



# Wyoming State Treasurer's Office

## Investment Performance Analysis

Period Ended: December 31, 2015



# WYOMING STATE TREASURER'S OFFICE

*FOURTH QUARTER 2015*

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## QUARTERLY COMMENTARY

- This two-page memo provides a written summary of significant observations regarding performance of the State's Funds, and provides an overview of performance during the quarter for each of the asset classes the State is invested in.

### **MARKET ENVIRONMENT ..... PAGE 1-8**

- This section is intended to review capital markets in general (i.e. not specific to Wyoming), and includes a written summary of events during the quarter, including economic influences and review of equity and bond markets as a whole. This section also includes various charts and exhibits displaying key characteristics of major market indices representing the broad range of available asset classes, including alternative investments such as absolute return and real estate. Lastly, this section includes a review of the benchmarks referenced within the quarterly report.

### **PERFORMANCE SUMMARY ..... PAGE 9-15**

- These 7 pages provide all the market value, asset allocation, and performance information for the State's investments, in summary form.

### **INVESTMENT POLICY OBJECTIVE REVIEW ..... PAGE 16-35**

- This section provides a compliance check for the Total Fund, and for each individual manager portfolio, versus the guidelines and expectations outlined in the State's Master Investment Policy and Sub-Policies.

### **APPENDIX..... PAGE 36-42**

- The appendix includes a glossary, giving definitions and other information on data included throughout the report, including financial terms and ratios, indices, peers groups. The addendum page in the appendix includes important comments specific to Wyoming regarding market value, performance, and allocation information provided throughout the report.



## Memorandum

To	Wyoming State Loan and Investment Board
From	RVK, Inc.
Subject	Investment Performance Analysis Commentary
Date	December 31, 2015

Outlined below please find a summary of significant observations regarding performance of the State's Funds for the period ended December 31, 2015. We hope this summary will facilitate your review of our Investment Performance Analysis Report.

The Total Fund returned 0.9% during the fourth quarter as global equity markets rallied in October following a period of heightened volatility during the prior quarter. Positive price momentum proved to be short lived, however, as most markets gave back a significant portion of early gains by quarter's end. Long-term performance for the Total Fund remains strong, with the State earning returns of 4.5% and 5.1% per annum over the trailing seven- and ten-year periods.

The Total Fund performed in line with its custom benchmark over the quarter, as equity markets posted strong absolute gains while fixed income ended the quarter in negative territory. The State has lower strategic exposure to equities relative to the All Master Trust Universe and subsequently underperformed the peer group in the fourth quarter. Relative to the Universe, the State continues to generate more return for each unit of risk exposure, with risk-adjusted returns ranking in the top 30% and 10% of all Plans over the trailing five- and ten-year time periods, respectively.

Absolute results were mixed for the State's nine investment pools, with each modestly trailing their respective benchmarks during the fourth quarter. The State's permanent funds with larger strategic allocations to equities and alternative investments generated higher absolute returns than the State's non-permanent funds, but generated slightly lower returns on a relative basis.

In a move that was widely anticipated, the Federal Reserve Open Market Committee (FOMC) voted to raise the benchmark Federal Funds rate by 25 basis points during its December meeting, marking the first increase in the target rate since June 2006 and the end of a 7-year run with the benchmark rate near zero. The FOMC meeting minutes referenced ongoing job gains and declining unemployment as evidence of stronger labor market utilization. The Barclays US Aggregate Bond Index finished the quarter and calendar year with returns of -0.6% and 0.6%, respectively. The State's total fixed

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income portfolio (excluding convertibles) kept pace with the broad market index, returning -0.6%. The State's Credit composite detracted from absolute performance, returning -1.5%, as the US high yield market continued to suffer from depressed oil and commodity prices. However, the majority of the State's other fixed income sub asset classes outperformed the broad market index during the quarter. Allianz Convertibles posted the strongest absolute and relative returns within the fixed income portfolio, gaining 1.7% and outperforming its benchmark by 1.1%.

Although economic data on balance continues to support a strengthening US economy, global growth concerns and instability in oil prices dominated headlines and US equity markets in the second half of the fourth quarter. Despite poor performance in November and December, the Russell 3000 Index delivered strong returns in October and finished the quarter up 6.3%. The broad market index returned 0.5% for the year, making 2015 the lowest calendar year return for the index since 2008. The State's US equity composite returned 5.7% during the fourth quarter, trailing the broad market index by 0.5%. All of the State's active US equity managers ranked above median relative to their respective peer universes. Epoch and Lazard, the State's two active all cap US equity managers, trailed the broad market index, earning 6.0% and 5.4%, respectively. RBC outperformed the Russell 2000 Index due to favorable stock selection, returning 4.1%.

Developed international equity markets finished the quarter in positive territory after a strong start in October. In contrast to the US, small-cap stocks outperformed large-cap stocks in international markets. Emerging markets equity lagged their developed counterparts by a wide margin but still delivered modestly positive returns during the quarter, with the MSCI Emerging Markets Index returning 0.1% versus 4.7% earned by the MSCI EAFE Index. The State's International Equity portfolio returned 3.8% during the quarter, outperforming its custom index by 0.6%. Both of the State's active international equity managers outperformed the broad market index and ranked above the median peer. Fisher Investments outperformed its custom index by 1.9% as the portfolio had limited exposure to commodity-oriented companies. Manning & Napier outperformed the MSCI ACW Ex US Index by 2.6% due to positive stock selection.

Core real estate and absolute return assets delivered positive absolute and negative relative performance during the quarter. Core real estate returned 3.2%, with both income and capital appreciation contributing to returns. The State's two core real estate managers, Clarion and UBS, returned 3.4% and 3.0% respectively versus 3.3% for the NCREIF ODCE Index. Even as US property valuations surpass all-time peak levels, measured by capitalization rates, fundamentals amongst major property types remain strong. The PAAMCO - Jackalope Fund (currently the State's single absolute return manager) returned -0.5% during the quarter, underperforming the 0.2% earned by the HFN FOF Multi-Strat Index. Exposure to high yield markets detracted from both relative and absolute performance.

Fourth Quarter Economic Environment

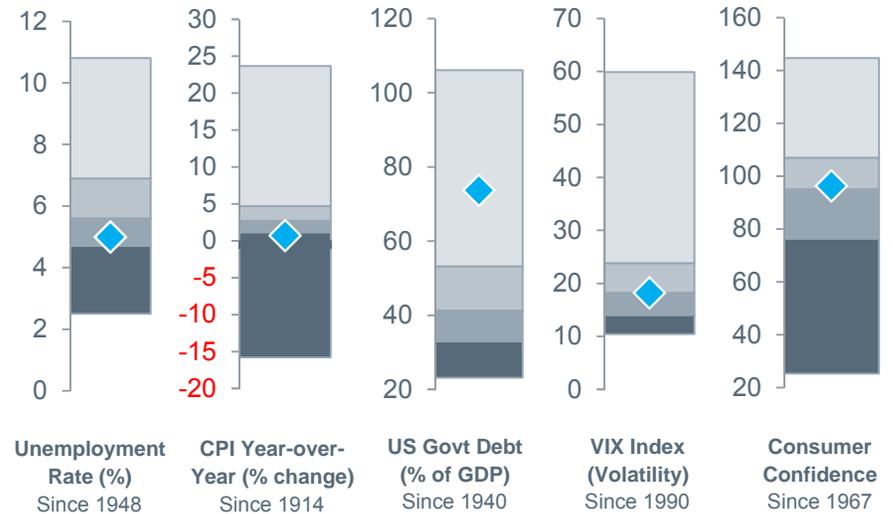
Key Economic Indicators

World equity markets rallied in October following a period of heightened volatility during the prior quarter. Positive price momentum proved to be short lived, however, as most markets gave back a significant portion of early gains by quarter's end. Headwinds included substantial US Dollar strengthening, diverging central bank monetary policies, commodity market dislocations, and emerging market asset volatility. World equity, bond, and commodity markets each ended the year in negative territory, with commodities and emerging market equities suffering the largest declines. In a move that was widely anticipated, the FOMC voted to raise the benchmark Federal Funds rate by 25 basis points during its December meeting. In Europe, Mario Draghi and the European Central Bank (ECB) expanded monetary stimulus measures. In China, pressure on foreign exchange reserves driven by the US Dollar peg led the People's Bank of China (PBoC) to formally adjust its currency management strategy, shifting to a trade-weighted basket of currencies to manage the value of the Yuan.

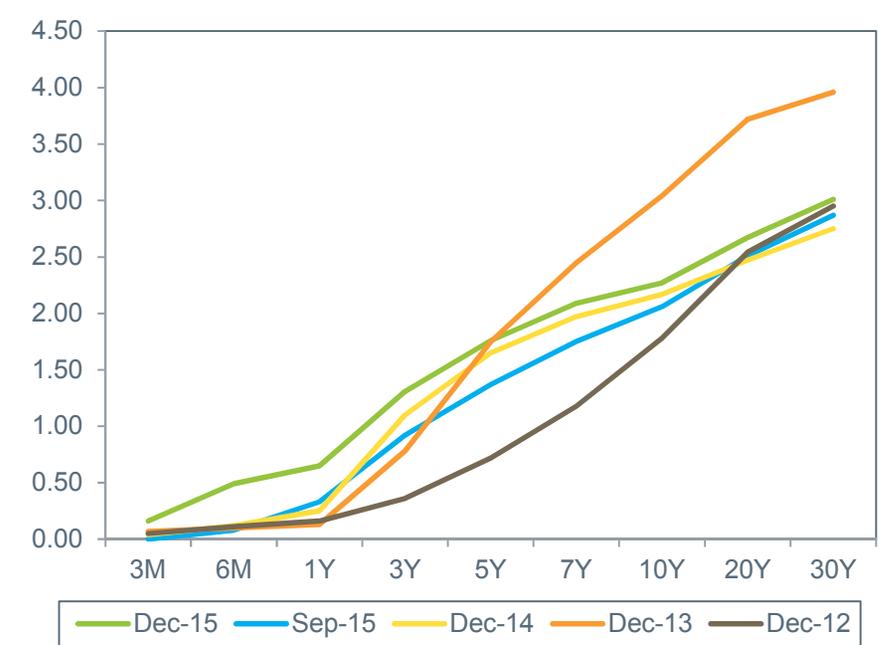
Economic Indicators	Dec-15	Sep-15	Dec-14	Dec-12	20 Yr
Federal Funds Rate (%)	0.20 ▲	0.07	0.06	0.09	2.60
Breakeven Infl. - 1 Yr (%)	0.85 ▲	-1.75	-0.21	1.31	N/A
Breakeven Infl. - 10 Yr (%)	1.58 ▲	1.43	1.68	2.45	N/A
CPI YoY (Headline) (%)	0.7 ▲	0.0	1.7	2.0	2.2
Unemployment Rate (%)	5.0 ▼	5.1	6.0	7.8	6.0
Real GDP YoY (%)	1.9 ▼	2.1	2.9	2.4	2.4
PMI - Manufacturing	48.00 ▼	50.00	55.80	51.80	52.10
USD Total Wtd Idx	94.46 ▲	92.32	85.13	73.54	86.65
WTI Crude Oil per Barrel (\$)	37 ▼	45	53	92	55
Gold Spot per Oz (\$)	1,061 ▼	1,115	1,185	1,675	741

Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	7.04	1.38	1.38	12.57	7.31
Russell 2000	3.59	-4.41	-4.41	9.18	6.80
MSCI EAFE (Net)	4.71	-0.81	-0.81	3.60	3.03
MSCI EAFE SC (Net)	6.79	9.59	9.59	6.32	4.55
MSCI Emg Mkts (Net)	0.66	-14.92	-14.92	-4.80	3.62
Barclays US Agg Bond	-0.57	0.55	0.55	3.25	4.52
BofA ML 3 Mo US T-Bill	0.03	0.05	0.05	0.07	1.24
NCREIF ODCE (Gross)	3.34	15.01	15.01	13.66	6.53
Wilshire US REIT	7.47	4.23	4.23	12.44	7.31
HFN FOF Multi-Strat	0.17	-1.24	-1.24	1.90	1.95
Bloomberg Comdty (TR)	-10.52	-24.66	-24.66	-13.47	-6.43

Key Economic Indicators



Treasury Yield Curve (%)



Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service. Breakeven Inflation does not have 20 years of history; therefore, its 20-year average is shown as N/A.

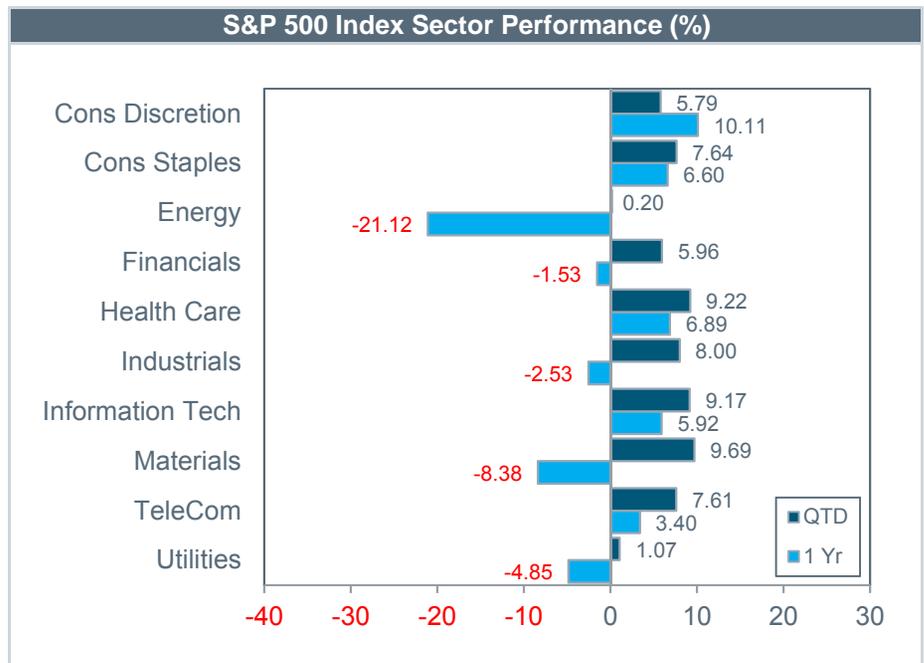
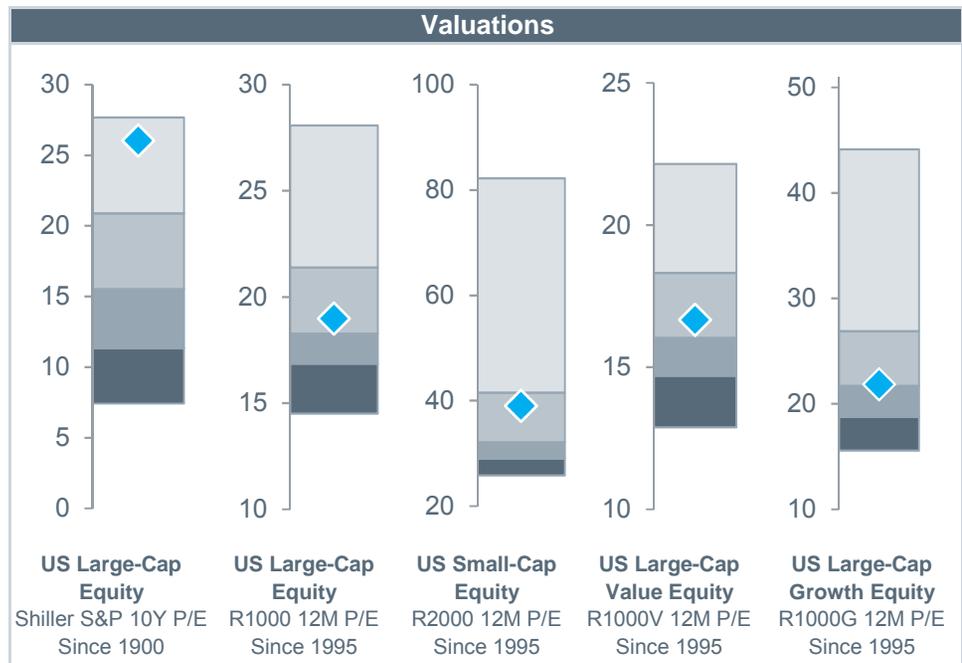
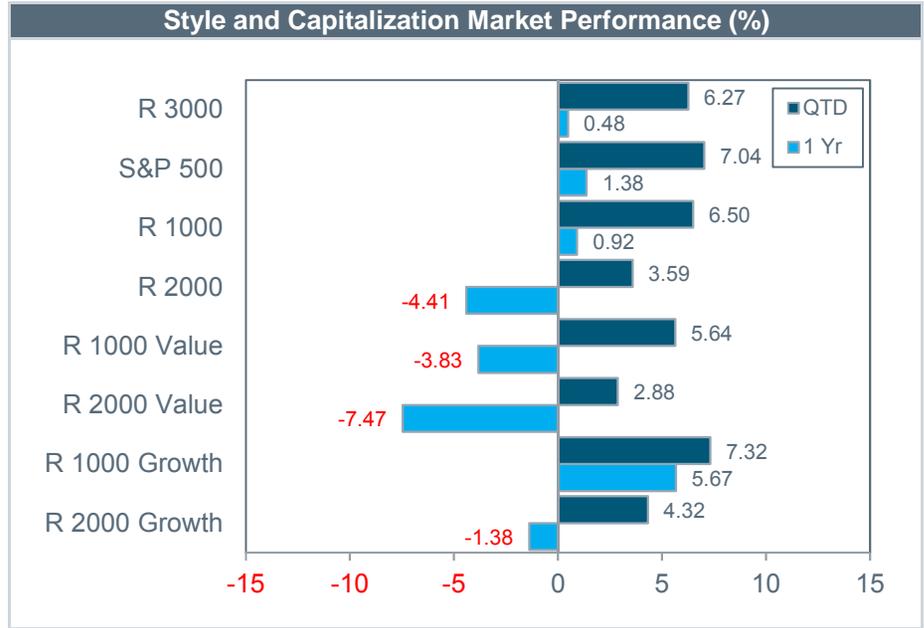


### Fourth Quarter Review

**Broad Market**  
 The US equity market recovered during the fourth quarter, erasing losses incurred during the global sell-off in August. Despite poor performance in November and December, the Russell 3000 Index delivered strong returns in October and finished the quarter up 6.3%. The strong fourth quarter lifted the broad US equity market into positive territory for the year, with the Russell 3000 Index posting a return of 0.5% for 2015. While the index avoided a loss, 2015 marked the lowest calendar year return for the index since 2008.

**Market Cap**  
 Large-cap stocks continued to outpace small-cap. The top ten largest stocks in the S&P 500 Index averaged a 23.4% return for the year, while the remaining 490 stocks averaged a -2.0% return.

**Style and Sector**  
 Growth leadership persisted across the market cap spectrum.



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.



**Fourth Quarter Review**

**Broad Market**

Developed international equity markets finished the quarter in positive territory after a strong start in October.

**Market Cap & Style**

Growth continued to outperform value, resulting in increased style dispersion. In contrast to the US, small-cap stocks outperformed large-cap stocks.

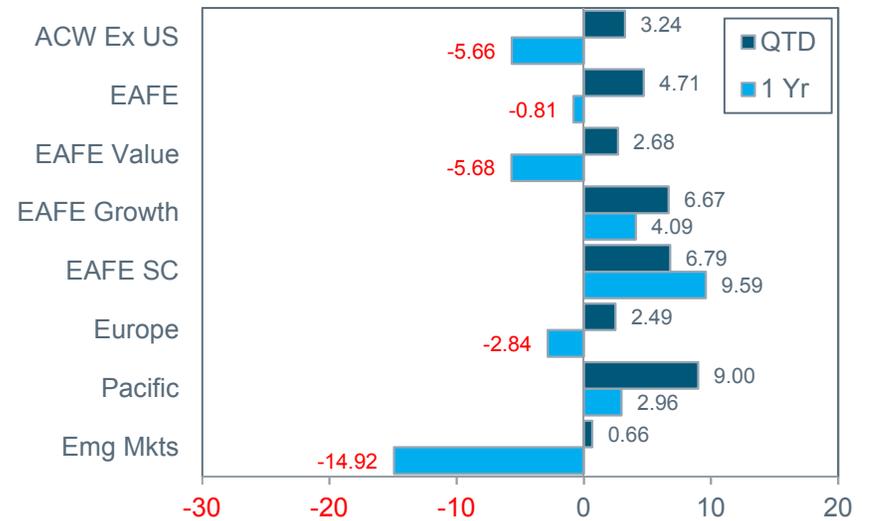
**Developed Markets**

By region, returns were mainly positive with only a few developed market countries lagging the general market. Central bank policies continued to diverge with monetary stimulus continuing in Europe, but pausing in Japan.

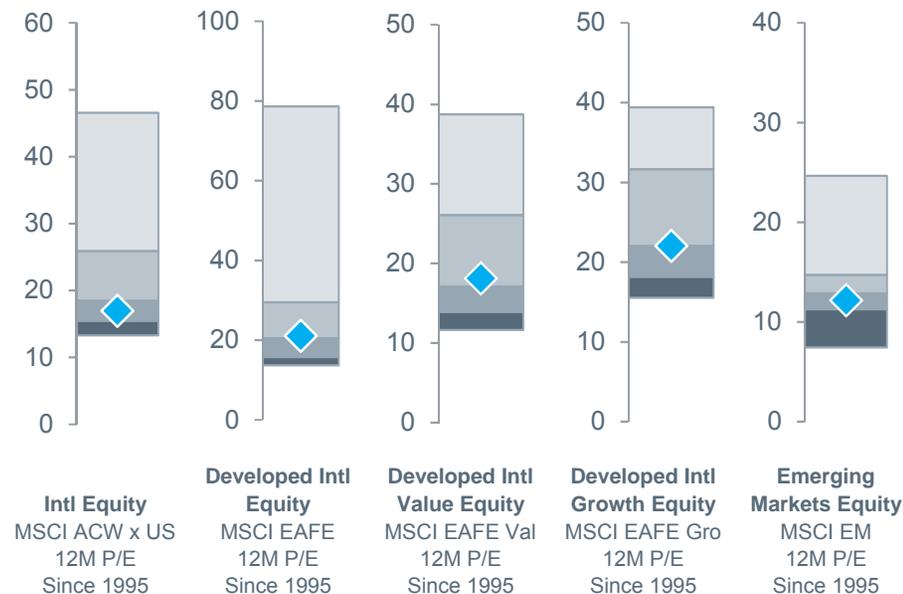
**Emerging Markets**

Emerging markets equity lagged their developed counterparts by a wide margin, but still delivered slightly positive returns during the quarter. Prior to the selloff in 2016, China was the strongest contributor to performance in Q4.

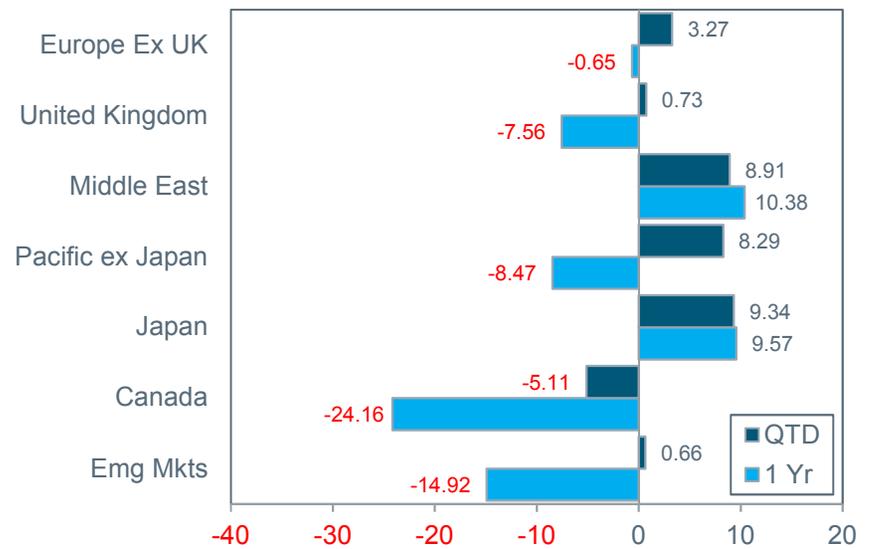
**MSCI Style and Capitalization Market Performance (%)**



**Valuations**



**MSCI Region Performance (%)**



Valuation data courtesy of Bloomberg Professional Service.

P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

All returns are shown net of foreign taxes on dividends.



**Fourth Quarter Review**

**Broad Market**

The Barclays US Aggregate Bond Index finished the quarter and year with relatively poor returns of -0.6% and 0.6%, respectively. Currency fluctuations continue to drive global bond returns. As the dollar strengthened during the quarter, the Citigroup World Government Bond Index returned -1.2% and ended at -3.6% for the year.

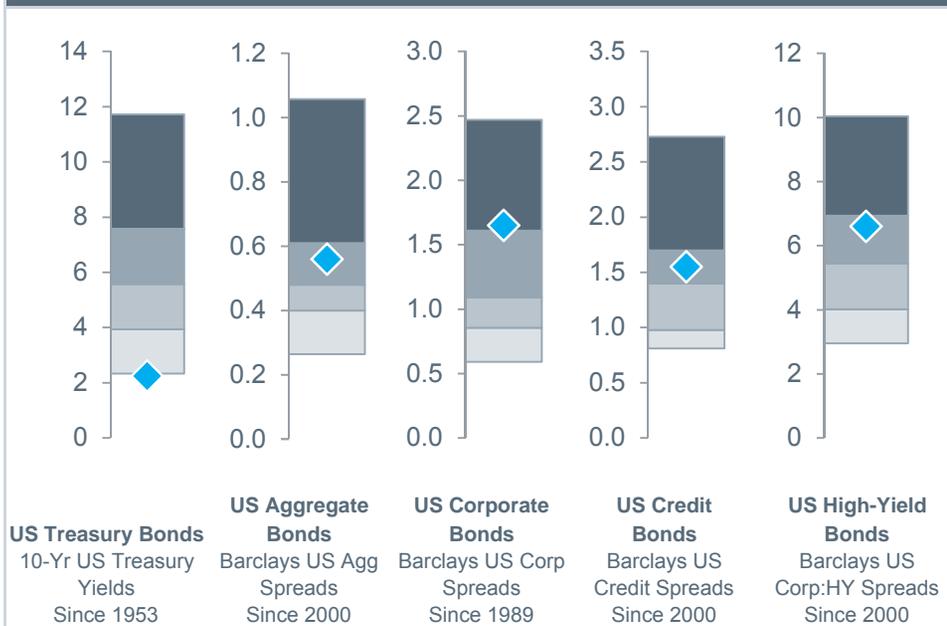
**Credit Market**

The BofA ML US High Yield Master II Index returned -4.6% for the year, as the US high yield market continued to suffer from depressed oil and commodity prices.

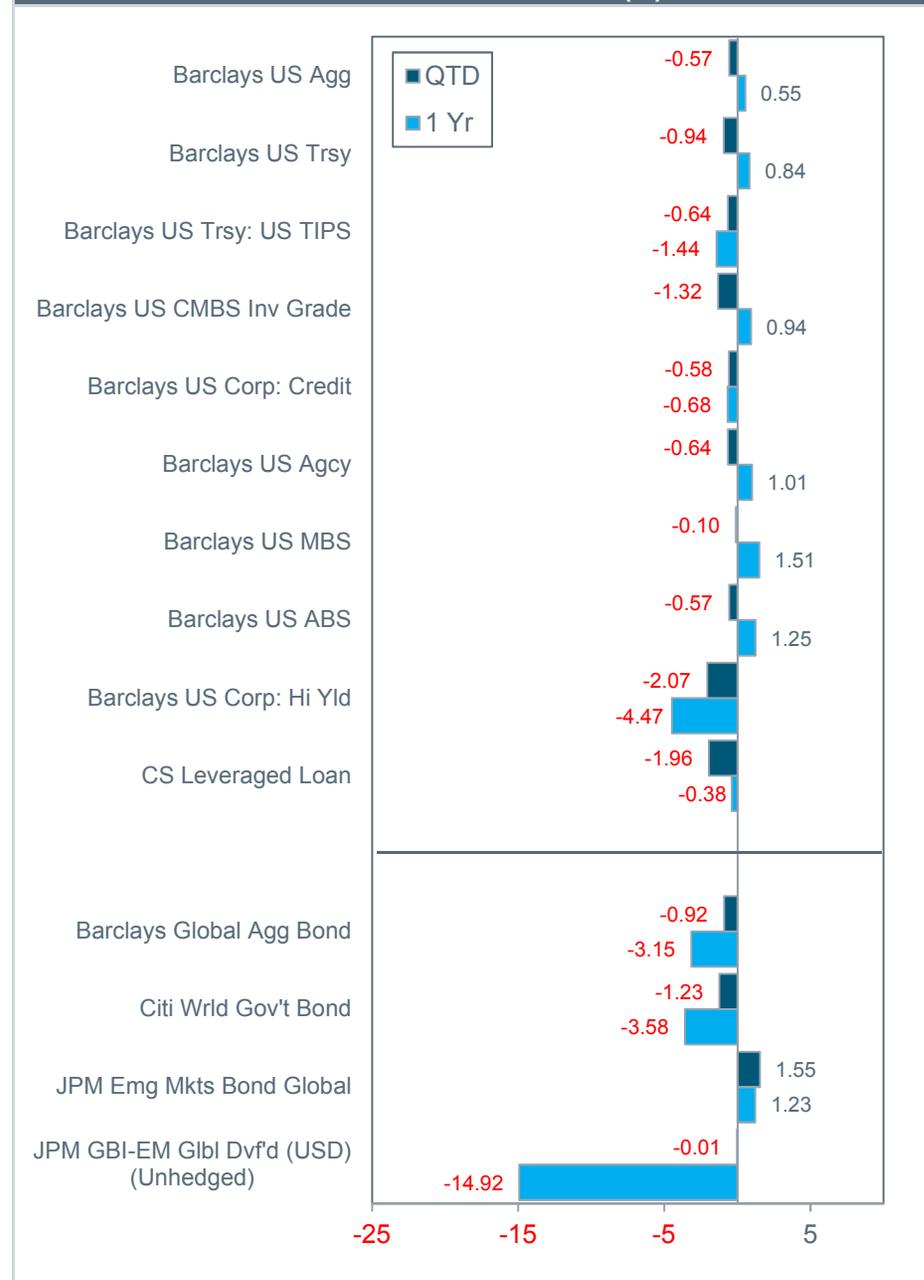
**Emerging Market Debt**

Weakness in emerging markets and a fairly aggressive trend of devaluation among emerging market currencies caused the JPM GBI-EM Global Diversified Index to finish the year at -14.9%, the worst calendar year return since the inception of the local currency index.

**Valuations**



**Fixed Income Performance (%)**



Valuation data courtesy of Bloomberg Professional Service. Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.



**Fourth Quarter Review - Absolute Return**

**General Market - Hedge Funds**

Hedge funds returns were mixed for the fourth quarter, capping off a year that saw a widening of dispersion across hedge fund strategies. Outsized equity market gains in the month of October were a relative detractor, as many hedged equity managers de-risked portfolios following drawdowns in the third quarter. Managers tracked closely by RVK were generally able to generate alpha in both long and short positions over the course of the year. Distressed debt was the worst performing strategy for the quarter and year.

**General Market - Global Tactical Asset Allocation (GTAA)**

Diversification did not reward investors in 2014, and 2015 saw a continuation of a similar theme wherein most GTAA managers underperformed a standard 60/40 blend. Managers with significant allocations to emerging markets equity or that relied on short US equity exposure in favor of other regional exposures provided the highest level of underperformance. Risk parity managers provided disparate returns with most poor performers suffering from difficult performance in credit-sensitive fixed income, TIPS, and non-US equity.

**Fourth Quarter Review - Real Assets**

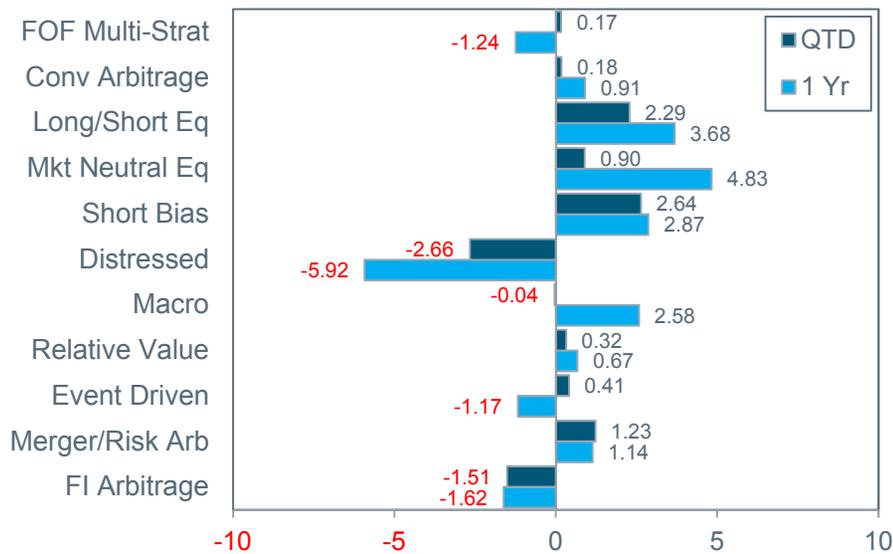
**General Market - Diversified Inflation Strategies (DIS)**

In a year with historically low inflation expectations, strategies designed to protect against inflation underperformed by a wide margin. Deflationary headwinds included a strengthening US Dollar, sharp declines in commodity prices (particularly crude oil), and weakening growth expectations for major exporting nations. REITs allocations were a bright spot while MLP, commodities, and natural resource equity exposures detracted significantly.

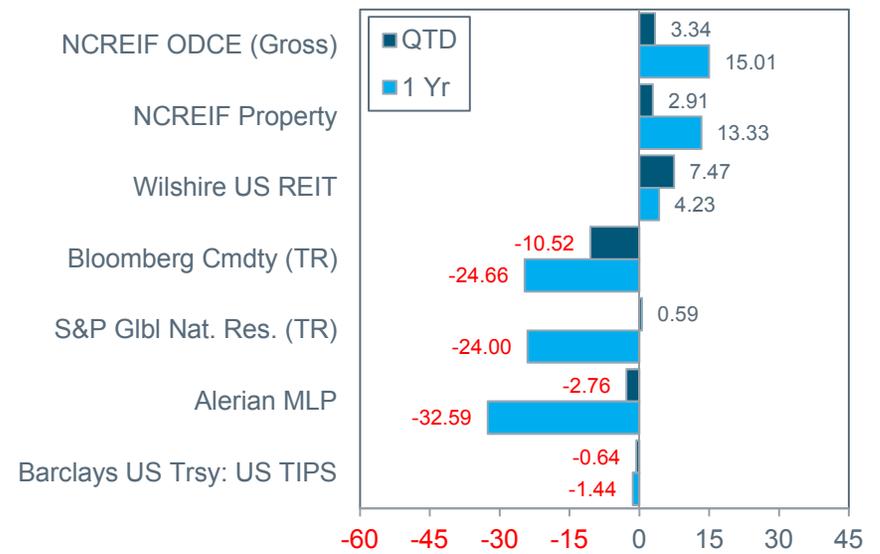
**General Market - Real Estate**

As a result of continued demand for well-occupied, well-located property, core real estate investors were rewarded with strong positive returns in the fourth quarter. In particular, the NCREIF-ODCE Index marked its 24th consecutive quarter of gains with an estimated 3.3% return. Even as US property valuations surpass all-time peak levels, as measured by capitalization rates, fundamentals amongst major property types remain strong and increased dry powder indicates continued investor appetite.

**HFN Hedge Fund Performance (%)**



**Real Asset Performance (%)**



Annual Asset Class Performance

As of December 31, 2015

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Best	12.35	25.91	61.34	33.16	34.00	35.97	39.38	8.44	78.51	28.60	22.49	20.00	38.82	31.78	15.01
	8.44	16.56	55.81	31.45	26.19	32.18	16.23	5.24	58.21	26.86	15.99	18.23	32.39	19.31	9.59
	7.89	14.81	47.25	25.55	21.39	26.34	15.97	2.06	46.78	22.04	13.56	17.59	29.30	13.69	4.23
	7.28	10.25	38.59	20.25	21.36	19.31	11.63	-2.35	31.78	18.88	9.24	17.32	22.78	12.50	1.38
	6.61	5.54	36.18	18.33	13.82	18.37	11.17	-10.01	28.60	16.83	7.84	16.34	13.94	5.97	0.55
	5.64	3.58	28.97	13.06	13.54	16.32	9.91	-20.47	27.18	16.36	4.98	16.00	9.10	4.89	0.05
	5.28	3.12	28.68	11.13	6.75	15.79	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.81
	4.42	1.78	23.93	10.88	5.33	11.85	6.60	-33.79	18.91	15.06	0.10	10.94	1.86	3.03	-1.24
	2.49	-1.41	11.93	9.15	4.91	9.85	5.49	-35.65	11.41	10.16	-4.18	8.82	0.07	2.45	-1.44
	-2.62	-6.17	9.28	8.56	4.55	4.85	5.00	-37.00	9.72	7.75	-5.55	6.98	-2.02	0.04	-3.30
	-11.89	-7.83	8.39	8.46	3.07	4.33	1.87	-39.20	5.93	6.54	-12.14	4.80	-2.60	-2.19	-4.41
	-12.53	-15.94	5.87	6.79	2.84	2.71	1.45	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47
	-19.51	-20.48	4.10	4.34	2.74	2.07	-1.57	-47.01	0.21	4.77	-15.94	0.11	-8.83	-4.95	-14.92
Worst	-21.44	-22.10	1.15	1.33	2.43	0.41	-17.55	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Barclays US Agg Bond - FI	Barclays US Corp: Hi Yield - FI	Barclays US Trsy: US TIPS - FI	Barclays US Gov/Credit: Lng - FI	NCREIF ODCE (Gross) - Real Estate	Wilshire US REIT - REITs	HFN FOF Multi-Strat (Net) - ARS	Bloomberg Cmdty (TR) - Commod.	BofA ML 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.



## INDEX GLOSSARY

**Total Equity Custom Index:** The **Total Equity Custom Index** consists of the MSCI World Index through July 2010 and the MSCI All Country World Index thereafter.

**MSCI World:** The **MSCI World Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The index consists of the following developed market countries: *Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.*

**US Equity Custom Index:** The **US Equity Custom Index** consists of the S&P 500 Index (Cap Wtd) through September 2014 and the Russell 3000 Index thereafter.

**S&P 500:** The **S&P 500 Index (Cap Wtd)** is a commonly recognized, market-capitalization weighted index of 500 widely held equity securities designed to measure broad US equity performance.

**Russell 3000:** The **Russell 3000 Index** is a market-capitalization weighted index of 3,000 widely held equity securities designed to measure performance of the entire U.S. stock market.

**State Street All Cap Custom Index:** The **State Street All Cap Custom Index** consists of 69% Russell 3000 Index, 24% FTSE RAFI US 1000 Index, and 7% MSCI USA Minimum Volatility Index.

**Russell 2000:** The **Russell 2000 Index** measures the performance of the small-cap segment of the US equity market. It includes approximately 2,000 of the smallest securities by market cap from the Russell 3000 Index.

**MSCI ACW:** The **MSCI All Country World Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The index consists of the 23 developed countries that make up the MSCI World Index as well as the following emerging market countries: *Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Russia, Qatar, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.*

**International Equity Custom Index:** The **International Equity Custom Index** consists of the MSCI EAFE Index through July 2010 and the MSCI ACW Ex US Index thereafter.

**MSCI ACW Ex US:** The **MSCI ACW (All Country World) Ex US Index** consists of the same countries that make up the MSCI ACW Index, excluding the United States.

**MSCI ACW Ex US Value:** The **MSCI ACW (All Country World) Ex US Value Index** is identical to the MSCI ACW Ex US with the exception that it focuses specifically on the value segment of global developed and emerging markets.

**MSCI EAFE:** The **MSCI EAFE (Europe, Australasia, Far East) Index** is designed to measure equity market performance of 21 developed countries, excluding the US & Canada: *Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.*

**Fisher Custom Index:** The **Fisher Custom Index** consists of the MSCI EAFE Index through July 2010 and the MSCI ACW Ex US Index thereafter.

**Barclays US Trsy: US TIPS:** The **Barclays US Treasury: US TIPS Index** is an unmanaged index that consists of inflation-protected securities issued by the U.S. Treasury.

**Barclays US Agg Bond:** The **Barclays US Aggregate Bond Index** covers the US dollar-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities: US Treasury and agency bonds, domestic corporate debt, and mortgage-backed securities.

**Credit Custom Index:** The **Credit Custom Index** consists of 20% Barclays US Credit Index, 20% BofA Merrill Lynch US High Yield Master II Constrained Index, and 60% S&P/LSTA Leveraged Loan Index.

**JPMorgan GBI-EM Gbl Dvf'd:** The **JPMorgan GBI-EM Global Diversified Total Return Index (Unhedged)** is a global emerging markets index that consist or regularly traded, liquid fixed-rate, domestic currency government bonds.

**CS Western European Hi Yld:** The **Credit Suisse Western European High Yield Index** is designed to mirror the investable universe of the Western European high yield debt market. The index includes issues denominated in \$US and Western European currencies.

**Barclays US Govt: Int Trm Bond:** The **Barclays US Gov't Intermediate Term Bond Index** covers public US government obligations with remaining maturities of between three and five years.

**BofA ML All Convertibles:** The **BofA Merrill Lynch All Convertibles Index (All Qualities)** is a market capitalization-weighted index of domestic corporate convertible securities that are convertible to common stock.

**BofA ML 3 Mo US T-Bill:** The **BofA Merrill Lynch 3-Month US T-Bill Index** consists of newly issued 90-day Treasury bills.

**JP Morgan Blended Index:** The **JP Morgan Blended Index** consists of an equal-weighted allocation to the BofA ML 1-3 Year US Treasury Index, BofA ML 1-3 Year Agencies Index, and BofA ML 0-3 Year Weighted Average Life Mortgage Index.

**NCREIF ODCE:** The **NCREIF ODCE (Open End Diversified Core) Index** is an index of investment returns reporting on both a historical and current basis the results of 16 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NCREIF ODCE Index is capitalization-weighted and performance is time-weighted.

**NCREIF Property:** The **NCREIF Property Index** prepared by the National Council of Real Estate Investment Fiduciaries is a quarterly time series composite return measure for over 6,000 individual commercial real estate properties acquired in the private market for investment purposes. Total performance represents returns from appreciation and income, and includes multi-family, office, retail, and industrial properties.

**HFN FOF Multi Strat:** The **HFN FOF (Fund of Funds) Multi-Strategy Index** average is created by HedgeFund.net and contains over 1,600 funds of hedge funds that are each invested in multiple investment strategies.

# Wyoming State Treasurer's Office

## Investment Performance

December 31, 2015

**Investment Policy:**

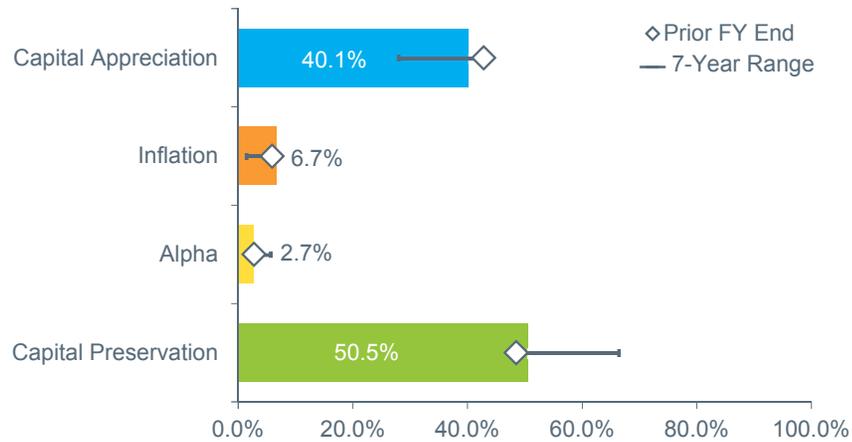
It is the investment policy for the State Loan and Investment Board to invest public funds of the State of Wyoming in a manner that strives for maximum safety, provides adequate liquidity to meet all operating requirements, and achieves the highest possible investment return consistent with the primary objectives of safety and liquidity.

**Investment Objectives and Priorities:**

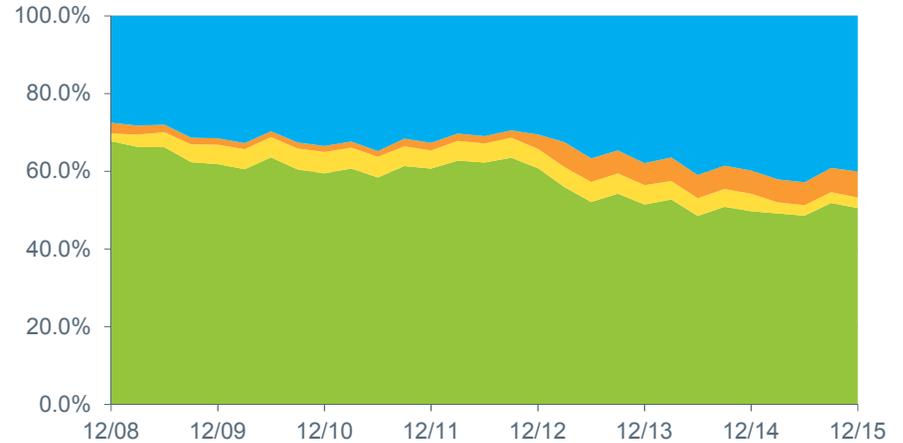
All available funds shall be invested with the following objectives and priorities:

- a) Safety of principal. Investments shall be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio.
- b) Liquidity requirements of anticipated and unanticipated expenditures.
- c) Yield.
- d) Recognition of differing objectives and needs of various fund portfolios.
- e) Conformance with State law and other pertinent legal restrictions.
- f) Maximization of the total rate of return on investment consistent with the foregoing objectives.
- g) Diversification by asset type, security, and investment manager in order to smooth the volatility of quarterly returns.

**Current Asset Allocation:**



**Historical 7-Year Asset Allocation:**



**Historical Performance:**

	Total Investment Value	Fiscal Year Ending 06/30/15 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
<b>Wyoming State Total Fund</b>	<b>\$19,332.04</b>	<b>\$19,695.83</b>	<b>\$19,262.83</b>	<b>100.0%</b>	<b>0.87%</b>	<b>-1.61%</b>	<b>-0.19%</b>	<b>3.51%</b>	<b>4.48%</b>	<b>5.07%</b>
<i>Wyoming State Actual Allocation Index</i>					<i>0.88%</i>	<i>-0.86%</i>	<i>0.23%</i>	<i>3.69%</i>	<i>4.42%</i>	<i>4.61%</i>
<b>Permanent Funds</b>	<b>\$12,941.69</b>	<b>\$13,260.36</b>	<b>\$13,031.10</b>	<b>67.6%</b>	<b>1.51%</b>	<b>-2.46%</b>	<b>-0.58%</b>	<b>4.88%</b>	<b>5.36%</b>	<b>5.46%</b>
<b>Non-Permanent Funds</b>	<b>\$6,390.35</b>	<b>\$6,435.47</b>	<b>\$6,231.73</b>	<b>32.4%</b>	<b>-0.50%</b>	<b>-0.98%</b>	<b>-0.36%</b>	<b>1.17%</b>	<b>2.92%</b>	<b>4.48%</b>

Note[1]: Performance shown is gross of fees with the exception of convertible bonds and absolute return, which are shown net of fees.  
 Note[2]: Pooled investment performance and market values shown reflect State Agency participation and are calculated on a capital-weighted basis using beginning-period allocations.  
 Note[3]: Thematic allocations shown exclude Public Purpose Investments.  
 Note[4]: The Wyoming State Actual Allocation Index is calculated using beginning-month asset class weights applied to the appropriate asset class benchmark return.  
 Note[5]: Market Value and Total Investment Value are shown in (\$) Millions.



**Wyoming State Treasurer's Office**  
**Investment Performance - Total Performance**  
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	Total Investment Value	Fiscal Year Ending 06/30/15 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
<b>Wyoming State Total Fund</b>	<b>\$19,332,042,417</b>	<b>\$19,695,833,197</b>	<b>\$19,262,830,758</b>	<b>100.0%</b>	<b>0.87%</b>	<b>-1.61%</b>	<b>-0.19%</b>	<b>3.51%</b>	<b>4.48%</b>	<b>5.07%</b>
<i>Wyoming State Actual Allocation Index</i>					<i>0.88%</i>	<i>-0.86%</i>	<i>0.23%</i>	<i>3.69%</i>	<i>4.42%</i>	<i>4.61%</i>
<b>Investment Funds:</b>										
Permanent Mineral Trust	\$6,932,331,398	\$7,172,217,627	\$7,003,590,380	36.4%	1.69%	-2.40%	-0.47%	4.95%	5.39%	5.35%
Common School Perm Land Fund	\$3,341,488,538	\$3,405,296,800	\$3,375,100,469	17.5%	1.70%	-2.16%	-0.33%	5.09%	5.55%	5.56%
Permanent Land Fund	\$174,000,330	\$182,680,601	\$175,473,036	0.9%	1.59%	-2.27%	-0.55%	4.80%	5.28%	N/A
University Permanent Land Fund	\$19,629,375	\$20,065,162	\$20,121,207	0.1%	1.90%	-2.57%	-0.66%	4.97%	5.22%	N/A
Hathaway Scholarship	\$552,940,115	\$571,323,309	\$553,419,004	2.9%	1.24%	-2.00%	-0.29%	4.13%	4.88%	N/A
Higher Education	\$114,256,130	\$117,971,275	\$114,174,825	0.6%	1.26%	-2.06%	-0.35%	4.11%	4.87%	N/A
Workers Compensation Fund	\$1,807,042,726	\$1,790,804,972	\$1,789,218,510	9.3%	0.54%	-1.50%	-0.26%	3.08%	4.27%	5.34%
Tobacco Settlement Trust *	\$84,408,955	\$83,395,482	\$81,838,846	0.4%	-0.56%	-0.59%	-0.07%	0.91%	3.14%	4.77%
State Agency Pool *	\$6,305,944,851	\$6,352,077,970	\$6,149,894,481	31.9%	-0.50%	-0.54%	-0.09%	0.75%	2.60%	4.26%
<b>Asset Class Performance:</b>										
US Equity US Equity Custom Index	\$2,349,029,926	\$2,826,288,685	\$2,486,073,782	12.9%	5.75% 6.27%	-2.45% -1.43%	-0.50% 0.48%	14.70% 14.85%	12.41% 12.41%	8.02% 7.23%
Global Equity MSCI ACW	\$421,534,952	\$437,916,390	\$415,214,427	2.2%	4.64% 5.03%	-4.40% -4.90%	N/A -2.36%	N/A 7.69%	N/A 6.09%	N/A 4.75%
International Equity International Equity Custom Index	\$1,608,801,562	\$1,865,023,263	\$1,540,269,254	8.0%	3.80% 3.24%	-8.90% -9.32%	-4.68% -5.66%	2.32% 1.50%	1.76% 1.06%	2.86% 2.09%
Private Equity S&P 500 + 5%	\$367,935,221	\$473,298,168	\$494,360,014	2.6%			See Note[6]			
					8.36%	2.62%	6.45%	20.88%	18.20%	12.67%
Core Real Estate NCREIF ODCE	\$507,607,260	\$441,820,200	\$565,455,479	2.9%	3.20% 3.34%	6.67% 7.14%	14.69% 15.01%	13.02% 13.81%	13.06% 13.66%	6.31% 6.53%
Value-Added Real Estate NCREIF Property	\$236,119,341	\$235,423,491	\$246,869,217	1.3%			See Note[6]			
					2.74%	8.07%	11.17%	11.70%	7.89%	8.65%
Absolute Return HFN FOF Multi-Strat	\$499,635,960	\$534,261,359	\$511,727,967	2.7%	-0.52% 0.17%	-4.10% -3.75%	-1.59% -1.24%	4.60% 3.54%	3.69% 1.90%	N/A 1.95%
Convertible Bonds BofA ML All Quality Convertible	\$486,668,624	\$549,687,549	\$513,749,582	2.7%	1.69% 0.59%	-6.15% -6.59%	-1.49% -3.24%	9.68% 9.78%	7.68% 7.59%	8.65% 6.65%
Fixed Income Barclays US Aggregate	\$11,212,480,838	\$11,323,209,238	\$10,846,840,112	56.3%	-0.64% -0.57%	-0.41% 0.65%	-0.02% 0.55%	0.60% 1.44%	2.95% 3.25%	4.74% 4.52%
Public Purpose Investments	\$527,220,019	\$348,448,346	\$527,220,019	2.7%	N/A	N/A	N/A	N/A	N/A	N/A
Cash Equivalents JP Morgan Cash Custom Index	\$1,115,008,713	\$660,456,507	\$1,115,050,906	5.8%	0.00% 0.00%	0.07% 0.07%	0.22% 0.18%	0.24% 0.16%	0.33% 0.28%	1.71% 1.65%

\* Denotes Non-Permanent Fund.

Note[1]: Performance shown is gross of fees with the exception of convertible bonds and absolute return, which are shown net of fees. Investment performance is calculated on invested assets only.

Note[2]: Pooled investment performance and market values shown reflect State Agency participation and are calculated on a capital-weighted basis using beginning-period allocations.

Note[3]: US Equity Custom Index consists of S&P 500 (Cap Wtd) through September 2014 and the Russell 3000 thereafter.

Note[4]: International Equity Custom Index consists of MSCI EAFE (Gross) through July 2010 and the MSCI ACW Ex US (Net) thereafter.

Note[5]: Market values for non-core real estate and private equity are as of the most recent valuation, adjusted for subsequent cash flows. Investment (Cost) Values are not lagged.

Note[6]: Performance for Private Equity and Value-Added Real Estate investments is calculated on an IRR basis. For further analysis, please refer to the supplementary alternatives performance report.

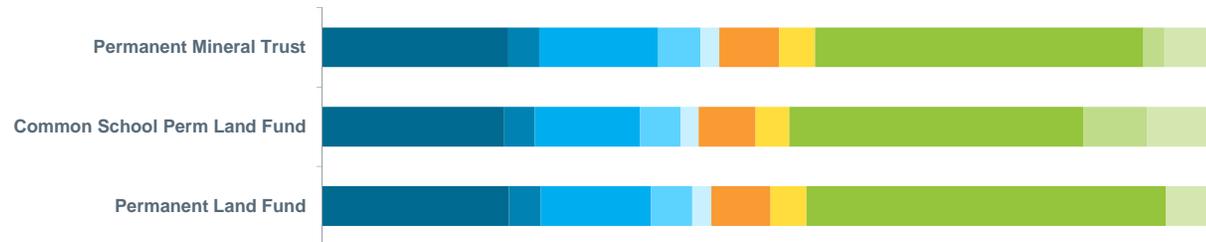
Note[7]: Cash Equivalents performance includes Extended Cash performance.

Note[8]: Market values shown for Public Purpose Investments reflect cost value of the investments.



**Wyoming State Treasurer's Office**  
**Investment Performance - Total Performance**  
 December 31, 2015

	Total Investment Value	Fiscal Year Ending 06/30/15 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
<b>Wyoming State Total Fund</b>	<b>\$19,332,042,417</b>	<b>\$19,695,833,197</b>	<b>\$19,262,830,758</b>	<b>100.0%</b>	<b>0.87%</b>	<b>-1.61%</b>	<b>-0.19%</b>	<b>3.51%</b>	<b>4.48%</b>	<b>5.07%</b>
<b>Investment Funds:</b>										
<b>Permanent Mineral Trust</b>	<b>\$6,932,331,398</b>	<b>\$7,172,217,627</b>	<b>\$7,003,590,380</b>	<b>100.0%</b>	<b>1.69%</b>	<b>-2.40%</b>	<b>-0.47%</b>	<b>4.95%</b>	<b>5.39%</b>	<b>5.35%</b>
US Equity	\$1,375,607,066	\$1,665,886,927	\$1,454,935,443	20.8%						
Global Equity	\$245,014,266	\$254,452,629	\$241,261,585	3.4%						
International Equity	\$973,862,969	\$1,126,604,931	\$929,842,110	13.3%						
Private Equity	\$243,843,823	\$320,120,321	\$332,343,878	4.7%						
Real Estate	\$432,895,279	\$390,751,742	\$466,807,175	6.7%						
Absolute Return	\$275,796,426	\$295,007,575	\$282,565,535	4.0%						
Convertible Bonds	\$137,484,327	\$155,254,050	\$145,388,536	2.1%						
Fixed Income	\$2,651,300,697	\$2,582,945,178	\$2,564,601,800	36.6%						
Public Purpose Investments	\$164,861,281	\$170,138,609	\$164,861,281	2.4%						
Cash (invested in State Agency Pool)	\$431,665,263	\$211,055,665	\$420,983,038	6.0%						
<i>Actual Allocation Index</i>					1.82%	-1.71%	-0.05%	5.10%	5.26%	4.80%
<b>Common School Perm Land Fund</b>	<b>\$3,341,488,538</b>	<b>\$3,405,296,800</b>	<b>\$3,375,100,469</b>	<b>100.0%</b>	<b>1.70%</b>	<b>-2.16%</b>	<b>-0.33%</b>	<b>5.09%</b>	<b>5.55%</b>	<b>5.56%</b>
US Equity	\$647,821,889	\$777,383,450	\$686,171,904	20.3%						
Global Equity	\$116,198,409	\$120,663,203	\$114,407,918	3.4%						
International Equity	\$413,935,715	\$479,054,511	\$396,284,375	11.7%						
Private Equity	\$117,188,117	\$144,305,762	\$152,865,065	4.5%						
Real Estate	\$198,491,270	\$173,038,594	\$213,913,161	6.3%						
Absolute Return	\$124,156,282	\$132,617,951	\$127,027,857	3.8%						
Convertible Bonds	\$65,130,000	\$72,734,316	\$68,211,408	2.0%						
Fixed Income	\$1,144,014,626	\$1,109,436,755	\$1,108,501,363	32.8%						
Public Purpose Investments	\$238,359,738	\$18,359,738	\$238,359,738	7.1%						
Cash (invested in State Agency Pool)	\$276,192,491	\$377,702,519	\$269,357,680	8.0%						
<i>Actual Allocation Index</i>					1.84%	-1.45%	0.12%	5.24%	5.31%	4.80%
<b>Permanent Land Fund</b>	<b>\$174,000,330</b>	<b>\$182,680,601</b>	<b>\$175,473,036</b>	<b>100.0%</b>	<b>1.59%</b>	<b>-2.27%</b>	<b>-0.55%</b>	<b>4.80%</b>	<b>5.28%</b>	<b>N/A</b>
US Equity	\$34,638,734	\$42,198,668	\$36,606,558	20.9%						
Global Equity	\$6,322,344	\$6,558,337	\$6,218,347	3.5%						
International Equity	\$22,451,939	\$26,153,978	\$21,576,385	12.3%						
Private Equity	\$6,209,190	\$7,819,680	\$8,092,822	4.6%						
Real Estate	\$10,803,833	\$9,304,261	\$11,593,992	6.6%						
Absolute Return	\$6,878,080	\$7,352,068	\$7,043,233	4.0%						
Convertible Bonds	\$3,549,159	\$3,988,356	\$3,727,768	2.1%						
Fixed Income	\$72,593,673	\$71,029,217	\$70,321,711	40.1%						
Cash (invested in State Agency Pool)	\$10,553,379	\$8,276,035	\$10,292,219	5.9%						
<i>Actual Allocation Index</i>					1.72%	-1.55%	-0.11%	4.98%	5.16%	N/A

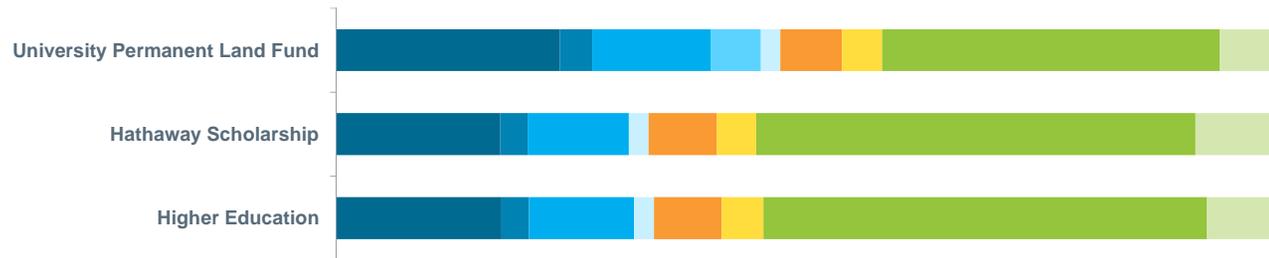


Note[1]: Performance shown is gross of fees with the exception of convertible bonds and absolute return, which are shown net of fees.  
 Note[2]: Pooled investment performance and market values shown reflect State Agency participation.  
 Note[3]: Pooled investment and Actual Allocation Index performance is calculated on a capital-weighted basis using beginning-period allocations.  
 Note[4]: Market values shown for Public Purpose Investments reflect cost value of the investments.



**Wyoming State Treasurer's Office**  
**Investment Performance - Total Performance**  
December 31, 2015

	Total Investment Value	Fiscal Year Ending 06/30/15 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
<b>Investment Funds:</b>										
<b>University Permanent Land Fund</b>	<b>\$19,629,375</b>	<b>\$20,065,162</b>	<b>\$20,121,207</b>	<b>100.0%</b>	<b>1.90%</b>	<b>-2.57%</b>	<b>-0.66%</b>	<b>4.97%</b>	<b>5.22%</b>	<b>N/A</b>
US Equity	\$4,333,662	\$6,018,300	\$4,753,152	23.6%						
Global Equity	\$701,430	\$728,783	\$691,002	3.4%						
International Equity	\$2,572,262	\$3,050,337	\$2,508,802	12.5%						
Private Equity	\$694,091	\$1,052,405	\$1,058,249	5.3%						
Real Estate	\$1,276,334	\$1,160,952	\$1,308,072	6.5%						
Absolute Return	\$834,425	\$893,421	\$855,602	4.3%						
Convertible Bonds	\$396,770	\$451,746	\$422,027	2.1%						
Fixed Income	\$7,429,545	\$5,923,351	\$7,167,864	35.6%						
Cash (invested in State Agency Pool)	\$1,390,856	\$785,866	\$1,356,437	6.7%						
<i>Actual Allocation Index</i>					2.06%	-1.89%	-0.22%	5.21%	5.21%	N/A
<b>Hathaway Scholarship</b>	<b>\$552,940,115</b>	<b>\$571,323,309</b>	<b>\$553,419,004</b>	<b>100.0%</b>	<b>1.24%</b>	<b>-2.00%</b>	<b>-0.29%</b>	<b>4.13%</b>	<b>4.88%</b>	<b>N/A</b>
US Equity	\$90,793,100	\$109,986,580	\$96,051,223	17.4%						
Global Equity	\$15,986,796	\$16,668,217	\$15,804,122	2.9%						
International Equity	\$60,986,891	\$71,989,575	\$59,231,863	10.7%						
Real Estate	\$33,972,086	\$35,540,088	\$39,896,829	7.2%						
Absolute Return	\$22,366,808	\$23,955,183	\$22,942,426	4.1%						
Convertible Bonds	\$10,710,409	\$12,239,032	\$11,450,048	2.1%						
Fixed Income	\$265,239,907	\$260,882,542	\$256,467,075	46.3%						
Cash (invested in State Agency Pool)	\$52,884,117	\$40,062,092	\$51,575,417	9.3%						
<i>Actual Allocation Index</i>					1.38%	-1.21%	0.21%	4.42%	4.81%	N/A
<b>Higher Education</b>	<b>\$114,256,130</b>	<b>\$117,971,275</b>	<b>\$114,174,825</b>	<b>100.0%</b>	<b>1.26%</b>	<b>-2.06%</b>	<b>-0.35%</b>	<b>4.11%</b>	<b>4.87%</b>	<b>N/A</b>
US Equity	\$18,861,278	\$23,087,367	\$19,934,768	17.5%						
Global Equity	\$3,349,844	\$3,493,072	\$3,311,988	2.9%						
International Equity	\$12,990,419	\$15,364,198	\$12,637,690	11.1%						
Real Estate	\$7,155,789	\$7,417,850	\$8,173,781	7.2%						
Absolute Return	\$4,890,998	\$5,243,118	\$5,021,382	4.4%						
Convertible Bonds	\$2,248,679	\$2,581,642	\$2,410,697	2.1%						
Fixed Income	\$55,240,967	\$54,968,637	\$53,401,905	46.8%						
Cash (invested in State Agency Pool)	\$9,518,155	\$5,815,391	\$9,282,614	8.1%						
<i>Actual Allocation Index</i>					1.40%	-1.27%	0.15%	4.40%	4.80%	N/A

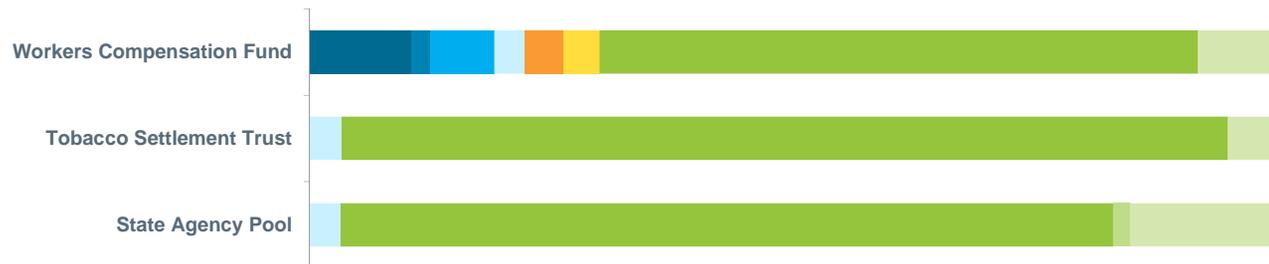


Note[1]: Performance shown is gross of fees with the exception of convertible bonds and absolute return, which are shown net of fees.  
Note[2]: Pooled investment performance and market values shown reflect State Agency participation.  
Note[3]: Pooled investment and Actual Allocation Index performance is calculated on a capital-weighted basis using beginning-period allocations.  
Note[4]: Market values shown for Public Purpose Investments reflect cost value of the investments.



**Wyoming State Treasurer's Office**  
**Investment Performance - Total Performance**  
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	Total Investment Value	Fiscal Year Ending 06/30/15 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
<b>Investment Funds:</b>										
<b>Workers Compensation Fund</b>	<b>\$1,807,042,726</b>	<b>\$1,790,804,972</b>	<b>\$1,789,218,510</b>	<b>100.0%</b>	<b>0.54%</b>	<b>-1.50%</b>	<b>-0.26%</b>	<b>3.08%</b>	<b>4.27%</b>	<b>5.34%</b>
US Equity	\$176,974,196	\$201,727,393	\$187,620,735	10.5%						
Global Equity	\$33,961,863	\$35,352,150	\$33,519,464	1.9%						
International Equity	\$122,001,366	\$142,805,733	\$118,188,029	6.6%						
Real Estate	\$59,132,010	\$60,030,202	\$70,631,685	3.9%						
Absolute Return	\$64,712,941	\$69,192,042	\$66,271,933	3.7%						
Convertible Bonds	\$53,256,782	\$60,126,052	\$56,257,208	3.1%						
Fixed Income	\$1,136,129,335	\$1,089,462,867	\$1,099,836,304	61.5%						
Cash (invested in State Agency Pool)	\$160,874,233	\$132,108,531	\$156,893,151	8.8%						
<i>Actual Allocation Index</i>					0.61%	-0.74%	0.15%	3.52%	4.27%	4.97%
<b>Tobacco Settlement Trust</b>	<b>\$84,408,955</b>	<b>\$83,395,482</b>	<b>\$81,838,846</b>	<b>100.0%</b>	<b>-0.56%</b>	<b>-0.59%</b>	<b>-0.07%</b>	<b>0.91%</b>	<b>3.14%</b>	<b>4.77%</b>
Convertible Bonds	\$2,536,499	\$2,855,650	\$2,662,017	3.3%						
Fixed Income	\$77,096,821	\$77,780,325	\$74,519,375	91.1%						
Cash (invested in State Agency Pool)	\$4,775,635	\$2,759,506	\$4,657,454	5.7%						
<i>Actual Allocation Index</i>					-0.52%	0.40%	0.41%	1.51%	3.27%	4.51%
<b>State Agency Pool</b>	<b>\$6,305,944,851</b>	<b>\$6,352,077,970</b>	<b>\$6,149,894,481</b>	<b>100.0%</b>	<b>-0.50%</b>	<b>-0.54%</b>	<b>-0.09%</b>	<b>0.75%</b>	<b>2.60%</b>	<b>4.26%</b>
Convertible Bonds	\$183,738,104	\$213,311,413	\$194,051,724	3.2%						
Fixed Income	\$5,045,100,207	\$5,407,936,857	\$4,878,699,539	79.3%						
Public Purpose Investments	\$107,796,047	\$142,485,718	\$107,796,047	1.8%						
Cash Equivalents	\$969,310,492	\$588,343,981	\$969,347,171	15.8%						
<i>Actual Allocation Index</i>					-0.46%	0.35%	0.33%	1.28%	2.76%	4.06%



Note[1]: Performance shown is gross of fees with the exception of convertible bonds and absolute return, which are shown net of fees.  
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Note[3]: Pooled investment and Actual Allocation Index performance is calculated on a capital-weighted basis using beginning-period allocations.  
Note[4]: Market values shown for Public Purpose Investments reflect cost value of the investments.

**Wyoming State Treasurer's Office**  
**Investment Performance - Total Performance**  
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Allocation by  
Asset Class

	Total Investment Value	Fiscal Year Ending 06/30/15 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
<b>Wyoming State Total Fund</b>	<b>\$19,332,042,417</b>	<b>\$19,695,833,197</b>	<b>\$19,262,830,758</b>	<b>100.0%</b>	<b>0.87%</b>	<b>-1.61%</b>	<b>-0.19%</b>	<b>3.51%</b>	<b>4.48%</b>	<b>5.07%</b>
<i>Wyoming State Actual Allocation Index</i>					<i>0.88%</i>	<i>-0.86%</i>	<i>0.23%</i>	<i>3.69%</i>	<i>4.42%</i>	<i>4.61%</i>
<b>US Equity</b>										
<b>State Street All Cap</b>	<b>\$1,470,088,084</b>	<b>\$1,842,397,542</b>	<b>\$1,562,284,738</b>		<b>6.11%</b>	<b>-1.27%</b>	<b>-0.02%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<i>State Street All Cap Custom Index</i>					<i>6.13%</i>	<i>-1.29%</i>	<i>0.12%</i>	<i>14.68%</i>	<i>12.24%</i>	<i>7.70%</i>
<b>Epoch</b>	<b>\$299,298,768</b>	<b>\$328,293,466</b>	<b>\$309,448,154</b>		<b>5.95%</b>	<b>-3.46%</b>	<b>-1.61%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>Lazard</b>	<b>\$281,985,425</b>	<b>\$317,092,540</b>	<b>\$314,276,214</b>		<b>5.38%</b>	<b>0.31%</b>	<b>4.26%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<i>Russell 3000</i>					<i>6.27%</i>	<i>-1.43%</i>	<i>0.48%</i>	<i>14.73%</i>	<i>12.18%</i>	<i>7.35%</i>
<b>UW Portfolio Management Program</b>	<b>\$1,000,000</b>	<b>\$1,211,204</b>	<b>\$1,194,219</b>		<b>5.92%</b>	<b>-0.64%</b>	<b>1.03%</b>	<b>12.24%</b>	<b>8.46%</b>	<b>N/A</b>
<i>S&amp;P 500</i>					<i>7.04%</i>	<i>0.15%</i>	<i>1.38%</i>	<i>15.13%</i>	<i>12.57%</i>	<i>7.31%</i>
<b>RBC</b>	<b>\$296,657,649</b>	<b>\$336,950,096</b>	<b>\$298,848,818</b>		<b>4.10%</b>	<b>-10.02%</b>	<b>-6.18%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<i>Russell 2000</i>					<i>3.59%</i>	<i>-8.75%</i>	<i>-4.41%</i>	<i>11.65%</i>	<i>9.18%</i>	<i>6.80%</i>
<b>State Street S&amp;P 500</b>	<b>\$0</b>	<b>\$343,837</b>	<b>\$21,640</b>		<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>Total US Equity</b>	<b>\$2,349,029,926</b>	<b>\$2,826,288,685</b>	<b>\$2,486,073,782</b>	<b>12.9%</b>						
<b>Global Equity</b>										
<b>Arrowstreet</b>	<b>\$421,534,952</b>	<b>\$437,916,390</b>	<b>\$415,214,427</b>		<b>4.64%</b>	<b>-4.40%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<i>MSCI ACW</i>					<i>5.03%</i>	<i>-4.90%</i>	<i>-2.36%</i>	<i>7.69%</i>	<i>6.09%</i>	<i>4.75%</i>
<b>Total Global Equity</b>	<b>\$421,534,952</b>	<b>\$437,916,390</b>	<b>\$415,214,427</b>	<b>2.2%</b>						
<b>International Equity</b>										
<b>Northern Trust</b>	<b>\$884,910,529</b>	<b>\$948,944,870</b>	<b>\$849,885,311</b>		<b>3.04%</b>	<b>-9.40%</b>	<b>-5.70%</b>	<b>1.60%</b>	<b>1.25%</b>	<b>N/A</b>
<i>MSCI ACW Ex US</i>					<i>3.24%</i>	<i>-9.32%</i>	<i>-5.66%</i>	<i>1.50%</i>	<i>1.06%</i>	<i>2.92%</i>
<b>The Boston Company</b>	<b>\$31,433,523</b>	<b>\$164,735,213</b>	<b>\$268,295</b>		<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>Fisher Investments</b>	<b>\$442,234,379</b>	<b>\$499,476,424</b>	<b>\$460,601,753</b>		<b>5.13%</b>	<b>-7.06%</b>	<b>-1.84%</b>	<b>4.25%</b>	<b>3.23%</b>	<b>4.37%</b>
<i>Fisher Custom Index</i>					<i>3.24%</i>	<i>-9.32%</i>	<i>-5.66%</i>	<i>1.50%</i>	<i>1.06%</i>	<i>2.09%</i>
<b>Manning &amp; Napier</b>	<b>\$250,223,132</b>	<b>\$251,866,757</b>	<b>\$229,513,894</b>		<b>5.83%</b>	<b>-8.21%</b>	<b>-4.39%</b>	<b>2.10%</b>	<b>1.42%</b>	<b>N/A</b>
<i>MSCI ACW Ex US</i>					<i>3.24%</i>	<i>-9.32%</i>	<i>-5.66%</i>	<i>1.50%</i>	<i>1.06%</i>	<i>2.92%</i>
<b>Total International Equity</b>	<b>\$1,608,801,562</b>	<b>\$1,865,023,263</b>	<b>\$1,540,269,254</b>	<b>8.0%</b>						
<b>Private Equity</b>										
<b>Access Venture Partners II</b>	<b>\$7,423,423</b>	<b>\$15,782,157</b>	<b>\$16,009,383</b>							
<b>Cheyenne Capital Fund, L.P.</b>	<b>\$205,035,394</b>	<b>\$322,563,803</b>	<b>\$309,831,550</b>							
<b>Hamilton Lane Nowood Fund, L.P.</b>	<b>\$68,076,404</b>	<b>\$50,167,774</b>	<b>\$67,777,373</b>							
<b>Neuberger Berman Sauger Fund, L.P.</b>	<b>\$87,400,000</b>	<b>\$84,784,434</b>	<b>\$100,741,708</b>							
<i>S&amp;P 500 + 5%</i>					<i>8.36%</i>	<i>2.62%</i>	<i>6.45%</i>	<i>20.88%</i>	<i>18.20%</i>	<i>12.67%</i>
<b>Total Private Equity</b>	<b>\$367,935,221</b>	<b>\$473,298,168</b>	<b>\$494,360,014</b>	<b>2.6%</b>						
<b>Real Estate</b>										
<b>Clarion Lion</b>	<b>\$266,303,630</b>	<b>\$287,893,257</b>	<b>\$301,634,992</b>		<b>3.37%</b>	<b>6.81%</b>	<b>15.70%</b>	<b>13.89%</b>	<b>14.23%</b>	<b>5.41%</b>
<b>UBS Trumbull</b>	<b>\$241,303,630</b>	<b>\$153,926,943</b>	<b>\$263,820,487</b>		<b>3.01%</b>	<b>6.54%</b>	<b>12.95%</b>	<b>11.68%</b>	<b>11.68%</b>	<b>N/A</b>
<i>NCREIF ODCE</i>					<i>3.34%</i>	<i>7.14%</i>	<i>15.01%</i>	<i>13.81%</i>	<i>13.66%</i>	<i>6.53%</i>
<b>Core Real Estate</b>	<b>\$507,607,260</b>	<b>\$441,820,200</b>	<b>\$565,455,479</b>	<b>2.9%</b>						
<b>Cornerstone</b>	<b>\$15,495,355</b>	<b>\$17,946,698</b>	<b>\$16,154,278</b>							
<b>Heitman</b>	<b>\$4,205,616</b>	<b>\$6,594,614</b>	<b>\$4,642,651</b>							
<b>M&amp;G</b>	<b>\$58,927,943</b>	<b>\$45,377,447</b>	<b>\$55,478,390</b>							
<b>Northwood</b>	<b>\$92,390,743</b>	<b>\$85,951,768</b>	<b>\$100,579,438</b>							
<b>TA Realty</b>	<b>\$12,391,896</b>	<b>\$10,429,581</b>	<b>\$10,104,124</b>							
<b>WestRiver</b>	<b>\$52,707,788</b>	<b>\$69,123,382</b>	<b>\$59,910,337</b>							
<i>NCREIF Property</i>					<i>2.91%</i>	<i>6.09%</i>	<i>13.33%</i>	<i>12.04%</i>	<i>12.18%</i>	<i>7.75%</i>
<b>Value-Added Real Estate</b>	<b>\$236,119,341</b>	<b>\$235,423,491</b>	<b>\$246,869,217</b>	<b>1.3%</b>						
<b>Total Real Estate</b>	<b>\$743,726,601</b>	<b>\$677,243,691</b>	<b>\$812,324,696</b>	<b>4.2%</b>						

Note[1]: Returns are stated in traditional total return terms and do not specify realized income.

Note[2]: State Street All Cap Custom Index consists of 69% R 3000, 24% FTSE RAFI US 1000, 7% MSCI USA Minimum Volatility.

Note[3]: Market value shown for State Street S&P 500 and The Boston Company represents residual assets and subsequent transactions from the liquidation process.

Note[4]: Fisher Custom Index consists of MSCI EAFE (Gross) through July 2010 and the MSCI ACW Ex US (Net) thereafter.

Note[5]: Market values for non-core real estate and private equity are as of the most recent valuation, adjusted for subsequent cash flows. Investment (Cost) Values are not lagged.

Note[6]: Performance for Private Equity and Value-Added Real Estate investments is calculated on an IRR basis. For further analysis, please refer to the supplementary alternatives report.

Note[7]: Market values for M&G are converted from British Pounds using the noon New York City Federal exchange rate. Cost values are converted using the 5pm London WM Benchmark rate.



**Wyoming State Treasurer's Office**  
**Investment Performance - Total Performance**  
December 31, 2015

Allocation by  
Asset Class

	Total Investment Value	Fiscal Year Ending 06/30/15 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
<b>Absolute Return</b>										
PAAMCO - Jackalope Fund HFN FOF Multi-Strat	\$499,635,960	\$533,628,110	\$511,727,967		-0.52%	-4.10%	-1.80%	4.93%	3.53%	N/A
Aurora L.P.	\$0	\$50	\$0		0.17%	-3.75%	-1.24%	3.54%	1.90%	1.95%
Aurora L.P. II	\$0	\$65	\$0		N/A	N/A	N/A	N/A	N/A	N/A
Grosvenor Global Recovery Fund	\$0	\$633,134	\$0		N/A	N/A	N/A	N/A	N/A	N/A
<b>Total Absolute Return</b>	<b>\$499,635,960</b>	<b>\$534,261,359</b>	<b>\$511,727,967</b>	<b>2.7%</b>						
<b>Convertible Bonds</b>										
Allianz Global Investors BofA ML All Quality Convertible	\$486,668,624	\$549,687,549	\$513,749,582	2.7%	1.69%	-6.15%	-1.49%	9.68%	7.68%	8.65%
					0.59%	-6.59%	-3.24%	9.78%	7.59%	6.65%
<b>Fixed Income</b>										
WAMCO Core Plus	\$0	\$196,927	\$98,464		N/A	N/A	N/A	N/A	N/A	N/A
C.S. McKee	\$719,339,981	\$793,992,870	\$718,387,313		-0.12%	1.10%	1.49%	1.62%	N/A	N/A
JP Morgan Core	\$2,145,733,799	\$2,364,578,867	\$2,129,847,886		-0.81%	0.77%	1.25%	1.82%	N/A	N/A
MacKay Shields	\$1,068,730,167	\$1,167,564,400	\$1,053,288,357		-0.66%	0.54%	0.00%	1.16%	N/A	N/A
Neuberger Berman Core	\$1,070,003,003	\$1,180,821,877	\$1,059,949,408		-0.49%	0.37%	0.36%	1.43%	N/A	N/A
PIMCO Core	\$2,207,496,710	\$1,948,555,403	\$2,198,252,868		-0.67%	-0.03%	0.50%	1.23%	N/A	N/A
Wells Capital	\$717,542,144	\$792,246,713	\$713,128,435		-0.52%	0.55%	0.81%	1.68%	N/A	N/A
Barclays US Aggregate					-0.57%	0.65%	0.55%	1.44%	3.25%	4.52%
Neuberger Berman Credit	\$590,327,704	\$589,739,313	\$562,978,330		-1.61%	-2.30%	0.08%	N/A	N/A	N/A
Seix	\$593,160,037	\$590,725,326	\$562,336,000		-1.60%	-3.37%	-0.91%	N/A	N/A	N/A
Credit Custom Index					-1.79%	-3.44%	-1.47%	1.87%	3.92%	5.06%
Grosvenor Silvery Lupine Fund CS Western European HY	\$300,000,000	\$281,872,385	\$312,454,846		0.81%	1.06%	4.68%	N/A	N/A	N/A
					1.16%	-0.86%	1.83%	5.19%	7.36%	7.92%
Investec	\$297,714,010	\$224,589,571	\$194,929,340		-0.37%	-10.52%	-14.68%	N/A	N/A	N/A
Stone Harbor	\$297,712,381	\$212,958,935	\$182,800,733		0.09%	-11.51%	-14.61%	N/A	N/A	N/A
JPM GBI-EM Gbl Dvfd					-0.01%	-10.55%	-14.92%	-9.95%	-3.48%	4.31%
State Street TIPS Barclays US Trsy: US TIPS (Series B)	\$733,173,187	\$700,622,688	\$683,840,494		-0.60%	-1.81%	-1.75%	-2.34%	N/A	N/A
					-0.63%	-1.84%	-1.72%	-2.34%	2.63%	3.98%
Wyoming State Treasurer's Office Barclays US Govt: Int Trm	\$471,547,714	\$474,743,962	\$474,547,637		-0.11%	0.96%	1.93%	0.99%	2.25%	3.52%
					-0.84%	0.36%	1.18%	0.81%	2.03%	3.71%
<b>Total Fixed Income</b>	<b>\$11,212,480,838</b>	<b>\$11,323,209,238</b>	<b>\$10,846,840,112</b>	<b>56.3%</b>						
<b>Public Purpose Investments</b>										
	\$527,220,019	\$348,448,346	\$527,220,019	2.7%	N/A	N/A	N/A	N/A	N/A	N/A
<b>Cash &amp; Cash Equivalents</b>										
JP Morgan Cash Composite JP Morgan Cash Custom Index	\$1,115,008,713	\$660,456,507	\$1,115,050,906	5.8%	0.00%	0.07%	0.22%	0.24%	0.33%	1.71%
					0.00%	0.07%	0.18%	0.16%	0.28%	1.65%

Note[1]: Performance shown is gross of fees with the exception of absolute return and convertible bonds, which are shown net of fees.

Note[2]: Returns are stated in traditional total return terms and do not specify realized income.

Note[3]: Market value shown for WAMCO Core Plus represents residual assets and subsequent transactions from the liquidation process.

Note[4]: The Credit Custom Index consists of 20% Barclays US Credit, 20% BofA ML US HY Master II Constrained, 60% S&P/LSTA Leveraged Loan.

Note[5]: Internal portfolio performance is negatively impacted by distressed securities taken in from dismissed managers.

Note[6]: Market values shown for Public Purpose Investments reflect cost value of the investments.

Investment Policy Guidelines	Meeting Objective			Explanation
	Yes	No	N/A	Explanation
<b>1. Total Fund</b>				
Exceed the rate of inflation (C.P.I.) over a market cycle of 5-years.	✓			Wyoming returned 4.5% vs. 1.5% for the C.P.I. for the current 5-year period
Exceed a weighted index of the total fund's asset allocation and component benchmarks over rolling 5-year periods by an appropriate amount.	✓			Wyoming returned 4.5% vs. 4.4% for the Actual Allocation Index for the current 5-year period
Not more than 1% of the outstanding common shares of any corporation shall be owned by the State. An exception may be made for Alternative Investments.	✓			
Not more than 1.5% of the total book value of permanent funds shall be invested in the common stock of any corporation. An exception may be made for Alternative Investments.	✓			

	Yes	No	N/A	Explanation
<b>2. Investment Funds</b>				
<b>a) Permanent Mineral Trust Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Permanent Mineral Trust Fund return was 5.4% vs. 5.3% for the Actual Allocation Index
<b>b) Common School Permanent Land Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Common School Permanent Land Fund return was 5.6% vs. 5.3% for the Actual Allocation Index
<b>c) Permanent Land Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Permanent Land Fund return was 5.3% vs. 5.2% for the Actual Allocation Index
<b>d) University Permanent Land Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: University Permanent Land Fund return was 5.2% vs. 5.2% for the Actual Allocation Index
<b>e) Hathaway Scholarship Endowment Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Hathaway Scholarship Endowment Fund return was 4.9% vs. 4.8% for the Actual Allocation Index
<b>f) Higher Education Endowment Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Higher Education Endowment Fund return was 4.9% vs. 4.8% for the Actual Allocation Index
<b>g) Workers Compensation Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Workers Compensation Fund return was 4.3% vs. 4.3% for the Actual Allocation Index
<b>h) Tobacco Settlement Trust Fund</b>				
At least 5% to 10% of the fund balance should be invested in securities with maturities of less than one year.	✓			
No public and/or private equities are permitted.	✓			
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: Tobacco Settlement Trust Fund return was 3.1% vs. 3.3% for the Actual Allocation Index
<b>i) State Agency Pool</b>				
At least 10% to 15% of the fund balance should be invested in securities with maturities of less than one year.	✓			
No public and/or private equities are permitted.	✓			
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: State Agency Pool return was 2.6% vs. 2.8% for the Actual Allocation Index

	Yes	No	N/A	Explanation
<b>3. US Equity Portfolios</b>				
<b>a) State Street Global Advisors – All Cap – Passive</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Apple Inc = 2.2%
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Meet performance of the State Street All Cap Custom Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2015
<b>b) Epoch – All Cap</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Apple Inc = 4.3%
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Outperform the Russell 3000 Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 11/2014
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 11/2014

	Yes	No	N/A	Explanation
<b>c) Lazard – All Cap</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Alphabet Inc = 6.1%  Breaches were exclusively due to market movement/appreciation.
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Outperform the Russell 3000 Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 11/2014
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 11/2014
<b>d) RBC – Small Cap</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Universal Electronics Inc = 4.0%
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Outperform the Russell 2000 Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 11/2014
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 11/2014

	Yes	No	N/A	Explanation
<b>4. Global Equity Portfolios</b>				
<b>a) Arrowstreet – Global Equity</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Comcast Corp = 2.0%
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Outperform the MSCI ACW Index (Net), net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 03/2015
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 03/2015

	Yes	No	N/A	Explanation
<b>5. International Equity Portfolios</b>				
<b>a) Northern Trust – Int'l – Passive</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Nestle SA = 1.4%
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Meet performance of the MSCI ACW Ex US Index (Net), net of fees, over a full market cycle, approximated by the most recent five-year period.				5-year: Northern Trust net of fees return was 1.3% vs. 1.1% for the MSCI ACW Ex US Index (Net)
<b>b) Fisher – Int'l Active</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Novo Nordisk A/S = 4.2%
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Outperform the Fisher Custom Index*, net of fees, over a full market cycle, approximated by the most recent five-year period.	✓			5-year: Fisher net of fees return was 2.8% vs. 1.1% for the Fisher Custom Index
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.		✗		5-year: Fisher ranked in the 59th percentile for International

\*Fisher Custom Index consists of MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter.

	Yes	No	N/A	Explanation
<b>c) Manning &amp; Napier – Int'l Active</b>				
A maximum of the greater of five percent (5%), or the benchmark weighting plus two percent (2%), of the total stock portfolio of a manager may be invested in any one security.	✓			Largest Holding: Baidu Inc = 4.4%
A maximum of one percent (1%) of the outstanding float of shares of one company may be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. A maximum of five percent (5%) of the outstanding float of shares of one company may be held in companies with market capitalizations of less than \$5 Billion at the time of purchase.	✓			
The maximum allowable in any sector, as defined as Global Industry Classification System Level 1, is two and one-half (2.5) times the respective benchmark weighting, unless the contract with the investment manager specifically provides otherwise.	✓			
A minimum number of twenty (20) securities shall be held.	✓			
Outperform the MSCI ACW Ex US Index (Net), net of fees, over a full market cycle, approximated by the most recent five-year period.		✗		5-year: Manning & Napier net of fees return was 0.9% vs. 1.1% for the MSCI ACW Ex US Index (Net)
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.		✗		5-year: Manning & Napier ranked in the 70th percentile for International

	Yes	No	N/A	Explanation
<b>6. Alternative Strategies</b>				
<b>Core Real Estate</b>				
<b>a) Clarion Lion</b>				
Outperform the NCREIF Fund Index – Open-End Diversified Core Equity (ODCE), net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Clarion Lion net of fees return was 13.3% vs. 12.6% for the NCREIF ODCE Index (Net) (AWA)
<b>b) UBS Trumbull</b>				
Outperform the NCREIF Fund Index – Open-End Diversified Core Equity (ODCE), net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: UBS Trumbull net of fees return was 10.6% vs. 12.6% for the NCREIF ODCE Index (Net) (AWA)
<b>Absolute Return</b>				
<b>c) PAAMCO</b>				
Outperform the 90-Day T-Bills by 500 basis points, net of all fees (including underlying fund manager fees), over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: PAAMCO net of fees return was 3.5% vs. 0.1% for the BofA ML 3 Mo US T-Bill Index
Outperform the HFN Fund of Funds Multi-Strategy Index, net of all fees (including underlying fund manager fees), over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: PAAMCO net of fees return was 3.5% vs. 1.9% for the HFN FOF Multi-Strategy Index
<b>7. Convertible Bond Portfolios</b>				
<b>a) Allianz Global Investors</b>				
Outperform the BofA ML All Quality Convertible Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Allianz Global Investors net of fees return was 7.7% vs. 7.6% for the BofA ML All Quality Convertible Bond Index

	Yes	No	N/A	Explanation
<b>8. Fixed Income Portfolios</b>				
<b>a) C.S. McKee – Core</b>				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a ten percent (10%) per issuer limit excluding investments in commingled vehicles.	✓			
Non-US dollar denominated securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to ten percent (10%) of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500 million.	✓			
Duration must fall in the range of plus or minus twenty percent (20%) of the Barclays US Aggregate Bond Index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 or equivalent for commercial paper BBB- for Corporate Bonds BBB- for Mortgage-Backed Securities BBB- for Commercial Mortgage-Backed Securities BBB- for Asset-Backed Securities BBB- for Non-US Dollar Denominated Securities BBB- for Dollar Denominated Emerging Market Securities	✓			
Average portfolio credit quality must be A- or better.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
A minimum number of 25 securities shall be held.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than five percent (5%) of the portfolio market value.	✓			
Private placements, including 144A securities are not permitted.	✓			
Outperform the Barclays US Aggregate Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2013

	Yes	No	N/A	Explanation
<b>b) JP Morgan – Core</b>				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a ten percent (10%) per issuer limit excluding investments in commingled vehicles.	✓			
Non-US dollar denominated securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.			N/A	
Private mortgage-backed and asset-backed securities are limited to ten percent (10%) of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500 million.			N/A	
Duration must fall in the range of plus or minus twenty percent (20%) of the Barclays US Aggregate Bond Index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 or equivalent for commercial paper BBB- for Corporate Bonds BBB- for Mortgage-Backed Securities BBB- for Commercial Mortgage-Backed Securities BBB- for Asset-Backed Securities BBB- for Non-US Dollar Denominated Securities BBB- for Dollar Denominated Emerging Market Securities	✓			
Average portfolio credit quality must be A- or better.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.			N/A	
A minimum number of 25 securities shall be held.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than five percent (5%) of the portfolio market value.	✓			
Private placements, including 144A securities are not permitted.	✓			
Outperform the Barclays US Aggregate Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2013

	Yes	No	N/A	Explanation
<b>c) MacKay Shields – Core</b>				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a ten percent (10%) per issuer limit excluding investments in commingled vehicles.	✓			
Non-US dollar denominated securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to ten percent (10%) of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500 million.	✓			
Duration must fall in the range of plus or minus twenty percent (20%) of the Barclays US Aggregate Bond Index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 or equivalent for commercial paper BBB- for Corporate Bonds BBB- for Mortgage-Backed Securities BBB- for Commercial Mortgage-Backed Securities BBB- for Asset-Backed Securities BBB- for Non-US Dollar Denominated Securities BBB- for Dollar Denominated Emerging Market Securities	✓			
Average portfolio credit quality must be A- or better.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
A minimum number of 25 securities shall be held.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than five percent (5%) of the portfolio market value.	✓			
Private placements, including 144A securities are not permitted.	✓			
Outperform the Barclays US Aggregate Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2013

	Yes	No	N/A	Explanation
<b>d) Neuberger Berman – Core</b>				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a ten percent (10%) per issuer limit excluding investments in commingled vehicles.	✓			
Non-US dollar denominated securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to ten percent (10%) of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500 million.	✓			
Duration must fall in the range of plus or minus twenty percent (20%) of the Barclays US Aggregate Bond Index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 or equivalent for commercial paper BBB- for Corporate Bonds BBB- for Mortgage-Backed Securities BBB- for Commercial Mortgage-Backed Securities BBB- for Asset-Backed Securities BBB- for Non-US Dollar Denominated Securities BBB- for Dollar Denominated Emerging Market Securities	✓			Neuberger Berman received a waiver to transition securities rated below these minimums from the Core Plus portfolio. This is reported to the Wyoming State Treasurer's Office on a monthly basis.
Average portfolio credit quality must be A- or better.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
A minimum number of 25 securities shall be held.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than five percent (5%) of the portfolio market value.	✓			
Private placements, including 144A securities are not permitted.	✓			
Outperform the Barclays US Aggregate Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2013

	Yes	No	N/A	Explanation
<b>e) PIMCO – Core</b>				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a ten percent (10%) per issuer limit excluding investments in commingled vehicles.	✓			
Non-US dollar denominated securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to ten percent (10%) of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500 million.	✓			
Duration must fall in the range of plus or minus twenty percent (20%) of the Barclays US Aggregate Bond Index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 or equivalent for commercial paper BBB- for Corporate Bonds BBB- for Mortgage-Backed Securities BBB- for Commercial Mortgage-Backed Securities BBB- for Asset-Backed Securities BBB- for Non-US Dollar Denominated Securities BBB- for Dollar Denominated Emerging Market Securities	✓			The account continues to hold previously reported downgraded positions that were compliant at the time of purchase.
Average portfolio credit quality must be A- or better.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
A minimum number of 25 securities shall be held.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than five percent (5%) of the portfolio market value.	✓			
Private placements, including 144A securities are not permitted.	✓			
Outperform the Barclays US Aggregate Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2013

	Yes	No	N/A	Explanation
<b>f) Wells Capital – Core</b>				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a ten percent (10%) per issuer limit excluding investments in commingled vehicles.	✓			
Non-US dollar denominated securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to ten percent (10%) of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500 million.	✓			
Duration must fall in the range of plus or minus twenty percent (20%) of the Barclays US Aggregate Bond Index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 or equivalent for commercial paper BBB- for Corporate Bonds BBB- for Mortgage-Backed Securities BBB- for Commercial Mortgage-Backed Securities BBB- for Asset-Backed Securities BBB- for Non-US Dollar Denominated Securities BBB- for Dollar Denominated Emerging Market Securities	✓			
Average portfolio credit quality must be A- or better.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than ten percent (10%) of the portfolio market value.	✓			
A minimum number of 25 securities shall be held.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than five percent (5%) of the portfolio market value.	✓			
Private placements, including 144A securities are not permitted.	✓			
Outperform the Barclays US Aggregate Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2013

	Yes	No	N/A	Explanation
<b>g) Neuberger Berman – Credit</b>				
Duration must not exceed plus two (2) years of the custom index.	✓			
Minimum Issue Credit Rating for commercial paper will be A1.	✓			
Average portfolio credit quality must be B or better.	✓			
Obligations of specific issuers are subject to five percent (5%) per issuer limit, excluding investments in commingled vehicles.	✓			
Standalone purchases of private placements, including 144A securities, are not allowed.	✓			
Outperform the State's custom benchmark as measured by twenty percent (20%) Barclays US Credit Index, twenty percent (20%) BofA Merrill Lynch US High Yield Master II Constrained Index and sixty percent (60%) S&P/LSTA Leveraged Loan Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 04/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 04/2013
<b>Investment Grade Credit Sleeve:</b>				
Minimum Issue Credit Rating at the time of purchase will be: BBB- for individual securities.	✓			
Minimum of ten percent (10%) of the total portfolio must be invested in investment grade rated securities and a maximum of sixty percent (60%) of the total portfolio can be invested in investment grade rated securities.	✓			
<b>High Yield Sleeve:</b>				
Minimum Issue Credit Rating at the time of purchase will be: CCC- for individual securities. Securities that are not rated shall be, in the judgement of the investment manager, of credit quality equal or superior to the standards described above.	✓			
Maximum of forty percent (40%) of the total portfolio can be invested in high yield bonds.	✓			
<b>Bank Loan Sleeve:</b>				
Minimum Issue Credit Rating at the time of purchase will be: CCC for individual securities. Securities that are not rated shall be, in the judgement of the investment manager, of credit quality equal or superior to the standards described above.	✓			
Minimum of forty percent (40%) of the total portfolio must be invested in bank loans and a maximum of eighty percent (80%) of the total portfolio can be invested in bank loans.	✓			

	Yes	No	N/A	Explanation
<b>h) Seix – Credit</b>				
Duration must not exceed plus two (2) years of the custom index.	✓			
Minimum Issue Credit Rating for commercial paper will be A1.	✓			
Average portfolio credit quality must be B or better.	✓			
Obligations of specific issuers are subject to five percent (5%) per issuer limit, excluding investments in commingled vehicles.	✓			
Standalone purchases of private placements, including 144A securities, are not allowed.	✓			The portfolio contains a single investment in a private fund that The State of Wyoming is eligible to purchase. This private fund is a QIB and is permitted to purchase 144A securities.
Outperform the State's custom benchmark as measured by twenty percent (20%) Barclays US Credit Index, twenty percent (20%) BofA Merrill Lynch US High Yield Master II Constrained Index and sixty percent (60%) S&P/LSTA Leveraged Loan Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 05/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 05/2013
<b>Investment Grade Credit Sleeve:</b>				
Minimum Issue Credit Rating at the time of purchase will be: BBB- for individual securities.	✓			
Minimum of ten percent (10%) of the total portfolio must be invested in investment grade rated securities and a maximum of sixty percent (60%) of the total portfolio can be invested in investment grade rated securities.	✓			
<b>High Yield Sleeve:</b>				
Minimum Issue Credit Rating at the time of purchase will be: CCC- for individual securities. Securities that are not rated shall be, in the judgement of the investment manager, of credit quality equal or superior to the standards described above.	✓			
Maximum of forty percent (40%) of the total portfolio can be invested in high yield bonds.	✓			
<b>Bank Loan Sleeve:</b>				
Minimum Issue Credit Rating at the time of purchase will be: CCC for individual securities. Securities that are not rated shall be, in the judgement of the investment manager, of credit quality equal or superior to the standards described above.	✓			
Minimum of forty percent (40%) of the total portfolio must be invested in bank loans and a maximum of eighty percent (80%) of the total portfolio can be invested in bank loans.	✓			

	Yes	No	N/A	Explanation
<b>i) Grosvenor Silvery Lupine Fund – Opportunistic Fixed Income</b>				
Outperform the CS Western European Hi Yld Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 07/2014
<b>j) Investec – Emerging Market Debt (Local Currency)</b>				
Duration must fall in the range of plus or minus twenty percent (20%) of the index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 for commercial paper B- for individual securities Where a security is not rated at the issue level, the issuer rating will be relied upon.	✓			
Average portfolio credit quality must be BB+ or better.	✓			
Obligations of individual sovereign/quasi-sovereign issuer are subject to a twenty-five percent (25%) per issuer limit.	✓			
Private placements, including 144A securities are not allowed.	✓			There are three 144A securities held by this portfolio. Retention of this security in the portfolio is permitted pursuant to Section 7.2 of the Investment Policy.
The investment manager, as part of managing the account, can take net investment positions of up to twenty percent (20%) of the portfolio in currency and currency forwards.	✓			
Outperform the JP Morgan GBI-EM Global Diversified Unhedged Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 04/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 04/2013

	Yes	No	N/A	Explanation
<b>k) Stone Harbor – Emerging Market Debt (Local Currency)</b>				
Duration must fall in the range of plus or minus twenty percent (20%) of the index.	✓			
Minimum Issue Credit Rating at the time of purchase will be: A1 for commercial paper B- for individual securities Where a security is not rated at the issue level, the issuer rating will be relied upon.	✓			The portfolio currently holds securities which are rated below B-. On the original date of purchase, the securities were rated above B3/B-.
Average portfolio credit quality must be BB+ or better.	✓			
Obligations of individual sovereign/quasi-sovereign issuer are subject to a twenty-five percent (25%) per issuer limit.	✓			
Private placements, including 144A securities are not allowed.	✓			The portfolio holds private placement and 144A securities. Retention of these securities in the portfolio is permitted pursuant to Section 7.2 of the Investment Policy.
The investment manager, as part of managing the account, can take net investment positions of up to twenty percent (20%) of the portfolio in currency and currency forwards.	✓			
Outperform the JP Morgan GBI-EM Global Diversified Unhedged Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 04/2013
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 04/2013
<b>l) State Street – US TIPS – Passive</b>				
Meet the performance of the Barclays US TIPS Index with minimal tracking error, gross of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2013

	Yes	No	N/A	Explanation
<b>8. Cash and Cash Equivalents Portfolios</b>				
<b>JP Morgan Cash Composite*</b>				
<b>a) JP Morgan Treasury Cash</b>				
Portfolio's weighted average maturity is not to exceed 90 days.	✓			
Portfolio's maximum average cash flow weighted duration of the portfolio must not exceed 90 days.	✓			
The market value of the portfolio must remain within plus or minus one-half percent (0.5%) of one percent (1%) of amortized cost.	✓			
A maximum of 10% of total assets shall be placed in the securities of one issuer except for government securities.	✓			
Investment in any single issuer must not exceed 5% of the outstanding issues of that issuer.	✓			
Investment performance must exceed Monitored Repurchase Agreement Rate and the cash equivalents allocation by the 90-day T-Bill rate, net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: JP Morgan Treasury Cash net of fees return was 0.0% vs. 0.1% for the BofA ML 3 Mo US T-Bill Index
<b>b) JP Morgan Treasury Extended Cash</b>				
Portfolio's average cash flow weighted duration is not to exceed 3 years.	✓			
Average cash flow weighted duration is not to exceed 3 years.	✓			
Individual securities must not exceed cash flow weighted duration of greater than 5-years.		✗		One security has cash flow weighted duration extended past 5 years. The State has been made aware of this security.
A maximum of 10% of total assets shall be placed in the securities of one issuer except for government securities.	✓			
Investment Performance must exceed an Equal Weighted Blend of the BofA Merrill Lynch 1-3 Year Agency, 1-3 Year Treasury, and a 0-3 Year Mortgage Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: JP Morgan Treasury Extended Cash net of fees return was 1.0% vs. 1.0% for the Blended Index
The extended portfolio must not exceed 35% of the total JP Morgan managed portfolio.	✓			

\*During the fourth quarter of 2011, JP Morgan Treasury Cash and JP Morgan Treasury Extended Cash were combined. Net of fees performance shown consists of performance calculated by RVK, Inc. prior to December 31, 2011 and performance calculated by JP Morgan thereafter.

	Yes	No	N/A	Explanation
<b>JP Morgan Wyo-Star Cash Composite*</b>				
<b>c) JP Morgan Wyo-Star Cash</b>				
Portfolio's weighted average maturity is not to exceed 90 days.	✓			
Portfolio's maximum average cash flow weighted duration of the portfolio must not exceed 90 days.	✓			
The market value of the portfolio must remain within plus or minus one-half percent (0.5%) of one percent (1%) of amortized cost.	✓			
A maximum of 10% of total assets shall be placed in the securities of one issuer except for government securities.	✓			
Investment in any single issuer must not exceed 5% of the outstanding issues of that issuer.	✓			
Investment performance must exceed Monitored Repurchase Agreement Rate and the cash equivalents allocation by the 90-day T-Bill rate, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 10/1996
<b>d) JP Morgan Wyo-Star Extended Cash</b>				
Portfolio's average cash flow weighted duration is not to exceed 3 years.	✓			
Average cash flow weighted duration is not to exceed 3 years.	✓			
Individual securities must not exceed cash flow weighted duration of greater than 5-years.		✗		One security has cash flow weighted duration extended past 5 years. The State has been made aware of this security.
A maximum of 10% of total assets shall be placed in the securities of one issuer except for government securities.	✓			
Investment Performance must exceed an Equal Weighted Blend of the BofA Merrill Lynch 1-3 Year Agency, 1-3 Year Treasury, and a 0-3 Year Mortgage Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: JP Morgan Wyo-Star Extended Cash net of fees return was 0.9% vs. 1.0% for the Blended Index
The extended portfolio must not exceed 35% of the total JP Morgan managed portfolio.	✓			

\*During the fourth quarter of 2011, JP Morgan Wyo-Star Cash and JP Morgan Wyo-Star Extended Cash were combined. Net of fees performance shown consists of performance calculated by RVK, Inc. prior to December 31, 2011 and performance calculated by JP Morgan thereafter.

**Custom Benchmark Comments**

The Wyoming State Actual Allocation Index is calculated using beginning month asset class weights applied to the appropriate asset class benchmark return, using the US Equity Custom Index for US equities, MSCI ACW Index (Net) for global equities, MSCI ACW Ex US Index (Net) for international equities, Barclays US Aggregate Bond Index for fixed income, BofA Merrill Lynch All Convertibles Index (All Qualities) for convertible bonds, NCREIF Open-End Diversified Core Equity Index (Gross) (AWA) for core real estate, NCREIF Property Index for value-added real estate, the State's actual private equity investment returns for private equity, HFN Fund of Funds Multi-Strat Index for absolute return, and BofA Merrill Lynch 90 day US T-Bill rate for cash equivalents.

Pooled Fund actual allocation indices are calculated using beginning month asset class weights applied to the appropriate asset class benchmark return, using the US Equity Custom Index for US equities, MSCI ACW Index (Net) for global equities, MSCI ACW Ex US Index (Net) for international equities, Barclays US Aggregate Bond Index for fixed income, BofA Merrill Lynch All Convertibles Index (All Qualities) for convertible bonds, NCREIF Open-End Diversified Core Equity Index for core real estate, NCREIF Property Index for value-added real estate, the State's actual private equity investment returns for private equity, HFN Fund of Funds Multi-Strat Index for absolute return, and the State Agency Pool Custom Index for the State Agency Pool allocation.

The Total Equity Custom Index consists of the MSCI World Index (USD) (Net) through July 2010 and the MSCI All Country World Index (USD) (Net) thereafter.

The US Equity Custom Index consists of the S&P 500 Index (Cap Wtd) through September 2014 and the Russell 3000 Index thereafter.

The State Street All Cap Custom Index consists of 69% Russell 3000 Index, 23% FTSE RAFI US 1000 Index and 7% MSCI USA Minimum Volatility Index (Net).

The International Equity Custom Index and the Fisher Custom Benchmark both consist of MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter.

The Credit Custom Index consists of 20% Barclays US Credit Index, 20% BofA Merrill Lynch US High Yield Master II Constrained Index, and 60% S&P/LSTA Leveraged Loan Index.

The JP Morgan Blended Index consists of an equal-weighted allocation to the BofA Merrill Lynch 1-3 Year US Treasury Index, BofA Merrill Lynch 1-3 Year US Agencies Index, and BofA Merrill Lynch 0-3 Year Weighted Average Life Mortgage Index.

The JP Morgan Cash Custom Index is calculated monthly using beginning of the month investment weights applied to each corresponding primary benchmark return. Currently, the primary benchmark for JP Morgan Cash is the BofA ML 3 ML US T-Bill Index and for JP Morgan Extd is the JP Morgan Blended Index.

The Wyo-Star Cash Custom Index is calculated monthly using beginning of the month investment weights applied to each corresponding primary benchmark return. Currently, the primary benchmark for Wyo-Star Cash is the BofA ML 3 ML US T-Bill Index and for Wyo-Star Extd is the JP Morgan Blended Index.

**Performance & Holding Comments**

RVK, Inc. shows performance beginning with the first full month following inception. Inception date shown for the Global Equity, Int'l Equity, and JP Morgan Cash Composites represents the first date of performance calculated by RVK, Inc.

Performance shown for Pooled Funds is calculated on a capital-weighted basis using beginning-period allocations and does not reflect net cash flows.

Performance shown for the UW Portfolio Management Program prior to 07/01/2009 includes their participation in the State Agency Pool. Performance calculated for the UW Portfolio Management Program after 02/01/2013 has not been verified by RVK as the assets have been moved to a platform in which the custodian does not provide a reconcilable return.

Where stated, allocations to fixed income include convertibles and Public Purpose Investments.

Performance shown for the JP Morgan Cash Composite and the Wyo-Star Cash Composite consists of the respective operating and extended cash accounts.

RVK endorses GIPS and calculates performance for investment managers and composites using different methodologies. For additional information, please see the Glossary.

Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark.

**Alternative Investment Comments**

Reporting for Private Equity performance was changed from cost basis to the latest portfolio valuation adjusted for cash flows, consistent with the supplementary alternatives report. This methodology change involved reflecting the difference between cost value and the most recent valuation, resulting in a significant positive performance impact on the total fund during 2nd quarter 2008.

Valuations for value-added real estate and private equity were changed from a one-quarter lag to as of the most recent valuation, adjusted for subsequent cash flows. This methodology change involved reflecting all cash flows occurring during 4th quarter 2011 as of January 2012, resulting in a minor positive performance impact on the total fund during 1st quarter 2012. Investment (Cost) Values are not lagged.

Performance for value-added real estate and private equity investments is calculated on an IRR basis. For further analysis, please refer to the supplementary alternatives performance report.

Cheyenne Capital Fund valuations set forth herein could be materially different once underlying investments are realized. Market conditions at the time of exit could be substantially different than at the reporting period, resulting in valuations different than those represented above.

**Miscellaneous Comments**

Wyoming State Treasurer's Office fiscal year ends on June 30th.

Fixed Income style peer groups have low populations, and may cause ranks to change significantly from quarter to quarter.

Per the request of the Treasurer's Office, LDIs and Other Wyoming Investments have been re-named to Public Purpose Investments.

"IM" is the acronym for Investment Metrics, the provider of peer group data used in ranking investment manager and asset class performance.

Effective March 19, 2012, Barclays Capital ("BC") indices have been rebranded to "Barclays". Naming conventions have been updated to "Barclays" or "B" to reflect the change.

During the 4th quarter of 2012, WAMCO Core Plus, Neuberger Berman Core Plus, PIMCO Core Plus, PIMCO Mortgages, JP Morgan Mortgages, WAMCO Corporates, Logan Circle, and PIMCO Global/EM began the liquidation process to transition assets to the State's new fixed income asset class structure. The proceeds were used to fund State Street TIPS, C.S. McKee, JP Morgan Core, MacKay Shields, Neuberger Berman Core, PIMCO Core, and Wells Capital. During the 1st quarter of 2013, additional assets were transitioned to Neuberger Berman Credit, Seix, Investec, and Stone Harbor.

During the 4th quarter of 2014, State Street S&P 500 and Gabelli began the liquidation process to transition assets to the State's new US equity asset class structure. The proceeds were used to fund State Street All Cap, Epoch, Lazard, and RBC. During the 1st quarter of 2015, additional assets were transitioned to Arrowstreet.

During the 4th quarter of 2015, The Boston Company began the liquidation process to transition assets to Northern Trust.

During the 4th quarter of 2015, the Workers Compensation Fund was reclassified as a Permanent Fund.

## Glossary

**Alpha** - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

**Alpha Ratio** - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

**Average Quality** - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. **Average Quality for managers unable to provide this statistic has been estimated using a credit quality distribution provided by the manager.** There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers) such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&amp;P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&amp;P</u>	<u>Moody's</u>	<u>Explanation</u>
<b>Higher Credit Quality – Investment Grade</b>			<b>Lower Credit Quality – Below Investment Grade</b>		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

**Beta** - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

**Buy and Hold Attribution** - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

**Sector** - Attribution is calculated using the Global Industry Classification Standard (GICS) which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector, as defined by S&P Capital IQ data.

**Country/Region** - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data.

**Style** - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

## Glossary

### Capital Markets Review -

**Breakeven Inflation** - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

**Consumer Confidence** - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

**Consumer Price Index (CPI)** - Measures the change in the price level of consumer goods and services.

**Option-Adjusted Spread** - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.

**Purchasing Managers Index (PMI)** - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.

**US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.

**VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."

**Consistency** - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.

**Convexity** - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.

**Correlation** - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.

**Coupon Rate** - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.

**Current Yield** - The annual income of a security divided by the security's current price.

**Down Market Capture** - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.

**Downside Risk** - A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the product.

**Earnings Per Share** - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.

**Effective Duration** - The weighted average duration of all the bonds in a given portfolio, weighted by their dollar values.

**Excess Return vs. Market** - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.

**Excess Return vs. Risk Free** - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis. In some cases this can result in an excess return greater than a manager's calculated annualized return.

**Excess Risk** - A measure of the standard deviation of a portfolio's performance relative to the risk free return.

**Expense Ratios** - Morningstar is the source for mutual fund expense ratios.

**Gain/Loss** - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.

**Indices** - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability and/or completeness.

**Information Ratio** - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.

## Glossary

**Liability Driven Investing (LDI)** - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.

**Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.

**Estimated PV of Liabilities** - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.

**Duration of Liabilities** - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.

**Duration of Assets** - The dollar-weighted average duration of all the individual Plan assets.

**Estimated Plan Hedge Ratio** - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

**Modified Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield.

**Mutual Fund Performance** - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

**Net Cash Flow** - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

### Peer Groups -

**Plan Sponsor Peer Groups** - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client returns compiled from consultant and custodial data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans. Plan Sponsor Peer Groups are gross of fees.

**Institutional Peer Groups (Separate Account and Commingled Fund)** - RVK utilizes the Investment Metrics Separate Account and Commingled Fund Manager Peer Groups for peer comparison and rankings. The Separate Account and Commingled Fund Peer Group database includes performance and other quantitative data for over 1,000 investment management firms, 6,400 investment products, across 100 standard peer groups. Separate Account and Commingled Fund Peer Groups are gross of fees.

**Mutual Fund (MF) Peer Groups** - RVK utilizes the Lipper Mutual Fund Manager Peer Groups for peer comparison and rankings. The Lipper Manager Peer Group database includes performance and other quantitative data for over 700 investment management firms and 24,500 investment products, across more than 140 standard peer groups. Mutual Fund Peer Groups are net of fees.

**Percentile Rankings** - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value

100 - Lowest Statistical Value

*Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4<sup>th</sup> percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.*

**Performance Methodology** - RVK endorses the Global Investment Performance Standards (GIPS) and calculates performance for investment managers and composites using different methodologies. Investment manager performance is calculated by revaluing the portfolio on the date of all large external cash flows while composite performance is calculated using the Modified Dietz calculation methodology. According to the CFA Institute, "Only investment management firms that actually manage assets can claim compliance with the Standards. Plan Sponsors and consultants cannot make a claim of compliance unless they actually manage assets for which they are making a claim of compliance. They can claim to endorse the Standards and/or require that their investment managers comply with the Standards."

**Investment Managers** - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of  $\geq 10\%$  of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

## Glossary

**Composites** - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

**Portfolio Characteristics** - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

**Private Equity Quartile Ranks** - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

**Return** - Compounded rate of return for the period.

**% Return** - The time-weighted rate of return of a portfolio for a given period.

**R-Squared** - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

**Risk Free Benchmark** - BofA ML 3 Mo US T-Bill Index unless specified otherwise.

**RVK Liquidity Rating** - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasurys	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Bank Loans	50
TIPS	95	Stable Value (Plan Sponsor Directed)	50
US Large Cap Equity	95	Absolute Return Strategies	35
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Non-US Large Cap Equity	90	<u>Not Liquid Investments</u>	
Global Tactical Asset Allocation	88	Core Real Estate	25
US Small Cap Equity	85	Core Plus Real Estate	15
REITS	85	Plus Only Real Estate	5
Non-US Small Cap Equity	85	Private Equity Funds of Funds	5
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

**Sharpe Ratio** - Represents the excess rate of return over the risk-free return (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

**Simple Alpha** - The difference between the manager's return and the benchmark's return.

**Spread Duration** - A measure of the price sensitivity of a bond to a 100 basis-point movement of the bond's spread relative to Treasurys.

## Glossary

**Standard Deviation** - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

**Time Period Abbreviations** - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

**Thematic Classification** - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

### Alpha

Absolute Return Strategies  
Currency Overlay

### Capital Appreciation

Public Equity  
Private Equity  
Preferred Securities  
High Yield  
Convertible Fixed Income  
TALF Funds  
Distressed Debt  
Emerging Market Fixed Income  
Value Added Real Estate  
Opportunistic Real Estate

### Capital Preservation

Core Fixed Income  
CMBS Fixed Income  
Asset Backed Fixed Income  
Domestic Core Plus Fixed Income  
Mortgage Backed Fixed Income  
International Developed Fixed Income  
Cash Equivalents  
Stable Value

### Inflation

TIPS  
Bank Loans  
Core Real Estate  
Real Return  
Inflation Hedges  
REITS  
Commodities

**Total Fund Attribution** - A method for identifying the sources of a total fund's over- or underperformance relative to its benchmark. The calculation identifies the contributions of positive or negative total fund excess return caused by allocation differences relative to the total fund's custom benchmark, and performance differences of the investment managers relative to the benchmark components that represent them.

### **Total Fund Performance** -

**Total Fund** - The percentage return of the total fund for the specified time period.

**Total Fund Benchmark** - The percentage return of the total fund benchmark for the specified time period; calculated using the target asset allocation and the corresponding benchmark returns.

**Total Value Added** - The percentage of over- or underperformance of the total fund as compared to the total fund benchmark.

### **Total Value Added** -

**Asset Allocation** - Shows how the variance of the total fund's actual allocation from its target allocation added to or subtracted from fund performance.

**Manager Value Added** - The portion of the total value added attributable to the outperformance or underperformance of the fund's investment managers, relative to the individual benchmarks that represent them in the total fund benchmark.

**Market Timing/Other** - The contribution of other residual factors, including estimation error and transaction timing.

**Total Fund Beta** - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

**Tracking Error** - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

**Treynor Ratio** - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

**Unit Value** - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

**Up Market Capture** - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolios return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

**Yield to Maturity** - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return.

**Yield to Worst** - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

PORTLAND

CHICAGO

NEW YORK

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