Monthly Risk-Return Report
As of December 31, 2016

Based on actual BNY Mellon data through November 2016 and preliminary data for December 2016.

SDCERA

Asset Allocation and Policy Guidelines

As of December 31, 2016

Asset Class	Assets and Allocation $ (MM)	%	Policy Target	Minimum Target	Maximum Target	Difference From Policy Target	Within Target?
Total Public Markets Equity	4,885	45.0%	45.0%	42.0%	48.0%	0.0%	Yes
Global Equity	432	4.0%	3.0%	0.0%	6.0%	1.0%	Yes
US Equity	1,898	17.5%	18.0%	13.0%	23.0%	-0.5%	Yes
Non-US Equity Developed	1,540	14.2%	15.0%	12.0%	18.0%	-0.8%	Yes
Non-US Equity Emerging	1,014	9.4%	9.0%	6.0%	11.0%	0.4%	Yes
Fixed Income	2,739	25.3%	24.0%	21.0%	27.0%	1.3%	Yes
Alternative Beta/Opportunistic/Other	733	6.8%	8.0%	0.0%	9.0%	-1.2%	Yes
Total Private Assets	2,490	23.0%	23.0%	10.0%		0.0%	Yes
Real Estate	936	8.6%	9.0%	5.0%	12.0%	-0.4%	Yes
Private Equity	843	7.8%	8.0%	3.0%	10.0%	-0.2%	Yes
Private Real Assets	712	6.6%	6.0%	3.0%	8.0%	0.6%	Yes
Total Invested	**10,848**	**100.0%**					

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Portfolio and Benchmark Returns

As of December 31, 2016

	MTD	QTD	FYTD	CYTD	1 Year	3 Years	5 Years
SDCERA Total Trust Fund	1.7%	0.2%	4.0%	6.8%	6.8%	4.8%	6.8%
SDCERA Policy Benchmark	1.4%	0.6%	4.4%	7.0%	7.0%	4.5%	6.6%
Balanced Benchmark	1.6%	0.0%	4.0%	6.8%	6.8%	3.3%	7.5%
Actuarial Rate of Return	0.6%	1.8%	3.6%	7.4%	7.4%	7.6%	7.7%
SDCERA Public Markets	1.6%	-0.5%	4.1%	7.4%	7.4%	2.8%	7.9%
Balanced Benchmark	1.6%	0.0%	4.0%	6.8%	6.8%	3.3%	7.5%
Total Public Markets Equity	2.1%	0.5%	6.7%	8.1%	8.1%	1.3%	11.8%
MSCI ACWI IMI	2.2%	1.3%	6.9%	8.4%	8.4%	3.3%	9.6%
Fixed Income	0.4%	-2.3%	-0.9%	5.3%	5.3%	1.7%	2.3%
Bloomberg Barclays US Intermediate Aggregate	0.0%	-2.1%	-1.7%	2.0%	2.0%	2.4%	2.0%
Alternative Beta/Opportunistic/Other/HF							
Hedge Funds and Relative Value	0.4%	1.5%	3.2%	-1.5%	-1.5%	3.7%	4.1%
Managed Futures	1.1%	-2.0%	-2.3%	1.8%	1.8%	8.0%	5.6%
US T-Bills Plus 500 basis points	0.4%	1.3%	2.6%	5.3%	5.3%	5.1%	5.1%
Private Assets	*The industry standard is to present private asset returns with a quarterly lag*						
Real Estate	2.3%	0.6%	5.5%	11.9%	11.9%	13.2%	11.1%
NCREIF ODCE Plus 50 basis Points	0.7%	2.0%	4.0%	8.3%	8.3%	11.6%	11.7%
Private Equity	1.5%	1.9%	5.0%	9.8%	9.8%	9.3%	12.7%
MSCI ACWI IMI Plus 200 Basis Points	2.3%	1.8%	8.0%	10.5%	10.5%	5.3%	11.8%
Private Real Assets	4.9%	4.8%	7.1%	4.1%	4.1%	4.7%	5.4%
MSCI ACWI IMI Plus 200 Basis Points	2.3%	1.8%	8.0%	10.5%	10.5%	5.3%	11.8%
Equities by Sub-Asset Class							
Global Equity	2.2%	1.3%	6.8%	8.4%	8.4%	3.9%	10.2%
MSCI ACWI IMI	2.2%	1.3%	6.9%	8.4%	8.4%	3.3%	9.6%
US Equity	1.9%	3.7%	8.6%	12.2%	12.2%	7.2%	11.7%
MSCI USA IMI	1.9%	3.8%	8.3%	12.0%	12.0%	7.8%	14.0%
Non-US Equity Developed	3.5%	-0.5%	6.1%	1.6%	1.6%		
MSCI EAFE IMI	3.3%	-1.0%	5.7%	1.2%	1.2%		
Non-US Emerging	0.2%	-3.5%	4.6%	12.8%	12.8%	-2.2%	2.1%
MSCI Emerging Markets IMI	0.2%	-4.5%	4.0%	9.9%	9.9%	-2.4%	1.5%
Total Public Markets Equity	2.1%	0.5%	6.7%	8.1%	8.1%	1.3%	11.8%
MSCI ACWI IMI	2.2%	1.3%	6.9%	8.4%	8.4%	3.3%	9.6%

Please note: The Non-US Equity Developed and MSCI EAFE IMI (3 yr & 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 cannot be indexed because Global Stocks + 2% for the private market assets subcomponent and NCREIF ODCE plus 50 basis points for Real Estate subcomponent cannot be indexed.

Portfolio Risk and Tracking Error

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As of December 31, 2016

Total Trust Fund	10/31/16 Trailing three years Volatility	10/31/16 Trailing three years Tracking Error	11/30/16 Trailing three years Volatility	11/30/16 Trailing three years Tracking Error	12/31/16 Trailing three years Volatility	12/31/16 Trailing three years Tracking Error
SDCERA Total Trust Fund Assets	5.2%	N/A	5.2%	N/A	5.3%	N/A
SDCERA Policy Benchmark	6.2%	1.8%	6.1%	1.9%	6.2%	1.9%

Total Trust Fund	10/31/16 Forecasted Volatility	10/31/16 Forecasted Tracking Error	11/30/16 Forecasted Volatility	11/30/16 Forecasted Tracking Error	12/31/16 Forecasted Volatility	12/31/16 Forecasted Tracking Error
SDCERA Total Trust Fund Assets	6.4%	N/A	6.3%	N/A	6.4%	N/A
SDCERA Policy Benchmark	7.6%	1.7%	7.5%	1.6%	7.5%	1.6%
Balanced Benchmark	8.1%	2.2%	8.0%	2.1%	8.0%	2.1%
SDCERA Public-Only Assets	7.1%	N/A	7.1%	N/A	7.2%	N/A
SDCERA Public Benchmark	7.0%	0.8%	6.9%	0.7%	6.9%	0.7%
Equities						
Global Equity	11.5%		11.4%		11.4%	
MSCI ACWI IMI	11.5%	0.6%	11.4%	0.6%	11.4%	0.6%
US Equity	9.4%		9.5%		9.5%	
MSCI USA IMI	10.6%	1.0%	10.7%	0.9%	10.7%	0.9%
Non-US Equity Developed	13.7%		13.6%		13.6%	
MSCI EAFE IMI	13.6%	0.9%	13.4%	0.9%	13.4%	0.9%
Non-US Emerging	16.6%		16.5%		16.5%	
MSCI Emerging Markets IMI	16.1%	1.1%	15.9%	1.0%	15.9%	1.0%
Fixed Income						
Fixed Income	3.9%		4.0%		3.9%	
Bloomberg Barclays US Intermediate Aggregate	1.9%	1.5%	2.1%	1.4%	2.1%	1.4%
Alternative Beta/Opportunistic/HF						
Alternative Beta/Opportunistic/Other/HF	3.7%		3.7%		3.7%	
50% BarclayHedge CTA, 50% HFRI Macro	4.1%	3.6%	4.1%	3.6%	4.1%	3.6%
Private Assets						
Real Estate	8.4%		8.5%		7.9%	
NCREIF ODCE + 50 bps	9.0%	10.2%	9.0%	10.3%	9.0%	9.8%
Private Equity	7.6%		7.7%		7.7%	
MSCI ACWI IMI + 200 bps	11.5%	5.7%	11.4%	5.6%	11.4%	5.6%
Private Real Assets	10.5%		10.9%		10.3%	
MSCI ACWI IMI + 200 bps	11.5%	11.5%	11.4%	11.8%	11.4%	12.1%

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Allocation Changes (millions)

Public Markets Portfolio Changes in December 2016

Portfolio %		Portfolio $ millions		Summary Comments
Begin	End	Begin	End	

Private Market Portfolio Changes in December 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 7.25 percent.
- The SDCERA Policy benchmark is composed as follows: 45% MSCI ACWI Investable Market Index (IMI), 24% Bloomberg Barclays US Intermediate Aggregate Index, 8% US T-Bills + 500 bps, 23% SDCERA Private Asset Benchmark.
- The SDCERA Balanced benchmark is composed of 70% MSCI ACWI IMI and 30% Bloomberg Barclays U.S. Aggregate Index.
- The Total Public Markets Equity Benchmark is the MSCI ACWI IMI.
- The Global Equity Benchmark is the MSCI ACWI IMI.
- The US Equity Benchmark is the MSCI USA IMI.
- The Non-US Equity (Developed) Benchmark is the MSCI EAFE IMI.
- The Non-US Equity Emerging Markets Benchmark is the MSCI Emerging Markets IMI.
- The Total Fixed Income Benchmark is the Bloomberg Barclays 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 T-Bills plus 500 basis points.
- The Total Private Assets Benchmark is composed of 1/3 NCREIF and 2/3 MSCI ACWI IMI 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 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 58.4% MSCI ACWI IMI, 31.2% Bloomberg Barclays U.S. Intermediate Aggregate, 5.2% BarclayHedge CTA, and 5.2% HFRI Macro.

- The BarclayHedge CTA Index is comprised 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.