



Monthly Risk-Return Report As of September 30, 2016

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Based on actual BNY Mellon data through August 2016 and preliminary data for September 2016



Asset Allocation and Policy Guidelines

As of September 30, 2016

Asset Class	Assets and Allocation		Policy Target	Minimum Target	Maximum Target	Difference	
	\$ (MM)	%				From Policy Target	Within Target?
Total Public Markets Equity	4,870	44.5%	45.0%	42.0%	48.0%	-0.5%	Yes
Global Equity	653	6.0%	3.0%	0.0%	6.0%	3.0%	Yes
US Equity	1,618	14.8%	18.0%	13.0%	23.0%	-3.2%	Yes
Non-US Equity Developed	1,548	14.1%	15.0%	12.0%	18.0%	-0.9%	Yes
Non-US Equity Emerging	1,051	9.6%	9.0%	6.0%	11.0%	0.6%	Yes
Fixed Income	2,906	26.5%	24.0%	21.0%	27.0%	2.5%	Yes
Alternative Beta/Oppportunistic/Other	804	7.3%	8.0%	7.0%	9.0%	-0.7%	Yes
Total Private Assets	2,372	21.7%	23.0%	10.0%	N/A	-1.3%	Yes
Real Estate	914	8.3%	9.0%	5.0%	N/A	-0.7%	Yes
Private Equity	791	7.2%	8.0%	3.0%	N/A	-0.8%	Yes
Private Real Assets	668	6.1%	6.0%	3.0%	N/A	0.1%	Yes
Total Invested	10,952	100.0%					



Portfolio and Benchmark Returns

As of September 30, 2016

	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years
SDCERA Total Trust Fund	0.6%	3.7%	3.7%	6.5%	8.3%	5.6%	7.8%
Actuarial Rate of Return	0.6%	1.8%	1.8%	5.6%	7.4%	7.6%	7.8%
SDCERA Policy Benchmark	0.6%	3.7%	3.7%	6.3%	9.8%	5.2%	7.4%
Balanced Benchmark	0.5%	4.0%	4.0%	6.8%	10.3%	5.0%	8.7%
SDCERA Public Markets	0.5%	4.7%	4.7%	8.0%	10.6%	4.8%	10.1%
Balanced Benchmark	0.5%	4.0%	4.0%	6.8%	10.3%	5.0%	8.7%
Equities							
Global Equity	0.6%	5.4%	5.4%	6.9%	12.4%	6.1%	11.5%
MSCI ACWI IMI	0.7%	5.6%	5.6%	7.0%	12.3%	5.2%	10.9%
US Equity	0.3%	4.7%	4.7%	8.2%	14.5%	7.8%	12.6%
MSCI USA IMI	0.1%	4.3%	4.3%	7.8%	14.5%	9.9%	15.7%
Non-US Equity Developed	1.3%	6.7%	6.7%	2.1%	7.7%		
MSCI EAFE	1.5%	6.7%	6.7%	2.2%	7.3%		
Non-US Emerging	1.2%	8.4%	8.4%	16.9%	17.4%	-0.5%	4.0%
MSCI Emerging Markets	1.3%	8.8%	8.8%	15.0%	16.2%	-0.3%	3.2%
Total Public Markets Equity	0.8%	6.2%	6.2%	7.6%	12.3%	4.0%	15.5%
MSCI ACWI IMI	0.7%	5.6%	5.6%	7.0%	12.3%	5.2%	10.9%
Fixed Income							
Fixed Income	-0.2%	1.7%	1.7%	9.6%	9.5%	4.8%	8.6%
Barclay's US Intermediate Aggregate	0.2%	0.3%	0.3%	4.1%	3.6%	3.1%	2.6%
Alternative Beta/Oppportunistic/Other/HF							
Hedgefunds and Relative Value	0.5%	1.7%	1.7%	-3.0%	-2.2%	3.8%	4.2%
Managed Futures	-1.6%	-0.3%	-0.3%	3.8%	5.6%	9.4%	5.9%
US T-Bills Plus 500 basis points	0.4%	1.3%	1.3%	3.9%	5.2%	5.1%	5.1%
Private Assets							
<i>The industry standard is to present private asset returns with a quarterly lag</i>							
Real Estate	2.3%	2.8%	2.8%	9.1%	9.1%	13.4%	
NCREIF ODCE Plus 50 basis Points	0.7%	2.0%	2.0%	6.3%	9.7%	12.0%	
Private Equity	0.3%	3.1%	3.1%	7.8%	7.1%	11.2%	13.5%
MSCI ACWI IMI Plus 200 Basis Points	0.9%	6.1%	6.1%	8.6%	14.5%	7.3%	13.1%
Private Real Assets	0.6%	2.5%	2.5%	-0.4%	-1.0%	4.1%	4.7%
MSCI ACWI IMI Plus 200 Basis Points	0.9%	6.1%	6.1%	8.6%	14.5%	7.3%	13.1%

Please note: The MSCI EAFE (3 yr & 5 yr) and Real Estate (5 yr) returns are blank because the current composite returns calculated by BNY Mellon do not cover these time periods. The SDCERA Benchmark is before fees and includes an unattainable benchmark index of Global Stocks + 2% for the private market assets and NCREIF ODCE plus 50 basis points for Real Estate.



Portfolio Risk and Tracking Error

As of September 30, 2016	7/31/16 Trailing three years	8/31/16 Trailing three years	9/30/16 Trailing three years			
Total Trust Fund	Volatility	Tracking Error	Volatility	Tracking Error	Volatility	Tracking Error
SDCERA Total Trust Fund Assets	5.6%	N/A	5.5%	N/A	5.3%	N/A
SDCERA Policy Benchmark	6.6%	1.8%	6.5%	1.9%	6.2%	1.8%
	Forecasted	Forecasted	Forecasted	Forecasted	Forecasted	Forecasted
Total Trust Fund	Volatility	Tracking Error	Volatility	Tracking Error	Volatility	Tracking Error
SDCERA Total Trust Fund Assets						
SDCERA Policy Benchmark						
Balanced Benchmark	9.6%		9.2%		8.7%	
SDCERA Public-Only Assets	8.2%	N/A	8.0%	N/A	7.6%	N/A
SDCERA Public Benchmark	8.3%	0.8%	8.0%	0.8%	7.4%	0.8%
Equities						
Global Equity	13.5%		13.1%		12.3%	
MSCI ACWI IMI	13.7%	0.6%	13.2%	0.6%	12.3%	0.6%
US Equity	10.9%		10.6%		10.0%	
MSCI USA IMI	12.6%	1.2%	12.1%	1.2%	11.5%	1.1%
Non-US Equity Developed	15.6%		15.0%		14.3%	
MSCI EAFE	15.4%	0.9%	14.8%	0.9%	14.1%	0.9%
Non-US Emerging	19.2%		18.8%		17.6%	
MSCI Emerging Markets	18.8%	1.0%	18.4%	1.0%	17.1%	1.0%
Fixed Income						
Fixed Income	3.6%		3.7%		3.6%	
Barclay's US Intermediate Aggregate	1.9%	1.7%	1.9%	1.7%	1.9%	1.5%
Alternative Beta/Opportunistic/Other/HF						
Alternative Beta/Opportunistic/Other/HF	3.9%		3.8%		3.8%	
50% Barclays CTA, 50% HFRI Macro	4.1%	3.6%	4.1%	3.6%	4.1%	3.5%
Private Assets						
Real Estate					3.5%	
NCREIF ODCE + 50 bps					4.6%	
Private Equity					13.1%	
MSCI ACWI IMI + 200 bps					12.3%	
Private Real Assets					12.5%	
MSCI ACWI IMI + 200 bps					12.3%	

The forecasted volatilities and tracking errors for the private markets assets and the total Trust Fund are intentionally left blank for this report. The transition to the risk model of the new General Consultant, AON Hewitt, is in process and scheduled to be completed for the full portfolio review in November.



Allocation Changes (millions)

Public Markets Portfolio Changes in September 2016

Portfolio %		Portfolio \$ millions		Summary Comments
Begin	End	Begin	End	

Private Market Portfolio Changes in September 2016

Portfolio %		Portfolio \$ millions		Summary Comments
Begin	End	Begin	End	

Benchmarks

- The actuarial rate of return represents the long-term return assumption adopted by the Board of Retirement based on the analysis provided by SDCERA's actuary. SDCERA's actuarial rate of return is 7.5 percent.
- The SDCERA Policy benchmark is composed as follows: 45% MSCI ACWI IMI, 24% Barclays US Intermediate Aggregate Index, 8% US T-Bills, 23% SDCERA Private Asset Benchmark.
- The SDCERA Balanced benchmark is composed of 70% MSCI ACWI IMI index and 30% Barclay's U.S. Aggregate index – this is an investable index and represents an alternative to asset allocation and to active managers.
- The Total Public Markets Equity Benchmark is the MSCI ACWI IMI Index.
- The Global Equity Benchmark is the MSCI ACWI IMI Index.
- The US Equity Benchmark is the MSCI USA IMI Stock Market Index.
- The Non-US Equity (Developed) Benchmark is the MSCI EAFE IMI Index.
- The Non-US Equity Emerging Markets Benchmark is the MSCI Emerging Markets IMI Index.
- The Total Fixed Income Benchmark is the Barclay's U.S. Intermediate Aggregate Index and is a broad based benchmark that measures the investment grade, U.S. fixed-rate, and taxable bond market.
- The Alternative Beta/ Opportunistic/Other Benchmark is the T-Bills plus 500 basis points.
- The Total Private Assets Benchmark is composed of 1/3 NCREIF and 2/3 MSCI ACWI IMI index plus 200 basis points.
- The Real Estate Benchmark is the NCREIF ODCE Index plus 50 basis points.
- The Private Equity Benchmark is the MSCI ACWI IMI plus 200 basis points.
- The Private Real Assets Benchmark is the MSCI ACWI IMI plus 200 basis points.

- The MSCI ACWI Investable Market Index (IMI) captures large, mid and small cap representation across 23 Developed Markets (DM) and 23 Emerging Markets (EM) countries.
- The SDCERA Public Markets Risk Benchmark is an aggregate of 58.44% ACWI IMI, 31.77% Barclay's Intermediate Aggregate, 5.19% Barclay's CTA, and 5.19% HFRI Macro.
- The Barclay CTA index is an index of 535 representative commodity-trading advisors.
- The HFRI Macro index is based on investment managers which trade a broad range of strategies predicated on movements in underlying economic variables.

Note: The MSCI and T-Bills benchmarks plus a basis point spread (500, 50, and 200) are not investable indexes. The purpose of having a higher-than-market index benchmark, such as MSCI ACWI plus 200 basis points, is to set the expectation for that asset class. For example, the illiquid nature and lower transparency of Private Equity is matched by an expectation of higher returns than can be realized in public markets.