



Quarterly Investment Performance Analysis

Wyoming State Treasurer's Office

Period Ended: September 30, 2018





Memorandum

To	Wyoming State Loan and Investment Board
From	RVK, Inc.
Subject	Investment Performance Analysis – Summary of Contents
Date	September 30, 2018

To assist in your review of the Investment Performance Analysis for the quarter ended September 30, 2018, we have provided below an outline and summary of the information contained within each section of this report.

MEMORANDUM – Investment Performance Analysis Commentary

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

TAB 1 – Market Environment

- 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. Also included is an asset class summary that describes the structure of each of the State's composites. Lastly, this section includes a review of the benchmarks referenced within the quarterly report.

TAB 2 – Performance Summary

- These seven pages provide the market value, asset allocation, and performance information for the State's investments in summary form. They are used as a stand-alone summary report for the regular SLIB meetings.

TAB 3 – Total Fund

- This section provides an overview of all of the State's investments, both permanent and non-permanent. Exhibits include an outline of the aggregate asset allocation – by manager, by investment fund, by asset class, and compared to peers. This section also includes Total Fund performance compared to other plan sponsors and highlights the risk and return profile of the State.

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TAB 4 – Investment Funds

- This section details the asset allocation versus target of each of the State’s investment funds. In addition, a summary page highlighting the performance of each fund compared to the respective actual allocation index is included.

TAB 5 – Total Equity

- This section summarizes the State’s allocation to traditional equity managers – both domestic and international – and details the performance of each manager versus both their corresponding benchmark as well as their direct peer universe. Attribution pages are also incorporated, which outline the allocation by sector (or region) for each sub-composite and the corresponding performance.

TAB 6 – Alternative Assets

- This section includes allocation and performance information for the State’s alternative investments, which include real estate, absolute return, and private equity strategies.

TAB 7 – Total Fixed Income

- Similar to the equity section, this section summarizes the allocation to and performance of each of the State’s fixed income managers, including the internally managed portfolio. Characteristics pages are also included for each sub-composite.

TAB 8 – Cash and Cash Equivalents

- This two-page summary outlines the performance of the State’s cash portfolios compared to current T-Bill rates and a custom blended index for JP Morgan.

Tab 9 – Investment Manager Profile Pages

- This section contains a number of portfolio characteristic pages for the State’s investment managers, including historical strategy performance prior to the State’s investment. These pages include such characteristics as risk, upside/downside capture, market capitalization, allocation by sector and more.

TAB 10 – Investment Policy Objective Review

- The 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

- The appendix includes a glossary, providing definitions and other information on data included throughout the report, including financial terms and ratios, indices, and 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.

WYOMING STATE TREASURER’S OFFICE

THIRD QUARTER 2018

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Memorandum

To	Wyoming State Loan and Investment Board
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Date	September 30, 2018

Outlined below please find a summary of significant observations regarding performance of the State's Funds for the period ended September 30, 2018. We hope this summary will facilitate your review of our Investment Performance Analysis Report.

The Total Fund returned 1.1% net of fees during the third quarter as the State's US equity and fixed income assets produced positive returns during the quarter. Long-term performance for the Total Fund remains strong, with the State earning returns of 5.3% and 5.3% per annum over the trailing seven- and ten-year periods.

The Total Fund outperformed its custom benchmark over the quarter, with most risk assets generating positive results. The State has lower strategic exposure to equities relative to the All Master Trust Universe and subsequently underperformed the peer group in the 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 21% and 11% of all Plans over the trailing five- and ten-year time periods, respectively.

Absolute results were positive for all nine of the State's investment pools, with all nine outperforming or keeping pace with their respective benchmarks during the quarter. The State's non-permanent funds with larger strategic allocations to fixed income investments generated lower absolute returns than the State's permanent funds, but higher returns on a relative basis.

Interest rates continued to increase during the quarter, leading to relatively flat returns for the broad US bond market, and the Bloomberg US Aggregate Bond Index increased by 2 bps over the third quarter. Diversification away from core US bonds was beneficial as the State's total fixed income portfolio (excluding convertibles) outperformed the broad market index. The core and credit fixed income segments outperformed the broad market index, while TIPS and emerging markets debt underperformed. The opportunistic credit fund (Grosvenor Silvery Lupine Fund) generated the highest return among the State's fixed income managers, returning 2.1%. Emerging markets debt generated the lowest absolute return among fixed income sectors, returning -2.8% and underperforming its benchmark by 1.0%, as global bonds suffered from a strengthening US dollar. Bank loans, the largest component of the State's credit composite, generated positive returns due to their

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floating rate structure, but composite performance slightly underperformed its benchmark. The State's core fixed income managers also outperformed the broad market index, collectively returning 0.2%.

US equity markets delivered broad-based gains across market capitalizations and styles during the third quarter. Major US equity indices finished the quarter in positive territory, with the Russell 3000 Index returning 7.1% for the quarter. The State's US equity composite returned 6.4% during the third quarter, underperforming the broad market index. State Street All Cap trailed the broad market index by 0.2%, keeping pace with its custom index. Epoch returned 6.2%, underperforming the Russell 3000 Index by 0.9%, as holdings within consumer discretionary and financials detracted from results.

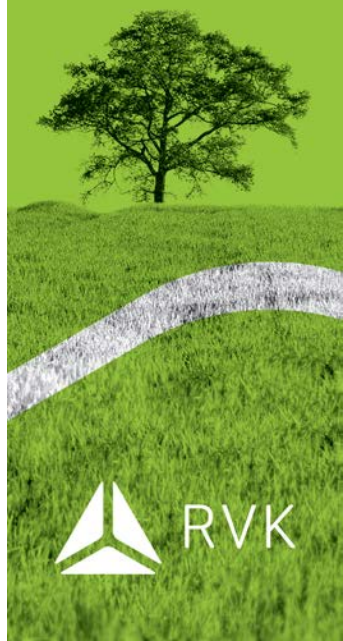
Developed international markets outperformed emerging markets during the quarter, with the MSCI EAFE Index returning 1.4% and the MSCI Emerging Markets Index returning -1.1%. The State's international equity composite returned 1.2% during the quarter, outperforming the MSCI ACW Ex US Index by 0.5%. Passive strategies within the State's international equity portfolio kept pace with their respective benchmarks, while Fisher and Arrowstreet outperformed their respective benchmarks by 0.6% and 2.1%, respectively.

Preferred stock was positive during the quarter, with Cohen & Steers returning 1.6%, outperforming its benchmark by 1.3%. Exposure to convertibles was beneficial to absolute and relative performance, with Allianz earning 5.4% in the third quarter. The MLPs asset class was funded during the quarter, but does not yet have a full quarter of performance.

Core real estate continued a trend of delivering modest, positive returns. Real estate valuations remain elevated, supported by continued strength in the overall economy with increases from personal consumption and business investment. Between the State's two core real estate managers, Clarion and UBS, returns earned during the third quarter were 1.9% and 1.2%, respectively.

The Diversified Hedge Funds composite returned 0.2% during the quarter, matching the return of the HFRI FOF Comp Index. Grosvenor Diversified Hedge Funds and Internal Diversified Hedge Funds both outperformed the HFRI FOF Comp Index, returning 0.8% and 0.9%, respectively. The PAAMCO - Jackalope Fund returned -0.3% during the quarter and underperformed the index.

Capital Markets Review

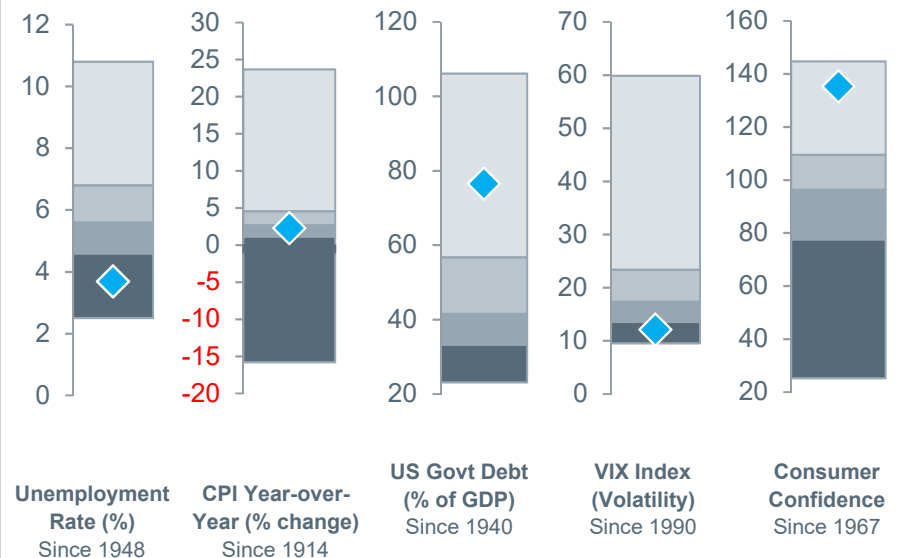


Third Quarter Economic Environment

Key Economic Indicators

Continued US economic growth and monetary policy divergence from global trade partners drove domestic equity and interest rate markets higher during the third quarter of 2018, while international growth broadly continued to slow. Geopolitical risks, particularly those driven by newly imposed trade tariffs, were cited as dampening near-term expectations for economic growth outside the US. The FOMC continued to raise policy rates, increasing the target range for the federal funds rate to 2.0% - 2.25% at the September meeting. The committee again cited both realized and expected labor market inflation conditions as major drivers behind their decision. The committee forecasted stable but slightly lower growth than previously anticipated, with annual GDP growth in 2018 expected to be 2.0% followed by a decrease in 2019 to 1.8%. US economic fundamentals broadly continued to strengthen over the third quarter. Hiring activity in August was revised higher, and hiring remained strong in September, resulting in a decline of the unemployment rate to 3.7%; the lowest level since 1969. In addition to strong employment, hourly earnings increased 2.8% year-over-year.

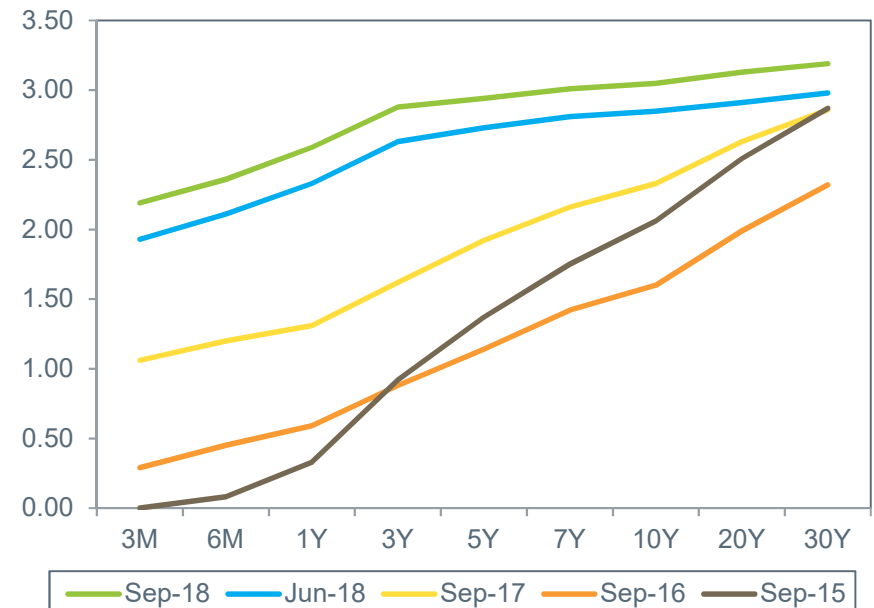
Key Economic Indicators



Economic Indicators	Sep-18	Jun-18	Sep-17	Sep-15	20 Yr
Federal Funds Rate (%)	2.18 ▲	1.91	1.06	0.07	1.97
Breakeven Infl. - 1 Yr (%)	1.18 ▼	1.42	1.24	-1.75	N/A
Breakeven Infl. - 10 Yr (%)	2.14 ▲	2.13	1.85	1.43	N/A
CPI YoY (Headline) (%)	2.3 ▼	2.9	2.2	0.0	2.2
Unemployment Rate (%)	3.7 ▼	4.0	4.2	5.0	5.9
Real GDP YoY (%)	3.0 ▲	2.9	2.3	2.4	2.3
PMI - Manufacturing	59.8 ▼	60.2	60.2	50.1	52.7
USD Total Wtd Idx	90.11 ▲	89.97	88.10	92.10	86.31
WTI Crude Oil per Barrel (\$)	73.3 ▼	74.2	51.7	45.1	59.5
Gold Spot per Oz (\$)	1,193 ▼	1,253	1,280	1,115	868

Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	7.71	10.56	17.91	13.95	11.97
Russell 2000	3.58	11.51	15.24	11.07	11.11
MSCI EAFE (Net)	1.35	-1.43	2.74	4.42	5.38
MSCI EAFE SC (Net)	-0.88	-2.19	3.73	7.96	9.68
MSCI Emg Mkts (Net)	-1.09	-7.68	-0.81	3.61	5.40
Bloomberg US Agg Bond	0.02	-1.60	-1.22	2.16	3.77
ICE BofAML 3 Mo US T-Bill	0.49	1.30	1.59	0.52	0.34
NCREIF ODCE (Gross)	2.09	6.48	8.68	10.72	5.58
FTSE NAREIT Eq REIT (TR)	0.79	1.81	3.35	9.16	7.44
HFRI FOF Comp	0.19	0.92	3.01	3.16	2.55
Bloomberg Cmtty (TR)	-2.02	-2.03	2.59	-7.18	-6.24

Treasury Yield Curve (%)



Third Quarter Review

Broad Market

US equity markets delivered broad-based gains across market capitalizations and styles during the third quarter. Despite lingering trade war tensions, the S&P 500 Index posted its best single quarter return since Q4 2013 amidst a period of strong corporate earnings and broad-based economic growth. The S&P 500 Index returned 7.7% during the third quarter, led by health care, industrials, and the re-classified communication services sector.

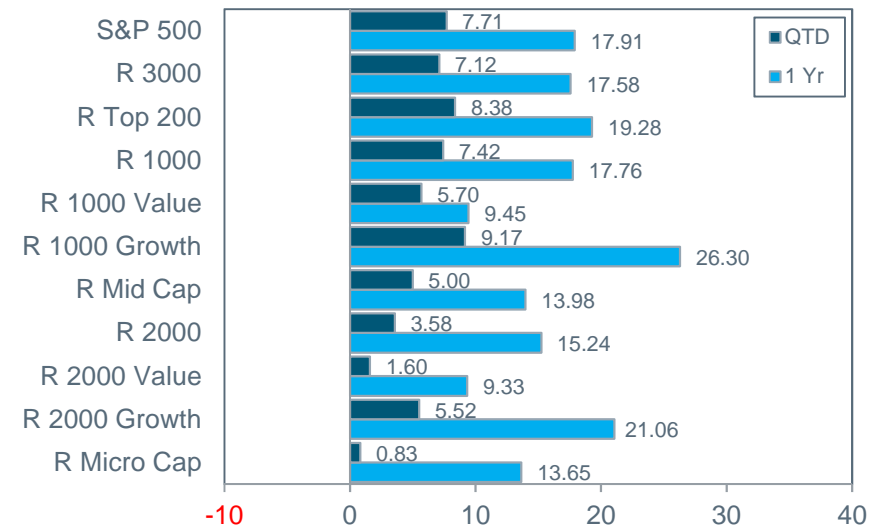
Market Cap

Despite continuing global trade tension, markets generally favored larger cap, multinational companies within the US equity markets, a reversal of last quarter.

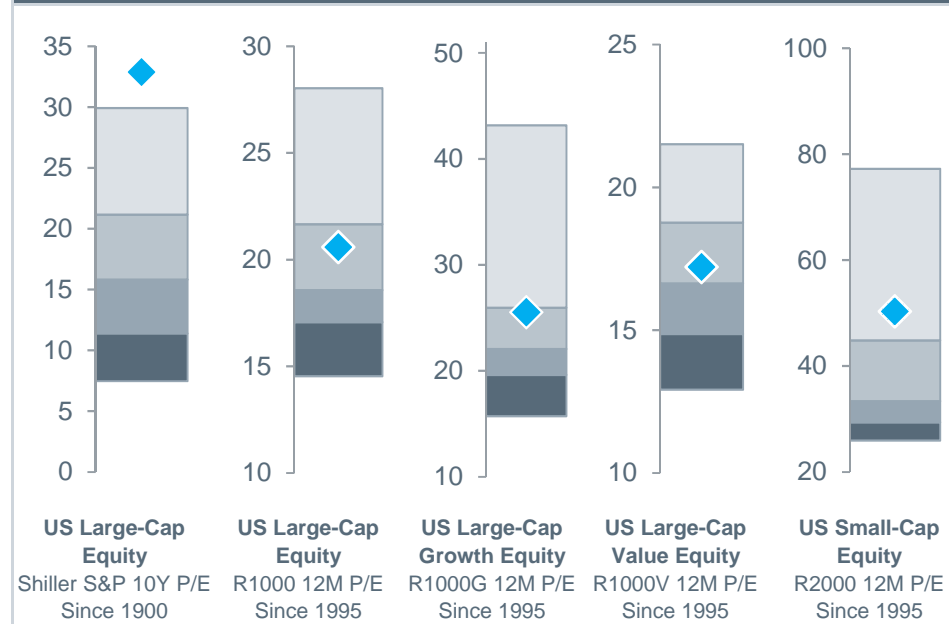
Style and Sector

Active management generally struggled in large cap equity in the third quarter, though active small cap managers fared better than their counterparts in the large cap space.

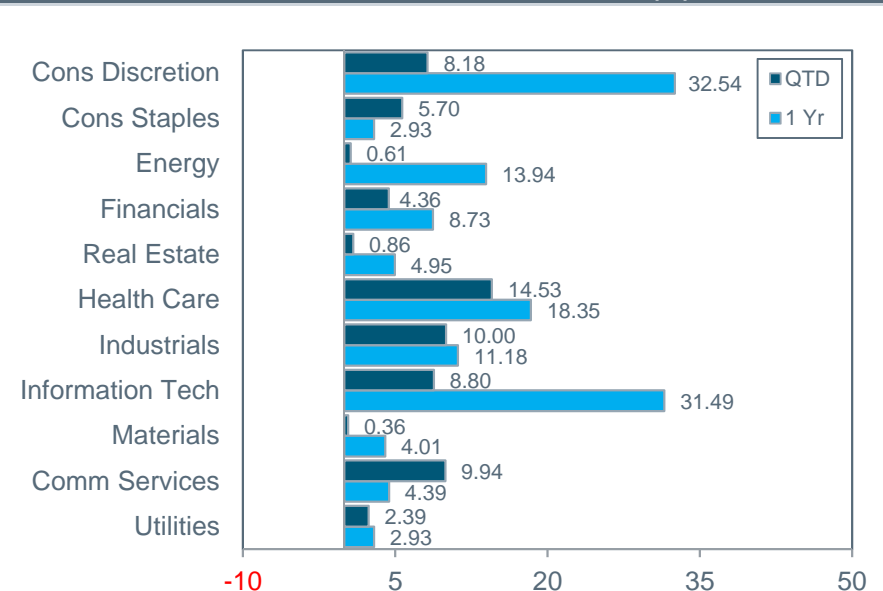
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Third Quarter Review

Developed Markets

Developed international markets are still in negative territory year-to-date, despite large cap stocks generating positive returns in Q3. Geopolitical risks, particularly those driven by newly imposed trade tariffs, were cited as dampening near-term expectations for growth outside the US.

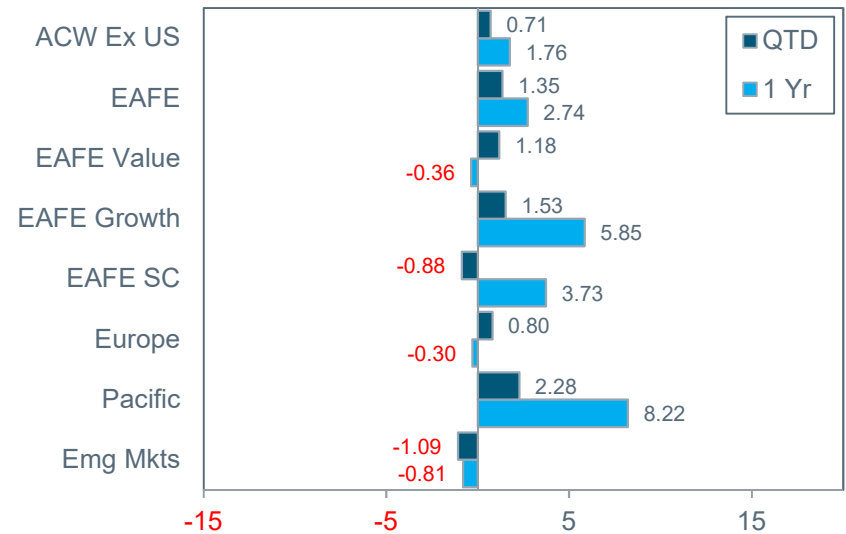
Emerging Markets

Emerging markets were hit harder than their developed market counterparts ending the third quarter with losses. Across most emerging markets, weakening currencies took their toll on dollar-based equity returns.

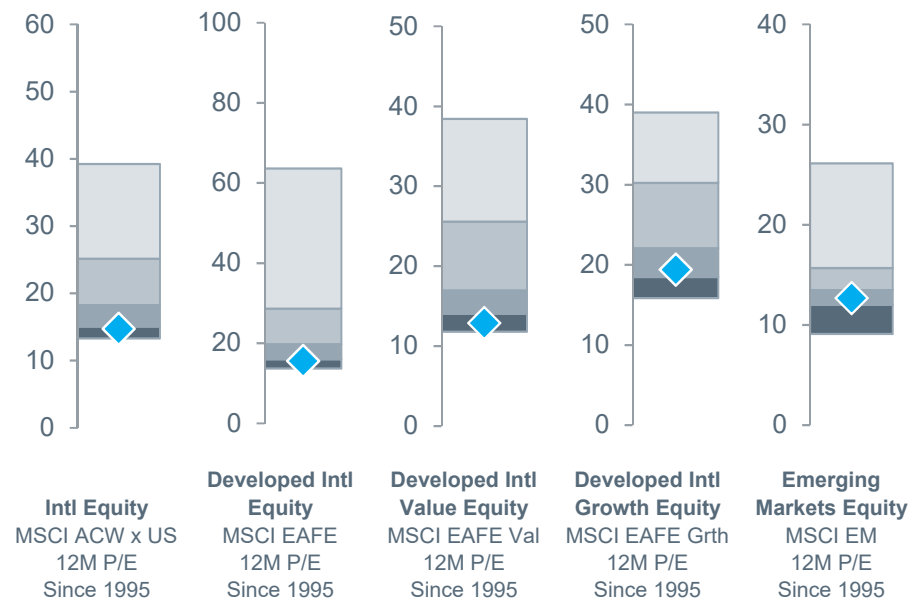
Market Cap & Style

While developed international growth stocks were positive in the quarter, value stocks, continuing to underperform growth stocks, brought down the overall market in the same time period. Small cap stocks trail large cap stocks for the year-to-date period after underperforming again in the third quarter.

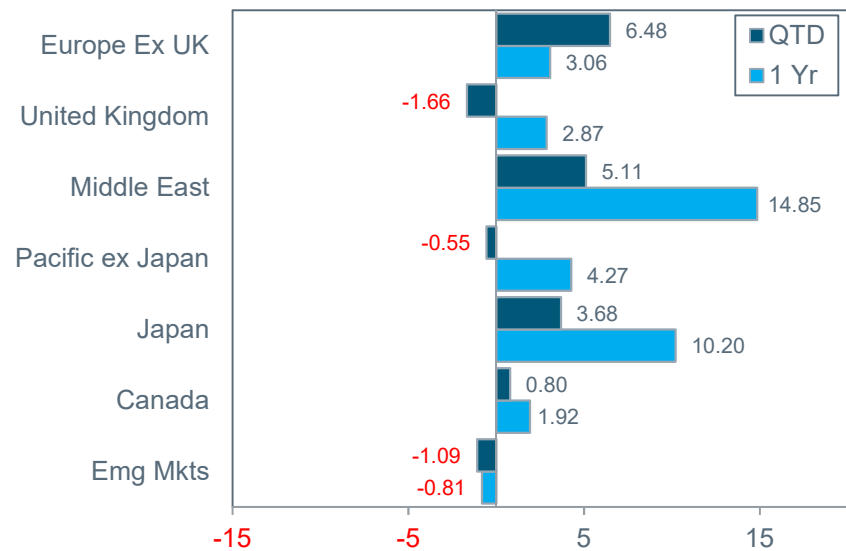
MSCI Style and Capitalization Market Performance (%)



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.

Third Quarter Review

Broad Market

The Federal Open Market Committee increased the target range for the federal funds rate to 2.00% - 2.25% at the September meeting. The Bloomberg US Agg Bond Index was effectively flat for the quarter with a 0.02% return. US government bonds faced greater headwinds than their corporate counterparts, as an increase in rates across the Treasury yield curve led to negative performance for Treasuries.

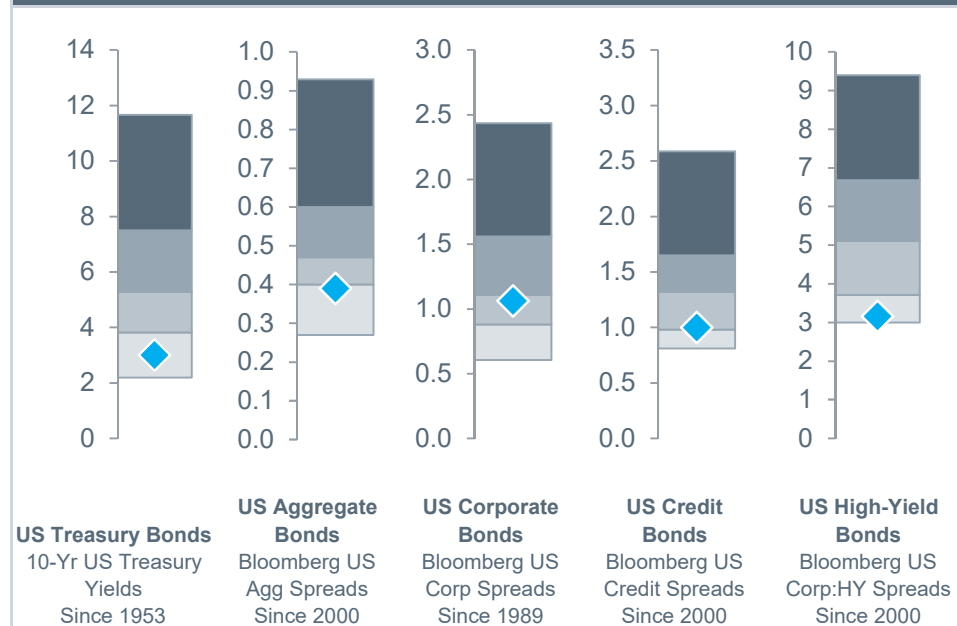
Credit Market

In a reversal of the first half of the year, investment grade corporate spreads tightened from 1.3% to 1.1% and the Bloomberg US Corporate Investment Grade Index returned 0.97%. Non-investment grade bonds similarly experienced a spread tightening. The Bloomberg Corporate High Yield Index returned 2.4%.

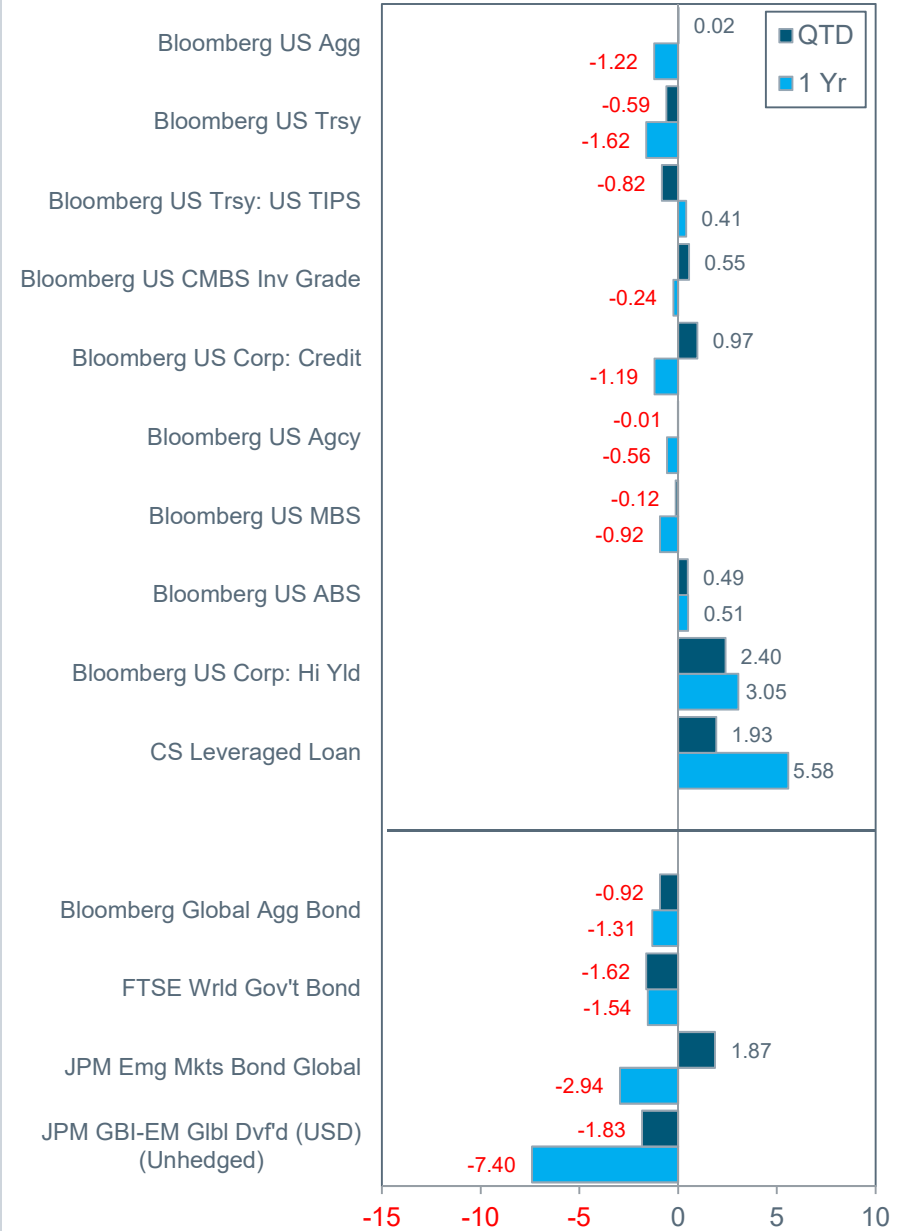
Emerging Market Debt

The continued strengthening of the dollar pushed local currency returns lower with a -1.8% return for the JPM GBI-EM Global Diversified 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.

Third Quarter Review - Absolute Return

General Market - Hedge Funds

Hedge funds produced modestly positive returns during Q3. However, funds did not generally keep pace with US equity market gains during the months of July and August, even on a beta-adjusted basis. Several Fund of Hedge Fund (FoHF) managers continue to benefit from outsized allocations to a few specific funds within the macro discretionary thematic and multi-strategy relative value spaces.

General Market - Global Tactical Asset Allocation (GTAA)

GTAA managers provided mixed results and a wide dispersion of returns during Q3. Most significantly underperformed a static, undiversified blend of 60% US equity and 40% fixed income. Top-down, value-oriented GTAA managers have posted negative returns in a year where value oriented equity holdings have significantly underperformed those with a growth orientation. Many GTAA managers experiencing the worst performance held idiosyncratic exposure to weak, currency-driven markets such as Turkey.

Third Quarter Review - Real Assets

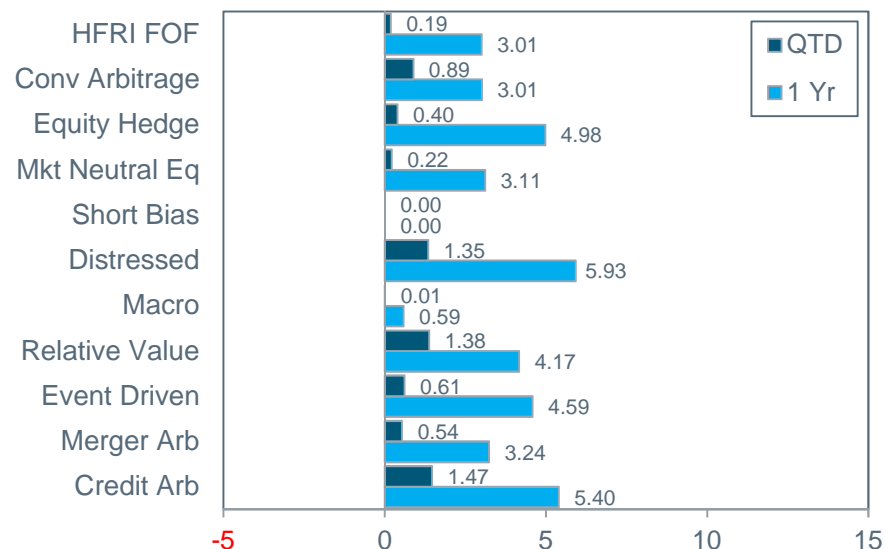
General Market - Diversified Inflation Strategies (DIS)

Nearly all DIS managers posted negative returns during Q3. Headline CPI decreased over the quarter from 2.8% in June to 2.3% at the end of Q3, which coincide with headwinds across several inflation sensitive asset classes. Managers with larger exposure to TIPS, commodities and emerging markets currencies performed least favorably as all three asset classes were simultaneously negative amid rising yields in the US and a stronger US dollar.

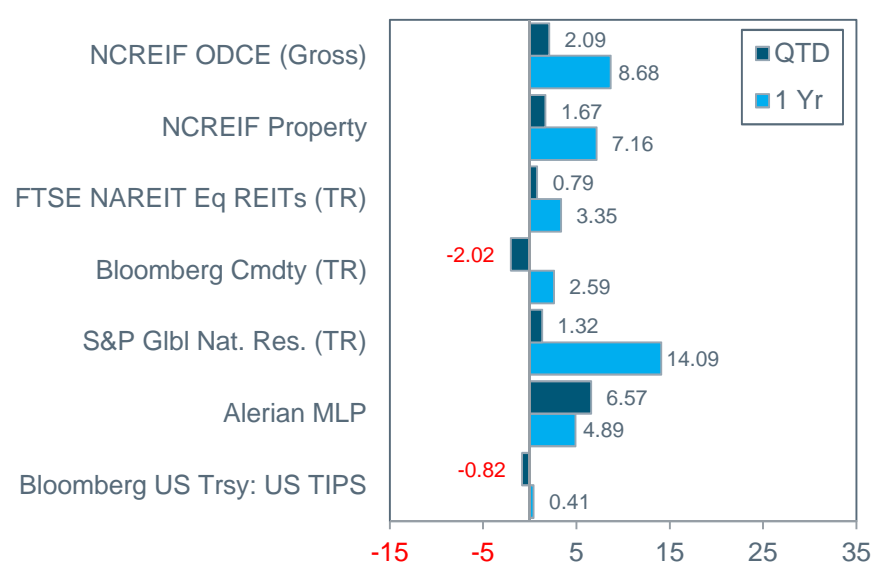
General Market - Real Estate

Core private real estate returned 2.1% during Q3 as tracked by the NCREIF-ODCE Index. Investors in publicly traded real estate generally underperformed their private market counterparts during Q3, as measured by FTSE NAREIT Eq REITs Index return of 0.8%. Publicly traded real estate continued to experience price volatility during Q3, but managed to maintain a positive total return year-to-date.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



As of September 30, 2018

The Cambridge US Private Equity Index is shown for informational purposes only. Due to availability of data, current quarter performance assumes a 0.00% return. Calculations are based on a quarterly periodicity.

ASSET CLASS SUMMARY

US Equity: The **US Equity** structure employs a core-satellite approach, which gains passive, low-cost beta exposure at its core and active management only where the highest conviction strategies can add value – All Cap. The core component of the portfolio utilizes passive management coupled with low beta, minimum volatility strategies that are intended to outperform a market-capitalization weighted index at a similar absolute risk level. Active management in the All Cap space provides investment managers the flexibility to adjust for valuations across market capitalizations. The single Small Cap investment manager is an exchange-traded fund designed to track the Small Cap market benchmark.

International Equity: The **International Equity** structure follows an ACWI Ex US approach, which offers coverage of the broad international equity market, including developed and emerging markets. The International Equity portfolio is comprised of both passive and active management styles. The mix of passive and active management helps to minimize costs, while striving to maximize the probability of alpha generation at a similar absolute risk level.

Private Equity: The **Private Equity** asset class has primarily been accessed through fund of funds and customized fund of one structures. Investments also include exposure to direct co-investments and secondaries. Recent commitments within this asset class have added global diversification to the portfolio.

Real Estate: The **Real Estate** portfolio currently consists of Core and Non-Core Real Estate investments. The overall asset class structure has remained relatively conservative with regard to asset types and the use of financial leverage. Core Real Estate has historically been focused on diversified US markets, while Non-Core Real Estate investments allow the portfolio to take advantage of real estate market fundamentals. Recent commitments within Non-Core Real Estate have added global diversification through European-focused investments.

Diversified Hedge Funds: The **Diversified Hedge Funds** structure historically consisted of multi-Hedge Fund of Fund investments. In 2015, the portfolio began a transition to a core-satellite approach, utilizing a single Fund of Fund manager and satellite direct Hedge Funds. Initial funding was completed in July 2018 for a custom fund of one, consisting of a discretionary multi-strategy FoF portfolio and a non-discretionary portfolio of direct hedge funds managed by the Treasurer's Office. An increase in the use of direct Hedge Funds is anticipated to lower external management expenses and allow for greater control over the program.

Convertible Bonds: The **Convertible Bonds** portfolio consists of a single, specialized investment manager. The portfolio focuses on convertible issuers that demonstrate the ability to improve fundamental characteristic and attempts to participate in the majority of the upside, while limiting the downside of the underlying equity to nearly half.

Preferred Stock: The **Preferred Stock** portfolio consists of a single, specialized preferred stock investment manager. The portfolio invests in a diversified portfolio of preferred securities including exchange-traded and over-the-counter preferreds and contingent convertibles (CoCos). The investment team seeks to take advantage of the various term structures of preferreds in order to optimize the yield and interest rate sensitivity of the portfolio.

MLPs: The **MLPs** portfolio consists of a single, specialized investment manager. The portfolio investment objective is to deliver both high yield and stable growth through the disciplined application of its fundamental bottom-up analysis as well as its trading strategies and investments in MLP and energy infrastructure assets.

Fixed Income: The **Fixed Income** portfolio employs a core-satellite approach. Serving as “the anchor” to the portfolio, Core Fixed Income aims to preserve capital, by providing relatively “safe” investments and stable income. The Internally Managed Portfolio also provides liquidity and safety of capital. Treasury Inflation Protected Securities (“TIPS”) provide passive protection against expected changes in inflation. The satellite portfolios serve as dedicated specialists. Credit Fixed Income provides diversification from traditional fixed income investments and the potential for enhanced return. The custom credit portfolios are largely driven by allocations to bank loans, high yield fixed income securities, and investment grade credit. Investments in Emerging Market Debt (Local Currency) diversify US Dollar exposure and provide opportunities to capitalize on global growth trends. Opportunistic Fixed Income is employed to capitalize on severe market dislocations, such as European Debt.

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.*

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, Pakistan, Peru, Philippines, Poland, Russia, Qatar, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.*

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.

S&P MLP: The **S&P MLP Index** is a float-adjusted, cap-weighted index of energy MLPs and publicly traded limited liability companies, which have a similar legal structure to MLPs and share the same tax benefits. Constituents must have a minimum float-adjusted market cap of USD 300 million.

S&P U.S. Preferred Stock: The **S&P U.S. Preferred Stock Index** covers the US market of capital stock that pays dividends at a specified rate and has a preference over common stock in the payment of dividends and the liquidation of assets.

S&P/LSTA Leveraged Loan: The **S&P/LSTA Leveraged Loan Index** reflects the market-weighted performance of institutional leveraged loans in the U.S. loan market.

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.

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 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.*

MSCI ACW Ex US: The **MSCI ACW (All Country World) Ex US Index** consists of large cap and mid cap representation within the same countries that comprise the MSCI ACW Index, excluding the United States.

MSCI ACW Ex US IM: The **MSCI ACW (All Country World) Ex US Investable Market Index** consists of large cap, mid cap, and small cap representation within the same countries that comprise the MSCI ACW Index, excluding the United States.

FTSE All World Ex US: The **FTSE All World Ex US Index** is a free float-adjusted market capitalization weighted index that is comprised of large- and mid-cap stocks providing coverage of Developed and Emerging Markets excluding the US. The index is derived from the FTSE Global Equity Index Series (GEIS), which covers 98% of the world's investable market capitalization.

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.

HFRI FOF Comp Index: The **HFRI FOF (Fund of Funds) Comp Index** average is created by Hedge Fund Research, Inc. and contains over 800 funds of hedge funds that are each invested in multiple investment strategies.

ICE BofAML All Convertibles: The **ICE 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.

Bloomberg US Agg Bond: The **Bloomberg 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.

Bloomberg US Agg Int Index: The **Bloomberg US Aggregate Intermediate Index** covers the subsection of the Bloomberg US Aggregate Bond Index with remaining maturities between one and ten years.

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

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.

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

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

Bloomberg US Govt: Int Trm Bond: The **Bloomberg US Gov't Intermediate Term Bond Index** covers public US government obligations with remaining maturities between one and ten years.

Bloomberg US Gov't/Credit 1-3 Yr Bond Index: The **Bloomberg US Gov't/Credit 1-3 Year Bond Index** covers all medium and larger issues of U.S. government, investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities of between one and three years and are publicly issued.

Bloomberg US Gov't 1-3 Yr Bond Index: The **Bloomberg US Gov't 1-3 Year Bond Index** covers public US government obligations with remaining maturities between one and three years.

Bloomberg US Gov't/Credit Bond: The **Bloomberg US Gov't/Credit Bond Index** covers the non-securitized component of the US Aggregate Index. It includes investment grade, US dollar denominated, fixed-rate Treasuries, government-related and corporate securities.

C.S. McKee Custom Index: The **C.S. McKee Custom Index** consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter.

PIMCO Custom Index: The **PIMCO Custom Index** consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

ICE BofAML 3 Mo US T-Bill: The **ICE 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 ICE BofAML 1-3 Year US Treasury Index, ICE BofAML 1-3 Year Agencies Index, and ICE BofAML 0-3 Year Weighted Average Life Mortgage Index.

Wyoming State Treasurer's Office

Investment Performance

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Investment Policy:

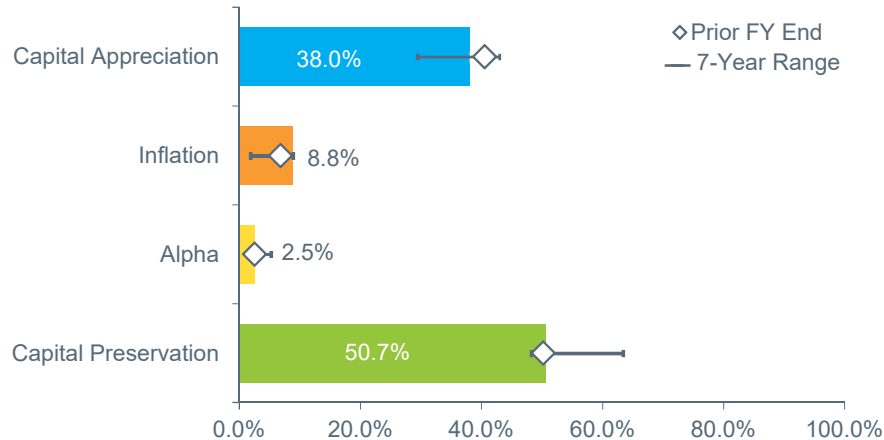
It is the investment policy for the State Loan and Investment Board to invest public funds of the State of Wyoming in a manner that strives for maximum safety, provides adequate liquidity to meet all operating requirements, and achieves the highest possible investment return consistent with the primary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

Investment Objectives and Priorities:

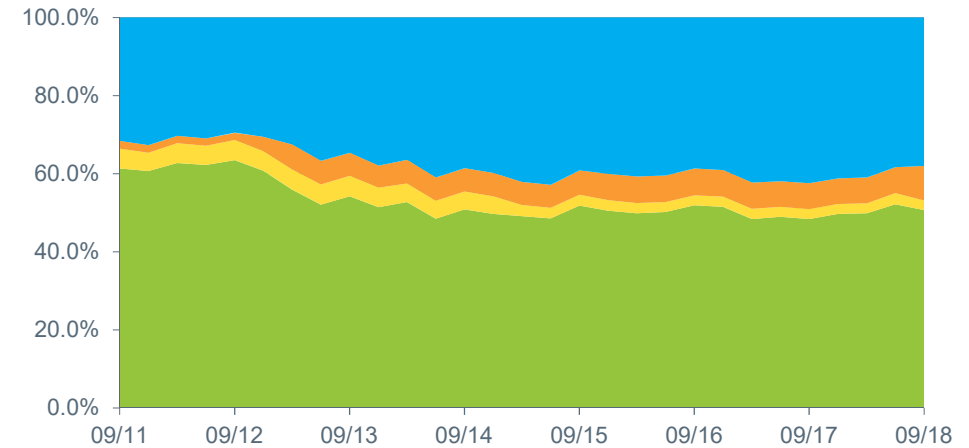
All available funds shall be invested with the following objectives and priorities:

- Safety of principal. Investments shall be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio.
- Liquidity requirements of anticipated and unanticipated expenditures.
- Yield.
- Recognition of differing objectives and needs of various fund portfolios.
- Conformance with State law and other pertinent legal restrictions.
- Maximization of the total rate of return on investment consistent with the foregoing objectives.
- 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:

Wyoming State Total Fund
Wyoming State Actual Allocation Index

	Total Investment Value	Fiscal Year Ending 06/30/18 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
Wyoming State Total Fund	\$19,770.53	\$20,599.86	\$20,666.86	100.0%	1.07%	1.07%	3.05%	5.25%	4.38%	5.34%
Wyoming State Actual Allocation Index					0.90%	0.90%	2.49%	4.77%	4.27%	4.98%
Permanent Funds	\$14,001.75	\$14,755.75	\$14,933.63	72.3%	1.13%	1.13%	3.47%	6.33%	5.15%	5.96%
Non-Permanent Funds	\$5,768.78	\$5,844.12	\$5,733.24	27.7%	0.57%	0.57%	1.01%	2.27%	2.18%	3.75%

Note[1]: Performance shown is 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
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		Total Investment Value	Fiscal Year Ending 06/30/18 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
Allocation by Fund	Wyoming State Total Fund	\$19,770,526,832	\$20,599,864,561	\$20,666,862,451	100.0%	1.07%	1.07%	3.05%	5.25%	4.38%	5.34%
	<i>Wyoming State Actual Allocation Index</i>					<i>0.90%</i>	<i>0.90%</i>	<i>2.49%</i>	<i>4.77%</i>	<i>4.27%</i>	<i>4.98%</i>
	Investment Funds:										
	Permanent Mineral Trust	\$7,321,942,294	\$7,807,061,216	\$7,880,039,927	38.1%	1.17%	1.17%	3.78%	6.68%	5.38%	5.90%
	Common School Perm Land Fund	\$3,801,262,045	\$3,989,288,968	\$4,066,706,808	19.7%	1.15%	1.15%	3.62%	6.69%	5.43%	6.12%
	Permanent Land Fund	\$180,019,952	\$198,047,815	\$193,817,701	0.9%	1.09%	1.09%	3.65%	6.52%	5.27%	5.74%
	University Permanent Land Fund	\$20,527,095	\$23,206,526	\$23,612,128	0.1%	1.56%	1.56%	4.94%	7.46%	5.81%	5.85%
	Hathaway Scholarship	\$558,321,307	\$582,413,022	\$591,309,254	2.9%	1.16%	1.16%	3.13%	5.91%	4.84%	6.17%
	Higher Education	\$114,253,025	\$120,117,913	\$120,807,617	0.6%	1.17%	1.17%	3.01%	5.87%	4.79%	6.11%
	Workers Compensation Fund	\$2,005,420,148	\$2,035,610,128	\$2,057,333,271	10.0%	0.90%	0.90%	2.09%	4.51%	3.91%	5.75%
Allocation by Asset Class	Pool A*	\$237,901,809	\$238,849,216	\$245,796,842	1.2%	0.45%	0.45%	0.55%	2.47%	2.48%	4.33%
	State Agency Pool*	\$5,530,879,156	\$5,605,269,757	\$5,487,438,903	26.6%	0.57%	0.57%	1.03%	2.27%	2.18%	3.75%
	Asset Class Performance:										
	US Equity US Equity Custom Index	\$1,222,959,500	\$1,579,557,486	\$1,656,433,893	8.0%	6.41% 7.12%	6.41% 7.12%	14.69% 17.58%	15.49% 17.07%	12.68% 13.81%	11.78% 11.90%
	International Equity International Equity Custom Index	\$1,831,125,104	\$2,083,396,150	\$2,088,230,910	10.1%	1.19% 0.71%	1.19% 0.71%	1.33% 1.76%	10.02% 9.97%	4.16% 4.12%	5.25% 4.64%
	Preferred Stock S&P US Preferred Stock Index	\$85,000,000	\$85,000,000	\$86,139,590	0.4%	1.55% 0.21%	1.55% 0.21%	N/A 1.57%	N/A 5.25%	N/A 6.42%	N/A 11.33%
	MLPs S&P MLP Index (TR)	\$450,000,000	\$0	\$442,256,551	2.1%	N/A 6.39%	N/A 6.39%	N/A 7.15%	N/A 4.90%	N/A -1.73%	N/A 9.97%
	Private Equity S&P 500 + 5%	\$388,962,173	\$641,124,533	\$624,340,309	3.0%		9.03% 9.03%	See Note[6] 23.81%	23.17%	19.65%	17.56%
	Core Real Estate NCREIF ODCE	\$507,607,260	\$624,001,639	\$628,888,982	3.0%	1.61% 1.87%	1.61% 1.87%	8.00% 7.71%	7.77% 7.83%	9.64% 9.71%	4.23% 4.62%
	Value-Added Real Estate NCREIF Property	\$261,224,422	\$299,988,420	\$293,172,244	1.4%		1.67% 1.67%	See Note[6] 7.16%	7.75%	9.57%	6.42%
	Diversified Hedge Funds HFRI FOF Comp Index	\$498,662,402	\$586,408,113	\$501,548,021	2.4%	0.23% 0.19%	0.23% 0.19%	2.77% 3.01%	2.11% 3.27%	2.65% 3.16%	3.88% 2.55%
	Convertible Bonds ICE BofAML All Quality Convertible	\$486,668,624	\$546,160,344	\$574,646,540	2.8%	5.45% 3.93%	5.45% 3.93%	16.39% 12.19%	12.03% 11.74%	8.90% 9.26%	11.08% 10.98%
	Fixed Income Bloomberg US Aggregate	\$11,345,068,382	\$11,279,881,593	\$11,076,360,096	53.6%	0.28% 0.02%	0.28% 0.02%	0.00% -1.22%	2.19% 1.31%	2.30% 2.16%	4.24% 3.77%
	Public Purpose Investments	\$425,861,487	\$324,211,740	\$425,861,487	2.1%	N/A	N/A	N/A	N/A	N/A	N/A
	Cash Equivalents JP Morgan Cash Custom Index	\$2,267,387,478	\$2,550,134,544	\$2,268,983,827	11.0%	0.47% 0.47%	0.47% 0.47%	1.42% 1.45%	0.83% 0.81%	0.57% 0.57%	0.62% 0.66%

* Denotes Non-Permanent Fund.

Note[1]: Performance shown is 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.

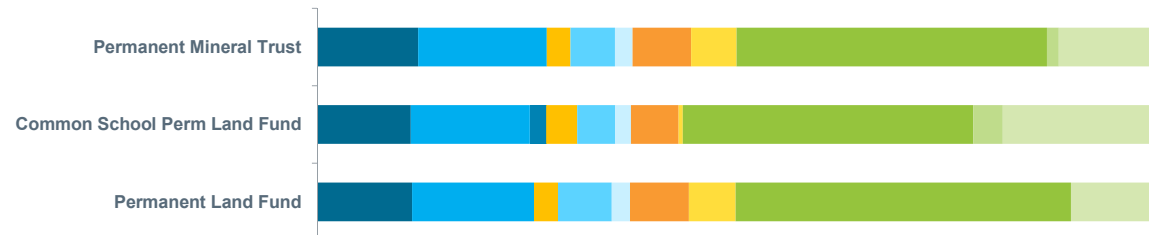
Note[9]: The Arrowstreet mandate was converted from global equity to international equity on March 1, 2018.

Note[10]: Composite performance shown for Fixed Income is historically exclusive of convertibles.



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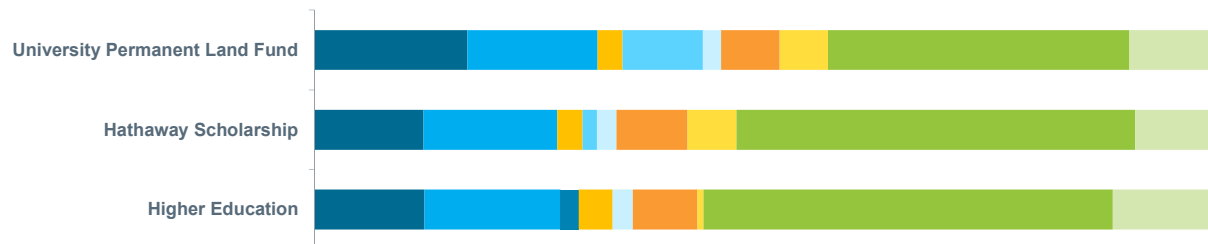
	Total Investment Value	Fiscal Year Ending 06/30/18 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
Wyoming State Total Fund	\$19,770,526,832	\$20,599,864,561	\$20,666,862,451	100.0%	1.07%	1.07%	3.05%	5.25%	4.38%	5.34%
Investment Funds:										
Permanent Mineral Trust	\$7,321,942,294	\$7,807,061,216	\$7,880,039,927	100.0%	1.17%	1.17%	3.78%	6.68%	5.38%	5.90%
US Equity	\$699,688,431	\$902,200,321	\$946,882,904	12.0%						
International Equity	\$1,053,947,839	\$1,195,656,643	\$1,198,445,544	15.2%						
MLPs	\$225,632,594	\$0	\$221,749,984	2.8%						
Private Equity	\$263,963,253	\$427,185,212	\$417,142,176	5.3%						
Real Estate	\$465,872,035	\$547,895,605	\$546,566,516	6.9%						
Diversified Hedge Funds	\$424,565,726	\$350,380,482	\$426,561,093	5.4%						
Convertible Bonds	\$137,484,327	\$154,560,618	\$162,622,068	2.1%						
Fixed Income	\$2,983,634,552	\$2,942,548,132	\$2,900,414,458	36.8%						
Public Purpose Investments	\$112,451,750	\$123,953,002	\$112,451,750	1.4%						
Cash (invested in State Agency Pool)	\$954,701,788	\$1,162,681,202	\$947,203,435	12.0%						
Actual Allocation Index					1.22%	1.22%	3.89%	6.53%	5.43%	5.54%
Common School Perm Land Fund	\$3,801,262,045	\$3,989,288,968	\$4,066,706,808	100.0%	1.15%	1.15%	3.62%	6.69%	5.43%	6.12%
US Equity	\$334,062,955	\$431,979,724	\$452,746,822	11.1%						
International Equity	\$501,869,894	\$570,972,998	\$572,307,830	14.1%						
Preferred Stock	\$78,121,884	\$78,121,884	\$79,169,259	1.9%						
MLPs	\$152,291,163	\$0	\$149,670,588	3.7%						
Private Equity	\$106,989,325	\$190,648,126	\$183,498,658	4.5%						
Real Estate	\$191,950,443	\$229,728,008	\$229,277,720	5.6%						
Diversified Hedge Funds	\$19,547,378	\$127,081,061	\$19,973,797	0.5%						
Convertible Bonds	\$65,130,000	\$72,514,640	\$76,296,801	1.9%						
Fixed Income	\$1,443,219,802	\$1,234,096,745	\$1,401,692,339	34.5%						
Public Purpose Investments	\$143,359,738	\$18,359,738	\$143,359,738	3.5%						
Cash (invested in State Agency Pool)	\$764,719,464	\$1,035,786,044	\$758,713,256	18.7%						
Actual Allocation Index					1.17%	1.17%	3.58%	6.49%	5.46%	5.59%
Permanent Land Fund	\$180,019,952	\$198,047,815	\$193,817,701	100.0%	1.09%	1.09%	3.65%	6.52%	5.27%	5.74%
US Equity	\$16,263,935	\$20,864,116	\$21,903,872	11.3%						
International Equity	\$24,410,296	\$27,838,662	\$27,902,846	14.4%						
MLPs	\$5,667,855	\$0	\$5,570,324	2.9%						
Private Equity	\$8,082,341	\$12,731,523	\$12,335,528	6.4%						
Real Estate	\$11,567,143	\$13,616,536	\$13,587,718	7.0%						
Diversified Hedge Funds	\$10,625,218	\$8,710,560	\$10,693,455	5.5%						
Convertible Bonds	\$3,549,159	\$3,962,941	\$4,169,637	2.2%						
Fixed Income	\$79,187,347	\$78,264,960	\$77,149,983	39.8%						
Cash (invested in State Agency Pool)	\$20,666,657	\$32,058,517	\$20,504,338	10.6%						
Actual Allocation Index					1.12%	1.12%	3.78%	6.33%	5.31%	5.35%



Note[1]: Performance shown is 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.
Note[5]: The Arrowstreet mandate was converted from global equity to international equity on March 1, 2018.

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	Total Investment Value	Fiscal Year Ending 06/30/18 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
Investment Funds:										
University Permanent Land Fund	\$20,527,095	\$23,206,526	\$23,612,128	100.0%	1.56%	1.56%	4.94%	7.46%	5.81%	5.85%
US Equity	\$2,735,139	\$3,734,945	\$3,967,650	16.8%						
International Equity	\$2,918,490	\$3,370,941	\$3,378,833	14.3%						
MLPs	\$663,254	\$0	\$651,840	2.8%						
Private Equity	\$697,342	\$2,055,536	\$2,085,285	8.8%						
Real Estate	\$1,355,755	\$1,524,457	\$1,519,850	6.4%						
Diversified Hedge Funds	\$1,249,963	\$1,050,152	\$1,257,930	5.3%						
Convertible Bonds	\$396,770	\$448,651	\$472,052	2.0%						
Fixed Income	\$8,037,669	\$7,942,943	\$7,825,396	33.1%						
Cash (invested in State Agency Pool)	\$2,472,712	\$3,078,901	\$2,453,291	10.4%						
<i>Actual Allocation Index</i>					1.51%	1.51%	5.02%	7.32%	5.88%	5.66%
Hathaway Scholarship	\$558,321,307	\$582,413,022	\$591,309,254	100.0%	1.16%	1.16%	3.13%	5.91%	4.84%	6.17%
US Equity	\$52,251,339	\$67,496,921	\$70,862,560	12.0%						
International Equity	\$75,304,883	\$86,862,174	\$87,053,179	14.7%						
MLPs	\$16,699,750	\$0	\$16,412,386	2.8%						
Private Equity	\$9,229,912	\$8,504,136	\$9,278,662	1.6%						
Real Estate	\$36,017,456	\$46,159,970	\$46,081,613	7.8%						
Diversified Hedge Funds	\$31,715,722	\$27,941,928	\$31,863,993	5.4%						
Convertible Bonds	\$10,710,409	\$12,172,394	\$12,807,272	2.2%						
Fixed Income	\$268,123,200	\$262,978,800	\$259,138,602	43.8%						
Cash (invested in State Agency Pool)	\$58,268,637	\$70,296,700	\$57,810,987	9.8%						
<i>Actual Allocation Index</i>					1.22%	1.22%	3.21%	5.80%	4.98%	5.80%
Higher Education	\$114,253,025	\$120,117,913	\$120,807,617	100.0%	1.17%	1.17%	3.01%	5.87%	4.79%	6.11%
US Equity	\$10,779,886	\$13,902,792	\$14,597,115	12.1%						
International Equity	\$15,620,167	\$18,032,477	\$18,072,689	15.0%						
Preferred Stock	\$2,376,100	\$2,376,100	\$2,407,956	2.0%						
MLPs	\$4,594,537	\$0	\$4,515,475	3.7%						
Real Estate	\$6,722,146	\$8,593,415	\$8,586,408	7.1%						
Diversified Hedge Funds	\$770,010	\$5,006,285	\$786,875	0.7%						
Convertible Bonds	\$2,248,679	\$2,562,780	\$2,696,448	2.2%						
Fixed Income	\$56,268,425	\$55,192,176	\$54,388,391	45.0%						
Cash (invested in State Agency Pool)	\$14,873,074	\$14,451,888	\$14,756,259	12.2%						
<i>Actual Allocation Index</i>					1.22%	1.22%	3.03%	5.75%	4.92%	5.76%



Note[1]: Performance shown is net of fees.

Note[2]: Pooled investment performance and market values shown reflect State Agency participation.

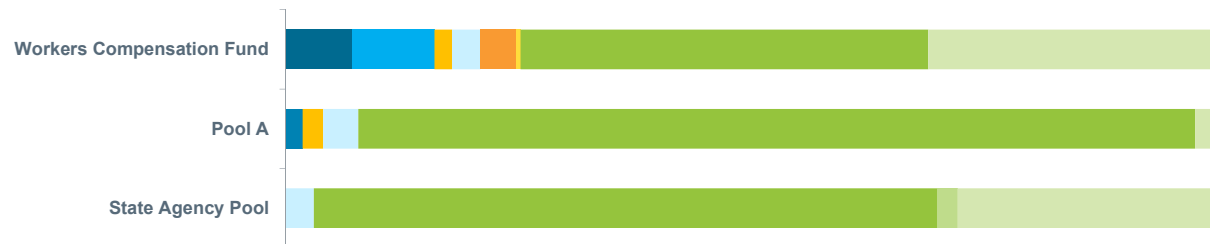
Note[3]: Pooled investment and Actual Allocation Index performance is calculated on a capital-weighted basis using beginning-period allocations.

Note[4]: Market values shown for Public Purpose Investments reflect cost value of the investments.

Note[5]: The Arrowstreet mandate was converted from global equity to international equity on March 1, 2018.

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	Total Investment Value	Fiscal Year Ending 06/30/18 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
Investment Funds:										
Workers Compensation Fund	\$2,005,420,148	\$2,035,610,128	\$2,057,333,271	100.0%	0.90%	0.90%	2.09%	4.51%	3.91%	5.75%
US Equity	\$107,177,815	\$139,378,668	\$145,472,969	7.1%						
International Equity	\$157,053,534	\$180,662,255	\$181,069,989	8.8%						
MLPs	\$38,950,848	\$0	\$38,280,595	1.9%						
Real Estate	\$55,346,703	\$76,472,069	\$76,441,400	3.7%						
Diversified Hedge Funds	\$10,188,384	\$66,237,645	\$10,410,880	0.5%						
Convertible Bonds	\$53,256,782	\$59,806,289	\$62,925,618	3.1%						
Fixed Income	\$927,251,599	\$1,096,150,945	\$891,691,175	43.3%						
Cash (invested in State Agency Pool)	\$656,194,482	\$416,902,257	\$651,040,645	31.6%						
Actual Allocation Index					0.82%	0.82%	1.66%	4.16%	3.97%	5.36%
Pool A	\$237,901,809	\$238,849,216	\$245,796,842	100.0%	0.45%	0.45%	0.55%	2.47%	2.48%	4.33%
Preferred Stock	\$4,502,016	\$4,502,016	\$4,562,374	1.9%						
MLPs	\$5,500,000	\$0	\$5,405,358	2.2%						
Convertible Bonds	\$8,077,226	\$8,673,658	\$9,126,052	3.7%						
Fixed Income	\$211,696,886	\$219,578,995	\$218,641,197	89.0%						
Cash (invested in State Agency Pool)	\$8,125,681	\$6,094,547	\$8,061,861	3.3%						
Actual Allocation Index					0.18%	0.18%	-0.74%	1.64%	2.38%	3.86%
State Agency Pool	\$5,530,879,156	\$5,605,269,757	\$5,487,438,903	100.0%	0.57%	0.57%	1.03%	2.27%	2.18%	3.75%
Convertible Bonds	\$142,098,786	\$155,438,565	\$168,138,162	3.1%						
Fixed Income	\$3,705,927,088	\$3,615,102,242	\$3,635,345,308	66.2%						
Public Purpose Investments	\$117,405,760	\$122,156,392	\$117,405,760	2.1%						
Cash Equivalents	\$1,565,447,522	\$1,712,572,558	\$1,566,549,672	28.5%						
Actual Allocation Index					0.27%	0.27%	-0.18%	1.60%	2.13%	3.35%



Note[1]: Performance shown is 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.

Note[5]: The Arrowstreet mandate was converted from global equity to international equity on March 1, 2018.

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Allocation by
Asset Class



	Total Investment Value	Fiscal Year Ending 06/30/18 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
Wyoming State Total Fund	\$19,770,526,832	\$20,599,864,561	\$20,666,862,451	100.0%	1.07%	1.07%	3.05%	5.25%	4.38%	5.34%
<i>Wyoming State Actual Allocation Index</i>					0.90%	0.90%	2.49%	4.77%	4.27%	4.98%
US Equity										
State Street All Cap	\$838,501,734	\$1,137,708,518	\$1,198,109,469		6.90%	6.90%	16.45%	16.53%	N/A	N/A
State Street All Cap Custom Index					6.93%	6.93%	16.45%	16.60%	13.17%	12.19%
Russell 3000					7.12%	7.12%	17.58%	17.07%	13.46%	12.01%
Epoch	\$218,530,785	\$269,713,108	\$282,833,235		6.19%	6.19%	12.93%	14.89%	N/A	N/A
Russell 3000					7.12%	7.12%	17.58%	17.07%	13.46%	12.01%
UW Portfolio Management Program	\$1,000,000	\$1,466,053	\$1,586,905		8.78%	8.78%	16.54%	16.20%	13.30%	7.99%
S&P 500					7.71%	7.71%	17.91%	17.31%	13.95%	11.97%
Internal Equity Russell 2000	\$164,926,982	\$0	\$173,901,378		N/A	N/A	N/A	N/A	N/A	N/A
Russell 2000					3.58%	3.58%	15.24%	17.12%	11.07%	11.11%
RBC	\$0	\$170,669,808	\$2,905		N/A	N/A	N/A	N/A	N/A	N/A
Total US Equity	\$1,222,959,500	\$1,579,557,486	\$1,656,433,893	8.0%						
International Equity										
Internal International Equity Portfolio	\$135,000,000	\$166,293,614	\$165,854,958		0.90%	0.90%	1.67%	N/A	N/A	N/A
FTSE All World Ex US					0.87%	0.87%	2.13%	10.19%	4.51%	5.61%
Northern Trust	\$971,736,341	\$1,101,957,364	\$1,101,228,175		0.75%	0.75%	1.99%	10.05%	4.25%	N/A
MSCI ACW Ex US					0.71%	0.71%	1.76%	9.97%	4.12%	5.18%
Fisher Investments	\$356,542,575	\$437,594,475	\$437,066,516		1.31%	1.31%	-0.16%	10.26%	5.24%	6.42%
MSCI ACW Ex US [3]					0.71%	0.71%	1.76%	9.97%	4.12%	4.64%
Arrowstreet	\$367,846,188	\$377,550,696	\$384,081,260		2.44%	2.44%	N/A	N/A	N/A	N/A
MSCI ACW Ex US IM					0.39%	0.39%	1.79%	10.14%	4.39%	5.60%
Total International Equity	\$1,831,125,104	\$2,083,396,150	\$2,088,230,910	10.1%						
Preferred Stock										
Cohen & Steers	\$85,000,000	\$85,000,000	\$86,139,590	0.4%	1.55%	1.55%	N/A	N/A	N/A	N/A
S&P US Preferred Stock Index					0.21%	0.21%	1.57%	5.25%	6.42%	11.33%
MLPs										
Harvest	\$450,000,000	\$0	\$442,256,551	2.1%	N/A	N/A	N/A	N/A	N/A	N/A
S&P MLP Index (TR)					6.39%	6.39%	7.15%	4.90%	-1.73%	9.97%
Private Equity										
Access Venture Partners II	\$3,801,445	\$14,384,623	\$4,623,906				See Note[5]			
Cheyenne Capital Fund, L.P.	\$138,184,362	\$287,701,522	\$287,701,522				See Note[5]			
Hamilton Lane Nowood Fund, L.P.	\$122,876,365	\$147,715,242	\$143,196,712				See Note[5]			
Neuberger Berman Sauger Fund, L.P.	\$124,100,000	\$191,323,146	\$188,818,169				See Note[5]			
S&P 500 + 5%					9.03%	9.03%	23.81%	23.17%	19.65%	17.56%
Total Private Equity	\$388,962,173	\$641,124,533	\$624,340,309	3.0%						
Real Estate										
Clarion Lion	\$266,303,630	\$342,217,898	\$346,033,608		1.92%	1.92%	8.97%	8.98%	10.77%	3.56%
UBS Trumbull	\$241,303,630	\$281,783,741	\$282,855,374		1.24%	1.24%	6.82%	6.35%	8.10%	4.64%
NCREIF ODCE					1.87%	1.87%	7.71%	7.83%	9.71%	4.62%
Core Real Estate	\$507,607,260	\$624,001,639	\$628,888,982	3.0%						
Cornerstone	\$4,679,734	\$4,827,296	\$4,833,788				See Note[5]			
Heitman	\$1,759,375	\$67,199	\$17,473				See Note[5]			
M&G	\$65,894,755	\$54,156,241	\$49,809,830				See Note[5]			
Northwood	\$112,678,737	\$145,919,605	\$144,042,445				See Note[5]			
SC Capital	\$44,563,765	\$46,068,794	\$46,070,237				See Note[5]			
TA Realty	\$2,275,635	\$2,622,422	\$747,023				See Note[5]			
WestRiver	\$29,372,420	\$46,326,863	\$47,551,448				See Note[5]			
NCREIF Property					1.67%	1.67%	7.16%	7.75%	9.57%	6.42%
Value-Added Real Estate	\$261,224,422	\$299,988,420	\$293,172,244	1.4%						
Total Real Estate	\$768,831,682	\$923,990,059	\$922,061,226	4.5%						

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

Note[4]: 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[5]: 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[6]: 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.

Note[7]: The Arrowstreet mandate was converted from global equity to international equity on March 1, 2018.

Wyoming State Treasurer's Office
Investment Performance - Total Performance
September 30, 2018

Allocation by
Asset Class

	Total Investment Value	Fiscal Year Ending 06/30/18 Market Value	Current Market Value	% of MV	QTD Return	FYTD Return	1 Year Return	3 Year Return	5 Year Return	10 Year Return
Diversified Hedge Funds										
PAAMCO - Jackalope Fund	\$78,662,402	\$511,408,113	\$80,380,458		-0.26%	-0.26%	2.24%	1.93%	2.54%	3.41%
Grosvenor Diversified Hedge Funds	\$250,000,000	\$31,000,000	\$250,260,374		0.80%	0.80%	N/A	N/A	N/A	N/A
Internal Diversified Hedge Funds	\$170,000,000	\$44,000,000	\$170,907,190		0.86%	0.86%	N/A	N/A	N/A	N/A
HFRI FOF Comp Index					0.19%	0.19%	3.01%	3.27%	3.16%	2.55%
Total Diversified Hedge Funds	\$498,662,402	\$586,408,113	\$501,548,021	2.4%						
Convertible Bonds										
Allianz Global Investors	\$486,668,624	\$546,160,344	\$574,646,540	2.8%	5.45%	5.45%	16.39%	12.03%	8.90%	11.08%
ICE BofAML All Quality Convertible					3.93%	3.93%	12.19%	11.74%	9.26%	10.98%
Fixed Income										
C.S. McKee	\$1,252,716,830	\$1,239,782,750	\$1,236,325,057		0.25%	0.25%	-0.18%	1.69%	2.37%	N/A
C.S. McKee Custom Index					0.11%	0.11%	-0.65%	1.51%	2.28%	3.83%
JP Morgan Core	\$1,417,935,089	\$1,398,403,539	\$1,388,966,565		0.01%	0.01%	-1.08%	1.20%	2.31%	N/A
Bloomberg US Aggregate					0.02%	0.02%	-1.22%	1.31%	2.16%	3.77%
PIMCO Core	\$2,178,236,902	\$2,160,523,241	\$2,153,747,336		0.23%	0.23%	-0.44%	1.85%	2.33%	N/A
PIMCO Custom Index					0.11%	0.11%	-1.07%	1.36%	2.19%	3.79%
Neuberger Berman Credit	\$804,936,901	\$922,183,704	\$806,235,331		1.56%	1.56%	2.84%	4.16%	3.74%	N/A
Seix	\$943,160,037	\$948,736,474	\$956,620,121		1.82%	1.82%	3.12%	5.50%	4.25%	N/A
Credit Custom Index					1.77%	1.77%	3.47%	5.43%	4.29%	6.82%
Grosvenor Silvery Lupine Fund	\$185,952,340	\$281,156,865	\$243,884,437		2.09%	2.09%	8.05%	8.12%	N/A	N/A
CS Western European HY					2.30%	2.30%	3.14%	7.66%	6.32%	10.32%
Investec	\$297,714,010	\$197,847,664	\$190,837,048		-2.15%	-2.15%	-7.89%	4.01%	-2.26%	N/A
Stone Harbor	\$297,712,381	\$186,907,000	\$177,762,409		-3.54%	-3.54%	-10.84%	3.69%	-3.42%	N/A
JPM GBI-EM Gbl Dv'd					-1.83%	-1.83%	-7.40%	5.17%	-1.68%	2.70%
State Street TIPS	\$724,413,700	\$723,229,173	\$714,432,865		-0.90%	-0.90%	0.39%	2.13%	1.47%	N/A
Bloomberg US Trsy: US TIPS (Series B)					-0.92%	-0.92%	0.41%	2.14%	1.49%	3.40%
Internal Intermediate Gov't Fixed Income Portfolio	\$1,869,154,319	\$1,852,289,491	\$1,842,480,877		0.07%	0.07%	-0.33%	0.86%	1.78%	2.37%
Bloomberg US Gov't: Int. Term Bond Index					-0.11%	-0.11%	-1.18%	0.19%	0.93%	2.72%
Internal Low Duration Portfolio	\$1,373,135,874	\$1,368,821,692	\$1,365,068,051		0.29%	0.29%	N/A	N/A	N/A	N/A
Bloomberg US Gov't 1-3 Yr Bond Index					0.20%	0.20%	-0.01%	0.38%	0.57%	1.20%
Neuberger Berman Core	\$0	\$1	\$0		N/A	N/A	N/A	N/A	N/A	N/A
Total Fixed Income	\$11,345,068,382	\$11,279,881,593	\$11,076,360,096	53.6%						
Public Purpose Investments	\$425,861,487	\$324,211,740	\$425,861,487	2.1%	N/A	N/A	N/A	N/A	N/A	N/A
Cash & Cash Equivalents										
JP Morgan Cash Composite	\$2,267,387,478	\$2,550,134,544	\$2,268,983,827	11.0%	0.47%	0.47%	1.42%	0.83%	0.57%	0.62%
JP Morgan Cash Custom Index					0.47%	0.47%	1.45%	0.81%	0.57%	0.66%

Note[1]: Performance shown is net of fees.

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

Note[3]: The Credit Custom Index consists of 20% Bloomberg US Credit, 20% ICE BofAML US HY Master II Constrained, 60% S&P/LSTA Leveraged Loan.

Note[4]: Internal Intermediate Gov't Fixed Income Portfolio performance excludes distressed securities taken in from dismissed managers (market value includes distressed securities).

Note[5]: Internal Intermediate Gov't Fixed Income Portfolio Index consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consisted of the Bloomberg US Gov't/Credit Bond Index.

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

Note[7]: The C.S. McKee Custom Index consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter.

Note[8]: The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

Note[9]: The Arrowstreet mandate was converted from global equity to international equity on March 1, 2018.



Total Fund



Wyoming State Treasurer's Office
Asset Allocation, Performance & Schedule of Investable Assets

As of September 30, 2018

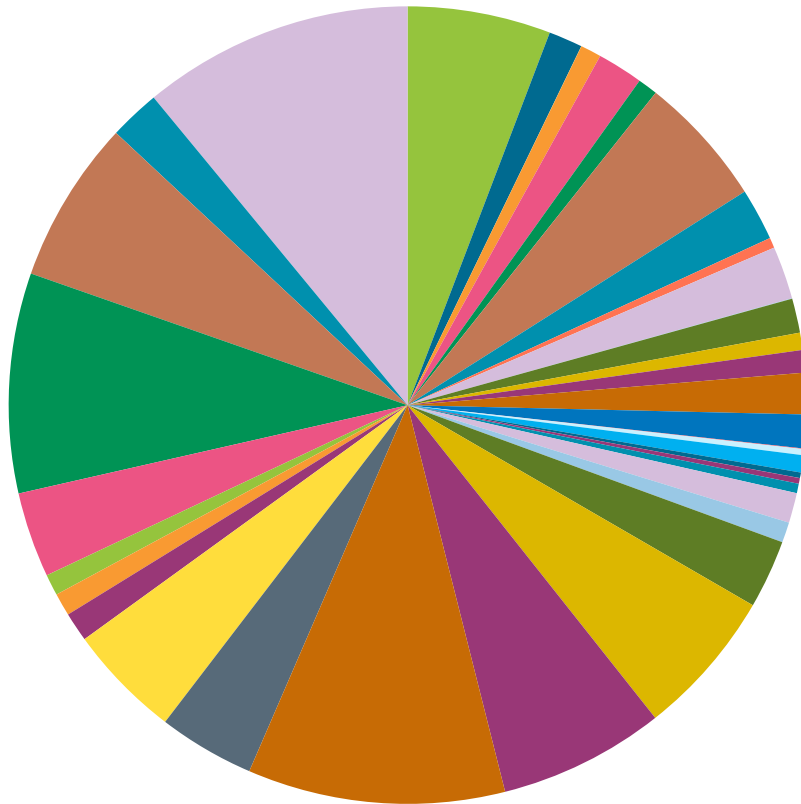
Asset Allocation & Performance			
	Allocation		Performance (%)
	Market Value (\$)	%	FYTD
Total Fund	20,666,862,451	100.00	1.07
US Equity Composite	1,656,433,893	8.01	6.41
State Street All Cap	1,198,109,469	5.80	6.90
Epoch	282,833,235	1.37	6.19
UW Portfolio Mgmt Program	1,586,905	0.01	8.78
Internal Equity Russell 2000	173,901,378	0.84	N/A
RBC	2,905	0.00	N/A
Int'l Equity Composite	2,088,230,910	10.10	1.19
Internal International Equity Portfolio	165,854,958	0.80	0.90
Northern Trust	1,101,228,175	5.33	0.75
Fisher Investments	437,066,516	2.11	1.31
Arrowstreet	384,081,260	1.86	2.44
Preferred Stock Composite	86,139,590	0.42	1.55
Cohen & Steers Preferred Stock	86,139,590	0.42	1.55
Convertible Bonds Composite	574,646,540	2.78	5.45
Allianz Global Investors	574,646,540	2.78	5.45
MLPs Composite	442,256,551	2.14	N/A
Harvest Fund Advisors	442,256,551	2.14	N/A
Private Equity Composite	624,340,309	3.02	N/A
Access Venture Partners II	4,623,906	0.02	N/A
Cheyenne Equity Capital Fund, L.P.	287,701,522	1.39	N/A
Hamilton Lane Nowood Fund, L.P.	143,196,712	0.69	N/A
Neuberger Berman Sauger Fund, L.P.	188,818,169	0.91	N/A
Real Estate Composite	922,061,226	4.46	N/A
Clarion Lion	346,033,608	1.67	1.92
UBS Trumbull	282,855,374	1.37	1.24

Asset Allocation & Performance			
	Allocation		Performance (%)
	Market Value (\$)	%	FYTD
Cornerstone	4,833,788	0.02	N/A
Heitman	17,473	0.00	N/A
M&G	49,909,830	0.24	N/A
Northwood	144,042,445	0.70	N/A
SC Capital	46,070,237	0.22	N/A
TA Associates Realty	747,023	0.00	N/A
WestRiver	47,551,448	0.23	N/A
Diversified Hedge Funds Composite	501,548,021	2.43	0.23
PAAMCO - Jackalope Fund	80,380,458	0.39	-0.26
Grosvenor Diversified Hedge Funds	250,260,374	1.21	0.80
Internal Diversified Hedge Funds	170,907,190	0.83	0.86
Total Fixed Income Composite	11,076,360,096	53.59	0.28
C.S. McKee	1,236,325,057	5.98	0.25
JP Morgan	1,388,966,565	6.72	0.01
PIMCO	2,153,747,336	10.42	0.23
Neuberger Berman Credit	806,235,331	3.90	1.56
Seix	956,620,121	4.63	1.82
Grosvenor Silvery Lupine Fund	243,884,437	1.18	2.09
Investec	190,837,048	0.92	-2.15
Stone Harbor	177,762,409	0.86	-3.54
State Street TIPS	714,432,865	3.46	-0.90
Internal Intermediate Gov't Fixed Income	1,842,480,877	8.92	0.07
Internal Low Duration Fixed Income	1,365,068,051	6.61	0.29
Cash Equivalents	2,268,983,827	10.98	0.47
Public Purpose Investments	425,861,487	2.06	N/A

Schedule of Investable Assets - Total Fund Composite Ex Public Purpose Investments						
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	Unit Value
FYTD	20,275,652,821	-248,926,414	214,274,557	20,241,000,964	1.07	101.07

Allocations may not sum up to 100% exactly due to rounding. Performance shown is net of fees and excludes Public Purpose Investments (PPIs). Market value shown for Public Purpose Investments (PPIs) is as of 09/30/2018. Investment manager fees are accounted for on a quarterly basis. Wyoming State Treasurer's Office fiscal year ends on June 30th.

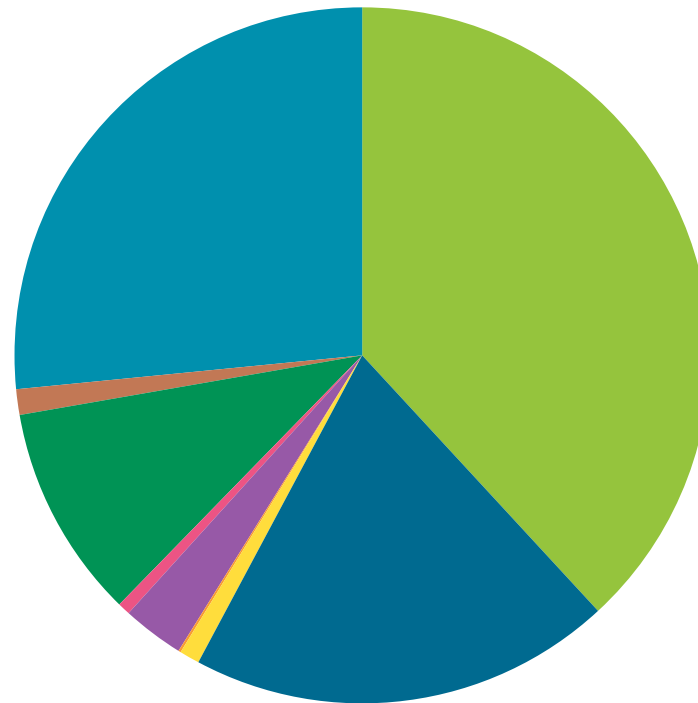
September 30, 2018 : \$20,666,862,451



	Market Value (\$)	Allocation (%)
State Street All Cap	1,198,109,469	5.80
Epoch	282,833,235	1.37
UW Portfolio Mgmt Program	1,586,905	0.01
Internal Equity Russell 2000	173,901,378	0.84
RBC	2,905	0.00
Arrowstreet	384,081,260	1.86
Internal International Equity Portfolio	165,854,958	0.80
Northern Trust	1,101,228,175	5.33
Fisher Investments	437,066,516	2.11
Cohen & Steers	86,139,590	0.42
Harvest	442,256,551	2.14
Access Venture Partners II	4,623,906	0.02
Cheyenne Equity Capital Fund, L.P.	287,701,522	1.39
Hamilton Lane Nowood Fund, L.P.	143,196,712	0.69
Neuberger Berman Sauger Fund, L.P.	188,818,169	0.91
Clarion Lion	346,033,608	1.67
UBS Trumbull	282,855,374	1.37
Cornerstone	4,833,788	0.02
Heitman	17,473	0.00
M&G	49,909,830	0.24
Northwood	144,042,445	0.70
SC Capital	46,070,237	0.22
TA Associates Realty	747,023	0.00
WestRiver	47,551,448	0.23
PAAMCO - Jackalope Fund	80,380,458	0.39
Grosvenor Diversified Hedge Funds	250,260,374	1.21
Internal Diversified Hedge Funds	170,907,190	0.83
Allianz Global Investors	574,646,540	2.78
C.S. McKee	1,236,325,057	5.98
JP Morgan Core	1,388,966,565	6.72
PIMCO Core	2,153,747,336	10.42
Neuberger Berman Credit	806,235,331	3.90
Seix	956,620,121	4.63
Grosvenor Silvery Lupine Fund	243,884,437	1.18
Investec	190,837,048	0.92
Stone Harbor	177,762,409	0.86
State Street TIPS	714,432,865	3.46
Internal Intermediate Govt Fixed Income Portfolio	1,842,480,877	8.92
Internal Low Duration Fixed Income Portfolio	1,365,068,051	6.61
Public Purpose Investments	425,861,487	2.06
JP Morgan Cash Composite	2,268,983,827	10.98

Allocations shown may not sum up to 100% exactly due to rounding.

September 30, 2018 : \$20,666,862,451

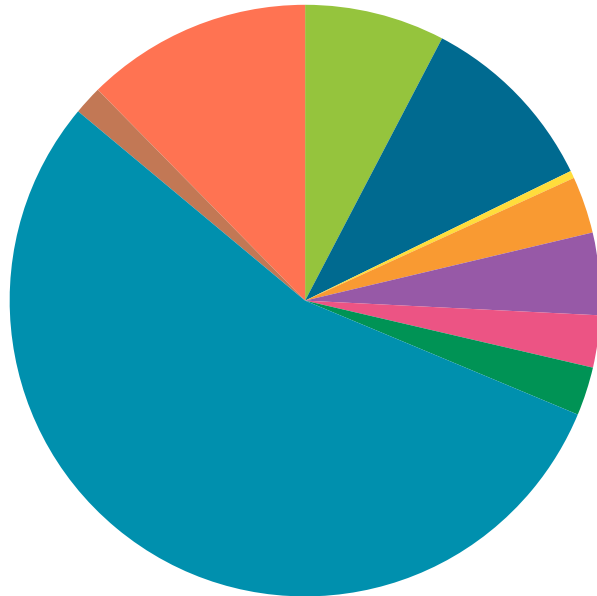


	Market Value (\$)	Allocation (%)
Permanent Mineral Trust	7,880,039,927	38.13
Common School PLF	4,066,706,809	19.68
Permanent Land Fund	193,817,701	0.94
University Permanent Land Fund	23,612,128	0.11
Hathaway Scholarship	591,309,254	2.86
Higher Education	120,807,617	0.58
Workers Compensation Fund	2,057,333,271	9.95
Pool A	245,796,842	1.19
State Agency Pool	5,487,438,903	26.55

Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation by Asset Class - Prior Quarter

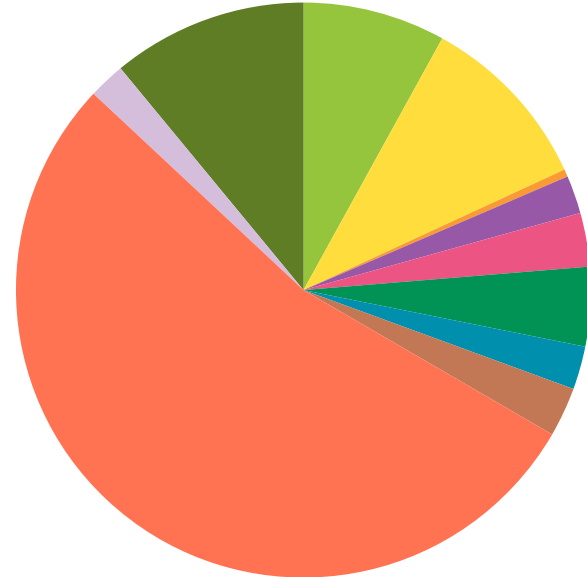
June 30, 2018 : \$20,599,864,561



	Market Value (\$)	Allocation (%)
US Equity	1,579,557,486	7.67
International Equity	2,083,396,150	10.11
Preferred Stock	85,000,000	0.41
Private Equity	641,124,533	3.11
Real Estate	923,990,059	4.49
Diversified Hedge Funds	586,408,113	2.85
Convertibles	546,160,344	2.65
Fixed Income	11,279,881,593	54.76
Public Purpose Investments	324,211,740	1.57
Cash	2,550,134,544	12.38

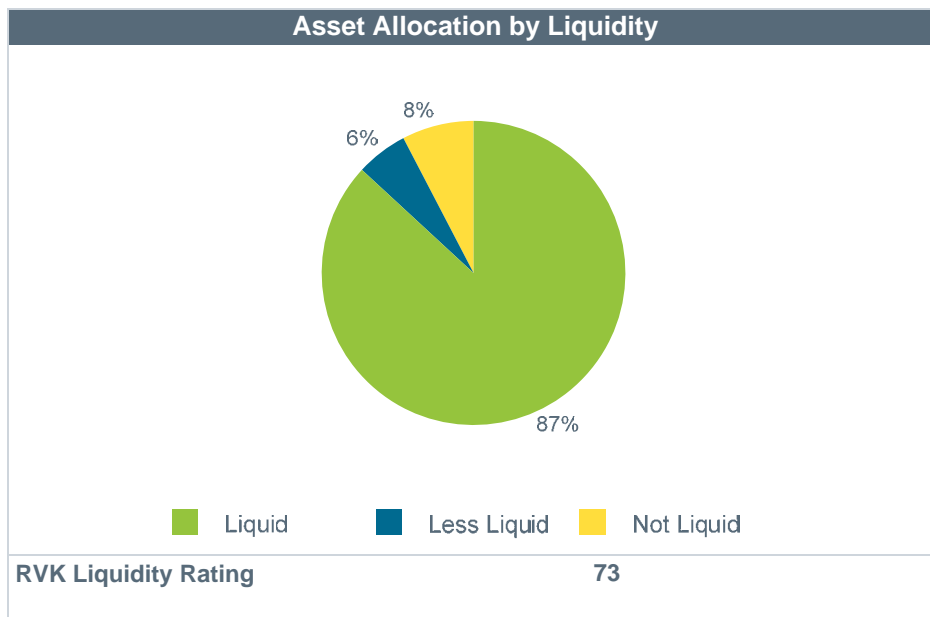
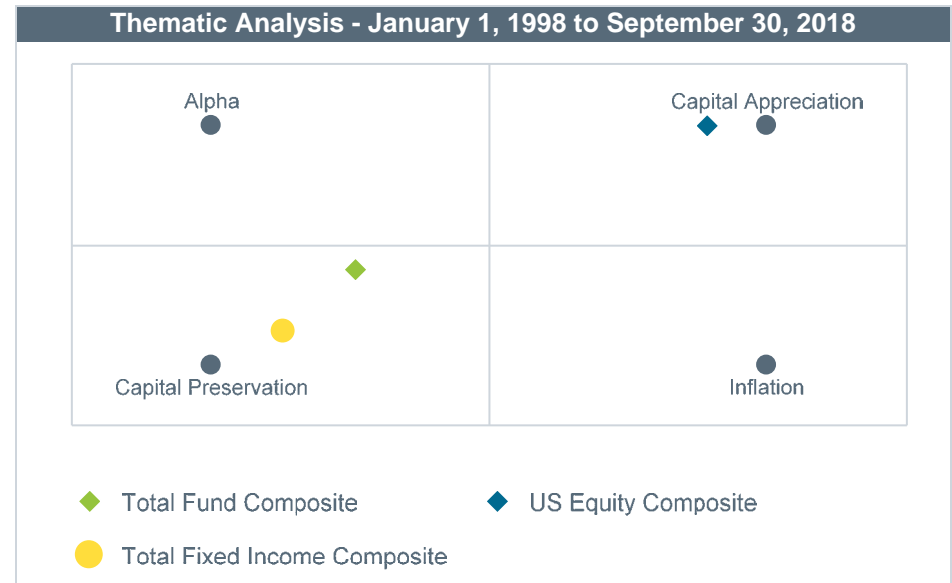
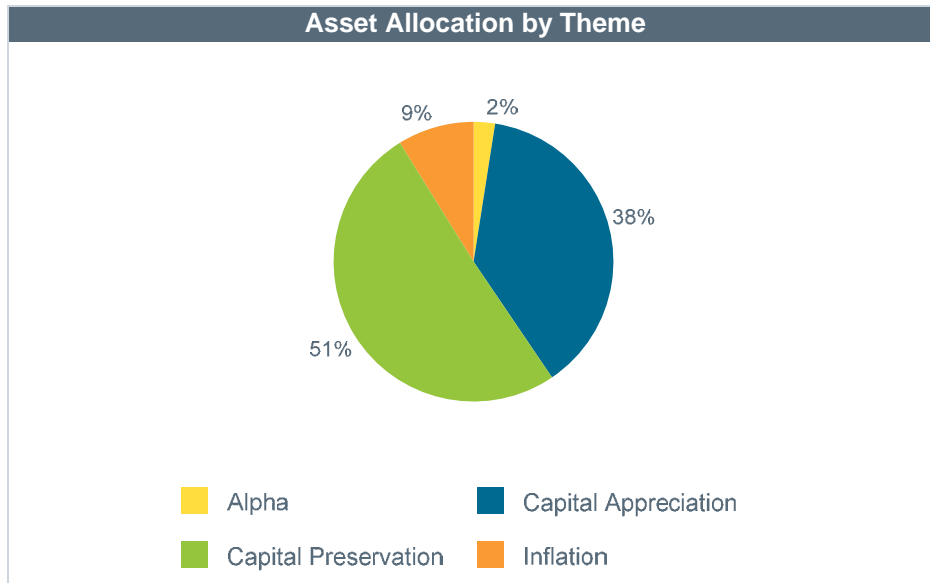
Asset Allocation by Asset Class - Current Quarter

September 30, 2018 : \$20,666,862,451



	Market Value (\$)	Allocation (%)
US Equity	1,656,433,893	8.01
International Equity	2,088,230,910	10.10
Preferred Stock	86,139,590	0.42
MLPs	442,256,551	2.14
Private Equity	624,340,309	3.02
Real Estate	922,061,226	4.46
Diversified Hedge Funds	501,548,021	2.43
Convertibles	574,646,540	2.78
Fixed Income	11,076,360,096	53.59
Public Purpose Investments	425,861,487	2.06
Cash	2,268,983,827	10.98

Allocations shown may not sum up to 100% exactly due to rounding.



Correlation Matrix - 10 Years

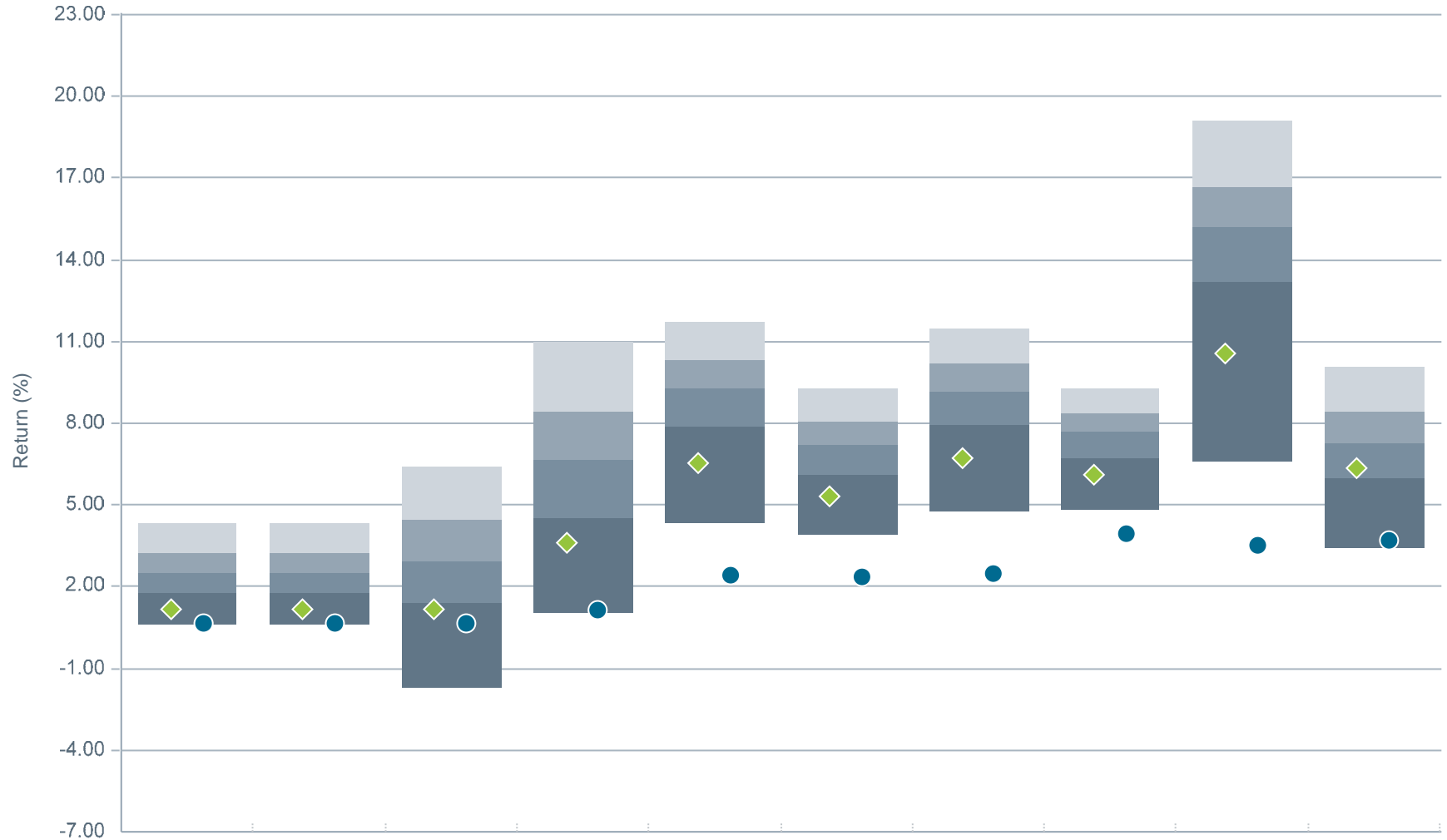
	A	B	C	D
A	1.00			
B	0.56	1.00		
C	-0.36	-0.23	1.00	
D	0.41	0.86	0.00	1.00

A = HFRI EH: Eq Mkt Neut Index (Alpha)
 B = MSCI ACW Index (USD) (Gross) (Capital Appreciation)
 C = Bloomberg US Gov't Bond Index (Capital Preservation)
 D = Real Return Custom Index (Inflation)

Asset Allocation by Theme is based on dedicated manager allocations; as such, thematic allocations are approximations. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating. Please see the Glossary for additional information regarding these metrics. Allocations may not sum to 100% exactly due to rounding.

Wyoming State Treasurer's Office
All Master Trust - Total Fund
Plan Sponsor Peer Group Analysis

As of September 30, 2018



◆ Permanent Funds	1.16 (89)	1.16 (89)	1.16 (78)	3.62 (84)	6.52 (88)	5.34 (86)	6.72 (87)	6.14 (86)	10.58 (87)	6.38 (69)
● Non-Permanent Funds	0.59 (96)	0.59 (96)	0.62 (84)	1.11 (95)	2.41 (98)	2.34 (99)	2.47 (99)	3.92 (98)	3.51 (98)	3.65 (95)

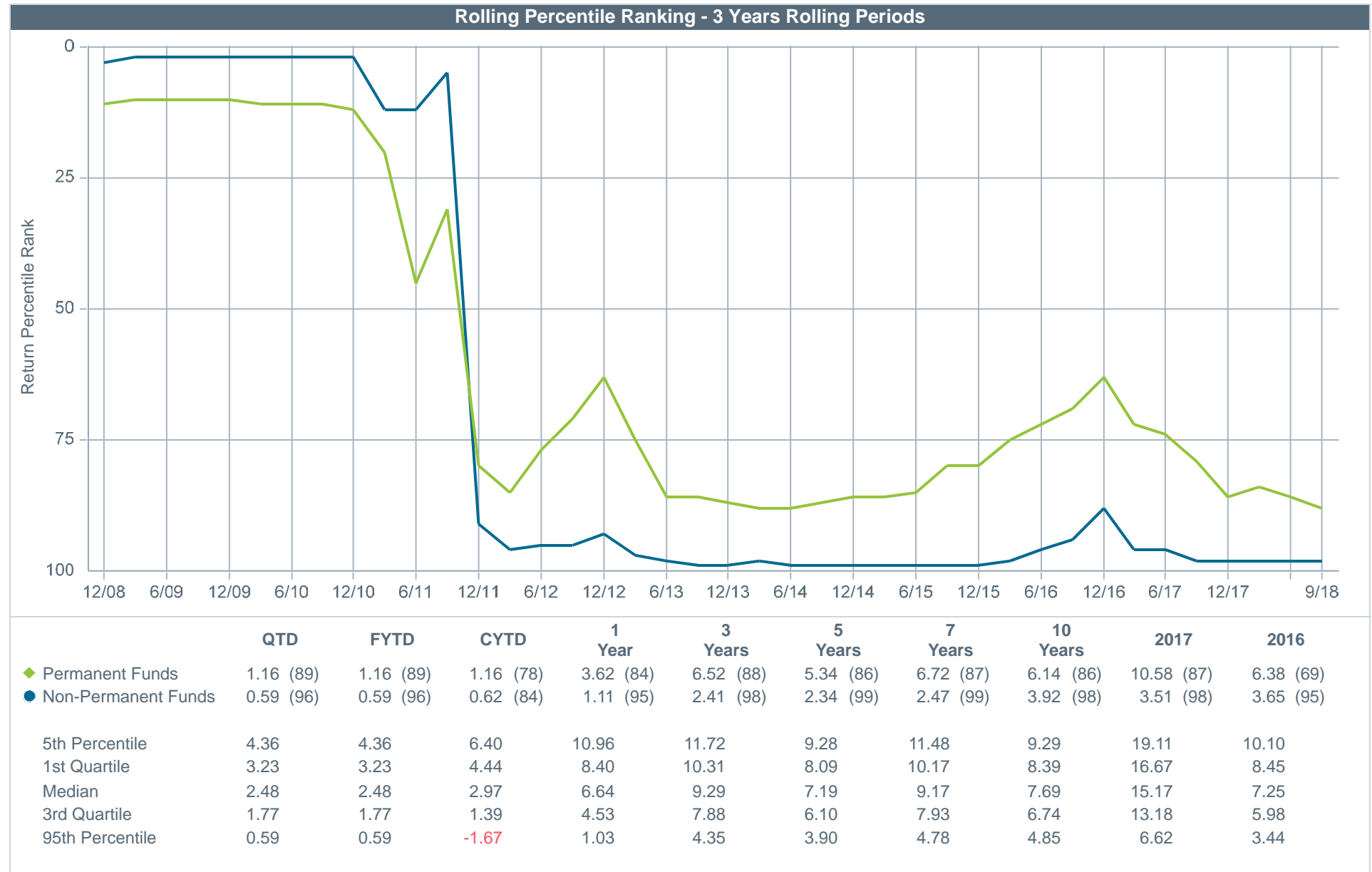
Median 2.48 2.48 2.97 6.64 9.29 7.19 9.17 7.69 15.17 7.25

Population 2,710 2,710 2,692 2,664 2,449 2,246 2,012 1,728 3,013 3,049

Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.
Wyoming State Treasurer's Office fiscal year ends on June 30th.

Wyoming State Treasurer's Office
All Master Trust - Total Fund
Rolling Percentile Ranking and Plan Sponsor Peer Group Analysis

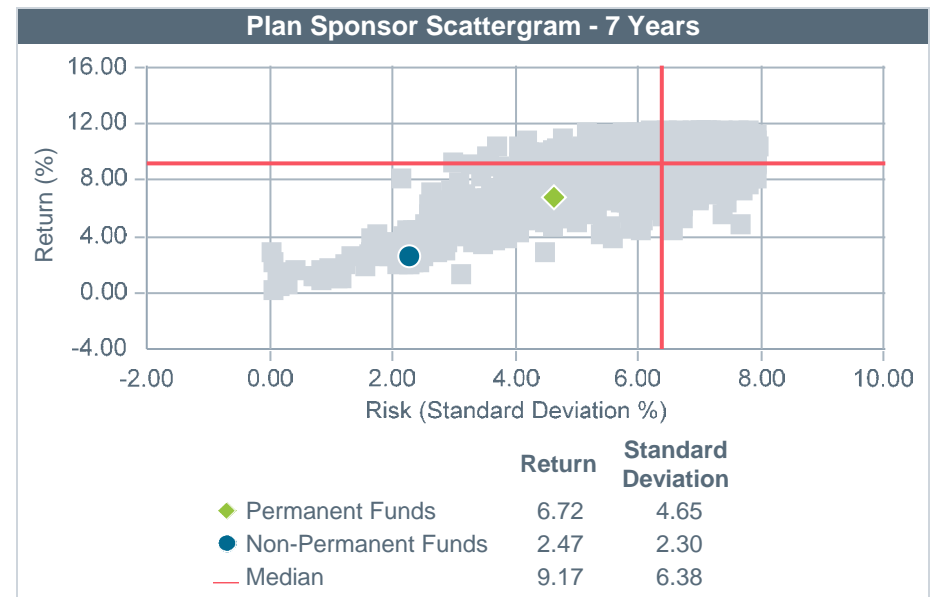
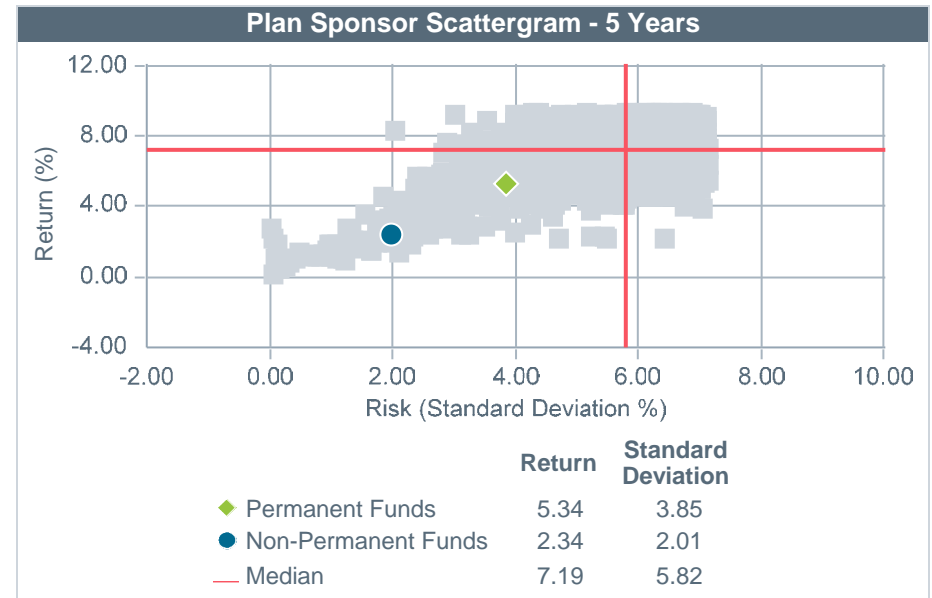
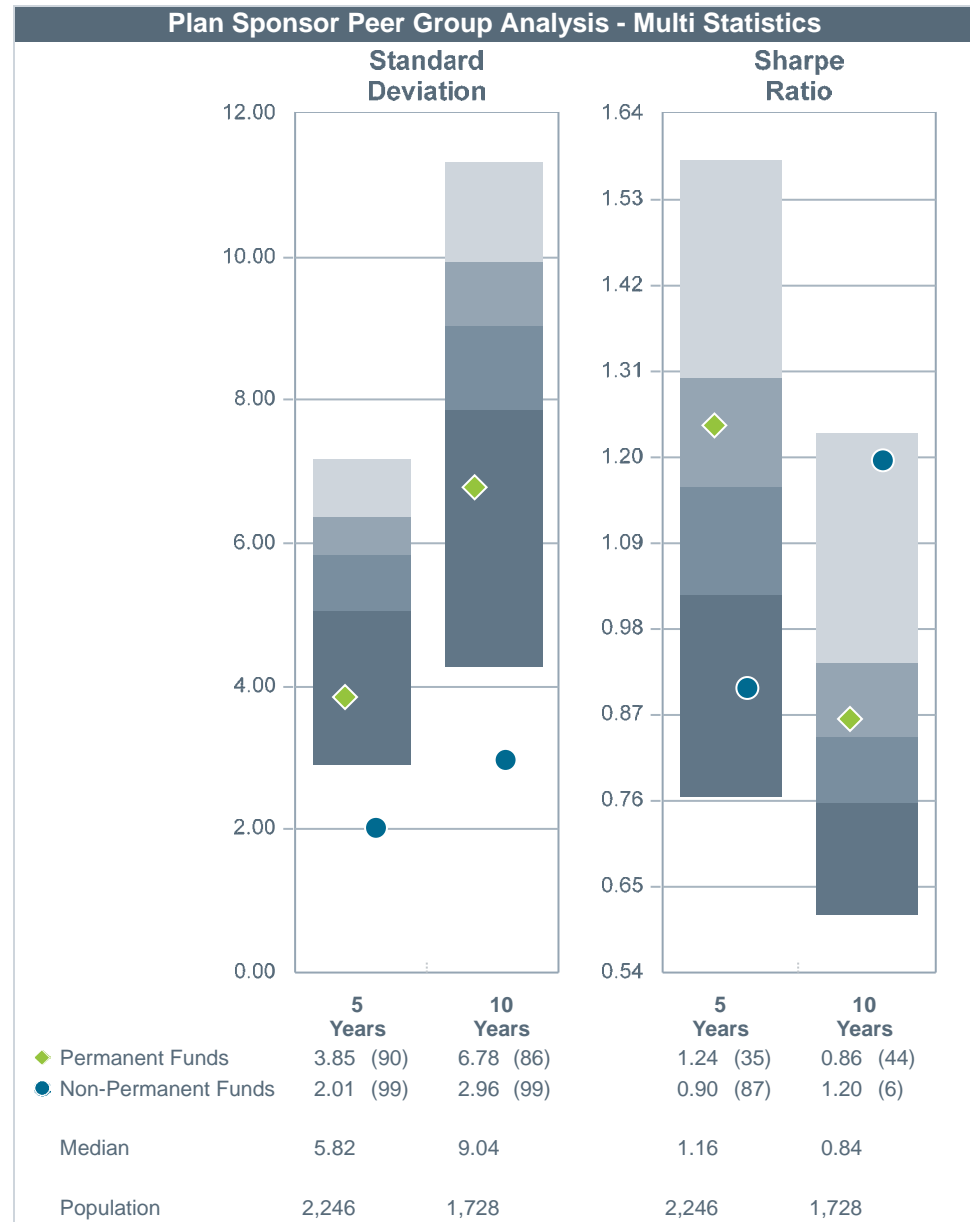
As of September 30, 2018



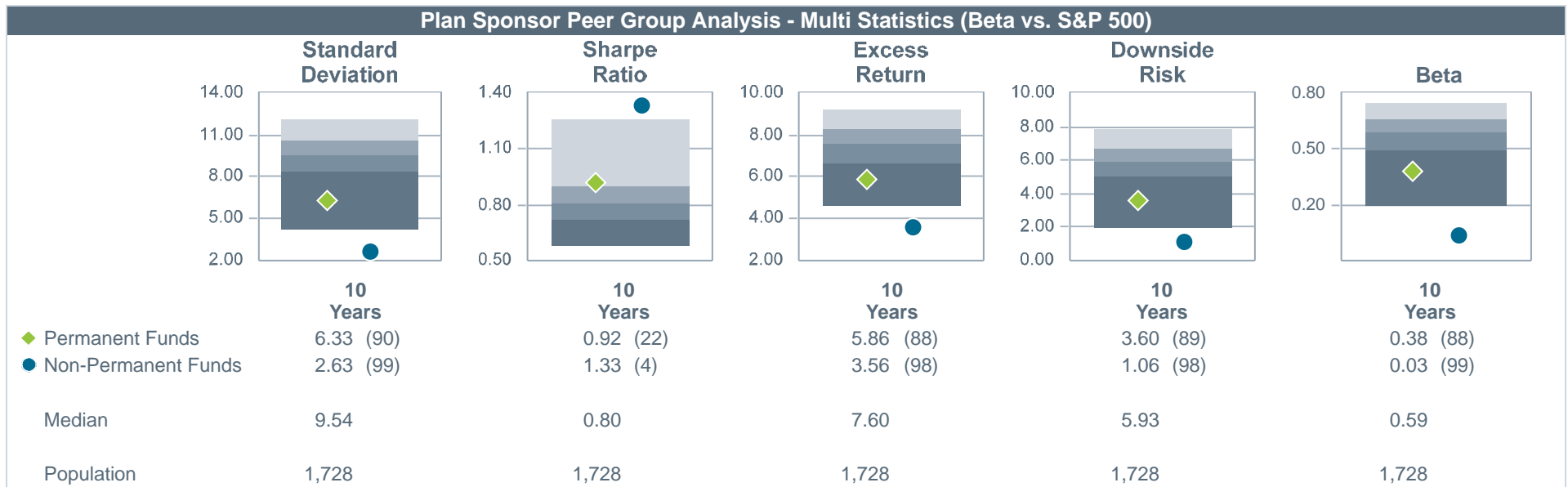
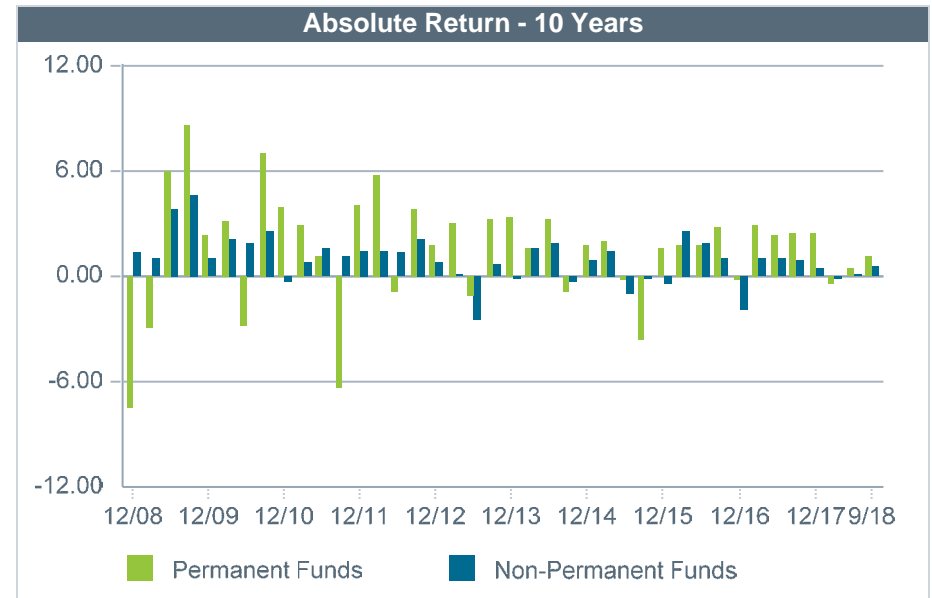
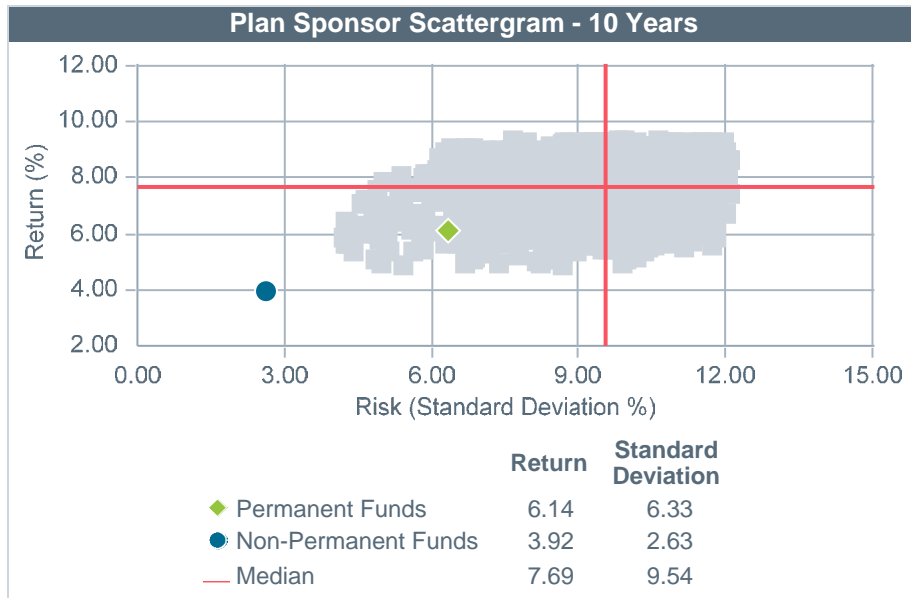
Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.
Wyoming State Treasurer's Office fiscal year ends on June 30th.

Wyoming State Treasurer's Office
 Permanent Funds and Non-Permanent Funds vs. All Master Trust - Total Fund
 Plan Sponsor Peer Group Scattergram and Multi Statistics

As of September 30, 2018



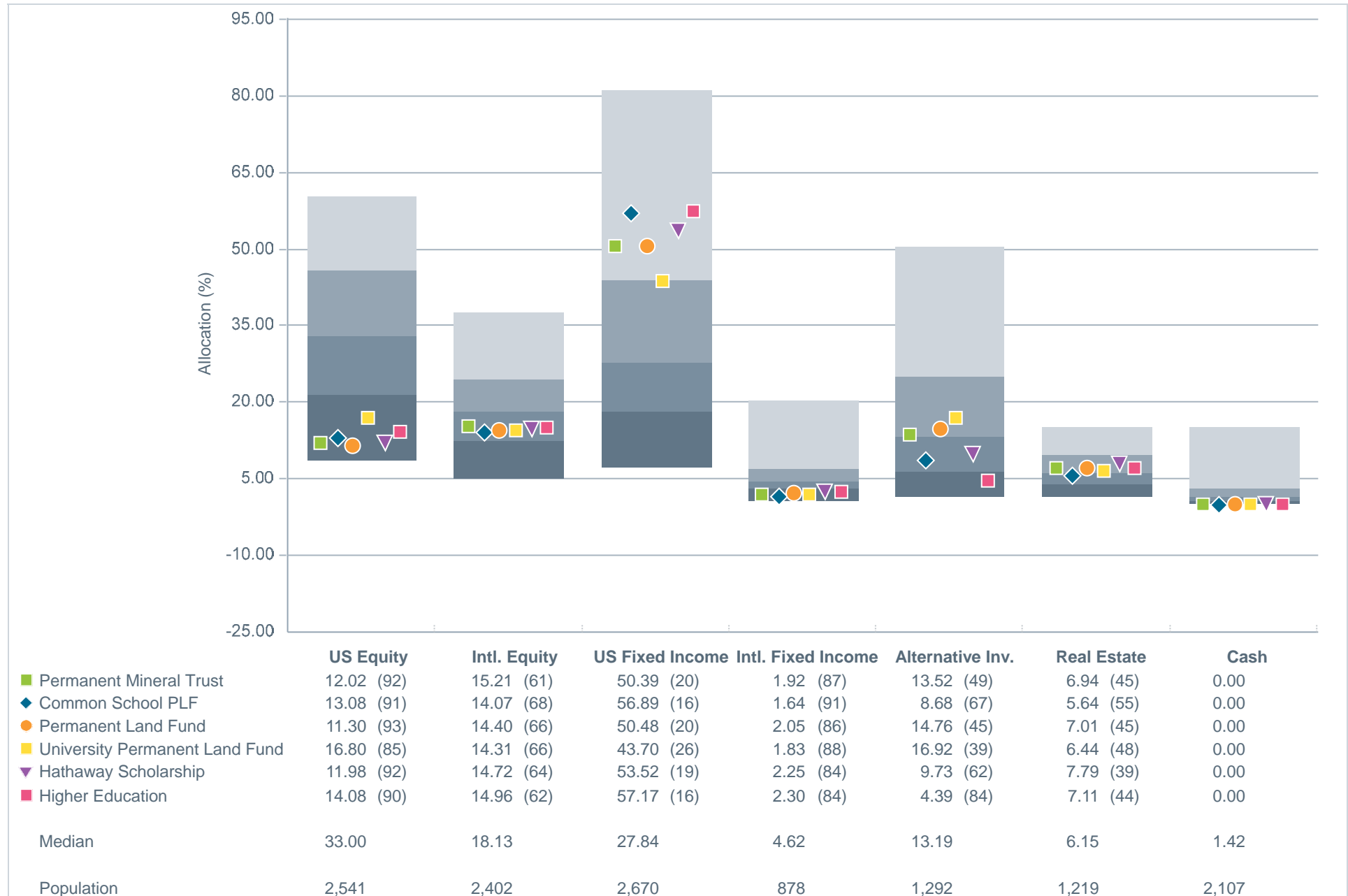
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Wyoming State Treasurer's Office
All Master Trust - Total Fund
Plan Sponsor TF Asset Allocation

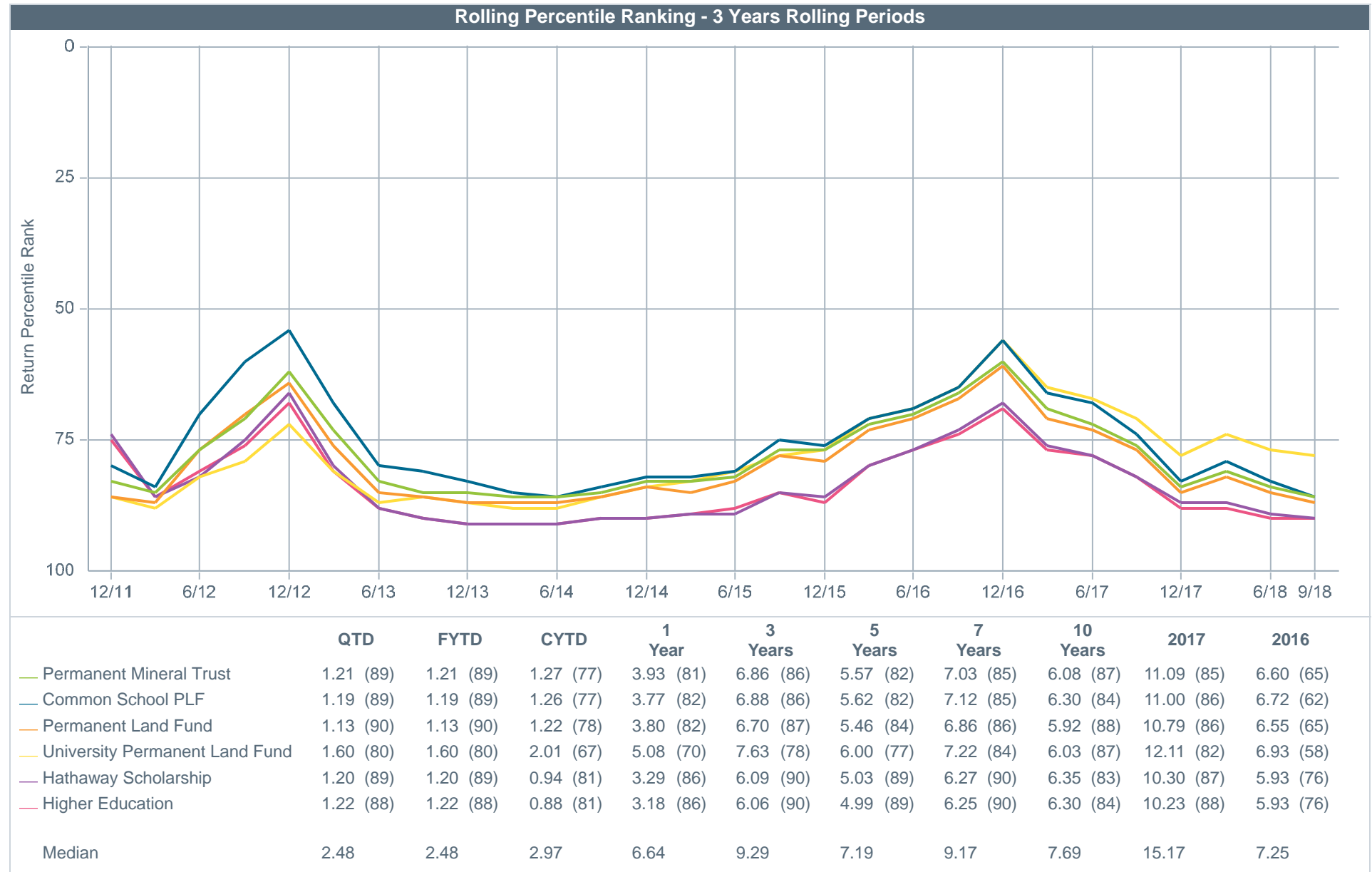
As of September 30, 2018



Parentheses contain percentile ranks. US Fixed Income allocation shown includes Convertibles and Cash (inv. in SAP).

Wyoming State Treasurer's Office
All Master Trust - Total Fund
Rolling Percentile Ranking and Plan Sponsor Peer Group Analysis

As of September 30, 2018



Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.
Wyoming State Treasurer's Office fiscal year ends on June 30th.

Wyoming State Treasurer's Office
Permanent Mineral Trust
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Permanent Fund

Main Objective: Produce maximized long-term investment income and capital gains while providing appropriate liquidity

Primary Investment Goal: Capital appreciation, total return, and protection against inflation

Long-Term Return Expectation: CPI + 3%

Spending Policy: 5% of the five-year rolling average market value, calculated on the first day of the fiscal year

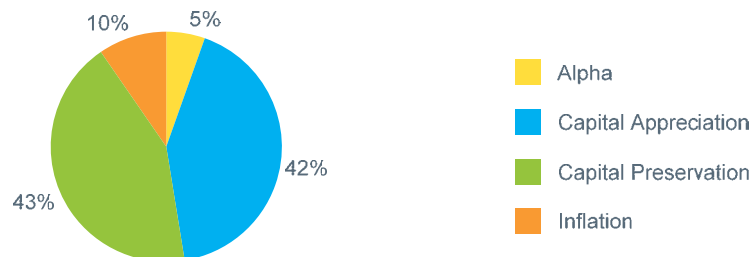
Funding Source: Constitutional and statutory mineral severance tax revenues, and occasional direct legislative appropriations

Liquidity Constraints: The corpus cannot be spent but only invested for income and capital gains

Maximum Equity Allocation: 70%

Current Target Equity Allocation: 56%

Asset Allocation by Theme



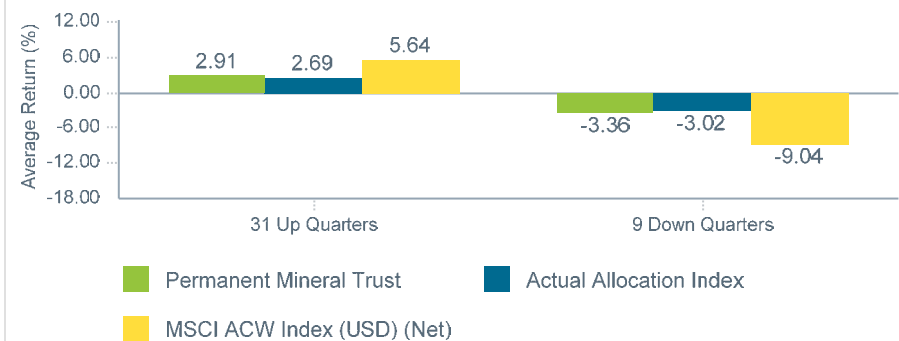
MPT Stats

	5 Years	10 Years
Maximum Return	3.61	8.75
Minimum Return	-4.08	-8.84
Standard Deviation	3.55	6.78
vs. S&P 500 Index (Cap Wtd)		
Beta	0.39	0.41
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	1.35	0.83

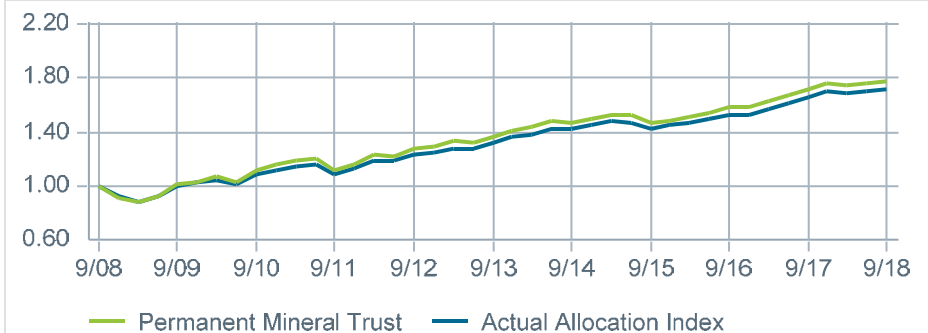
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
Permanent Mineral Trust	7,880,040	100.00	-	100.00	-
US Equity	946,883	12.02	6.50	13.00	19.50
International Equity	1,198,446	15.21	6.50	13.00	19.50
MLPs	221,750	2.81	2.25	4.50	6.75
Private Equity	417,142	5.29	4.00	8.00	12.00
Real Estate	546,567	6.94	5.00	10.00	15.00
Diversified Hedge Funds	426,561	5.41	3.75	7.50	11.25
Convertibles	162,622	2.06	0.00	0.00	0.00
Fixed Income	2,900,414	36.81	22.00	44.00	66.00
Public Purpose Investments	112,452	1.43	0.00	0.00	0.00
Cash (inv. in SAP)	947,203	12.02	0.00	0.00	5.00

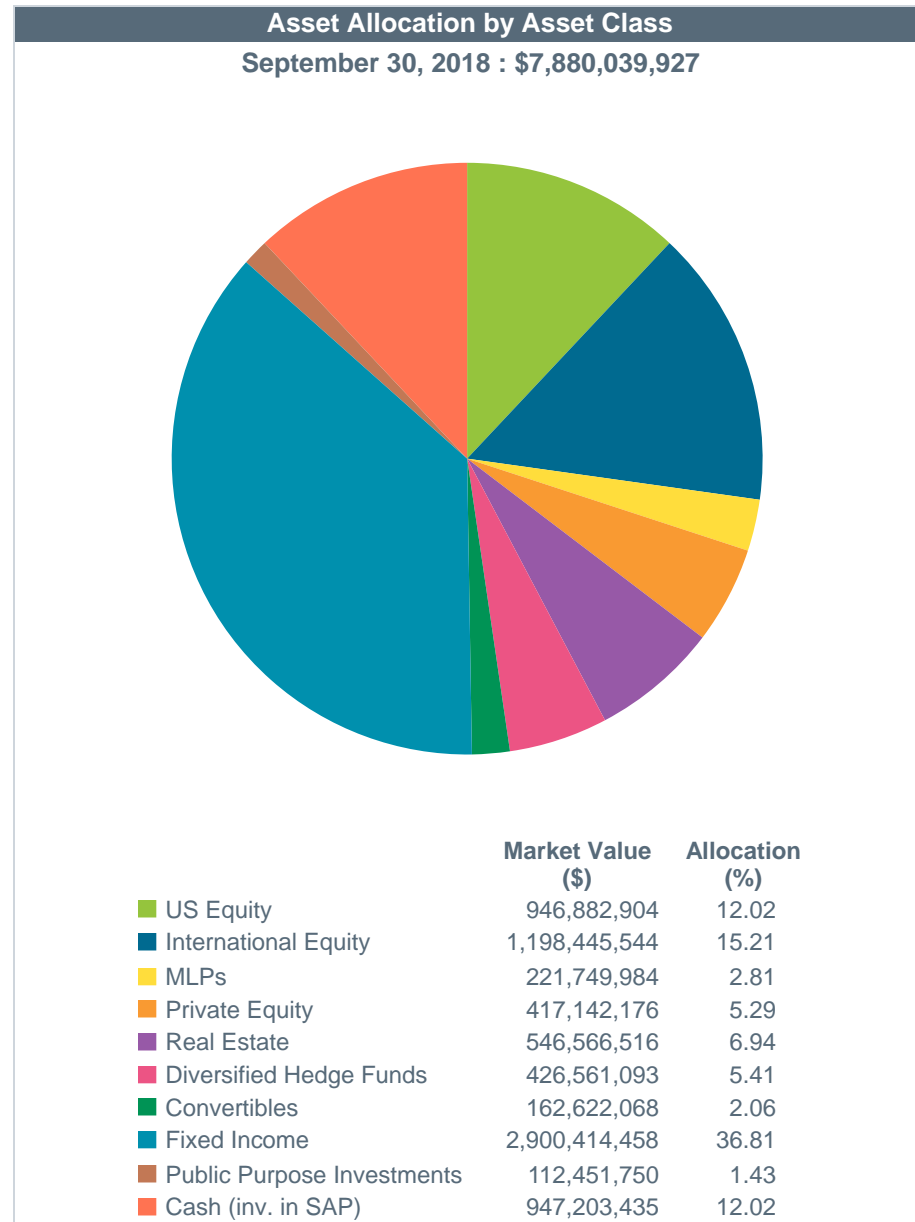
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

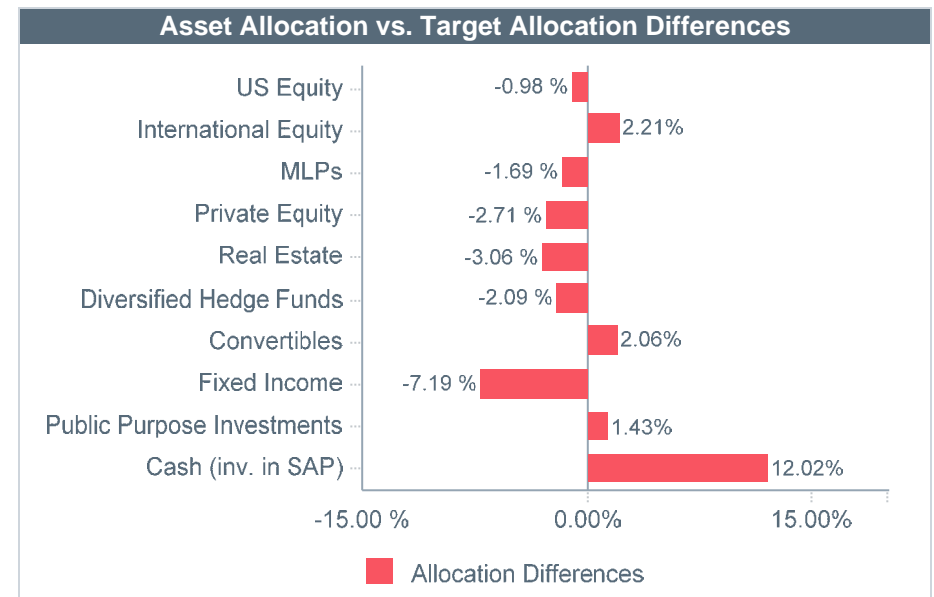


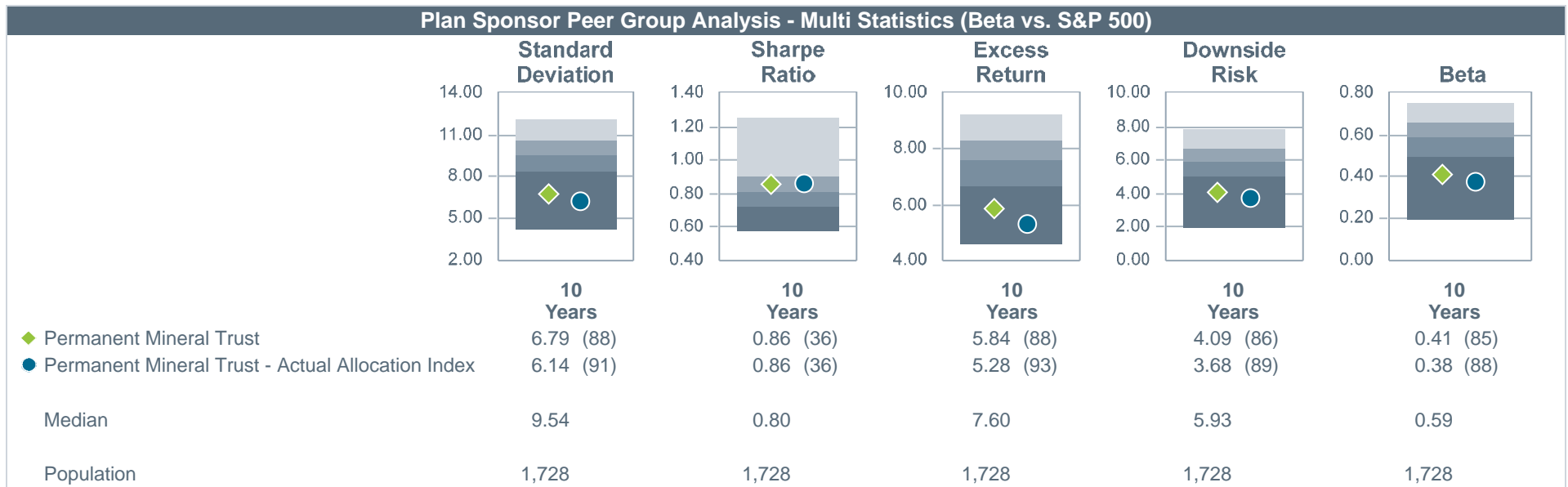
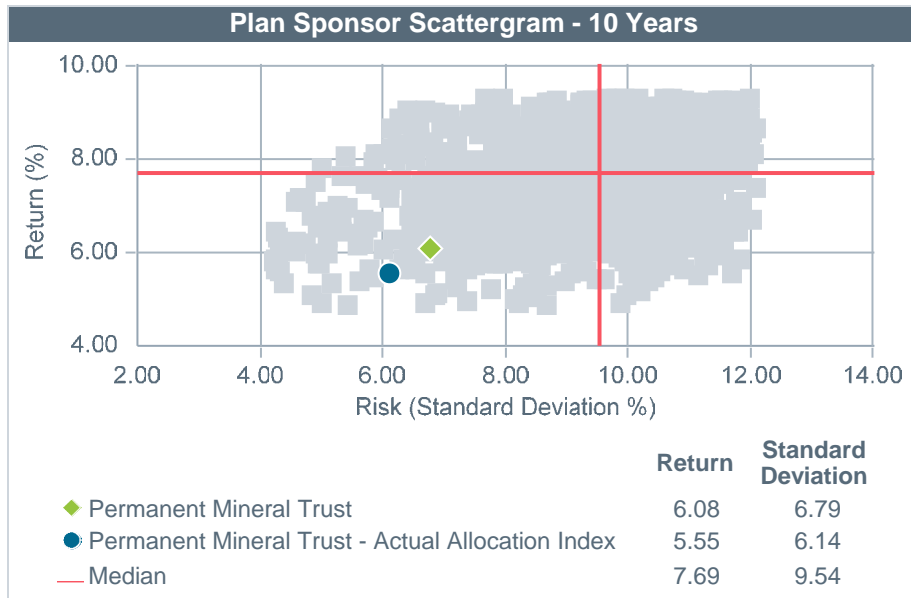
Performance shown is net of fees. Calculations are based on quarterly periodicity. Allocations shown may not sum up to 100% exactly due to rounding.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	946,882,904	12.02	13.00
International Equity	1,198,445,544	15.21	13.00
MLPs	221,749,984	2.81	4.50
Private Equity	417,142,176	5.29	8.00
Real Estate	546,566,516	6.94	10.00
Diversified Hedge Funds	426,561,093	5.41	7.50
Convertibles	162,622,068	2.06	0.00
Fixed Income	2,900,414,458	36.81	44.00
Public Purpose Investments	112,451,750	1.43	0.00
Cash (inv. in SAP)	947,203,435	12.02	0.00
Total Fund	7,880,039,927	100.00	100.00





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Wyoming State Treasurer's Office
Common School Permanent Land Fund
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Permanent Fund

Main Objective: Produce maximized long-term investment income and capital gains while providing appropriate liquidity

Primary Investment Goal: Income generation, capital appreciation, total return, and protection against inflation

Long-Term Return Expectation: CPI + 3%

Spending Policy: 5% of the five-year rolling average market value, calculated on the first day of the fiscal year

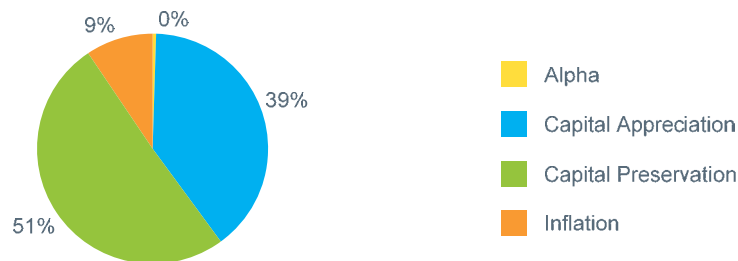
Funding Source: Royalties, leases, fees and permits, and other revenue generated from State lands

Liquidity Constraints: The corpus cannot be spent but only invested for income and capital gains

Maximum Equity Allocation: 70%

Current Target Equity Allocation: 44%

Asset Allocation by Theme



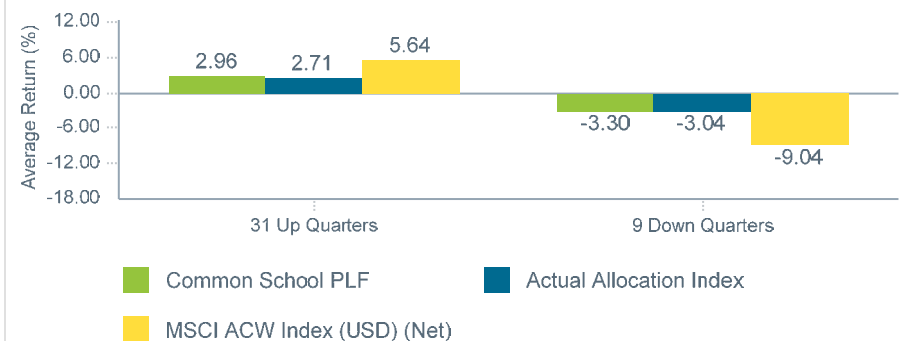
MPT Stats

	5 Years	10 Years
Maximum Return	3.57	8.79
Minimum Return	-3.85	-8.51
Standard Deviation	3.44	6.78
vs. S&P 500 Index (Cap Wtd)		
Beta	0.38	0.42
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	1.41	0.86

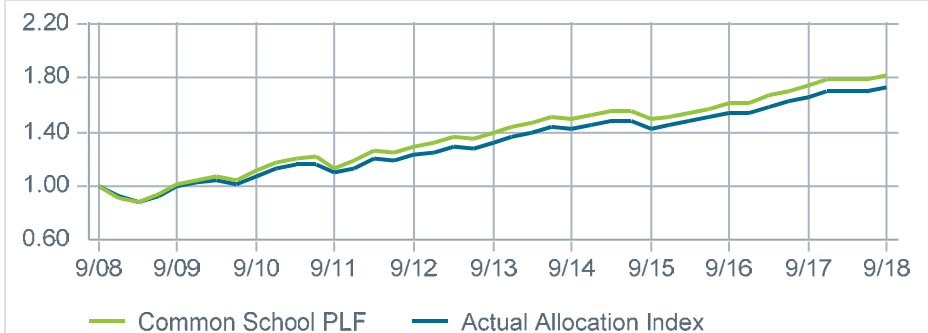
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
Common School PLF	4,066,707	100.00	-	100.00	-
US Equity	452,747	11.13	5.00	10.00	15.00
International Equity	572,308	14.07	4.50	9.00	13.50
Preferred Stock	79,169	1.95	1.00	2.00	3.00
MLPs	149,671	3.68	3.00	6.00	9.00
Private Equity	183,499	4.51	0.00	0.00	0.00
Real Estate	229,278	5.64	8.50	17.00	25.50
Diversified Hedge Funds	19,974	0.49	0.00	0.00	0.00
Convertibles	76,297	1.88	0.00	0.00	0.00
Fixed Income	1,401,692	34.47	28.00	56.00	84.00
Public Purpose Investments	143,360	3.53	0.00	0.00	0.00
Cash (inv. in SAP)	758,713	18.66	0.00	0.00	5.00

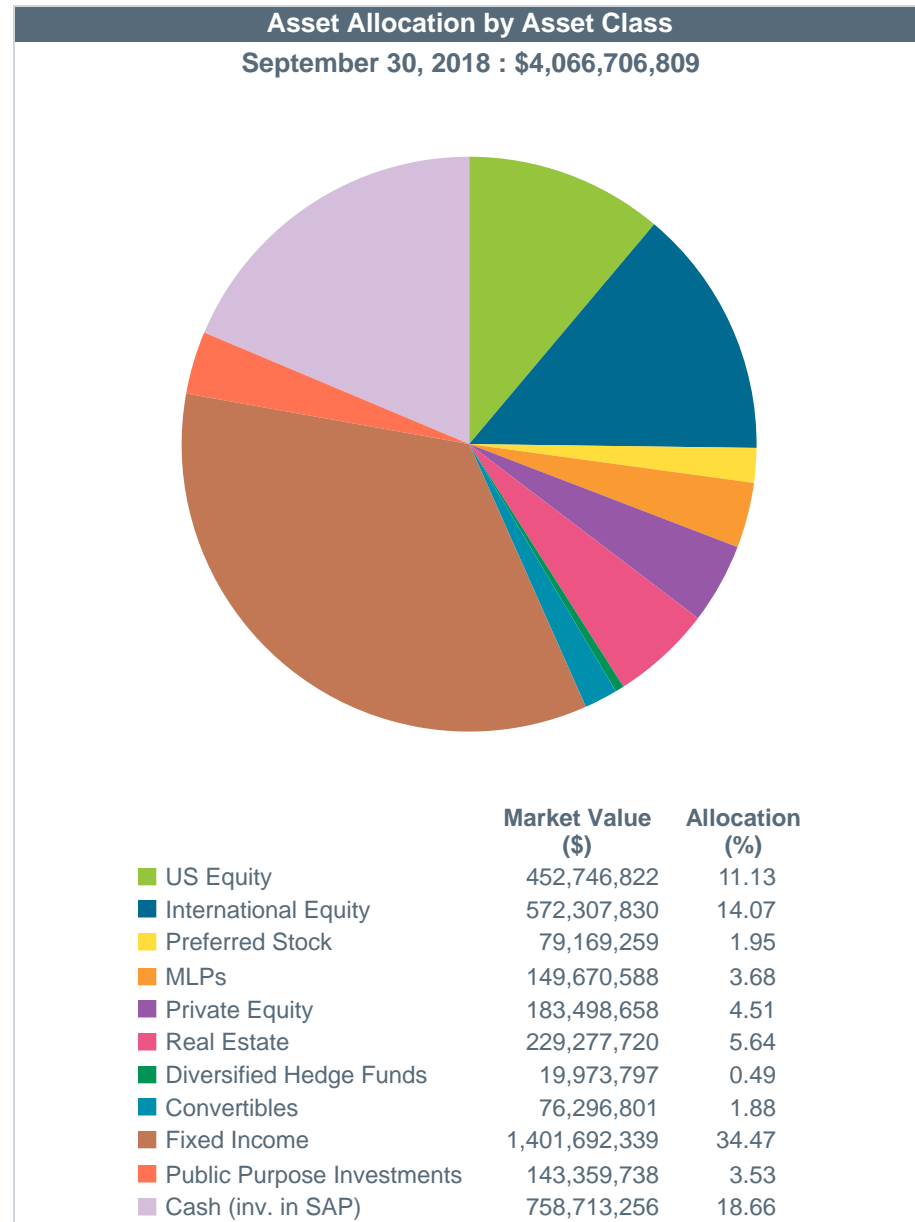
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

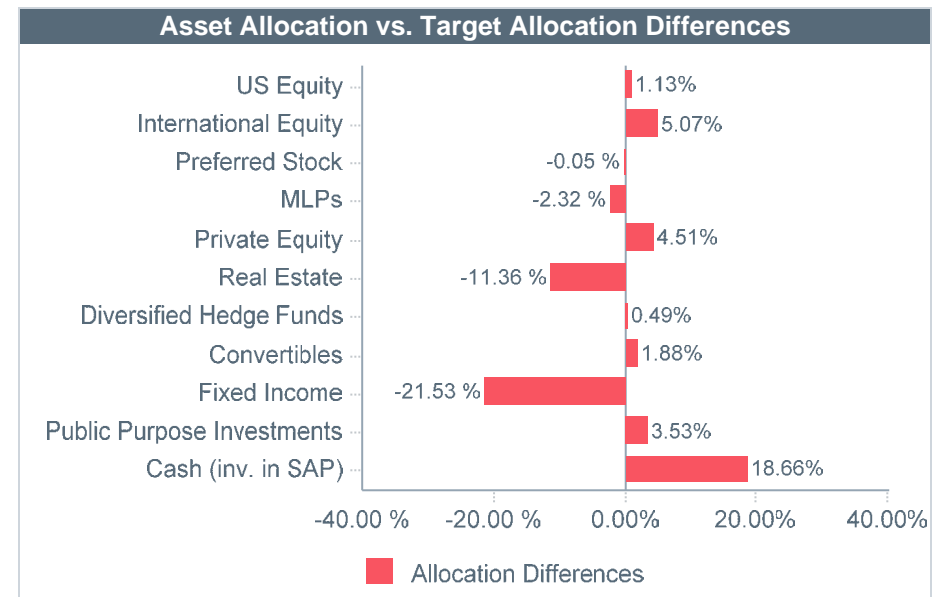


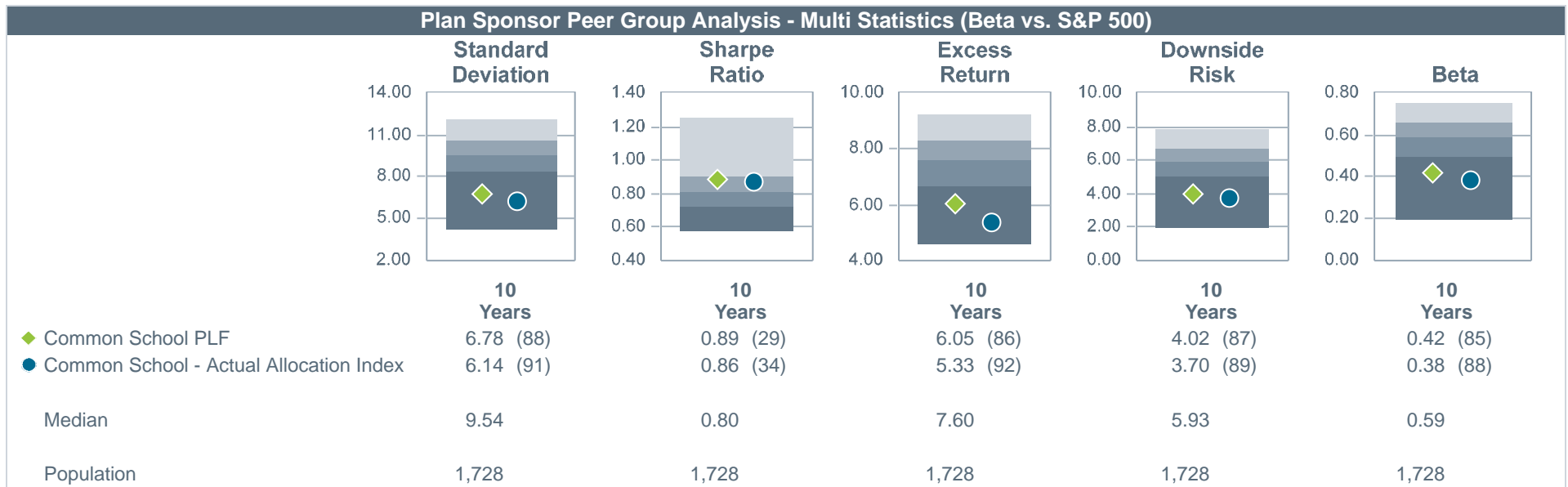
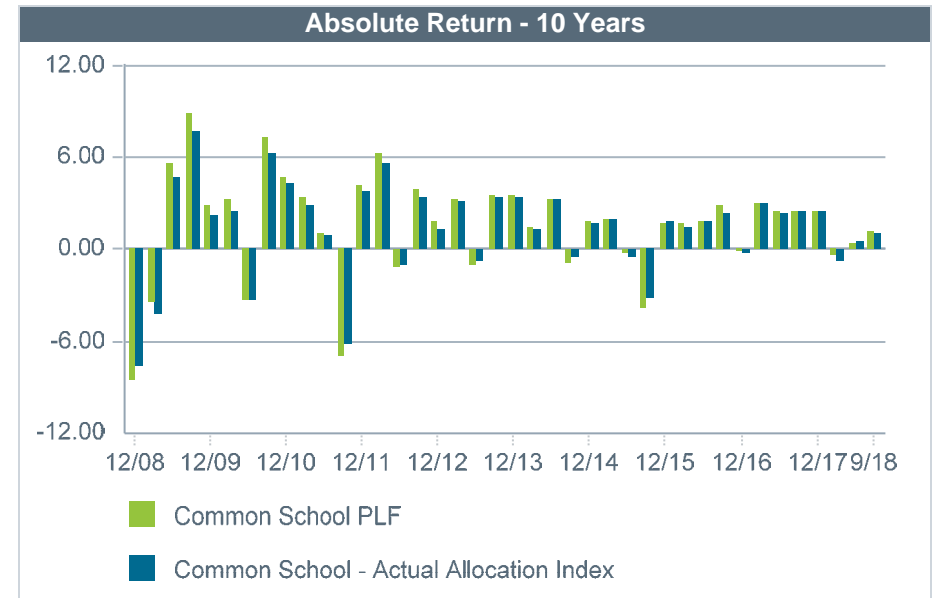
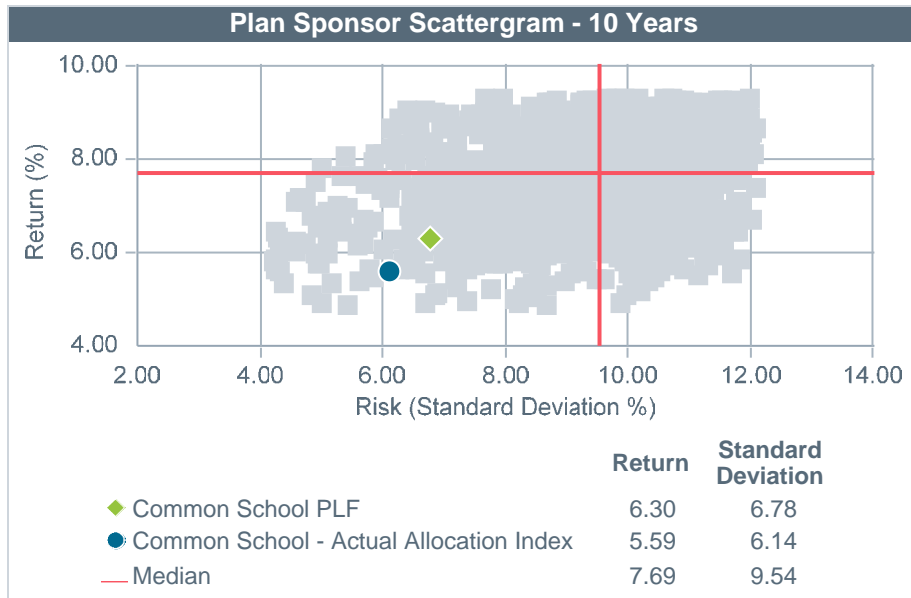
Performance shown is net of fees. Calculations are based on quarterly periodicity.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	452,746,822	11.13	10.00
International Equity	572,307,830	14.07	9.00
Preferred Stock	79,169,259	1.95	2.00
MLPs	149,670,588	3.68	6.00
Private Equity	183,498,658	4.51	0.00
Real Estate	229,277,720	5.64	17.00
Diversified Hedge Funds	19,973,797	0.49	0.00
Convertibles	76,296,801	1.88	0.00
Fixed Income	1,401,692,339	34.47	56.00
Public Purpose Investments	143,359,738	3.53	0.00
Cash (inv. in SAP)	758,713,256	18.66	0.00
Total Fund	4,066,706,809	100.00	100.00





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

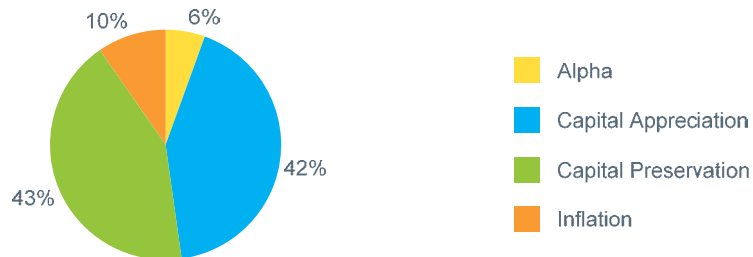
Wyoming State Treasurer's Office
Permanent Land Fund
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Permanent Fund
Main Objective: Produce maximized long-term investment income and capital gains while providing appropriate liquidity
Primary Investment Goal: Capital appreciation, total return, and protection against inflation
Long-Term Return Expectation: CPI + 3%
Funding Source: Royalties, leases, fees and permits, and other revenue generated from State lands
Maximum Equity Allocation: 70%
Current Target Equity Allocation: 56%

Asset Allocation by Theme



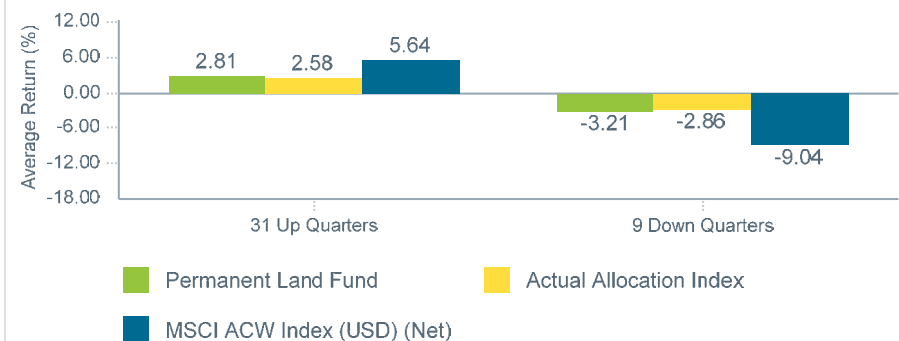
MPT Stats

	5 Years	10 Years
Maximum Return	3.46	8.43
Minimum Return	-3.85	-8.46
Standard Deviation	3.42	6.50
vs. S&P 500 Index (Cap Wtd)		
Beta	0.37	0.37
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	1.37	1.55

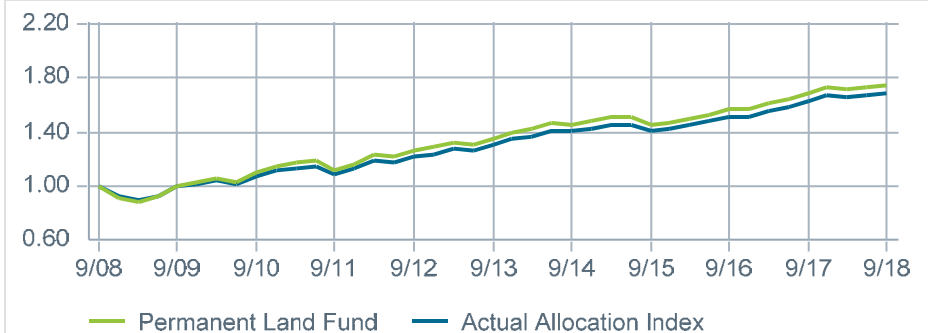
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
Permanent Land Fund	193,818	100.00	-	100.00	-
US Equity	21,904	11.30	6.50	13.00	19.50
International Equity	27,903	14.40	6.50	13.00	19.50
MLPs	5,570	2.87	2.25	4.50	6.75
Private Equity	12,336	6.36	4.00	8.00	12.00
Real Estate	13,588	7.01	5.00	10.00	15.00
Diversified Hedge Funds	10,693	5.52	3.75	7.50	11.25
Convertibles	4,170	2.15	0.00	0.00	0.00
Fixed Income	77,150	39.81	22.00	44.00	66.00
Cash (inv. in SAP)	20,504	10.58	0.00	0.00	5.00

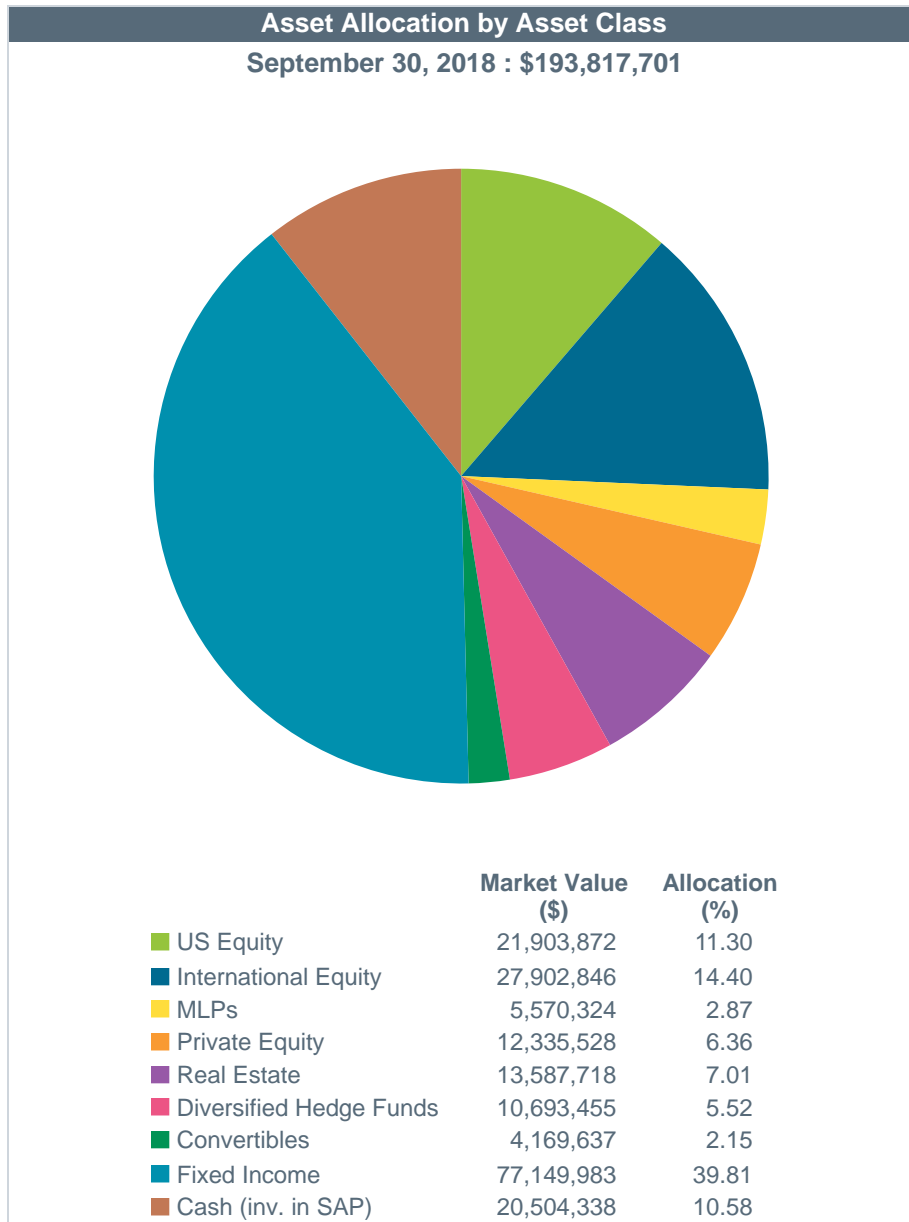
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

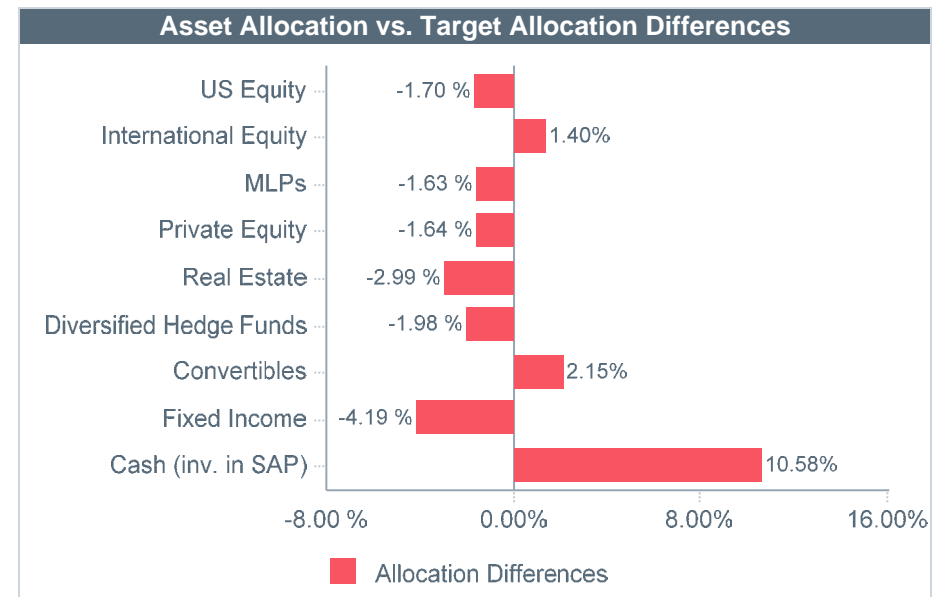


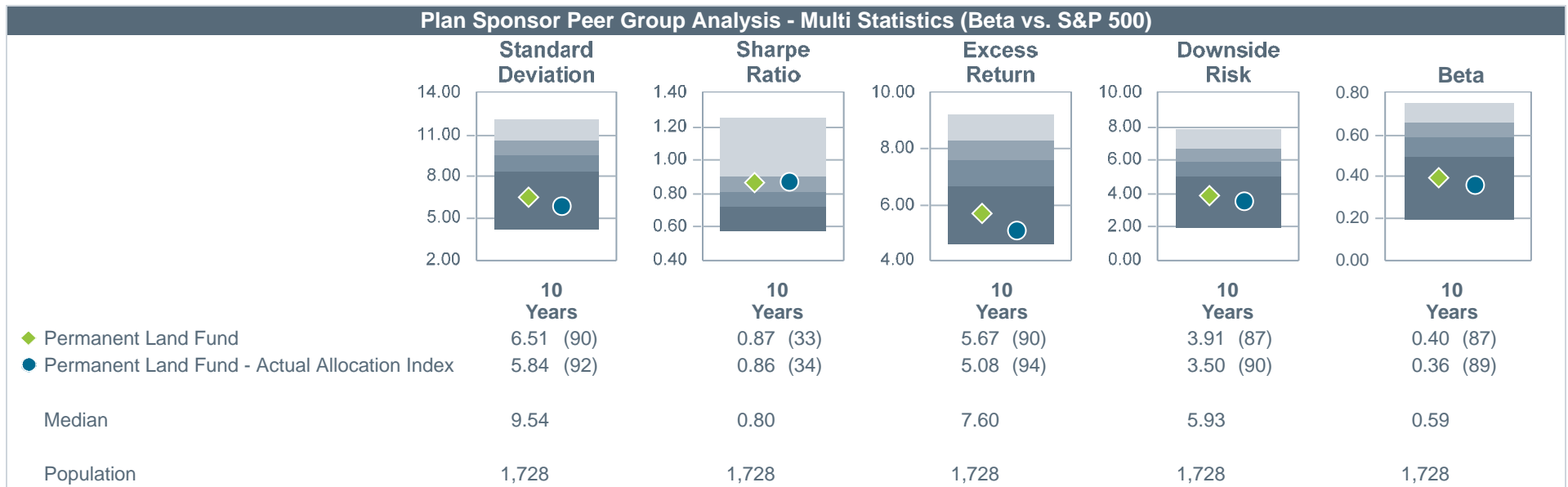
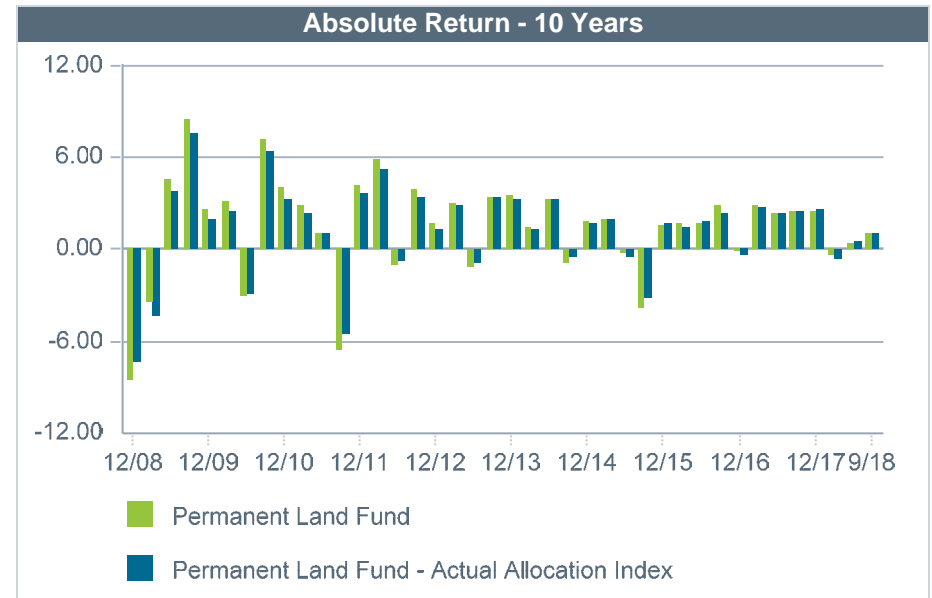
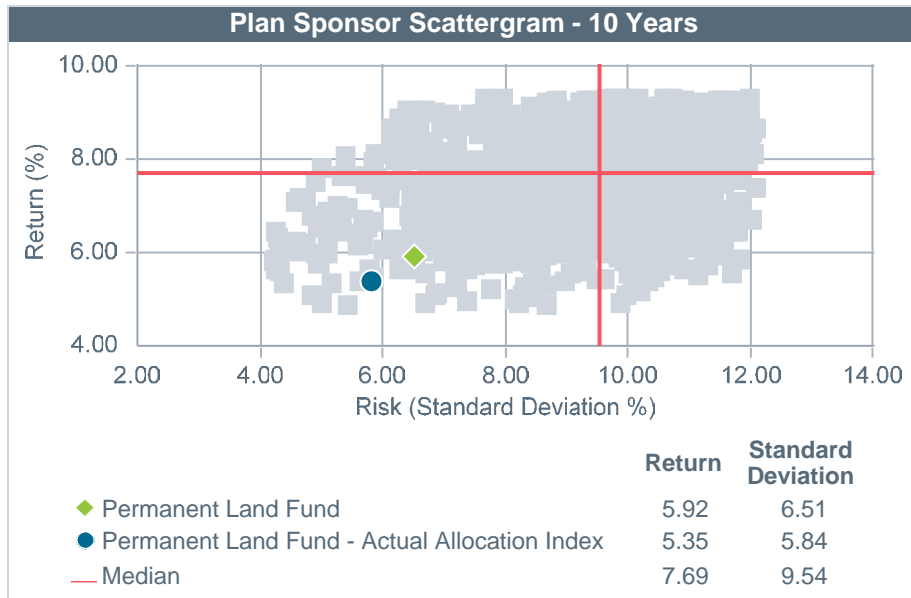
Performance shown is net of fees. Calculations are based on quarterly periodicity. Allocations shown may not sum up to 100% exactly due to rounding.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	21,903,872	11.30	13.00
International Equity	27,902,846	14.40	13.00
MLPs	5,570,324	2.87	4.50
Private Equity	12,335,528	6.36	8.00
Real Estate	13,587,718	7.01	10.00
Diversified Hedge Funds	10,693,455	5.52	7.50
Convertibles	4,169,637	2.15	0.00
Fixed Income	77,149,983	39.81	44.00
Cash (inv. in SAP)	20,504,338	10.58	0.00
Total Fund	193,817,701	100.00	100.00





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Wyoming State Treasurer's Office
University Permanent Land Fund
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Permanent Fund

Main Objective: Produce maximized long-term investment income and capital gains while providing appropriate liquidity

Primary Investment Goal: Capital appreciation, total return, and protection against inflation

Long-Term Return Expectation: CPI + 3%

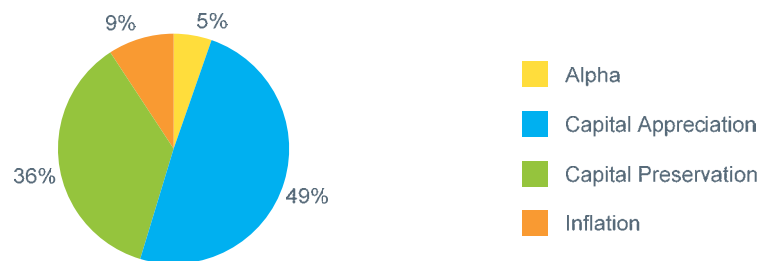
Funding Source: Royalties, leases, fees and permits, and other revenue generated from State lands

Liquidity Constraints: The corpus cannot be spent but only invested for income and capital gains

Maximum Equity Allocation: 70%

Current Target Equity Allocation: 56%

Asset Allocation by Theme



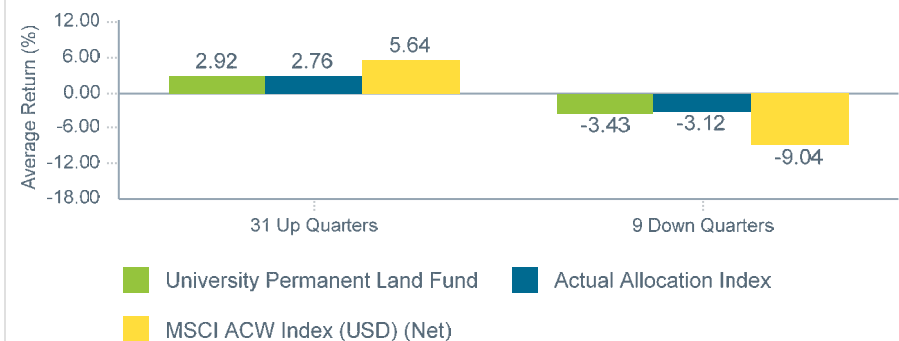
MPT Stats

	5 Years	10 Years
Maximum Return	3.65	8.42
Minimum Return	-4.43	-9.52
Standard Deviation	3.69	6.78
vs. S&P 500 Index (Cap Wtd)		
Beta	0.43	0.42
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	1.42	0.83

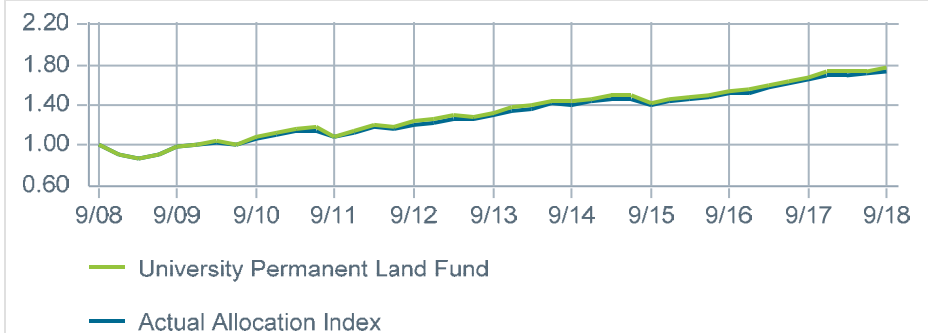
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
University Permanent Land Fund	23,612	100.00	-	100.00	-
US Equity	3,968	16.80	6.50	13.00	19.50
International Equity	3,379	14.31	6.50	13.00	19.50
MLPs	652	2.76	2.25	4.50	6.75
Private Equity	2,085	8.83	4.00	8.00	12.00
Real Estate	1,520	6.44	5.00	10.00	15.00
Diversified Hedge Funds	1,258	5.33	3.75	7.50	11.25
Convertibles	472	2.00	0.00	0.00	0.00
Fixed Income	7,825	33.14	22.00	44.00	66.00
Cash (inv. in SAP)	2,453	10.39	0.00	0.00	5.00

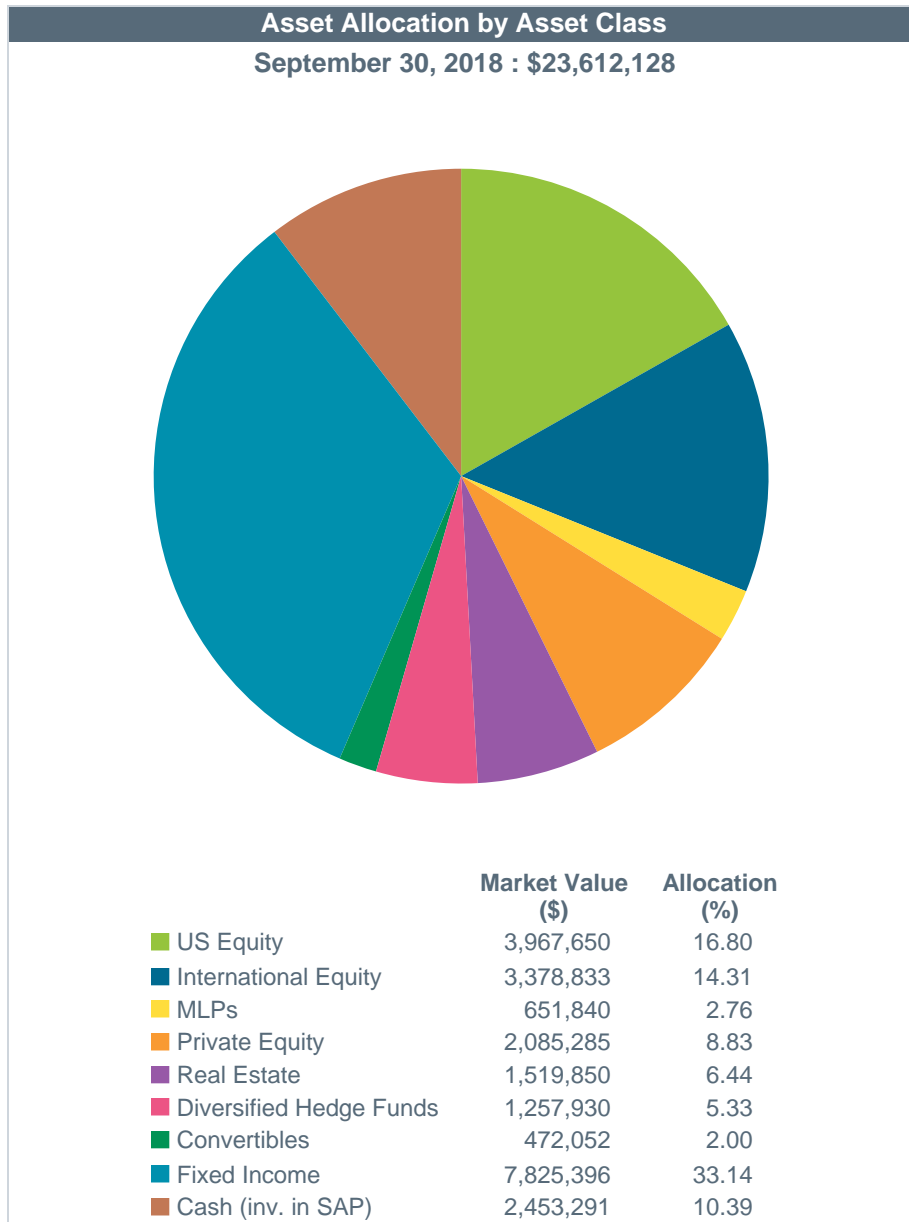
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

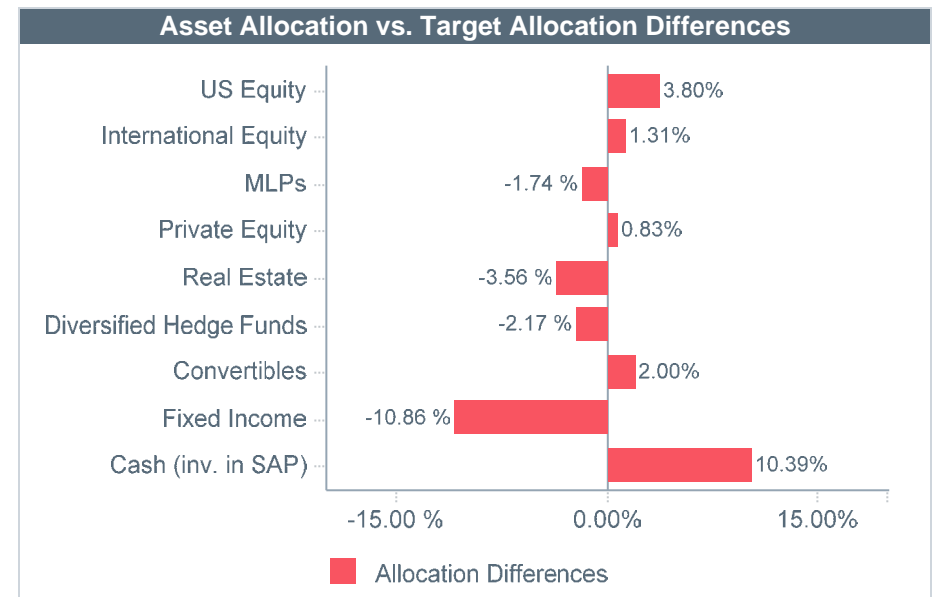


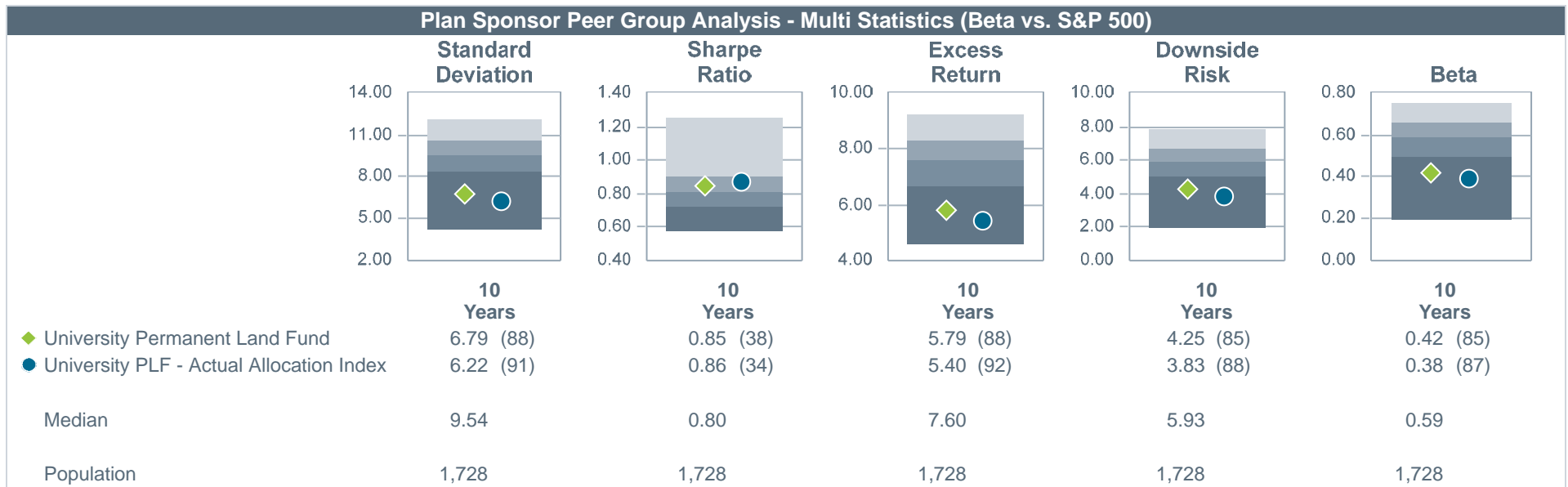
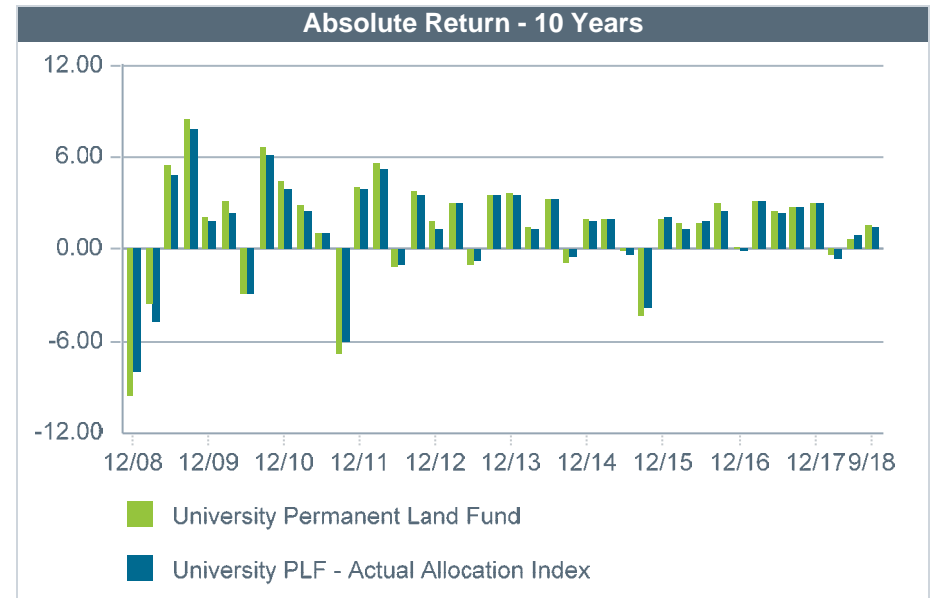
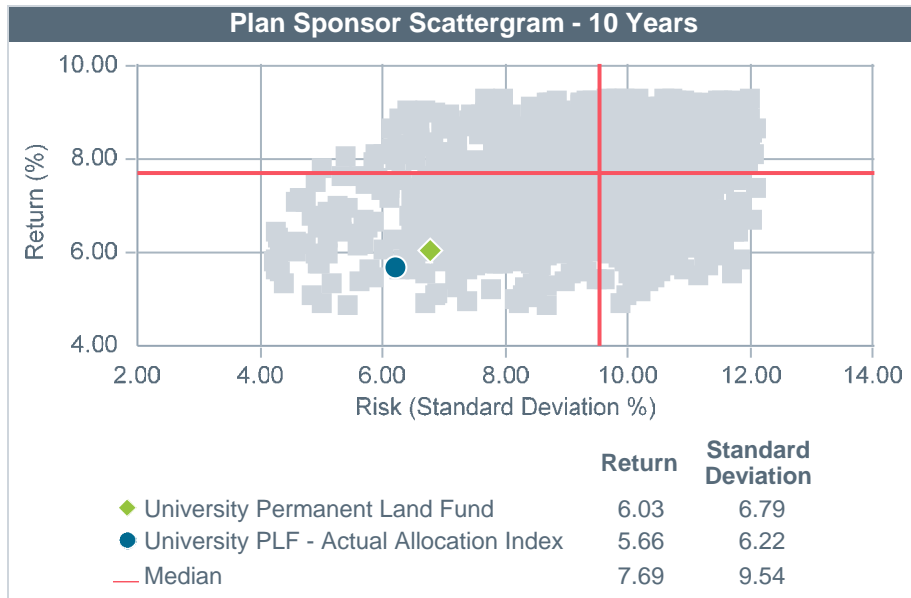
Performance shown is net of fees. Calculations are based on quarterly periodicity.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	3,967,650	16.80	13.00
International Equity	3,378,833	14.31	13.00
MLPs	651,840	2.76	4.50
Private Equity	2,085,285	8.83	8.00
Real Estate	1,519,850	6.44	10.00
Diversified Hedge Funds	1,257,930	5.33	7.50
Convertibles	472,052	2.00	0.00
Fixed Income	7,825,396	33.14	44.00
Cash (inv. in SAP)	2,453,291	10.39	0.00
Total Fund	23,612,128	100.00	100.00





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

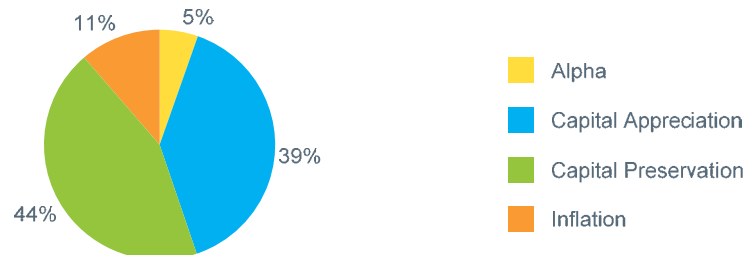
Wyoming State Treasurer's Office
Hathaway Scholarship Endowment Fund
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Permanent Fund
Main Objective: Produce maximized long-term investment income and capital gains while providing appropriate liquidity
Primary Investment Goal: Capital appreciation, total return, and protection against inflation
Long-Term Return Expectation: CPI + 3%
Funding Source: Federal mineral royalties
Liquidity Constraints: The corpus cannot be spent but only invested for income and capital gains
Maximum Equity Allocation: 70%
Current Target Equity Allocation: 56%

Asset Allocation by Theme



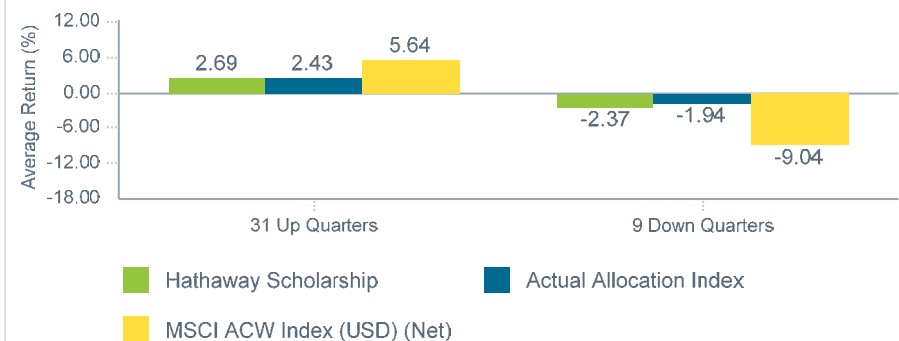
MPT Stats

	5 Years	10 Years
Maximum Return	3.10	7.90
Minimum Return	-3.25	-5.89
Standard Deviation	3.17	5.67
vs. S&P 500 Index (Cap Wtd)		
Beta	0.32	0.33
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	1.34	1.03

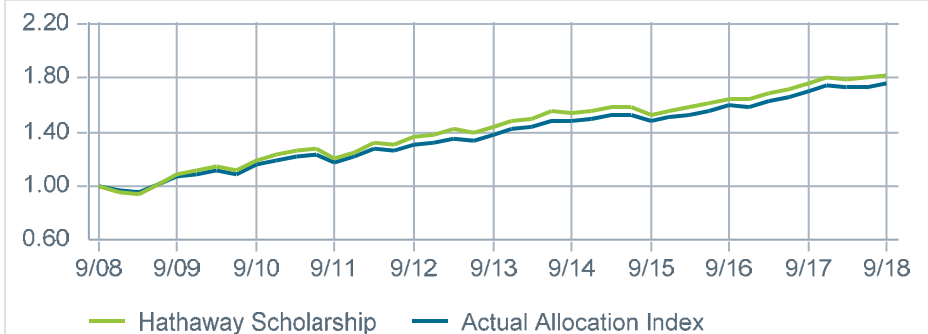
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
Hathaway Scholarship	591,309	100.00	-	100.00	-
US Equity	70,863	11.98	6.50	13.00	19.50
International Equity	87,053	14.72	6.50	13.00	19.50
MLPs	16,412	2.78	2.25	4.50	6.75
Private Equity	9,279	1.57	4.00	8.00	12.00
Real Estate	46,082	7.79	5.00	10.00	15.00
Diversified Hedge Funds	31,864	5.39	3.75	7.50	11.25
Convertibles	12,807	2.17	0.00	0.00	0.00
Fixed Income	259,139	43.82	22.00	44.00	66.00
Cash (inv. in SAP)	57,811	9.78	0.00	0.00	5.00

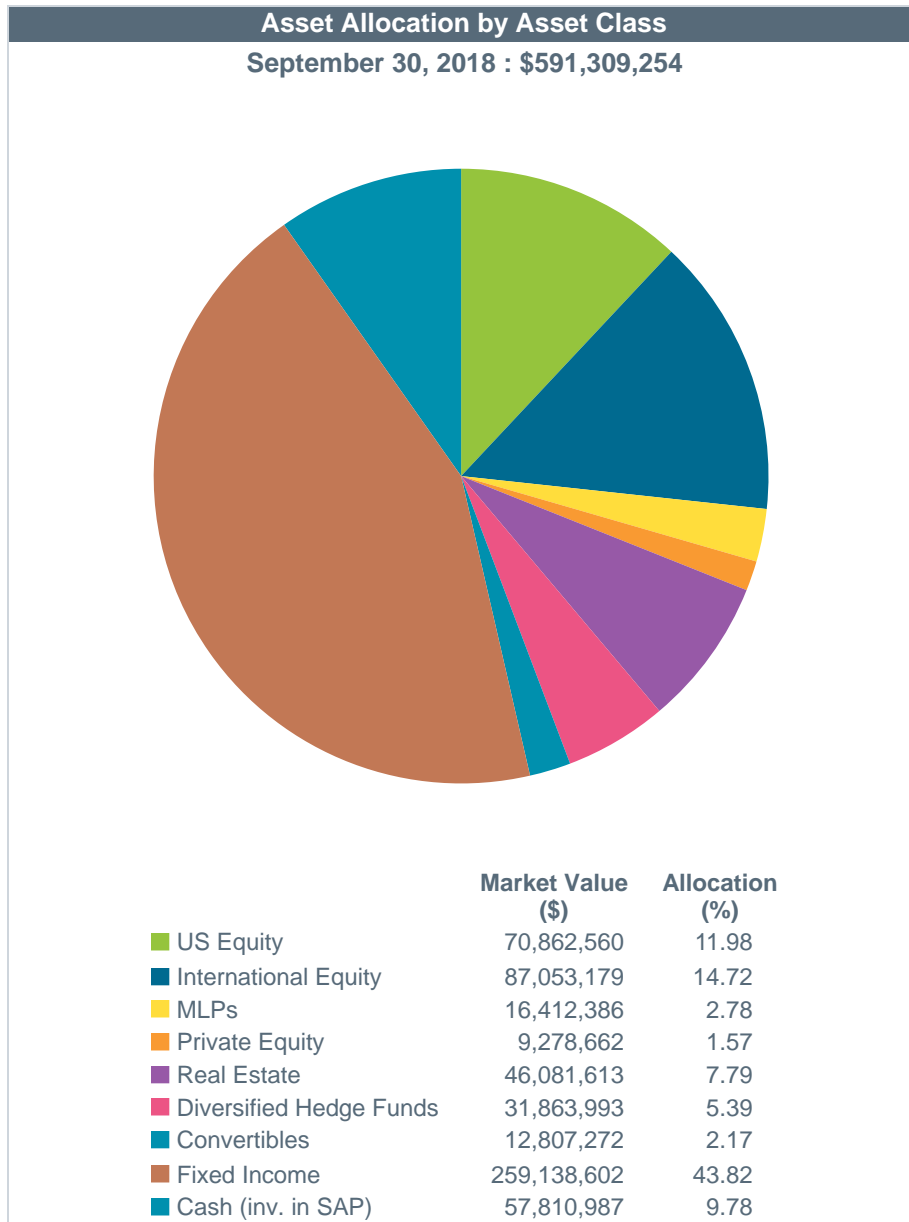
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

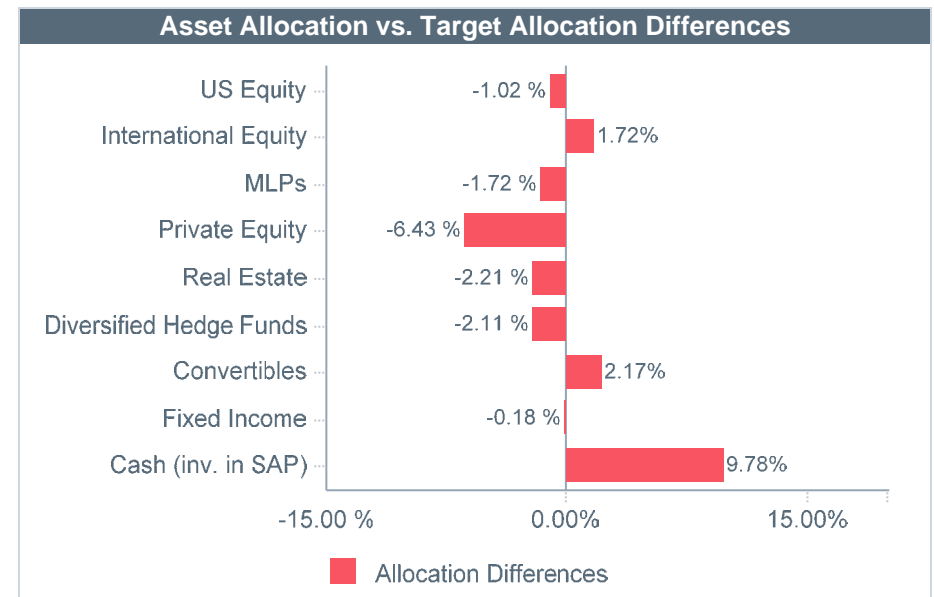


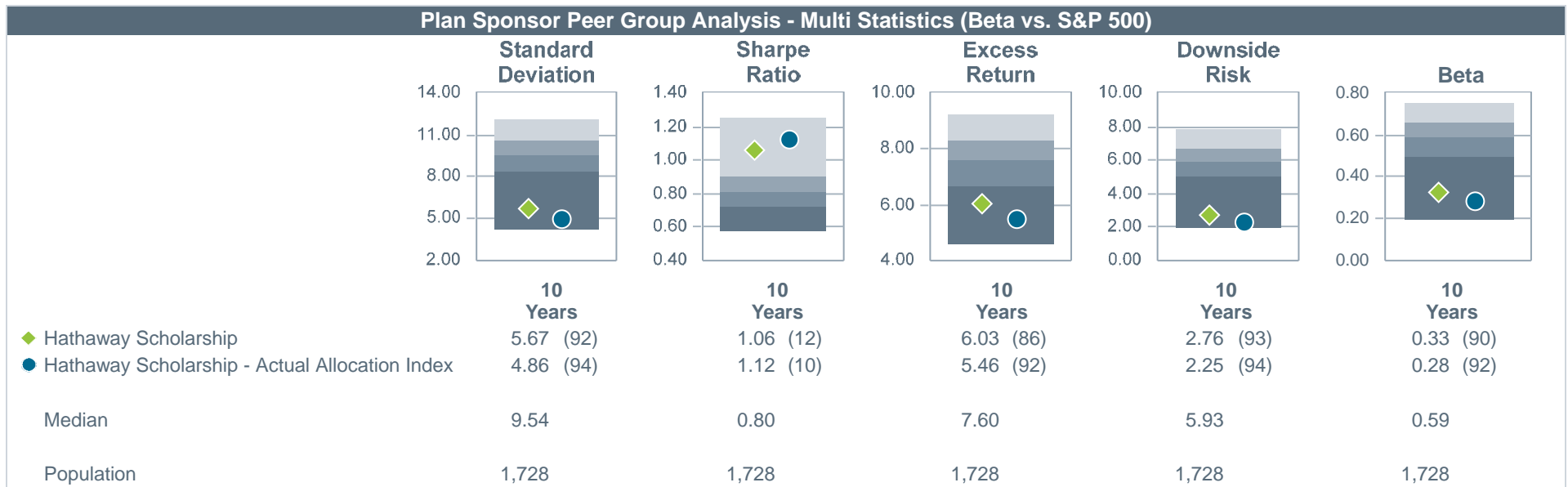
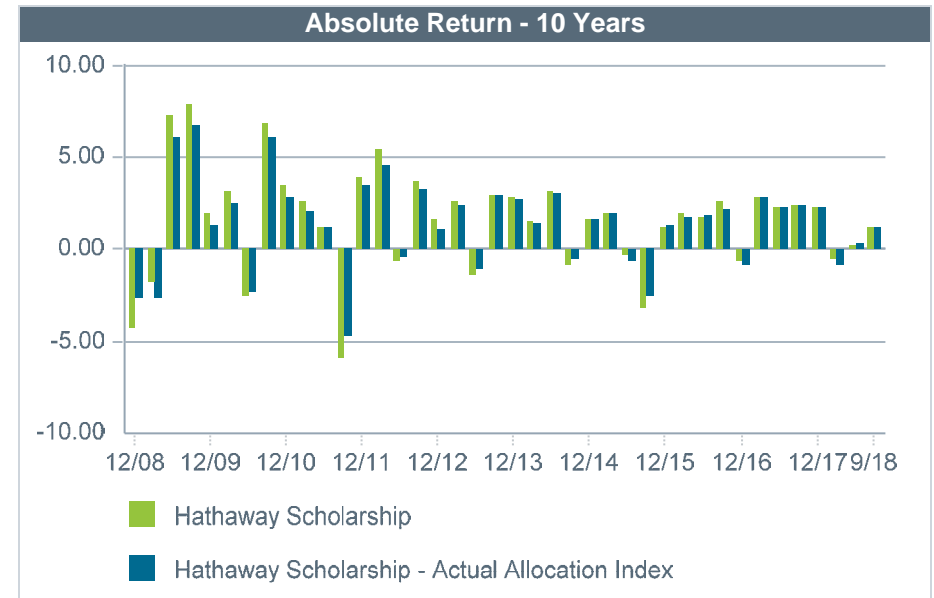
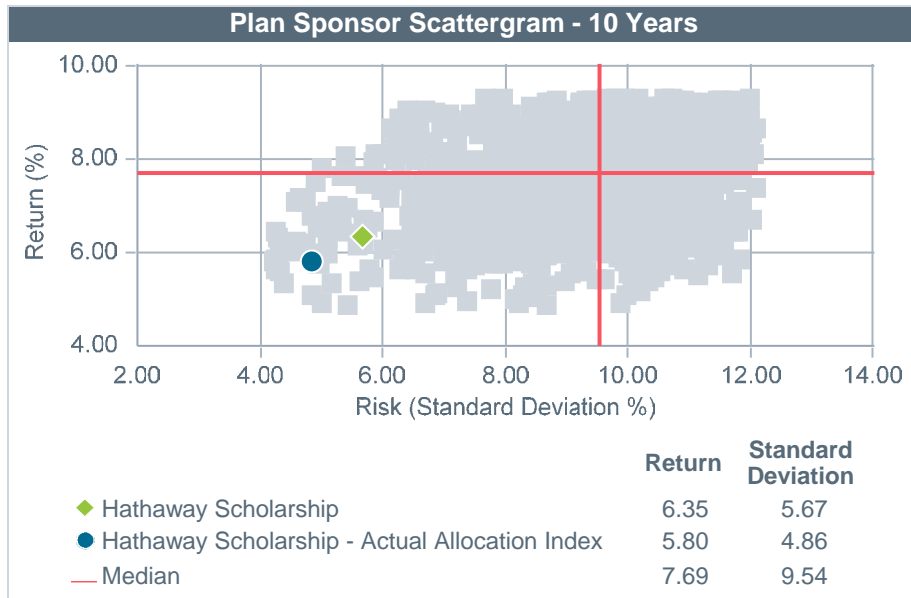
Performance shown is net of fees. Calculations are based on quarterly periodicity.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	70,862,560	11.98	13.00
International Equity	87,053,179	14.72	13.00
MLPs	16,412,386	2.78	4.50
Private Equity	9,278,662	1.57	8.00
Real Estate	46,081,613	7.79	10.00
Diversified Hedge Funds	31,863,993	5.39	7.50
Convertibles	12,807,272	2.17	0.00
Fixed Income	259,138,602	43.82	44.00
Cash (inv. in SAP)	57,810,987	9.78	0.00
Total Fund	591,309,254	100.00	100.00





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

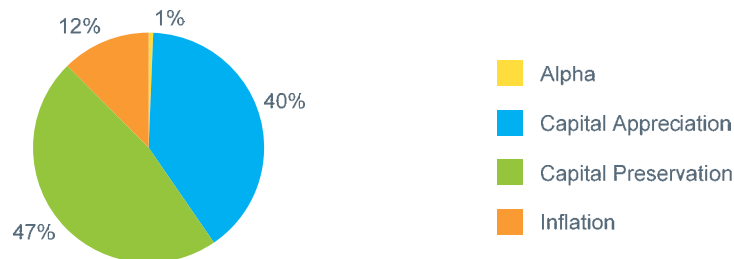
Wyoming State Treasurer's Office
Higher Education Endowment Fund
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Permanent Fund
Main Objective: Produce maximized long-term investment income and capital gains while providing appropriate liquidity
Primary Investment Goal: Income generation, capital appreciation, total return, and protection against inflation
Long-Term Return Expectation: CPI + 3%
Spending Policy: 5% of the five-year rolling average market value, calculated on the first day of the fiscal year
Funding Source: Federal mineral royalties
Liquidity Constraints: The corpus cannot be spent but only invested for income and capital gains
Maximum Equity Allocation: 70%
Current Target Equity Allocation: 44%

Asset Allocation by Theme



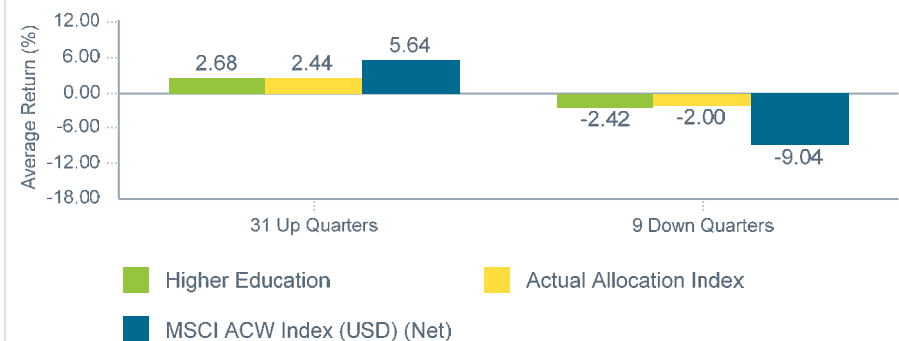
MPT Stats

	5 Years	10 Years
Maximum Return	3.10	8.07
Minimum Return	-3.33	-5.89
Standard Deviation	3.20	5.71
vs. S&P 500 Index (Cap Wtd)		
Beta	0.33	0.33
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	1.32	1.01

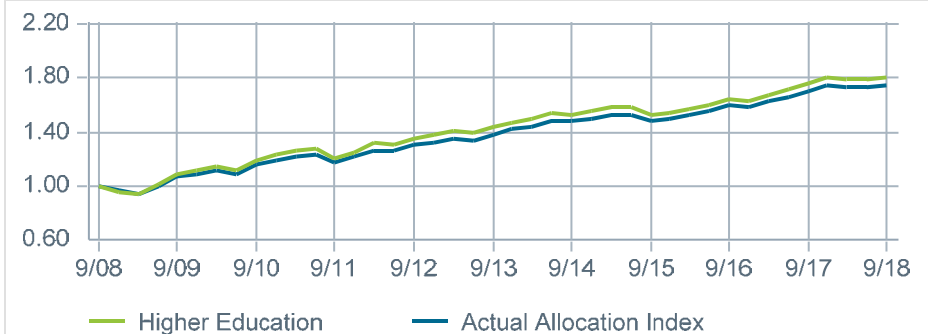
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
Higher Education	120,808	100.00	-	100.00	-
US Equity	14,597	12.08	5.00	10.00	15.00
International Equity	18,073	14.96	4.50	9.00	13.50
Preferred Stock	2,408	1.99	1.00	2.00	3.00
MLPs	4,515	3.74	3.00	6.00	9.00
Real Estate	8,586	7.11	8.50	17.00	25.50
Diversified Hedge Funds	787	0.65	0.00	0.00	0.00
Convertibles	2,696	2.23	0.00	0.00	0.00
Fixed Income	54,388	45.02	28.00	56.00	84.00
Cash (inv. in SAP)	14,756	12.21	0.00	0.00	5.00

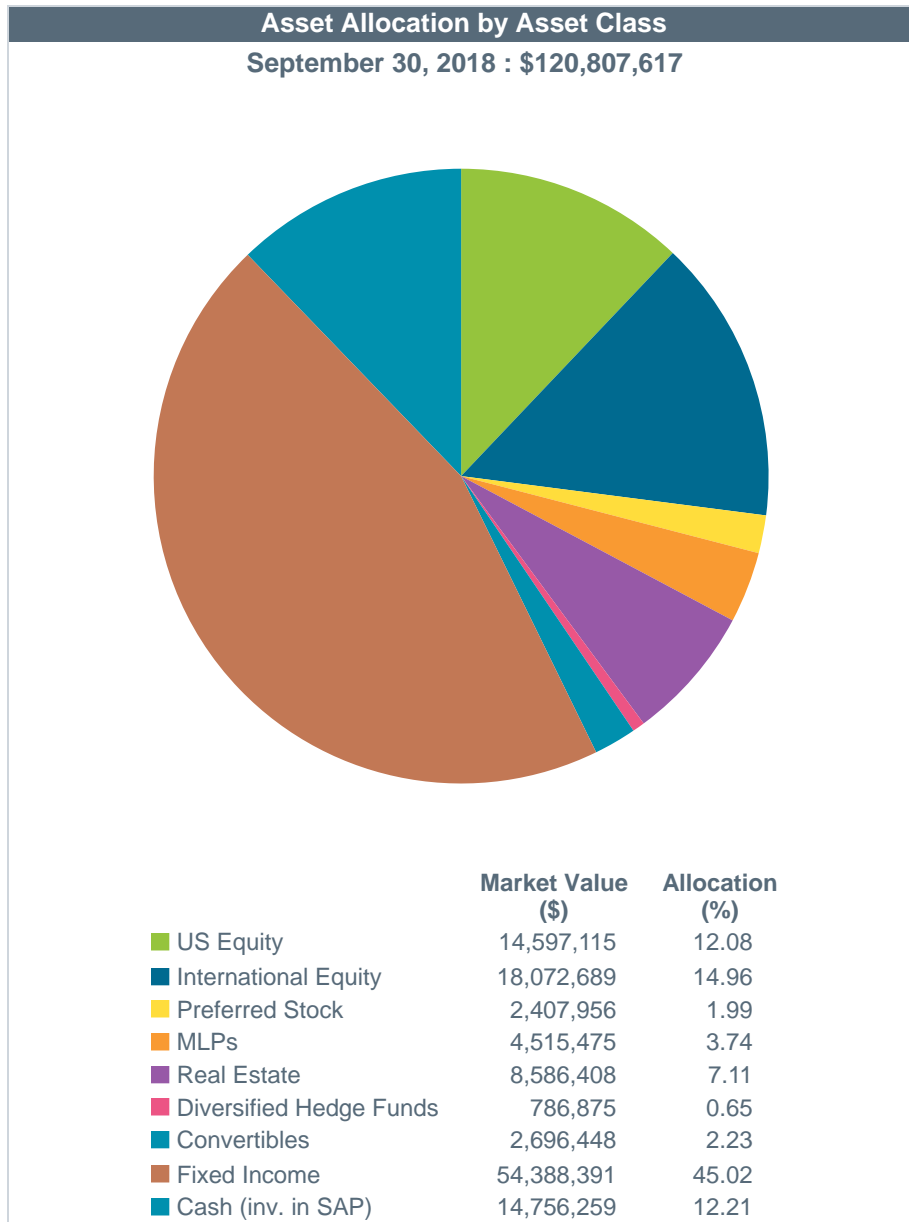
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

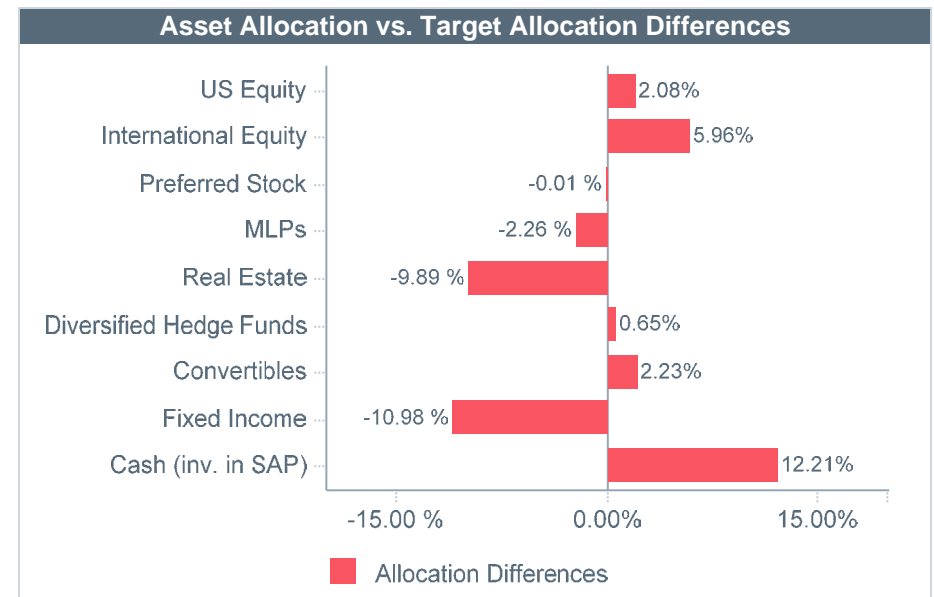


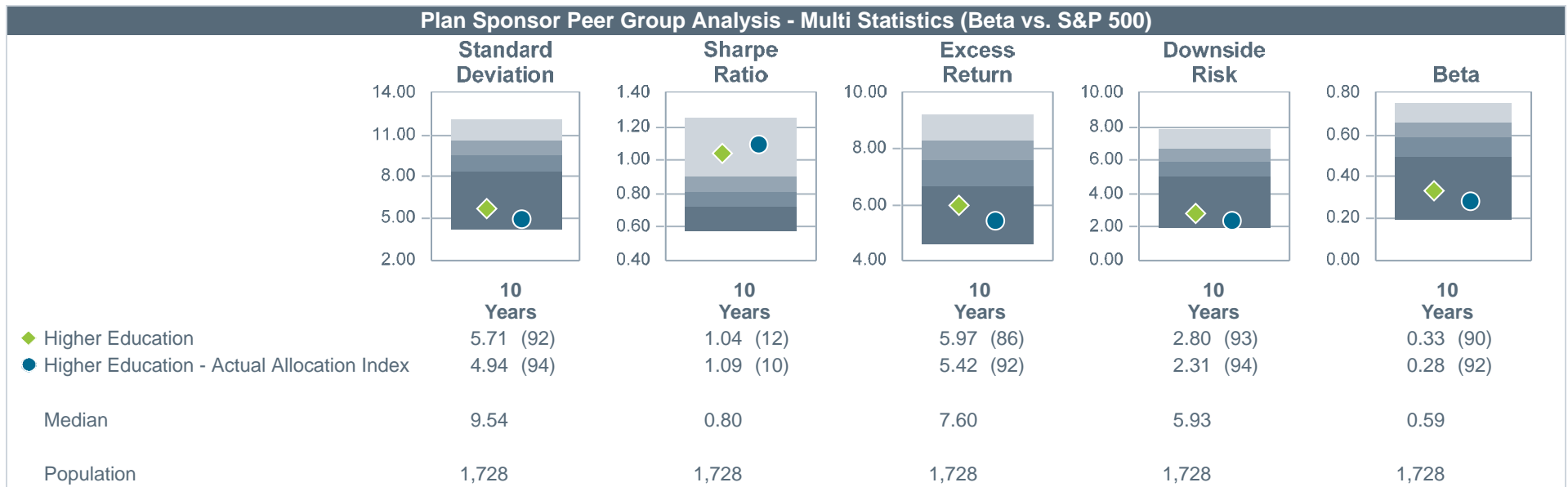
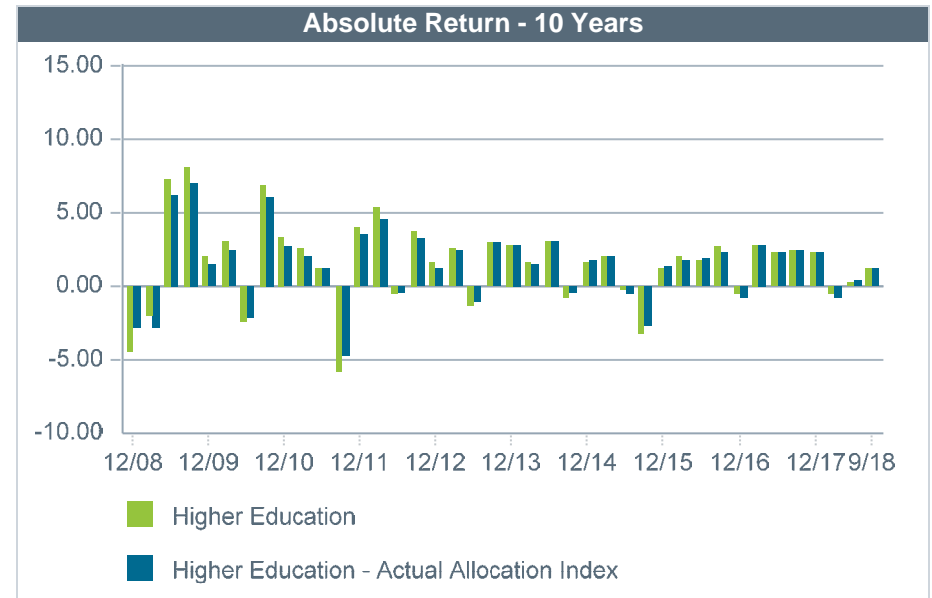
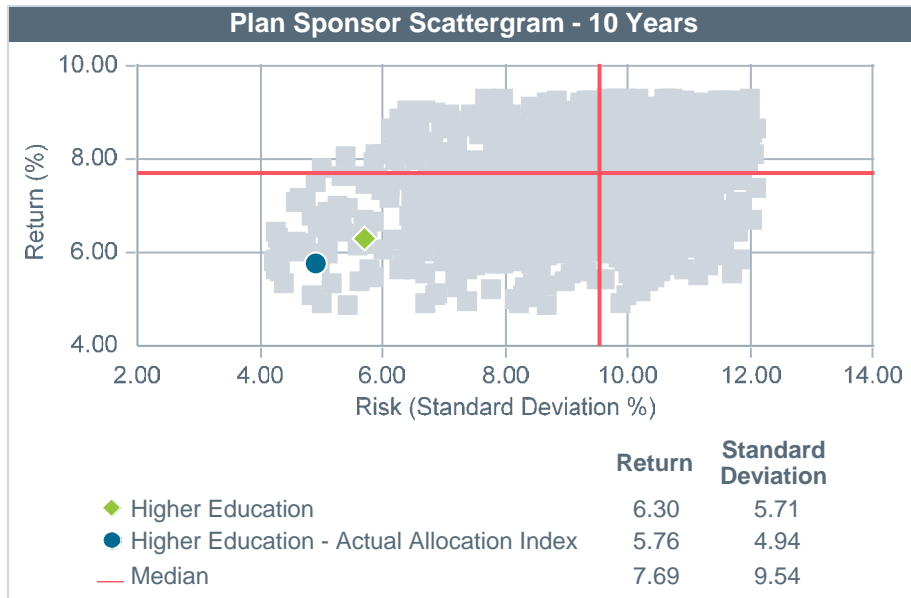
Performance shown is net of fees. Calculations are based on quarterly periodicity.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	14,597,115	12.08	10.00
International Equity	18,072,689	14.96	9.00
Preferred Stock	2,407,956	1.99	2.00
MLPs	4,515,475	3.74	6.00
Real Estate	8,586,408	7.11	17.00
Diversified Hedge Funds	786,875	0.65	0.00
Convertibles	2,696,448	2.23	0.00
Fixed Income	54,388,391	45.02	56.00
Cash (inv. in SAP)	14,756,259	12.21	0.00
Total Fund	120,807,617	100.00	100.00





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Wyoming State Treasurer's Office
Workers Compensation Fund
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Permanent Fund

Main Objective: To be invested for the very long-term to produce a situation in which the fund is self funding or nearly self-funding in order to substantially reduce or eliminate the need for employer contributions

Primary Investment Goal: Long-term return, safety of capital, yield, and capital appreciation

Long-Term Return Expectation: CPI + 3%

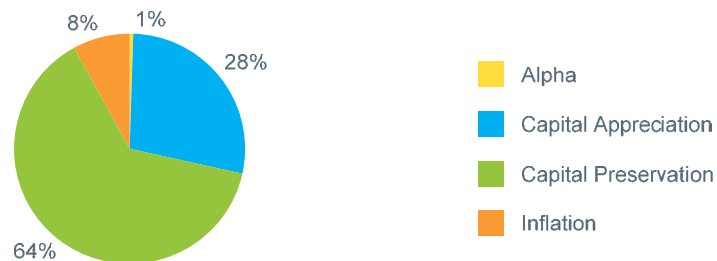
Funding Source: Employer premiums

Liquidity Constraints: The Fund must be managed for long-term return with cash flow necessary only in the case of a disaster

Maximum Equity Allocation: 70%

Current Target Equity Allocation: 27%

Asset Allocation by Theme



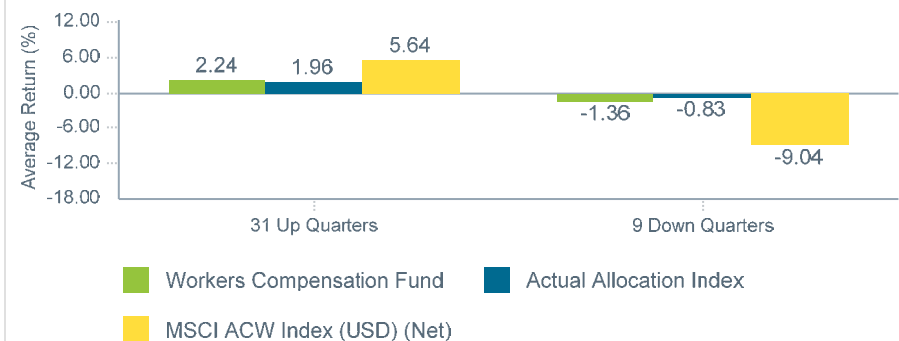
MPT Stats

	5 Years	10 Years
Maximum Return	2.79	7.88
Minimum Return	-2.09	-3.38
Standard Deviation	2.66	4.57
vs. S&P 500 Index (Cap Wtd)		
Beta	0.21	0.23
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	1.25	1.17

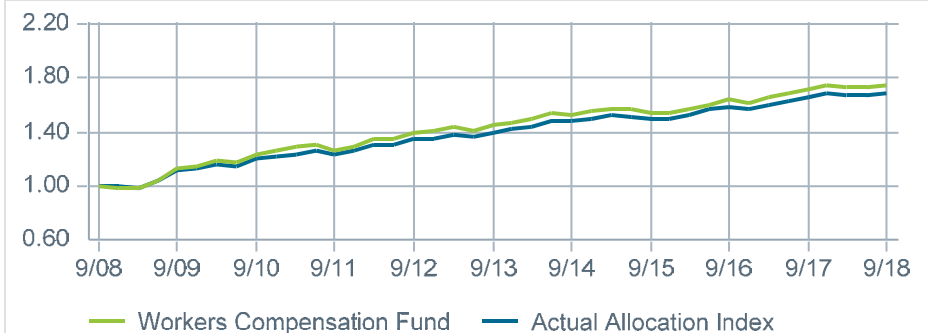
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
Workers Compensation Fund	2,057,333	100.00	-	100.00	-
US Equity	145,473	7.07	5.00	10.00	15.00
International Equity	181,070	8.80	5.00	10.00	15.00
MLPs	38,281	1.86	1.50	3.00	4.50
Real Estate	76,441	3.72	2.00	4.00	6.00
Diversified Hedge Funds	10,411	0.51	0.00	0.00	0.00
Convertibles	62,926	3.06	0.00	0.00	0.00
Fixed Income	891,691	43.34	36.50	73.00	100.00
Cash (inv. in SAP)	651,041	31.64	0.00	0.00	5.00

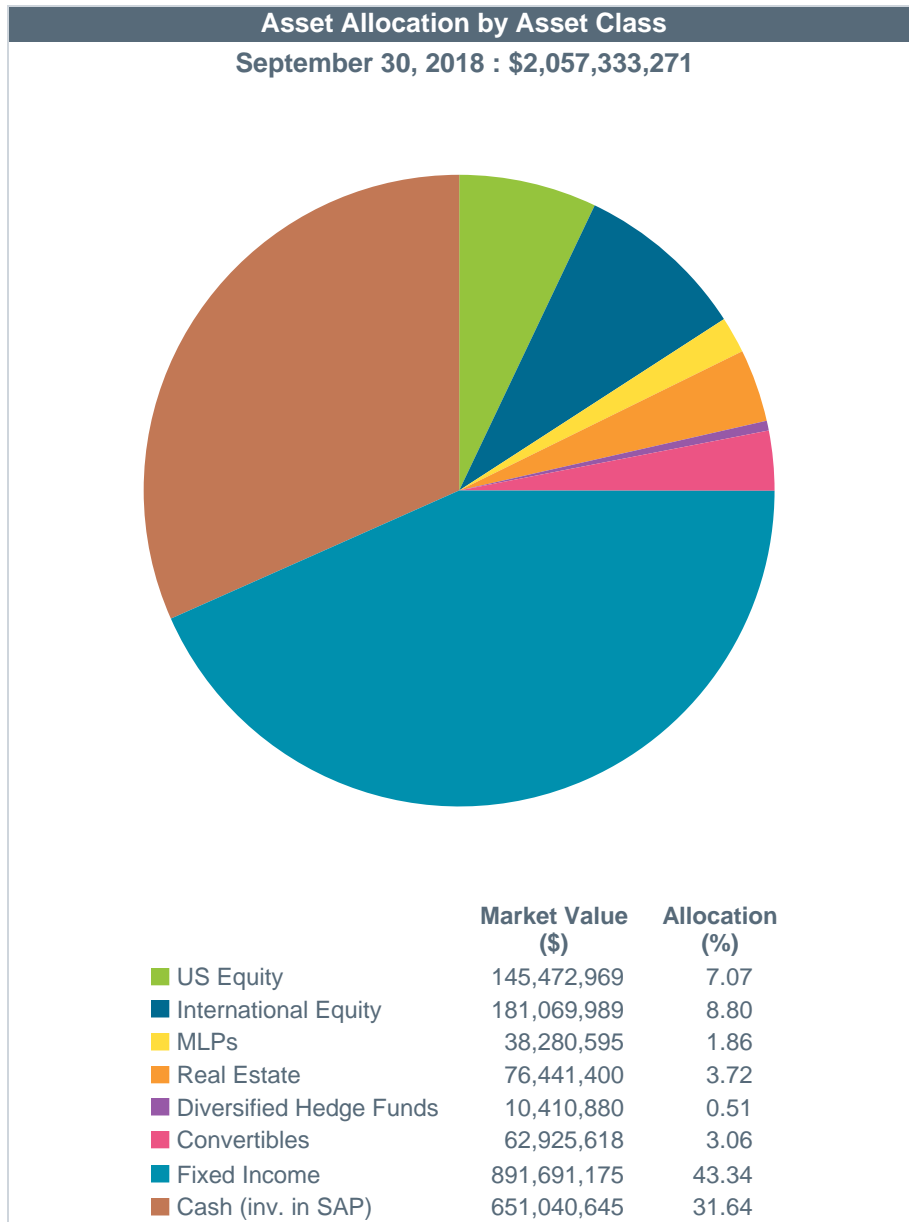
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

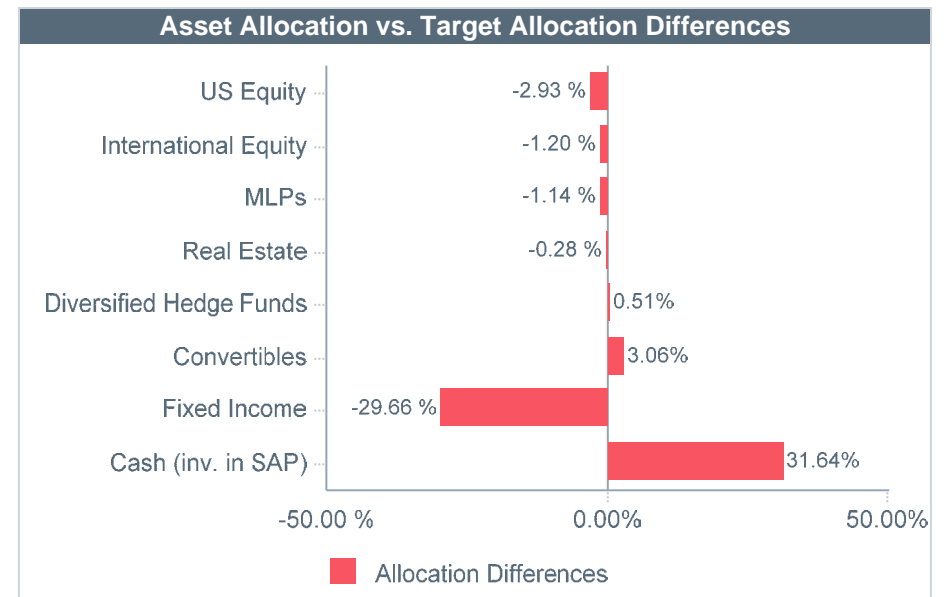


Performance shown is net of fees. Calculations are based on quarterly periodicity.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	145,472,969	7.07	10.00
International Equity	181,069,989	8.80	10.00
MLPs	38,280,595	1.86	3.00
Real Estate	76,441,400	3.72	4.00
Diversified Hedge Funds	10,410,880	0.51	0.00
Convertibles	62,925,618	3.06	0.00
Fixed Income	891,691,175	43.34	73.00
Cash (inv. in SAP)	651,040,645	31.64	0.00
Total Fund	2,057,333,271	100.00	100.00

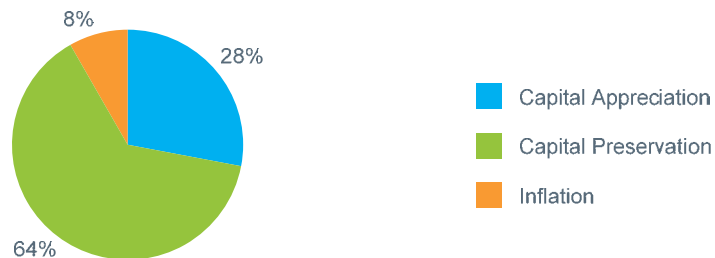


Total Fund Characteristics

Investment Pool Profile

Fund Type: Non-Permanent Fund**Main Objective:** Managed for investment of payments received pursuant to the Master Settlement Agreement**Primary Investment Goal:** Safety of capital, yield, and liquidity**Long-Term Return Expectation:** CPI + 2%**Funding Source:** Settlement proceeds received under the 1998 Master Settlement Agreement between States and tobacco companies**Maximum Equity Allocation:** 60%**Current Target Equity Allocation:** 23%

Asset Allocation by Theme



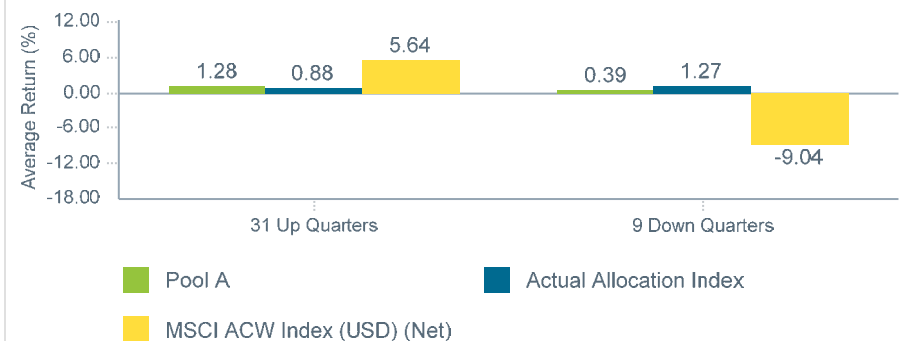
MPT Stats

	5 Years	10 Years
Maximum Return	2.95	5.24
Minimum Return	-2.24	-3.12
Standard Deviation	2.48	3.11
vs. S&P 500 Index (Cap Wtd)		
Beta	0.01	0.04
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	0.78	1.26

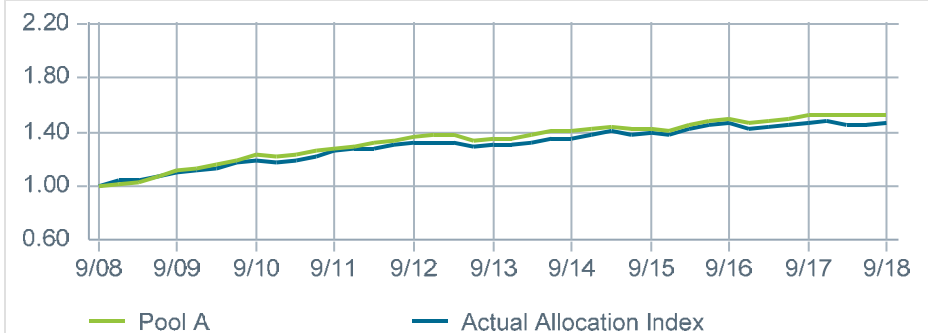
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
Pool A	245,797	100.00	-	100.00	-
US Equity	-	0.00	4.25	8.50	12.75
International Equity	-	0.00	3.75	7.50	11.25
Preferred Stock	4,562	1.86	1.00	2.00	3.00
MLPs	5,405	2.20	2.50	5.00	7.50
Convertibles	9,126	3.71	0.00	0.00	0.00
Fixed Income	218,641	88.95	36.00	72.00	100.00
Cash (inv. in SAP)	8,062	3.28	2.50	5.00	7.50

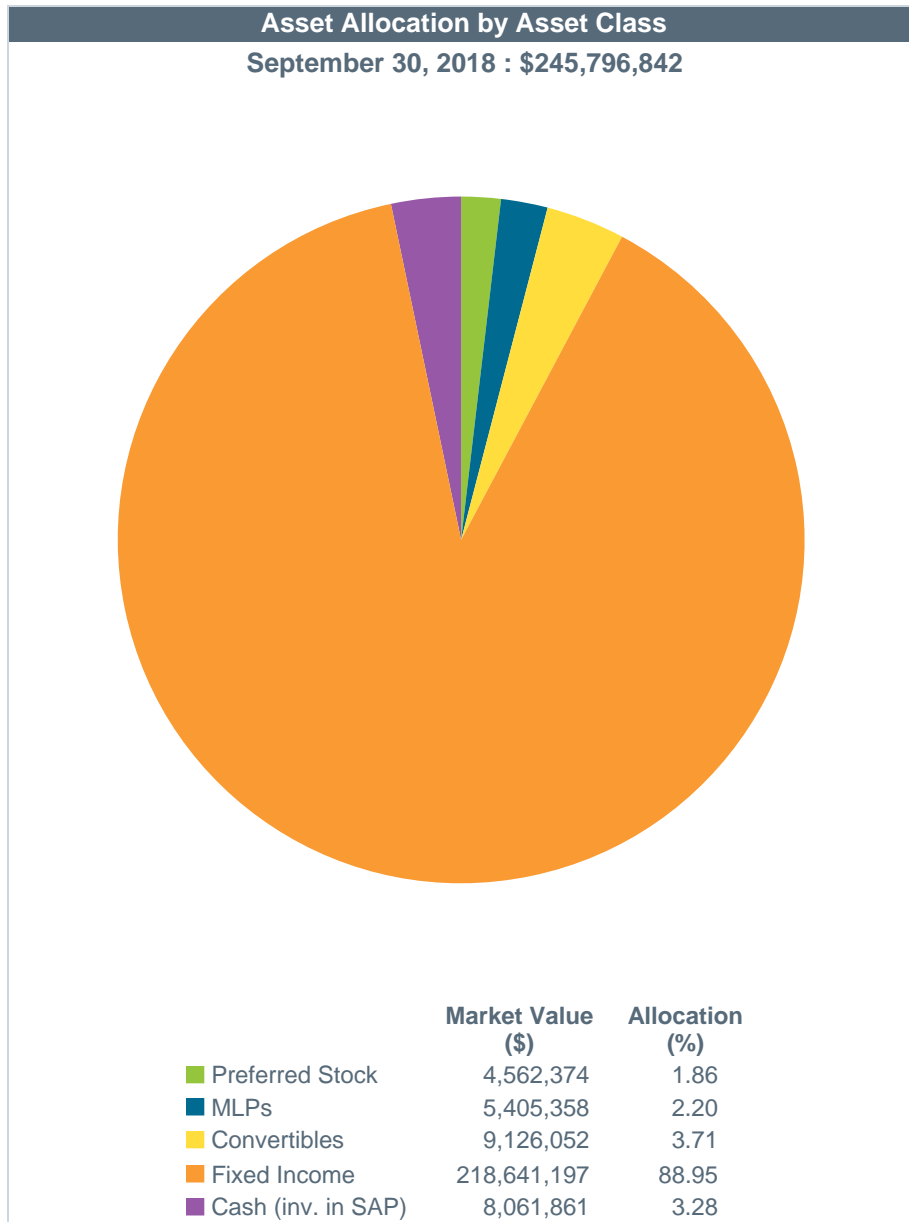
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

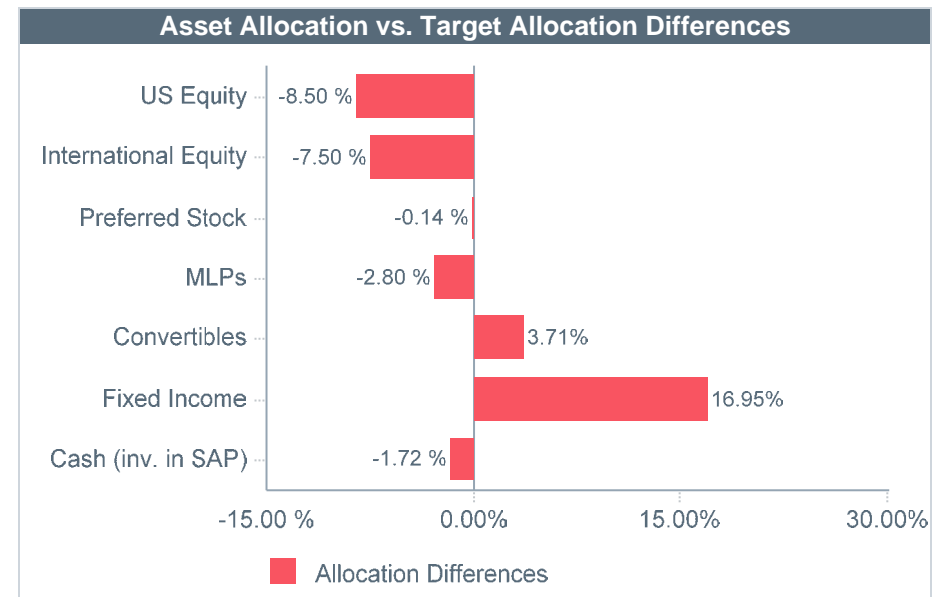


Performance shown is net of fees. Calculations are based on quarterly periodicity.



Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
US Equity	-	0.00	8.50
International Equity	-	0.00	7.50
Preferred Stock	4,562,374	1.86	2.00
MLPs	5,405,358	2.20	5.00
Convertibles	9,126,052	3.71	0.00
Fixed Income	218,641,197	88.95	72.00
Cash (inv. in SAP)	8,061,861	3.28	5.00
Total Fund	245,796,842	100.00	100.00



Wyoming State Treasurer's Office
State Agency Pool
Total Fund Characteristics

As of September 30, 2018

Investment Pool Profile

Fund Type: Non-Permanent Fund

Main Objective: Produce an investment return so that State agencies have the advantage of better income from their invested funds, while maintaining liquidity

Primary Investment Goal: Safety of capital, yield, and liquidity

Long-Term Return Expectation: CPI + 2%

Funding Source: Monies from all other State funds pooled for investment

Liquidity Constraints: The Fund must meet the day-to-day cash flow needs of the State

Maximum Equity Allocation: 0%

Current Target Equity Allocation: 0%

Asset Allocation by Theme



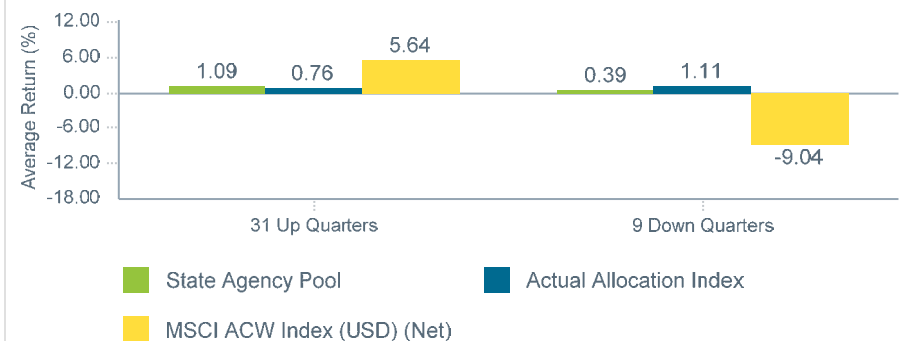
MPT Stats

	5 Years	10 Years
Maximum Return	2.56	4.61
Minimum Return	-1.95	-2.51
Standard Deviation	2.11	2.62
vs. S&P 500 Index (Cap Wtd)		
Beta	0.01	0.03
vs. ICE BofAML 3 Mo US T-Bill Index		
Sharpe Ratio	0.77	1.27

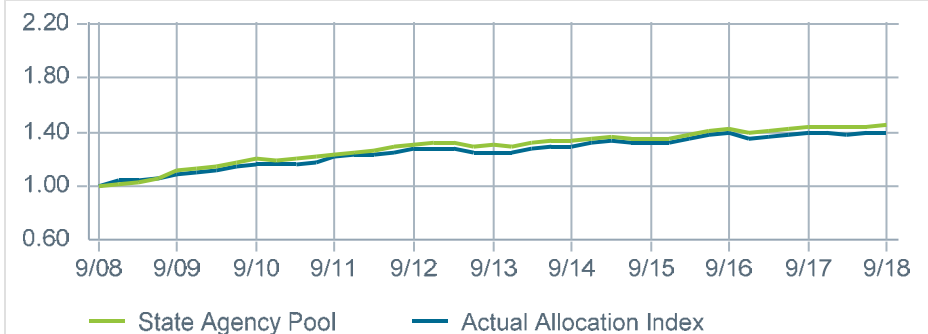
Asset Allocation vs. Target Allocation

	Market Value (\$000)	Allocation (%)	Minimum Range (%)	Target (%)	Maximum Range (%)
State Agency Pool	5,487,439	100.00	-	100.00	-
Convertibles	168,138	3.06	2.50	5.00	7.50
Fixed Income	3,635,345	66.25	42.50	85.00	100.00
Cash Equivalents	1,566,550	28.55	5.00	10.00	15.00
Public Purpose Investments	117,406	2.14	0.00	0.00	0.00

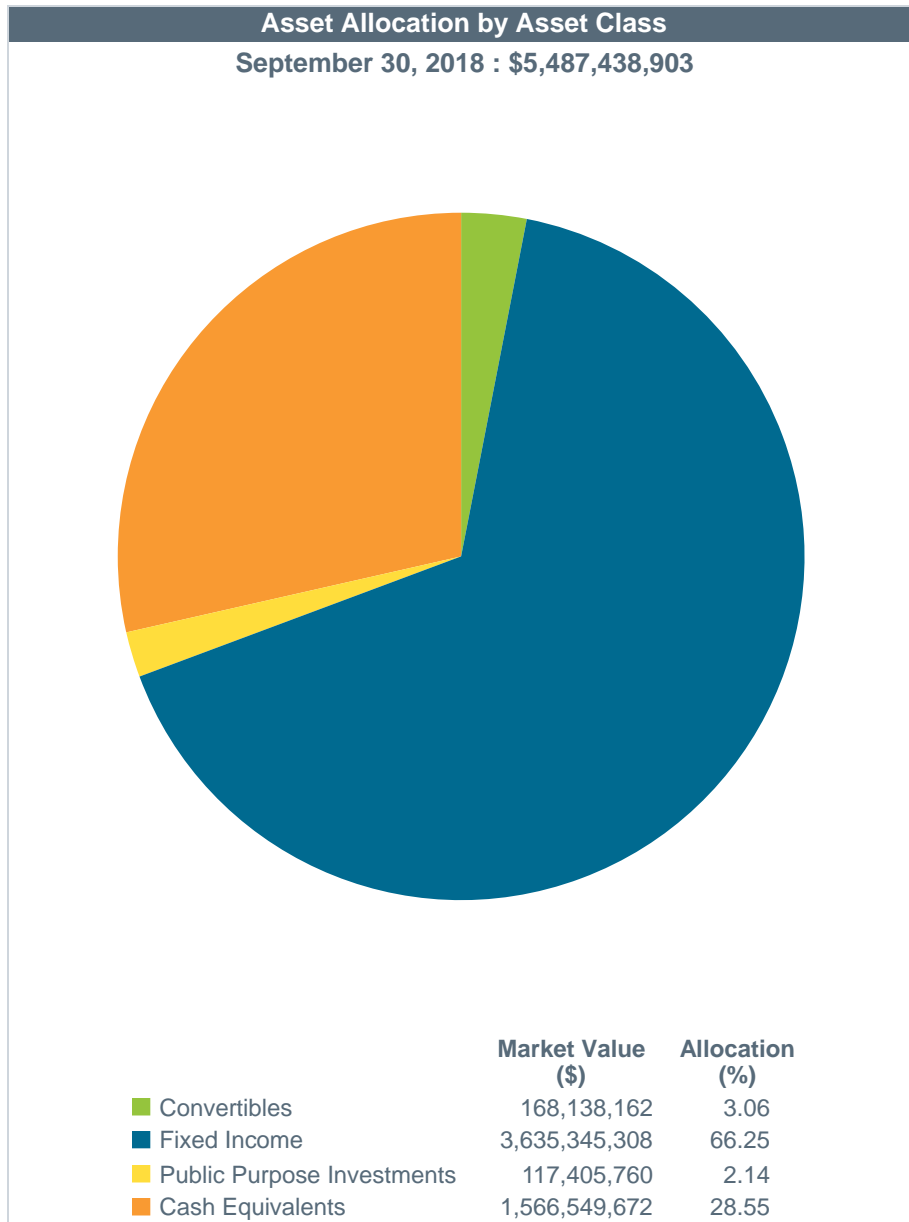
Up/Down Markets - 10 Years



Growth of \$1 - 10 Years

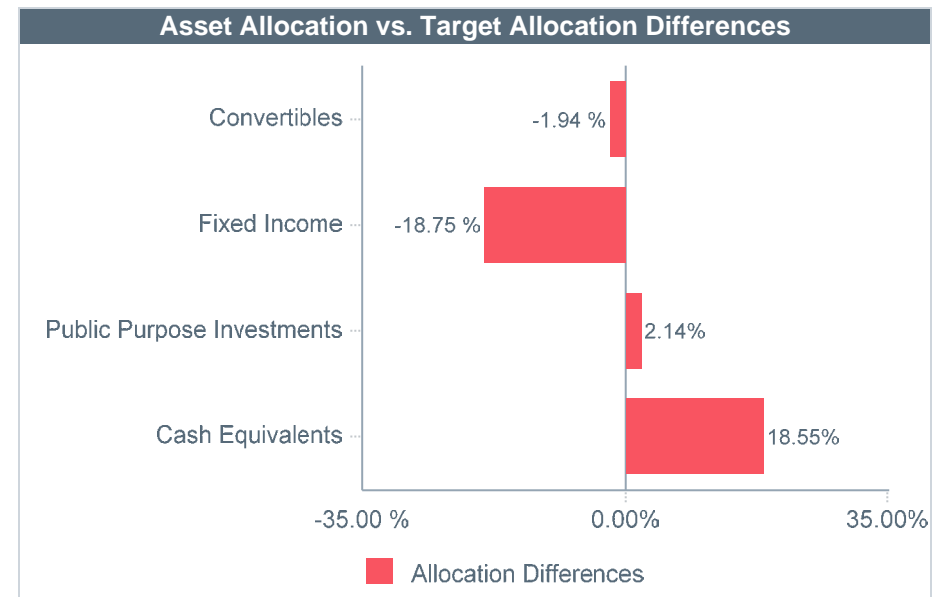


Performance shown is net of fees. Calculations are based on quarterly periodicity.

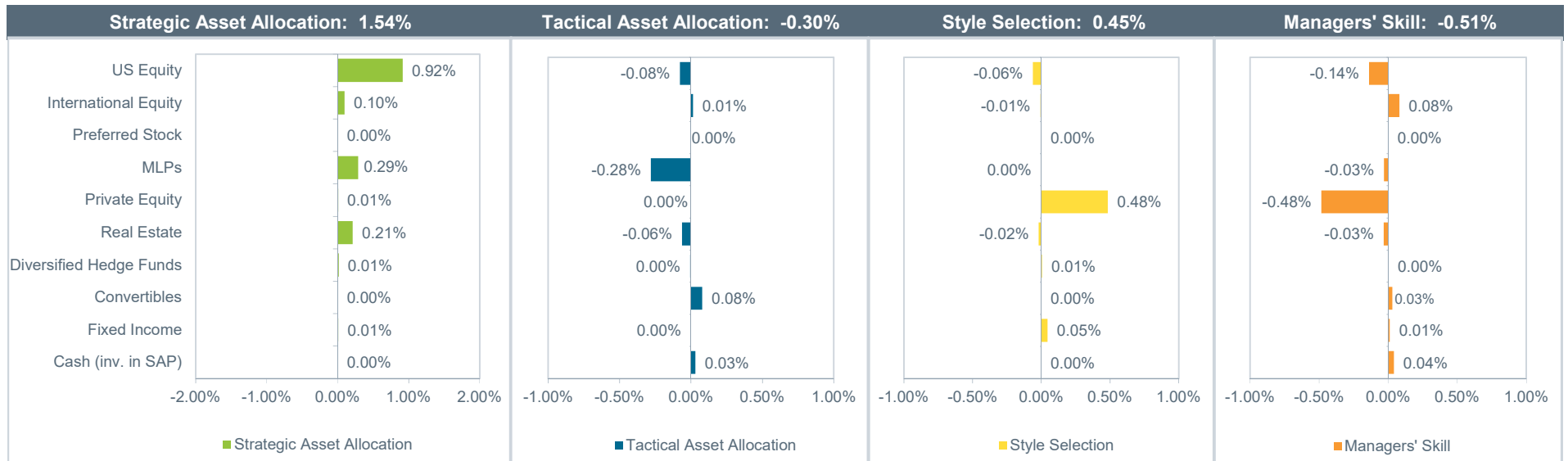
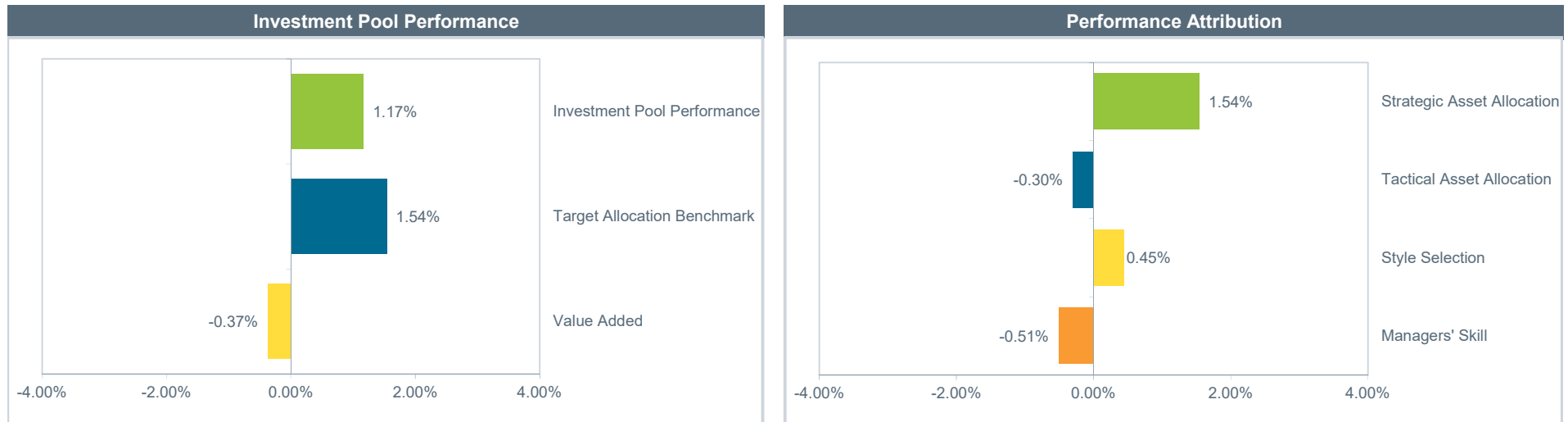


Allocations shown may not sum up to 100% exactly due to rounding.

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
Convertibles	168,138,162	3.06	5.00
Fixed Income	3,635,345,308	66.25	85.00
Public Purpose Investments	117,405,760	2.14	0.00
Cash Equivalents	1,566,549,672	28.55	10.00
Total Fund	5,487,438,903	100.00	100.00

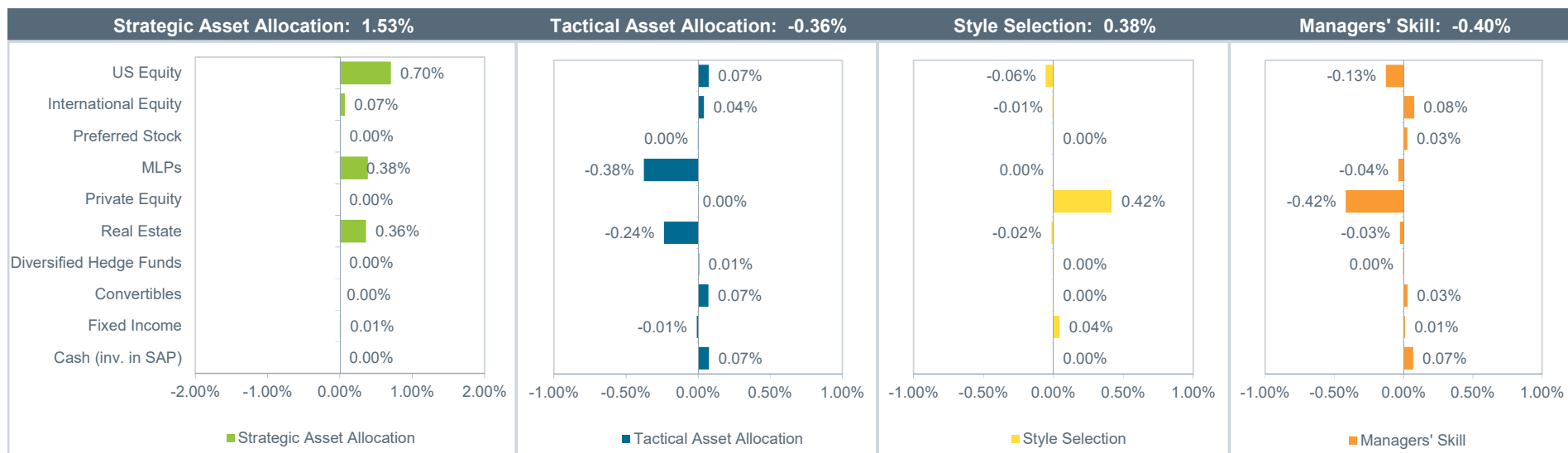
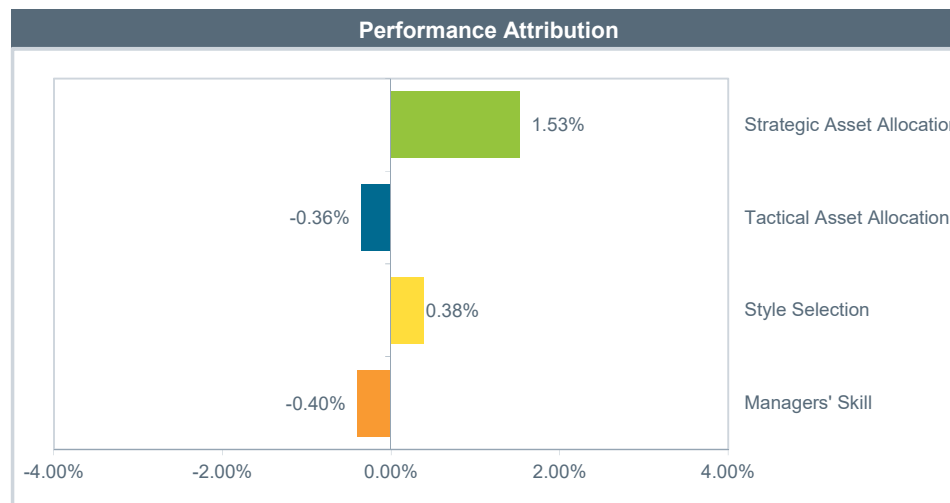
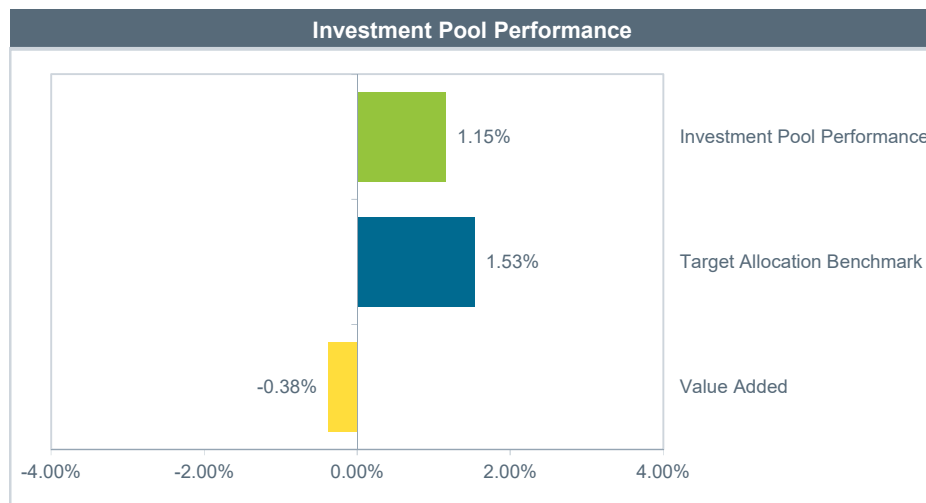


Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
Permanent Mineral Trust Fund vs. Target Allocation Index
1 Quarter Ending September 30, 2018



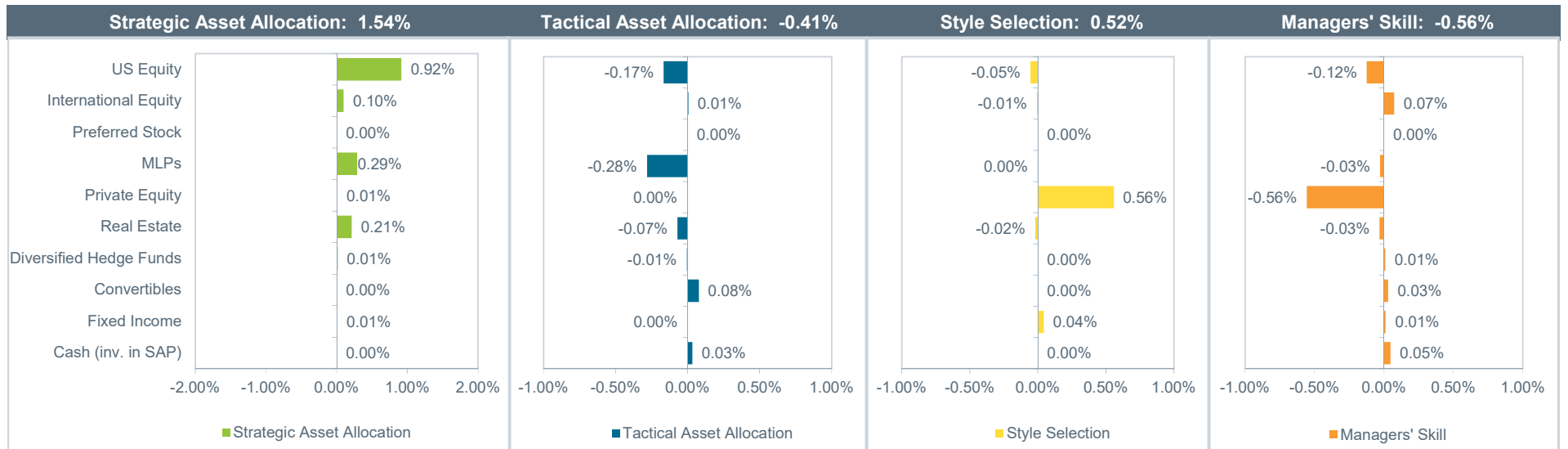
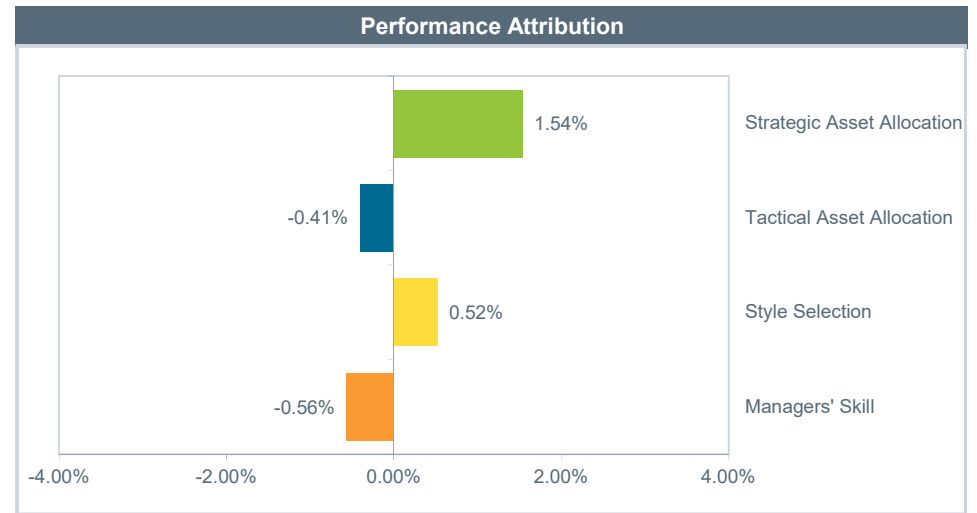
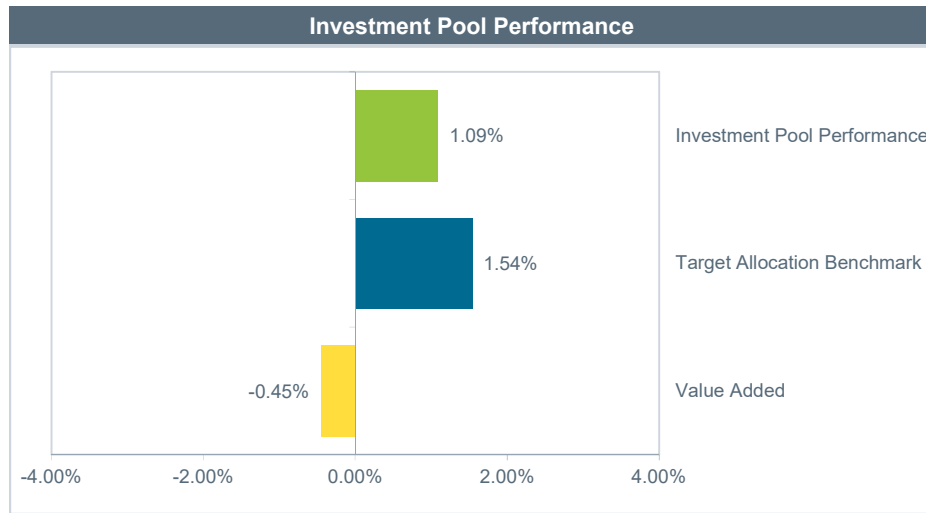
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
Common School Permanent Land Fund vs. Target Allocation Index
1 Quarter Ending September 30, 2018



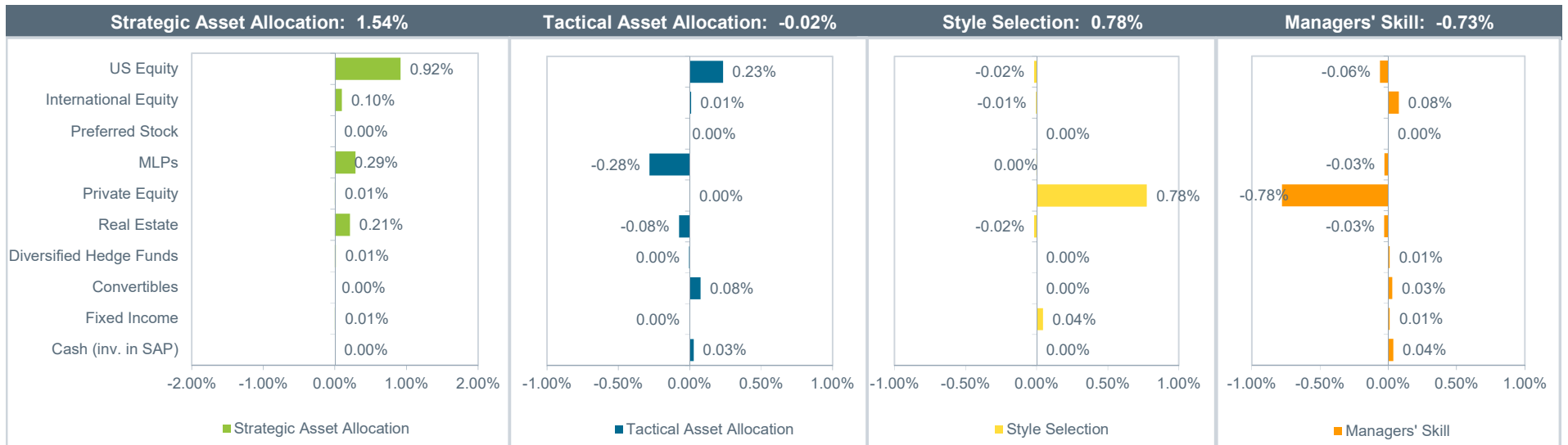
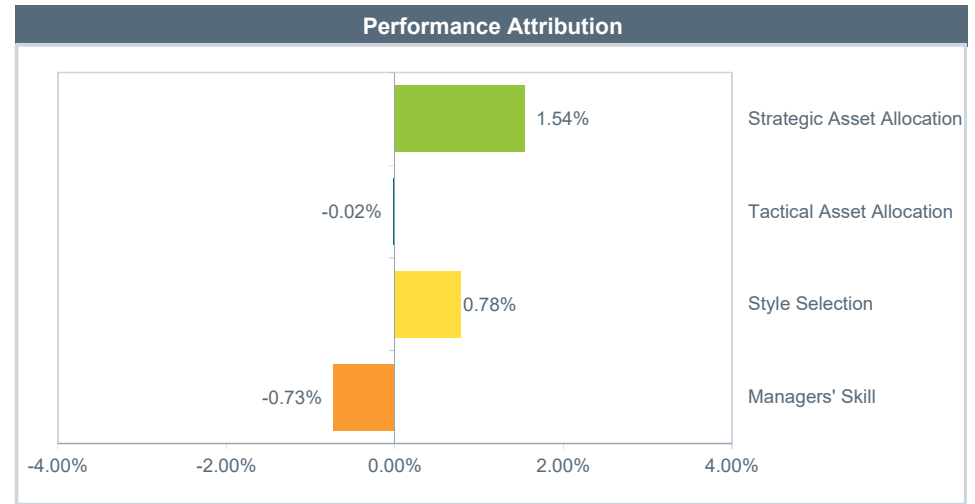
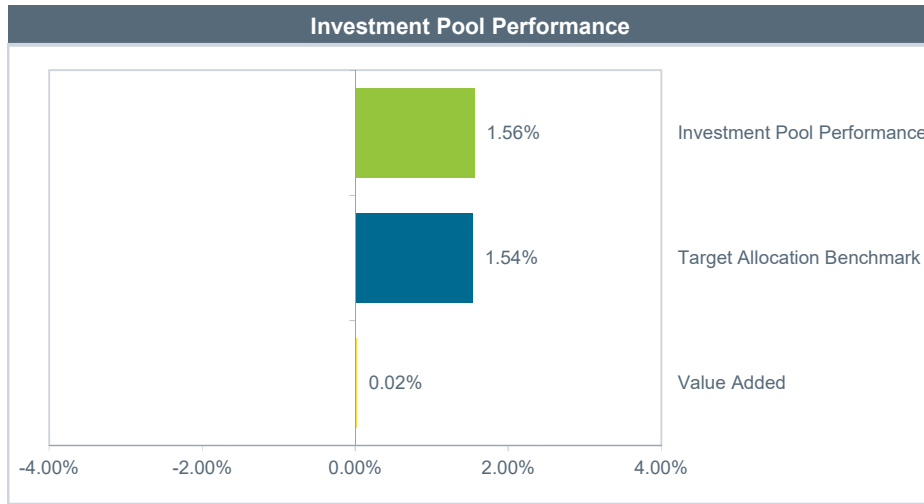
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
Permanent Land Fund vs. Target Allocation Index
1 Quarter Ending September 30, 2018



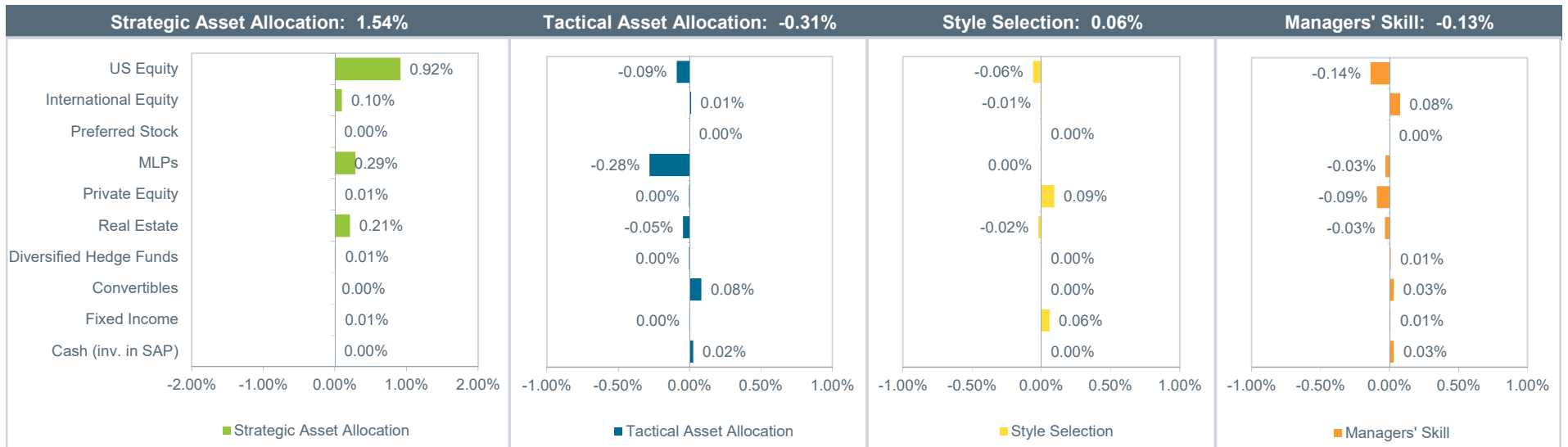
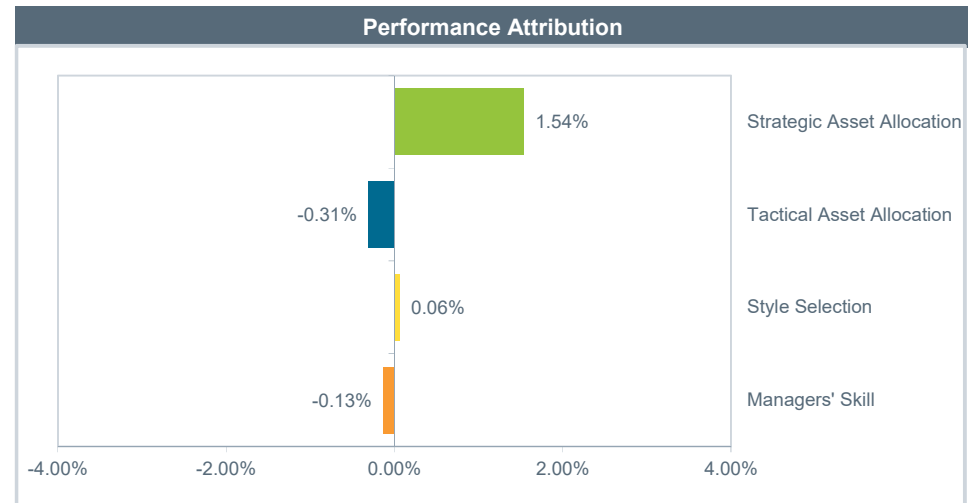
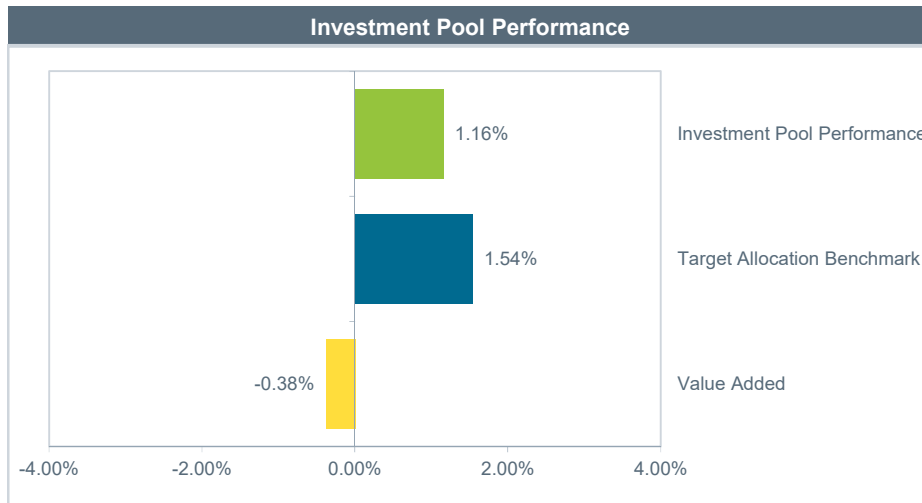
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
University Permanent Land Fund vs. Target Allocation Index
1 Quarter Ending September 30, 2018



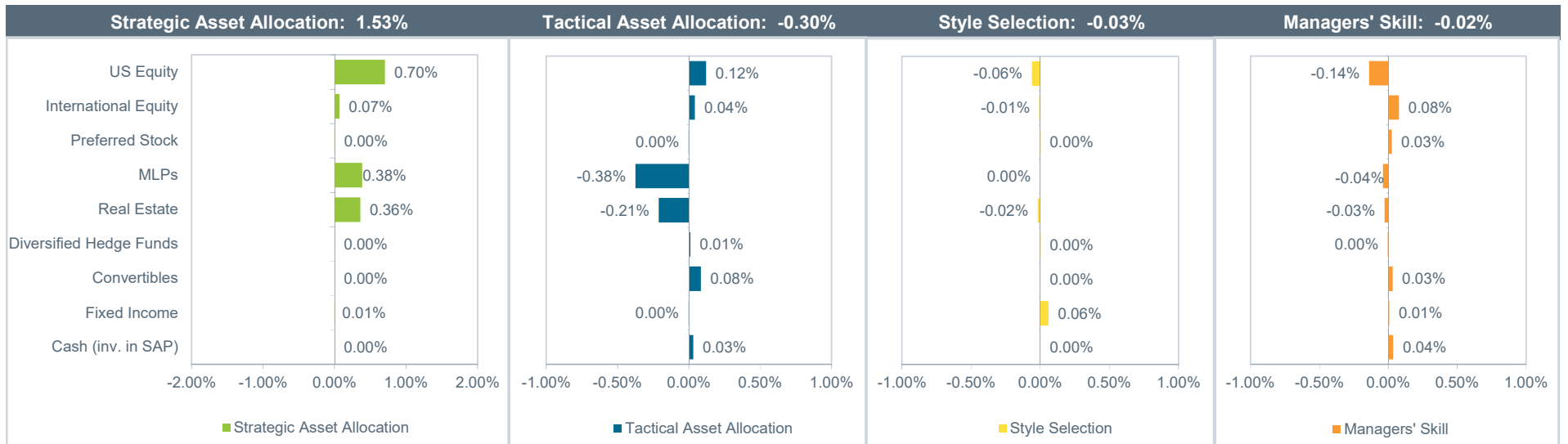
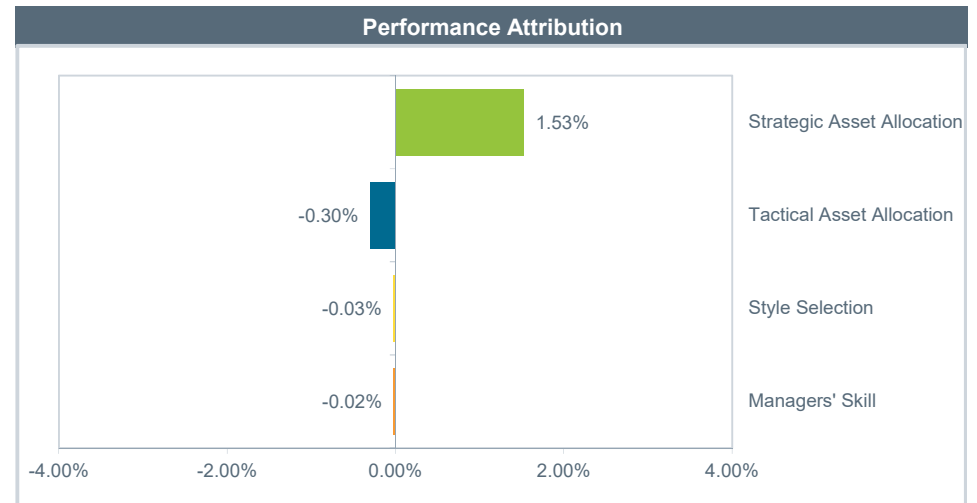
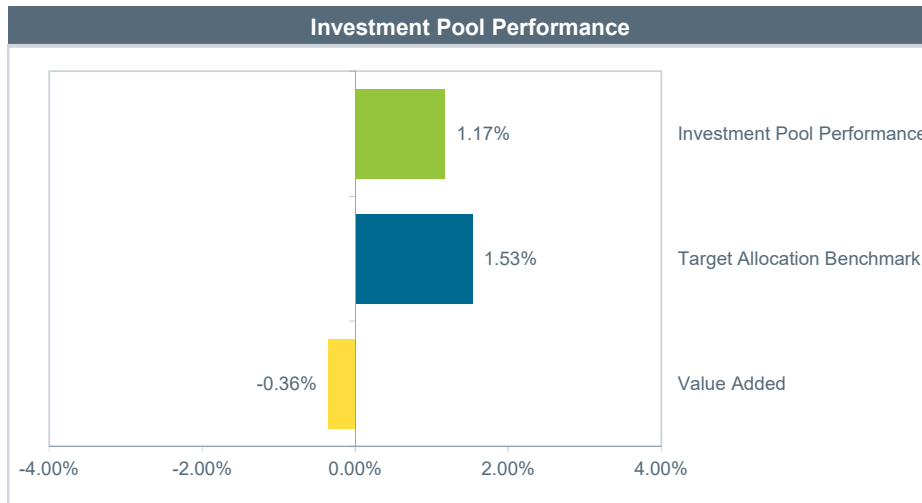
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
Hathaway Scholarship Endowment Fund vs. Target Allocation Index
1 Quarter Ending September 30, 2018



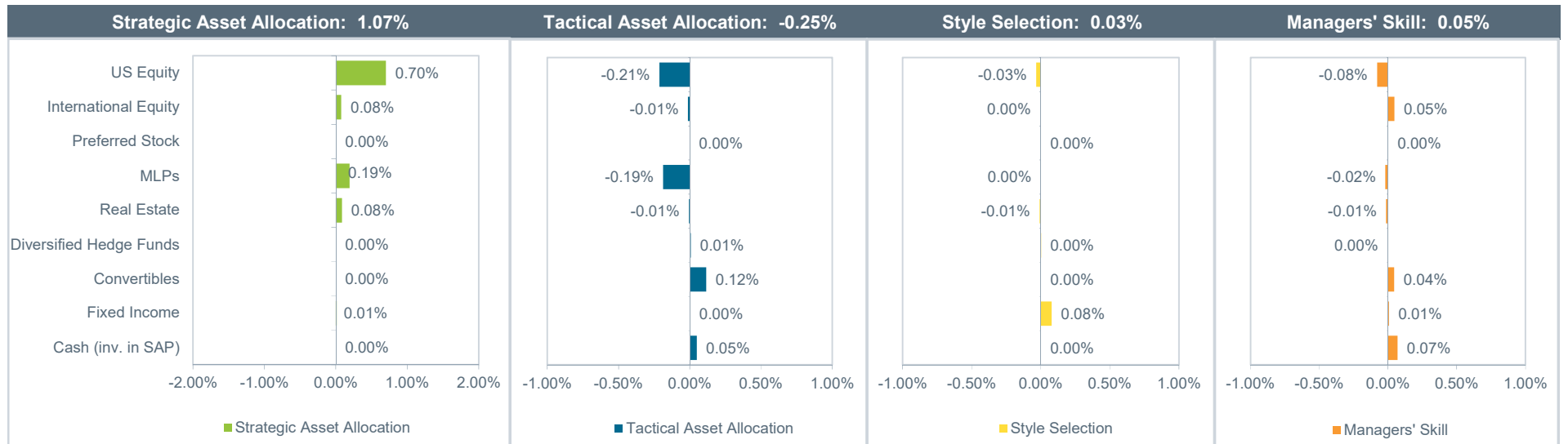
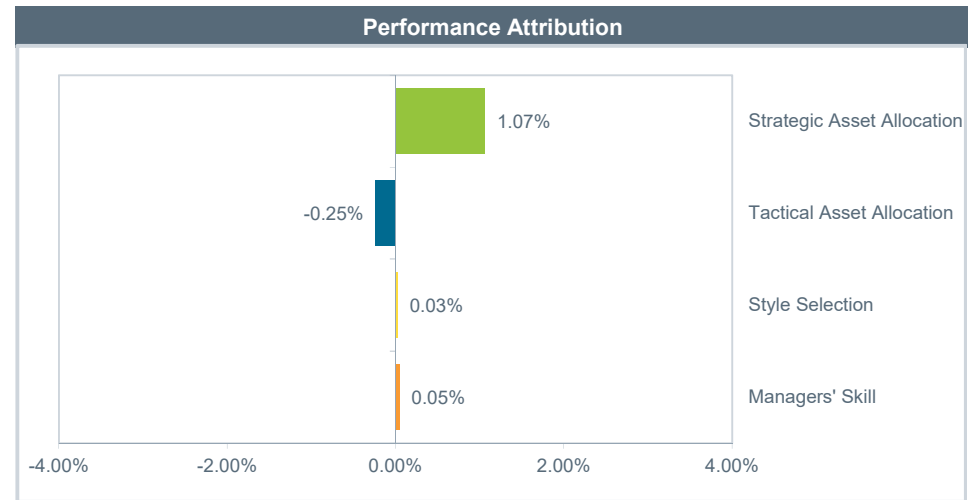
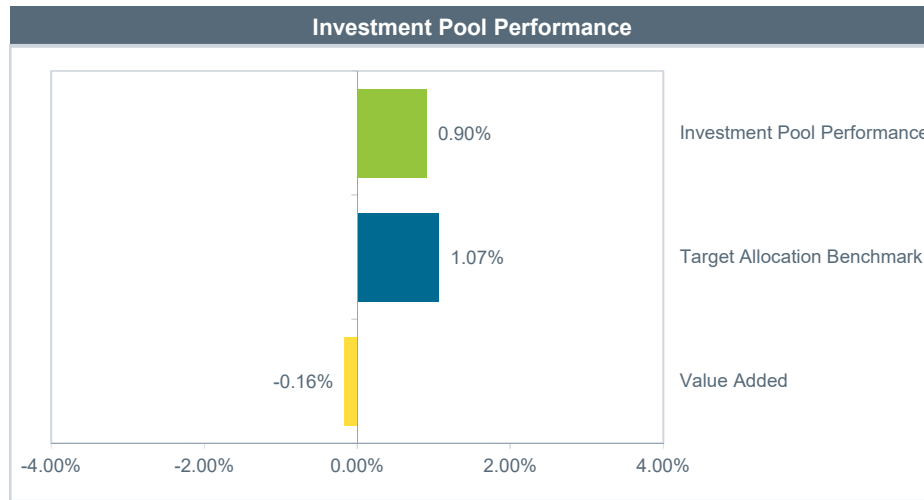
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
Higher Education Endowment Fund vs. Target Allocation Index
1 Quarter Ending September 30, 2018



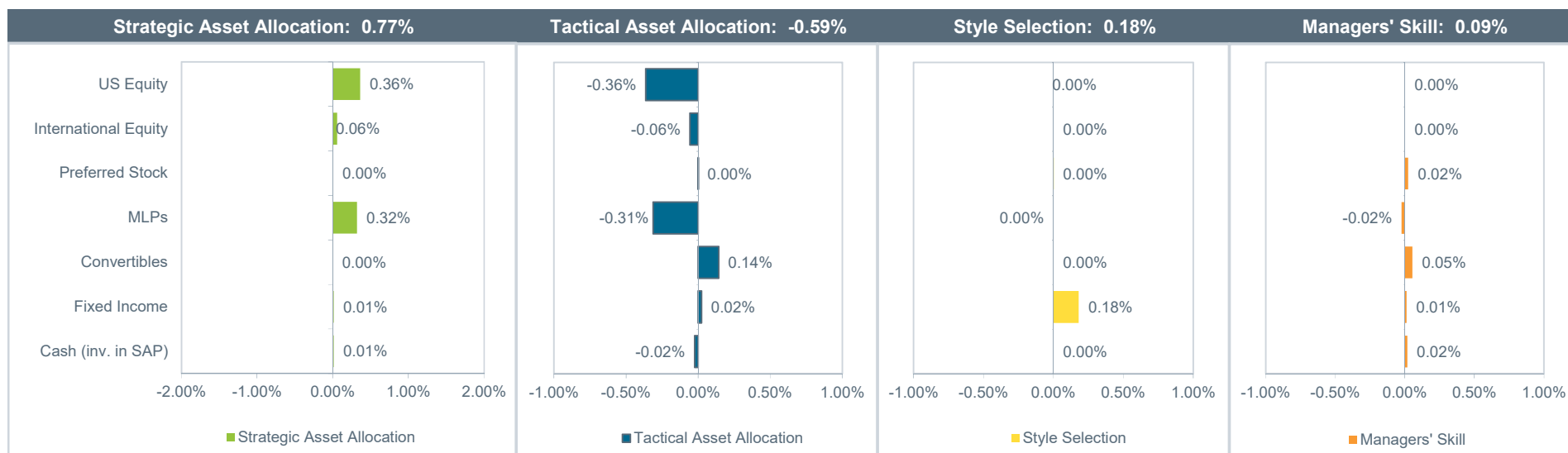
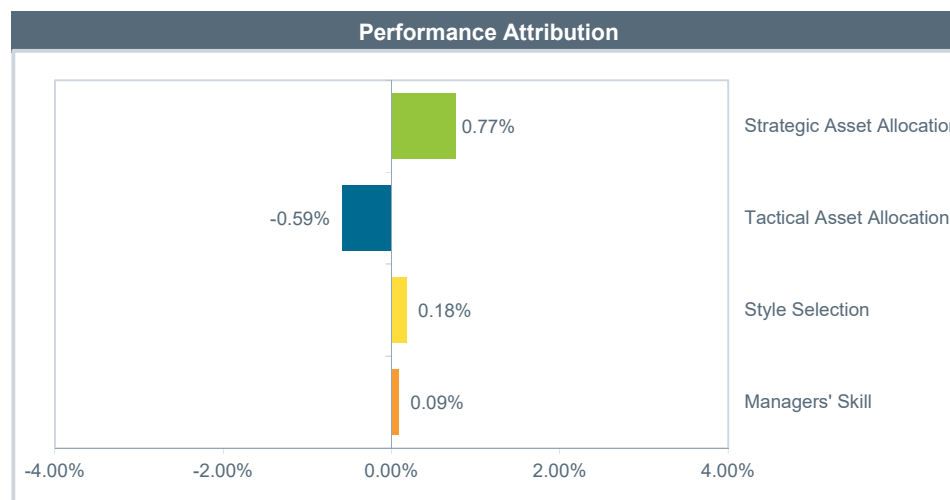
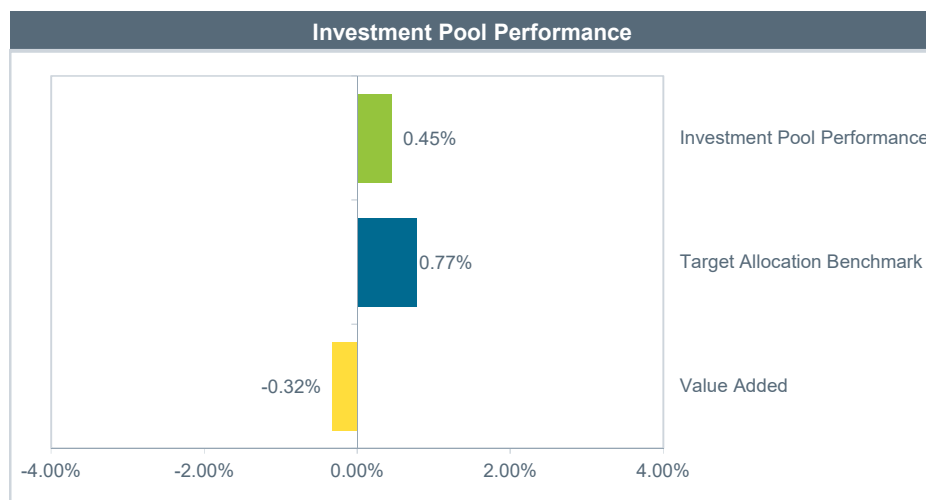
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
Workers Compensation Fund vs. Target Allocation Index
1 Quarter Ending September 30, 2018



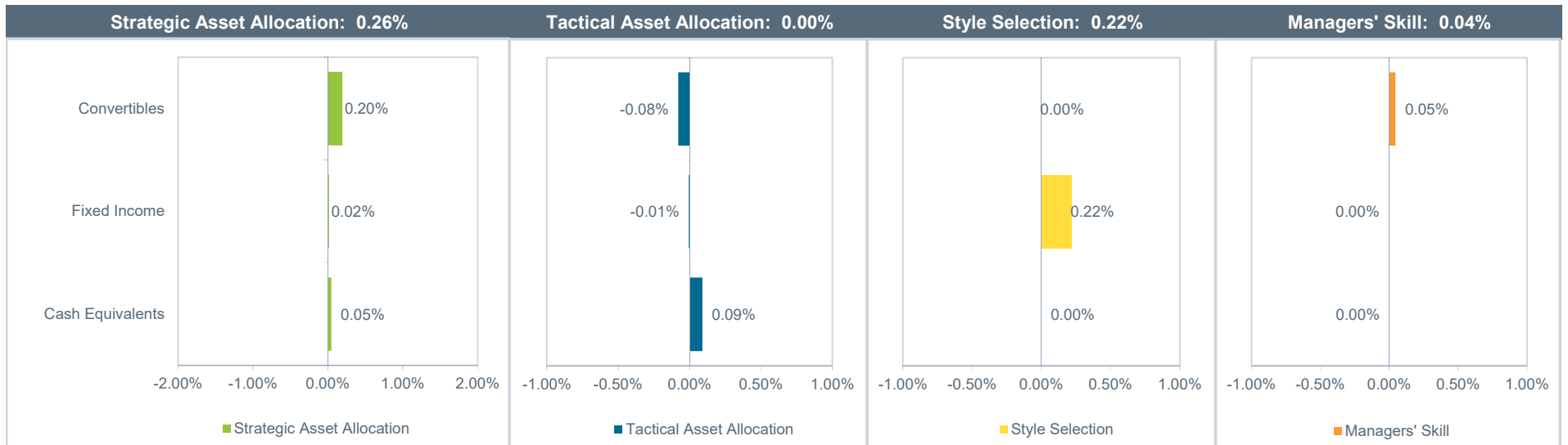
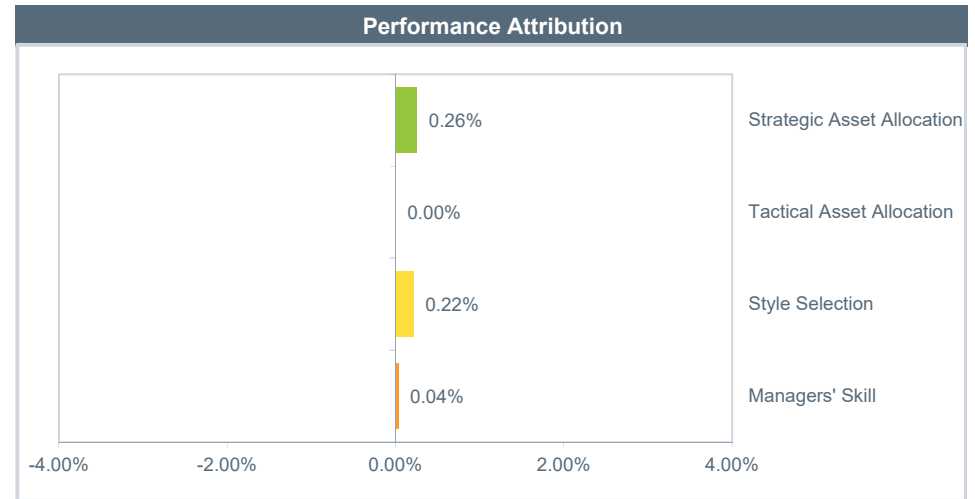
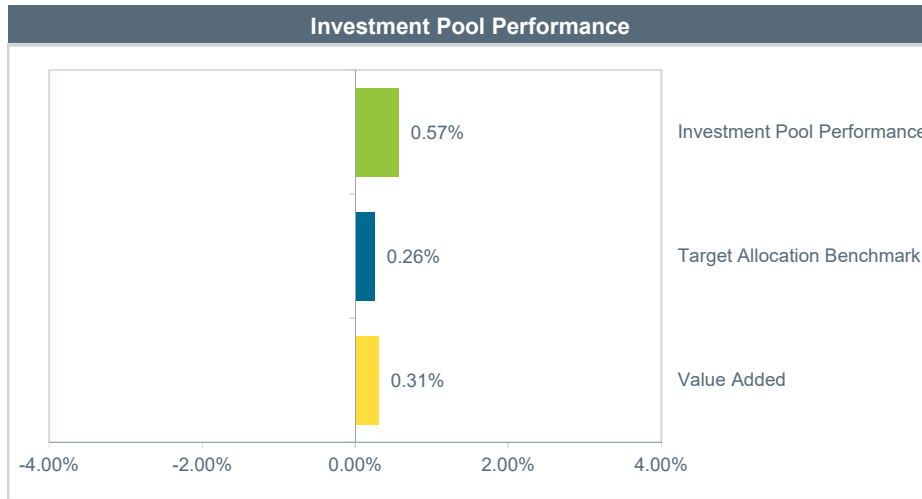
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
Pool A vs. Target Allocation Index
1 Quarter Ending September 30, 2018



Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index. Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

**Wyoming State Treasurer's Office
Pool Attribution - IDP Methodology
State Agency Pool vs. Target Allocation Index
1 Quarter Ending September 30, 2018**



Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.
 Actual Allocation Index = Target Allocation Benchmark + Tactical Asset Allocation. The underlying parts may not exactly sum to the category totals due to rounding.

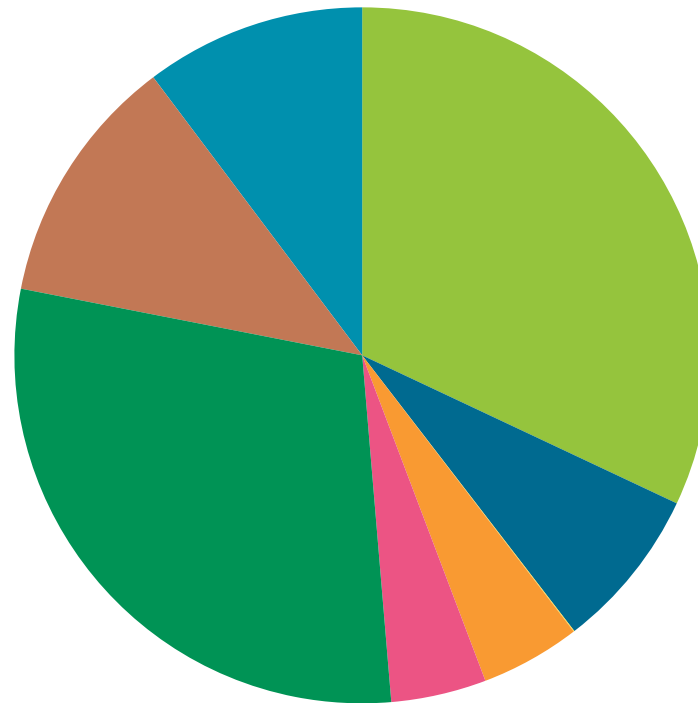
Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016
Permanent Mineral Trust	7,880,039,927	38.13	1.17	1.17	1.16	3.78	6.68	5.38	6.84	5.90	10.91	6.39
Permanent Mineral Trust - Actual Allocation Index			1.22	1.22	1.19	3.89	6.53	5.43	6.67	5.54	11.07	5.59
Difference			-0.05	-0.05	-0.03	-0.11	0.15	-0.05	0.17	0.36	-0.16	0.80
Common School PLF	4,066,706,809	19.68	1.15	1.15	1.15	3.62	6.69	5.43	6.93	6.12	10.82	6.52
Common School - Actual Allocation Index			1.17	1.17	1.06	3.58	6.49	5.46	6.71	5.59	10.94	5.72
Difference			-0.02	-0.02	0.09	0.04	0.20	-0.03	0.22	0.53	-0.12	0.80
Permanent Land Fund	193,817,701	0.94	1.09	1.09	1.12	3.65	6.52	5.27	6.67	5.74	10.62	6.35
Permanent Land Fund - Actual Allocation Index			1.12	1.12	1.14	3.78	6.33	5.31	6.50	5.35	10.70	5.50
Difference			-0.03	-0.03	-0.02	-0.13	0.19	-0.04	0.17	0.39	-0.08	0.85
University Permanent Land Fund	23,612,128	0.11	1.56	1.56	1.90	4.94	7.46	5.81	7.03	5.85	11.94	6.72
University PLF - Actual Allocation Index			1.51	1.51	1.90	5.02	7.32	5.88	6.98	5.66	12.01	6.04
Difference			0.05	0.05	0.00	-0.08	0.14	-0.07	0.05	0.19	-0.07	0.68
Hathaway Scholarship	591,309,254	2.86	1.16	1.16	0.82	3.13	5.91	4.84	6.08	6.17	10.12	5.73
Hathaway Scholarship - Actual Allocation Index			1.22	1.22	0.86	3.21	5.80	4.98	5.96	5.80	10.20	5.11
Difference			-0.06	-0.06	-0.04	-0.08	0.11	-0.14	0.12	0.37	-0.08	0.62
Higher Education	120,807,617	0.58	1.17	1.17	0.75	3.01	5.87	4.79	6.06	6.11	10.05	5.73
Higher Education - Actual Allocation Index			1.22	1.22	0.74	3.03	5.75	4.92	5.93	5.76	10.14	5.11
Difference			-0.05	-0.05	0.01	-0.02	0.12	-0.13	0.13	0.35	-0.09	0.62
Workers Compensation Fund	2,057,333,271	9.95	0.90	0.90	0.47	2.09	4.51	3.91	4.81	5.75	7.80	4.89
Workers Compensation - Actual Allocation Index			0.82	0.82	0.10	1.66	4.16	3.97	4.60	5.36	7.70	4.18
Difference			0.08	0.08	0.37	0.43	0.35	-0.06	0.21	0.39	0.10	0.71
Pool A	245,796,842	1.19	0.45	0.45	-0.03	0.55	2.47	2.48	2.64	4.33	4.21	3.90
Pool A - Actual Allocation Index			0.18	0.18	-1.16	-0.74	1.64	2.38	2.18	3.86	3.84	2.84
Difference			0.27	0.27	1.13	1.29	0.83	0.10	0.46	0.47	0.37	1.06
State Agency Pool	5,487,438,903	26.55	0.57	0.57	0.58	1.03	2.27	2.18	2.29	3.75	3.36	3.46
State Agency Pool - Actual Allocation Index			0.27	0.27	-0.56	-0.18	1.60	2.13	1.96	3.35	3.33	2.54
Difference			0.30	0.30	1.14	1.21	0.67	0.05	0.33	0.40	0.03	0.92
Total Fund	20,666,862,451	100.00	1.07	1.07	1.10	3.05	5.25	4.38	5.29	5.34	8.60	5.30
Wyoming State Actual Allocation Index			0.90	0.90	0.68	2.49	4.77	4.27	5.01	4.98	8.16	4.65
Difference			0.17	0.17	0.42	0.56	0.48	0.11	0.28	0.36	0.44	0.65

Performance shown is net of fees. Wyoming State Treasurer's Office fiscal year ends on June 30th.

September 30, 2018 : \$3,744,664,803



	Market Value (\$)	Allocation (%)
State Street All Cap	1,198,109,469	32.00
Epoch	282,833,235	7.55
UW Portfolio Mgmt Program	1,586,905	0.04
Internal Equity Russell 2000	173,901,378	4.64
RBC	2,905	0.00
Internal International Equity Portfolio	165,854,958	4.43
Northern Trust	1,101,228,175	29.41
Fisher Investments	437,066,516	11.67
Arrowstreet	384,081,260	10.26

Allocations shown may not sum up to 100% exactly due to rounding.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
US Equity Composite	1,656,433,893	44.23	6.41	6.41	8.22	14.69	15.49	12.68	16.13	11.78	18.57	7.34	06/01/1997
US Equity Custom Index			7.12	7.12	10.57	17.58	17.07	13.81	16.81	11.90	21.13	7.93	
Difference			-0.71	-0.71	-2.35	-2.89	-1.58	-1.13	-0.68	-0.12	-2.56	-0.59	
State Street All Cap	1,198,109,469	32.00	6.90	6.90	9.51	16.45	16.53	N/A	N/A	N/A	19.75	11.24	01/01/2015
State Street All Cap Custom Index			6.93	6.93	9.53	16.45	16.60	13.17	16.63	12.19	19.85	11.33	
Difference			-0.03	-0.03	-0.02	0.00	-0.07	N/A	N/A	N/A	-0.10	-0.09	
Russell 3000 Index			7.12	7.12	10.57	17.58	17.07	13.46	16.86	12.01	21.13	11.76	
Difference			-0.22	-0.22	-1.06	-1.13	-0.54	N/A	N/A	N/A	-1.38	-0.52	
Epoch	282,833,235	7.55	6.19	6.19	5.94	12.93	14.89	N/A	N/A	N/A	23.36	10.21	11/01/2014
Russell 3000 Index			7.12	7.12	10.57	17.58	17.07	13.46	16.86	12.01	21.13	11.91	
Difference			-0.93	-0.93	-4.63	-4.65	-2.18	N/A	N/A	N/A	2.23	-1.70	
UW Portfolio Mgmt Program	1,586,905	0.04	8.78	8.78	9.67	16.54	16.20	13.30	12.90	7.99	21.83	5.73	04/01/2006
S&P 500 Index (Cap Wtd)			7.71	7.71	10.56	17.91	17.31	13.95	16.91	11.97	21.83	8.98	
Difference			1.07	1.07	-0.89	-1.37	-1.11	-0.65	-4.01	-3.98	0.00	-3.25	
Internal Equity Russell 2000	173,901,378	4.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.32	09/01/2018
Russell 2000 Index			3.58	3.58	11.51	15.24	17.12	11.07	16.43	11.11	14.65	-2.41	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.09	

Performance shown is net of fees. US Equity Index consists of the S&P 500 Index through September 2014 and the Russell 3000 Index thereafter. International Equity Custom Index and Fisher Index both consist of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Int'l Equity Composite	2,088,230,910	55.77	1.19	1.19	-2.88	1.33	10.02	4.16	7.60	5.25	27.73	5.81	01/01/2004
International Equity Custom Index			0.71	0.71	-3.09	1.76	9.97	4.12	7.25	4.64	27.19	5.43	
Difference			0.48	0.48	0.21	-0.43	0.05	0.04	0.35	0.61	0.54	0.38	
Internal International Equity Portfolio	165,854,958	4.43	0.90	0.90	-2.92	1.67	N/A	N/A	N/A	N/A	27.20	12.51	02/01/2016
FTSE All Wrld Ex US Index (US Invstr) (USD) (Net)			0.87	0.87	-3.00	2.13	10.19	4.51	7.62	5.61	27.11	13.06	
Difference			0.03	0.03	0.08	-0.46	N/A	N/A	N/A	N/A	0.09	-0.55	
Northern Trust	1,101,228,175	29.41	0.75	0.75	-2.82	1.99	10.05	4.25	7.42	N/A	27.47	5.69	08/01/2010
MSCI ACW Ex US Index (USD) (Net)			0.71	0.71	-3.09	1.76	9.97	4.12	7.25	5.18	27.19	5.57	
Difference			0.04	0.04	0.27	0.23	0.08	0.13	0.17	N/A	0.28	0.12	
Fisher Investments	437,066,516	11.67	1.31	1.31	-2.91	-0.16	10.26	5.24	8.70	6.42	29.57	6.98	09/01/2004
MSCI ACW Ex US Index (USD) (Net)			0.71	0.71	-3.09	1.76	9.97	4.12	7.25	4.64	27.19	5.55	
Difference			0.60	0.60	0.18	-1.92	0.29	1.12	1.45	1.78	2.38	1.43	
Arrowstreet	384,081,260	10.26	2.44	2.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3.50	03/01/2018
MSCI ACW Ex US IM Index (USD) (Net)			0.39	0.39	-3.27	1.79	10.14	4.39	7.49	5.60	27.81	-3.87	
Difference			2.05	2.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.37	

Performance shown is net of fees. US Equity Index consists of the S&P 500 Index through September 2014 and the Russell 3000 Index thereafter. International Equity Custom Index and Fisher Index both consist of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
US Equity Composite	1,656,433,893	44.23	6.44	6.44	8.34	14.87	15.71	12.88	16.31	11.94	18.80	7.43	06/01/1997
US Equity Custom Index			7.12	7.12	10.57	17.58	17.07	13.81	16.81	11.90	21.13	7.93	
Difference			-0.68	-0.68	-2.23	-2.71	-1.36	-0.93	-0.50	0.04	-2.33	-0.50	
State Street All Cap	1,198,109,469	32.00	6.90	6.90	9.56	16.51	16.57	N/A	N/A	N/A	19.79	11.27	01/01/2015
State Street All Cap Custom Index			6.93	6.93	9.53	16.45	16.60	13.17	16.63	12.19	19.85	11.33	
Difference			-0.03	-0.03	0.03	0.06	-0.03	N/A	N/A	N/A	-0.06	-0.06	
Russell 3000 Index			7.12	7.12	10.57	17.58	17.07	13.46	16.86	12.01	21.13	11.76	
Difference			-0.22	-0.22	-1.01	-1.07	-0.50	N/A	N/A	N/A	-1.34	-0.49	
IM U.S. All Cap Equity (SA+CF) Median			5.92	5.92	8.27	15.33	15.29	12.24	16.22	12.02	19.92	10.41	
State Street All Cap Rank			33	33	44	42	37	N/A	N/A	N/A	52	41	
Epoch	282,833,235	7.55	6.32	6.32	6.32	13.48	15.45	N/A	N/A	N/A	23.97	10.75	11/01/2014
Russell 3000 Index			7.12	7.12	10.57	17.58	17.07	13.46	16.86	12.01	21.13	11.91	
Difference			-0.80	-0.80	-4.25	-4.10	-1.62	N/A	N/A	N/A	2.84	-1.16	
IM U.S. All Cap Equity (SA+CF) Median			5.92	5.92	8.27	15.33	15.29	12.24	16.22	12.02	19.92	10.86	
Epoch Rank			44	44	64	62	47	N/A	N/A	N/A	26	51	
UW Portfolio Mgmt Program	1,586,905	0.04	8.78	8.78	9.67	16.54	16.20	13.30	12.90	7.99	21.83	5.73	04/01/2006
S&P 500 Index (Cap Wtd)			7.71	7.71	10.56	17.91	17.31	13.95	16.91	11.97	21.83	8.98	
Difference			1.07	1.07	-0.89	-1.37	-1.11	-0.65	-4.01	-3.98	0.00	-3.25	
IM U.S. Large Cap Core Equity (SA+CF) Median			7.13	7.13	9.83	17.25	16.23	13.55	16.86	12.03	21.82	9.17	
UW Portfolio Mgmt Program Rank			8	8	52	58	51	58	91	98	50	99	
Internal Equity Russell 2000	173,901,378	4.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.31	09/01/2018
Russell 2000 Index			3.58	3.58	11.51	15.24	17.12	11.07	16.43	11.11	14.65	-2.41	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.10	

Performance shown is gross of fees. US Equity Index consists of the S&P 500 Index through September 2014 and the Russell 3000 Index thereafter. International Equity Custom Index and Fisher Index both consist of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Int'l Equity Composite	2,088,230,910	55.77	1.24	1.24	-2.74	1.51	10.25	4.40	7.86	5.54	27.96	6.00	01/01/2004
International Equity Custom Index			0.71	0.71	-3.09	1.76	9.97	4.12	7.25	4.64	27.19	5.43	
Difference			0.53	0.53	0.35	-0.25	0.28	0.28	0.61	0.90	0.77	0.57	
Internal International Equity Portfolio	165,854,958	4.43	0.92	0.92	-2.87	1.74	N/A	N/A	N/A	N/A	27.29	12.59	02/01/2016
FTSE All Wrld Ex US Index (US Invstr) (USD) (Net)			0.87	0.87	-3.00	2.13	10.19	4.51	7.62	5.61	27.11	13.06	
Difference			0.05	0.05	0.13	-0.39	N/A	N/A	N/A	N/A	0.18	-0.47	
Northern Trust	1,101,228,175	29.41	0.76	0.76	-2.80	2.02	10.10	4.29	7.45	N/A	27.51	5.72	08/01/2010
MSCI ACW Ex US Index (USD) (Net)			0.71	0.71	-3.09	1.76	9.97	4.12	7.25	5.18	27.19	5.57	
Difference			0.05	0.05	0.29	0.26	0.13	0.17	0.20	N/A	0.32	0.15	
Fisher Investments	437,066,516	11.67	1.42	1.42	-2.59	0.29	10.76	5.73	9.20	6.92	30.17	7.50	09/01/2004
MSCI ACW Ex US Index (USD) (Net)			0.71	0.71	-3.09	1.76	9.97	4.12	7.25	4.64	27.19	5.55	
Difference			0.71	0.71	0.50	-1.47	0.79	1.61	1.95	2.28	2.98	1.95	
IM All ACWI Ex US (SA+CF) Median			0.68	0.68	-1.70	3.13	10.42	6.01	9.61	7.15	28.74	7.67	
Fisher Investments Rank			25	25	65	84	49	56	57	59	40	58	
Arrowstreet	384,081,260	10.26	2.57	2.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3.26	03/01/2018
MSCI ACW Ex US IM Index (USD) (Net)			0.39	0.39	-3.27	1.79	10.14	4.39	7.49	5.60	27.81	-3.87	
Difference			2.18	2.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.61	
IM All ACWI Ex US (SA+CF) Median			0.68	0.68	-1.70	3.13	10.42	6.01	9.61	7.15	28.74	-2.60	
Arrowstreet Rank			9	9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63	

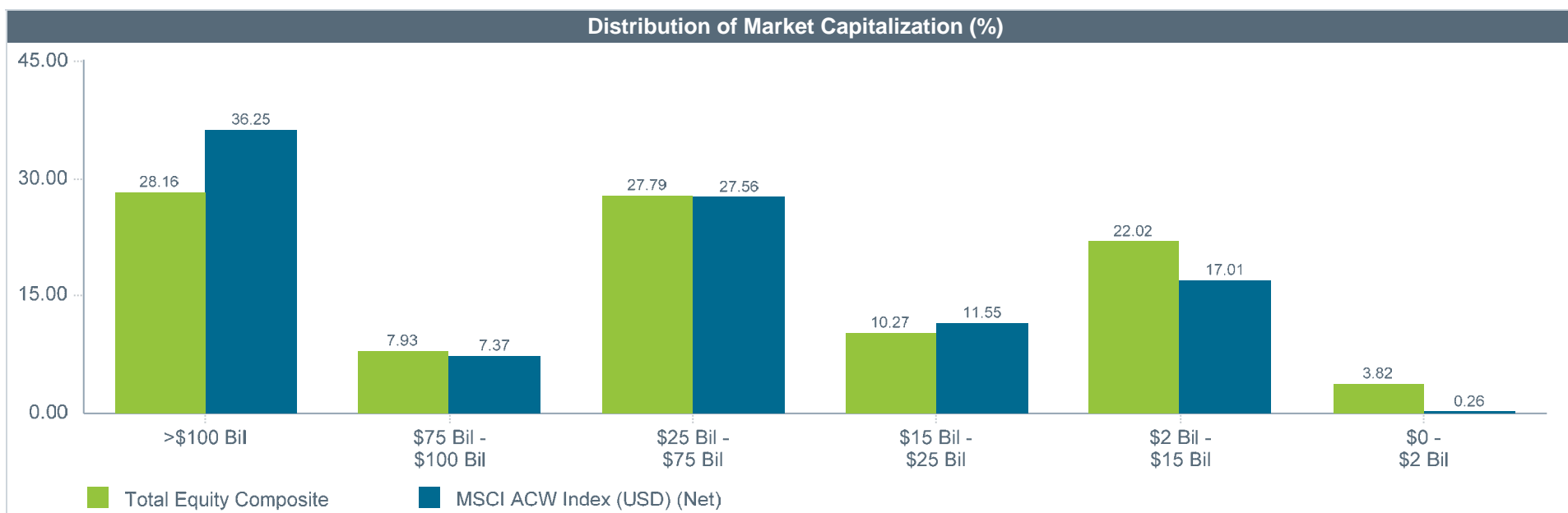
Performance shown is gross of fees. US Equity Index consists of the S&P 500 Index through September 2014 and the Russell 3000 Index thereafter. International Equity Custom Index and Fisher Index both consist of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding.

Wyoming State Treasurer's Office
Total Equity Composite vs. MSCI ACW Index (USD) (Net)
Portfolio Characteristics

As of September 30, 2018

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Apple Inc	1.49	2.37	-0.88	22.38
Microsoft Corp	1.20	1.78	-0.58	16.43
Samsung Electronics Co Ltd	0.96	0.43	0.53	0.53
Tencent Holdings LTD	0.80	0.50	0.30	-17.70
Amazon.com Inc	0.65	1.76	-1.11	17.84
SAP AG Systeme Anwendungen	0.64	0.26	0.38	6.68
ASML Holding NV	0.59	0.16	0.43	-5.58
Lvmh Moet Hennessy Louis Vuitton	0.57	0.21	0.36	6.36
Alphabet Inc	0.55	0.80	-0.25	6.98
Alibaba Group Holding Ltd	0.53	0.41	0.12	-11.20
% of Portfolio	7.98	8.68	-0.70	

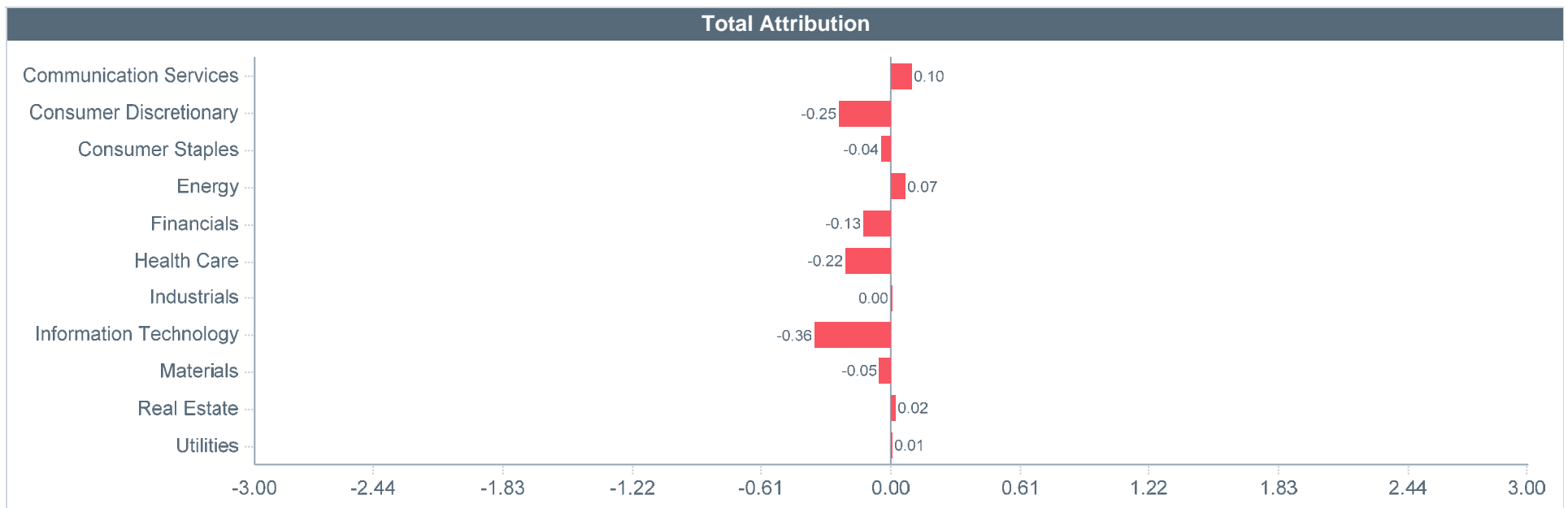
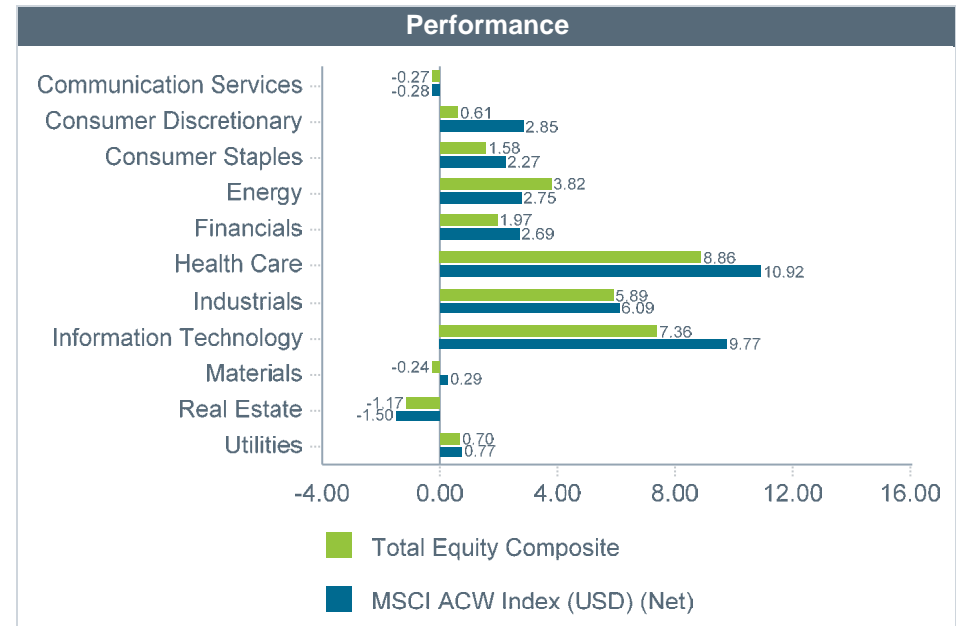
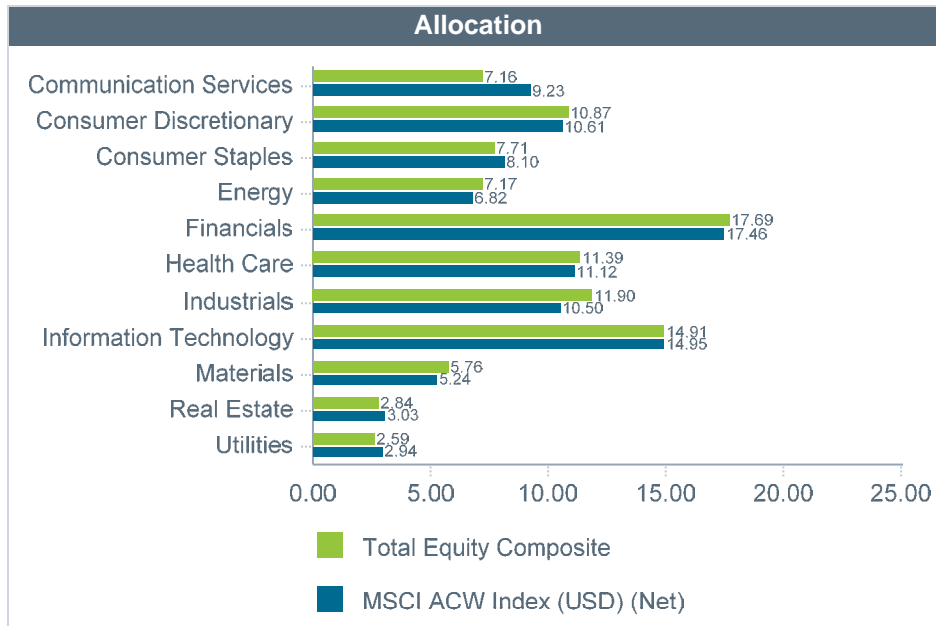
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	114,908	157,593
Median Mkt. Cap (\$M)	3,606	10,179
Price/Earnings Ratio	16.59	17.47
Price/Book Ratio	2.63	2.84
5 Yr. EPS Growth Rate (%)	11.89	11.23
Current Yield (%)	2.48	2.44
Beta (5 Years, Monthly)	0.98	1.00
Number of Securities	6,259	2,791



The Total Equity Custom Index currently consists of the MSCI ACW Index (USD) (Net).

Wyoming State Treasurer's Office
Total Equity Composite vs. MSCI ACW Index (USD) (Net)
Buy and Hold Sector Attribution Graph

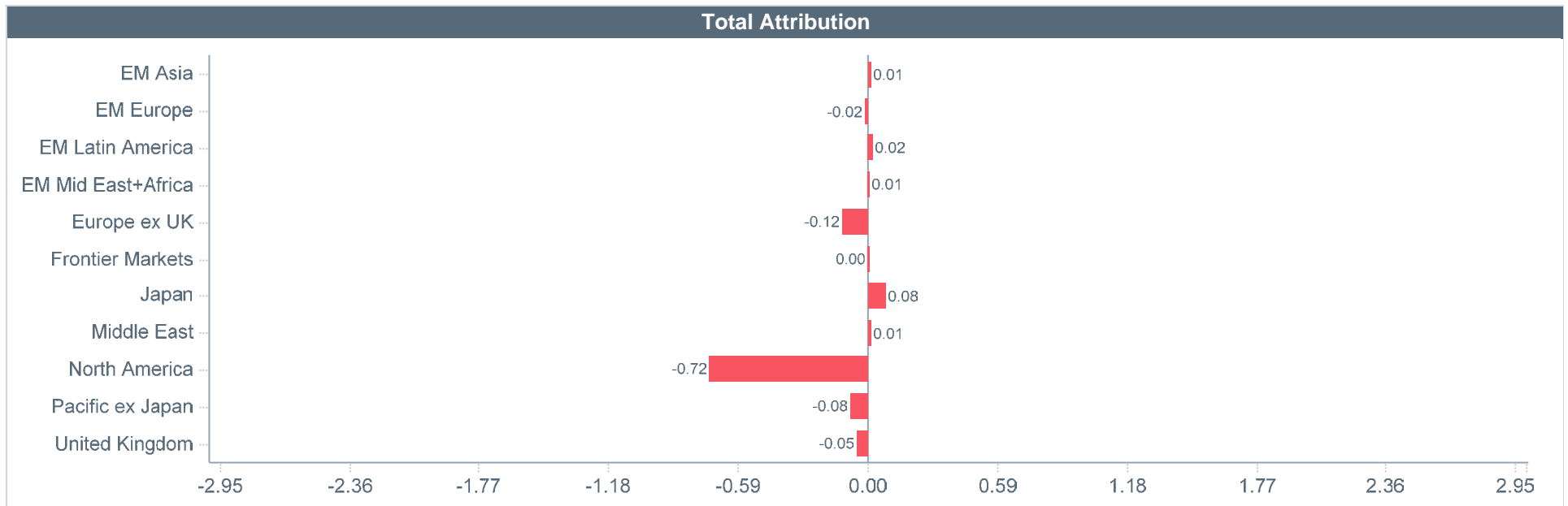
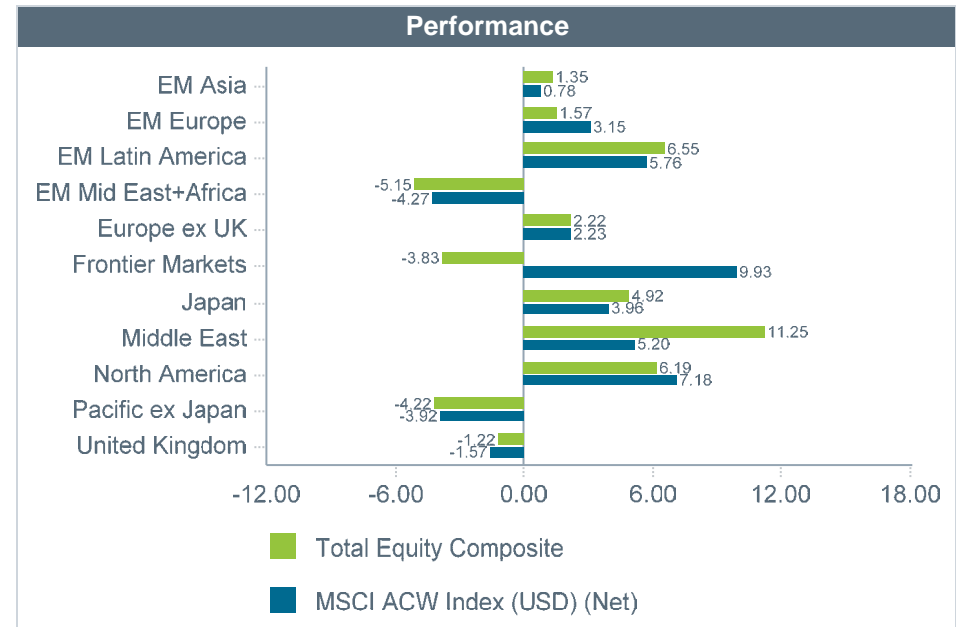
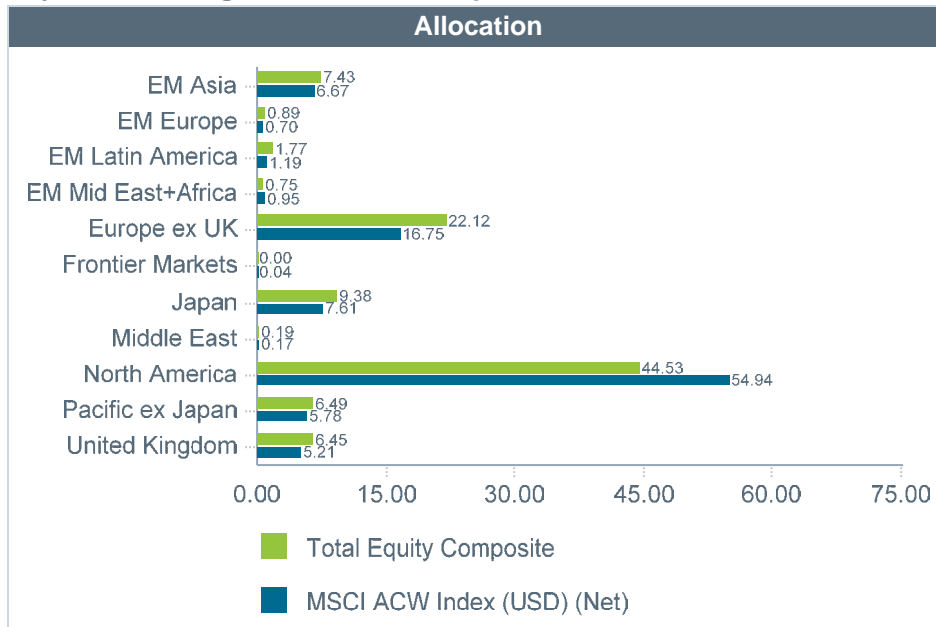
1 Quarter Ending September 30, 2018



The Total Equity Custom Index currently consists of the MSCI ACW Index (USD) (Net).

Wyoming State Treasurer's Office
Total Equity Composite vs. MSCI ACW Index (USD) (Net)
Buy and Hold Region Attribution Graph

1 Quarter Ending September 30, 2018



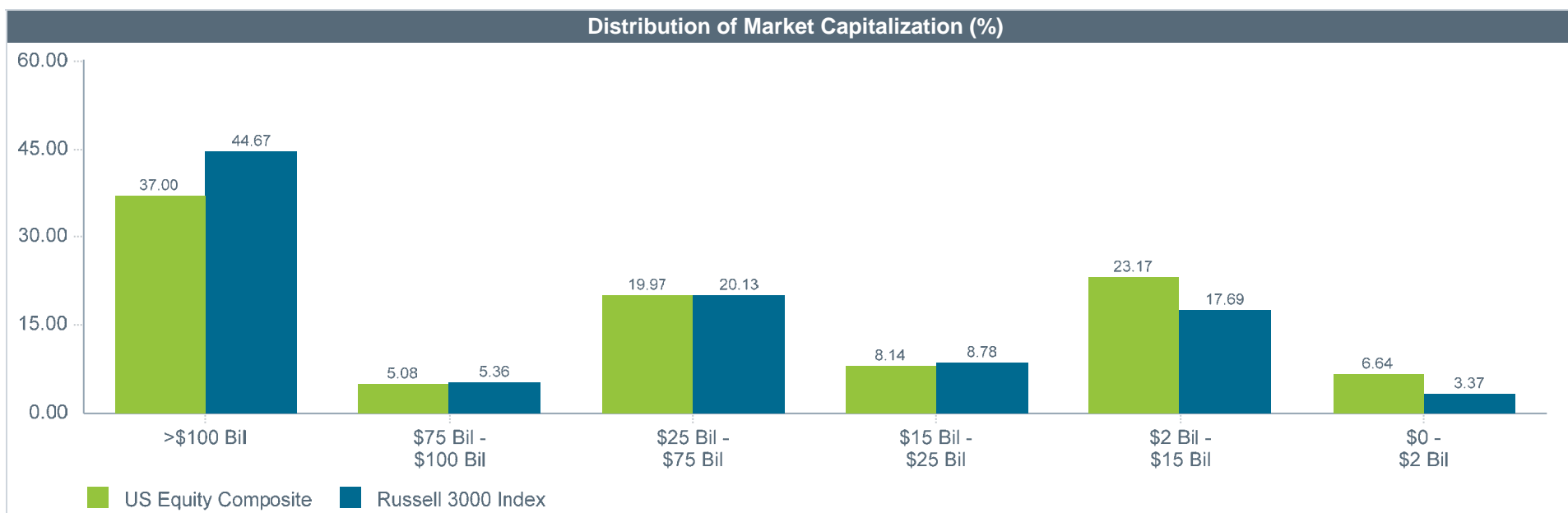
The Total Equity Custom Index currently consists of the MSCI ACW Index (USD) (Net).

Wyoming State Treasurer's Office
US Equity Composite vs. Russell 3000 Index
Portfolio Characteristics

As of September 30, 2018

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Apple Inc	3.35	3.67	-0.32	22.38
Microsoft Corp	2.70	2.92	-0.22	16.43
Amazon.com Inc	1.45	2.74	-1.29	17.84
Alphabet Inc	1.23	1.22	0.01	6.98
Exxon Mobil Corp	1.14	1.21	-0.07	3.83
Bank of America Corp	1.13	0.92	0.21	5.01
Unitedhealth Group Inc	1.12	0.86	0.26	8.80
Pfizer Inc	1.07	0.86	0.21	22.51
Berkshire Hathaway Inc	0.95	1.40	-0.45	14.71
Home Depot Inc. (The)	0.94	0.80	0.14	6.72
% of Portfolio	15.08	16.60	-1.52	

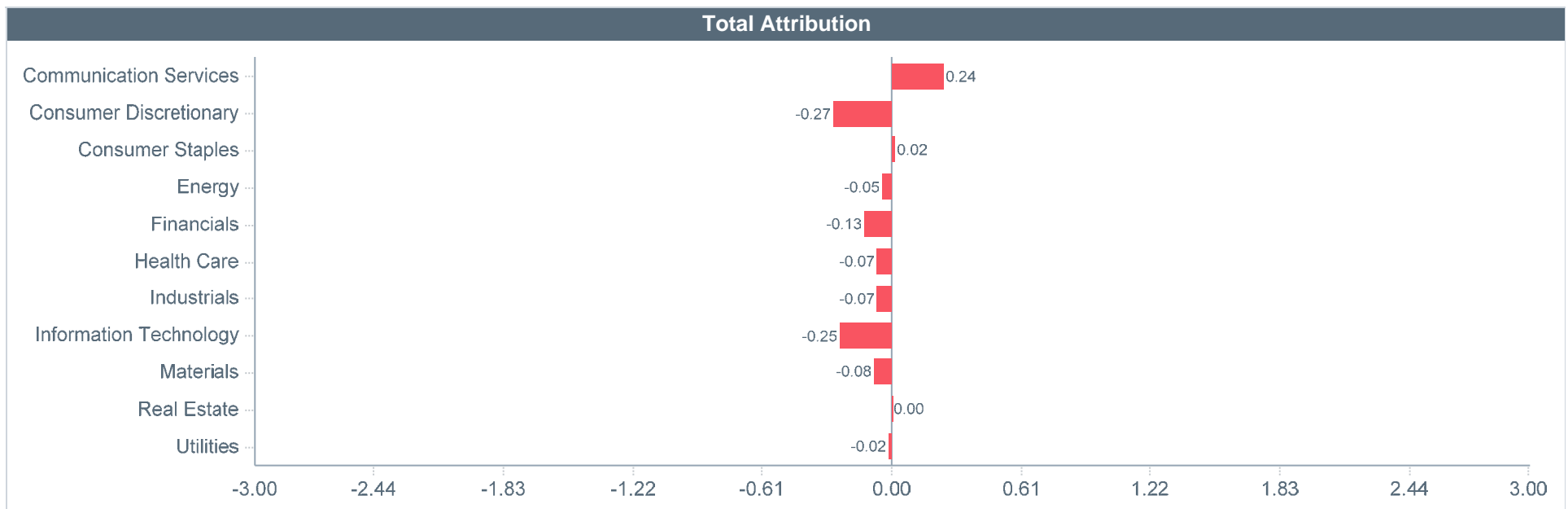
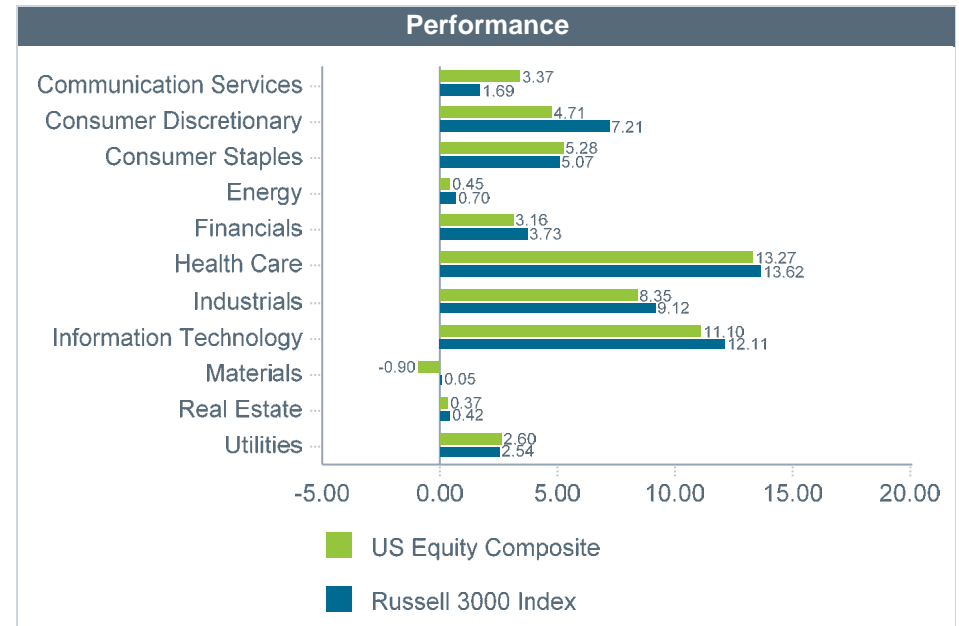
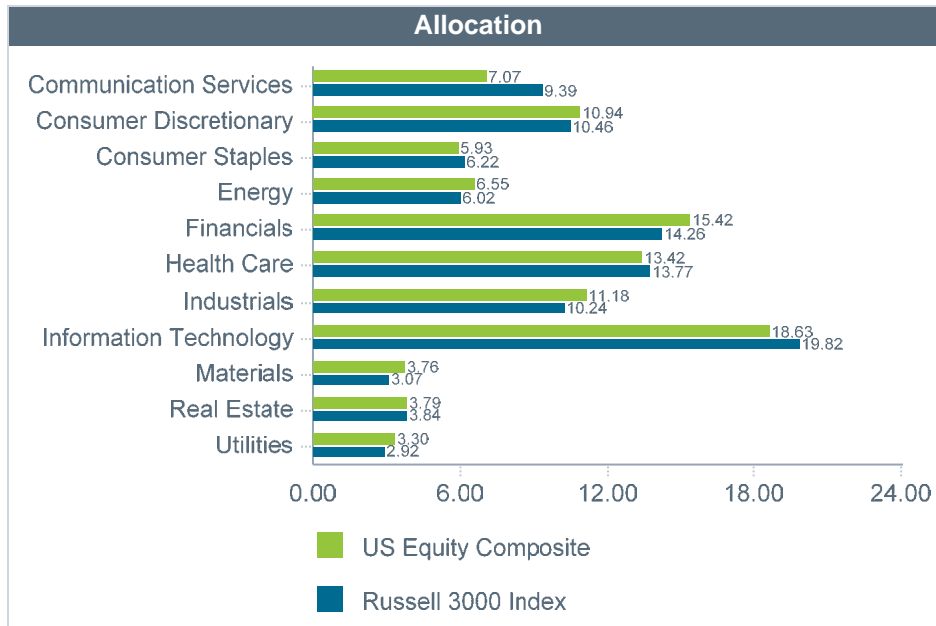
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	170,504	204,454
Median Mkt. Cap (\$M)	1,852	1,831
Price/Earnings Ratio	20.01	21.13
Price/Book Ratio	3.11	3.41
5 Yr. EPS Growth Rate (%)	12.46	11.77
Current Yield (%)	1.82	1.79
Beta (5 Years, Monthly)	1.00	1.00
Number of Securities	3,045	3,024



The US Equity Custom Index currently consists of the Russell 3000 Index.

Wyoming State Treasurer's Office
US Equity Composite vs. Russell 3000 Index
Buy and Hold Sector Attribution Graph

1 Quarter Ending September 30, 2018



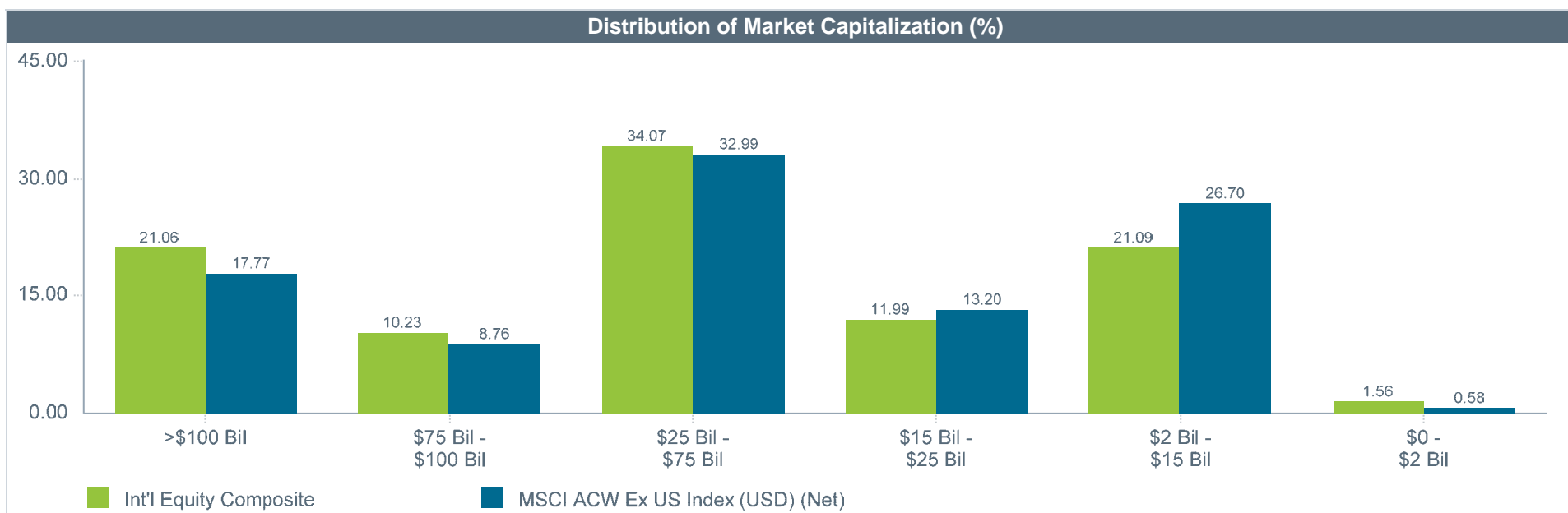
The US Equity Custom Index currently consists of the Russell 3000 Index.

Wyoming State Treasurer's Office
Int'l Equity Composite vs. MSCI ACW Ex US Index (USD) (Net)
Portfolio Characteristics

As of September 30, 2018

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Samsung Electronics Co Ltd	1.74	0.96	0.78	0.53
Tencent Holdings LTD	1.45	1.12	0.33	-17.70
SAP AG Systeme Anwendungen	1.16	0.58	0.58	6.68
ASML Holding NV	1.06	0.36	0.70	-5.58
Lvmh Moet Hennessy Louis Vuitton	1.03	0.47	0.56	6.36
Alibaba Group Holding Ltd	0.95	0.91	0.04	-11.20
Novartis AG	0.90	0.89	0.01	14.12
Roche Holding AG	0.90	0.81	0.09	9.73
Keyence Corp	0.85	0.27	0.58	3.10
Siemens AG	0.84	0.47	0.37	-2.95
% of Portfolio	10.88	6.84	4.04	

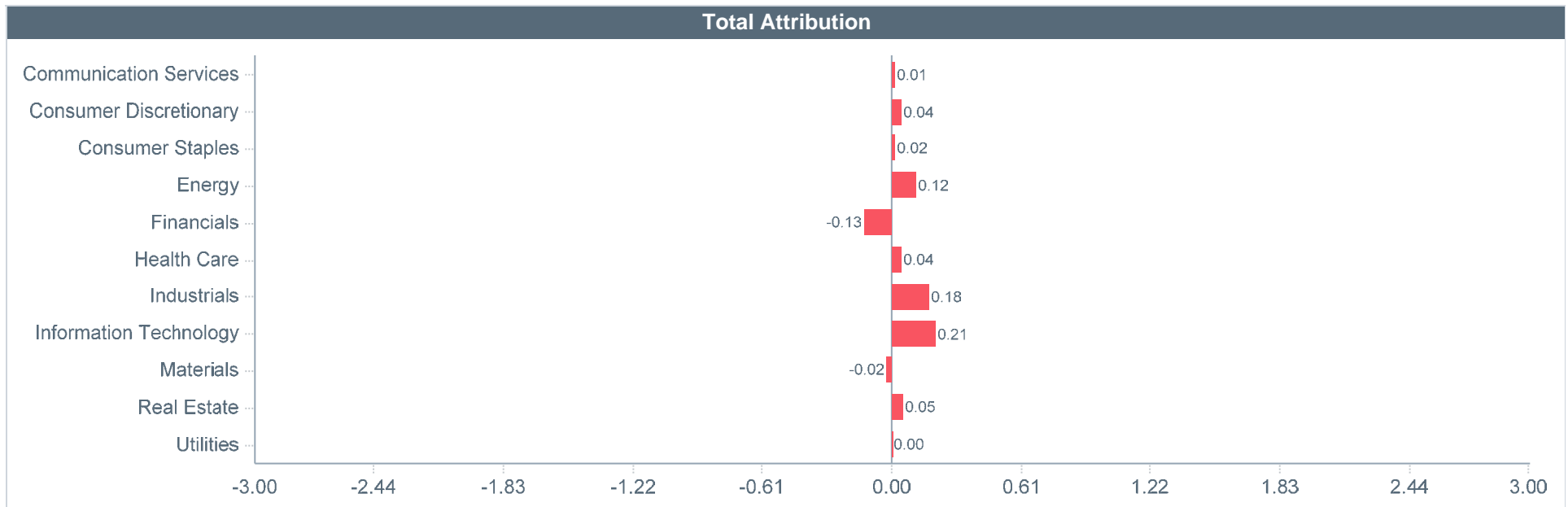
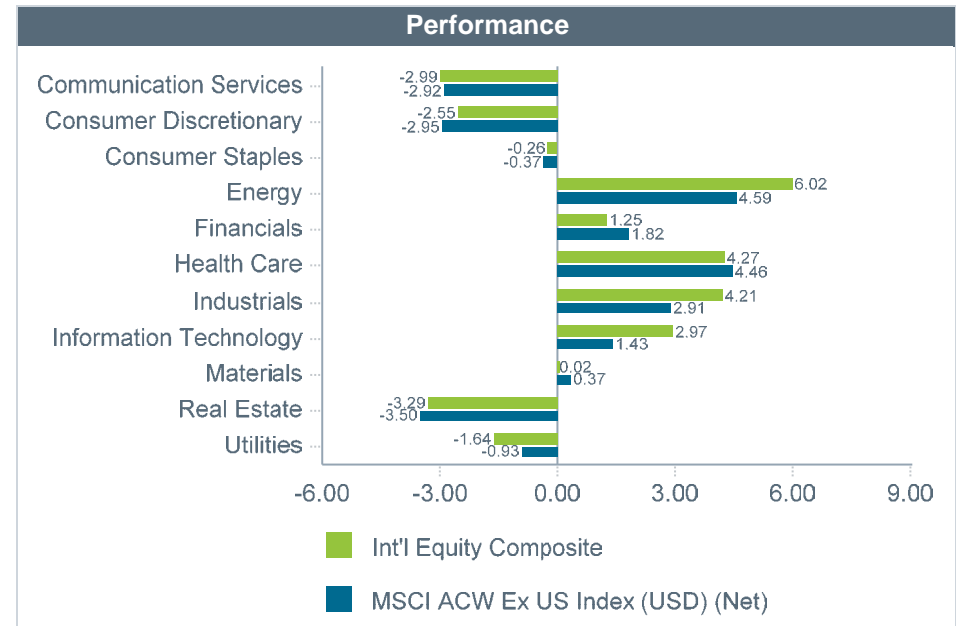
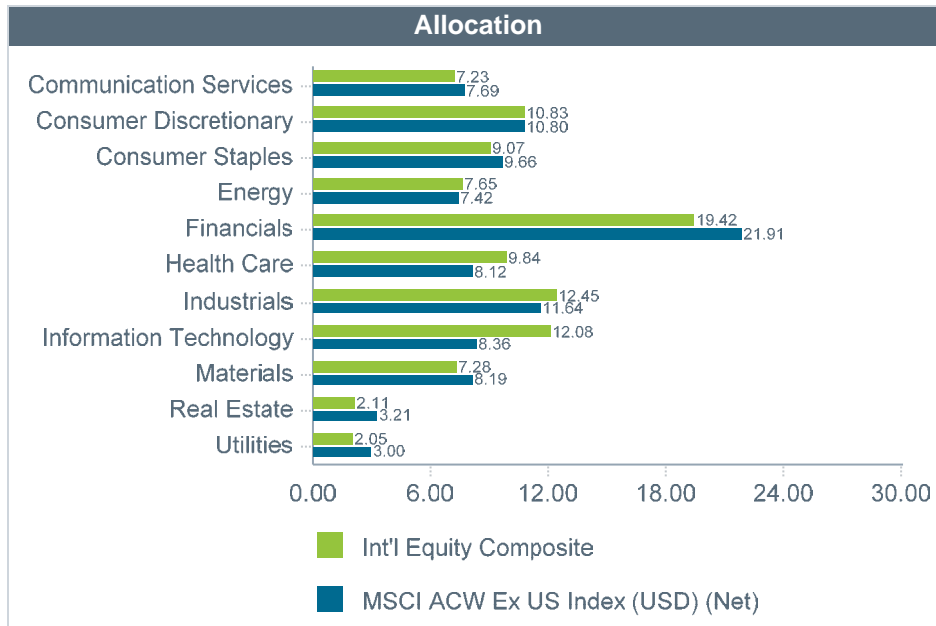
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	70,213	64,560
Median Mkt. Cap (\$M)	5,645	8,009
Price/Earnings Ratio	14.54	14.09
Price/Book Ratio	2.30	2.20
5 Yr. EPS Growth Rate (%)	11.44	11.33
Current Yield (%)	3.01	3.15
Beta (5 Years, Monthly)	1.01	1.00
Number of Securities	3,224	2,166



The International Equity Custom Index currently consists of the MSCI ACW Ex US Index (USD) (Net).

Wyoming State Treasurer's Office
 Int'l Equity Composite vs. MSCI ACW Ex US Index (USD) (Net)
 Buy and Hold Sector Attribution Graph

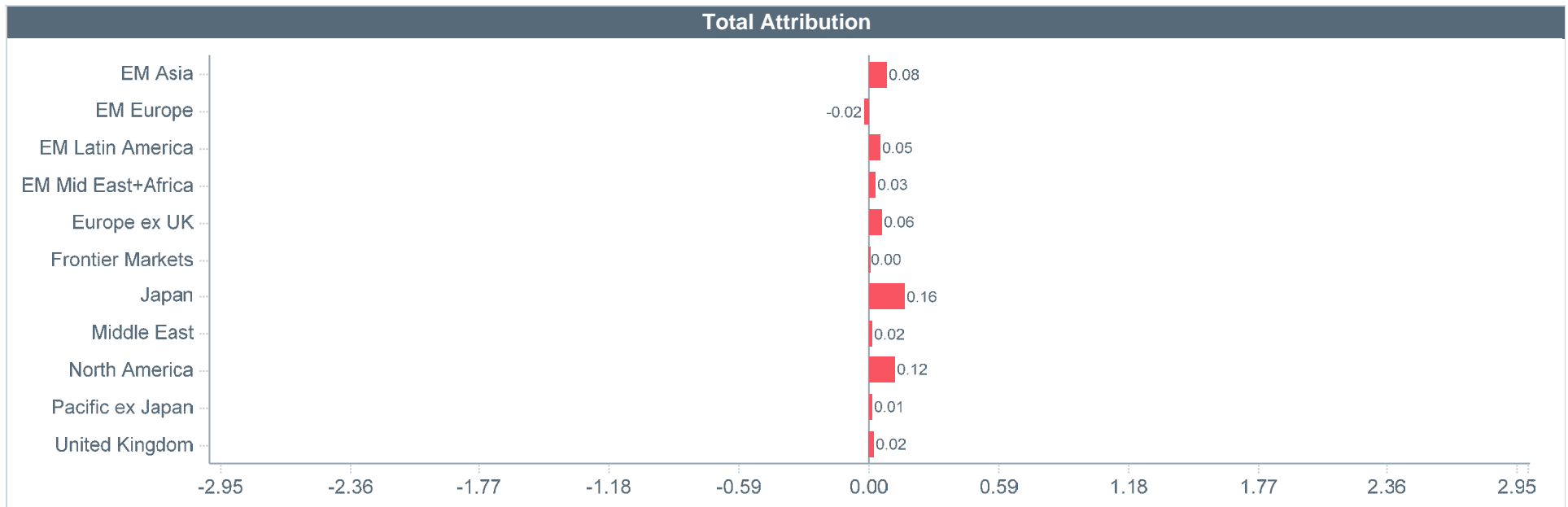
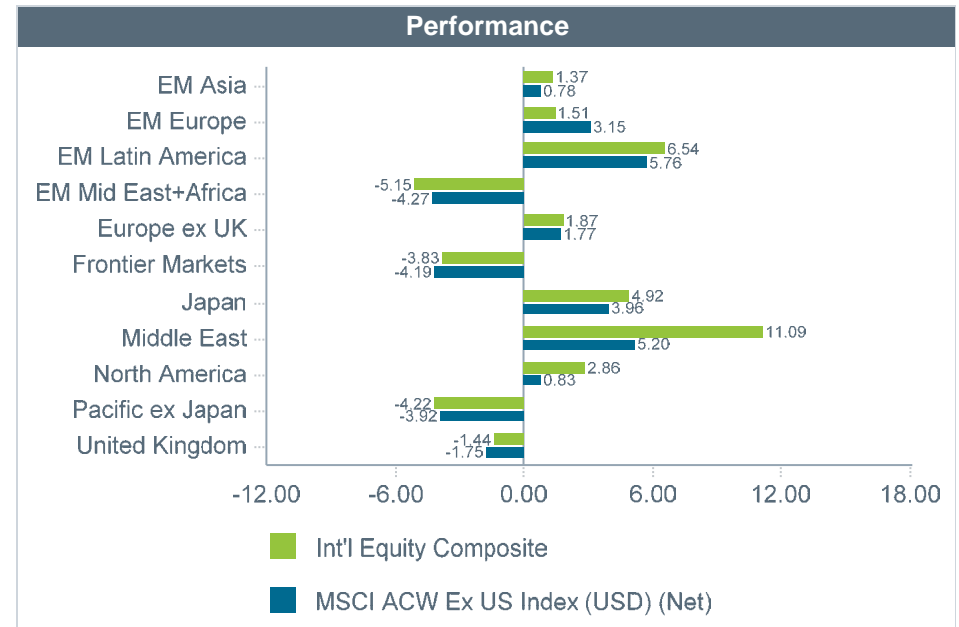
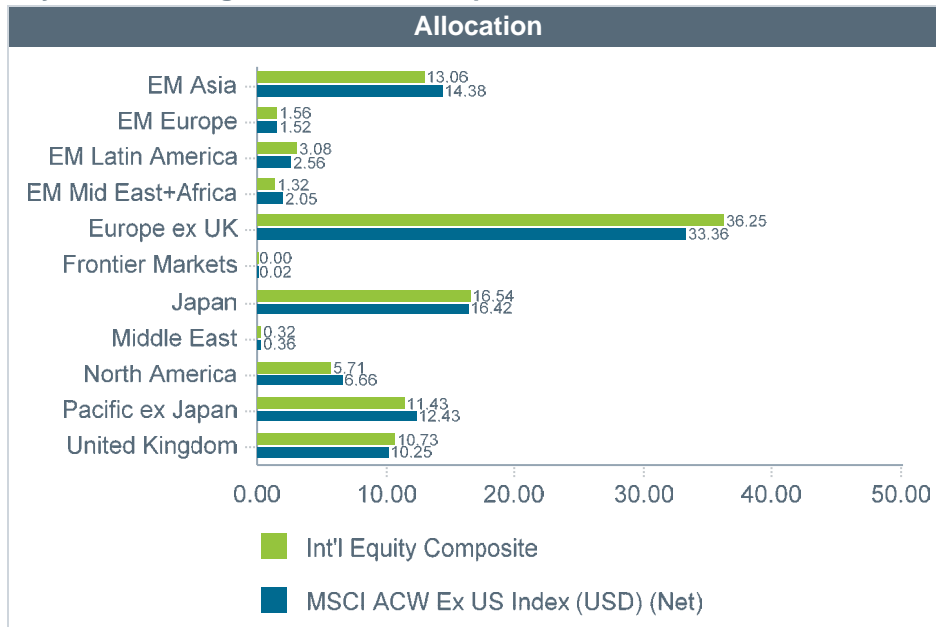
1 Quarter Ending September 30, 2018



The International Equity Custom Index currently consists of the MSCI ACW Ex US Index (USD) (Net).

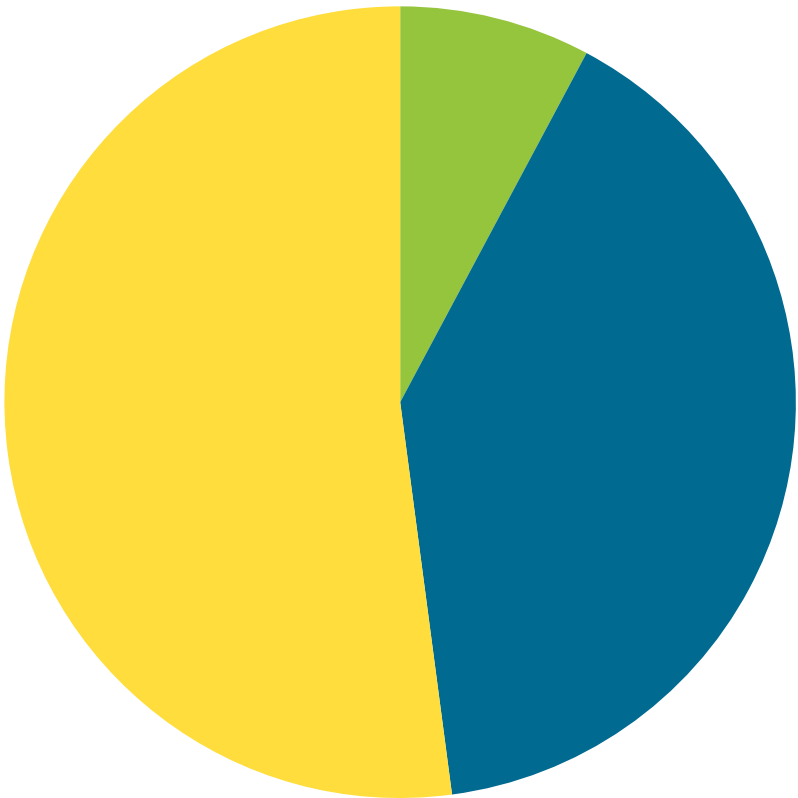
Wyoming State Treasurer's Office
 Int'l Equity Composite vs. MSCI ACW Ex US Index (USD) (Net)
 Buy and Hold Region Attribution Graph

1 Quarter Ending September 30, 2018



The International Equity Custom Index currently consists of the MSCI ACW Ex US Index (USD) (Net).

September 30, 2018 : \$1,103,042,682



	Market Value (\$)	Allocation (%)
Cohen & Steers Preferred Stock	86,139,590	7.81
Harvest Fund Advisors	442,256,551	40.09
Allianz Global Investors	574,646,540	52.10

Allocations shown may not sum up to 100% exactly due to rounding.

Wyoming State Treasurer's Office
Comparative Performance

As of September 30, 2018

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Cohen & Steers Preferred Stock	1.55	1.55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.55	07/01/2018
S&P US Preferred Stock Index	0.21	0.21	1.48	1.57	5.25	6.42	7.31	11.33	9.11	0.21	
Difference	1.34	1.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.34	
Harvest Fund Advisors	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.73	08/01/2018
S&P MLP Index (TR)	6.39	6.39	7.46	7.15	4.90	-1.73	4.60	9.97	-5.58	0.24	
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.97	
Allianz Global Investors	5.45	5.45	13.80	16.39	12.03	8.90	12.08	11.08	14.76	6.37	09/01/2000
ICE BofAML All Cnvrts Index (All Qual)	3.93	3.93	10.47	12.19	11.74	9.26	11.92	10.98	13.70	5.77	
Difference	1.52	1.52	3.33	4.20	0.29	-0.36	0.16	0.10	1.06	0.60	

Performance shown is net of fees. Wyoming State Treasurer's Office fiscal year ends June 30th. Since Inception date shown represents the first full month following initial funding.

Wyoming State Treasurer's Office
Comparative Performance

As of September 30, 2018

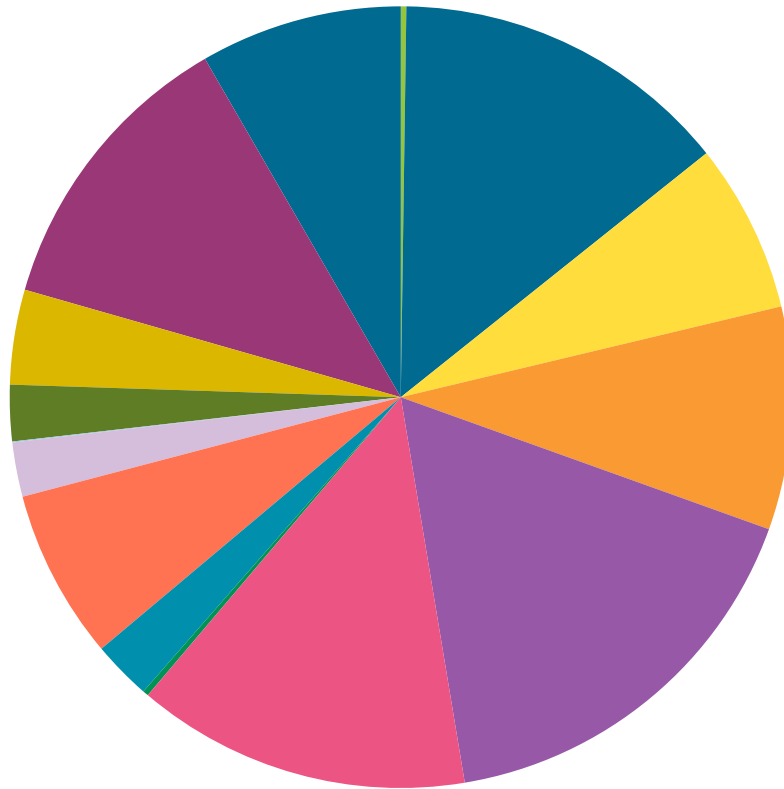
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Cohen & Steers Preferred Stock	1.66	1.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.66	07/01/2018
S&P US Preferred Stock Index	0.21	0.21	1.48	1.57	5.25	6.42	7.31	11.33	9.11	0.21	
Difference	1.45	1.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.45	
Harvest Fund Advisors	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.62	08/01/2018
S&P MLP Index (TR)	6.39	6.39	7.46	7.15	4.90	-1.73	4.60	9.97	-5.58	0.24	
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.86	
Allianz Global Investors	5.45	5.45	13.80	16.39	12.03	8.90	12.08	11.08	14.76	6.37	09/01/2000
ICE BofAML All Cnvrts Index (All Qual)	3.93	3.93	10.47	12.19	11.74	9.26	11.92	10.98	13.70	5.77	
Difference	1.52	1.52	3.33	4.20	0.29	-0.36	0.16	0.10	1.06	0.60	

Performance shown is gross of fees with the exception of Allianz Global Investors, which is shown net of fees. Wyoming State Treasurer's Office fiscal year ends June 30th. Since Inception date shown represents the first full month following initial funding.

Wyoming State Treasurer's Office
Asset Allocation by Manager - Total Alternative Assets

As of September 30, 2018

September 30, 2018 : \$2,047,949,556



	Market Value (\$)	Allocation (%)
Access Venture Partners II	4,623,906	0.23
Cheyenne Equity Capital Fund, L.P.	287,701,522	14.05
Hamilton Lane Nowood Fund, L.P.	143,196,712	6.99
Neuberger Berman Sauger Fund, L.P.	188,818,169	9.22
Clarion Lion	346,033,608	16.90
UBS Trumbull	282,855,374	13.81
Cornerstone	4,833,788	0.24
Heitman	17,473	0.00
M&G	49,909,830	2.44
Northwood	144,042,445	7.03
SC Capital	46,070,237	2.25
TA Associates Realty	747,023	0.04
WestRiver	47,551,448	2.32
PAAMCO - Jackalope Fund	80,380,458	3.92
Grosvenor Diversified Hedge Funds	250,260,374	12.22
Internal Diversified Hedge Funds	170,907,190	8.35

Allocations shown may not sum up to 100% exactly due to rounding.

Wyoming State Treasurer's Office
Comparative Performance

As of September 30, 2018

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Core Real Estate Composite	1.61	1.61	5.87	8.00	7.77	9.64	9.75	4.23	6.96	5.83	01/01/2006
NCREIF ODCE Index (AWA) (Net)	1.87	1.87	5.75	7.71	7.83	9.71	10.14	4.62	6.66	5.94	
Difference	-0.26	-0.26	0.12	0.29	-0.06	-0.07	-0.39	-0.39	0.30	-0.11	
Clarion Lion	1.92	1.92	6.94	8.97	8.98	10.77	10.77	3.56	8.27	5.44	01/01/2006
NCREIF ODCE Index (AWA) (Net)	1.87	1.87	5.75	7.71	7.83	9.71	10.14	4.62	6.66	5.94	
Difference	0.05	0.05	1.19	1.26	1.15	1.06	0.63	-1.06	1.61	-0.50	
UBS Trumbull	1.24	1.24	4.57	6.82	6.35	8.10	8.41	4.64	5.42	5.58	07/01/2006
NCREIF ODCE Index (AWA) (Net)	1.87	1.87	5.75	7.71	7.83	9.71	10.14	4.62	6.66	5.57	
Difference	-0.63	-0.63	-1.18	-0.89	-1.48	-1.61	-1.73	0.02	-1.24	0.01	
Diversified Hedge Funds Composite	0.23	0.23	1.45	2.77	2.11	2.65	4.29	3.88	4.90	2.45	12/01/2007
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	1.13	
Difference	0.04	0.04	0.53	-0.24	-1.16	-0.51	0.69	1.33	-2.87	1.32	
PAAMCO - Jackalope Fund	-0.26	-0.26	0.92	2.24	1.93	2.54	4.24	3.41	4.90	2.17	12/01/2007
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	1.13	
Difference	-0.45	-0.45	0.00	-0.77	-1.34	-0.62	0.64	0.86	-2.87	1.04	
Grosvenor Diversified Hedge Funds	0.80	0.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.80	07/01/2018
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	0.19	
Difference	0.61	0.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.61	
Internal Diversified Hedge Funds	0.86	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.86	07/01/2018
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	0.19	
Difference	0.67	0.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.67	

Performance shown is net of fees. Wyoming State Treasurer's Office fiscal year ends June 30th. Since Inception date shown represents the first full month following initial funding.

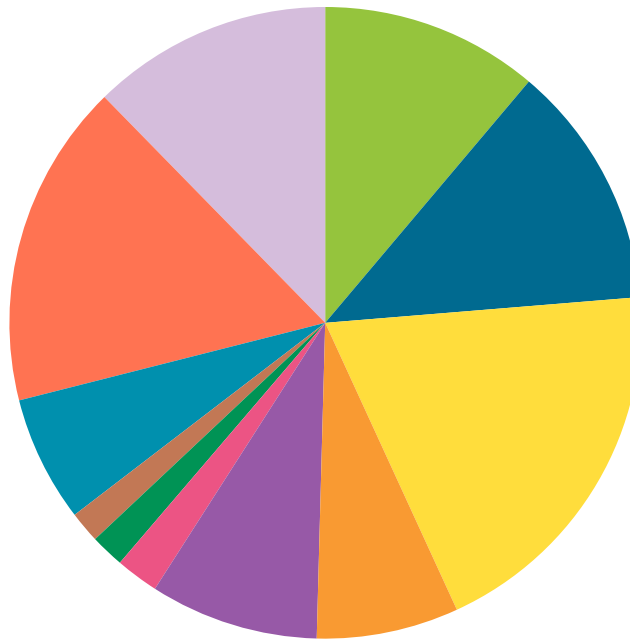
Wyoming State Treasurer's Office
Comparative Performance

As of September 30, 2018

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Core Real Estate Composite	1.79	1.79	6.43	8.77	8.59	10.51	10.66	5.11	7.76	6.70	01/01/2006
NCREIF ODCE Index (AWA) (Gross)	2.09	2.09	6.48	8.68	8.80	10.72	11.17	5.58	7.62	6.92	
Difference	-0.30	-0.30	-0.05	0.09	-0.21	-0.21	-0.51	-0.47	0.14	-0.22	
Clarion Lion	2.09	2.09	7.48	9.71	9.73	11.56	11.58	4.38	8.99	6.24	01/01/2006
NCREIF ODCE Index (AWA) (Gross)	2.09	2.09	6.48	8.68	8.80	10.72	11.17	5.58	7.62	6.92	
Difference	0.00	0.00	1.00	1.03	0.93	0.84	0.41	-1.20	1.37	-0.68	
UBS Trumbull	1.42	1.42	5.16	7.63	7.25	9.09	9.43	5.61	6.33	6.57	07/01/2006
NCREIF ODCE Index (AWA) (Gross)	2.09	2.09	6.48	8.68	8.80	10.72	11.17	5.58	7.62	6.54	
Difference	-0.67	-0.67	-1.32	-1.05	-1.55	-1.63	-1.74	0.03	-1.29	0.03	
Diversified Hedge Funds Composite	0.23	0.23	1.45	2.77	2.11	2.65	4.29	3.88	4.90	2.45	12/01/2007
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	1.13	
Difference	0.04	0.04	0.53	-0.24	-1.16	-0.51	0.69	1.33	-2.87	1.32	
PAAMCO - Jackalope Fund	-0.26	-0.26	0.92	2.24	1.93	2.54	4.24	3.41	4.90	2.17	12/01/2007
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	1.13	
Difference	-0.45	-0.45	0.00	-0.77	-1.34	-0.62	0.64	0.86	-2.87	1.04	
Grosvenor Diversified Hedge Funds	0.80	0.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.80	07/01/2018
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	0.19	
Difference	0.61	0.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.61	
Internal Diversified Hedge Funds	0.86	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.86	07/01/2018
HFRI FOF Comp Index	0.19	0.19	0.92	3.01	3.27	3.16	3.60	2.55	7.77	0.19	
Difference	0.67	0.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.67	

Performance shown is gross of fees for the Core Real Estate Composite and Core Real Estate managers. Performance shown is net of fees for the Diversified Hedge Funds Composite and Diversified Hedge Funds managers. Wyoming State Treasurer's Office fiscal year ends June 30th. Since Inception date shown represents the first full month following initial funding.

September 30, 2018 : \$11,076,360,096



	Market Value (\$)	Allocation (%)
C.S. McKee	1,236,325,057	11.16
JP Morgan Core	1,388,966,565	12.54
PIMCO Core	2,153,747,336	19.44
Neuberger Berman Credit	806,235,331	7.28
Seix	956,620,121	8.64
Grosvenor Silvery Lupine Fund	243,884,437	2.20
Investec	190,837,048	1.72
Stone Harbor	177,762,409	1.60
State Street TIPS	714,432,865	6.45
Internal Intermediate Govt Fixed Income Portfolio	1,842,480,877	16.63
Internal Low Duration Fixed Income Portfolio	1,365,068,051	12.32

Allocations shown may not sum up to 100% exactly due to rounding.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Core Fixed Income Composite	4,779,038,958	43.15	0.17	0.17	-1.03	-0.58	1.54	2.26	N/A	N/A	3.56	1.60	01/01/2013
Bloomberg US Agg Bond Index			0.02	0.02	-1.60	-1.22	1.31	2.16	2.02	3.77	3.54	1.54	
Difference			0.15	0.15	0.57	0.64	0.23	0.10	N/A	N/A	0.02	0.06	
C.S. McKee	1,236,325,057	11.16	0.25	0.25	-0.73	-0.18	1.69	2.37	N/A	N/A	3.50	1.67	01/01/2013
C.S. McKee Custom Index			0.11	0.11	-1.03	-0.65	1.51	2.28	2.11	3.83	3.54	1.64	
Difference			0.14	0.14	0.30	0.47	0.18	0.09	N/A	N/A	-0.04	0.03	
JP Morgan Core	1,388,966,565	12.54	0.01	0.01	-1.34	-1.08	1.20	2.31	N/A	N/A	3.42	1.67	01/01/2013
Bloomberg US Agg Bond Index			0.02	0.02	-1.60	-1.22	1.31	2.16	2.02	3.77	3.54	1.54	
Difference			-0.01	-0.01	0.26	0.14	-0.11	0.15	N/A	N/A	-0.12	0.13	
PIMCO Core	2,153,747,336	19.44	0.23	0.23	-1.01	-0.44	1.85	2.33	N/A	N/A	4.16	1.63	01/01/2013
PIMCO Custom Index			0.11	0.11	-1.45	-1.07	1.36	2.19	2.05	3.79	3.54	1.56	
Difference			0.12	0.12	0.44	0.63	0.49	0.14	N/A	N/A	0.62	0.07	
Credit Fixed Income Composite	1,762,855,452	15.92	1.70	1.70	2.04	2.99	4.88	4.02	N/A	N/A	4.87	3.50	04/01/2013
Credit Custom Index			1.77	1.77	2.48	3.47	5.43	4.29	5.39	6.82	5.20	3.98	
Difference			-0.07	-0.07	-0.44	-0.48	-0.55	-0.27	N/A	N/A	-0.33	-0.48	
Neuberger Berman Credit	806,235,331	7.28	1.56	1.56	2.08	2.84	4.16	3.74	N/A	N/A	4.10	3.56	04/01/2013
Credit Custom Index			1.77	1.77	2.48	3.47	5.43	4.29	5.39	6.82	5.20	3.98	
Difference			-0.21	-0.21	-0.40	-0.63	-1.27	-0.55	N/A	N/A	-1.10	-0.42	
Seix	956,620,121	8.64	1.82	1.82	1.98	3.12	5.50	4.25	N/A	N/A	5.40	3.69	05/01/2013
Credit Custom Index			1.77	1.77	2.48	3.47	5.43	4.29	5.39	6.82	5.20	3.83	
Difference			0.05	0.05	-0.50	-0.35	0.07	-0.04	N/A	N/A	0.20	-0.14	
Grosvenor Silvery Lupine Fund	243,884,437	2.20	2.09	2.09	5.29	8.05	8.12	N/A	N/A	N/A	9.66	6.69	07/01/2014
CS Western Euro Hi Yld Index			2.30	2.30	2.25	3.14	7.66	6.32	9.28	10.32	8.41	5.32	
Difference			-0.21	-0.21	3.04	4.91	0.46	N/A	N/A	N/A	1.25	1.37	

Performance shown is net of fees. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding. The Credit Custom Index consists of 20% Bloomberg US Credit Index, 20% ICE BofAML US HY Master II Const. Index, and 60% S&P/LSTA Leveraged Loan Index. The Internal Intermediate Gov't Fixed Income Portfolio Index consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consisted of the Bloomberg US Gov't/Credit Bond Index. The C.S. McKee Custom Index consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter. The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Emerging Market Debt Fixed Income Composite	368,599,457	3.33	-2.83	-2.83	-10.08	-9.33	3.85	-2.83	N/A	N/A	15.88	-4.04	04/01/2013
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			-1.83	-1.83	-8.15	-7.40	5.17	-1.68	-0.05	2.70	15.21	-2.90	
Difference			-1.00	-1.00	-1.93	-1.93	-1.32	-1.15	N/A	N/A	0.67	-1.14	
Investec	190,837,048	1.72	-2.15	-2.15	-9.07	-7.89	4.01	-2.26	N/A	N/A	16.95	-3.39	04/01/2013
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			-1.83	-1.83	-8.15	-7.40	5.17	-1.68	-0.05	2.70	15.21	-2.90	
Difference			-0.32	-0.32	-0.92	-0.49	-1.16	-0.58	N/A	N/A	1.74	-0.49	
Stone Harbor	177,762,409	1.60	-3.54	-3.54	-11.14	-10.84	3.69	-3.42	N/A	N/A	14.78	-4.76	04/01/2013
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			-1.83	-1.83	-8.15	-7.40	5.17	-1.68	-0.05	2.70	15.21	-2.90	
Difference			-1.71	-1.71	-2.99	-3.44	-1.48	-1.74	N/A	N/A	-0.43	-1.86	
State Street TIPS	714,432,865	6.45	-0.90	-0.90	-1.02	0.39	2.13	1.47	N/A	N/A	3.10	-0.05	01/01/2013
Bloomberg US Trsy US TIPS Index (Series B)			-0.92	-0.92	-0.99	0.41	2.14	1.49	1.38	3.40	3.30	-0.02	
Difference			0.02	0.02	-0.03	-0.02	-0.01	-0.02	N/A	N/A	-0.20	-0.03	
Internal Intermediate Govt Fixed Income Portfolio	1,842,480,877	16.63	0.07	0.07	-0.09	-0.33	0.86	1.78	1.41	2.37	1.84	4.53	10/01/1996
Bloomberg US Gov't: Int. Term Bond Index			-0.11	-0.11	-0.78	-1.18	0.19	0.93	0.89	2.72	1.14	4.50	
Difference			0.18	0.18	0.69	0.85	0.67	0.85	0.52	-0.35	0.70	0.03	
Internal Low Duration Fixed Income Portfolio	1,365,068,051	12.32	0.29	0.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.70	03/01/2018
Bloomberg US Gov't 1-3 Yr Bond Index			0.20	0.20	0.26	-0.01	0.38	0.57	0.55	1.20	0.45	0.61	
Difference			0.09	0.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.09	

Performance shown is net of fees. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding. The Credit Custom Index consists of 20% Bloomberg US Credit Index, 20% ICE BofAML US HY Master II Const. Index, and 60% S&P/LSTA Leveraged Loan Index. The Internal Intermediate Gov't Fixed Income Portfolio Index consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consisted of the Bloomberg US Gov't/Credit Bond Index. The C.S. McKee Custom Index consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter. The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Core Fixed Income Composite	4,779,038,958	43.15	0.20	0.20	-0.95	-0.48	1.66	2.40	N/A	N/A	3.67	1.74	01/01/2013
Bloomberg US Agg Bond Index			0.02	0.02	-1.60	-1.22	1.31	2.16	2.02	3.77	3.54	1.54	
Difference			0.18	0.18	0.65	0.74	0.35	0.24	N/A	N/A	0.13	0.20	
IM U.S. Broad Mkt Core Fixed Income (SA+CF) Median			0.18	0.18	-1.29	-0.74	1.84	2.61	2.66	4.60	4.06	1.94	
Core Fixed Income Composite Rank			47	47	22	28	59	63	N/A	N/A	74	65	
C.S. McKee	1,236,325,057	11.16	0.28	0.28	-0.63	-0.05	1.82	2.52	N/A	N/A	3.63	1.82	01/01/2013
C.S. McKee Custom Index			0.11	0.11	-1.03	-0.65	1.51	2.28	2.11	3.83	3.54	1.64	
Difference			0.17	0.17	0.40	0.60	0.31	0.24	N/A	N/A	0.09	0.18	
IM U.S. Broad Mkt Core Fixed Income (SA+CF) Median			0.18	0.18	-1.29	-0.74	1.84	2.61	2.66	4.60	4.06	1.94	
C.S. McKee Rank			25	25	12	15	52	57	N/A	N/A	77	61	
JP Morgan Core	1,388,966,565	12.54	0.04	0.04	-1.27	-0.98	1.30	2.41	N/A	N/A	3.53	1.77	01/01/2013
Bloomberg US Agg Bond Index			0.02	0.02	-1.60	-1.22	1.31	2.16	2.02	3.77	3.54	1.54	
Difference			0.02	0.02	0.33	0.24	-0.01	0.25	N/A	N/A	-0.01	0.23	
IM U.S. Broad Mkt Core Fixed Income (SA+CF) Median			0.18	0.18	-1.29	-0.74	1.84	2.61	2.66	4.60	4.06	1.94	
JP Morgan Core Rank			81	81	50	68	91	62	N/A	N/A	86	64	
PIMCO Core	2,153,747,336	19.44	0.25	0.25	-0.93	-0.34	1.98	2.49	N/A	N/A	4.27	1.79	01/01/2013
PIMCO Custom Index			0.11	0.11	-1.45	-1.07	1.36	2.19	2.05	3.79	3.54	1.56	
Difference			0.14	0.14	0.52	0.73	0.62	0.30	N/A	N/A	0.73	0.23	
IM U.S. Broad Mkt Core Fixed Income (SA+CF) Median			0.18	0.18	-1.29	-0.74	1.84	2.61	2.66	4.60	4.06	1.94	
PIMCO Core Rank			31	31	22	19	41	59	N/A	N/A	34	62	

Performance shown is gross of fees with the exception of Grosvenor Silvery Lupine Fund, which is shown net of fees. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding. The Credit Custom Index consists of 20% Bloomberg US Credit Index, 20% ICE BofAML US HY Master II Const. Index, and 60% S&P/LSTA Leveraged Loan Index. The Internal Intermediate Gov't Fixed Income Portfolio Index consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consisted of the Bloomberg US Gov't/Credit Bond Index. The C.S. McKee Custom Index consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter. The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Credit Fixed Income Composite	1,762,855,452	15.92	1.77	1.77	2.25	3.26	5.17	4.33	N/A	N/A	5.14	3.79	04/01/2013
Credit Custom Index			1.77	1.77	2.48	3.47	5.43	4.29	5.39	6.82	5.20	3.98	
Difference			0.00	0.00	-0.23	-0.21	-0.26	0.04	N/A	N/A	-0.06	-0.19	
IM U.S. Fixed Income (SA+CF) Median			0.46	0.46	-0.26	0.06	2.18	2.77	2.93	4.64	4.18	2.23	
Credit Fixed Income Composite Rank			17	17	17	15	21	29	N/A	N/A	37	26	
Neuberger Berman Credit	806,235,331	7.28	1.66	1.66	2.31	3.14	4.44	4.04	N/A	N/A	4.38	3.86	04/01/2013
Credit Custom Index			1.77	1.77	2.48	3.47	5.43	4.29	5.39	6.82	5.20	3.98	
Difference			-0.11	-0.11	-0.17	-0.33	-0.99	-0.25	N/A	N/A	-0.82	-0.12	
IM U.S. Fixed Income (SA+CF) Median			0.46	0.46	-0.26	0.06	2.18	2.77	2.93	4.64	4.18	2.23	
Neuberger Berman Credit Rank			18	18	16	16	26	32	N/A	N/A	47	25	
Seix	956,620,121	8.64	1.88	1.88	2.17	3.38	5.79	4.55	N/A	N/A	5.65	3.97	05/01/2013
Credit Custom Index			1.77	1.77	2.48	3.47	5.43	4.29	5.39	6.82	5.20	3.83	
Difference			0.11	0.11	-0.31	-0.09	0.36	0.26	N/A	N/A	0.45	0.14	
IM U.S. Fixed Income (SA+CF) Median			0.46	0.46	-0.26	0.06	2.18	2.77	2.93	4.64	4.18	2.07	
Seix Rank			15	15	17	14	16	26	N/A	N/A	33	20	
Grosvenor Silvery Lupine Fund	243,884,437	2.20	2.09	2.09	5.29	8.05	8.12	N/A	N/A	N/A	9.66	6.69	07/01/2014
CS Western Euro Hi Yld Index			2.30	2.30	2.25	3.14	7.66	6.32	9.28	10.32	8.41	5.32	
Difference			-0.21	-0.21	3.04	4.91	0.46	N/A	N/A	N/A	1.25	1.37	

Performance shown is gross of fees with the exception of Grosvenor Silvery Lupine Fund, which is shown net of fees. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding. The Credit Custom Index consists of 20% Bloomberg US Credit Index, 20% ICE BofAML US HY Master II Const. Index, and 60% S&P/LSTA Leveraged Loan Index. The Internal Intermediate Gov't Fixed Income Portfolio Index consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consisted of the Bloomberg US Gov't/Credit Bond Index. The C.S. McKee Custom Index consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter. The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

Wyoming State Treasurer's Office
Asset Allocation & Performance

As of September 30, 2018

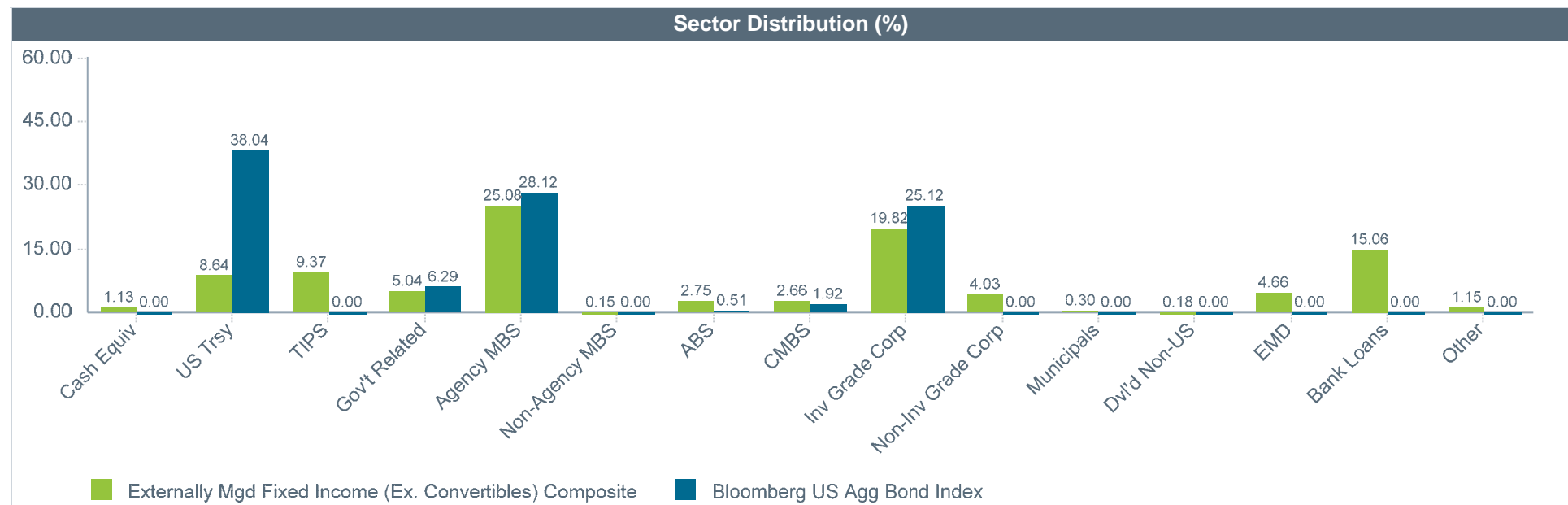
	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
Emerging Market Debt Fixed Income Composite	368,599,457	3.33	-2.69	-2.69	-9.71	-8.84	4.43	-2.24	N/A	N/A	16.51	-3.47	04/01/2013
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			-1.83	-1.83	-8.15	-7.40	5.17	-1.68	-0.05	2.70	15.21	-2.90	
Difference			-0.86	-0.86	-1.56	-1.44	-0.74	-0.56	N/A	N/A	1.30	-0.57	
IM Emerging Markets Debt (SA+CF) Median			1.17	1.17	-4.44	-3.74	6.30	4.27	5.05	7.60	12.43	2.72	
Emerging Market Debt Fixed Income Composite Rank			97	97	92	91	92	99	N/A	N/A	12	95	
Investec	190,837,048	1.72	-2.00	-2.00	-8.65	-7.33	4.64	-1.67	N/A	N/A	17.65	-2.81	04/01/2013
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			-1.83	-1.83	-8.15	-7.40	5.17	-1.68	-0.05	2.70	15.21	-2.90	
Difference			-0.17	-0.17	-0.50	0.07	-0.53	0.01	N/A	N/A	2.44	0.09	
IM Emerging Markets Debt (SA+CF) Median			1.17	1.17	-4.44	-3.74	6.30	4.27	5.05	7.60	12.43	2.72	
Investec Rank			83	83	87	80	88	92	N/A	N/A	6	89	
Stone Harbor	177,762,409	1.60	-3.43	-3.43	-10.82	-10.41	4.21	-2.85	N/A	N/A	15.33	-4.19	04/01/2013
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			-1.83	-1.83	-8.15	-7.40	5.17	-1.68	-0.05	2.70	15.21	-2.90	
Difference			-1.60	-1.60	-2.67	-3.01	-0.96	-1.17	N/A	N/A	0.12	-1.29	
IM Emerging Markets Debt (SA+CF) Median			1.17	1.17	-4.44	-3.74	6.30	4.27	5.05	7.60	12.43	2.72	
Stone Harbor Rank			99	99	98	97	93	100	N/A	N/A	22	100	
State Street TIPS	714,432,865	6.45	-0.89	-0.89	-1.00	0.41	2.15	1.49	N/A	N/A	3.12	-0.02	01/01/2013
Bloomberg US Trsy US TIPS Index (Series B)			-0.92	-0.92	-0.99	0.41	2.14	1.49	1.38	3.40	3.30	-0.02	
Difference			0.03	0.03	-0.01	0.00	0.01	0.00	N/A	N/A	-0.18	0.00	
Internal Intermediate Govt Fixed Income Portfolio	1,842,480,877	16.63	0.07	0.07	-0.09	-0.33	0.86	1.78	1.41	2.37	1.84	4.53	10/01/1996
Bloomberg US Gov't: Int. Term Bond Index			-0.11	-0.11	-0.78	-1.18	0.19	0.93	0.89	2.72	1.14	4.50	
Difference			0.18	0.18	0.69	0.85	0.67	0.85	0.52	-0.35	0.70	0.03	
IM U.S. Government Bonds (SA+CF) Median			-0.13	-0.13	-0.90	-1.20	0.69	1.43	1.36	2.68	1.77	4.88	
Internal Intermediate Govt Fixed Income Portfolio Rank			23	23	19	20	30	42	48	58	50	57	
Internal Low Duration Fixed Income Portfolio	1,365,068,051	12.32	0.29	0.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.70	03/01/2018
Bloomberg US Gov't 1-3 Yr Bond Index			0.20	0.20	0.26	-0.01	0.38	0.57	0.55	1.20	0.45	0.61	
Difference			0.09	0.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.09	
IM U.S. Short Duration Fixed Income (SA+CF) Median			0.48	0.48	0.69	0.68	1.17	1.31	1.42	2.33	1.50	1.03	
Internal Low Duration Fixed Income Portfolio Rank			92	92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	93	

Performance shown is gross of fees with the exception of Grosvenor Silvery Lupine Fund, which is shown net of fees. Wyoming State Treasurer's Office fiscal year ends on June 30th. Since Inception date shown represents the first full month following initial funding. The Credit Custom Index consists of 20% Bloomberg US Credit Index, 20% ICE BofAML US HY Master II Const. Index, and 60% S&P/LSTA Leveraged Loan Index. The Internal Intermediate Gov't Fixed Income Portfolio Index consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consisted of the Bloomberg US Gov't/Credit Bond Index. The C.S. McKee Custom Index consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter. The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

Externally Mgd Fixed Income (Ex. Convertibles) Composite vs. Bloomberg US Agg Bond Index

Portfolio Characteristics

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	4.15	6.03
Avg. Maturity	5.98	8.42
Avg. Quality	A2	Aa1/Aa2
Yield To Maturity (%)	4.24	3.46
Coupon Rate (%)	3.51	3.16
Current Yield (%)	3.53	N/A

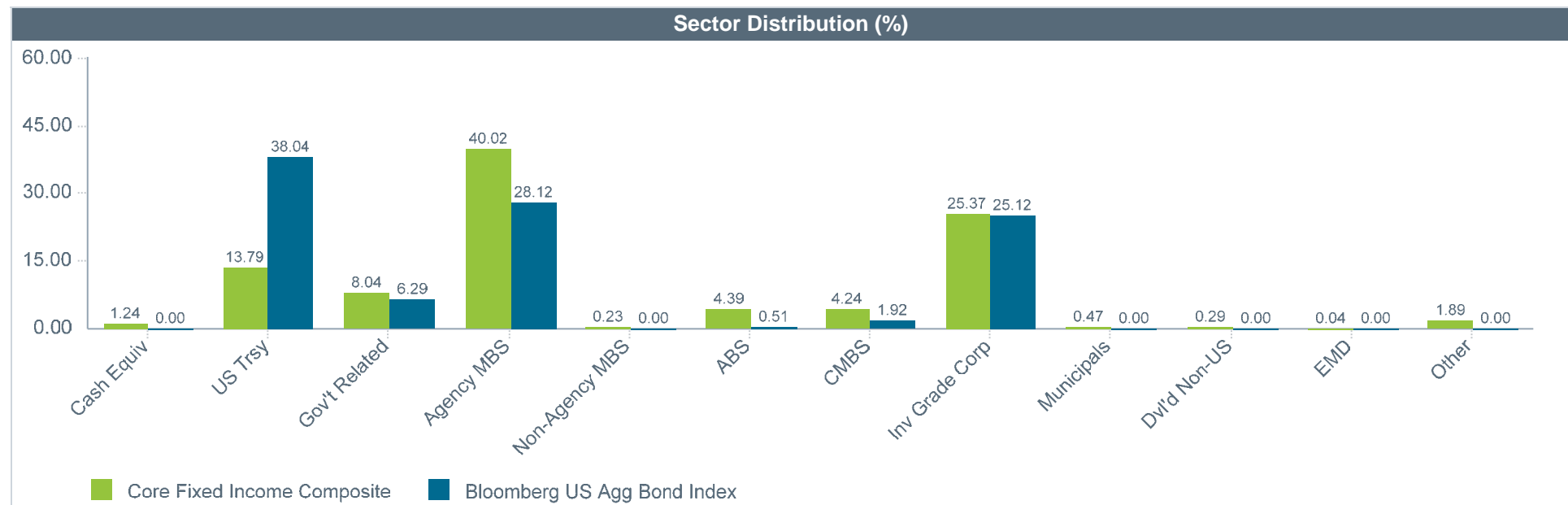


The statistics are calculated based on a weighted average of the underlying managers. Statistics shown exclude Grosvenor Silvery Lupine Fund and managers in the liquidation process as of 09/30/2018. Allocation to "Other" consists of collateralized mortgage obligations, Euro/Yankee securities, foreign exchange, and interest rate swaps.

Wyoming State Treasurer's Office
Core Fixed Income Composite vs. Bloomberg US Agg Bond Index
Portfolio Characteristics

As of September 30, 2018

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	4.66	6.03
Convexity	-0.28	0.36
Avg. Maturity	5.80	8.42
Avg. Quality	Aa3	Aa1/Aa2
Yield To Maturity (%)	3.60	3.46
Coupon Rate (%)	3.31	3.16
Current Yield (%)	3.21	N/A

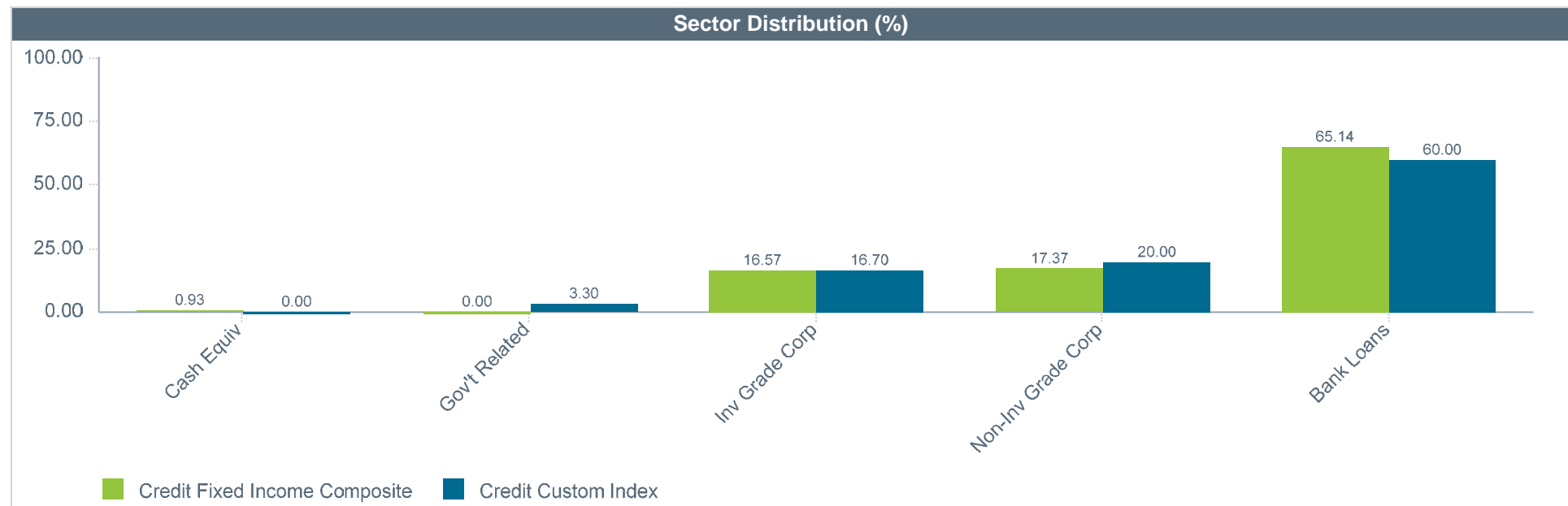


The statistics are calculated based on a weighted average of the underlying managers. Allocation to "Other" consists of collateralized mortgage obligations and Euro/Yankee securities.

Wyoming State Treasurer's Office
Credit Fixed Income Composite vs. Credit Custom Index
Portfolio Characteristics

As of September 30, 2018

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	1.96	N/A
Avg. Maturity	4.97	6.43
Avg. Quality	Ba2	Ba2
Yield To Maturity (%)	5.52	6.26
Coupon Rate (%)	4.60	5.53
Current Yield (%)	4.87	N/A

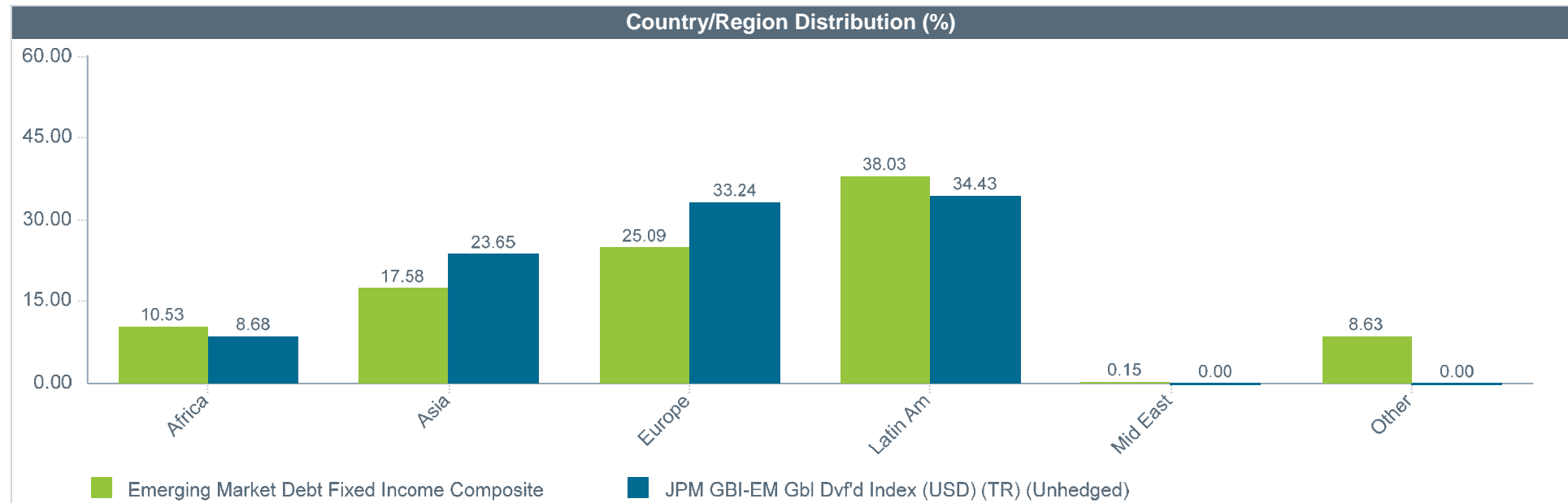


The statistics are calculated based on a weighted average of the underlying members.
Statistics for the S&P/LSTA Leveraged Loan Index are unavailable.
The Credit Suisse Leveraged Loan Index is used as a proxy within the Credit Custom Index.

Emerging Market Debt Fixed Income Composite vs. JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)

Portfolio Characteristics

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	4.85	5.18
Convexity	0.50	0.51
Avg. Maturity	7.74	7.55
Avg. Quality	Baa2	Baa3
Yield To Maturity (%)	8.48	6.78
Coupon Rate (%)	5.92	6.64
Yield To Worst (%)	8.48	6.78
Current Yield (%)	6.60	6.77



The statistics are calculated based on a weighted average of the underlying managers. Region allocation to "Other" consists of developed market securities, foreign exchange, and cash. Negative region allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Wyoming State Treasurer's Office
Comparative Performance

As of September 30, 2018

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
JP Morgan Cash Composite	0.47	0.47	1.26	1.42	0.83	0.57	0.45	0.62	0.83	1.47	01/01/2006
JP Morgan Cash Custom Index	0.47	0.47	1.21	1.45	0.81	0.57	0.49	0.66	0.84	1.48	
Difference	0.00	0.00	0.05	-0.03	0.02	0.00	-0.04	-0.04	-0.01	-0.01	
Wyo-Star Cash Composite	0.43	0.43	1.02	1.16	0.71	0.55	0.45	0.67	0.76	3.26	10/01/1996
Wyo-Star Cash Custom Index	0.31	0.31	0.92	1.08	0.70	0.55	0.49	0.70	0.80	2.63	
Difference	0.12	0.12	0.10	0.08	0.01	0.00	-0.04	-0.03	-0.04	0.63	

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

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 ICE BofAML 3 Mo 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 ICE BofAML 3 Mo US T-Bill Index and for Wyo-Star Extd is the JP Morgan Blended Index.

**Wyoming State Treasurer's Office
Comparative Performance**

As of September 30, 2018

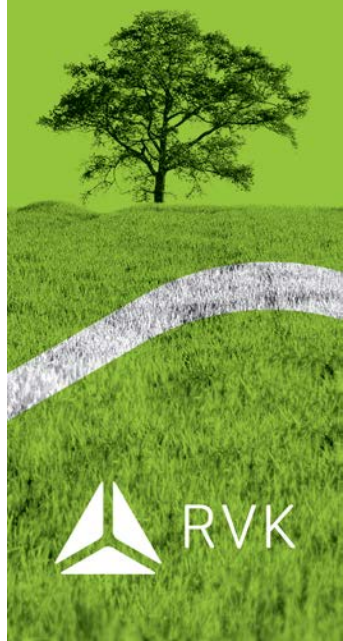
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	Since Incep.	Inception Date
JP Morgan Cash Composite	0.48	0.48	1.30	1.48	0.91	0.67	0.56	0.72	0.87	1.55	01/01/2006
JP Morgan Cash Custom Index	0.47	0.47	1.21	1.45	0.81	0.57	0.49	0.66	0.84	1.48	
Difference	0.01	0.01	0.09	0.03	0.10	0.10	0.07	0.06	0.03	0.07	
Wyo-Star Cash Composite	0.45	0.45	1.07	1.22	0.79	0.62	0.52	0.76	0.81	3.30	10/01/1996
Wyo-Star Cash Custom Index	0.31	0.31	0.92	1.08	0.70	0.55	0.49	0.70	0.80	2.63	
Difference	0.14	0.14	0.15	0.14	0.09	0.07	0.03	0.06	0.01	0.67	

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

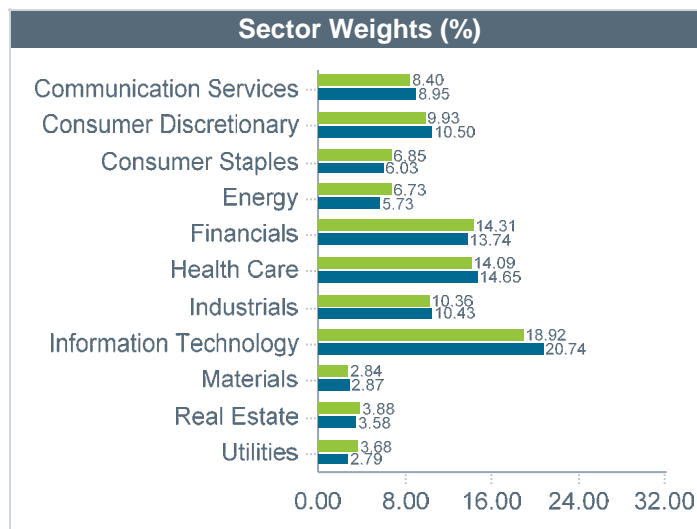
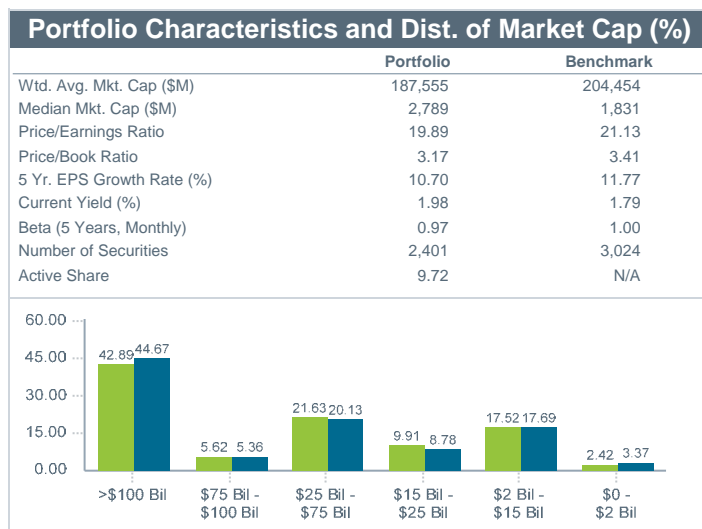
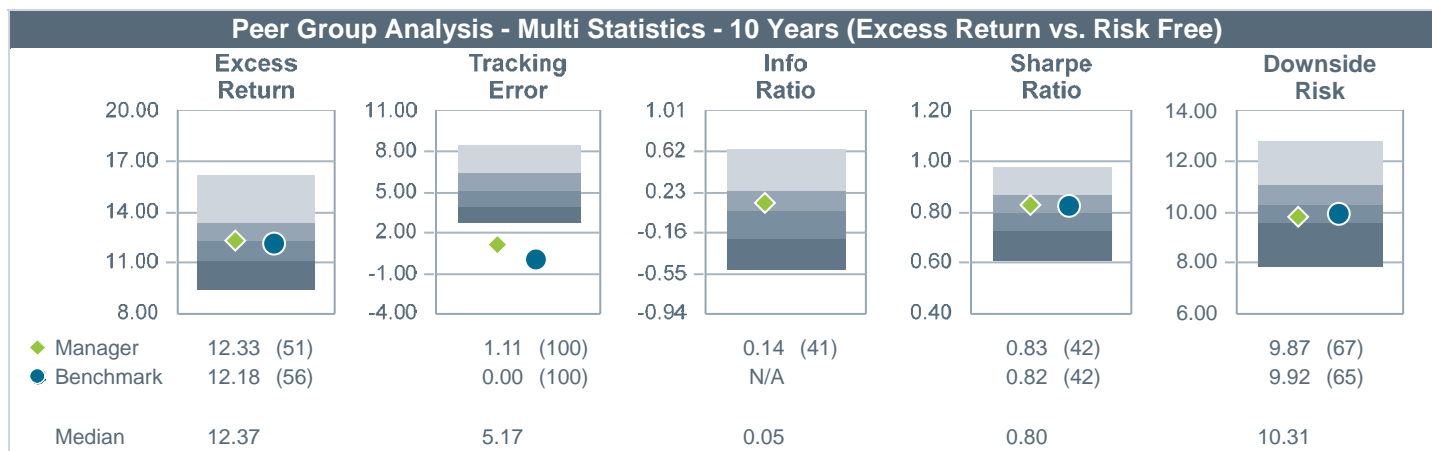
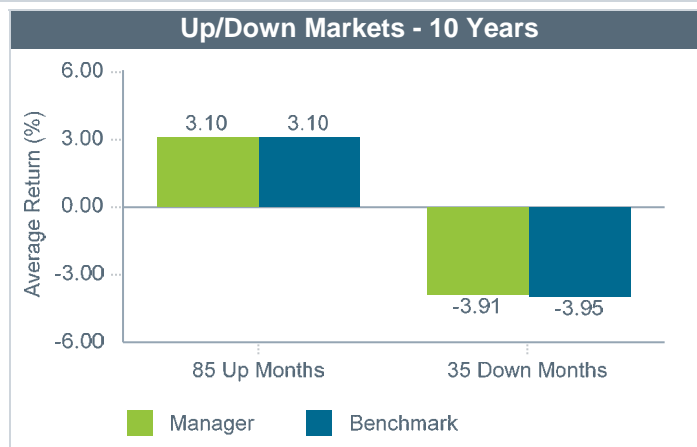
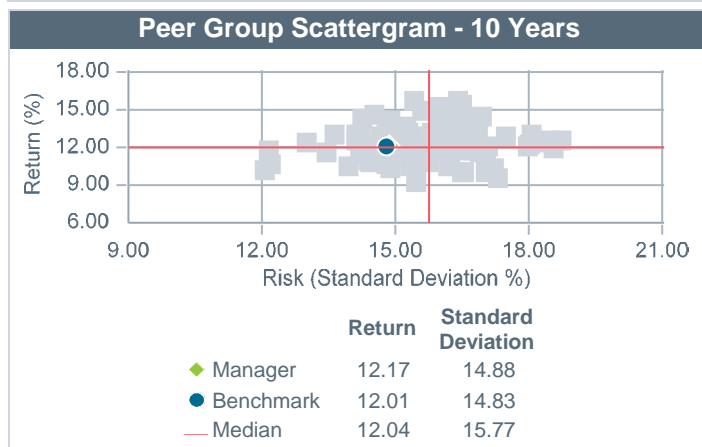
The JP Morgan Cash Custom Index is calculated monthly using beginning of the month investment weights applied to each corresponding primary benchmark return. Currently, the primary benchmark for JP Morgan Cash is the ICE BofAML 3 Mo US T-Bill Index and for JP Morgan Extd is the JP Morgan Blended Index.

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 ICE BofAML 3 Mo US T-Bill Index and for Wyo-Star Extd is the JP Morgan Blended Index.

Investment Manager Profiles



Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	6.90	16.51	16.57	13.13	16.60	12.17	19.79	13.77	-0.02	12.86	33.48
Benchmark	7.12	17.58	17.07	13.46	16.86	12.01	21.13	12.74	0.48	12.56	33.55
Difference	-0.22	-1.07	-0.50	-0.33	-0.26	0.16	-1.34	1.03	-0.50	0.30	-0.07
Peer Group Median	5.92	15.33	15.29	12.24	16.22	12.02	19.92	12.41	-0.41	9.98	35.28
Rank	33	42	37	37	47	46	52	42	48	22	67
Population	164	163	157	148	137	115	168	186	190	200	211



Performance shown is gross of fees. Performance prior to client inception consists of the State Street All Cap Custom Index. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

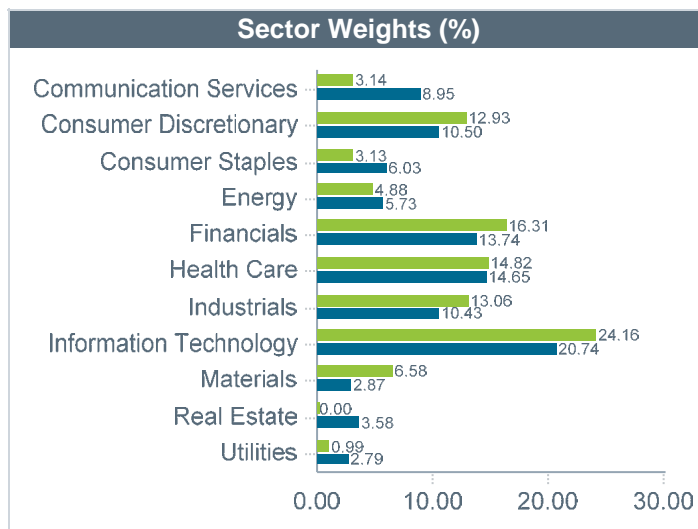
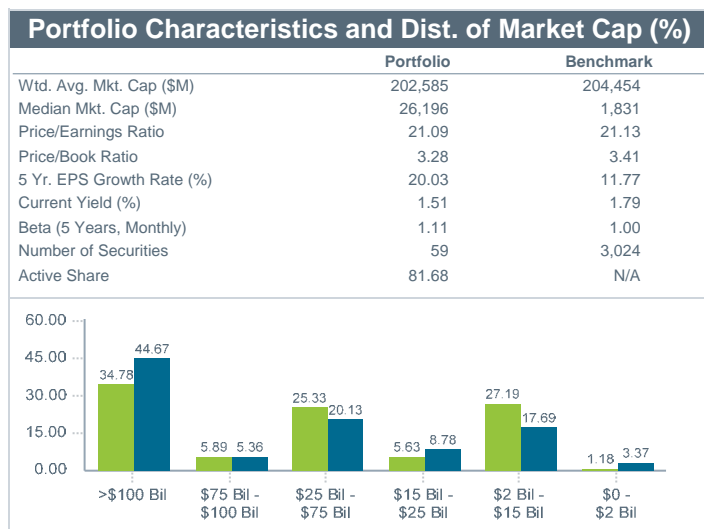
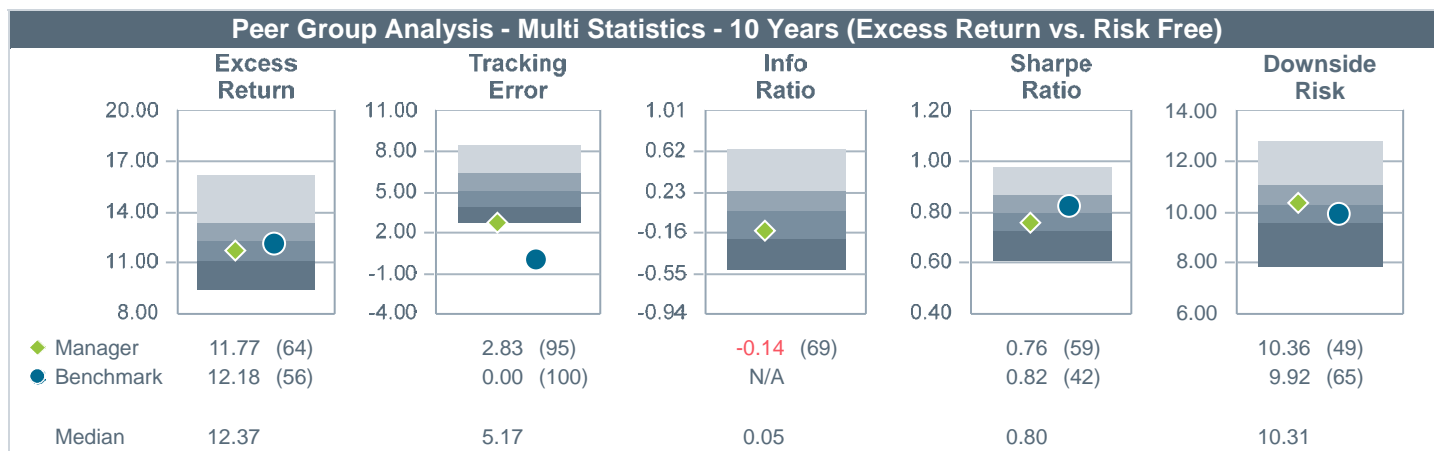
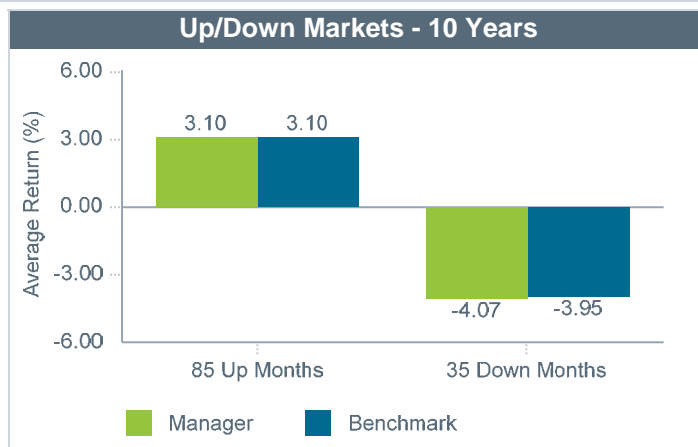
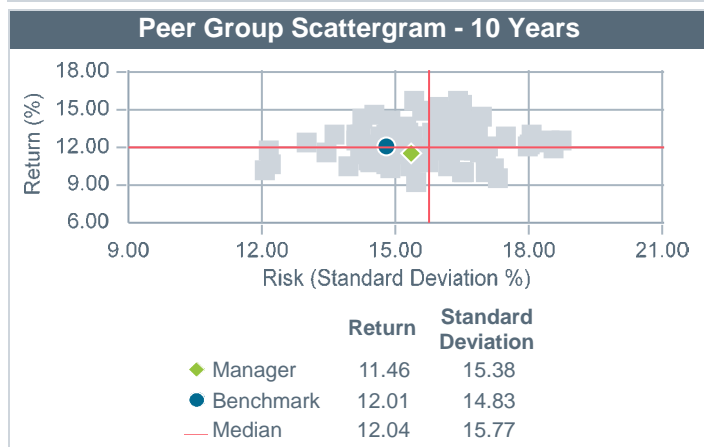
Manager: Epoch

As of September 30, 2018

Benchmark: Russell 3000 Index

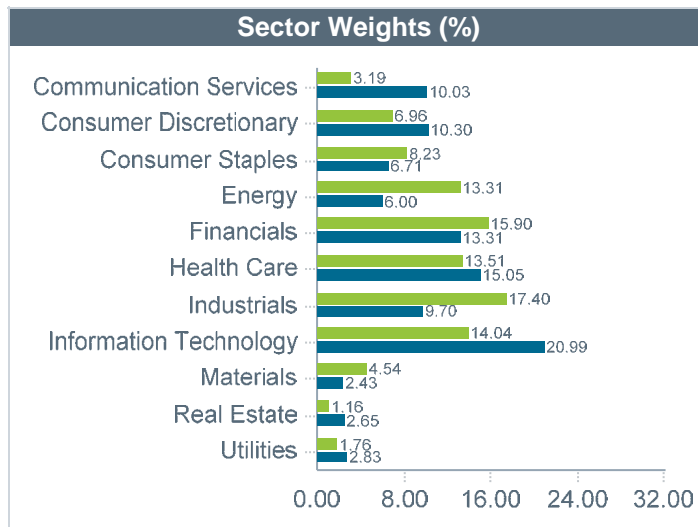
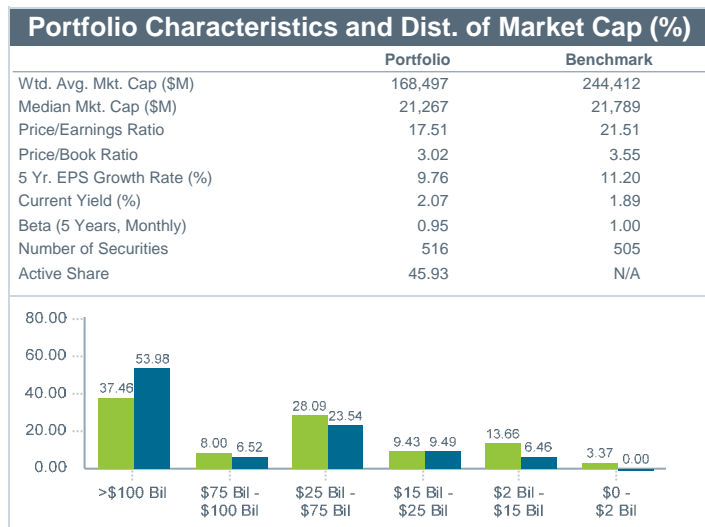
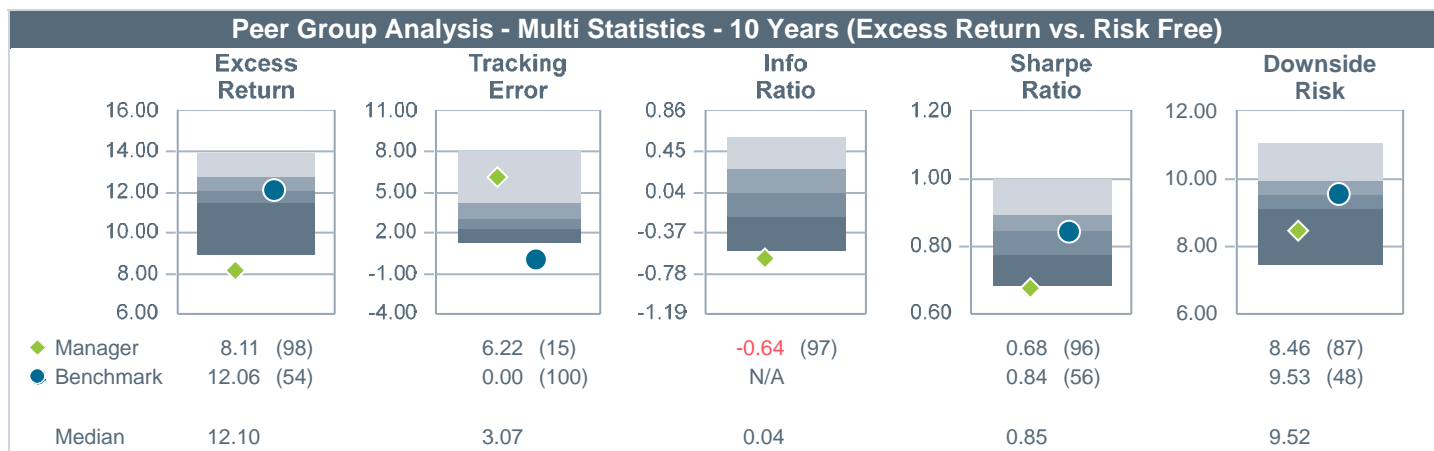
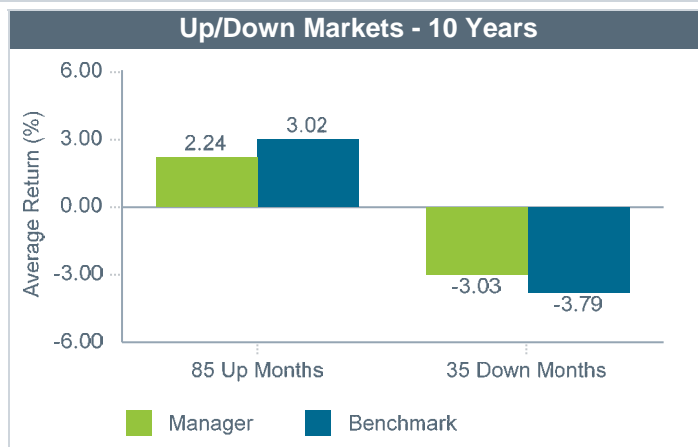
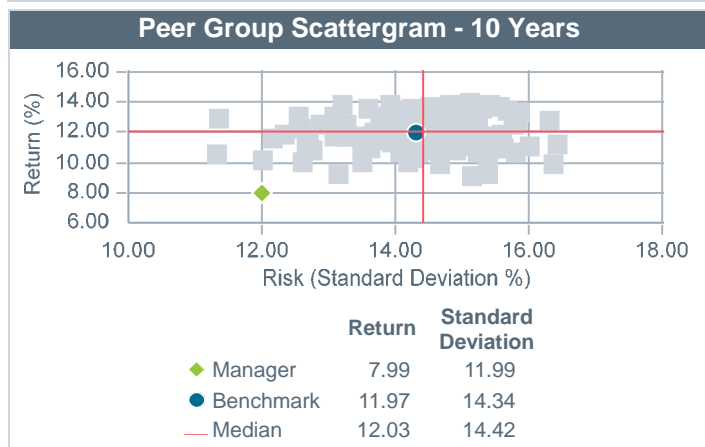
Peer Group: IM U.S. All Cap Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	6.32	13.48	15.45	12.52	16.22	11.46	23.97	10.19	-1.61	14.56	37.28
Benchmark	7.12	17.58	17.07	13.46	16.86	12.01	21.13	12.74	0.48	12.56	33.55
Difference	-0.80	-4.10	-1.62	-0.94	-0.64	-0.55	2.84	-2.55	-2.09	2.00	3.73
Peer Group Median	5.92	15.33	15.29	12.24	16.22	12.02	19.92	12.41	-0.41	9.98	35.28
Rank	44	62	47	46	51	66	26	57	59	12	37
Population	164	163	157	148	137	115	168	186	190	200	211



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	8.78	16.54	16.20	13.30	12.90	7.99	21.83	10.87	1.03	13.30	23.52
Benchmark	7.71	17.91	17.31	13.95	16.91	11.97	21.83	11.96	1.38	13.69	32.39
Difference	1.07	-1.37	-1.11	-0.65	-4.01	-3.98	0.00	-1.09	-0.35	-0.39	-8.87
Peer Group Median	7.13	17.25	16.23	13.55	16.86	12.03	21.82	10.52	1.41	13.42	32.98
Rank	8	58	51	58	91	98	50	47	55	52	95
Population	257	257	251	242	227	204	281	305	323	343	361



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

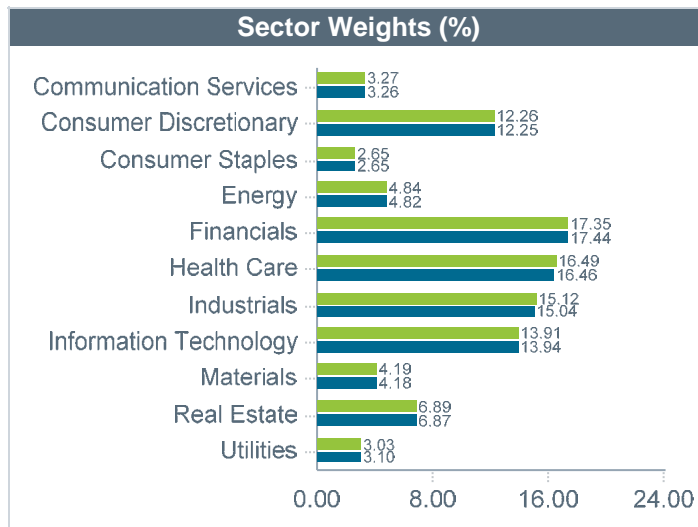
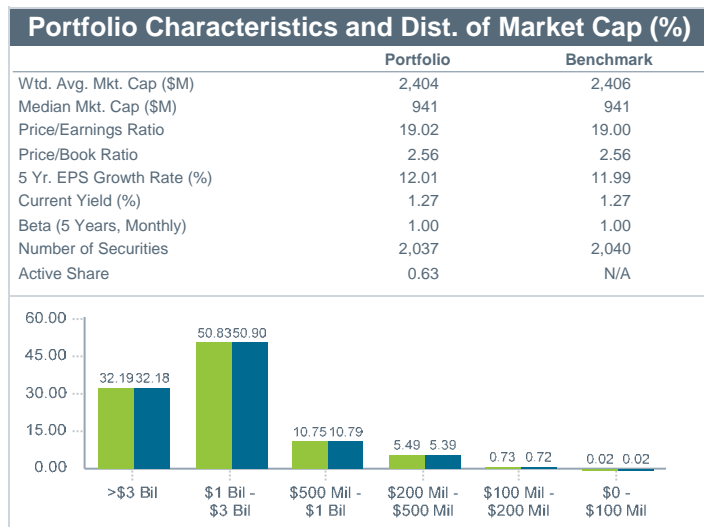
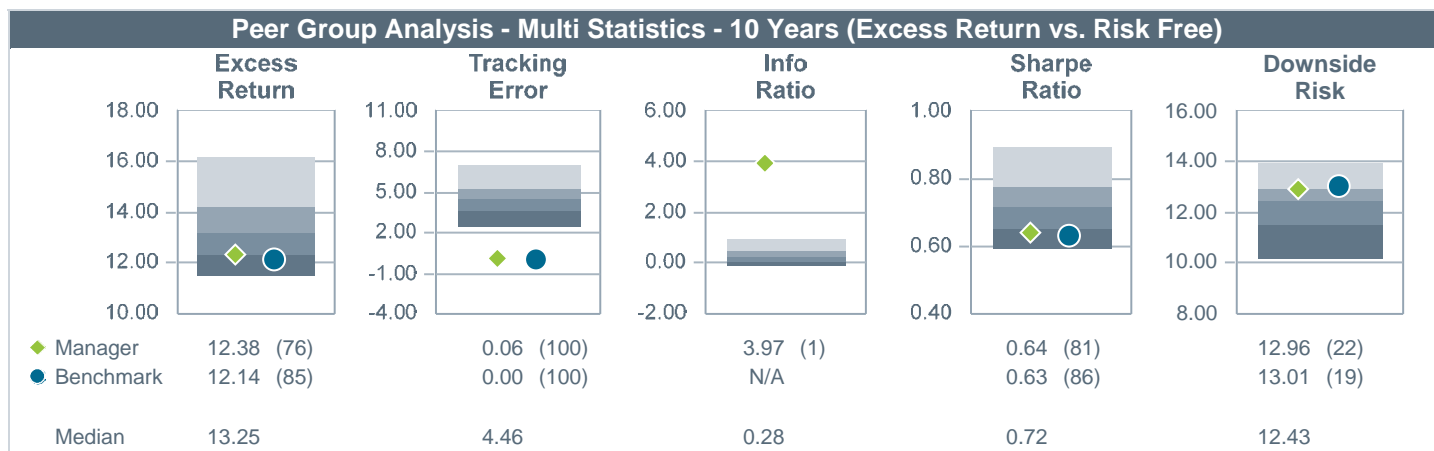
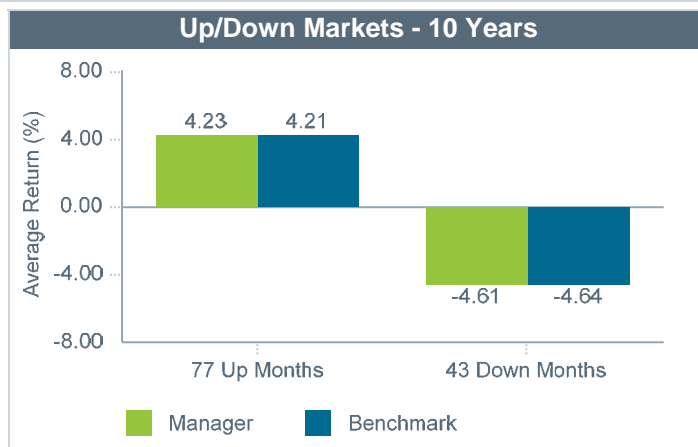
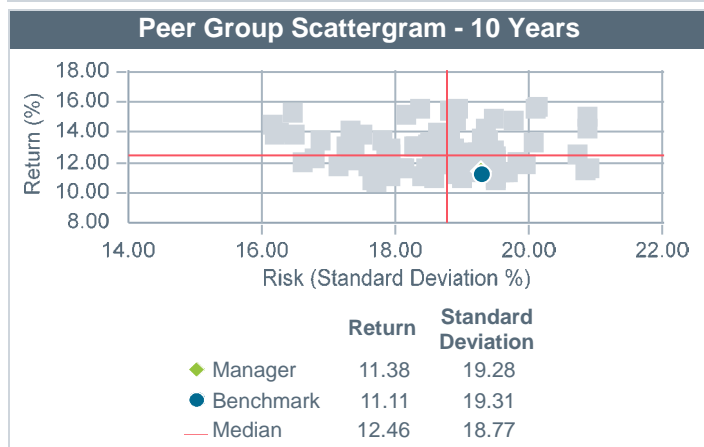
Manager: Internal Equity Russell 2000

As of September 30, 2018

Benchmark: Russell 2000 Index

Peer Group: IM U.S. Small Cap Core Equity (SA+CF)

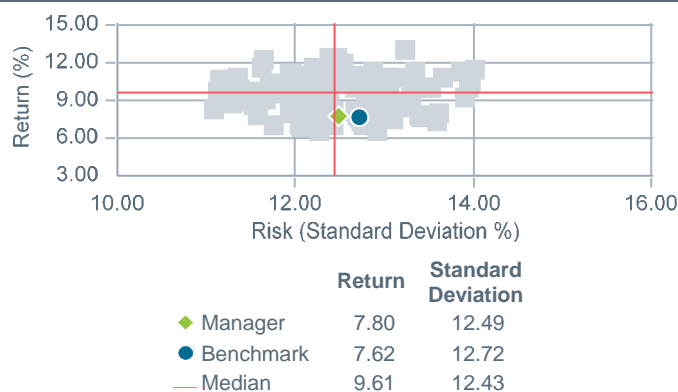
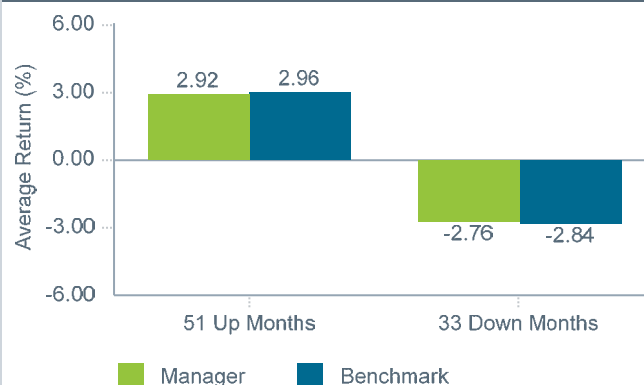
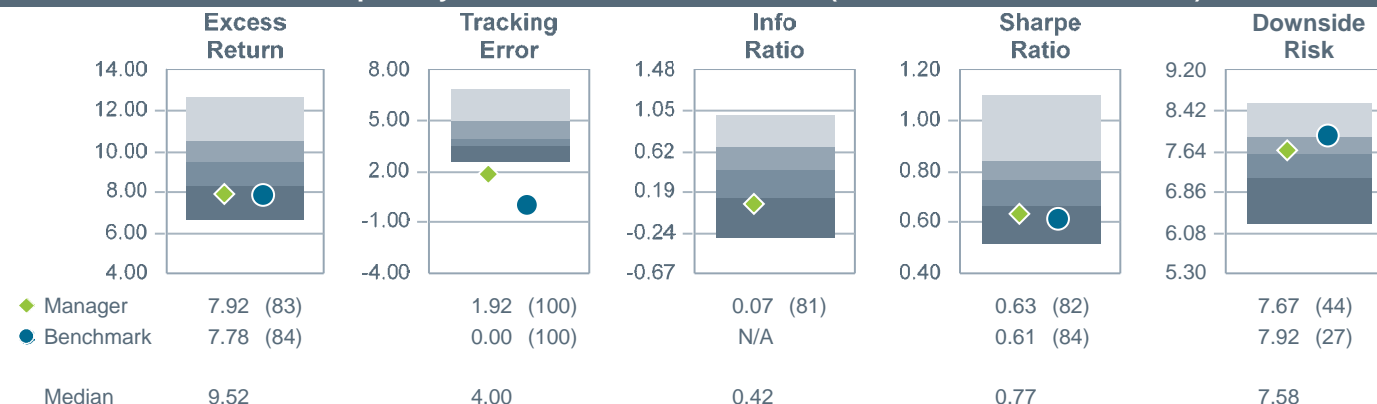
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	3.72	15.55	17.43	11.35	16.71	11.38	14.89	21.60	-4.14	5.15	39.13
Benchmark	3.58	15.24	17.12	11.07	16.43	11.11	14.65	21.31	-4.41	4.89	38.82
Difference	0.14	0.31	0.31	0.28	0.28	0.27	0.24	0.29	0.27	0.26	0.31
Peer Group Median	3.97	14.54	17.17	12.20	17.47	12.46	15.13	20.73	-1.35	6.65	41.28
Rank	58	45	45	69	70	80	53	44	80	64	70
Population	139	138	137	131	125	104	142	148	155	154	152



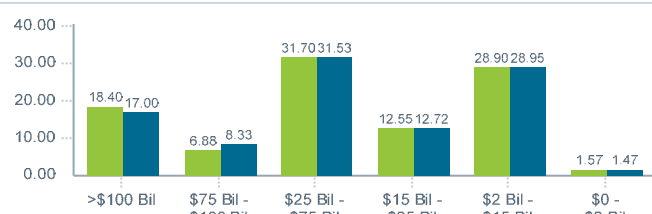
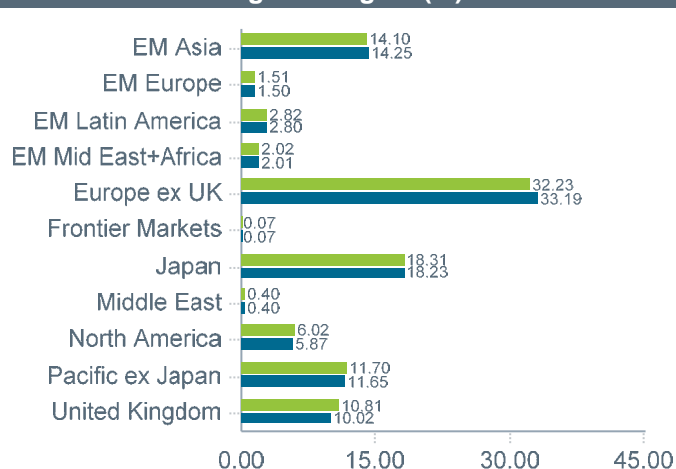
Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Manager: Internal International Equity Portfolio
As of September 30, 2018
Benchmark: FTSE All Wrld Ex US Index (US Invstr) (USD) (Net)
Peer Group: IM All ACWI Ex US (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	0.92	1.74	9.98	4.50	7.80	N/A	27.29	4.81	-4.54	-3.92	14.65
Benchmark	0.87	2.13	10.19	4.51	7.62	5.61	27.11	4.80	-4.72	-3.31	15.31
Difference	0.05	-0.39	-0.21	-0.01	0.18	N/A	0.18	0.01	0.18	-0.61	-0.66
Peer Group Median	0.68	3.13	10.42	6.01	9.61	7.15	28.74	2.09	-0.53	-3.38	20.39
Rank	41	66	59	80	83	N/A	62	25	80	60	88
Population	181	181	180	169	154	129	191	206	217	214	204

Peer Group Scattergram - 7 Years

Up/Down Markets - 7 Years

Peer Group Analysis - Multi Statistics - 7 Years (Excess Return vs. Risk Free)

Portfolio Characteristics and Dist. of Market Cap (%)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	62,015	61,829
Median Mkt. Cap (\$M)	5,719	5,767
Price/Earnings Ratio	13.93	14.06
Price/Book Ratio	2.18	2.19
5 Yr. EPS Growth Rate (%)	11.17	11.49
Current Yield (%)	2.85	3.13
Beta (5 Years, Monthly)	0.97	1.00
Number of Securities	2,713	2,588
Active Share	19.90	N/A


Region Weights (%)


Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. The Internal International Equity Portfolio currently consists of Vanguard FTSE xUS;InsP (VFWPX).

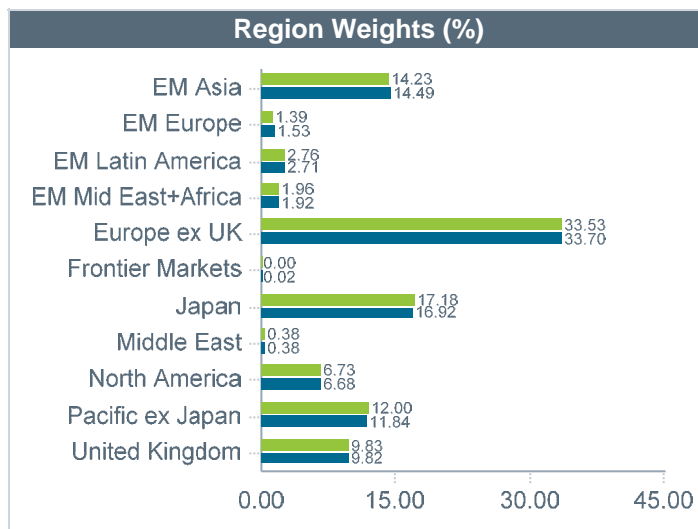
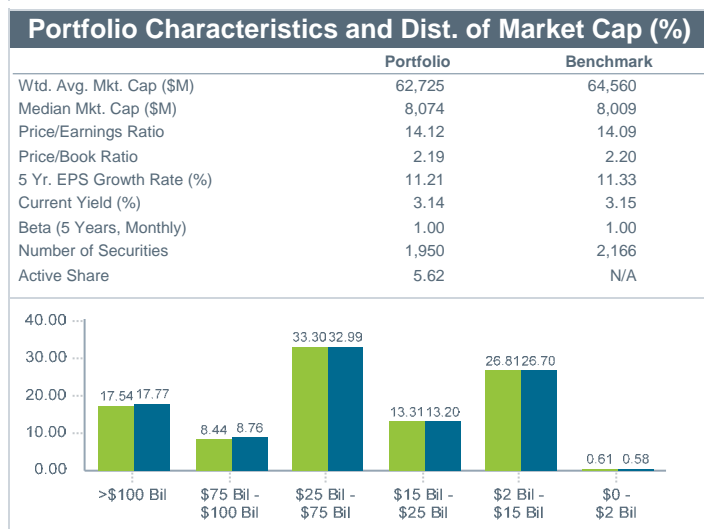
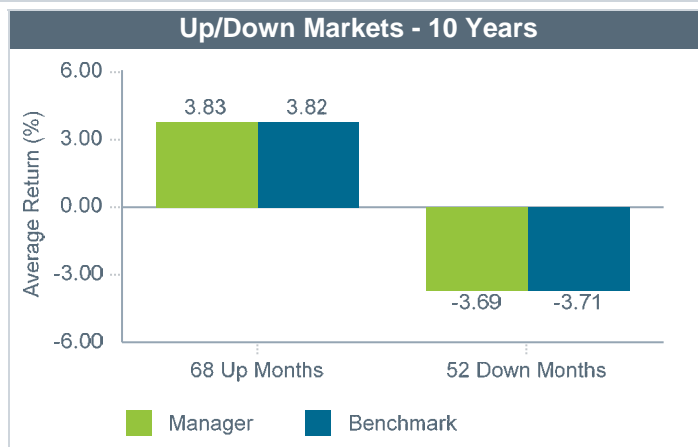
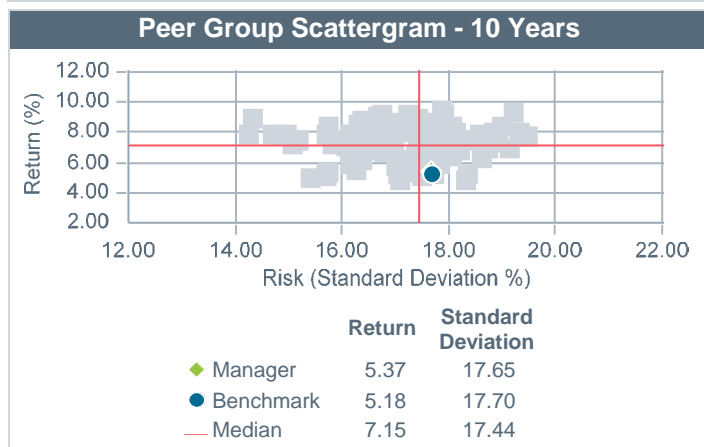
Manager: Northern Trust

As of September 30, 2018

Benchmark: MSCI ACW Ex US Index (USD) (Net)

Peer Group: IM All ACWI Ex US (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	0.76	2.02	10.10	4.29	7.45	5.37	27.51	4.48	-5.70	-3.63	15.42
Benchmark	0.71	1.76	9.97	4.12	7.25	5.18	27.19	4.50	-5.66	-3.87	15.29
Difference	0.05	0.26	0.13	0.17	0.20	0.19	0.32	-0.02	-0.04	0.24	0.13
Peer Group Median	0.68	3.13	10.42	6.01	9.61	7.15	28.74	2.09	-0.53	-3.38	20.39
Rank	48	64	56	84	87	85	61	29	87	54	86
Population	181	181	180	169	154	129	191	206	217	214	204



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

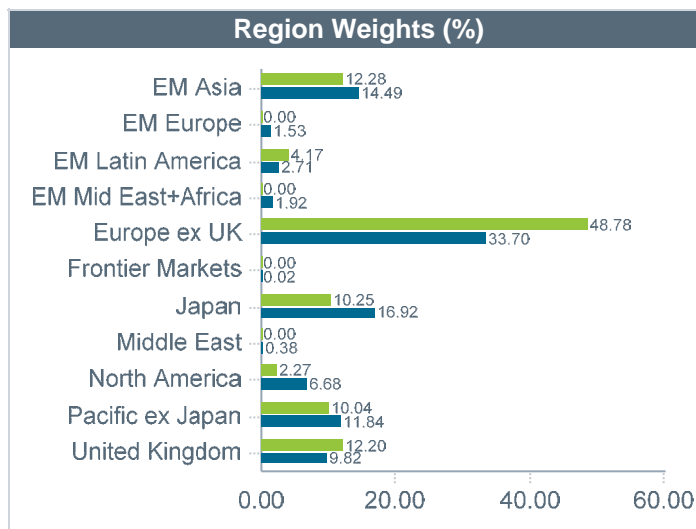
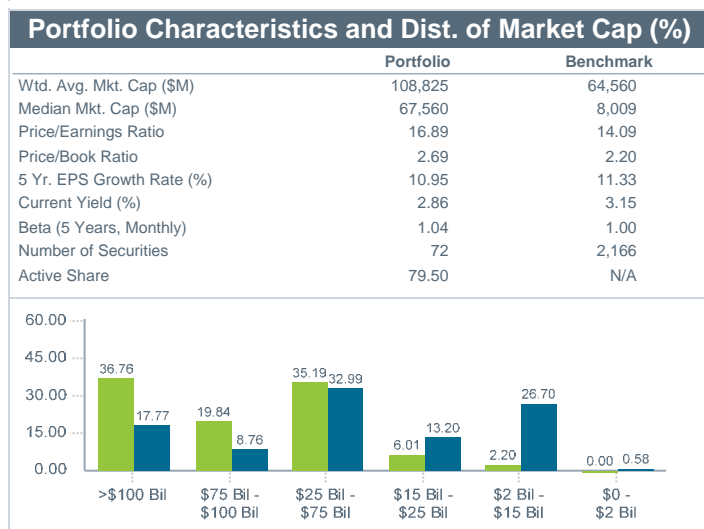
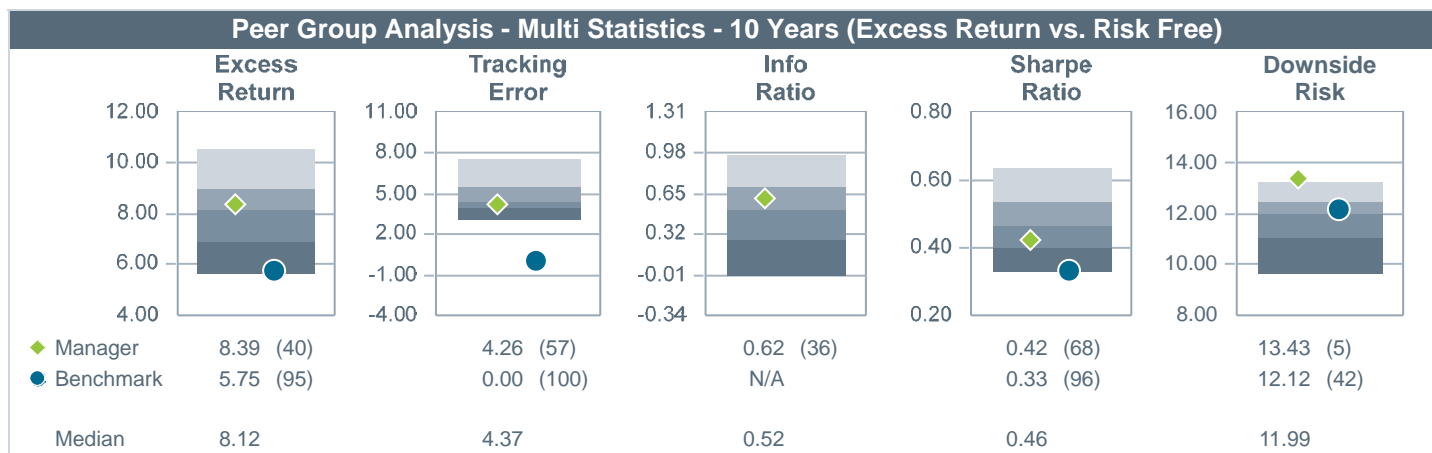
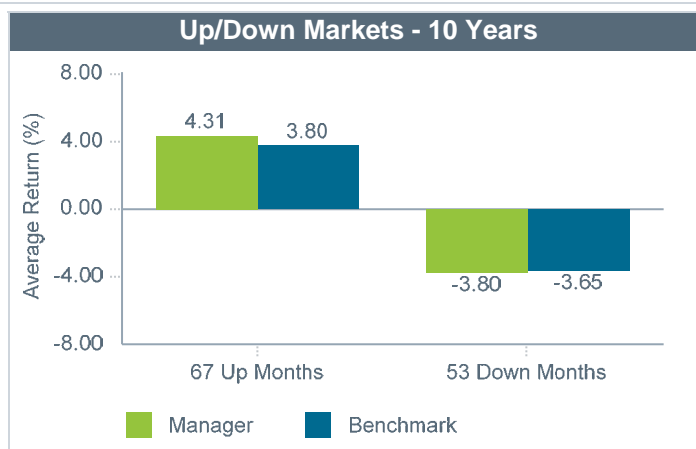
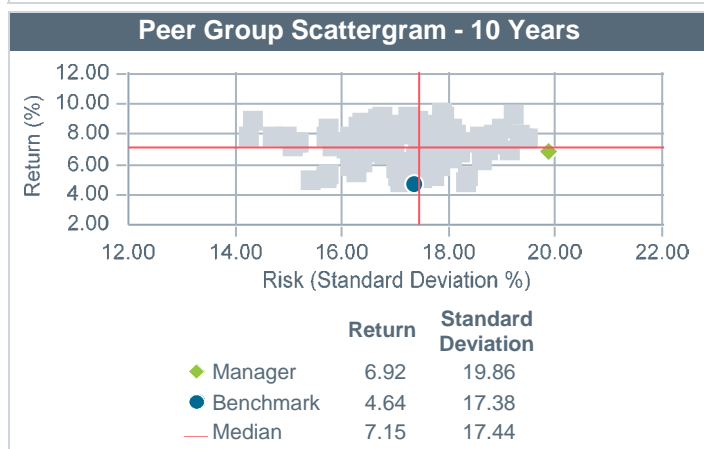
Manager: Fisher Investments

As of September 30, 2018

Benchmark: MSCI ACW Ex US Index (Net)*

Peer Group: IM All ACWI Ex US (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	1.42	0.29	10.76	5.73	9.20	6.92	30.17	1.94	-1.84	-1.91	17.68
Benchmark	0.71	1.76	9.97	4.12	7.25	4.64	27.19	4.50	-5.66	-3.87	15.29
Difference	0.71	-1.47	0.79	1.61	1.95	2.28	2.98	-2.56	3.82	1.96	2.39
Peer Group Median	0.68	3.13	10.42	6.01	9.61	7.15	28.74	2.09	-0.53	-3.38	20.39
Rank	25	84	49	56	57	59	40	52	59	37	68
Population	181	181	180	169	154	129	191	206	217	214	204



Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

*Consists of the MSCI EAFE (Gross) through July 2010 and the MSCI ACW Ex US (Net) thereafter.

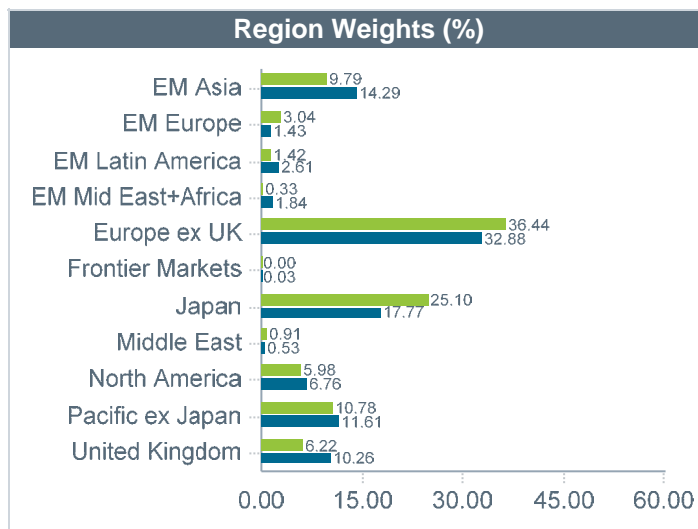
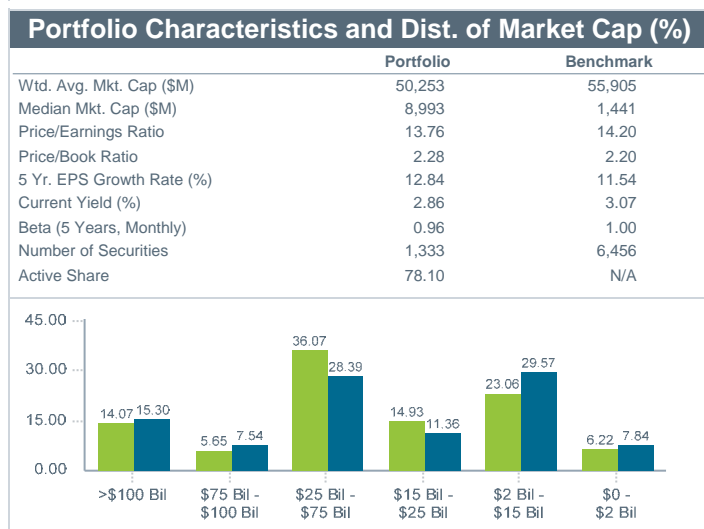
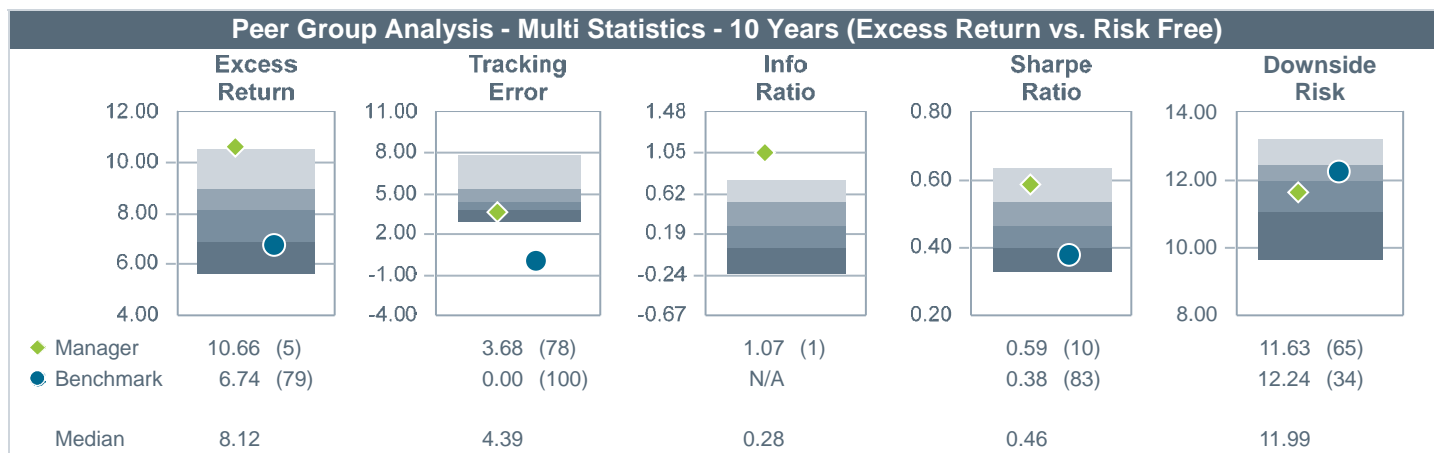
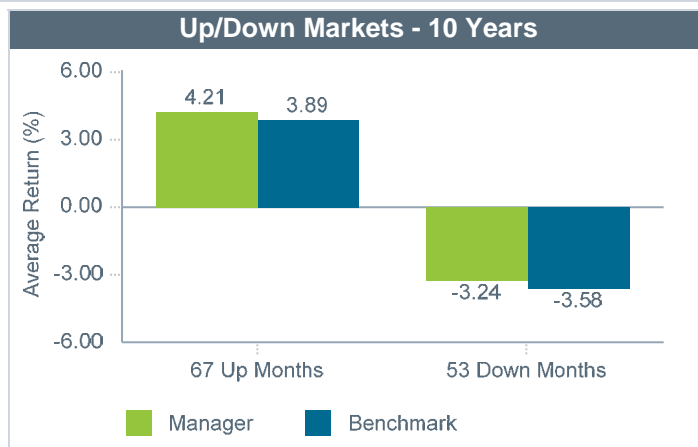
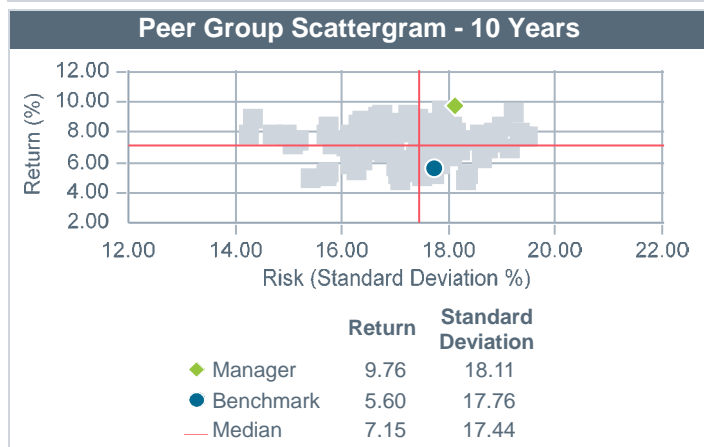
Manager: Arrowstreet

As of September 30, 2018

Benchmark: MSCI ACW Ex US IM Index (USD) (Net)

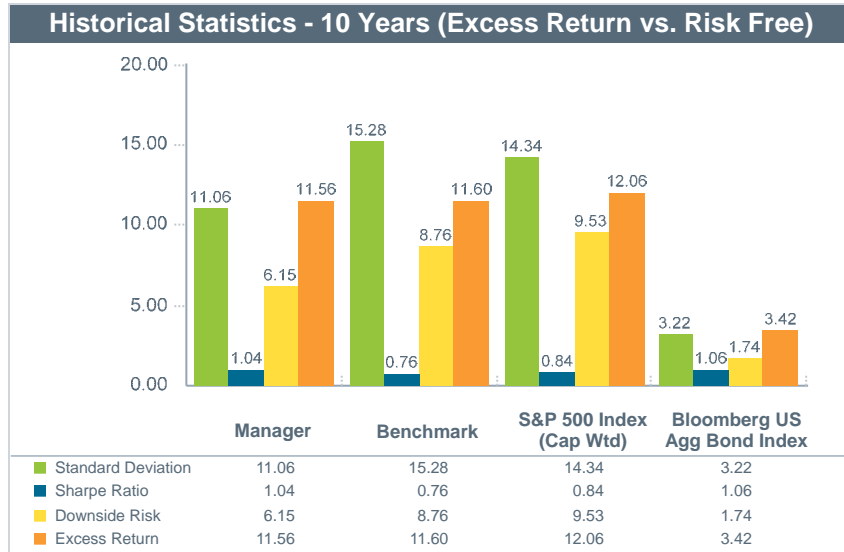
Peer Group: IM All ACWI Ex US (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	2.57	3.89	13.66	8.29	11.60	9.76	29.12	8.06	0.01	0.04	26.49
Benchmark	0.39	1.79	10.14	4.39	7.49	5.60	27.81	4.41	-4.60	-3.89	15.82
Difference	2.18	2.10	3.52	3.90	4.11	4.16	1.31	3.65	4.61	3.93	10.67
Peer Group Median	0.68	3.13	10.42	6.01	9.61	7.15	28.74	2.09	-0.53	-3.38	20.39
Rank	9	42	14	13	11	4	48	10	48	20	19
Population	181	181	180	169	154	129	191	206	217	214	204



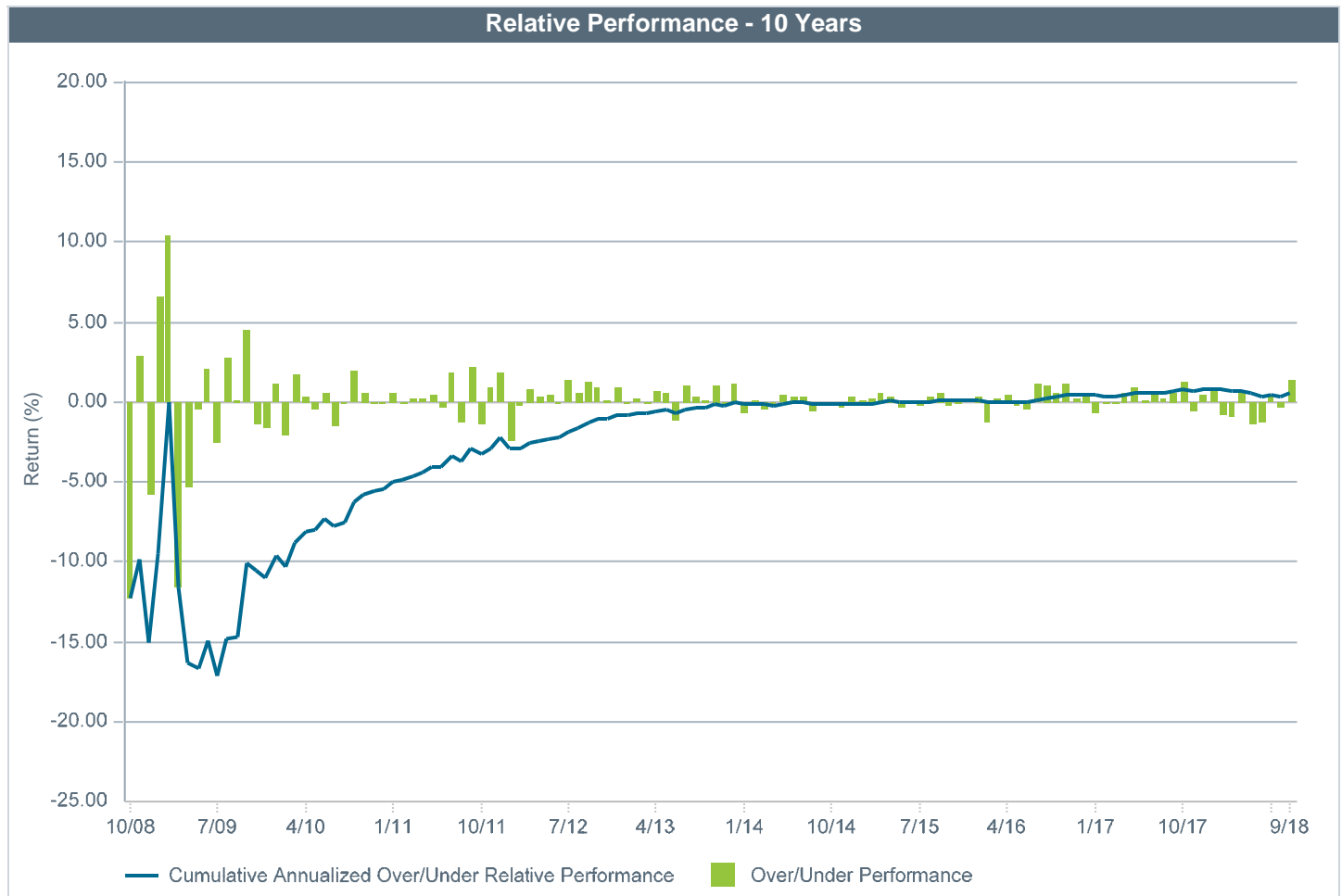
Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	1.66	1.01	6.78	7.92	9.47	11.90	12.31	5.43	7.04	12.88	3.58
Benchmark	0.21	1.57	5.25	6.42	7.31	11.33	9.11	1.94	5.47	14.07	-0.17
Difference	1.45	-0.56	1.53	1.50	2.16	0.57	3.20	3.49	1.57	-1.19	3.75



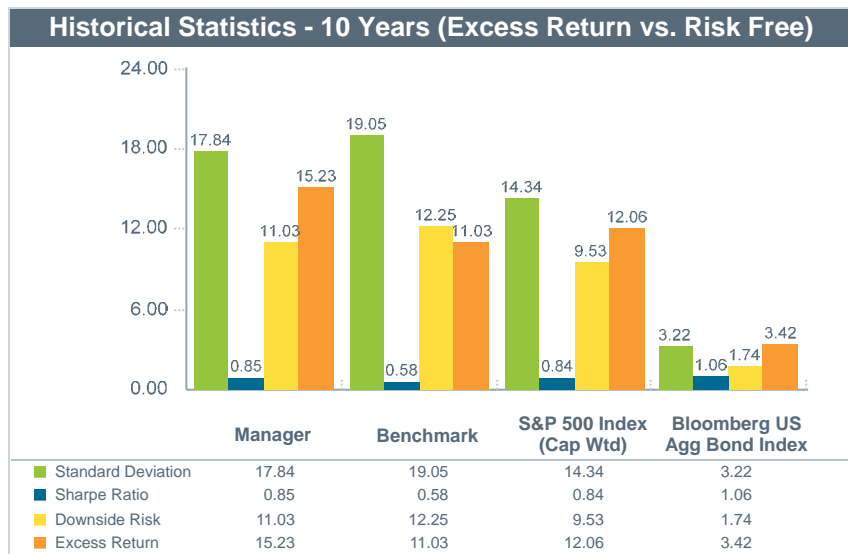
Actual Correlation - 10 Years

	Actual Correlation
S&P US Preferred Stock Index	0.94
S&P 500 Index (Cap Wtd)	0.65
Russell 2000 Index	0.63
MSCI EAFE Index (USD) (Net)	0.77
MSCI Emg Mkts Index (USD) (Net)	0.73
Bloomberg US Agg Bond Index	0.18
Bloomberg US Trsy US TIPS Index	0.04
NCREIF ODCE Index (AWA) (Gross)	-0.13
Wilshire US REIT Index	0.78
HFRI FOF Comp Index	0.53
Bloomberg Cmdty Index (TR)	0.46
ICE BofAML 3 Mo US T-Bill Index	-0.13
Cons Price Index (Unadjusted)	0.24



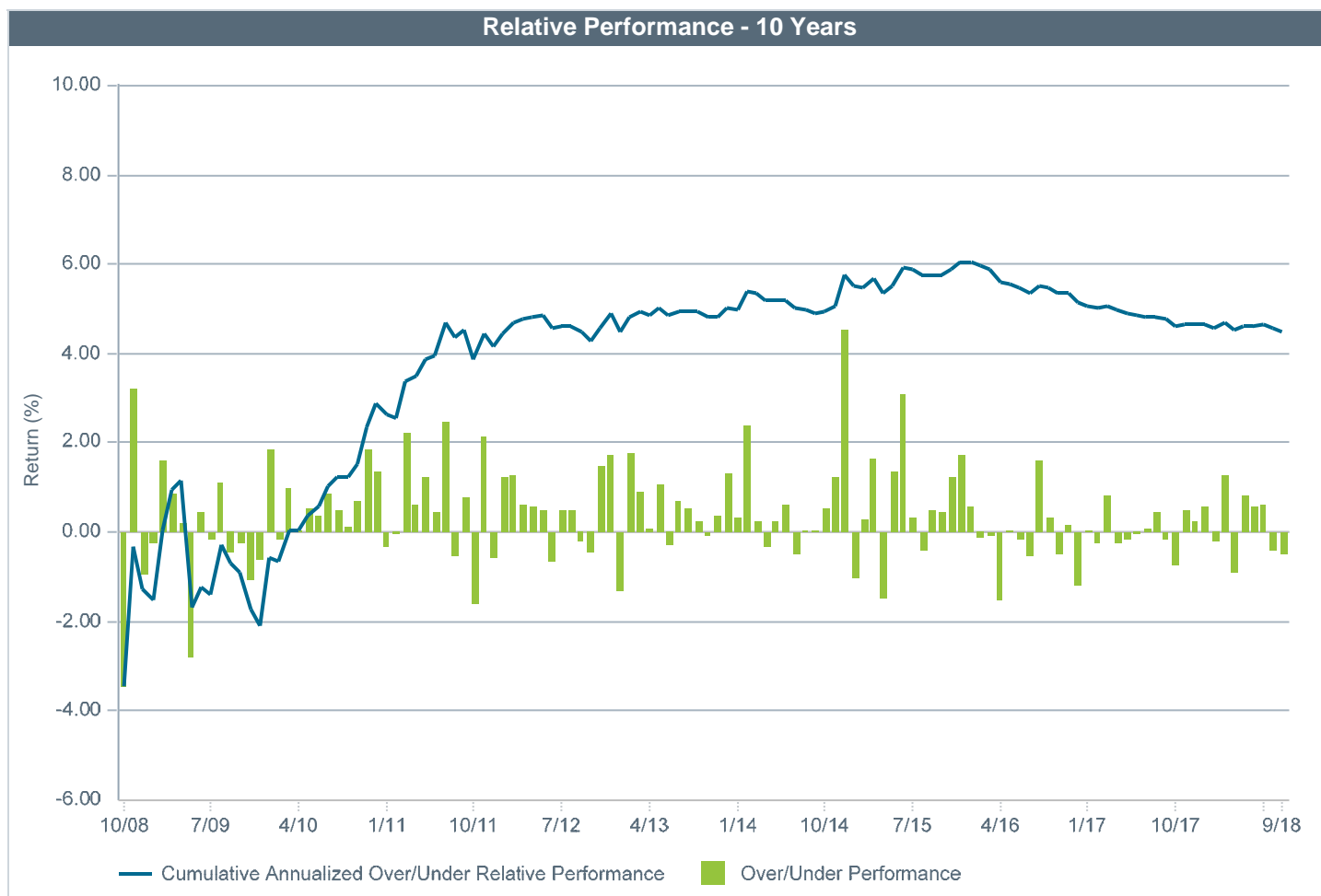
Performance shown is gross of fees and product specific prior to client inception. Calculation is based on quarterly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	6.12	9.27	6.52	2.23	9.27	14.90	-4.98	20.34	-29.94	18.16	36.94
Benchmark	6.39	7.15	4.90	-1.73	4.60	9.97	-5.58	21.95	-35.07	7.66	29.75
Difference	-0.27	2.12	1.62	3.96	4.67	4.93	0.60	-1.61	5.13	10.50	7.19



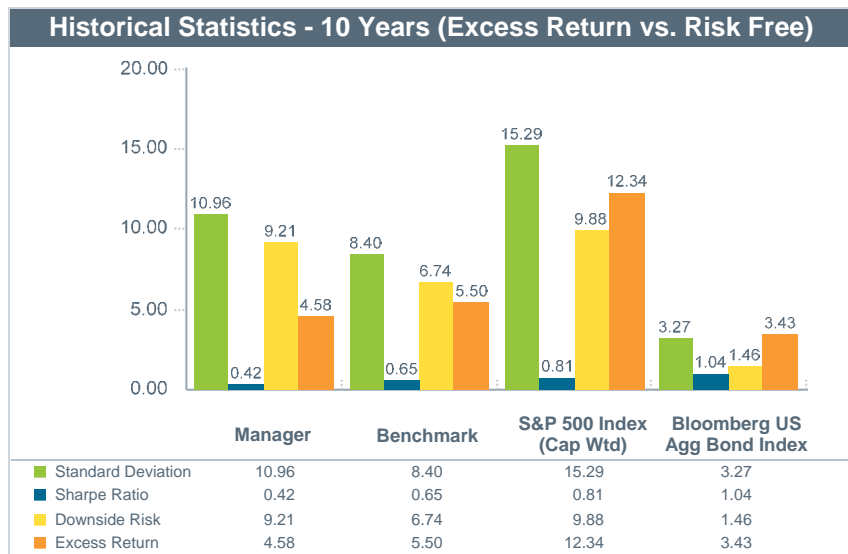
Actual Correlation - 10 Years

	Actual Correlation
S&P MLP Index (TR)	0.99
S&P 500 Index (Cap Wtd)	0.59
Russell 2000 Index	0.59
MSCI EAFE Index (USD) (Net)	0.47
MSCI Emg Mkts Index (USD) (Net)	0.55
Bloomberg US Agg Bond Index	-0.11
Bloomberg US Trsy US TIPS Index	0.30
NCREIF ODCE Index (AWA) (Gross)	-0.09
Wilshire US REIT Index	0.45
HFRI FOF Comp Index	0.63
Bloomberg Cmtty Index (TR)	0.66
ICE BofAML 3 Mo US T-Bill Index	-0.14
Cons Price Index (Unadjusted)	0.50



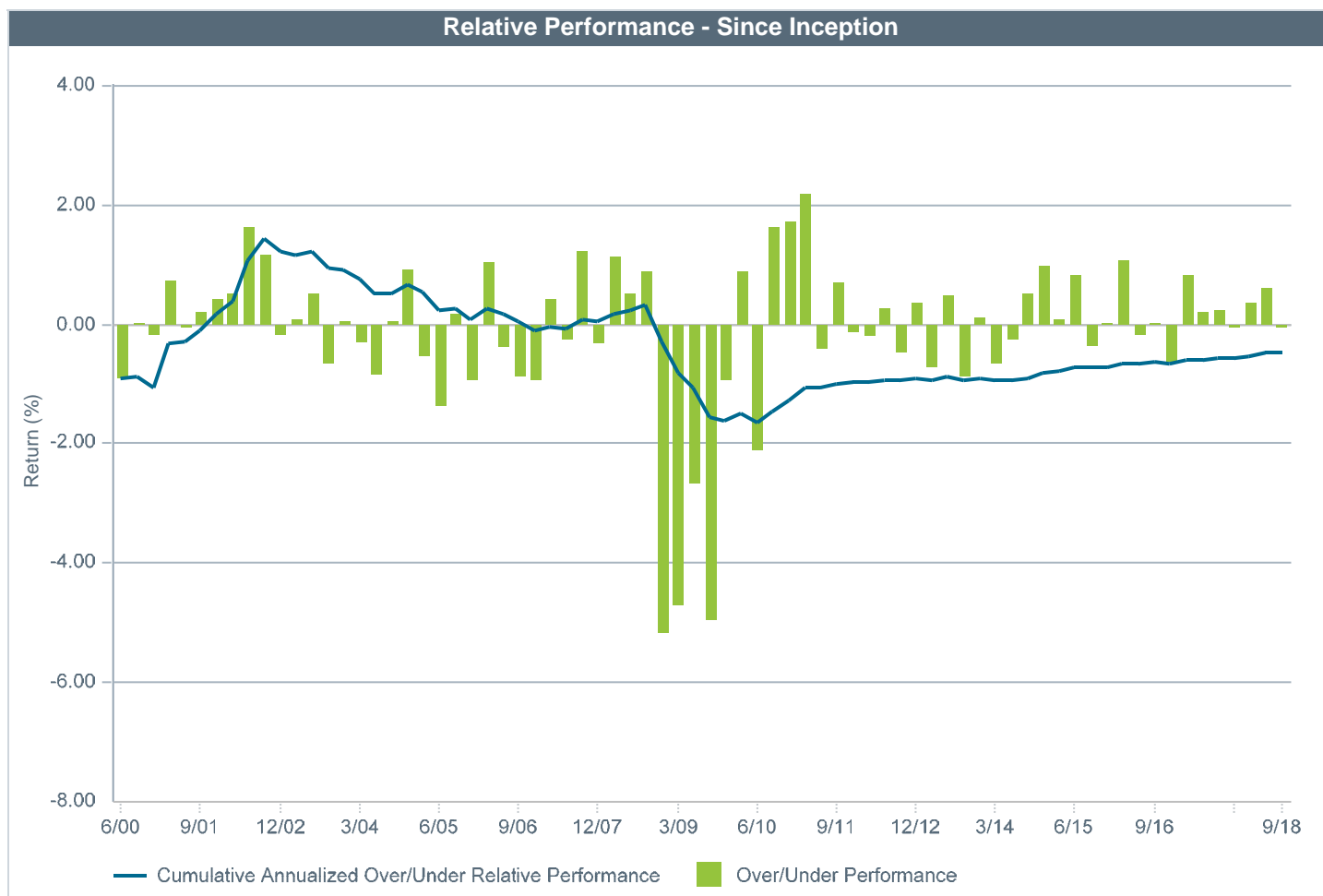
Performance shown is gross of fees and product specific prior to client inception. Calculation is based on quarterly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	2.09	9.71	9.72	11.56	11.57	4.34	8.99	9.09	15.71	13.17	12.77
Benchmark	2.09	8.68	8.80	10.72	11.17	5.58	7.62	8.77	15.02	12.50	13.94
Difference	0.00	1.03	0.92	0.84	0.40	-1.24	1.37	0.32	0.69	0.67	-1.17



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.99
S&P 500 Index (Cap Wtd)	0.24
Russell 2000 Index	0.21
MSCI EAFE Index (USD) (Net)	0.08
MSCI Emg Mkts Index (USD) (Net)	-0.09
Bloomberg US Agg Bond Index	-0.28
Bloomberg US Trsy US TIPS Index	-0.11
Wilshire US REIT Index	0.23
HFRI FOF Comp Index	0.15
Bloomberg Cmnty Index (TR)	0.19
ICE BofAML 3 Mo US T-Bill Index	-0.09
Cons Price Index (Unadjusted)	0.25



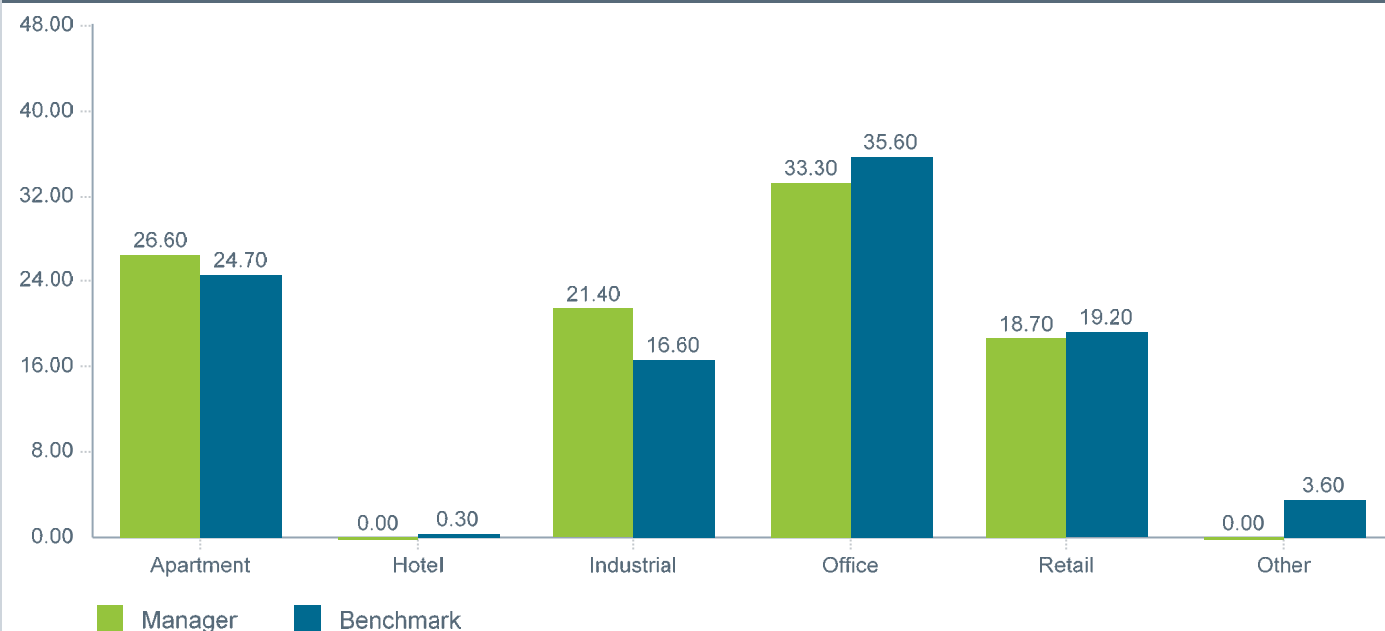
Investment Strategy

The Fund pursues a diversified core real estate strategy and seeks to provide its investors with a reliable total investment gross return of approximately 8% to 10% over a market cycle, with 70% of return expected to be generated by the income component. The Fund manages a portfolio of institutional quality real estate assets diversified across the four major property types (office, industrial, retail and multi-family) and across major metropolitan areas. The Fund operates with moderate leverage and may invest up to 15% of its gross assets in higher risk, non-core type real estate investment opportunities.

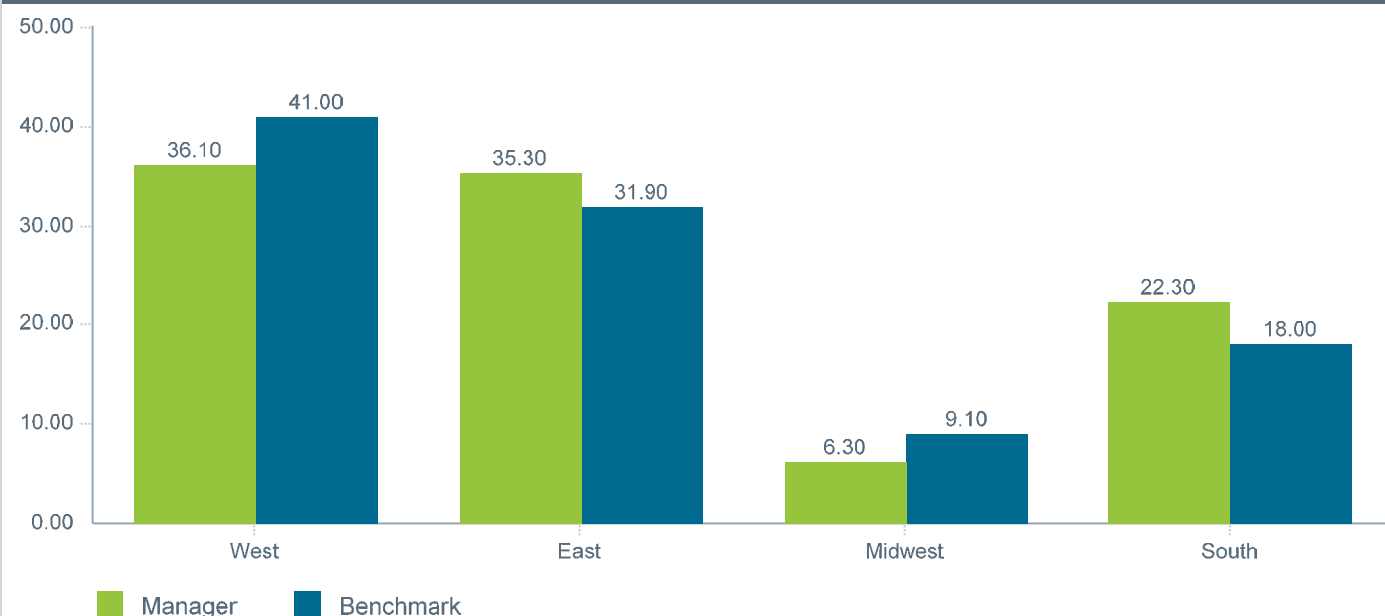
Investment Profile

Fund Inception	2000
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	11,536
Fund Leverage %	22.40
Portfolio Occupancy %	94.20
Cash Reserve %	2.60
Number of Investments	136
Number of Limited Partners	415

Property Type Allocation (%)

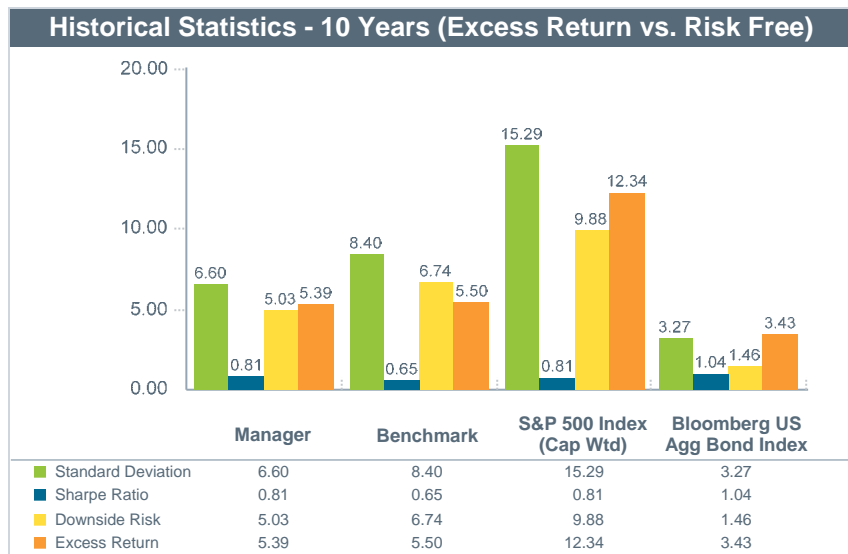


Geographic Allocation (%)



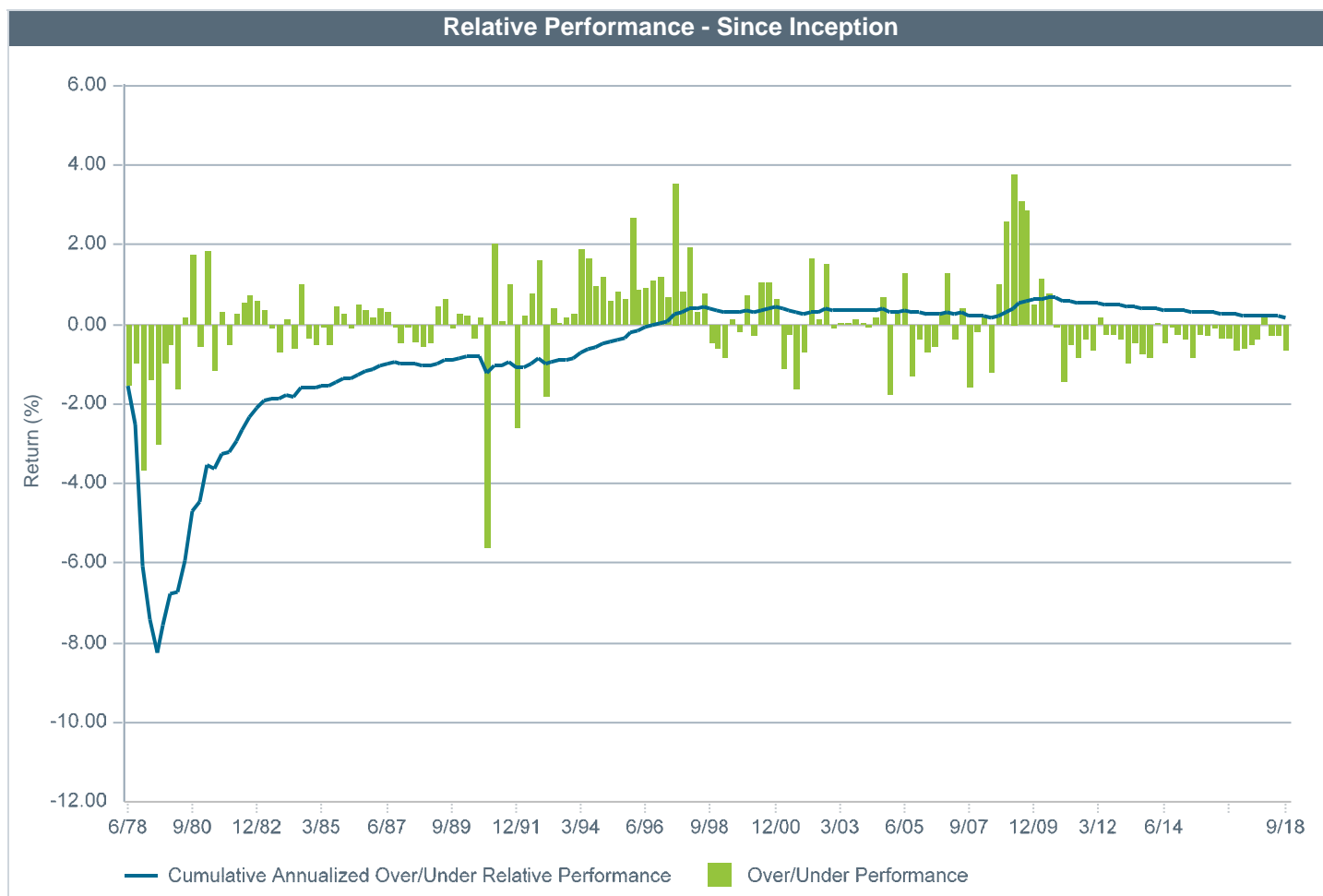
Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	1.42	7.64	7.28	9.11	9.45	5.62	6.30	7.21	12.94	11.69	10.44
Benchmark	2.09	8.68	8.80	10.72	11.17	5.58	7.62	8.77	15.02	12.50	13.94
Difference	-0.67	-1.04	-1.52	-1.61	-1.72	0.04	-1.32	-1.56	-2.08	-0.81	-3.50



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.99
S&P 500 Index (Cap Wtd)	0.21
Russell 2000 Index	0.18
MSCI EAFE Index (USD) (Net)	0.06
MSCI Emg Mkts Index (USD) (Net)	-0.11
Bloomberg US Agg Bond Index	-0.18
Bloomberg US Trsy US TIPS Index	-0.06
Wilshire US REIT Index	0.26
HFRI FOF Comp Index	0.12
Bloomberg Cmtty Index (TR)	0.15
ICE BofAML 3 Mo US T-Bill Index	-0.14
Cons Price Index (Unadjusted)	0.23



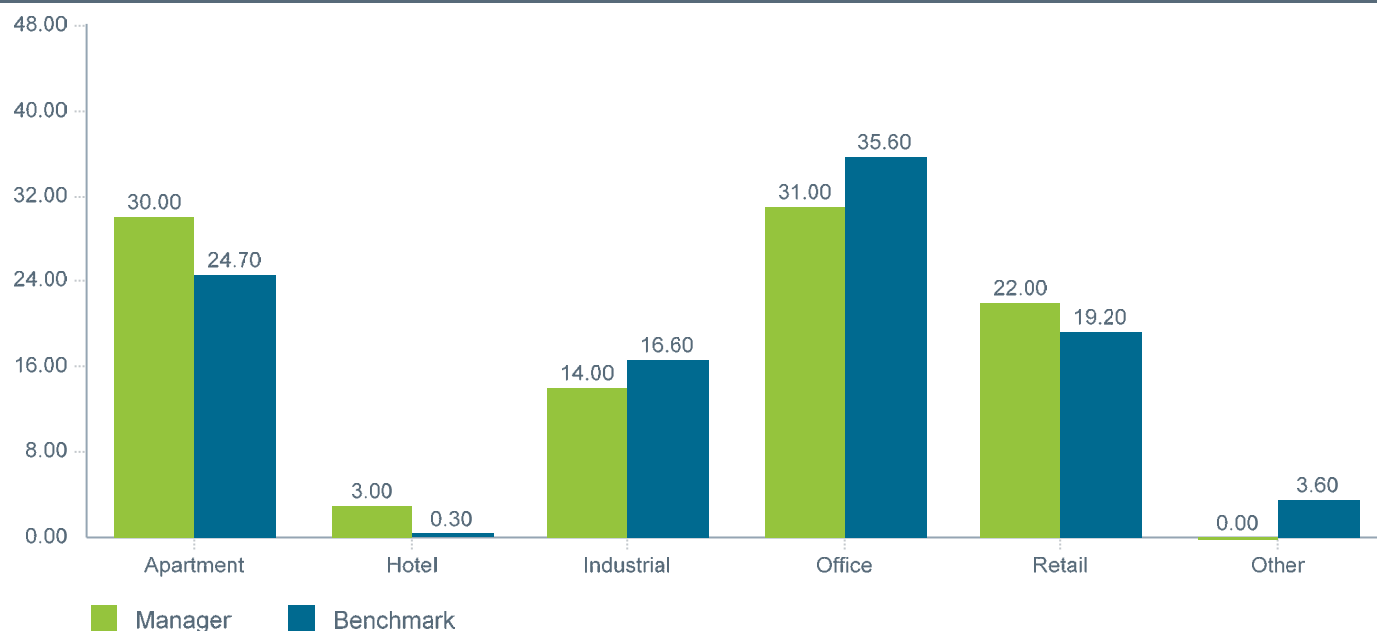
Investment Strategy

The Fund pursues a diversified core real estate strategy that seeks to produce attractive risk-adjusted returns by focusing on selective acquisitions, diversification, active portfolio management, and asset management. The Fund invests in well-leased, stabilized assets in major US metropolitan markets and receives the majority of its return from the income component. Diversification for the Fund is consistently pursued on many levels, including geographic region, property type, and economic sector. The Fund has historically maintained a leverage ratio significantly lower than the NCREIF ODCE Index and invests 5-15% of its gross assets in value-added type real estate investment opportunities.

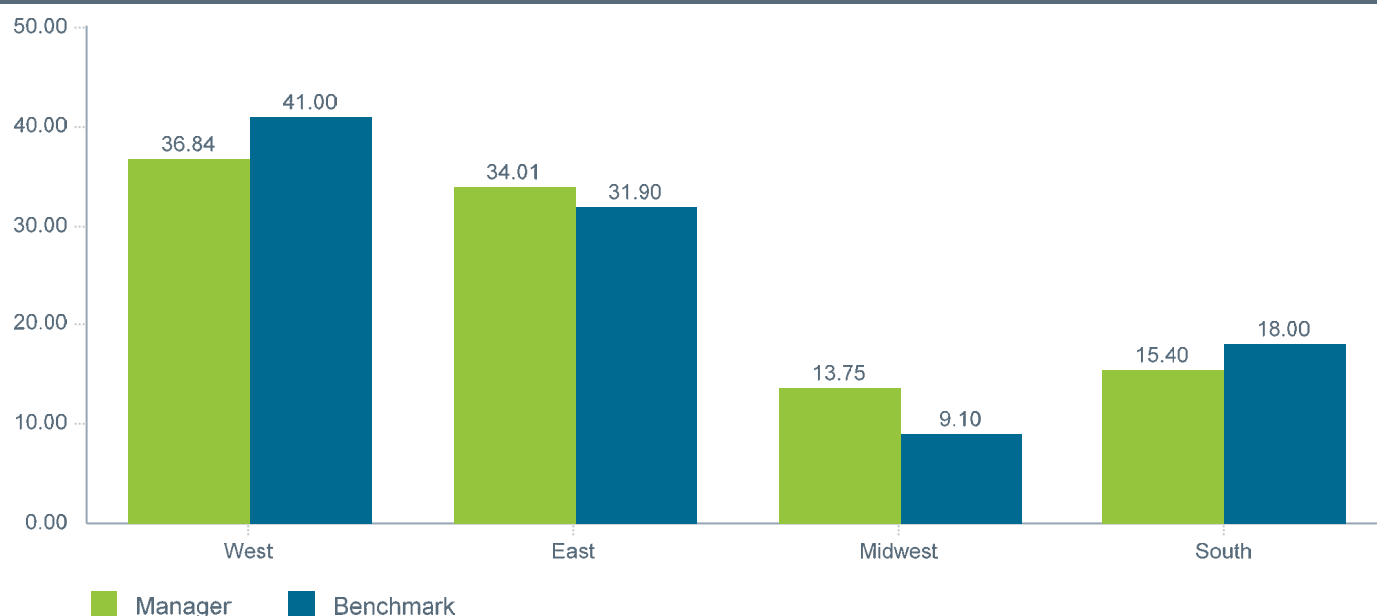
Investment Profile

Fund Inception	1978
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	23,627
Fund Leverage %	17.40
Portfolio Occupancy %	93.50
Cash Reserve %	4.70
Number of Investments	204
Number of Limited Partners	434

Property Type Allocation (%)

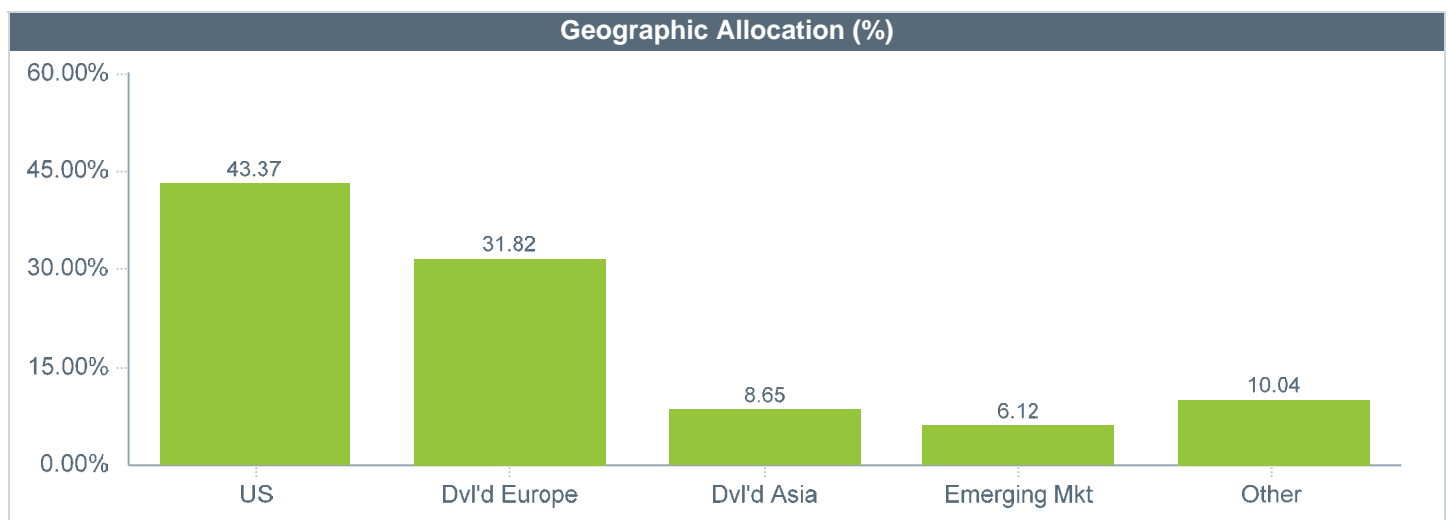
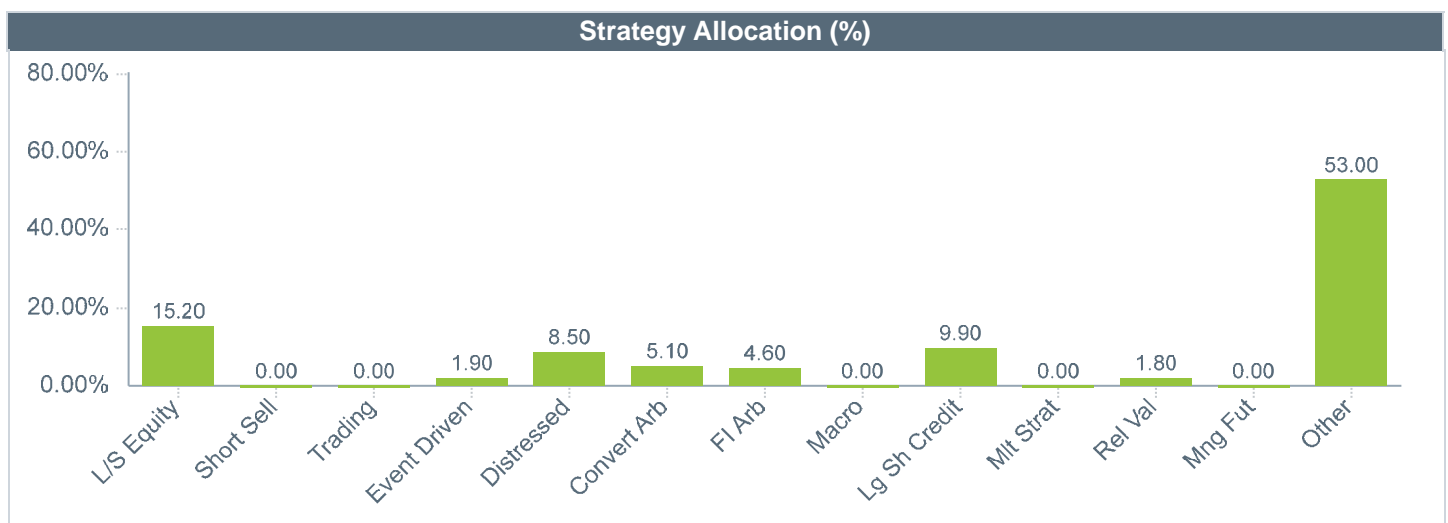


Geographic Allocation (%)



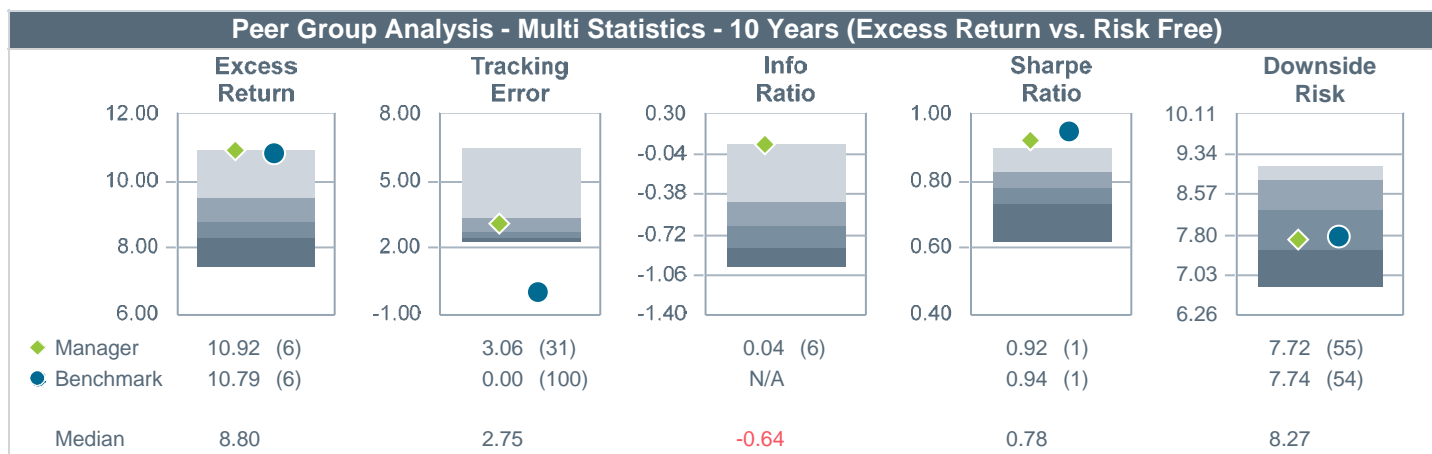
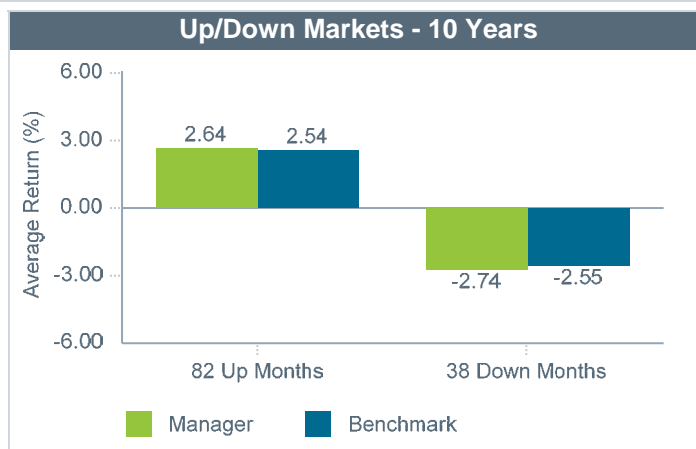
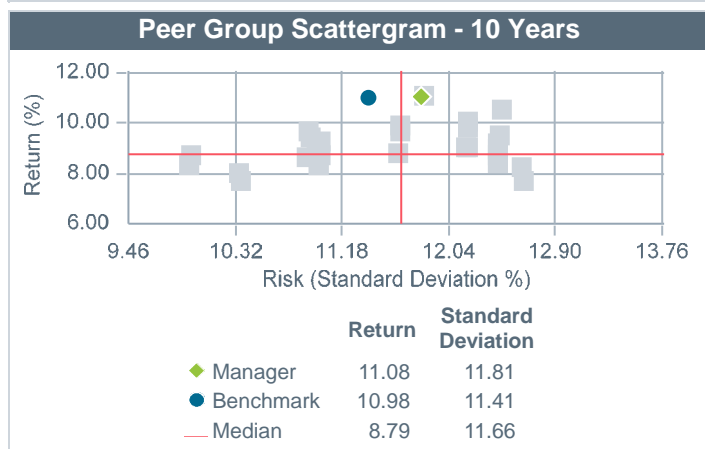
Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

Investment Strategy	Firm Statistics	
PAAMCO focuses on returns which are targeted to be independent of traditional markets and builds portfolios which aim to diversify sources of idiosyncratic returns. PAAMCO believes in being open to new investment ideas and that investment decisions should be based on independent, fundamental assessments. PAAMCO attempts to avoid conflicts and maintain the highest ethical standards in evaluating investment opportunities.	Year Firm Established	2000
	Firm AUM (\$M)	7,784
	Percentage Employee Owned %	60.10
	Fund Statistics	
	Fund Inception	2007
	Fund Size(\$M)	511
	Number of Underlying Managers	22
	Maximum Weighting of an Underlying Manager %	5.14
	Current Leverage (Assets/Equity)	0.76
	Annual Manager Turnover %	14.35
	Annual Management Fee %	0.94
	Performance Fee %	No
Hurdle %	No	
Initial Lock-Up Periods	No	
Redemption Frequency	Monthly	
Notification Period	30 Days	



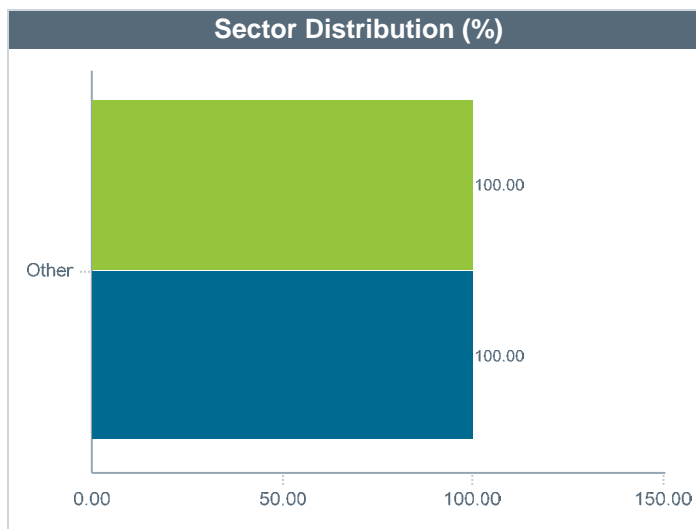
Strategy Allocation to "Other" consists of opportunistic investments, lower liquidity investments, and cash. Geographic Allocation to "Other" consists of Asia ex-Japan, Canada, and unclassified geographies. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	5.45	16.39	12.03	8.90	12.08	11.08	14.76	5.86	-1.49	6.64	25.60
Benchmark	3.93	12.19	11.74	9.26	11.92	10.98	13.70	10.44	-3.24	9.42	24.96
Difference	1.52	4.20	0.29	-0.36	0.16	0.10	1.06	-4.58	1.75	-2.78	0.64
Peer Group Median	3.68	10.78	10.86	7.75	10.26	8.79	14.33	7.74	-3.32	6.42	23.16
Rank	7	10	36	16	6	6	43	70	31	46	11
Population	83	82	78	61	56	40	81	79	70	76	76



Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	N/A	2.31
Spread Duration	N/A	N/A
Avg. Maturity	11.94	18.35
Avg. Quality	Ba1	Ba2
Yield To Maturity (%)	N/A	-1.08
Coupon Rate (%)	2.24	2.89
Current Yield (%)	1.88	2.82
Holdings Count	133	422



Performance shown is net of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to other consists of convertibles.

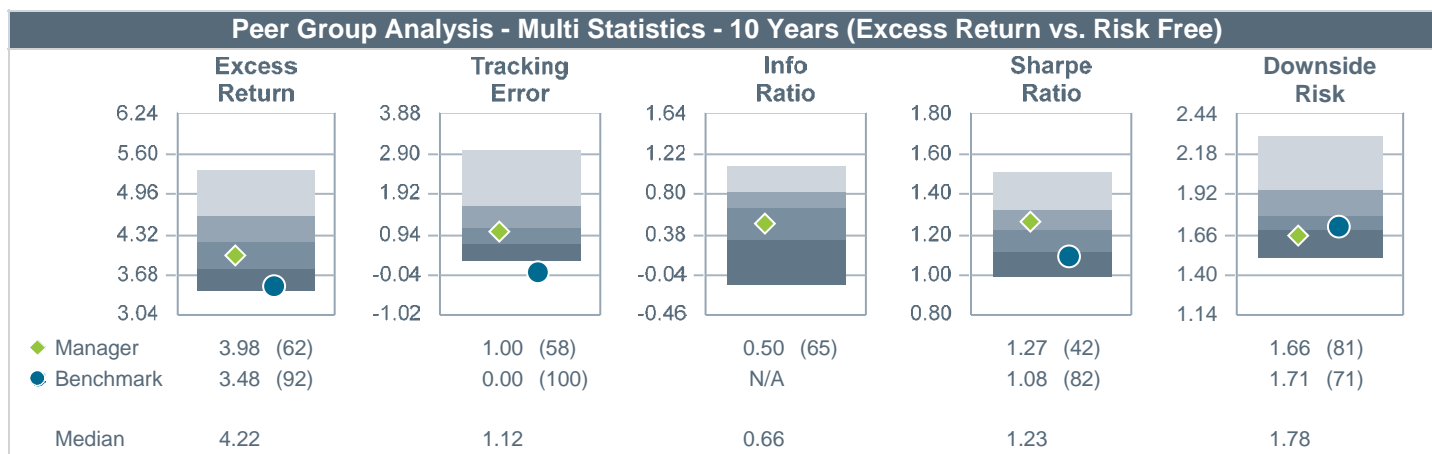
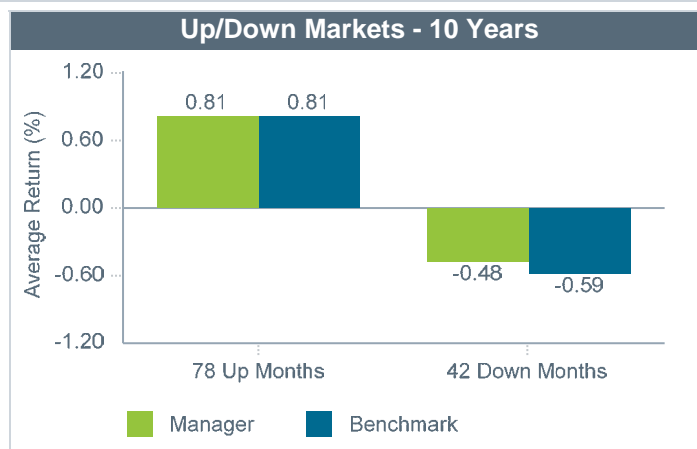
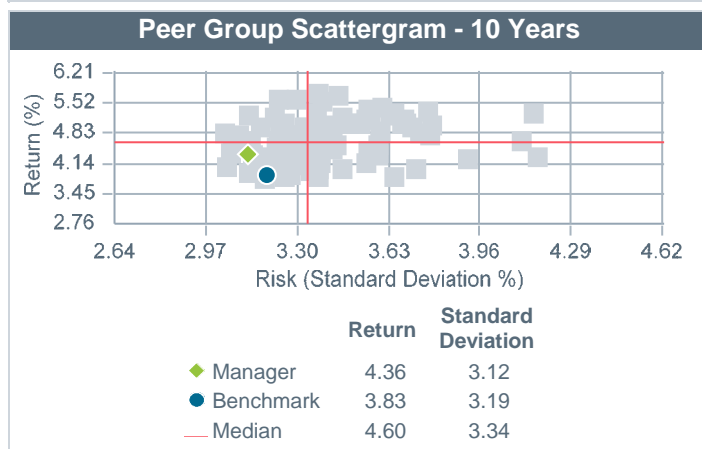
Manager: C.S. McKee

As of September 30, 2018

Benchmark: C.S. McKee Custom Index

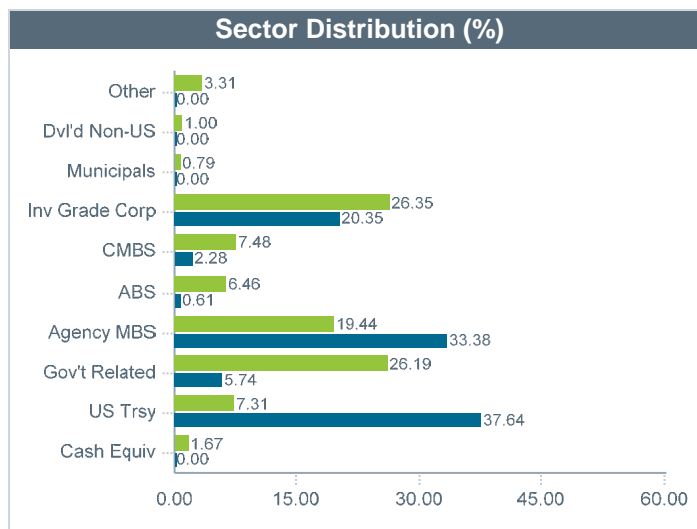
Peer Group: IM U.S. Broad Market Core Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	0.28	-0.05	1.82	2.52	2.45	4.36	3.63	2.65	1.49	5.75	-2.23
Benchmark	0.11	-0.65	1.51	2.28	2.11	3.83	3.54	2.65	0.55	5.97	-2.02
Difference	0.17	0.60	0.31	0.24	0.34	0.53	0.09	0.00	0.94	-0.22	-0.21
Peer Group Median	0.18	-0.74	1.84	2.61	2.66	4.60	4.06	3.10	0.82	6.17	-1.56
Rank	25	15	52	57	65	62	77	75	10	79	88
Population	145	145	141	137	132	128	151	161	164	178	189



Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	4.36	4.38
Spread Duration	3.52	4.55
Avg. Maturity	5.16	5.48
Avg. Quality	Aa1	Aa1/Aa2
Yield To Maturity (%)	3.50	3.34
Coupon Rate (%)	3.18	2.94
Current Yield (%)	3.22	N/A
Holdings Count	270	7,938



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Sector allocation to "Other" consists of collateralized mortgage obligations.



Manager: JP Morgan Core

As of September 30, 2018

Benchmark: Bloomberg US Agg Bond Index

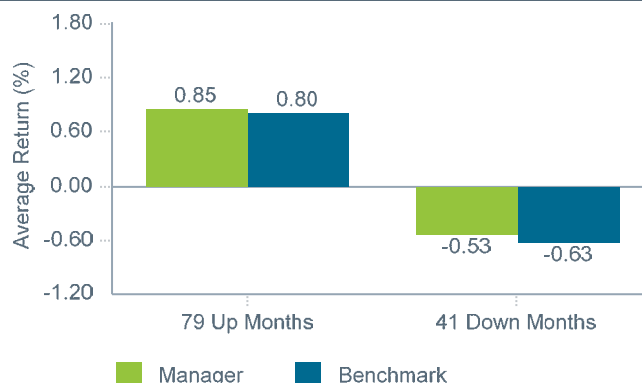
Peer Group: IM U.S. Broad Market Core Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	0.04	-0.98	1.30	2.41	2.43	4.59	3.53	2.52	1.25	6.19	-1.83
Benchmark	0.02	-1.22	1.31	2.16	2.02	3.77	3.54	2.65	0.55	5.97	-2.02
Difference	0.02	0.24	-0.01	0.25	0.41	0.82	-0.01	-0.13	0.70	0.22	0.19
Peer Group Median	0.18	-0.74	1.84	2.61	2.66	4.60	4.06	3.10	0.82	6.17	-1.56
Rank	81	68	91	62	66	51	86	85	16	48	65
Population	145	145	141	137	132	128	151	161	164	178	189

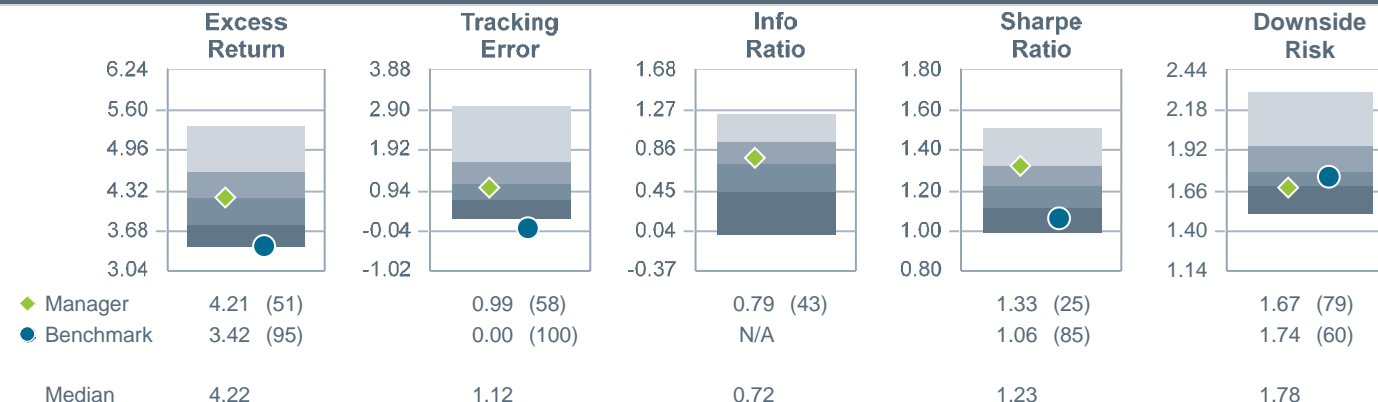
Peer Group Scattergram - 10 Years



Up/Down Markets - 10 Years



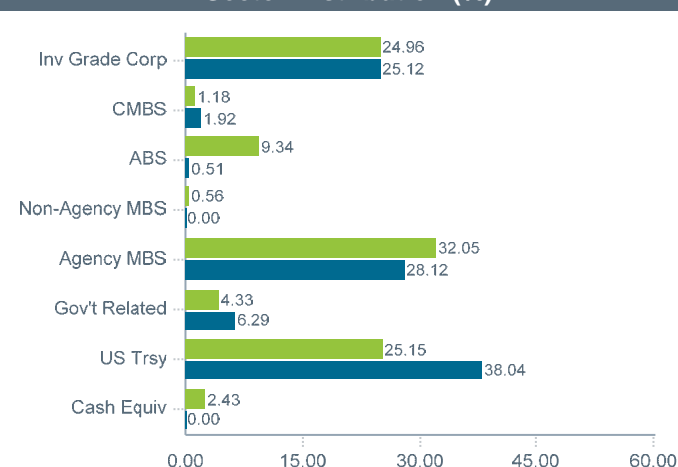
Peer Group Analysis - Multi Statistics - 10 Years (Excess Return vs. Risk Free)



Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	5.64	6.03
Spread Duration	3.54	6.15
Avg. Maturity	7.27	8.42
Avg. Quality	Aa2	Aa1/Aa2
Yield To Maturity (%)	3.51	3.46
Coupon Rate (%)	3.42	3.16
Current Yield (%)	2.98	N/A
Holdings Count	774	10,133

Sector Distribution (%)



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

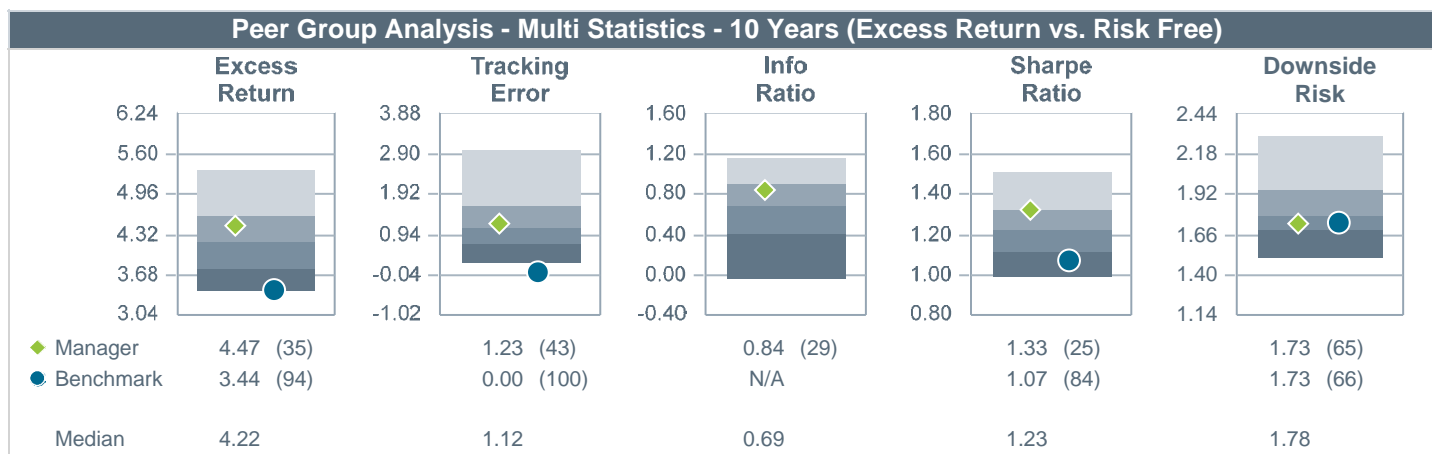
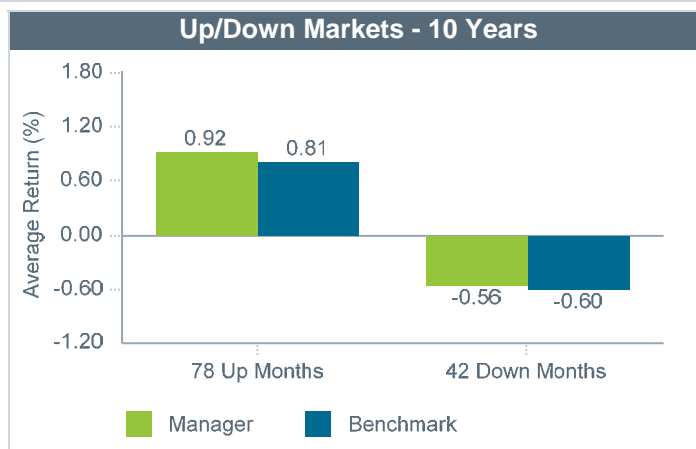
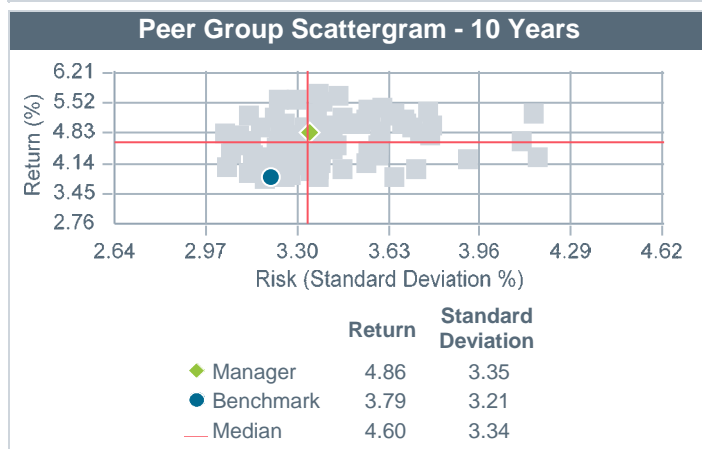
Manager: PIMCO Core

As of September 30, 2018

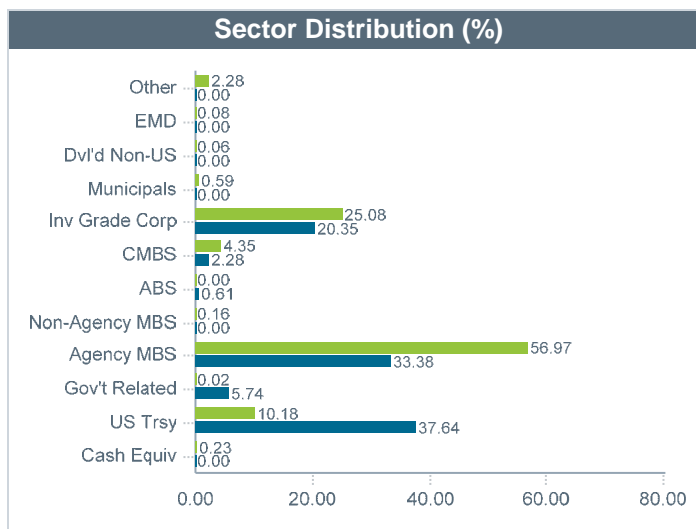
Benchmark: PIMCO Custom Index

Peer Group: IM U.S. Broad Market Core Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	0.25	-0.34	1.98	2.49	2.76	4.86	4.27	3.35	0.50	5.85	-2.48
Benchmark	0.11	-1.07	1.36	2.19	2.05	3.79	3.54	2.65	0.55	5.97	-2.02
Difference	0.14	0.73	0.62	0.30	0.71	1.07	0.73	0.70	-0.05	-0.12	-0.46
Peer Group Median	0.18	-0.74	1.84	2.61	2.66	4.60	4.06	3.10	0.82	6.17	-1.56
Rank	31	19	41	59	42	35	34	44	78	73	95
Population	145	145	141	137	132	128	151	161	164	178	189

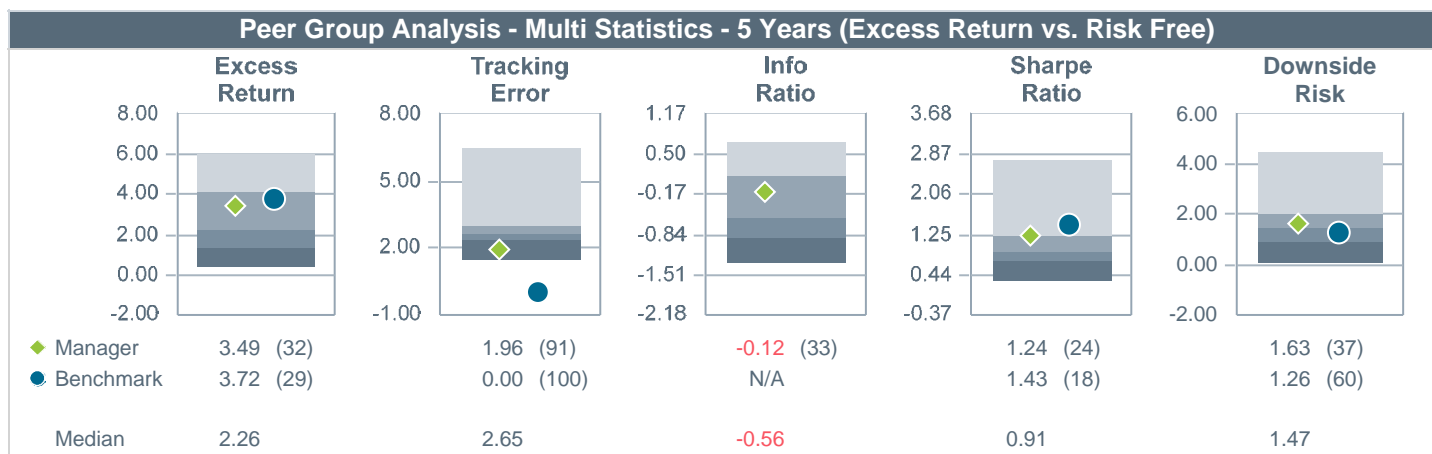
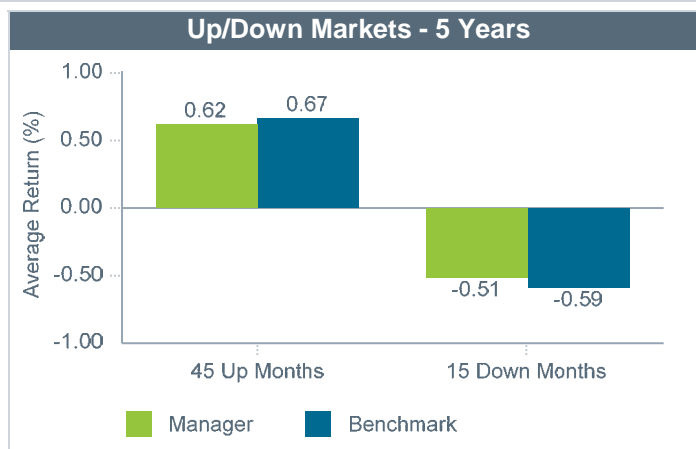
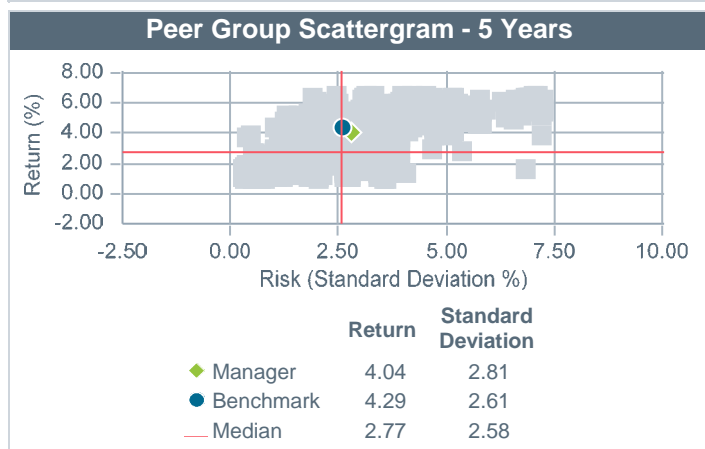


Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	4.19	4.38
Spread Duration	4.21	4.55
Avg. Maturity	5.22	5.48
Avg. Quality	Aa3	Aa1/Aa2
Yield To Maturity (%)	3.71	3.34
Coupon Rate (%)	3.31	2.94
Current Yield (%)	3.36	N/A
Holdings Count	320	7,938

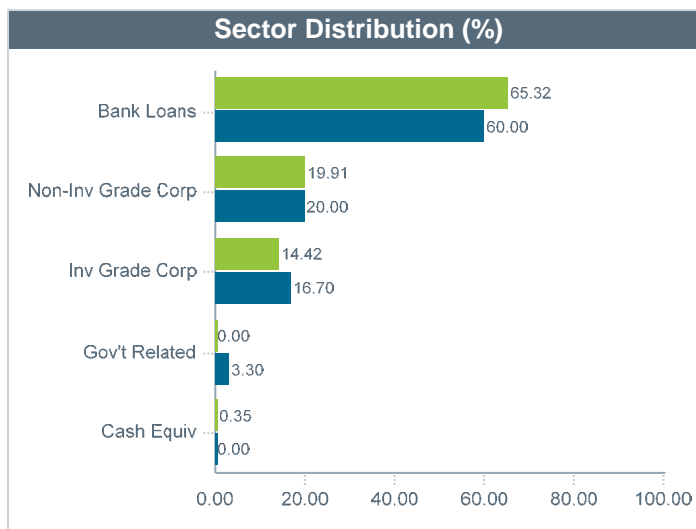


Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Sector allocation to "Other" consists of Euro/Yankee securities.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	1.66	3.14	4.44	4.04	N/A	N/A	4.38	8.42	0.08	3.40	N/A
Benchmark	1.77	3.47	5.43	4.29	5.39	6.82	5.20	10.69	-1.47	2.95	4.22
Difference	-0.11	-0.33	-0.99	-0.25	N/A	N/A	-0.82	-2.27	1.55	0.45	N/A
Peer Group Median	0.46	0.06	2.18	2.77	2.93	4.64	4.18	3.69	0.73	4.44	-0.21
Rank	18	16	26	32	N/A	N/A	47	23	67	62	N/A
Population	1,379	1,374	1,334	1,278	1,212	1,025	1,456	1,514	1,546	1,594	1,614



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	1.77	N/A
Spread Duration	2.87	N/A
Avg. Maturity	1.72	6.43
Avg. Quality	Ba2	Ba2
Yield To Maturity (%)	5.29	6.26
Coupon Rate (%)	3.82	5.53
Current Yield (%)	4.40	N/A
Holdings Count	1,028	2,669



Performance shown is gross of fees. Historical strategy performance is unavailable. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

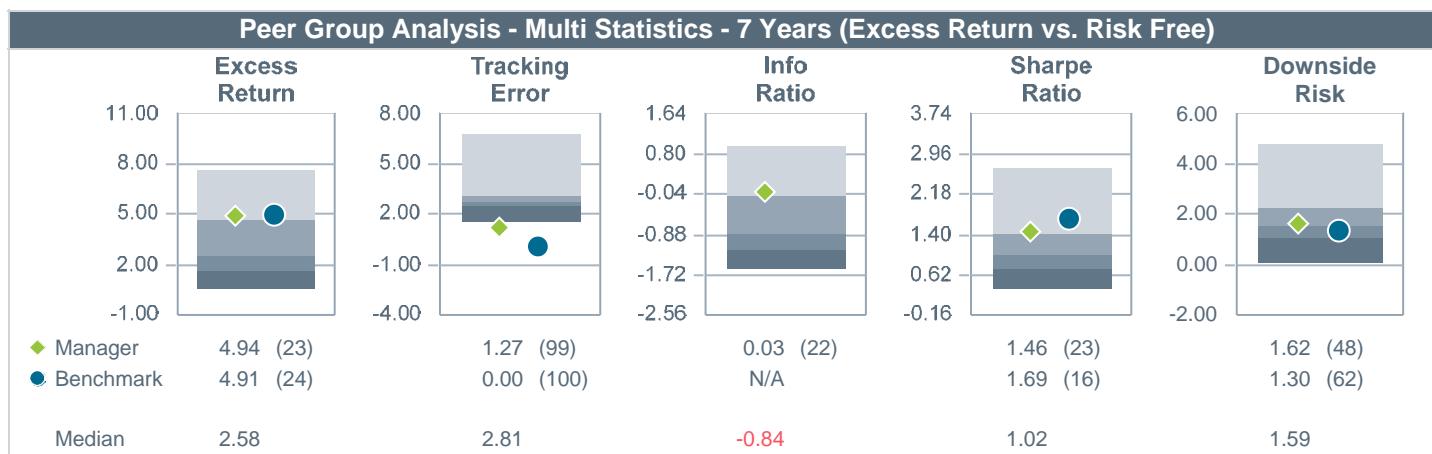
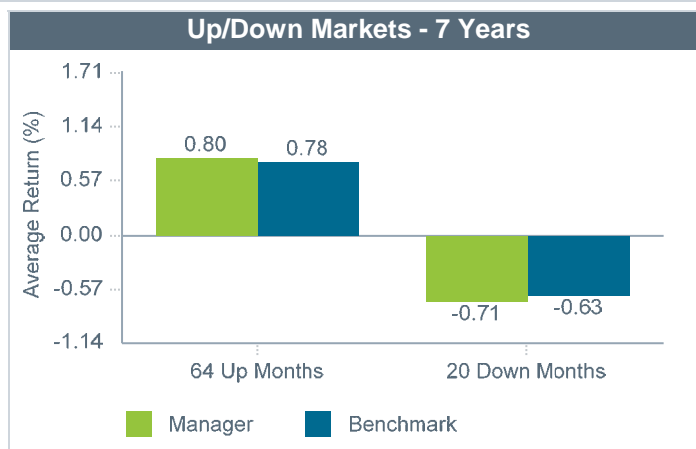
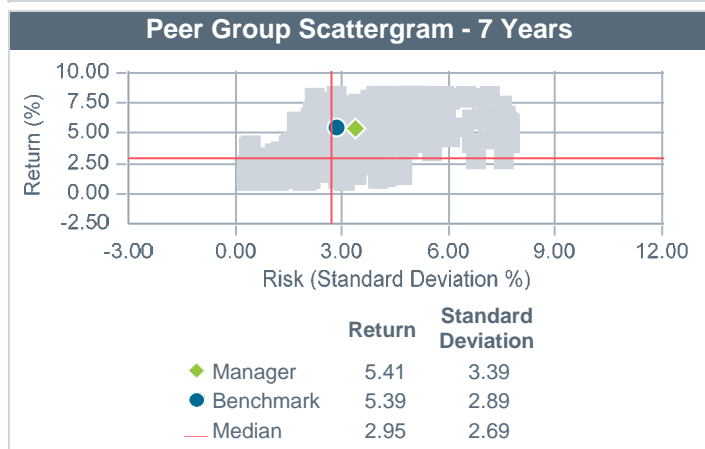
Manager: Seix

As of September 30, 2018

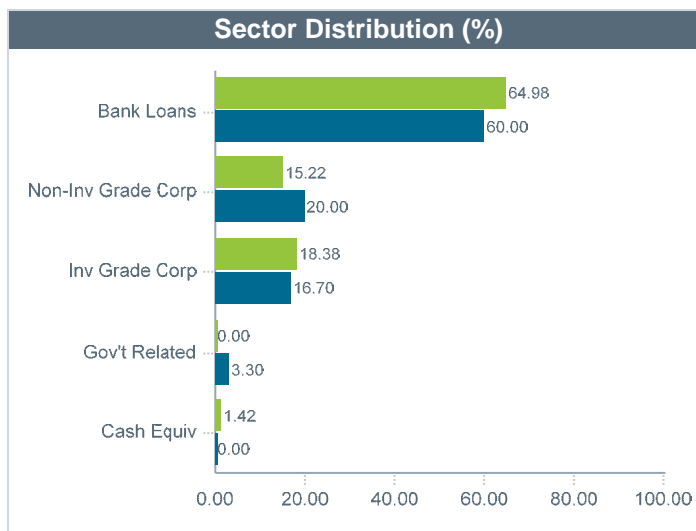
Benchmark: Credit Custom Index

Peer Group: IM U.S. Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	1.88	3.38	5.79	4.55	5.41	N/A	5.65	11.46	-0.91	2.68	3.27
Benchmark	1.77	3.47	5.43	4.29	5.39	6.82	5.20	10.69	-1.47	2.95	4.22
Difference	0.11	-0.09	0.36	0.26	0.02	N/A	0.45	0.77	0.56	-0.27	-0.95
Peer Group Median	0.46	0.06	2.18	2.77	2.93	4.64	4.18	3.69	0.73	4.44	-0.21
Rank	15	14	16	26	22	N/A	33	13	76	70	22
Population	1,379	1,374	1,334	1,278	1,212	1,025	1,456	1,514	1,546	1,594	1,614



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	2.12	N/A
Spread Duration	N/A	N/A
Avg. Maturity	7.70	6.43
Avg. Quality	Ba2	Ba2
Yield To Maturity (%)	5.72	6.26
Coupon Rate (%)	5.25	5.53
Current Yield (%)	5.26	N/A
Holdings Count	581	2,669



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

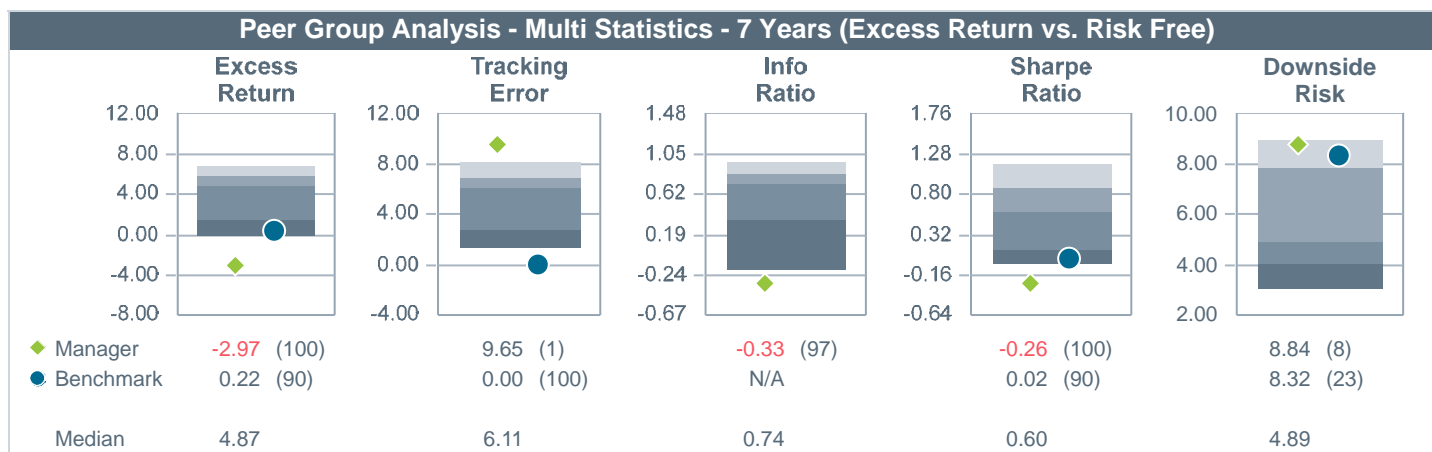
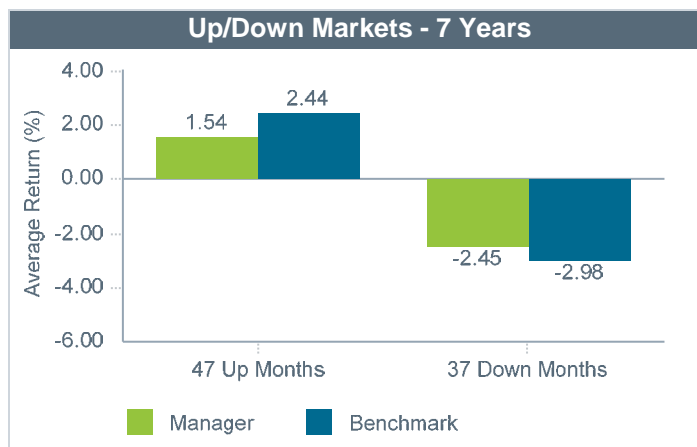
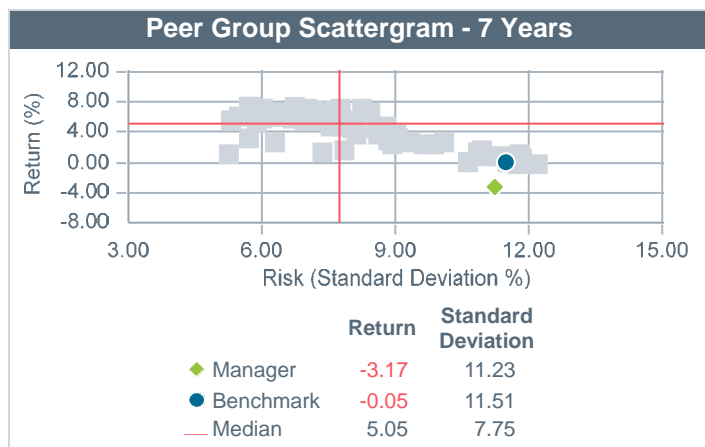
Manager: Investec

As of September 30, 2018

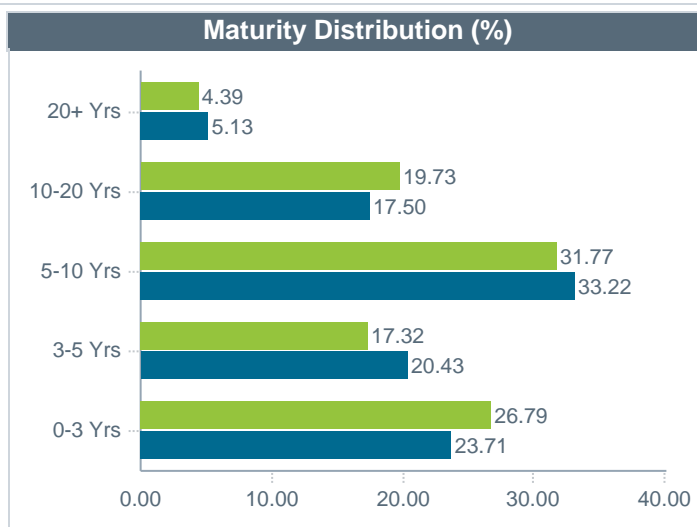
Benchmark: JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)

Peer Group: IM Emerging Markets Debt (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	-2.00	-7.33	4.64	-1.67	-3.17	N/A	17.65	7.00	-14.68	-4.67	-8.93
Benchmark	-1.83	-7.40	5.17	-1.68	-0.05	2.70	15.21	9.94	-14.92	-5.72	-8.98
Difference	-0.17	0.07	-0.53	0.01	-3.12	N/A	2.44	-2.94	0.24	1.05	0.05
Peer Group Median	1.17	-3.74	6.30	4.27	5.05	7.60	12.43	11.09	-3.00	1.48	-5.81
Rank	83	80	88	92	100	N/A	6	92	83	81	81
Population	140	140	133	123	105	73	156	166	172	173	158



Portfolio Characteristics (%)		
	Portfolio	Benchmark
Effective Duration	4.87	5.18
Spread Duration	N/A	N/A
Avg. Maturity	8.05	7.55
Avg. Quality	Baa2	Baa3
Yield To Maturity (%)	8.22	6.78
Coupon Rate (%)	5.40	6.64
Current Yield (%)	6.18	6.77
Holdings Count	139	214

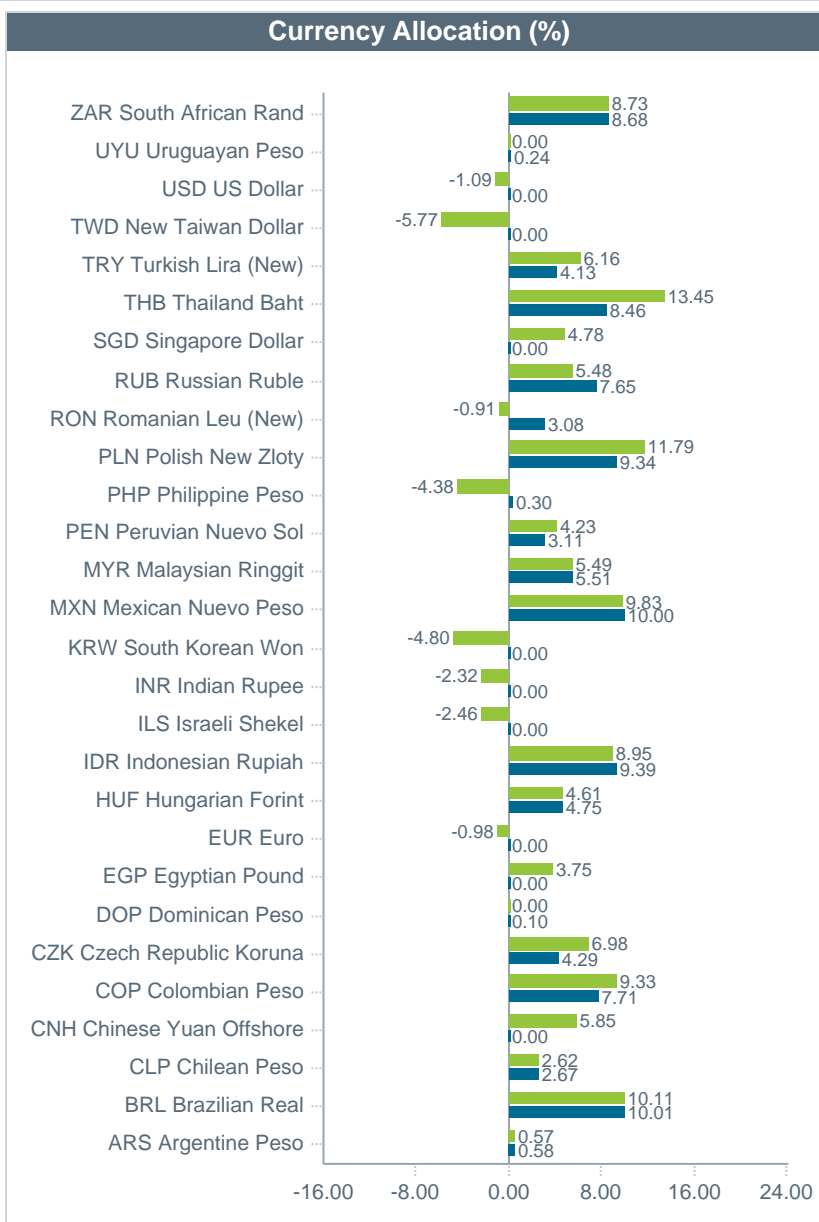
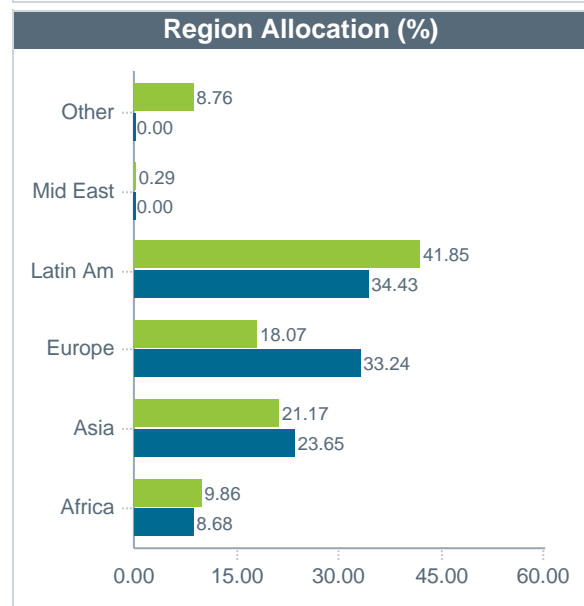
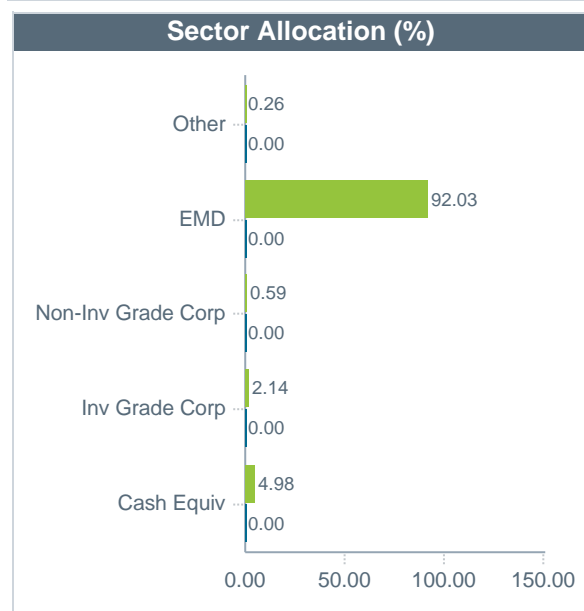
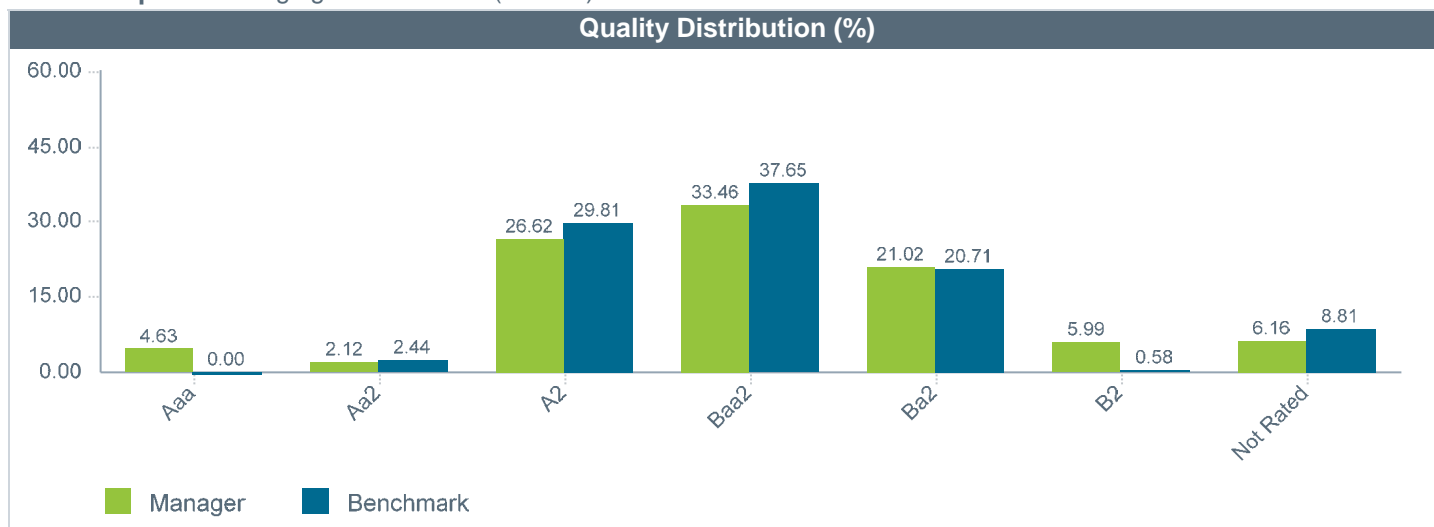


Manager: Investec

As of September 30, 2018

Benchmark: JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)

Peer Group: IM Emerging Markets Debt (SA+CF)



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Negative sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps. Sector allocation to "Other" consists of foreign exchange and interest rate swaps. Region allocation to "Other" consists of developed market securities, cash, and foreign exchange.

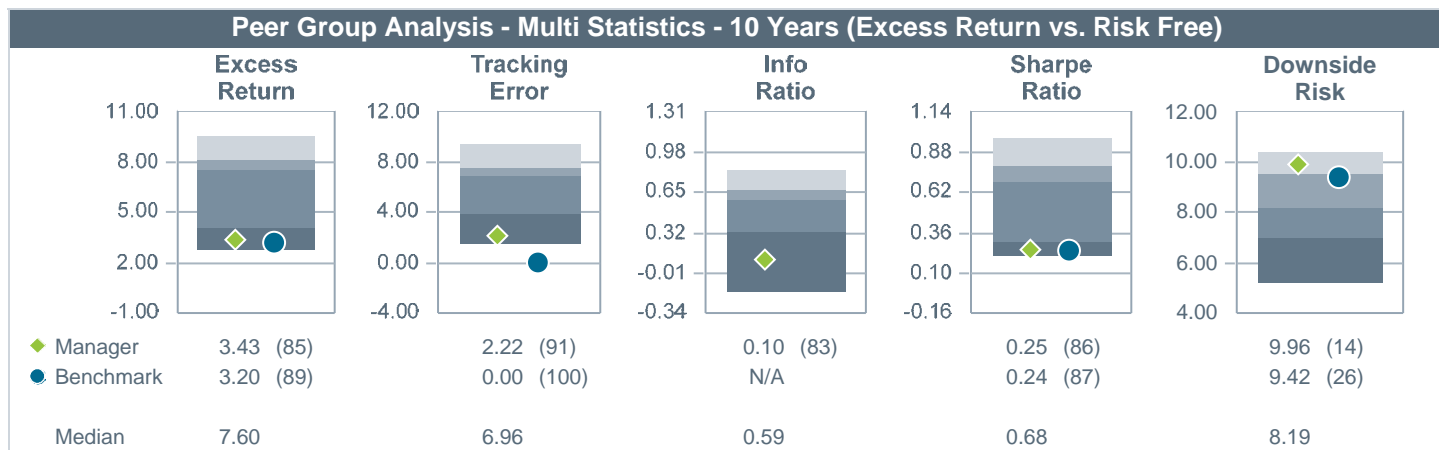
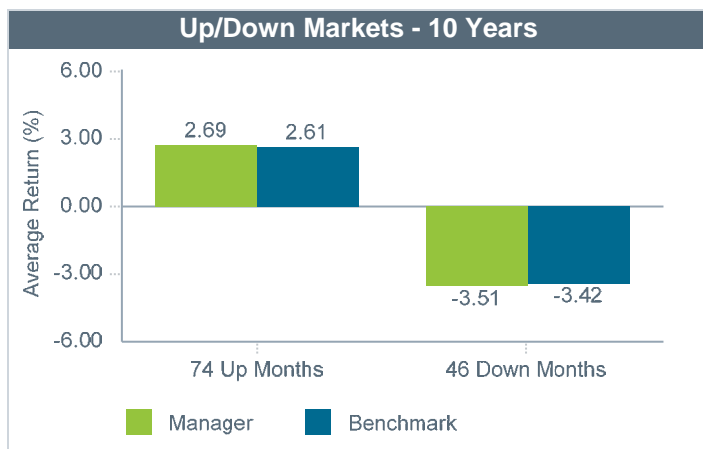
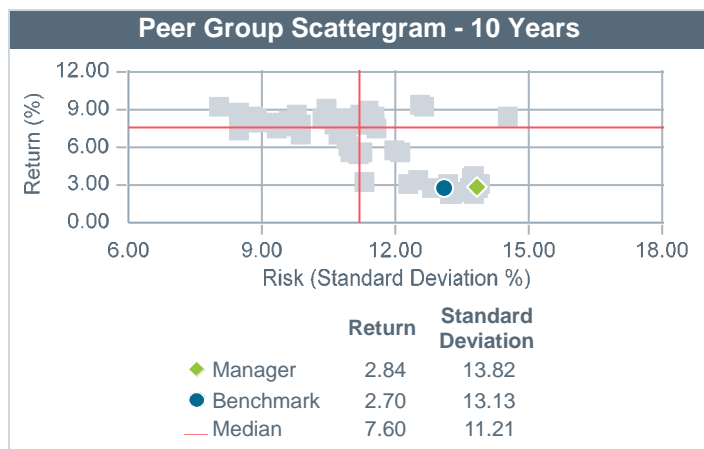
Manager: Stone Harbor

As of September 30, 2018

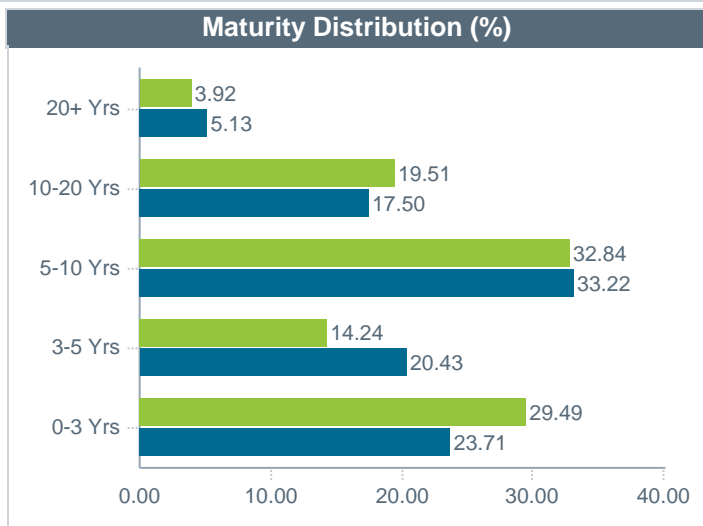
Benchmark: JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)

Peer Group: IM Emerging Markets Debt (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	-3.43	-10.41	4.21	-2.85	-1.06	2.84	15.33	9.94	-14.61	-7.63	-11.48
Benchmark	-1.83	-7.40	5.17	-1.68	-0.05	2.70	15.21	9.94	-14.92	-5.72	-8.98
Difference	-1.60	-3.01	-0.96	-1.17	-1.01	0.14	0.12	0.00	0.31	-1.91	-2.50
Peer Group Median	1.17	-3.74	6.30	4.27	5.05	7.60	12.43	11.09	-3.00	1.48	-5.81
Rank	99	97	93	100	100	86	22	71	83	98	99
Population	140	140	133	123	105	73	156	166	172	173	158



Portfolio Characteristics (%)		
	Portfolio	Benchmark
Effective Duration	4.82	5.18
Spread Duration	4.70	N/A
Avg. Maturity	7.40	7.55
Avg. Quality	Baa1	Baa3
Yield To Maturity (%)	8.75	6.78
Coupon Rate (%)	6.47	6.64
Current Yield (%)	7.06	6.77
Holdings Count	184	214

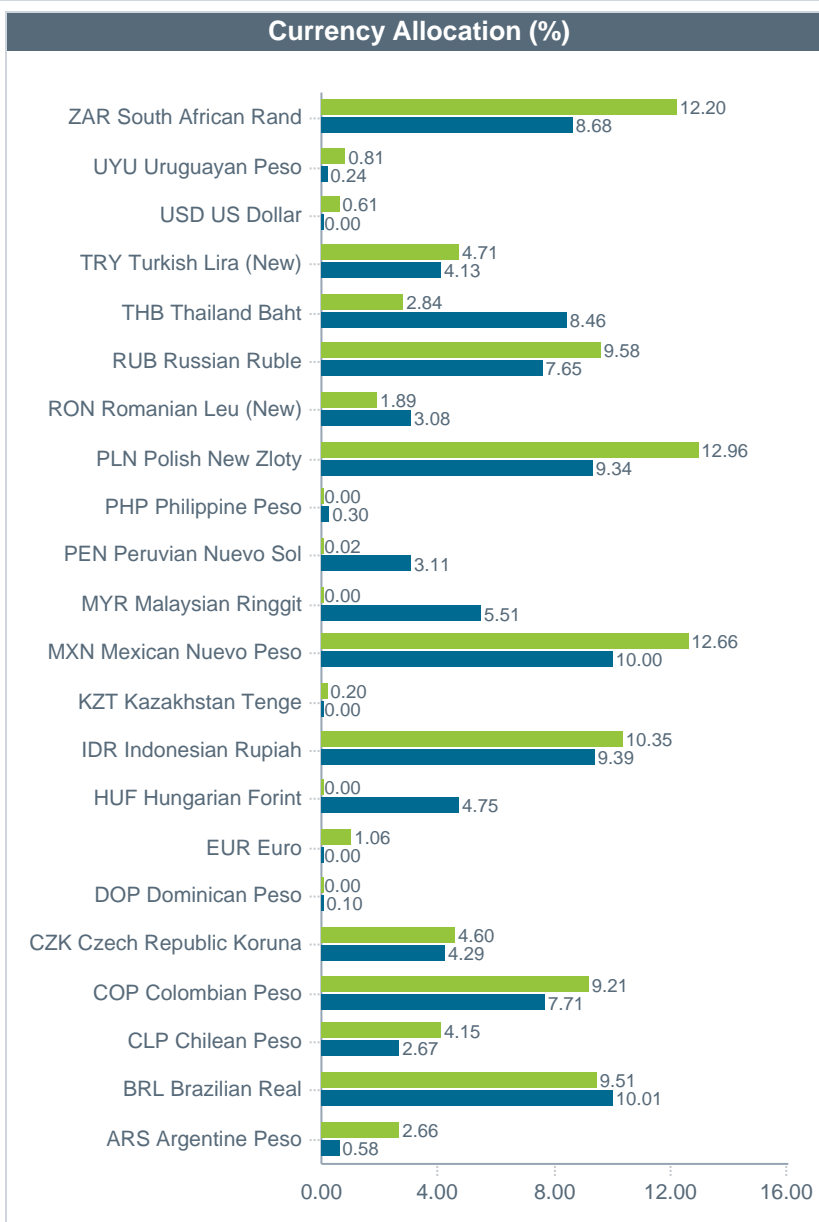
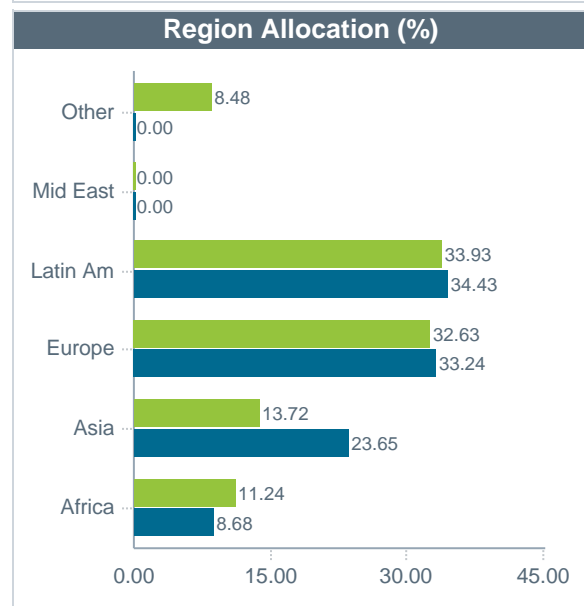
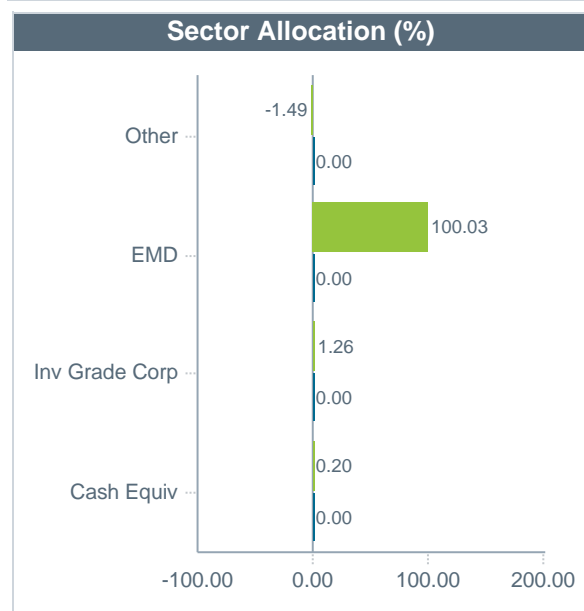
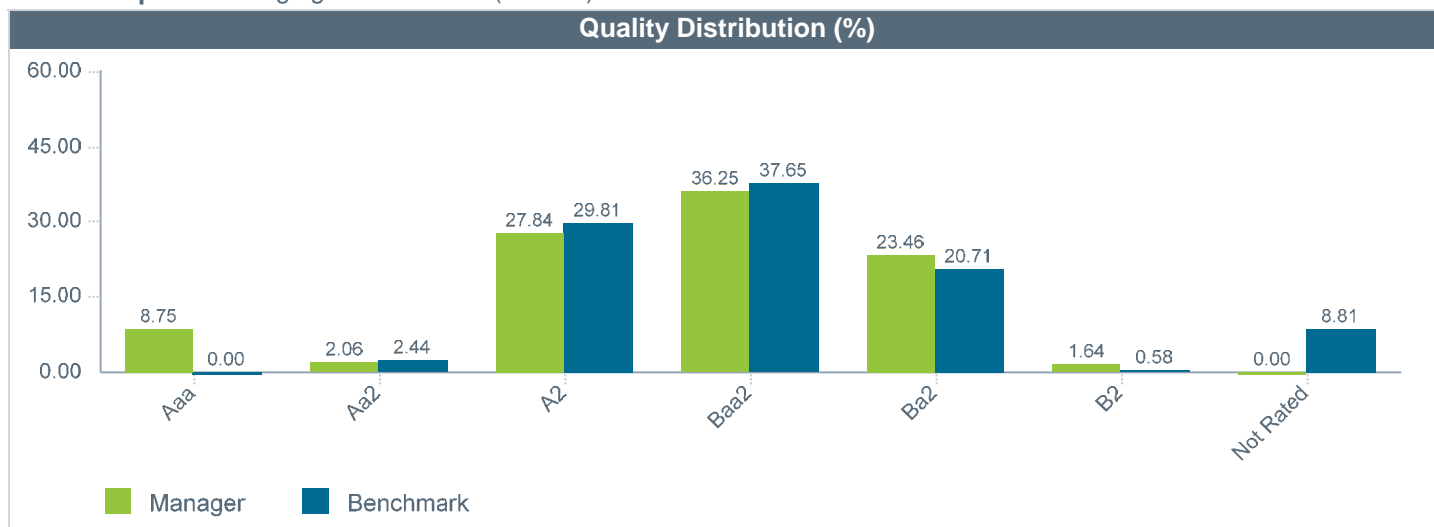


Manager: Stone Harbor

As of September 30, 2018

Benchmark: JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)

Peer Group: IM Emerging Markets Debt (SA+CF)



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Negative sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps. Region allocation to "Other" consists of USD and cash. Sector allocation to "Other" consists of interest rate swaps.

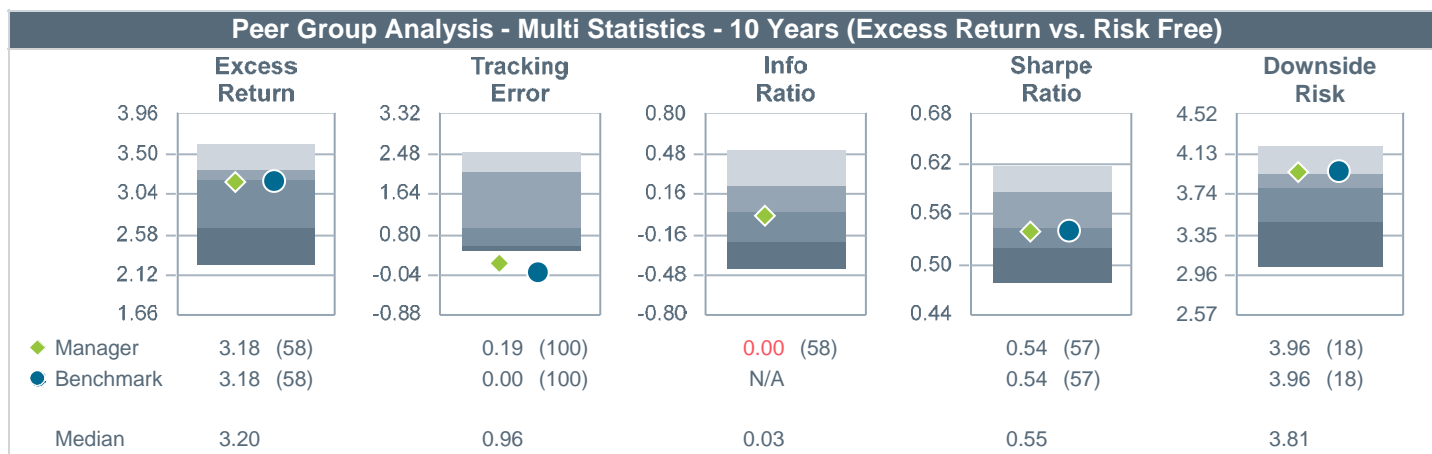
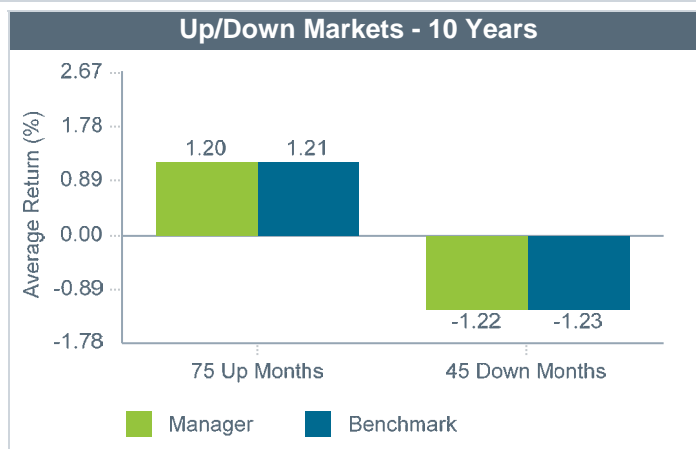
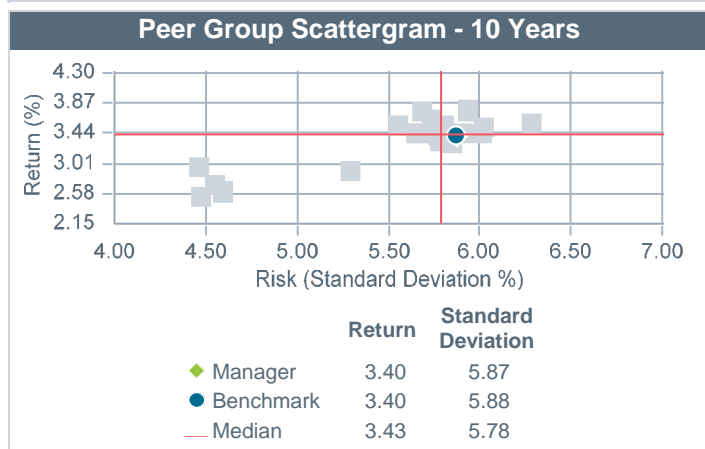
Manager: State Street TIPS

As of September 30, 2018

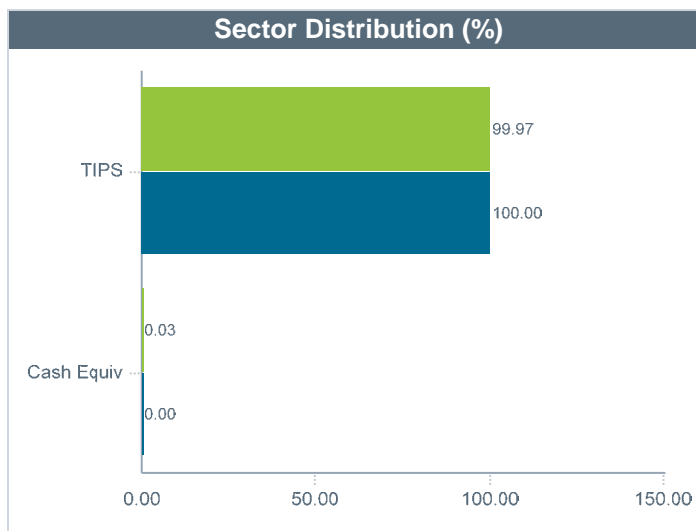
Benchmark: Bloomberg US Trsy US TIPS Index (Series B)

Peer Group: IM U.S. TIPS (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	-0.89	0.41	2.15	1.49	1.38	3.40	3.12	5.04	-1.75	4.47	-9.26
Benchmark	-0.92	0.41	2.14	1.49	1.38	3.40	3.30	4.85	-1.72	4.43	-9.26
Difference	0.03	0.00	0.01	0.00	0.00	0.00	-0.18	0.19	-0.03	0.04	0.00
Peer Group Median	-0.74	0.43	2.11	1.38	1.37	3.43	3.10	4.66	-1.41	3.59	-8.33
Rank	94	65	41	28	48	59	49	24	91	7	93
Population	33	33	32	31	29	28	34	36	36	41	44

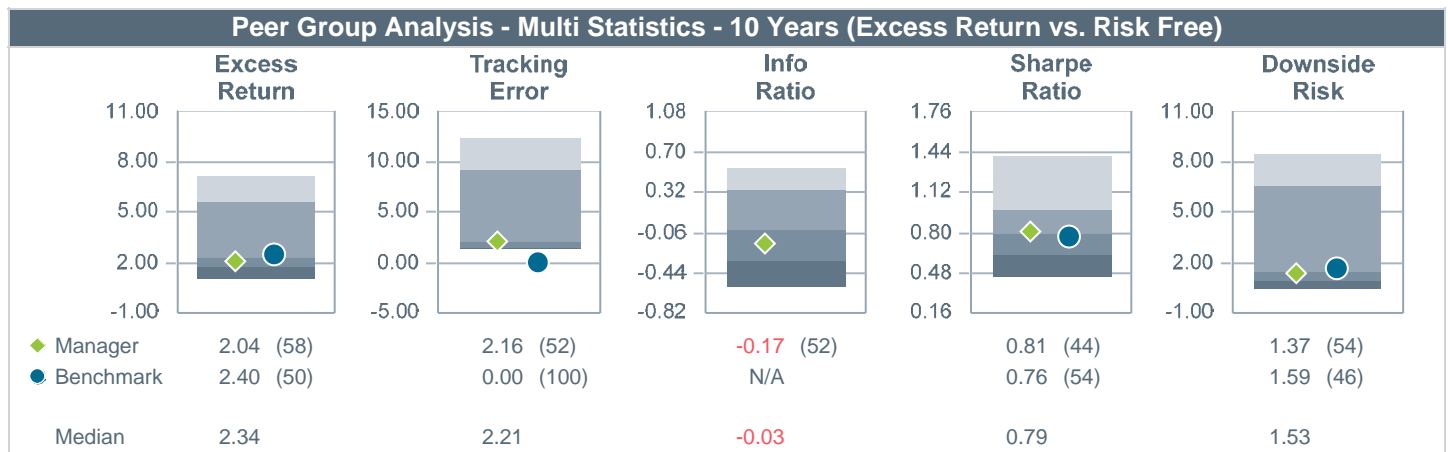
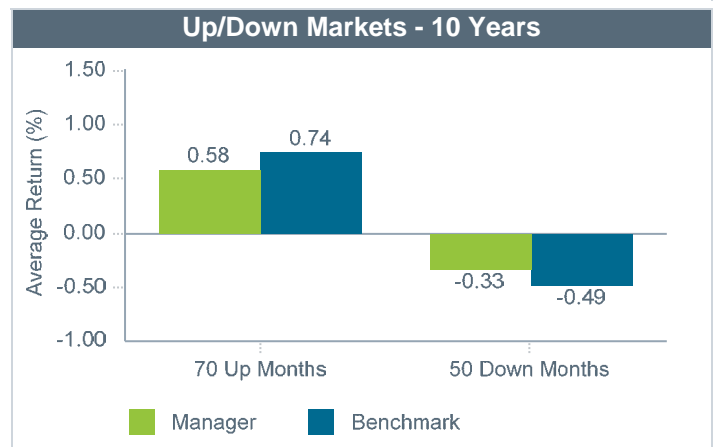
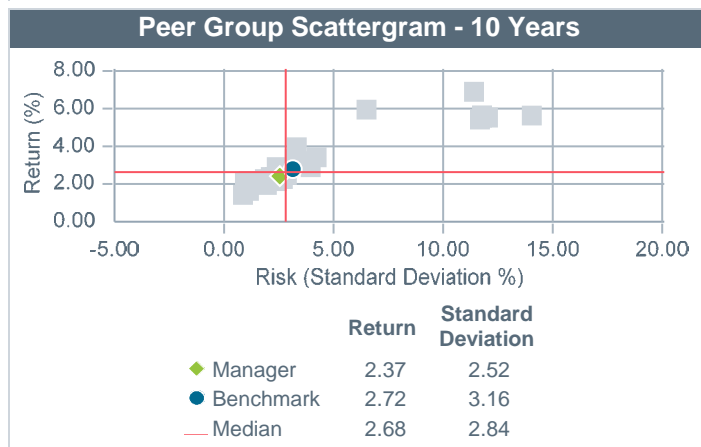


Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	5.83	N/A
Spread Duration	N/A	N/A
Avg. Maturity	8.77	8.67
Avg. Quality	Aaa	Aaa
Yield To Maturity (%)	3.15	N/A
Coupon Rate (%)	0.94	N/A
Current Yield (%)	0.71	N/A
Holdings Count	40	39

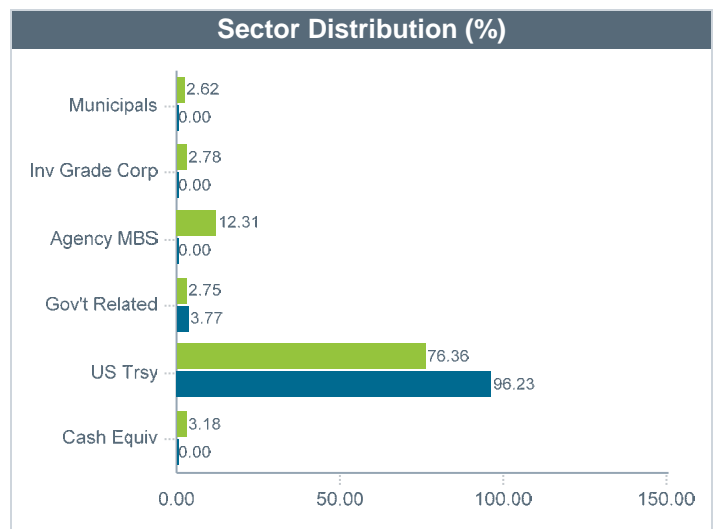


Performance shown is gross of fees. Performance prior to client inception consists of the Bloomberg US Trsy: US TIPS Index (Series B). Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	2013
Manager	0.07	-0.33	0.86	1.78	1.41	2.37	1.84	0.95	1.83	5.30	-3.11
Benchmark	-0.11	-1.18	0.19	0.93	0.89	2.72	1.14	1.05	1.18	2.52	-1.25
Difference	0.18	0.85	0.67	0.85	0.52	-0.35	0.70	-0.10	0.65	2.78	-1.86
Peer Group Median	-0.13	-1.20	0.69	1.43	1.36	2.68	1.77	1.34	0.72	2.89	-1.30
Rank	23	20	30	42	48	58	50	84	7	35	67
Population	45	45	43	42	41	36	45	46	46	47	47



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	2.92	3.74
Spread Duration	N/A	3.73
Avg. Maturity	N/A	4.03
Avg. Quality	Aaa	Aaa/Aa1
Yield To Maturity (%)	2.87	2.90
Coupon Rate (%)	1.79	2.12
Current Yield (%)	N/A	N/A
Holdings Count	68	449



Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

*Consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consisted of the Bloomberg US Gov't/Credit Bond Index.

State of Wyoming
State Loan and Investment Board
Investment Policy Objective Review

September 30, 2018

Investment Policy Guidelines	Meeting Objective			Explanation
	Yes	No	N/A	
1. Total Fund				
Exceed the rate of inflation (C.P.I.) over a market cycle of 5-years.	✓			Wyoming returned 4.4% 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 4.4% vs. 4.3% 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
2. Investment Funds				
a) Permanent Mineral Trust Fund				
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. 5.4% for the Actual Allocation Index
b) Common School Permanent Land Fund				
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 5.4% vs. 5.5% for the Actual Allocation Index
c) Permanent Land Fund				
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. 5.3% for the Actual Allocation Index
d) University Permanent Land Fund				
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 5.8% vs. 5.9% for the Actual Allocation Index
e) Hathaway Scholarship Endowment Fund				
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 4.8% vs. 5.0% for the Actual Allocation Index
f) Higher Education Endowment Fund				
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 4.8% vs. 4.9% for the Actual Allocation Index
g) Workers Compensation Fund				
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 3.9% vs. 4.0% for the Actual Allocation Index
h) Pool A				
At least 5% to 10% of the fund balance should be invested in securities with maturities of less than one year.	✓			
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: Pool A return was 2.5% vs. 2.4% for the Actual Allocation Index
i) State Agency Pool				
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 2.2% vs. 2.1% for the Actual Allocation Index

	Yes	No	N/A	Explanation
3. US Equity Portfolios				
a) State Street Global Advisors – All Cap – Passive				
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 = 3.25%
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) Epoch – All Cap				
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 = 5.90%
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
c) Internal Equity Russell 2000 – Small Cap - Passive				
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: Five Below Inc = 0.31%
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 Russell 2000 Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 09/2018

	Yes	No	N/A	Explanation
4. International Equity Portfolios				
a) Internal International Equity Portfolio – Int’l – Passive				
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 = 1.17%
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 FTSE All World Ex US Index (Net), net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception Date: 02/2016
b) Northern Trust – Int’l – Passive				
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 = 1.25%
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), before fees, over a full market cycle, approximated by the most recent five-year period.	✓			5-year: Northern Trust gross of fees return was 4.3% vs. 4.1% for the MSCI ACW Ex US Index (Net)

	Yes	No	N/A	Explanation
c) Fisher – Int'l Active				
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: ASML Holding NV = 3.93%
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: Fisher net of fees return was 5.2% vs. 4.1% 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: Fisher ranked in the 56th percentile for International Equity

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

d) Arrowstreet – Int'l Active				
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: Samsung Electronics Co = 3.03%
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 IM Index (Net), net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 03/2018
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: 03/2018

	Yes	No	N/A	Explanation
5. Preferred Stock				
a) Cohen & Steers				
Minimum issue credit rating for preferred stock at the time of purchase will be BB or equivalent.	✓			The portfolio currently holds securities which are rated below BB. Retention of these securities in the portfolio is permitted pursuant to Section 7.2 of the Investment Policy.
A maximum of 35% of the total portfolio of the investment manager may be invested in securities rated below investment grade.	✓			
A maximum of 10% of the total portfolio of the investment manager may be invested in any one issuer.	✓			
Outperform the S&P U.S. Preferred Stock Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 07/2018
6. MLPs				
a) Harvest				
A maximum of 15% or the benchmark weighting + 2%, whichever is greater, of the total portfolio may be invested in any one company.	✓			
Outperform the S&P MLP Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 08/2018

	Yes	No	N/A	Explanation
7. Alternative Strategies				
Core Real Estate				
a) Clarion Lion				
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 10.8% vs. 9.7% for the NCREIF ODCE Index (Net) (AWA)
b) UBS Trumbull				
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 8.1% vs. 9.7% for the NCREIF ODCE Index (Net) (AWA)
Absolute Return				
c) PAAMCO				
Outperform the 90-Day T-Bills by 300 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 2.5% vs. 0.5% for the ICE BofAML 3 Mo US T-Bill Index
Outperform the HFRI FOF Comp 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 2.5% vs. 3.2% for the HFRI FOF Comp Index
d) Grosvenor Diversified Hedge Funds				
Outperform the HFRI FOF Comp Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 07/2018
e) Internal Diversified Hedge Funds				
Outperform the HFRI FOF Comp Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 07/2018

	Yes	No	N/A	Explanation
8. Convertible Bond Portfolios				
a) Allianz Global Investors				
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 8.9% vs. 9.3% for the ICE BofAML All Quality Convertible Bond Index

	Yes	No	N/A	Explanation
9. Fixed Income Portfolios				
a) C.S. McKee – Core				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a five percent (5%) 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 Bloomberg 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 its Custom Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: C.S. McKee net of fees return was 2.4% vs. 2.3% for the C.S. McKee 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: C.S. McKee ranked in the 57th percentile for Core Fixed Income

	Yes	No	N/A	Explanation
b) JP Morgan – Core				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a five percent (5%) 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 Bloomberg 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 Bloomberg US Aggregate Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: JP Morgan net of fees return was 2.3% vs. 2.2% for the Bloomberg US Aggregate Bond 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: JP Morgan ranked in the 62nd percentile for Core Fixed Income

	Yes	No	N/A	Explanation
c) PIMCO – Core				
Obligations not issued or guaranteed by the US government, US agencies, or US government-sponsored corporations and agencies are subject to a five percent (5%) 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 Bloomberg 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 its Custom Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: PIMCO net of fees return was 2.3% vs. 2.2% for the PIMCO 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: PIMCO ranked in the 59th percentile for Core Fixed Income

	Yes	No	N/A	Explanation
d) Neuberger Berman – Credit				
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%) Bloomberg 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.		✗		5-year: Neuberger Berman net of fees return was 3.7% vs. 4.3% for the Credit 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: Neuberger Berman ranked in the 32nd percentile for US Fixed Income
Investment Grade Credit Sleeve:				
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.	✓			
High Yield Sleeve:				
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.	✓			
Bank Loan Sleeve:				
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
e) Seix – Credit				
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%) Bloomberg 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.		✗		5-year: Seix net of fees return was 4.3% vs. 4.3% for the Credit 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: Seix ranked in the 26th percentile for US Fixed Income
Investment Grade Credit Sleeve:				
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.	✓			
High Yield Sleeve:				
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.	✓			
Bank Loan Sleeve:				
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
f) Grosvenor Silvery Lupine Fund – Opportunistic Fixed Income				
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
g) Investec – Emerging Market Debt (Local Currency)				
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 four 144A securities held by this portfolio. 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 JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged), net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: Investec net of fees return was -2.3% vs. the return of -1.7% for the JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)
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: Investec ranked in the 92nd percentile for Emerging Market Debt (Local Currency)

	Yes	No	N/A	Explanation
h) Stone Harbor – Emerging Market Debt (Local Currency)				
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-. Retention of these securities in the portfolio is permitted pursuant to Section 7.2 of the Investment Policy.
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 JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged), net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: Stone Harbor net of fees return was -3.4% vs. return of -1.7% for the JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)
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: Stone Harbor ranked in the 100th percentile for Emerging Market Debt (Local Currency)
i) State Street – US TIPS – Passive				
Meet the performance of the Bloomberg US TIPS Index with minimal tracking error, gross of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: State Street gross of fees return was 1.5% vs. 1.5% for the Bloomberg US TIPS Index and a tracking error of 0.3%

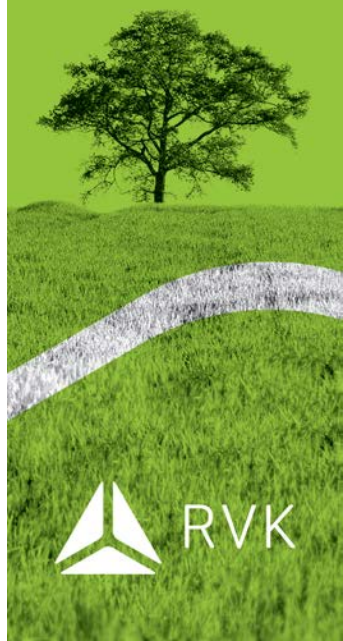
	Yes	No	N/A	Explanation
10. Cash and Cash Equivalents Portfolios				
JP Morgan Cash Composite*				
a) JP Morgan Treasury Cash				
Portfolio's weighted average maturity is not to exceed 90 days.	✓			
Portfolio's maximum average cash flow weighted duration of the portfolio must not exceed 90 days.	✓			
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 5% 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 except for government securities.	✓			
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 0.5% vs. 0.5% for the ICE BofAML 3 Mo US T-Bill Index
b) JP Morgan Treasury Extended Cash				
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.	✓			
A maximum of 5% 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 0.9% vs. 0.7% 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 12/31/2011 and performance calculated by JP Morgan thereafter.

	Yes	No	N/A	Explanation
JP Morgan Wyo-Star Cash Composite*				
c) JP Morgan Wyo-Star Cash				
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 5% 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 Wyo-Star Cash net of fees return was 0.5% vs. 0.5% for the ICE BofAML 3 Mo US T-Bill Index
d) JP Morgan Wyo-Star Extended Cash				
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.	✓			
A maximum of 5% 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 0.7% vs. 0.7% 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 12/31/2011 and performance calculated by JP Morgan thereafter.

Addendum & Glossary



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 Ex US Index (Net) for international equities, Bloomberg US Aggregate Bond Index for fixed income, ICE 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, HFRI FOF Comp Index for Diversified Hedge Funds, and ICE 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 Ex US Index (Net) for international equities, Bloomberg US Aggregate Bond Index for fixed income, ICE 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, HFRI FOF Comp Index for Diversified Hedge Funds, 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, 24% 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% Bloomberg US Credit Index, 20% ICE BofA Merrill Lynch US High Yield Master II Constrained Index, and 60% S&P/LSTA Leveraged Loan Index.

The Internal Intermediate Govt Fixed Income Portfolio Custom Index consists of the Bloomberg US Gov't: Int. Term Bond Index; prior to December 2009 the index consists of the Bloomberg US Gov't/Credit Bond Index.

The C.S. McKee Custom Index consists of the Bloomberg US Agg Bond Index through January 2018 and the Bloomberg US Agg Int Index thereafter.

The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018 and the Bloomberg US Agg Int Index thereafter.

The JP Morgan Blended Index consists of an equal-weighted allocation to the ICE BofA Merrill Lynch 1-3 Year US Treasury Index, ICE BofA Merrill Lynch 1-3 Year US Agencies Index, and ICE 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 ICE BofAML 3 Mo 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 ICE BofAML 3 Mo 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 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.

Performance for the Internal Intermediate Govt Fixed Income Portfolio excludes distressed securities taken in-kind following the liquidation of WAMCO Core Plus.

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

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

Composite performance shown for Fixed Income is historically exclusive of convertibles.

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.

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

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 Workers Compensation Fund was reclassified as a Permanent Fund.

During the 1st quarter of 2016, the State funded the Internal International Equity Portfolio, using proceeds from the liquidation of The Boston Company.

During the 3rd quarter of 2016, Bloomberg acquired the Barclays Global Family of Fixed Income Indices. Naming conventions have been updated to "Bloomberg" to reflect the acquisition.

During the 3rd quarter of 2016, MacKay Shields began the liquidation process, with proceeds used to increase allocations to C.S. McKee and the Internal Intermediate Govt Fixed Income Portfolio.

During the 1st quarter of 2017, Neuberger Berman Core and Wells Capital began their respective liquidation processes.

During the 2nd quarter of 2017, Manning & Napier began the liquidation process.

During the 4th quarter of 2017, Lazard began the liquidation process.

During the 4th quarter of 2017, Intercontinental Exchange (ICE) acquired the BofA Merrill Lynch Global Research FICC index platform. As a result, all BofA Merrill Lynch indices have been rebranded to "ICE BofA Merrill Lynch".

During the 1st quarter of 2018, Arrowstreet was reclassified as International Equity and the Internal Low Duration portfolio was funded.

During the 2nd quarter of 2018, Cohen & Steers, Grosvenor Diversified Hedge Funds, and Internal Diversified Hedge Funds were funded.

Miscellaneous Comments (Continued)

During the 2nd quarter of 2018, the Hybrid Assets Composite was created for convertibles, preferred stock, and MLPs.

During the 2nd quarter of 2018, RBC began the liquidation process.

During the 3rd quarter of 2018, Internal Equity Russell 2000 was funded.

During the 3rd quarter of 2018, Harvest was funded.

INVESTMENT MANAGER PEER GROUP GLOSSARY

IM U.S. All Cap Equity (SA+CF): The **U.S. All Cap Equity** universe includes products with a higher growth bias, products with a higher value bias, and products where the investment strategy permits investments in both value and growth equity securities across the complete Russell 3000 market cap spectrum.

IM U.S. Large Cap Core Equity (SA+CF): The **U.S. Large Cap Core Equity** universe includes products where the investment strategy can best be described as benchmark driven rather than style driven and can include a blend of both value and growth considerations. The weighted average market cap is in excess of \$10 billion.

IM U.S. Small Cap Core Equity (SA+CF): The **U.S. Small Cap Core Equity** universe includes products where the investment strategy can best be described as benchmark driven rather than style driven and can include a blend of both value and growth considerations. The weighted average market is between \$300 million and \$2 billion.

IM All ACWI ex US (SA+CF): The **All ACWI ex US** universe includes products where the investment strategy can be best described as benchmark driven and includes products investing in growth and value securities across the MSCI ACW Ex US Index.

IM U.S. Broad Mkt Core Fixed Income (SA+CF): The **U.S. Broad Mkt Core Fixed Income** universe includes products where the portfolio weighted average duration is greater than or equal to 4 years and less than 6 years. The average maturity can be between 3 and 8 years. The allocation to high yield bonds or emerging market debt is less than or equal to 5%.

IM U.S. Fixed Income (SA+CF): The **U.S. Fixed Income** universe includes all U.S. fixed income products.

IM Emerging Markets Debt (SA+CF): The **Emerging Markets Debt** universe includes products where the combined market allocation to emerging market debt in Asia, Africa/Europe and Latin America is approximately 75% or more. The JP Morgan Emerging Markets Bond and EMBI+ are commonly used benchmarks.

IM U.S. Government Bonds (SA+CF): The **U.S. Government Bonds** universe includes products where the investment style focuses on government bonds and the sector allocation to them is greater than or equal to 75%. The Barclays Capital U.S. Government or Government: Intermediate are commonly used benchmarks.

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

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 is instead provided by Morningstar; if unavailable on Morningstar, it 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&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
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

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

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.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

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.

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.

Federal Funds Rate - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.

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.



Glossary

- 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.
- Real Gross Domestic Product (Real GDP)** - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.
- 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.
- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- 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."
- Cash Flow Effect** - The composite's active return minus the sum of each managers' active return minus the benchmark effect.
- 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 monthly 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 approximate percentage change in a bond's price for a 100 basis point change in yield.
- 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., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.
- 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.
- 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, assuming the bonds' expected cash flows do not change.

Glossary

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 performance compiled from consultant and custodian 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.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees. For more information on Peer Groups, visit <https://www.invmetrics.com/style-peer-groups>.

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 4th 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 calculates performance for investment managers and composites using different methodologies.

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.

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.

Price to Earnings Ratio - The ratio of a company's share price to its per-share earnings

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 - ICE BofAML 3 Mo US T-Bill Index unless specified otherwise.

Glossary

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 Treasuries	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	Non-Core 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		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. 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 - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

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:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITS
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Total Fund Attribution - The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) - The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) - The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) - The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) - The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

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.

Glossary

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., ICE BofAML 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. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

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

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