

FUND EVALUATION REPORT

Dallas Police & Fire Pension System

Quarterly Review
As of September 30, 2019



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- 1. Executive Summary**
- 2. 3Q19 Review**
- 3. Disclaimer, Glossary, and Notes**

Executive Summary

Third Quarter Performance Driver

- Total third quarter DFPF performance was significantly skewed (positively) from one private equity investment.
- The impact (+\$83.7 million in unrealized appreciation) is due to the updated December 31, 2018 valuation of Huff Energy Fund.
- DFPF's net asset value in the fund increased from \$98.0 million to \$181.7 million. No cash flows occurred in-between valuation dates. The increase in fund NAV was directly attributable to a single portfolio company.
- The December 31, 2018 valuation was released in late August 2019 and applied to the third quarter DFPF performance report.
- Staff follow-up confirmed that the valuation process was consistent with the prior years and that the valuation increase was primarily driven by changes in assumptions.

DPFP 3Q19 Flash Summary

Category	Result	Notes
Total Fund Performance Return	Positive	4.1%
Performance vs. Policy Index	Outperformed	4.1% vs. 0.1%
Performance vs. Peers	Outperformed	1st percentile in peer group in 3Q19 ¹
Asset Allocation vs. Targets	Favorable	Overweight PE and underweight EM helped
Safety Reserve Exposure	Sufficient	\$351 million (approximately 17%)
Active Management	Favorable	Private Equity
DPFP Public Markets vs. 60/40 ²	Underperformed	-0.3% vs. 0.2%
DPFP Public Markets vs. Peers	Underperformed	97th percentile in peer group in 3Q19 ¹
Compliance with Targets	No	Under minimums in Investment Grade Bond and EM Debt ³

¹ InvestorForce Public DB \$1-\$5 billion net accounts.

² Performance of Total Fund excluding private market investments relative to a 60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index.

³ Investment Grade Bonds and Emerging Market Debt are below target minimums in accordance with following the implementation plan approved by the Trustees.



DPFP Trailing One-Year Flash Summary

Category	Trailing 1 YR Result	1 YR Notes
Total Fund Performance Return	Positive	5.2%
Performance vs. Policy Index	Outperformed	5.2% vs. 1.9%
Performance vs. Peers	Outperformed	5th percentile in peer group ¹
Asset Allocation vs. Targets	Favorable	Overweight PE and underweight EM helped
Active Management	Favorable	PE, Global Equity, EM Equity - Positive Selection
DPFP Public Markets vs. 60/40 ²	Underperformed	3.2% vs. 3.7%
DPFP Public Markets vs. Peers	Underperformed	51st percentile in peer group ¹

DPFP Trailing Three-Year Flash Summary

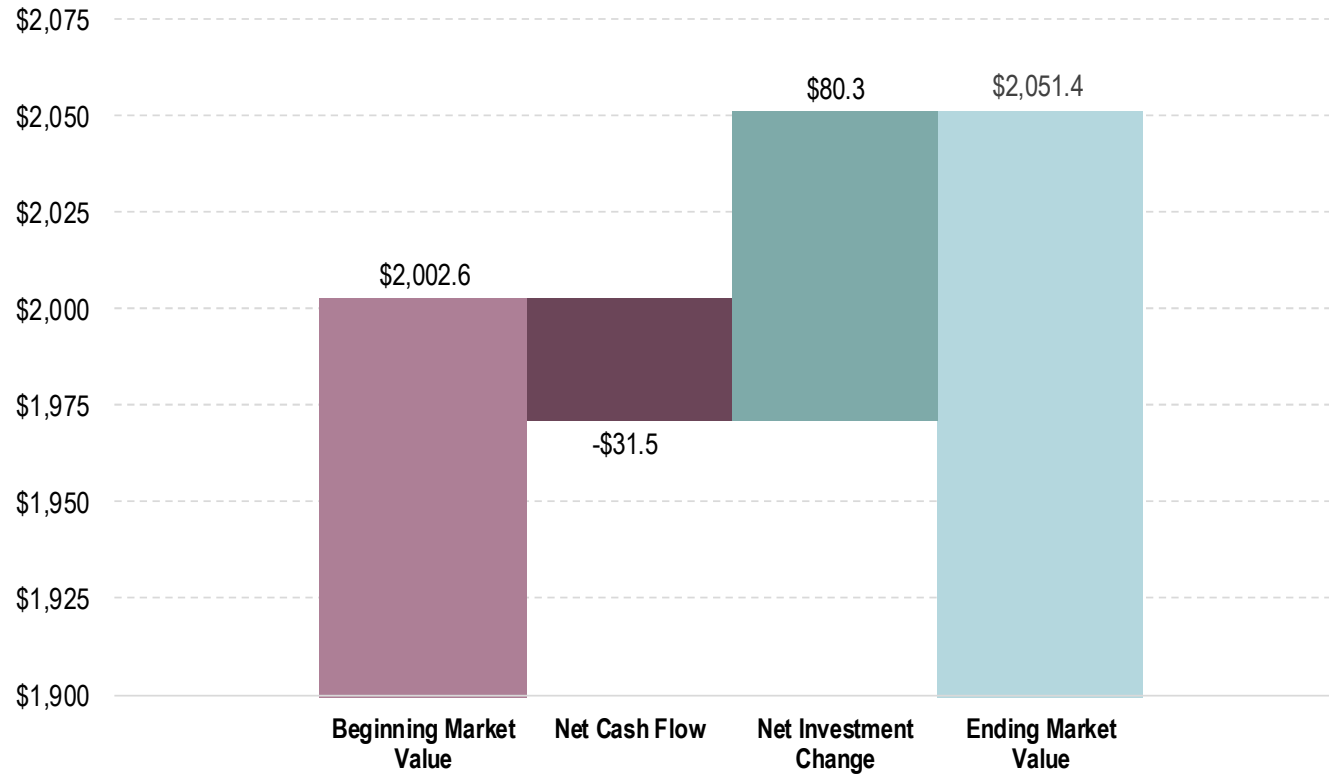
Category	Trailing 3 YR Result	3 YR Notes
Total Fund Performance Return	Positive	4.1%
Performance vs. Policy Index	Underperformed	4.1% vs. 6.3%
Performance vs. Peers	Underperformed	99th percentile in peer group ¹
Active Management	Detracted	PE, NR, RE and PD - Negative Selection
DPFP Public Markets vs. 60/40 ²	Underperformed	5.6% vs. 6.4%
DPFP Public Markets vs. Peers	Underperformed	99th percentile in peer group ¹

¹ InvestorForce Public DB \$1-\$5 billion net accounts.

² Performance of Total Fund excluding private market investments relative to a 60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index.



Quarterly Change in Market Value

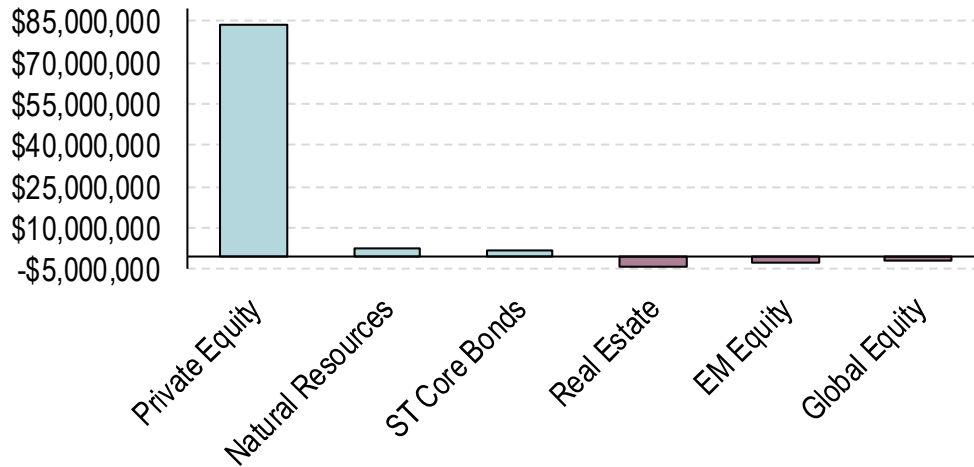


- Total market value increased due to positive investment performance.

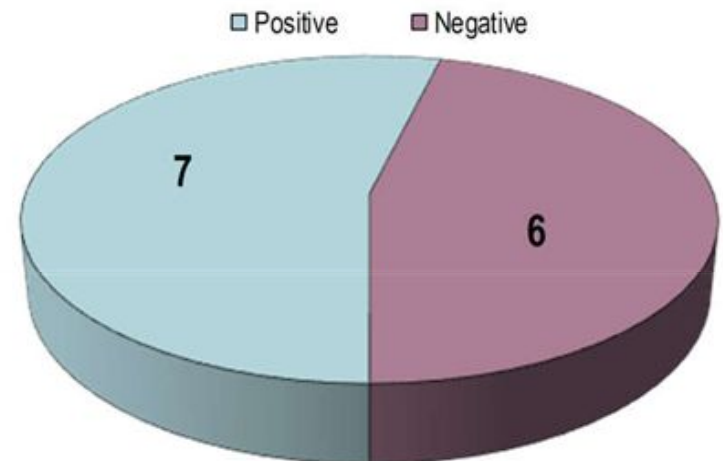


Quarterly Absolute Performance

**Asset Classes Dollar¹ Gain/Loss
Top Three and Bottom Three**



Asset Class Absolute Performance²



- Asset class performance was mixed during the quarter.
- In absolute terms, private equity appreciated the most, gaining approximately \$84 million in market value.
- Real estate depreciated the most, losing approximately \$4 million in market value.

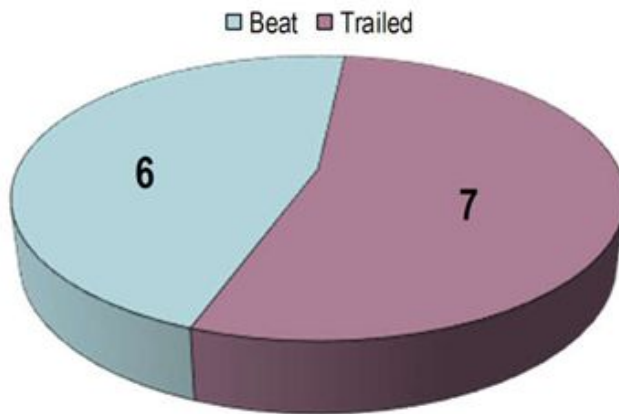
¹ Estimated gain/loss calculated by multiplying beginning market value by quarterly performance.

² Investment grade bonds was funded on September 4 and was not included in this analysis.

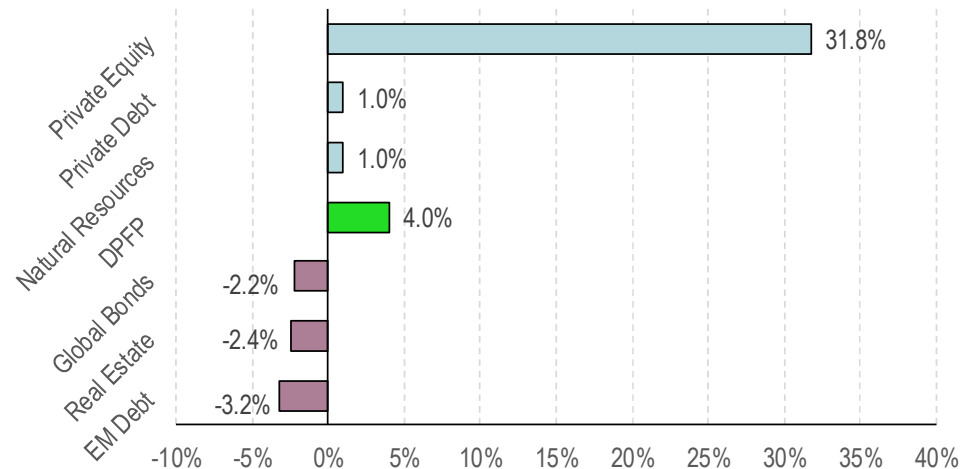


Quarterly Relative Performance

Asset Classes vs. Benchmarks¹



Top Three and Bottom Three Asset Classes vs. Benchmarks



- In the quarter, private equity, private debt and natural resources had the best relative performance.
- Emerging markets debt, real estate and global bonds had the worst relative performance in the quarter.
- Six of the thirteen asset classes delivered positive relative performance versus respective benchmarks.

¹ Investment grade bonds was funded on September 4 and was not included in this analysis.

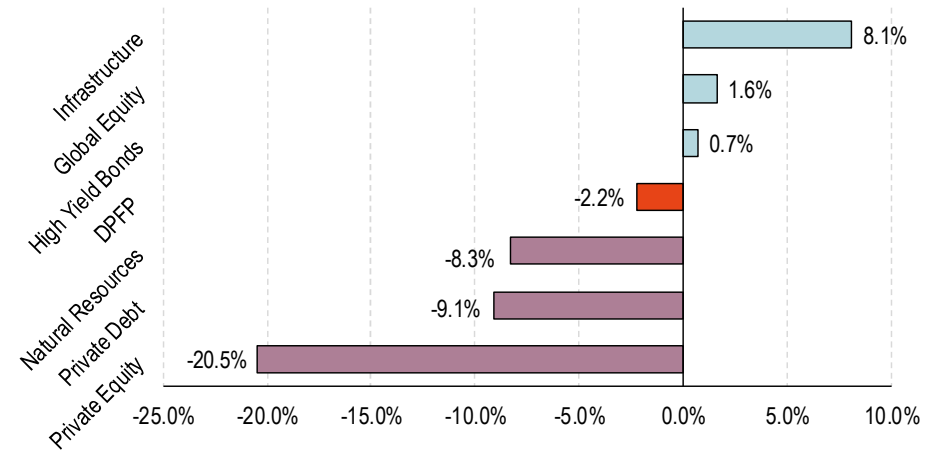


Trailing Three-Year Relative Performance

Asset Classes vs. Benchmarks



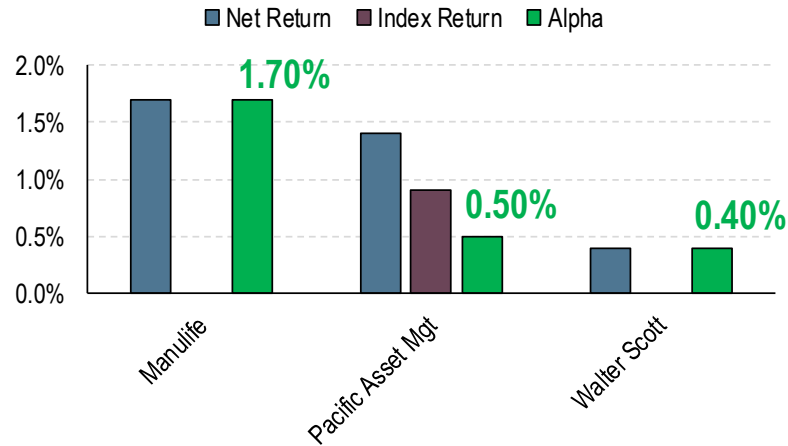
Top Three and Bottom Three Asset Classes vs. Benchmarks



- Six of the eleven asset classes with trailing three-year return history have delivered positive relative performance versus respective benchmarks.
- Over the trailing three-year period, the best relative performance came from infrastructure, global equity and high yield bonds.
- Private equity, private debt and natural resources had the worst relative performance over the three-year trailing period.

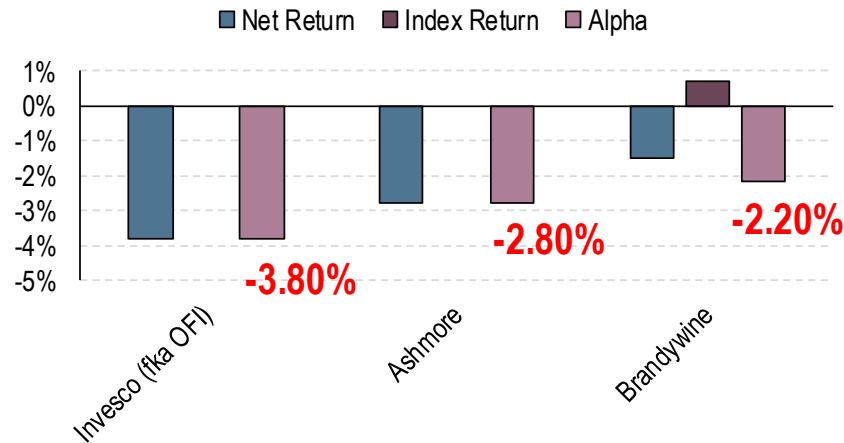
Public Manager Alpha

**Top Three
Outperformers in
Quarter**



\$280 million
combined
exposure

**Bottom Three
Underperformers in
Quarter**



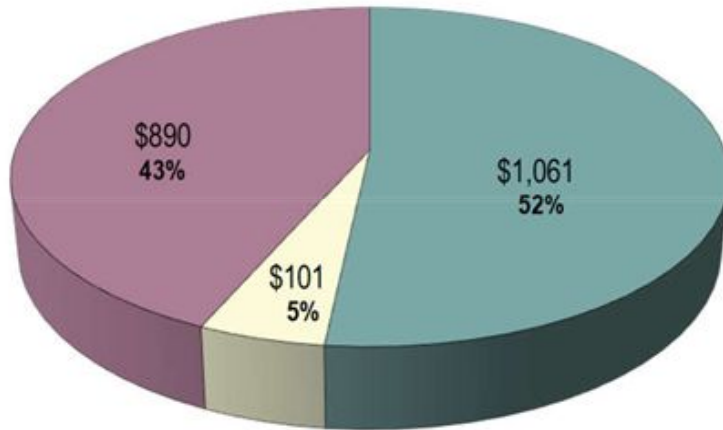
\$203 million
combined
exposure



Liquidity Exposure as of September 30, 2019

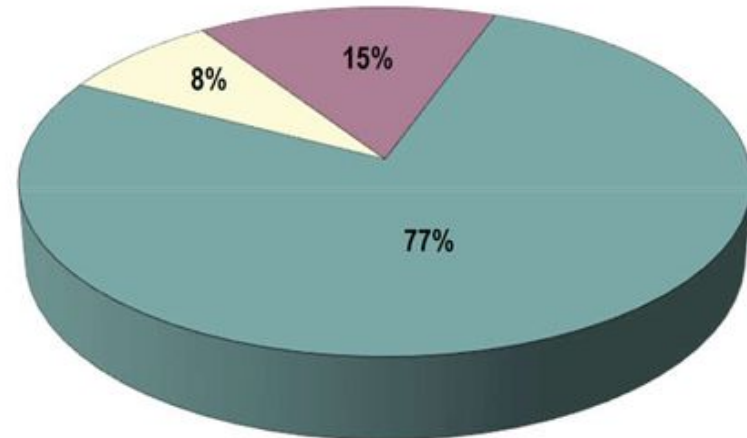
Exposure (\$mm)

■ Daily or Weekly □ Monthly ■ Illiquid



Targets

■ Daily or Weekly □ Monthly ■ Illiquid

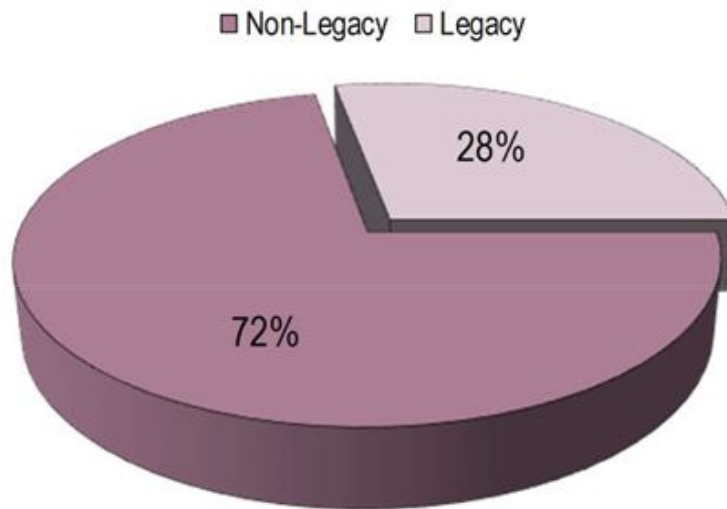


- Approximately 43% of the System’s assets are illiquid versus 15% of the target allocation.

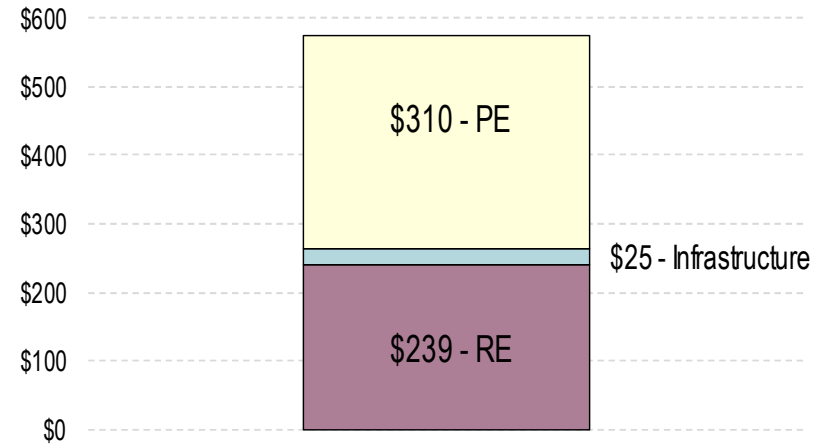
* Assets can be redeemed between monthly and annual basis often with gating, lock-ups or notice of more than 30 days required.



Legacy Assets



Exposure (\$ mm)

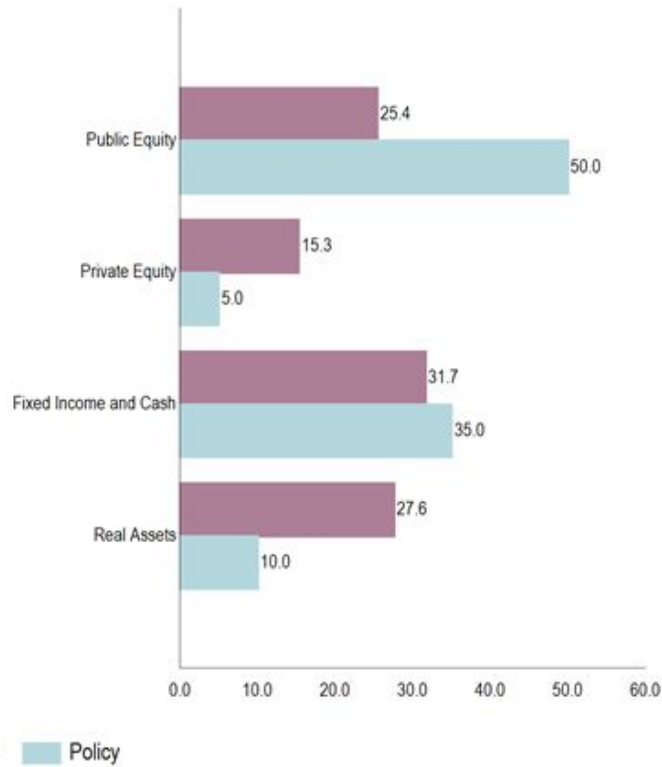


\$574 million
Net Asset Value of Legacy Assets

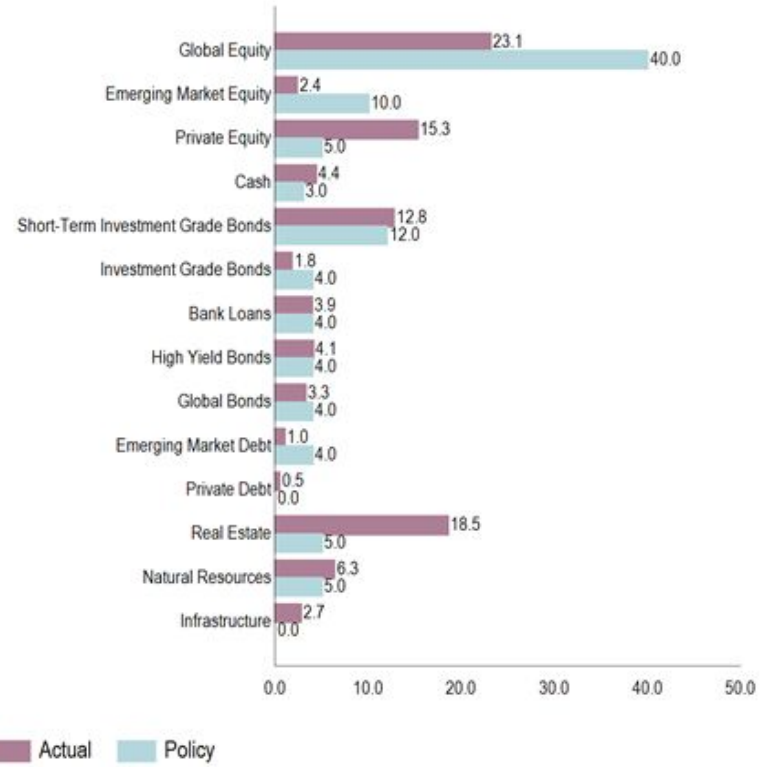


3Q19 Review

Asset Category
Actual vs Target Allocation (%)
As of September 30, 2019



Asset Classes
Actual vs Target Allocation (%)
As of September 30, 2019

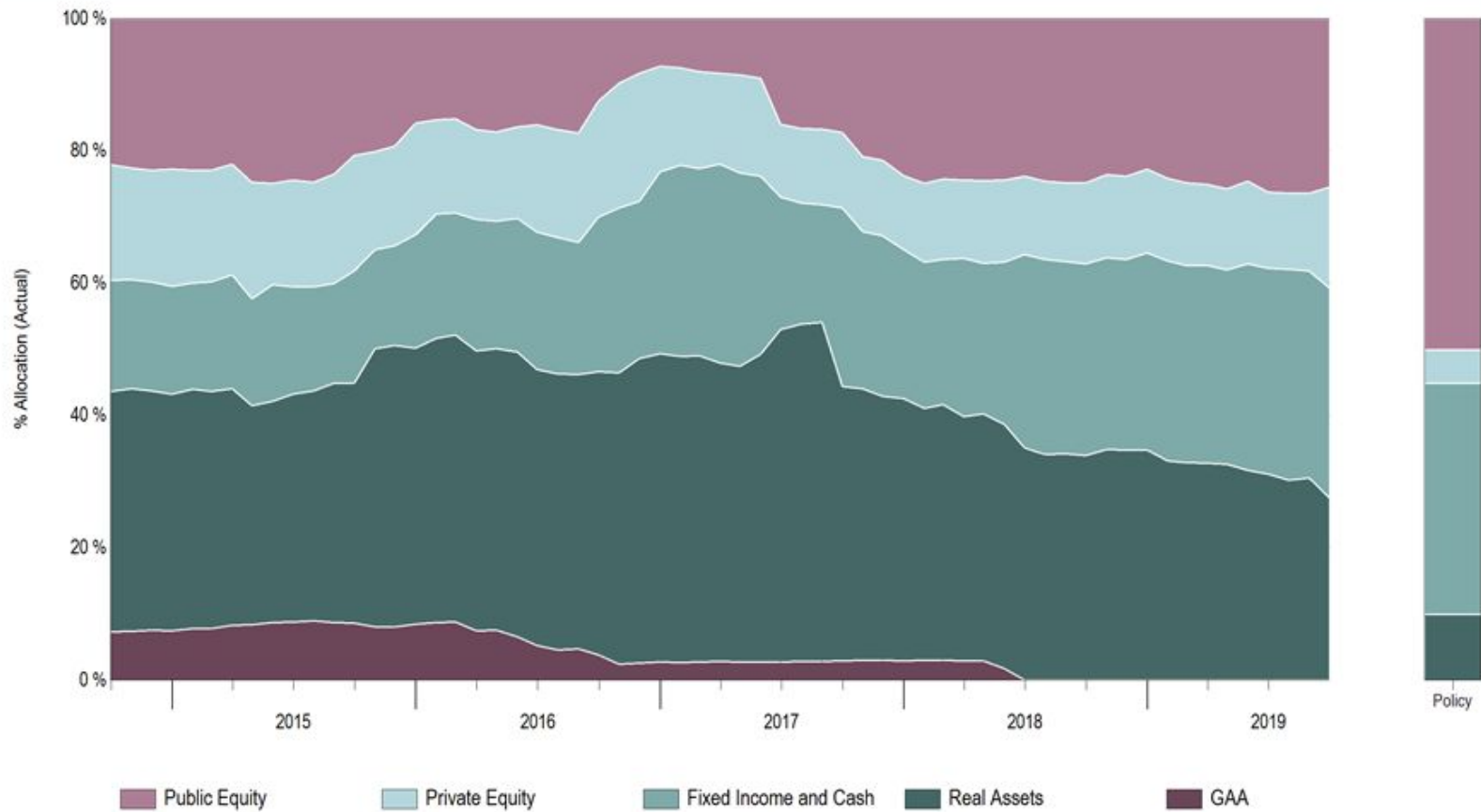


As of September 30, 2019

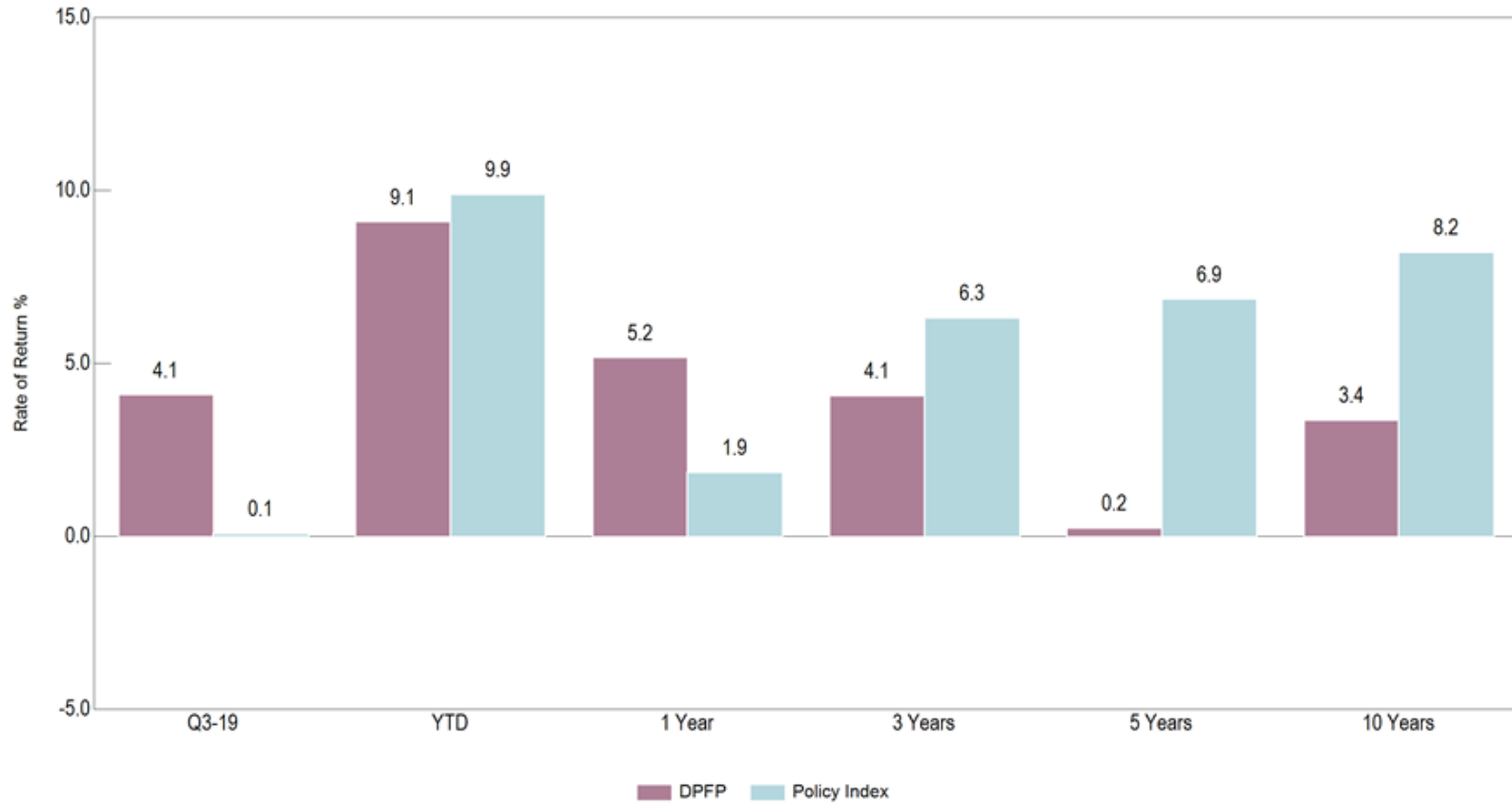
Allocation vs. Targets and Policy					
	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Equity	\$835,669,923	41%	55%		
Global Equity	\$473,766,806	23%	40%	18% - 48%	Yes
Emerging Market Equity	\$48,313,408	2%	10%	0% - 12%	Yes
Private Equity	\$313,589,709	15%	5%		
Fixed Income and Cash	\$649,404,340	32%	35%		
Cash	\$89,679,516	4%	3%	0% - 5%	Yes
Short-Term Investment Grade Bonds	\$261,582,683	13%	12%	5% - 15%	Yes
Investment Grade Bonds	\$36,706,556	2%	4%	2% - 6%	No
Bank Loans	\$80,511,192	4%	4%	2% - 6%	Yes
High Yield Bonds	\$83,880,156	4%	4%	2% - 6%	Yes
Global Bonds	\$66,941,579	3%	4%	2% - 6%	Yes
Emerging Market Debt	\$20,537,798	1%	4%	2% - 6%	No
Private Debt	\$9,564,860	0%	0%		
Real Assets	\$566,358,857	28%	10%		
Real Estate	\$380,103,520	19%	5%		
Natural Resources	\$130,193,631	6%	5%		
Infrastructure	\$56,061,706	3%	0%		
Total	\$2,051,433,119	100%	100%		

As of 9/30/2019, the Safety Reserve exposure was approximately \$351.3 million (17.1%).
 Rebalancing ranges are not established for illiquid assets (Private Equity, Private Debt, Natural Resources, Infrastructure and Real Estate)

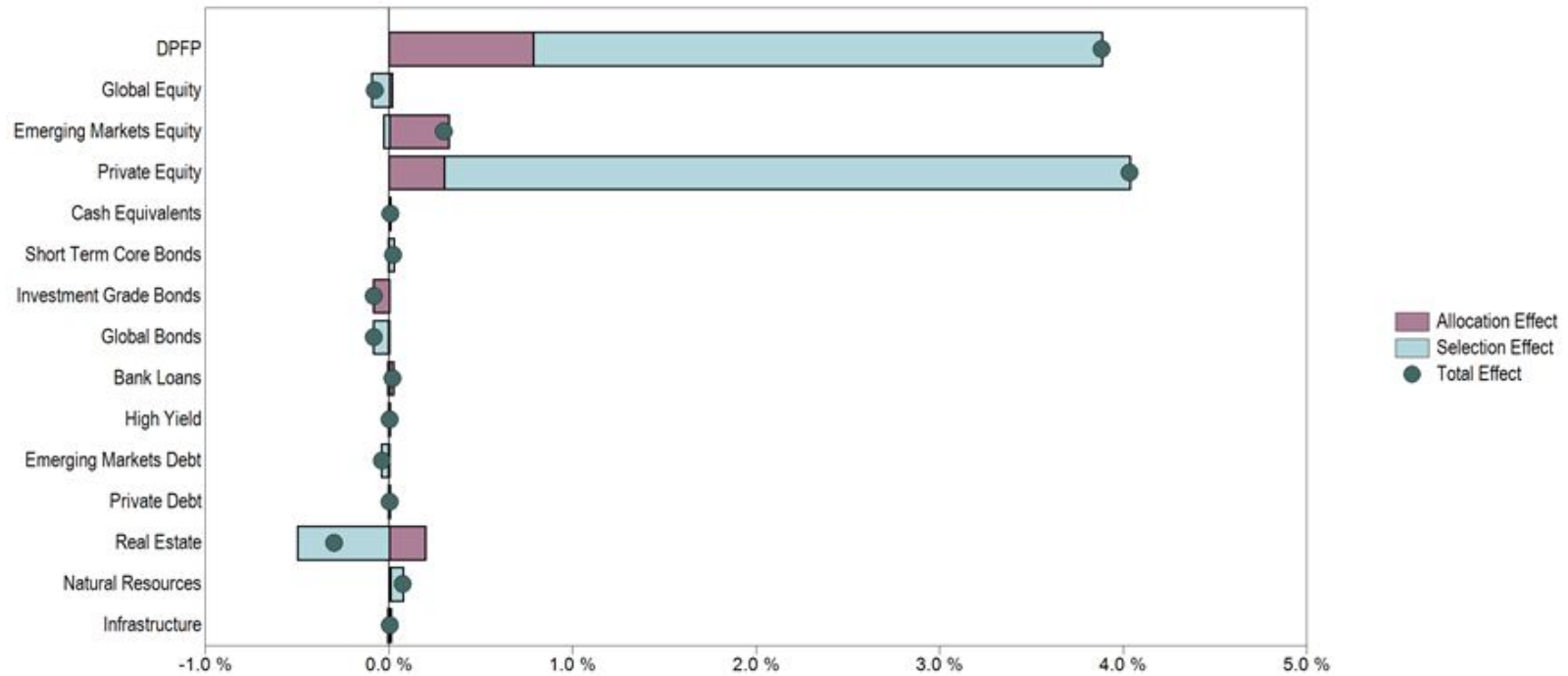
Asset Allocation History vs. Policy
5 Years Ending September 30, 2019



Net Return Summary
Ending September 30, 2019



Attribution Effects vs. Policy Benchmark
3 Months Ending September 30, 2019



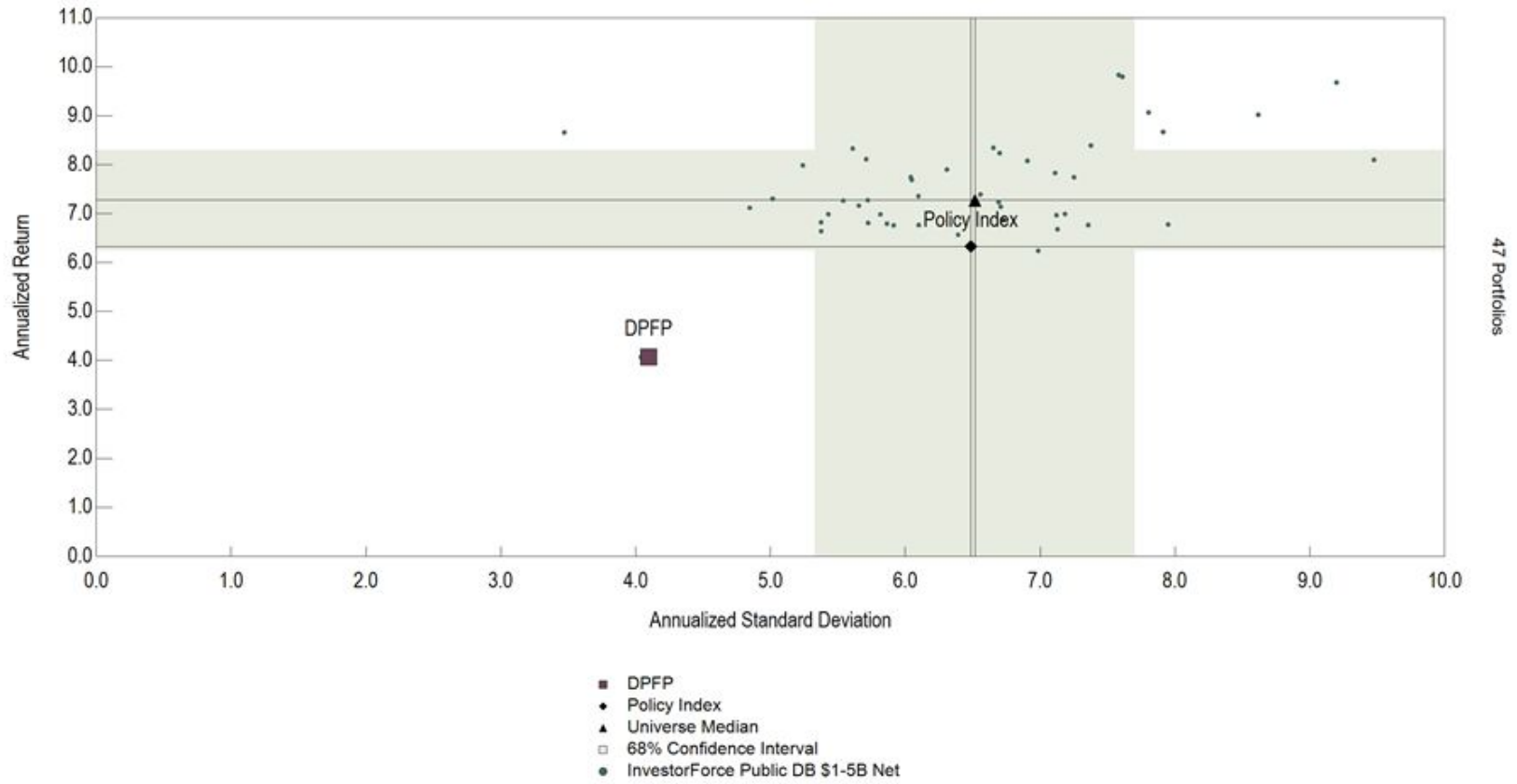
Attribution Summary
3 Months Ending September 30, 2019

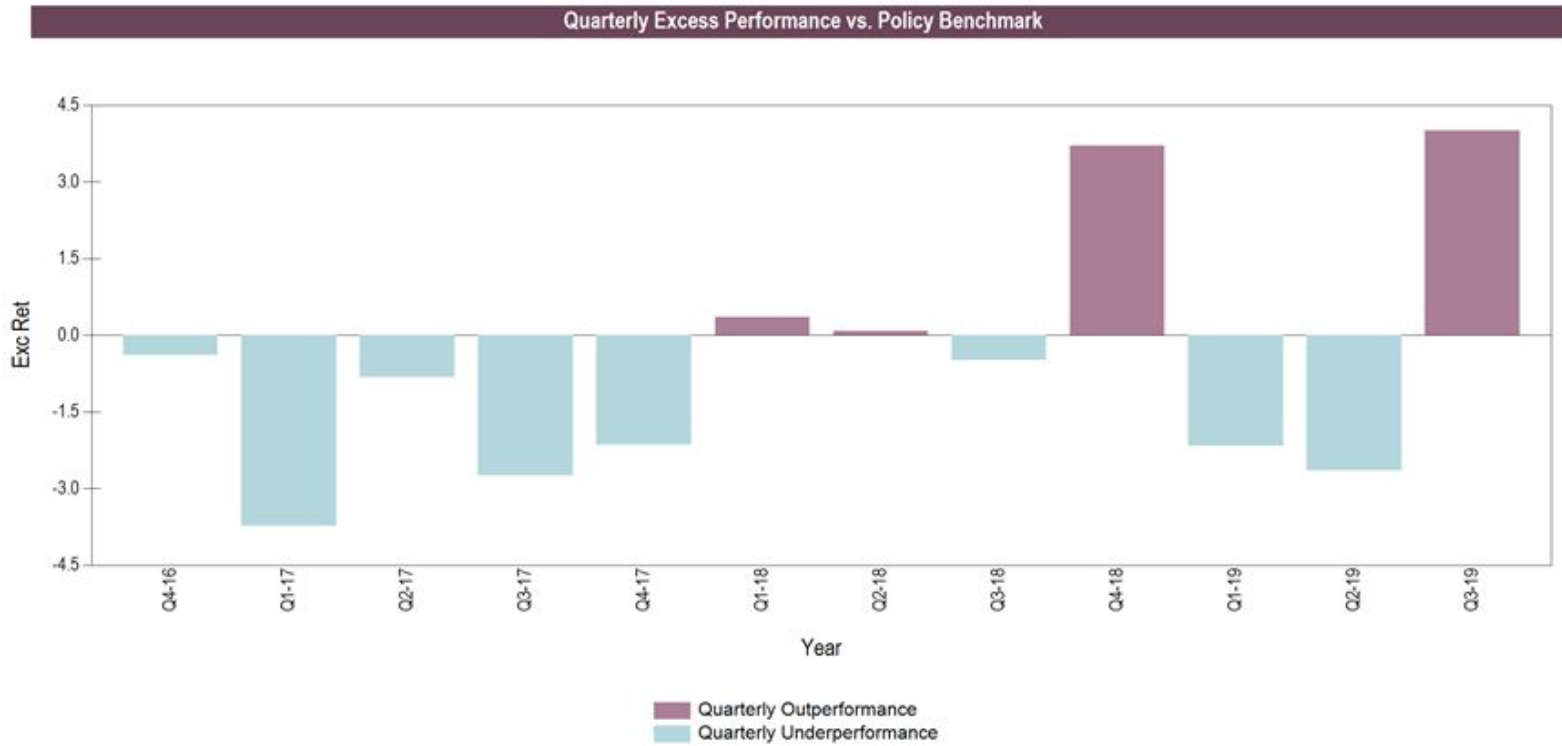
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	4.1%	0.2%	3.9%	3.1%	0.8%	3.9%

The performance calculation methodology in attribution tables is different from the standard time weighted returns (geometric linkage of monthly returns) found throughout the rest of the report. In attribution tables, the average weight of each asset class (over the specified time period) is multiplied by the time period performance of that asset class and summed. Values may not foot due to rounding.



**Net Annualized Return vs. Annualized Standard Deviation
3 Years Ending September 30, 2019**





Total Fund Correlation Matrix
1 Year Ending September 30, 2019

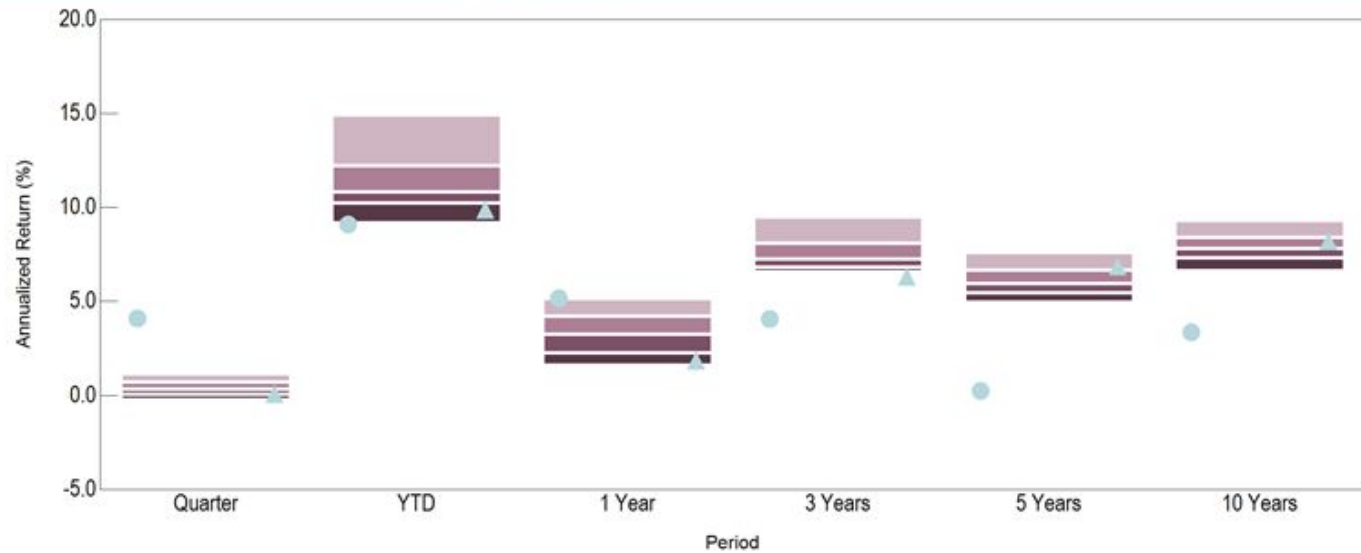
	DPFP	Policy Index	60% MSCI ACWI/40% Barclays Global Agg
DPFP	1.00	-	-
Policy Index	0.73	1.00	-
60% MSCI ACWI/40% Barclays Global Agg	0.67	0.99	1.00

Total Fund Correlation Matrix
3 Years Ending September 30, 2019

	DPFP	Policy Index	60% MSCI ACWI/40% Barclays Global Agg
DPFP	1.00	-	-
Policy Index	0.70	1.00	-
60% MSCI ACWI/40% Barclays Global Agg	0.65	0.97	1.00



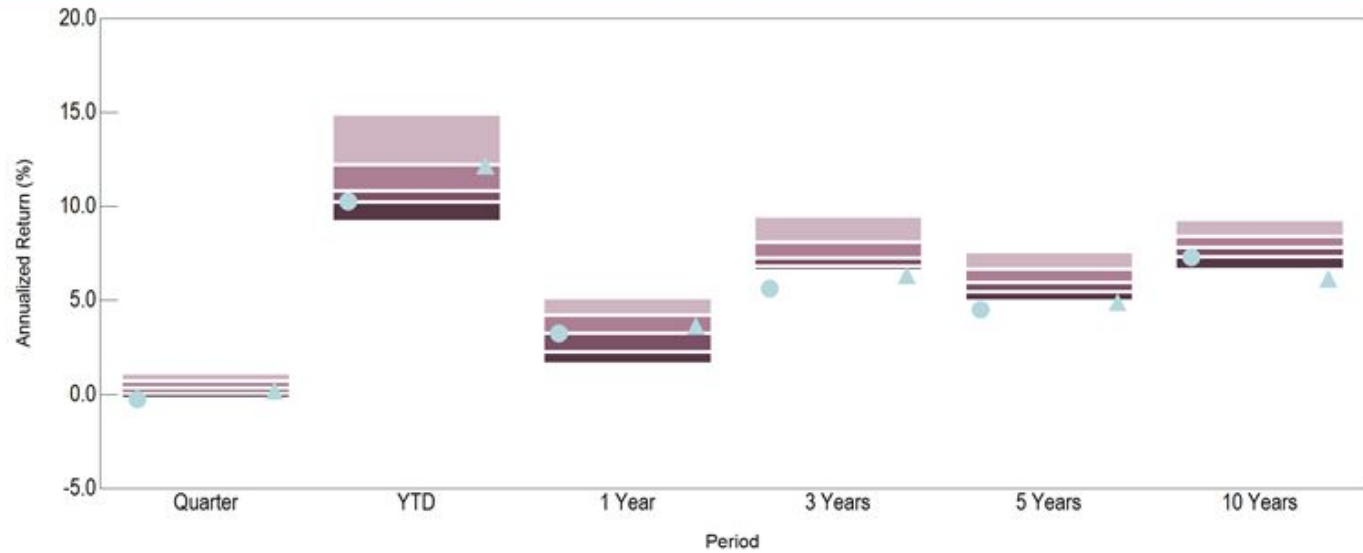
**Total Plan vs. InvestorForce Public DB \$1-5B Net Accounts
Ending September 30, 2019**



	Return (Rank)		Quarter		YTD		1 Year		3 Years		5 Years		10 Years	
5th Percentile			1.1	(1)	14.9	(98)	5.2	(5)	9.5	(99)	7.6	(99)	9.3	(99)
25th Percentile			0.7	(76)	12.2	(81)	4.2	(89)	8.1	(98)	6.7	(20)	8.4	(30)
Median			0.4		10.9		3.3		7.3		6.0		7.9	
75th Percentile			0.1		10.2		2.3		6.8		5.5		7.3	
95th Percentile			-0.2		9.2		1.6		6.6		5.0		6.7	
# of Portfolios			47		47		47		47		46		42	
● DPFP			4.1	(1)	9.1	(98)	5.2	(5)	4.1	(99)	0.2	(99)	3.4	(99)
▲ Policy Index			0.1	(76)	9.9	(81)	1.9	(89)	6.3	(98)	6.9	(20)	8.2	(30)



Total Plan ex Privates vs. InvestorForce Public DB \$1-5B Net Accounts
As of September 30, 2019



	Return (Rank)											
5th Percentile	1.1	14.9	5.2	9.5	7.6	9.3						
25th Percentile	0.7	12.2	4.2	8.1	6.7	8.4						
Median	0.4	10.9	3.3	7.3	6.0	7.9						
75th Percentile	0.1	10.2	2.3	6.8	5.5	7.3						
95th Percentile	-0.2	9.2	1.6	6.6	5.0	6.7						
# of Portfolios	47	47	47	47	46	42						
● Total Fund ex Privates	-0.3	(97)	10.3	(74)	3.2	(51)	5.6	(99)	4.5	(98)	7.3	(79)
▲ 60% MSCI ACWI IMI Net/40% Barclays Global	0.2	(71)	12.2	(26)	3.7	(40)	6.4	(98)	4.9	(97)	6.2	(97)



As of September 30, 2019

Asset Class Performance Summary (Net)

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
DPFP	2,051,433,119	100.0	4.1	9.1	5.2	4.1	0.2	3.4	5.9	Jun-96
<i>Policy Index</i>			0.1	9.9	1.9	6.3	6.9	8.2	--	Jun-96
<i>Allocation Index</i>			1.0	8.0	3.0	6.7	7.1	7.9	7.2	Jun-96
<i>Total Fund Ex Private Markets</i>			-0.3	10.3	3.2	5.6	4.5	7.3	5.4	Jun-96
<i>60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index</i>			0.2	12.2	3.7	6.4	4.9	6.2	6.0	Jun-96
Global Equity	473,766,806	23.1	-0.3	18.1	2.1	11.0	8.3	9.5	6.4	Jul-06
<i>MSCI ACWI IMI Net USD</i>			-0.2	15.9	0.5	9.4	6.6	8.4	5.9	Jul-06
Emerging Markets Equity	48,313,408	2.4	-5.1	7.2	3.3	--	--	--	-2.2	Jan-18
<i>MSCI Emerging Market IMI Net</i>			-4.3	5.4	-2.4	5.4	2.0	3.4	-6.1	Jan-18
Private Equity	313,589,709	15.3	36.5	25.2	24.2	-4.9	-6.4	-0.7	1.0	Oct-05
<i>Cambridge Associates US All PE (1 Qtr Lag)</i>			4.7	8.0	12.0	15.6	11.7	14.7	12.9	Oct-05
Cash Equivalents	89,679,516	4.4	0.6	1.8	2.4	1.6	--	--	1.5	Apr-15
<i>91 Day T-Bills</i>			0.5	1.7	2.3	1.5	1.0	0.5	1.1	Apr-15
Short Term Core Bonds	261,582,683	12.8	0.8	3.7	4.7	--	--	--	2.5	Jun-17
<i>BBgBarc US Treasury 1-3 Yr TR</i>			0.6	3.1	4.4	1.5	1.3	1.2	2.0	Jun-17
Investment Grade Bonds	36,706,556	1.8								
<i>BBgBarc US Aggregate TR</i>			2.3	8.5	10.3	2.9	3.4	3.7	8.8	Aug-18
Global Bonds	66,941,579	3.3	-1.5	5.1	3.8	1.9	1.8	--	2.7	Dec-10
<i>BBgBarc Global Aggregate TR</i>			0.7	6.3	7.6	1.6	2.0	2.3	2.1	Dec-10
Bank Loans	80,511,192	3.9	0.9	5.9	2.7	4.8	4.1	--	4.1	Jan-14
<i>S&P/LSTA Leveraged Loan</i>			1.0	6.8	3.1	4.5	4.0	--	3.8	Jan-14
High Yield	83,880,156	4.1	-0.6	5.7	-0.4	5.5	3.2	--	6.0	Dec-10
<i>BBgBarc Global High Yield TR</i>			-0.7	8.8	5.0	4.8	4.5	7.4	6.2	Dec-10
Emerging Markets Debt	20,537,798	1.0	-2.8	7.0	6.5	3.8	3.3	--	3.5	Dec-10
<i>50% JPM EMBI/50% JPM GBI-EM</i>			0.4	10.4	10.9	3.9	3.1	--	3.5	Dec-10
Private Debt	9,564,860	0.5	0.8	2.3	0.9	-2.2	--	--	-2.1	Jan-16
<i>Barclays Global High Yield +2%</i>			-0.2	10.4	7.1	6.9	--	--	9.8	Jan-16

¹ Please see the Appendix for composition of the Custom Benchmarks. ² As of 9/30/2019, the Safety Reserve exposure was approximately \$351.3 million (17.1%). ³ All private market data is one quarter lagged, unless otherwise noted.



Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Asset Class Performance Summary (Net)

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate	380,103,520	18.5	-0.9	0.3	0.9	4.2	-6.3	-3.5	3.7	Mar-85
<i>NCREIF Property (1-quarter lagged)</i>			1.5	4.8	6.5	6.9	8.8	9.3	8.1	Mar-85
Natural Resources	130,193,631	6.3	1.7	5.4	4.3	-2.0	1.4	--	4.1	Dec-10
<i>NCREIF Farmland Total Return Index 1Q Lag</i>			0.7	4.3	5.7	6.3	8.0	11.1	11.9	Dec-10
Infrastructure	56,061,706	2.7	0.4	-2.8	-6.0	16.1	7.1	--	6.8	Jul-12
<i>S&P Global Infrastructure TR USD</i>			0.6	20.8	14.6	8.0	5.8	7.8	8.6	Jul-12

All private market data is one quarter lagged, unless otherwise noted.



Prepared by Meketa Investment Group

As of September 30, 2019

Trailing Net Performance

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
DPFP	2,051,433,119	100.0	--	4.1	9.1	5.2	4.1	0.2	3.4	5.9	Jun-96
<i>Policy Index</i>				0.1	9.9	1.9	6.3	6.9	8.2	--	Jun-96
<i>Allocation Index</i>				1.0	8.0	3.0	6.7	7.1	7.9	7.2	Jun-96
<i>Total Fund Ex Private Markets</i>				-0.3	10.3	3.2	5.6	4.5	7.3	5.4	Jun-96
<i>60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index</i>				0.2	12.2	3.7	6.4	4.9	6.2	6.0	Jun-96
<i>InvestorForce Public DB \$1-5B Net Rank</i>				1	98	5	99	99	99	82	Jun-96
Total Equity	835,669,923	40.7	40.7	10.6	19.9	9.5	1.0	2.1	--	5.1	Dec-10
<i>MSCI ACWI IMI Net USD</i>				-0.2	15.9	0.5	9.4	6.6	8.4	7.5	Dec-10
Public Equity	522,080,214	25.4	62.5	-0.7	17.0	2.2	10.6	8.0	9.4	6.3	Jul-06
<i>MSCI ACWI IMI Net USD</i>				-0.2	15.9	0.5	9.4	6.6	8.4	5.9	Jul-06
<i>eV All Global Equity Net Rank</i>				60	47	40	30	33	43	41	Jul-06
Global Equity	473,766,806	23.1	90.7	-0.3	18.1	2.1	11.0	8.3	9.5	6.4	Jul-06
<i>MSCI ACWI IMI Net USD</i>				-0.2	15.9	0.5	9.4	6.6	8.4	5.9	Jul-06
<i>eV All Global Equity Net Rank</i>				51	39	40	26	30	40	39	Jul-06
<i>Boston Partners Global Equity Fund</i>	119,473,739	5.8	25.2	0.4	11.7	-4.8	--	--	--	3.1	Jul-17
<i>MSCI World Net</i>				0.5	17.6	1.8	10.2	7.2	9.0	7.9	Jul-17
<i>eV Global Large Cap Value Eq Net Rank</i>				47	61	78	--	--	--	64	Jul-17
<i>Manulife Global Equity Strategy</i>	120,848,508	5.9	25.5	1.7	21.9	8.2	--	--	--	7.1	Jul-17
<i>MSCI ACWI Net</i>				0.0	16.2	1.4	9.7	6.7	8.3	7.2	Jul-17
<i>eV Global Large Cap Value Eq Net Rank</i>				15	1	1	--	--	--	13	Jul-17
<i>Invesco (fka OFI) Global Equity</i>	115,255,884	5.6	24.3	-3.8	17.3	-1.8	12.0	7.9	10.1	5.9	Oct-07
<i>MSCI ACWI Net</i>				0.0	16.2	1.4	9.7	6.7	8.3	4.1	Oct-07
<i>eV Global Large Cap Growth Eq Net Rank</i>				93	87	89	73	84	74	65	Oct-07
<i>Walter Scott Global Equity Fund</i>	118,188,675	5.8	24.9	0.4	20.8	6.3	13.6	9.9	--	9.9	Dec-09
<i>MSCI ACWI Net</i>				0.0	16.2	1.4	9.7	6.7	8.3	8.2	Dec-09
<i>eV Global Large Cap Growth Eq Net Rank</i>				36	65	49	39	34	--	70	Dec-09

¹60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index composed of 60% MSCI ACWI (Net)/ 40% Barclays Global Aggregate in periods before 2/1/1997.



As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets Equity	48,313,408	2.4	9.3	-5.1	7.2	3.3	--	--	--	-2.2	Jan-18
<i>MSCI Emerging Market IMI Net</i>				-4.3	5.4	-2.4	5.4	2.0	3.4	-6.1	Jan-18
<i>eV Emg Mkts Equity Net Rank</i>				82	57	22	--	--	--	10	Jan-18
RBC Emerging Markets Equity	48,313,408	2.4	100.0	-5.1	7.2	3.3	--	--	--	-2.2	Jan-18
<i>MSCI Emerging Market IMI Net</i>				-4.3	5.4	-2.4	5.4	2.0	3.4	-6.1	Jan-18
<i>eV Emg Mkts Equity Net Rank</i>				82	57	22	--	--	--	10	Jan-18
Private Equity	313,589,709	15.3	37.5	36.5	25.2	24.2	-4.9	-6.4	-0.7	1.0	Oct-05
<i>Cambridge Associates US All PE (1 Qtr Lag)</i>				4.7	8.0	12.0	15.6	11.7	14.7	12.9	Oct-05
Total Fixed Income	649,404,340	31.7	31.7	0.2	4.3	3.2	3.0	2.0	6.4	5.2	Jul-06
<i>BBgBarc Multiverse TR</i>				0.6	6.5	7.5	1.8	2.1	2.5	3.9	Jul-06
<i>eV All Global Fixed Inc Net Rank</i>				75	85	81	64	76	14	39	Jul-06
Cash Equivalents	89,679,516	4.4	13.8	0.6	1.8	2.4	1.6	--	--	1.5	Apr-15
<i>91 Day T-Bills</i>				0.5	1.7	2.3	1.5	1.0	0.5	1.1	Apr-15
Public Fixed Income	550,159,964	26.8	84.7	0.1	4.7	3.4	4.6	3.3	--	5.2	Dec-10
<i>BBgBarc Multiverse TR</i>				0.6	6.5	7.5	1.8	2.1	2.5	2.3	Dec-10
<i>eV All Global Fixed Inc Net Rank</i>				76	83	81	36	48	--	24	Dec-10
Short Term Core Bonds	261,582,683	12.8	47.5	0.8	3.7	4.7	--	--	--	2.5	Jun-17
<i>BBgBarc US Treasury 1-3 Yr TR</i>				0.6	3.1	4.4	1.5	1.3	1.2	2.0	Jun-17
IR&M 1-3 Year Strategy	261,582,683	12.8	100.0	0.8	3.7	4.7	--	--	--	2.5	Jul-17
<i>BBgBarc US Treasury 1-3 Yr TR</i>				0.6	3.1	4.4	1.5	1.3	1.2	2.0	Jul-17
<i>eV US Short Duration Fixed Inc Net Rank</i>				56	57	45	--	--	--	46	Jul-17
Investment Grade Bonds	36,706,556	1.8	6.7								
<i>BBgBarc US Aggregate TR</i>				2.3	8.5	10.3	2.9	3.4	3.7	8.8	Aug-18
Vanguard Total Bond Market Index Inst	36,706,556	1.8	100.0								
<i>BBgBarc US Aggregate TR</i>				2.3	8.5	10.3	2.9	3.4	3.7	--	Oct-19

¹ All Private Equity market values are one quarter lagged unless otherwise noted. Lone Star NAV as of 12/31/2018.



Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Global Bonds	66,941,579	3.3	12.2	-1.5	5.1	3.8	1.9	1.8	--	2.7	Dec-10
BBgBarc Global Aggregate TR				0.7	6.3	7.6	1.6	2.0	2.3	2.1	Dec-10
eV All Global Fixed Inc Net Rank				91	81	79	75	79	--	67	Dec-10
Brandywine Global Fixed Income	66,941,579	3.3	100.0	-1.5	5.1	3.8	1.9	1.6	4.4	4.5	Oct-04
BBgBarc Global Aggregate TR				0.7	6.3	7.6	1.6	2.0	2.3	3.6	Oct-04
eV All Global Fixed Inc Net Rank				91	81	79	75	84	46	57	Oct-04
Bank Loans	80,511,192	3.9	14.6	0.9	5.9	2.7	4.8	4.1	--	4.1	Jan-14
S&P/LSTA Leveraged Loan				1.0	6.8	3.1	4.5	4.0	--	3.8	Jan-14
eV US Float-Rate Bank Loan Fixed Inc Net Rank				68	75	61	10	29	--	11	Jan-14
Loomis Sayles Senior Rate and Fixed Income	39,671,717	1.9	49.3	0.5	4.9	1.9	4.5	3.9	--	4.0	Jan-14
S&P/LSTA Leveraged Loan				1.0	6.8	3.1	4.5	4.0	--	3.8	Jan-14
eV US Float-Rate Bank Loan Fixed Inc Net Rank				90	90	81	15	42	--	14	Jan-14
Pacific Asset Management Corporate (Bank) Loan Strategy	40,839,475	2.0	50.7	1.4	7.1	3.6	--	--	--	4.4	Aug-17
Credit Suisse Leveraged Loan				0.9	6.4	3.1	4.7	4.1	--	4.1	Aug-17
eV US Float-Rate Bank Loan Fixed Inc Net Rank				19	19	21	--	--	--	7	Aug-17
High Yield	83,880,156	4.1	15.2	-0.6	5.7	-0.4	5.5	3.2	--	6.0	Dec-10
BBgBarc Global High Yield TR				-0.7	8.8	5.0	4.8	4.5	7.4	6.2	Dec-10
eV Global High Yield Fixed Inc Net Rank				89	94	95	64	90	--	61	Dec-10
Loomis Sayles High Yield Fund	83,880,156	4.1	100.0	-0.6	5.7	-0.4	5.5	3.5	8.0	8.9	Oct-98
BBgBarc Global High Yield TR				-0.7	8.8	5.0	4.8	4.5	7.4	8.2	Oct-98
eV Global High Yield Fixed Inc Net Rank				89	94	95	63	85	11	26	Oct-98
Emerging Markets Debt	20,537,798	1.0	3.7	-2.8	7.0	6.5	3.8	3.3	--	3.5	Dec-10
50% JPM EMBI/50% JPM GBI-EM				0.4	10.4	10.9	3.9	3.1	--	3.5	Dec-10
eV All Emg Mkts Fixed Inc Net Rank				94	85	86	54	56	--	58	Dec-10
Ashmore EM Blended Debt	20,537,798	1.0	100.0	-2.8	7.0	6.5	--	--	--	1.3	Dec-17
Ashmore Blended Debt Benchmark				0.0	8.8	9.0	3.6	3.0	4.2	2.7	Dec-17
eV All Emg Mkts Fixed Inc Net Rank				94	85	86	--	--	--	67	Dec-17



Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Debt	9,564,860	0.5	1.5	0.8	2.3	0.9	-2.2	--	--	-2.1	Jan-16
<i>Barclays Global High Yield +2%</i>				-0.2	10.4	7.1	6.9	--	--	9.8	Jan-16
Total Real Assets	566,358,857	27.6	27.6	-0.2	1.3	1.2	5.4	-3.0	--	-1.8	Dec-10
<i>Total Real Assets Policy Index</i>				1.1	4.5	6.1	6.6	8.4	--	11.2	Dec-10
Real Estate	380,103,520	18.5	67.1	-0.9	0.3	0.9	4.2	-6.3	-3.5	3.7	Mar-85
<i>NCREIF Property (1-quarter lagged)</i>				1.5	4.8	6.5	6.9	8.8	9.3	8.1	Mar-85
Natural Resources	130,193,631	6.3	23.0	1.7	5.4	4.3	-2.0	1.4	--	4.1	Dec-10
<i>NCREIF Farmland Total Return Index 1Q Lag</i>				0.7	4.3	5.7	6.3	8.0	11.1	11.9	Dec-10
Infrastructure	56,061,706	2.7	9.9	0.4	-2.8	-6.0	16.1	7.1	--	6.8	Jul-12
<i>S&P Global Infrastructure TR USD</i>				0.6	20.8	14.6	8.0	5.8	7.8	8.6	Jul-12

¹ All Private Market market values are one quarter lagged unless otherwise noted.



Benchmark History
As of September 30, 2019

DPFP		
1/1/2019	Present	40% MSCI ACWI IMI Net USD / 10% MSCI Emerging Market IMI Net / 5% Cambridge Associates US All PE (1 Qtr Lag) / 12% BBgBarc US Treasury 1-3 Yr TR / 4% BBgBarc Global Aggregate TR / 4% BBgBarc Global High Yield TR / 4% BBgBarc US Aggregate TR / 4% S&P/LSTA Leveraged Loan / 4% 50% JPM EMBI/50% JPM GBI-EM / 5% NCREIF Farmland Total Return Index 1Q Lag / 5% NCREIF Property (1-quarter lagged) / 3% 91 Day T-Bills
10/1/2018	12/31/2018	40% MSCI ACWI Gross / 10% MSCI Emerging Markets Gross / 5% Private Equity Custom Benchmark / 12% BBgBarc US Treasury 1-3 Yr TR / 4% BBgBarc Global Aggregate TR / 4% BBgBarc Global High Yield TR / 4% S&P/LSTA Leveraged Loan / 4% BBgBarc US Aggregate TR / 4% 50% JPM EMBI/50% JPM GBI-EM / 5% Natural Resources Benchmark (Linked) / 5% NCREIF Property Index / 3% 91 Day T-Bills
4/1/2016	9/30/2018	20% MSCI ACWI Gross / 5% MSCI Emerging Markets Gross / 5% Private Equity Custom Benchmark / 2% BBgBarc US Treasury 1-3 Yr TR / 3% BBgBarc Global Aggregate TR / 5% BBgBarc Global High Yield TR / 6% S&P/LSTA Leveraged Loan / 6% HFRI RV: FI (50/50-ABS/Corp) / 6% 50% JPM EMBI/50% JPM GBI-EM / 5% Barclays Global High Yield +2% / 5% 60% MSCI ACWI/40% Barclays Global Agg / 3% 60% MSCI ACWI/40% Barclays Global Agg / 2% HFRX Absolute Return Index / 5% Natural Resources Benchmark (Linked) / 5% S&P Global Infrastructure TR USD / 12% NCREIF Property Index / 3% CPI + 5% (Seasonally Adjusted) / 2% 91 Day T-Bills
4/1/2014	3/31/2016	15% MSCI ACWI / 15% S&P 500 + 2% / 10% Total Global Natural Resources Custom Benchmark / 15% BBgBarc Global Aggregate TR / 20% CPI + 5% (Seasonally Adjusted) / 10% CPI + 5% (Seasonally Adjusted) / 15% NCREIF Property Index
1/1/2014	3/31/2014	15% MSCI ACWI / 15% Private Markets / 10% Total Global Natural Resources Custom Benchmark / 15% BBgBarc Global Aggregate TR / 20% CPI + 5% (Seasonally Adjusted) / 10% Infrastructure / 15% Real Estate
Ashmore EM Blended Debt		
12/1/2017	Present	50% JP Morgan EMBI Global Diversified / 25% JPM ELMI+ TR USD / 25% JP Morgan GBI EM Global Diversified TR USD
Total Real Assets		
12/31/2010	Present	50% NCREIF Property (1-quarter lagged) / 50% NCREIF Farmland Total Return Index 1Q Lag



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Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta*(market return-Risk Free Rate)].

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that



is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Sources: [Investment Terminology](#), International Foundation of Employee Benefit Plans, 1999.
[The Handbook of Fixed Income Securities](#), Fabozzi, Frank J., 1991.



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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

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