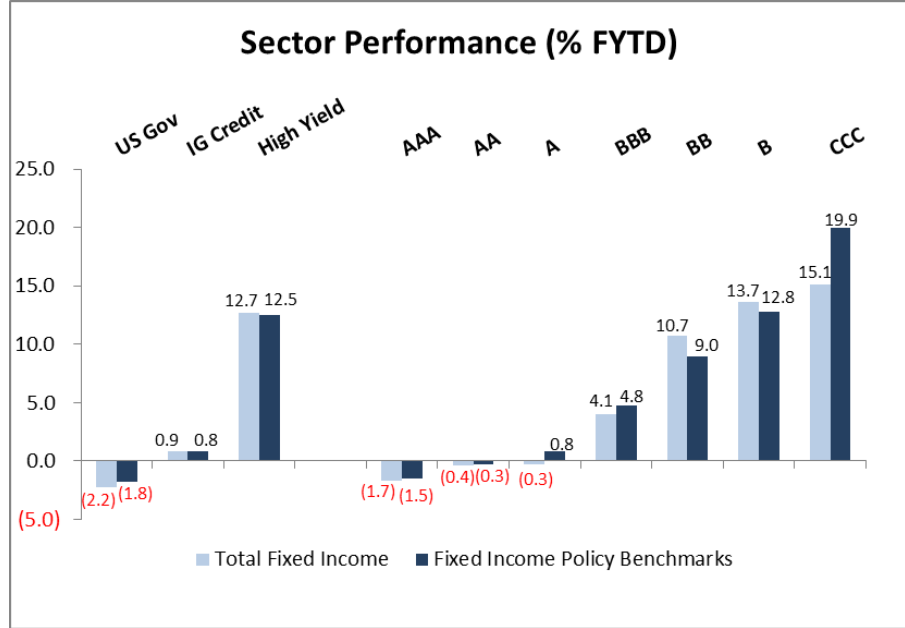
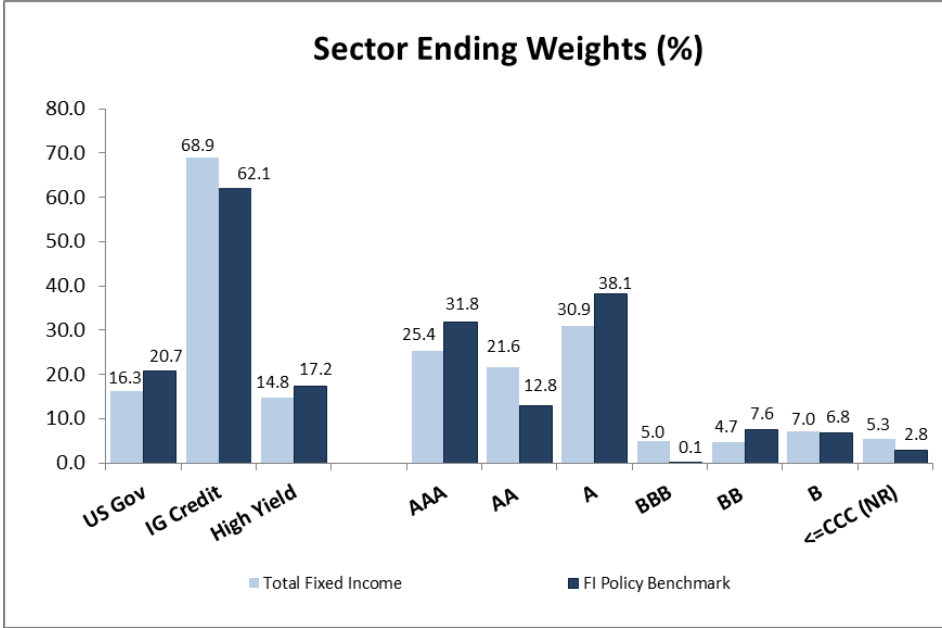
<b>Portfolio Country Attribution FYTD% - Breakdown of Excess Return:</b>	<b>Portfolio Return:</b>	<b>+21.76%</b>	<b>Benchmark Return:</b>	<b>+22.68%</b>	<b>Excess Return:</b>	<b>(0.92%)</b>
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For F17 year-to-date performance, the US Fixed Income portfolio returned 2.13% versus the benchmark return of 2.10%. Relative returns were positively impacted by a short duration bias across the portfolio, outperformance within High Yield and an overweight allocation to TIPS. Through May 31st, the Barclays High Yield Index, Custom IG Credit and US Government Benchmarks returned 12.55%, 0.80% and -1.81%, respectively. As interest rates have broadly risen since the start of the fiscal year the portfolio has benefited from its short duration position. However, as credit spreads have tightened the portfolio's defensive positioning has offset much of those gains. Fiscal-year-to-date, TIPS have outperformed nominal Treasuries by approximately 248 basis points. The Portfolio's allocation to TIPS within the US Government sector has helped boost performance versus its index and the broader composite benchmark.



Portfolio Sector Attribution – Weights and Performance



Source: State Street and FactSet