



# Quarterly Investment Performance Analysis

Wyoming State Treasurer's Office

Period Ended: December 31, 2020





## Memorandum

To	Wyoming State Loan and Investment Board
From	RVK, Inc.
Subject	Investment Performance Analysis – Summary of Contents
Date	December 31, 2020

To assist in your review of the Investment Performance Analysis for the quarter ended December 31, 2020, 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 – 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.

### TAB 3 – 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 total fund index is included.

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**TAB 4 – 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 5 – 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 6 – 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 7 – 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 8 – 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 9 – 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

*Fourth QUARTER 2020*

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## Memorandum

To	Wyoming State Loan and Investment Board
From	RVK, Inc.
Subject	Investment Performance Analysis Commentary
Date	December 31, 2020

Outlined below please find a summary of significant observations regarding performance of the State's Funds for the period ended December 31, 2020. We hope this summary will facilitate your review of our Investment Performance Analysis Report.

The Total Fund returned 5.8% net of fees during the fourth quarter as risk assets produced positive returns. Long-term performance for the Total Fund remains strong, with the State earning returns of 5.0% and 5.1% per annum over the trailing seven- and ten-year periods.

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

The Bloomberg US Aggregate Bond Index increased by 0.7% in the quarter, supported by record fiscal and monetary stimulus. Diversification away from core US bonds had mixed results as bank loans, EMD, and long duration outperformed the broad market, while low duration underperformed. The State's core fixed income managers slightly underperformed the broad market index, collectively returning 0.6%. Emerging markets debt and low duration outperformed their respective benchmarks, while long duration and bank loans modestly underperformed their respective benchmarks during the quarter.

US equity markets had a strong recovery across all market capitalizations and styles during the fourth quarter. Major US equity indices finished the quarter in positive territory, with the Russell 3000 Index returning 14.7% for the quarter. The State's All Cap and Small Cap US equity composites had positive returns during the fourth quarter, keeping pace with or modestly underperforming their respective indices.

Developed international markets underperformed emerging markets during the quarter, with the MSCI EAFE Index returning 16.1% and the MSCI Emerging Markets Index returning 19.7%. The State's international equity composite returned 18.8% during the quarter, outperforming the MSCI ACW

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Ex US Index by 1.8%. Passively managed strategies within the State's international equity portfolio kept pace with their respective benchmarks, while Arrowstreet outperformed its respective benchmark by 5.9%. Harding Loevner had modest underperformance of 0.4%.

Mixed assets, including preferred stock and MLPs, generated positive absolute returns during the quarter. Cohen & Steers returned 5.8% in the quarter, but underperformed its benchmark by 1.1%. MLPs had strong positive performance as Harvest Active and Harvest Passive returned 22.6% and 26.1%, respectively, but both underperformed the index.

Core real estate generated a positive return during the quarter, with income outpacing capital appreciation. The State's core real estate composite earned 1.2% in the quarter, outperforming the NCREIF ODCE Index. Clarion earned 1.9%, while UBS returned -2.1%. MS Prime also had a positive return of 1.5%.

Diversified hedge funds returned 6.7% during the quarter, underperforming the HFRI FOF Composite Index by 1.4%. Grosvenor Diversified Hedge Funds and Internal Diversified Hedge Funds returned 6.4% and 7.0%, respectively.

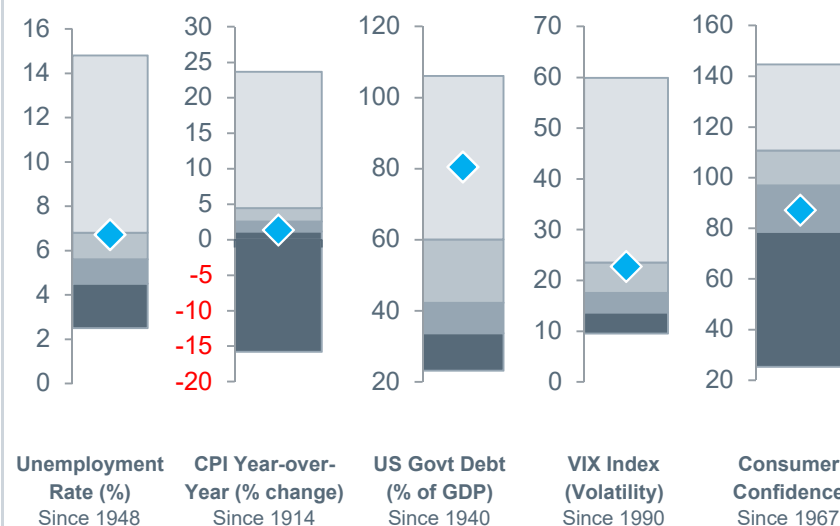
# Capital Markets Review



## Fourth Quarter Economic Environment

In Q4, multiple fundamental developments reinforced market sentiment and kept many investors positioned to add incremental risk despite the relatively weak economic environment and worsening global pandemic. Importantly, two closely watched coronavirus vaccine trials from Pfizer/BioNTech and Moderna released promising efficacy results leading to emergency use authorizations from the FDA, allowing market participants to pull forward expectations for normalized economic activity for much of the developed world in 2021. Investors also reacted favorably to completed negotiations around new fiscal stimulus following the November US elections, which culminated in a \$900B package being signed into law under a larger omnibus spending bill. The package included new supplemental unemployment benefits of \$300 per week for the 6.7% of unemployed Americans, as well as another one-time round of stimulus checks in the amount of \$600 for most individuals. The Fed reiterated its commitment to maintain monthly asset purchases, currently at \$120B, and zero interest rates until the economy makes significant progress toward its goal of full employment. Given the backdrop of supportive monetary and fiscal policies, risk assets posted another quarter of stellar returns. Though financial markets have rebounded from the sharp drawdown in early 2020, global economic activity remains well off its pre-pandemic peak.

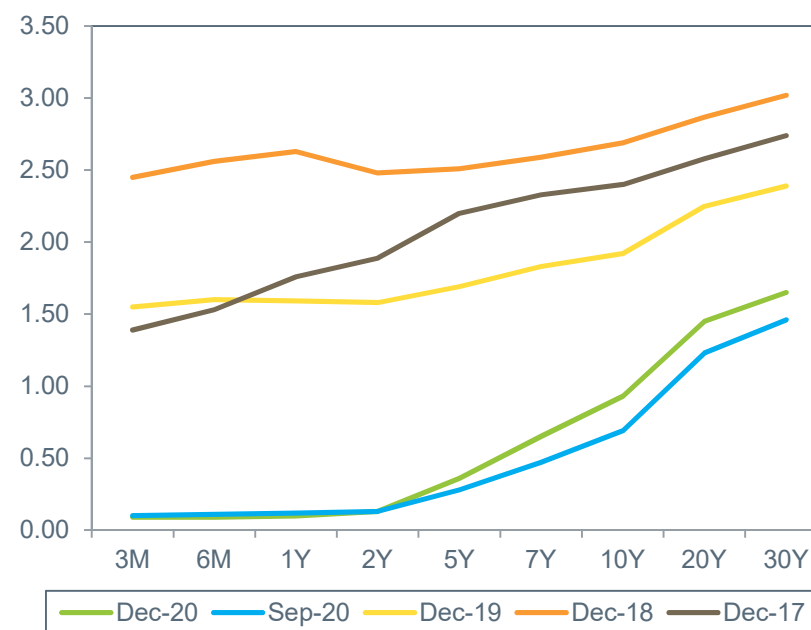
## Key Economic Indicators



Economic Indicators	Dec-20	Sep-20	Dec-19	Dec-17	20 Yr
Federal Funds Rate (%)	0.09	0.09	1.55	1.33	1.49
Breakeven Infl. - 5 Yr (%)	1.97 ▲	1.49	1.70	1.88	1.82
Breakeven Infl. - 10 Yr (%)	1.99 ▲	1.63	1.79	1.98	2.01
CPI YoY (Headline) (%)	1.4	1.4	2.3	2.1	2.1
Unemployment Rate (%)	6.7 ▼	7.8	3.6	4.1	6.1
Real GDP YoY (%)	-2.5 ▲	-2.8	2.3	2.7	1.7
PMI - Manufacturing	60.5 ▲	55.7	47.7	59.2	52.6
USD Total Wtd Idx	111.56 ▼	117.26	114.68	110.08	103.23
WTI Crude Oil per Barrel (\$)	48.5 ▲	40.2	61.1	60.4	62.4
Gold Spot per Oz (\$)	1,898 ▲	1,886	1,517	1,303	1,009

Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	12.15	18.40	18.40	15.22	13.88
Russell 2000	31.37	19.96	19.96	13.26	11.20
MSCI EAFE (Net)	16.05	7.82	7.82	7.45	5.51
MSCI EAFE SC (Net)	17.27	12.34	12.34	9.40	7.85
MSCI Emg Mkts (Net)	19.70	18.31	18.31	12.81	3.63
Bloomberg US Agg Bond	0.67	7.51	7.51	4.44	3.84
ICE BofAML 3 Mo US T-Bill	0.03	0.67	0.67	1.20	0.63
NCREIF ODCE (Gross)	1.30	1.19	1.19	6.21	9.88
FTSE NAREIT Eq REIT (TR)	11.57	-8.00	-8.00	4.77	8.31
HFRI FOF Comp	8.09	10.86	10.86	4.55	3.32
Bloomberg Cmdty (TR)	10.19	-3.12	-3.12	1.03	-6.50

## Treasury Yield Curve (%)



## Fourth Quarter Review

## Broad Market

US equity markets finished strong in Q4 following a period of heightened volatility earlier in the quarter. Negotiations around another US fiscal stimulus package stalled in October and spikes in coronavirus infections contributed to the S&P 500 Index returning -2.7% for the month. In the latter half of the quarter, optimism around vaccine authorization, the announcement of additional stimulus in December, and the prospect of further fiscal support drove positive investor sentiment.

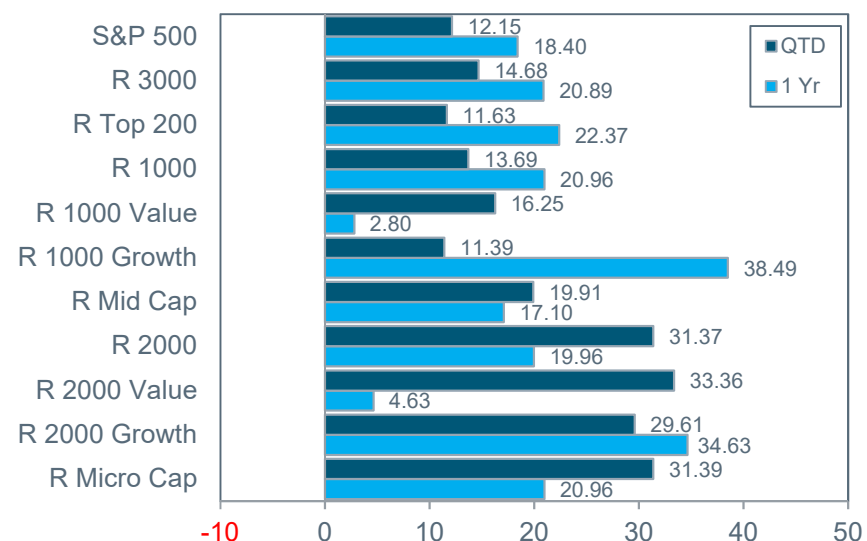
## Market Cap

Additionally, small-cap stocks fared best in Q4, a reversal of what was seen in Q3. The prospect of lockdowns easing in 2021 also contributed to strong performance for small-cap stocks, with the Russell 2000 Index up 31.4% relative to the S&P 500 Index returning 12.1%.

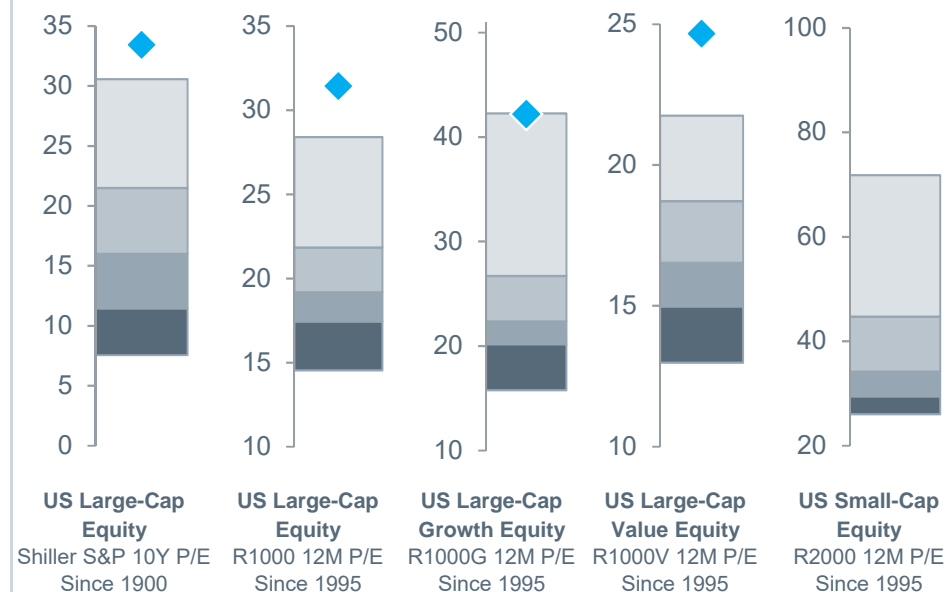
## Style and Sector

This quarter marked the end of a consistent string of growth-led quarters, with value stocks outperforming their growth counterparts.

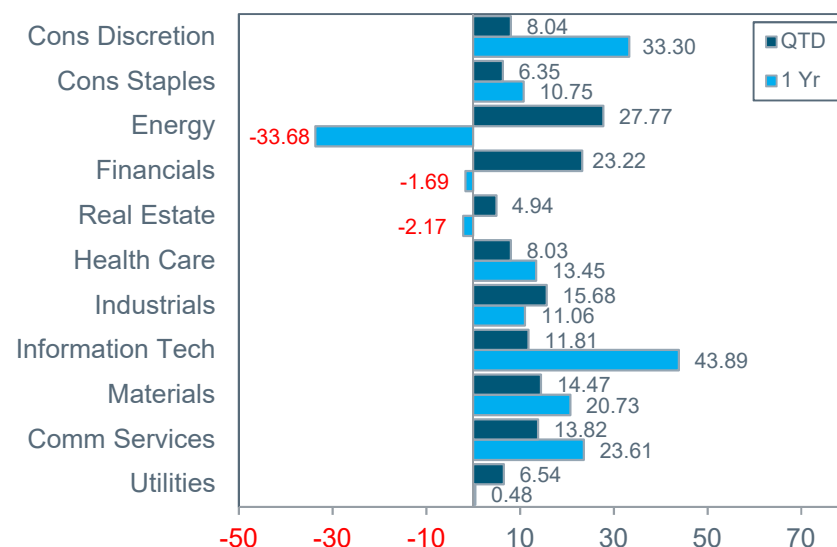
## Style and Capitalization Market Performance (%)



## Valuations



## S&amp;P 500 Index Sector Performance (%)



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers. Current R2000 P/E is unavailable due to negative earnings per share as of 12/31/2020.



## Fourth Quarter Review

## Developed Markets

Developed international markets had another strong quarter of returns. Value stocks outperformed growth, while small stocks beat their larger counterparts. Nearly all developed market countries saw double digit positive returns for the quarter. Active management saw split results during the quarter, with a majority of small-cap developed international equity managers beating their benchmarks while the majority of large-cap managers underperformed.

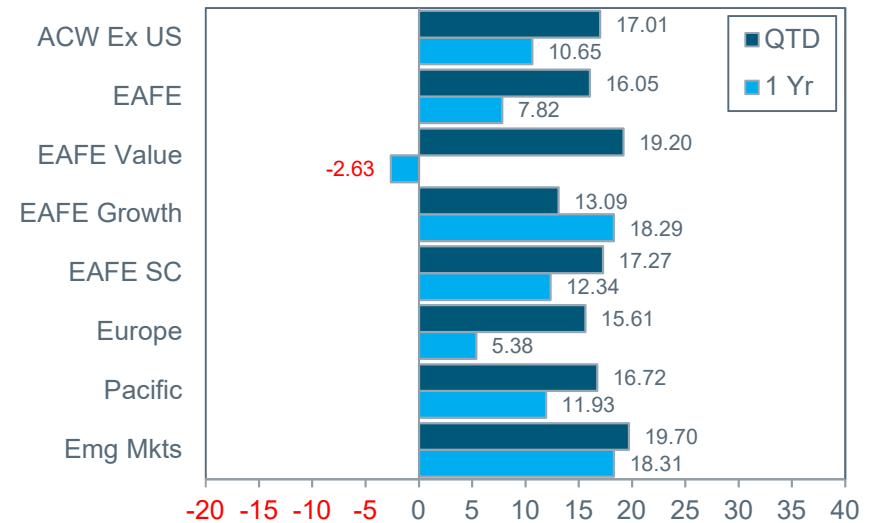
## Emerging Markets

Emerging markets outpaced developed during the quarter continuing the trend for the third quarter in a row. Emerging market value stocks outperformed growth, while small stocks continued their outperformance of large since Q2. All sectors posted positive performance for the quarter led by technology, but more value-oriented sectors were not far behind.

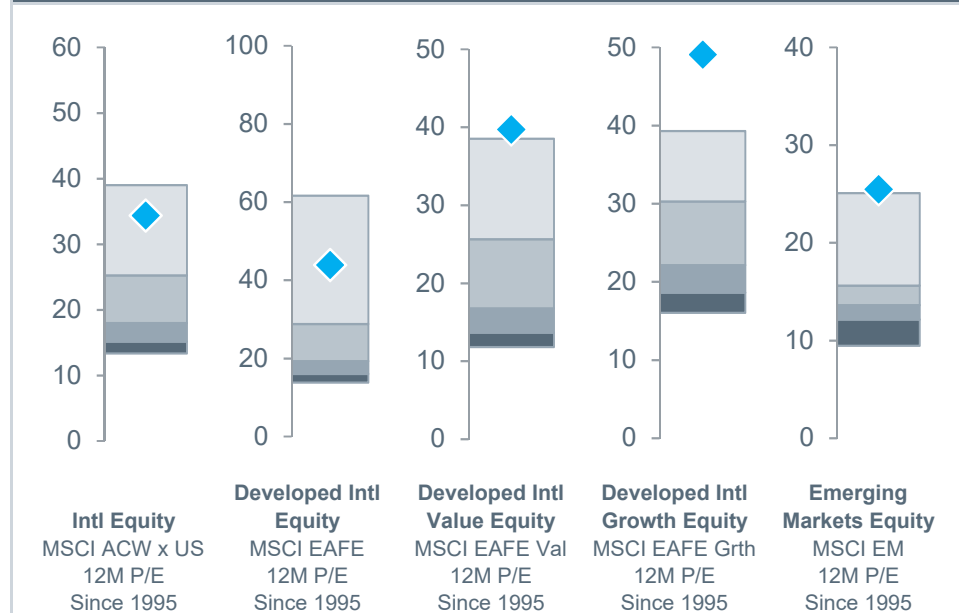
## Market Cap &amp; Style

In both developed international markets and emerging markets, value stocks outperformed growth, while small-cap stocks outperformed large-cap.

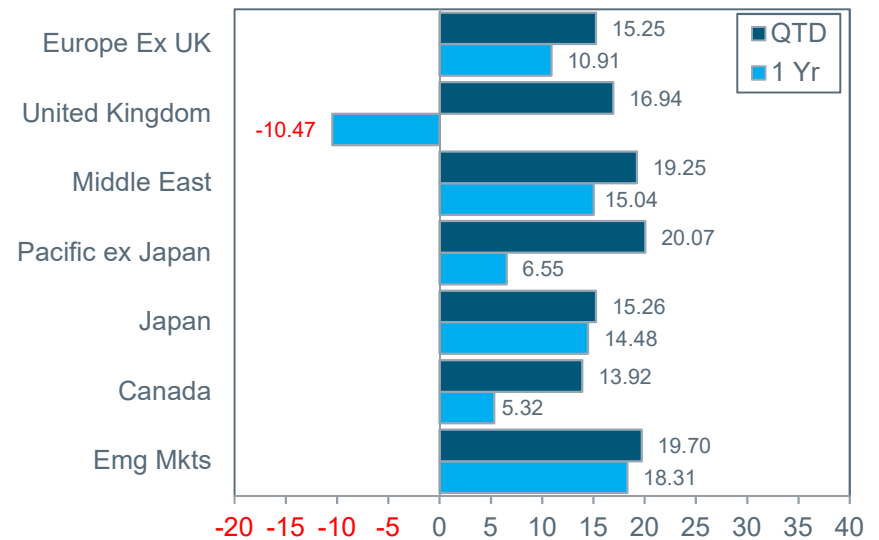
## MSCI Style and Capitalization Market Performance (%)



## Valuations



## MSCI Region Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

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

All returns are shown net of foreign taxes on dividends.

## Fourth Quarter Review

## Broad Market

The Bloomberg US Aggregate Index returned a modest 0.7% in Q4, capping off a 7.5% YTD return and an overall strong year for US fixed income, supported by record fiscal and monetary stimulus. In Q4, the Treasury yield curve steepened as front end rates remained anchored near zero, a sign of the Federal Reserve's continued support, while yields for intermediate- and long-dated maturities increased over Q4.

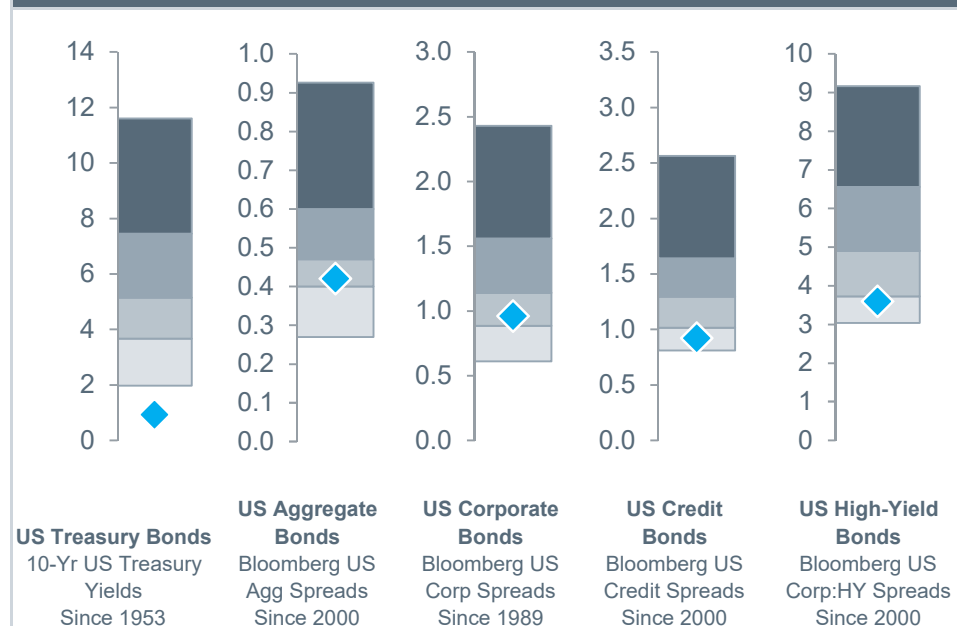
## Credit Market

The Bloomberg US Credit Index returned 2.8% for Q4 2020, outperforming the broader fixed income market. Despite record-setting new issuance, credit spreads continued to tighten, compressing to 92 bps.

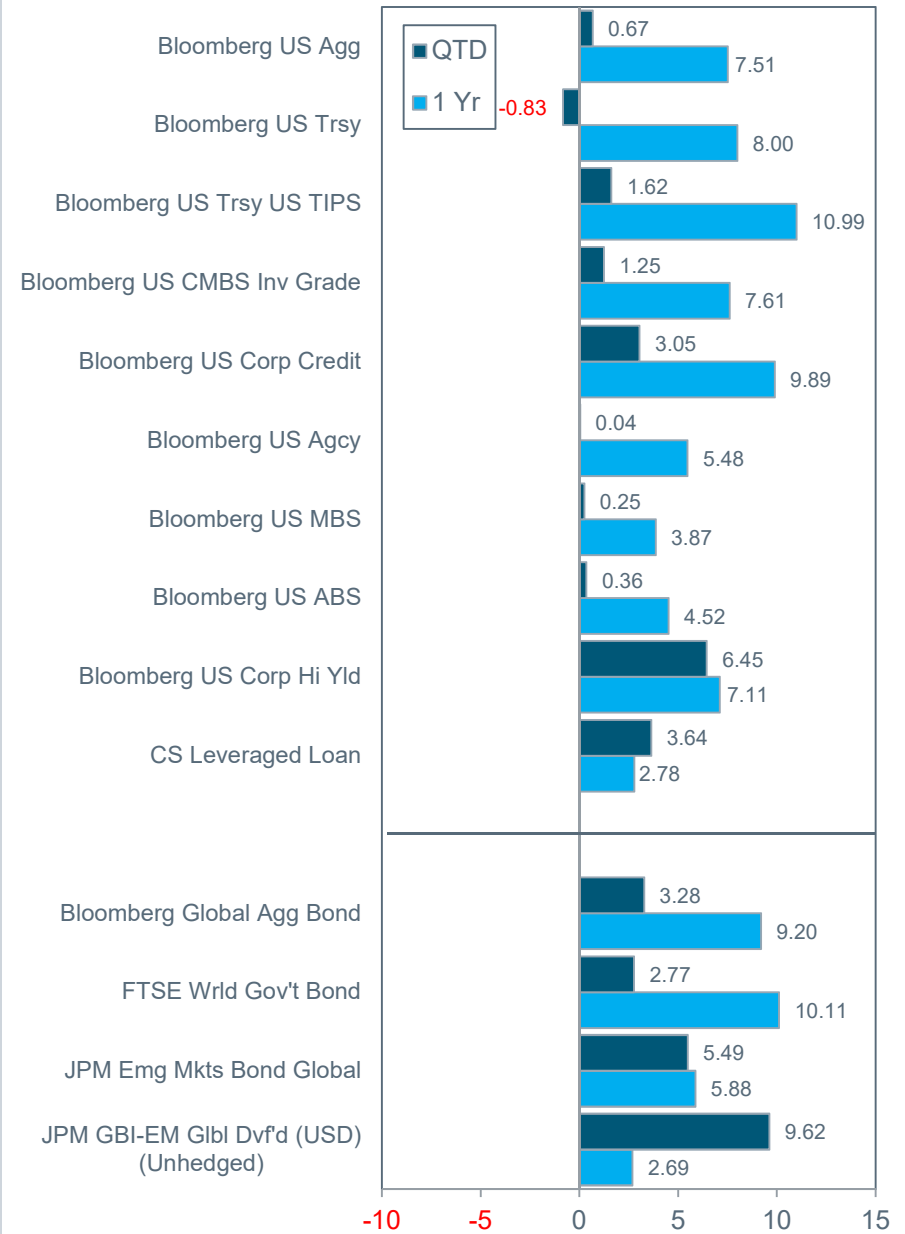
## Emerging Market Debt

Emerging market debt also ended the year on a high note, with the JPM EMBI Global Diversified Index returning 5.8% for the quarter. However, the hard currency index was overshadowed by its local currency counterpart.

## Valuations



## Fixed Income Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.

#### Fourth Quarter Review - Absolute Return

##### General Market - Hedge Funds

The hedge fund industry posted double digit gains in back to back years for the first time since 2009-2010 as the HFRI Fund Weighted Composite Index returned 10.7% in Q4, bringing YTD returns to 11.6%. Equity Long/Short ("ELS") managers led the way, reporting a Q4 return of 14.5% and a full-year return of 17.5% in one of the best alpha-generating years for fundamental equity managers in recent memory.

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

Performance across GTAA strategies RVK follows closely generated positive absolute returns during the quarter ranging from mid-single digits to low double-digits. Long-biased strategies reported mixed performance versus a static and less diversified blend of 60% US equity and 40% US fixed income. Broadly speaking, strategies that have kept higher levels of risk and equity exposure have tended to outperform peers that opted to keep equity allocations relatively muted.

#### Fourth Quarter Review - Real Assets

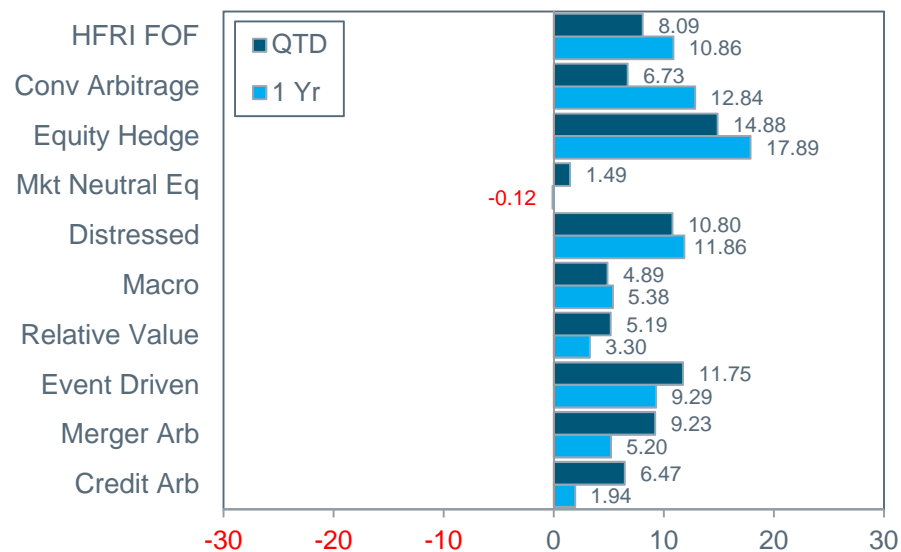
##### General Market - Diversified Inflation Strategies (DIS)

Performance for DIS managers that RVK follows closely largely generated positive absolute performance during Q4, while producing mix results for the full year. For the quarter, most traditionally inflation-sensitive asset classes were drivers of positive returns. In Q4, strategies with relatively larger allocations to segments with higher historical volatility, such as REITs, listed infrastructure and global natural resources, generated stronger relative returns versus peers.

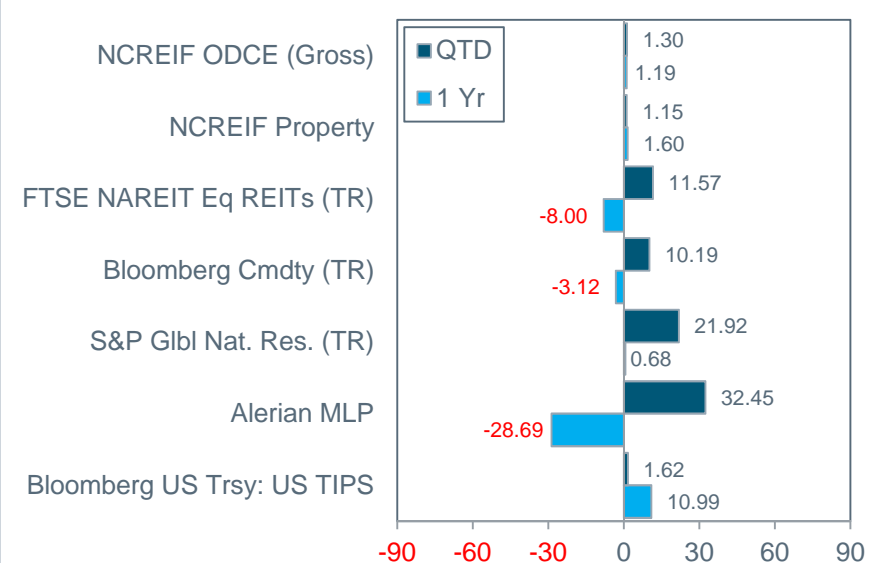
##### General Market - Real Estate

Core private real estate returned 1.3% in Q4, as reported by the NFI-ODCE Index, with the total return comprised of 0.9% income and 0.4% price appreciation. While the income component remained relatively healthy and in-line with historical levels, price appreciation rebounded meaningfully from a negative return in Q3. Investors in publicly traded real estate outperformed their private market counterparts by a meaningful margin.

#### HFRI Hedge Fund Performance (%)



#### Real Asset Performance (%)



## Annual Asset Class Performance

As of December 31, 2020

Calendar Year Performance												Annualized Statistics (01/2006 - 12/2020)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	CYTD (As of 12/20)		Return	Standard Deviation	Sharpe Ratio
Best ↑ ↓ Worst	35.17	15.99	18.64	38.82	14.07	15.02	21.95	27.19	10.15	31.49	19.96	S&P 500 Index - US Large Cap	9.88	16.56	0.58
	26.85	14.47	16.83	32.39	13.69	5.63	21.31	21.83	8.35	25.53	18.40	Russell 2000 Index - US Small Cap	8.91	22.43	0.44
	21.87	11.22	16.76	29.75	12.50	5.47	13.33	17.99	1.87	21.51	10.86	International Equity Custom Index - International	4.32	19.28	0.26
	16.36	7.84	16.35	21.51	11.35	1.38	11.96	15.21	0.44	17.64	10.65	Cambridge US PE Index - Private Equity	11.85	9.00	1.17
	15.68	2.11	16.00	15.29	7.66	0.55	10.16	14.65	0.01	13.89	8.60	NCREIF ODCE Index - Real Estate	6.42	7.16	0.75
	15.06	1.52	13.46	13.94	5.97	0.18	9.94	9.11	-4.02	13.47	7.97	HFRI FOF Comp Index	3.02	7.18	0.28
	14.99	0.66	10.94	8.96	4.89	-0.27	8.77	7.77	-4.25	8.72	7.51	S&P U.S. Preferred Stock Index	5.51	18.45	0.31
	10.17	-1.16	9.66	5.29	3.37	-0.69	4.50	7.62	-4.38	8.64	3.12	MLP Custom Index	4.17	27.44	0.26
	9.28	-1.75	4.95	0.12	1.60	-4.41	2.65	4.12	-6.21	8.39	1.50	Bloomberg US Agg Bond Index - Fixed Income	4.49	3.21	1.01
	6.54	-4.18	4.79	-0.17	0.18	-5.66	1.94	3.54	-11.01	7.55	1.19	S&P LSTA Lvgd Loan Index - Bank Loans	4.62	10.59	0.36
	5.70	-5.72	4.21	-2.02	-3.87	-14.92	0.51	0.84	-11.67	5.34	0.67	EMD Custom Index	5.02	11.66	0.38
	0.73	-13.71	0.26	-8.98	-5.72	-35.07	0.38	-5.58	-14.20	2.47	-25.60	JP Morgan Cash Custom Index - Cash Equiv	1.51	0.86	1.11

The International Equity Custom Index consists of the MSCI EAFE Index (USD) (Gross) through July 2010 and the MSCI ACW Ex US Index (USD) (Net) thereafter.

The MLP Custom Index consists of the S&P MLP Index (TR) through 06/30/2019, the Alerian MLP Index through 12/31/2019, and 50% Alerian MLP Index / 50% Alerian Midstream Energy Index thereafter.

The EMD Custom Index consists of the JPM GBI-EM Gbl Dvf'd Index through 02/29/2020, 70% JPM GBI-EM Gbl Dvf'd Index / 30% JPM CEMBI Brd Dvf'd Index thereafter through 11/30/2020, and 1/3 JPM GBI-EM Gbl Dvf'd Index, 1/3 JPM CEMBI Brd Dvf'd Index, and 1/3 JPM EMBI Gbl Dvf'd Index thereafter.

The JP Morgan Cash Custom Index is calculated monthly using beginning of the month investment weights applied to each corresponding primary benchmark return.

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 through 06/30/2019, and the ICE BofAML 3 Mo US T-Bill Index thereafter.

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.

## ASSET CLASS SUMMARY

**US Equity:** The **US Equity** structure employs a core-satellite approach, which gains passive, low-cost beta exposure at its core. The core component of the portfolio utilizes passive management intended to replicate a broad market index. The Small Cap investment managers include both active management as well as passive strategies.

**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, lower leverage and higher occupancy rates, while Non-Core Real Estate investments allow for greater investment flexibility.

**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.

**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 two portfolios with a specialized investment manager. The passive strategy is designed to replicate the market index, whereas the active strategy 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. Core Fixed Income has disaggregated segments comprised of investment grade corporate, MBS, and government. The Internally Managed Portfolio also provides liquidity and safety of capital. The satellite portfolios serve as dedicated specialists. Bank Loans provide diversification from traditional fixed income investments and the potential for enhanced return. Investments in Emerging Market Debt 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

**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.*

**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 US 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 US Min Vol Index (USD) (Gross) through 02/27/2020, State Street All Cap account performance on 02/28/2020, and the S&P 500 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.

**All Cap US Equity Custom Index:** The **All Cap US Equity Custom Index** consists of the Russell 3000 Index through 02/29/2020, and the S&P 500 Index thereafter.

**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.

**S&P US Preferred Stock:** The **S&P US 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 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.

**MLP Custom Index:** The **MLP Custom Index** consists of the S&P MLP Index (TR) through 06/30/2019, the Alerian MLP Index through 12/31/2019, and 50% Alerian MLP Index / 50% Alerian Midstream Energy Index thereafter.

**Alerian MLP Index:** The **Alerian MLP Index** is an index of energy infrastructure Master Limited Partnerships (MLPs). It is a capped, float-adjusted, capitalization-weighted index, whose constituents represent approximately 85% of the total float-adjusted market capitalization.

**Alerian Midstream Energy Index:** The **Alerian Midstream Energy Index** is an index of energy infrastructure Master Limited Partnerships (MLPs), whose constituents earn the majority of their cash flow from midstream activities involving energy commodities.

**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 38 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.

**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.

**PIMCO Custom Index:** The **PIMCO Custom Index** consists of the Bloomberg US Agg Bond Index through February 2018, the Bloomberg US Agg Int Index through June 2019, the Bloomberg US Agg Bond Index through 03/26/2020, account performance from 03/27/2020 through 04/03/2020, and the Bloomberg US Agg Bond Index thereafter.

**Payden & Rygel Custom Index:** The **Payden & Rygel Custom Index** consists of the Bloomberg US Corp Inv Grade Index through 03/25/2020, account performance from 03/26/2020 through 03/31/2020, and Bloomberg US Corp Inv Grade Index thereafter.

**Internal Intermediate Govt Fixed Income Portfolio Index:** The **Internal Intermediate Govt Fixed Income Portfolio Index** currently consists of the Bloomberg US Treasury Index. November 2019 performance consists of the Internal Intermediate Govt Fixed Income Portfolio. Prior to November 2019, the index consists of Bloomberg US Gov't Int Term Bond Index. Prior to December 2009, the index consisted of the Bloomberg US Gov't Crdt Bond Index.

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

**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.

**EMD Custom Index:** The **EMD Custom Index** consists of the JPM GBI-EM Gbl Dvf'd Index through 02/29/2020, 70% JPM GBI-EM Gbl Dvf'd Index / 30% JPM CEMBI Brd Dvf'd Index thereafter through 11/30/2020, and 1/3 JPM GBI-EM Gbl Dvf'd Index, 1/3 JPM CEMBI Brd Dvf'd Index, and 1/3 JPM EMBI Gbl Dvf'd Index thereafter.

**JP Morgan EMB (JEMB) Hard Currency/Local Currency 50/50:** The **JP Morgan EMB (JEMB) Hard Currency/Local Currency 50/50** consists of 50% JPM GBI-EM Gbl Dvf'd Index, 25% JPM CEMBI Brd Dvf'd Index, and 25% JPM EMBI Gbl Dvf'd Index.

**Goldman Sachs Index:** The **Goldman Sachs Index** consists of JPM CEMBI Brd Dvf'd Index through 11/22/2020, account performance from 11/23/2020 through 11/30/2020, and the JPM CEMBI Brd Dvf'd Index thereafter.

**JP Morgan GBI-EM Gbl Dvf'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.

**JP Morgan CEMBI Broad Diversified Index:** The **JP Morgan CEMBI Broad Diversified Index** is an index that is comprised of the corporate segment of emerging markets debt.

**JP Morgan Emerging Markets Bond Global Diversified Index:** The **JP Morgan Global Diversified Index** is an index comprised of the hard currency segment of emerging markets debt.

**Bloomberg US Govt/Credit: Long Trm Bond:** The **Bloomberg US Gov't/Credit Long Term Bond Index** covers the non-securitized component of the US Aggregate Index, with maturities of 10 years or more. It includes investment grade, US dollar-denominated, fixed-rate Treasuries, government-related and corporate securities.

**Bloomberg US Govt: Long Trm Bond:** The **Bloomberg US Gov't Long Term Bond Index** covers public US government obligations with remaining maturities of ten years or more.

**Bloomberg US Credit: Long Trm Bond:** The **Bloomberg US Credit Long Term Bond Index** covers public US investment grade corporate bonds with remaining maturities of ten years or more.

**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 Corp Int Trm Bond:** The **Bloomberg US Corporate Intermediate Term Bond Index** covers US investment grade corporate bonds 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 Credit 1-3 Yr Bond Index:** The **Bloomberg US Credit 1-3 Year Bond Index** covers public investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities of between one and three years.

**Bloomberg US MBS Index:** The **Bloomberg US MBS Index** covers the public U.S. mortgage backed securities market.

**Bloomberg US Corp Inv Grade Index:** The **Bloomberg US Corp Inv Grade Index** covers the public U.S. investment grade corporate bond market.

**Low Duration Fixed Income Custom Index:** The **Low Duration Fixed Income Custom Index** consists of the Bloomberg US Gov't Crdt 1-3 Yr Bond Index through 06/30/2019 and the Bloomberg US Gov't 1-3 Yr Bond Index thereafter.

**Opportunistic Investments Index:** The **Opportunistic Investments Index** is the weighted average of the permanent funds' target allocation indices, excluding the opportunistic allocation.

**JP Morgan Cash Custom Index:** The **JP Morgan Cash Custom Index** is calculated monthly using beginning of the month investment weights applied to each corresponding primary benchmark return. 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 through 06/30/2019, and the ICE BofAML 3 Mo US T-Bill Index thereafter.

**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.



# Total Fund





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

As of December 31, 2020

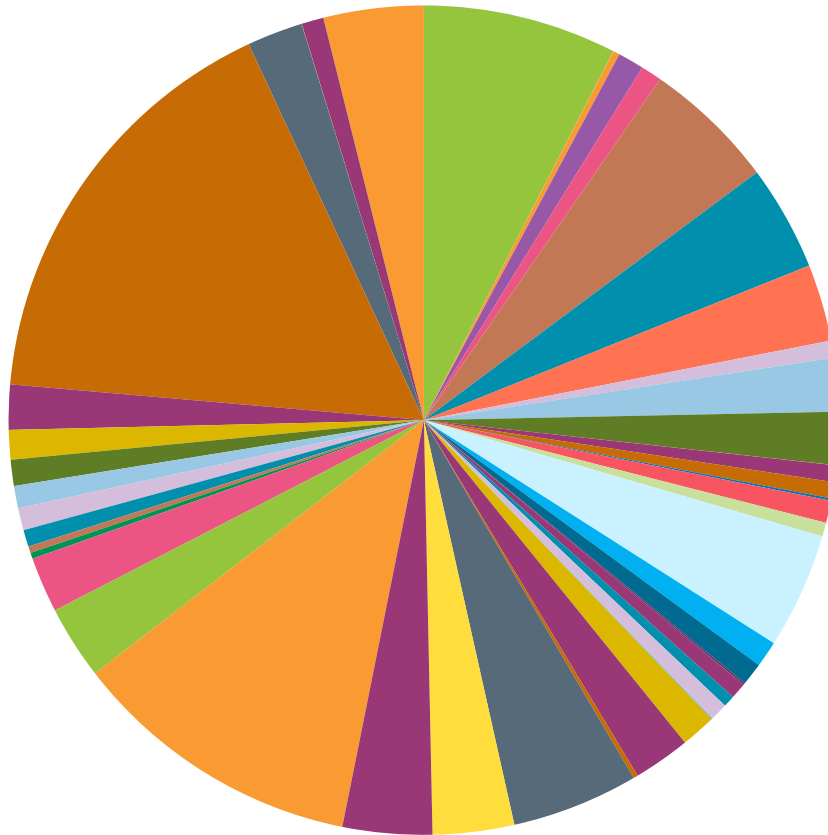
Asset Allocation & Performance			
	Allocation		Performance (%)
	Market Value (\$)	%	FYTD
<b>Total Fund</b>	<b>23,046,518,863</b>	<b>100.00</b>	<b>7.96</b>
<b>All Cap US Equity Composite</b>	<b>1,738,896,578</b>	<b>7.55</b>	<b>22.14</b>
State Street All Cap	1,738,860,738	7.55	22.14
Internal Domestic Equity	35,841	0.00	N/A
UW Portfolio Mgmt Program	1,678,892	0.01	21.60
<b>Small Cap US Equity Composite</b>	<b>480,614,259</b>	<b>2.09</b>	<b>33.02</b>
State Street Russell 2000	58,136,937	0.25	37.87
Van Berkum	234,196,299	1.02	28.01
BlackRock Small Cap	187,852,908	0.82	N/A
Internal Small Cap	428,115	0.00	N/A
<b>Int'l Equity Composite</b>	<b>2,831,606,486</b>	<b>12.29</b>	<b>27.14</b>
Northern Trust	1,193,176,158	5.18	24.19
Arrowstreet	946,536,461	4.11	31.96
Harding Loevner	691,893,867	3.00	26.43
<b>Preferred Stock Composite</b>	<b>153,425,137</b>	<b>0.67</b>	<b>11.28</b>
Cohen & Steers Preferred Stock	153,425,137	0.67	11.28
<b>MLPs Composite</b>	<b>955,109,456</b>	<b>4.14</b>	<b>10.78</b>
Harvest Fund Advisors	480,490,680	2.08	10.71
Harvest Fund Advisors Passive	474,618,775	2.06	10.84
<b>Private Equity Composite</b>	<b>643,578,404</b>	<b>2.79</b>	<b>N/A</b>
Access Venture Partners II	1,518,259	0.01	N/A
Cheyenne Equity Capital Fund, L.P.	149,322,984	0.65	N/A
Hamilton Lane Nowood Fund, L.P.	147,330,768	0.64	N/A
Neuberger Berman Sauger Fund, L.P.	200,013,827	0.87	N/A
BlackRock LTPC, L.P.	125,052,258	0.54	N/A
Valor Equity Partners V LP	20,340,307	0.09	N/A
<b>Real Estate Composite</b>	<b>1,906,077,370</b>	<b>8.27</b>	<b>N/A</b>
Clarion Lion	1,039,693,232	4.51	2.42
UBS Trumbull	234,263,082	1.02	-2.44
MS Prime	202,949,014	0.88	N/A
SC Capital	104,032,058	0.45	N/A
Realterm	152,275,130	0.66	N/A
M&G	17,693,569	0.08	N/A
Northwood	143,322,350	0.62	N/A
WestRiver	11,848,936	0.05	N/A

Asset Allocation & Performance			
	Allocation		Performance (%)
	Market Value (\$)	%	FYTD
<b>Diversified Hedge Funds Composite</b>	<b>828,287,086</b>	<b>3.59</b>	<b>10.56</b>
PAAMCO - Jackalope Fund	4,308,725	0.02	N/A
Grosvenor Diversified Hedge Funds	313,245,631	1.36	11.19
Internal Diversified Hedge Funds	510,732,730	2.22	10.30
<b>Core Fixed Income Composite</b>	<b>5,295,445,399</b>	<b>22.98</b>	<b>1.63</b>
Internal Intermediate Gov't Fixed Income	1,136,314,775	4.93	-0.56
Payden & Rygel IGC	730,627,668	3.17	4.53
JP Morgan MBS	802,142,691	3.48	1.24
PIMCO	2,626,360,264	11.40	1.91
<b>Laddered Treasury Composite</b>	<b>3,847,615,890</b>	<b>16.69</b>	<b>0.15</b>
Internal Ladder Portfolio	3,847,615,890	16.69	0.15
<b>Bank Loans Composite</b>	<b>1,161,114,790</b>	<b>5.04</b>	<b>7.22</b>
Credit Suisse	662,476,465	2.87	7.12
Octagon	498,638,325	2.16	7.40
<b>Emerging Market Debt Composite</b>	<b>844,863,387</b>	<b>3.67</b>	<b>9.87</b>
Ninety One	60,357,378	0.26	12.07
Global Evolution	150,232,209	0.65	10.72
Global Evolution Hard	199,514,180	0.87	N/A
Goldman Sachs	234,759,621	1.02	8.96
Eaton Vance	200,000,000	0.87	N/A
<b>Long Duration Fixed Income Composite</b>	<b>668,151,953</b>	<b>2.90</b>	<b>2.27</b>
Internal Long Duration Fixed Income	264,339,193	1.15	-2.90
MetLife	403,812,761	1.75	5.95
<b>Low Duration Fixed Income Composite</b>	<b>499,878,582</b>	<b>2.17</b>	<b>0.19</b>
Internal Low Duration Fixed Income	499,878,582	2.17	0.19
<b>Grosvenor Silvery Lupine Fund</b>	<b>53,368,483</b>	<b>0.23</b>	<b>4.30</b>
<b>Grosvenor Opportunistic Class D</b>	<b>39,972,039</b>	<b>0.17</b>	<b>29.60</b>
<b>Cash Equivalents</b>	<b>899,788,671</b>	<b>3.90</b>	<b>0.02</b>
Fisher Investments	1,176,264	0.01	N/A
State Street Low Duration	29,699	0.00	N/A
Allianz Global Investors	36,297	0.00	N/A
Neuberger Berman Credit	574,056	0.00	N/A
Cornerstone	2,354	0.00	N/A
TA Associates Realty	26,117	0.00	N/A
Seix	1,520	0.00	N/A
Internal Equity Russell 2000	1,095	0.00	N/A
<b>Public Purpose Investments</b>	<b>197,046,000</b>	<b>0.85</b>	<b>N/A</b>

Schedule of Investable Assets - Total Fund Composite Ex Public Purpose Investments					
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	Unit Value
<b>FYTD</b>	<b>22,455,329,030</b>	<b>-1,238,647,321</b>	<b>1,632,791,155</b>	<b>22,849,472,863</b>	<b>107.51</b>

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 12/31/2020. Investment manager fees are accounted for on a quarterly basis. Wyoming State Treasurer's Office fiscal year ends on June 30th.

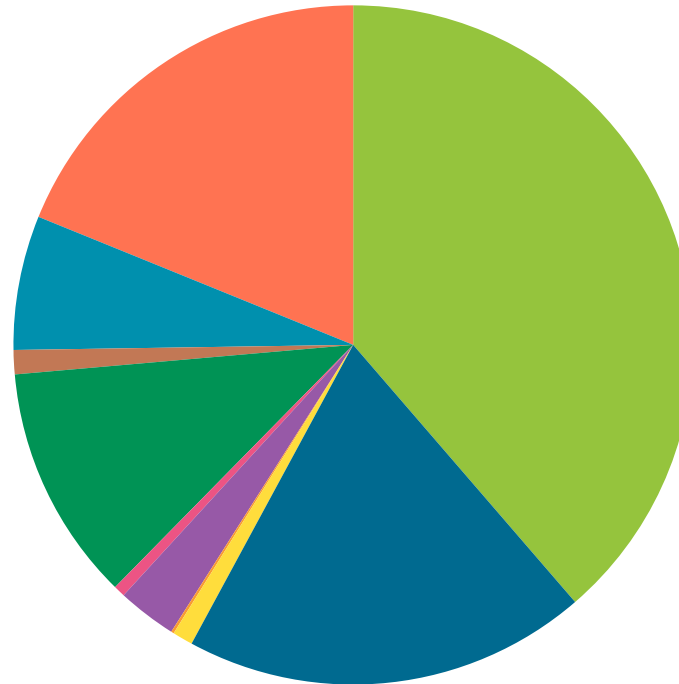
December 31, 2020 : \$23,046,518,863



	Market Value (\$)	Allocation (%)
State Street All Cap	1,738,860,738	7.55
Internal Domestic Equity	35,841	0.00
UW Portfolio Mgmt Program	1,678,892	0.01
State Street Russell 2000	58,136,937	0.25
Van Berkum Small Cap	234,196,299	1.02
BlackRock Small Cap	187,852,908	0.82
Internal Small Cap	428,115	0.00
Northern Trust	1,193,176,158	5.18
Arrowstreet	946,536,461	4.11
Harding Loevner	691,893,867	3.00
Cohen & Steers	153,425,137	0.67
Harvest	480,490,680	2.08
Harvest Passive	474,618,775	2.06
Access Venture Partners II	1,518,259	0.01
Cheyenne Equity Capital Fund, L.P.	149,322,984	0.65
Hamilton Lane Nowood Fund, L.P.	147,330,768	0.64
Valor Equity Partners V LP	20,340,307	0.09
Neuberger Berman Sauger Fund, L.P.	200,013,827	0.87
BlackRock LTPC	125,052,258	0.54
Clarion Lion	1,039,693,232	4.51
UBS Trumbull	234,263,082	1.02
MS Prime	202,949,014	0.88
M&G	17,693,569	0.08
Northwood	143,322,350	0.62
SC Capital	104,032,058	0.45
Realterm	152,275,130	0.66
WestRiver	11,848,936	0.05
PAAMCO - Jackalope Fund	4,308,725	0.02
Grosvenor Diversified Hedge Funds	313,245,631	1.36
Internal Diversified Hedge Funds	510,732,730	2.22
Grosvenor Silvery Lupine Fund Class D	39,972,039	0.17
Internal Intermediate Govt Fixed Income Portfolio	1,136,314,775	4.93
Payden & Rygel	730,627,668	3.17
JP Morgan MBS	802,142,691	3.48
PIMCO Core	2,626,360,264	11.40
Credit Suisse	662,476,465	2.87
Octagon	498,638,325	2.16
Grosvenor Silvery Lupine Fund	53,368,483	0.23
Ninety One	60,357,378	0.26
Global Evolution	150,232,209	0.65
Global Evolution Hard	199,514,180	0.87
Eaton Vance	200,000,000	0.87
Goldman Sachs	234,759,621	1.02
Internal Long Duration Fixed Income Portfolio	264,339,193	1.15
Metlife	403,812,761	1.75
Internal Ladder Portfolio	3,847,615,890	16.69
Internal Low Duration Fixed Income Portfolio	499,878,582	2.17
Liquidated Managers	1,847,403	0.01
Public Purpose Investments	197,046,000	0.85
JP Morgan Cash Composite	897,941,269	3.90

Allocations shown may not sum up to 100% exactly due to rounding. Heitman, Seix, State Street TIPS, CS McKee, Fisher, Allianz, Internal Equity Russell 2000, TA Realty, Cornerstone, NB Credit and State Street Low Duration are combined because the page shown only allows 50 managers to be included.

December 31, 2020 : \$23,046,518,863

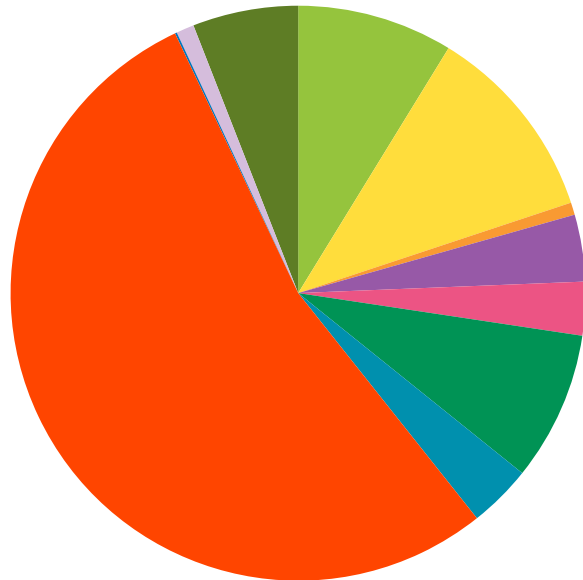


	Market Value (\$)	Allocation (%)
Permanent Mineral Trust	8,910,832,139	38.66
Common School PLF	4,430,437,060	19.22
Permanent Land Fund	223,935,715	0.97
University Permanent Land Fund	29,401,035	0.13
Hathaway Scholarship	649,684,586	2.82
Higher Education	127,393,664	0.55
Workers Compensation Fund	2,592,652,336	11.25
Pool A	265,604,694	1.15
LSRA	1,472,348,812	6.39
State Agency Pool	4,344,228,823	18.85

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

Asset Allocation by Asset Class - Prior Quarter

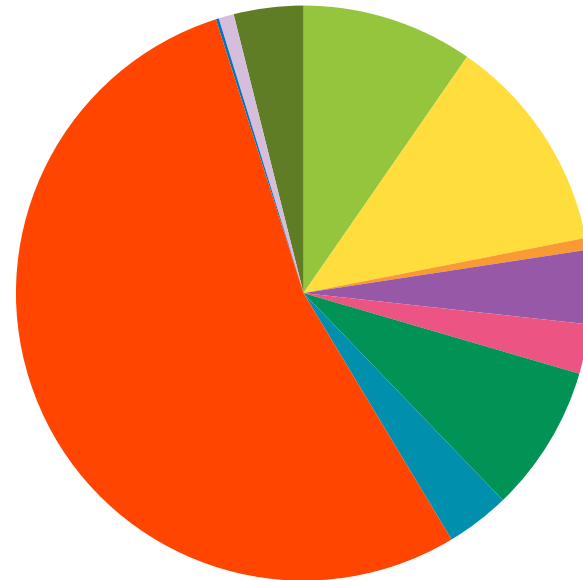
September 30, 2020 : \$22,356,701,920



	Market Value (\$)	Allocation (%)
US Equity	1,959,201,677	8.76
International Equity	2,491,911,055	11.15
Preferred Stock	153,646,344	0.69
MLPs	840,479,637	3.76
Private Equity	674,868,736	3.02
Real Estate	1,876,137,755	8.39
Diversified Hedge Funds	793,267,985	3.55
Fixed Income	11,991,159,082	53.64
Opportunistic Investments	24,823,005	0.11
Public Purpose Investments	224,386,346	1.00
Cash	1,326,820,297	5.93

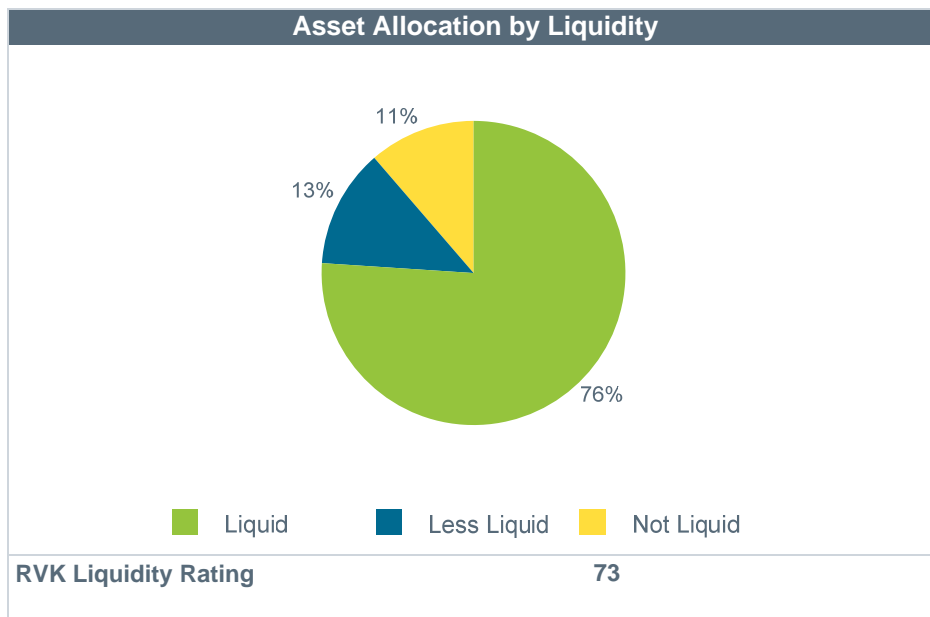
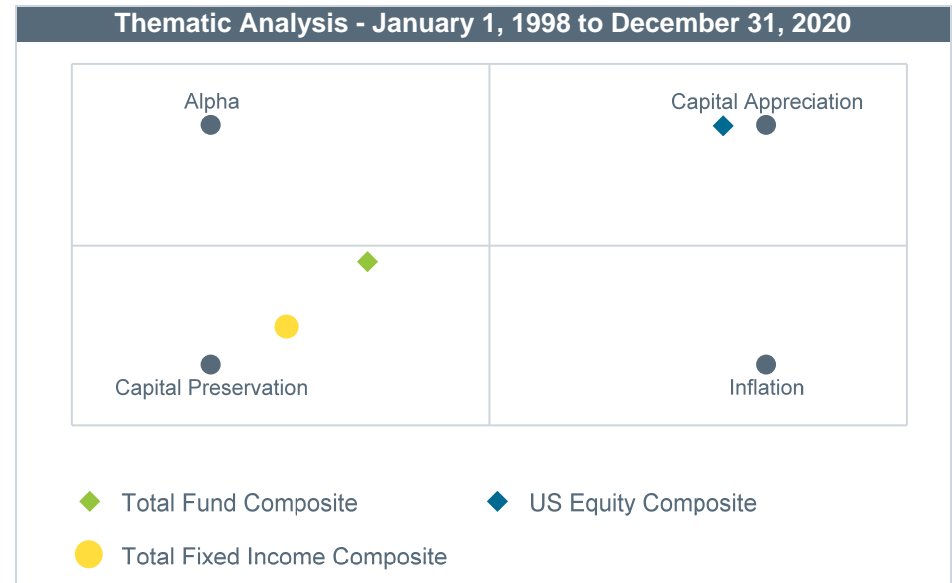
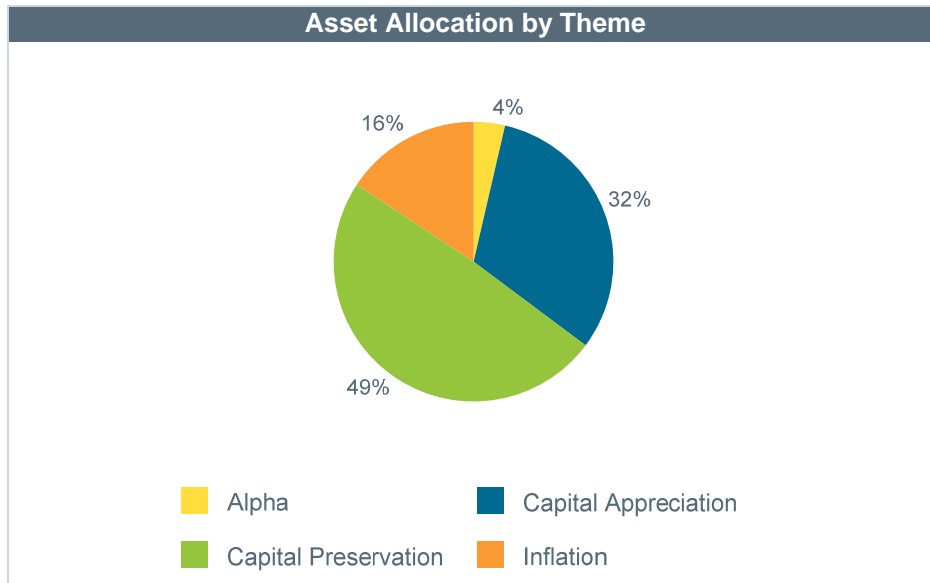
Asset Allocation by Asset Class - Current Quarter

December 31, 2020 : \$23,046,518,863



	Market Value (\$)	Allocation (%)
US Equity	2,221,189,730	9.64
International Equity	2,831,606,486	12.29
Preferred Stock	153,425,137	0.67
MLPs	955,109,456	4.14
Private Equity	643,578,404	2.79
Real Estate	1,906,077,370	8.27
Diversified Hedge Funds	828,287,086	3.59
Fixed Income	12,370,438,485	53.68
Opportunistic Investments	39,972,039	0.17
Public Purpose Investments	197,046,000	0.85
Cash	899,788,671	3.90

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



### Correlation Matrix - 10 Years

	A	B	C	D
A	1.00			
B	0.71	1.00		
C	-0.26	-0.39	1.00	
D	0.61	0.79	-0.10	1.00

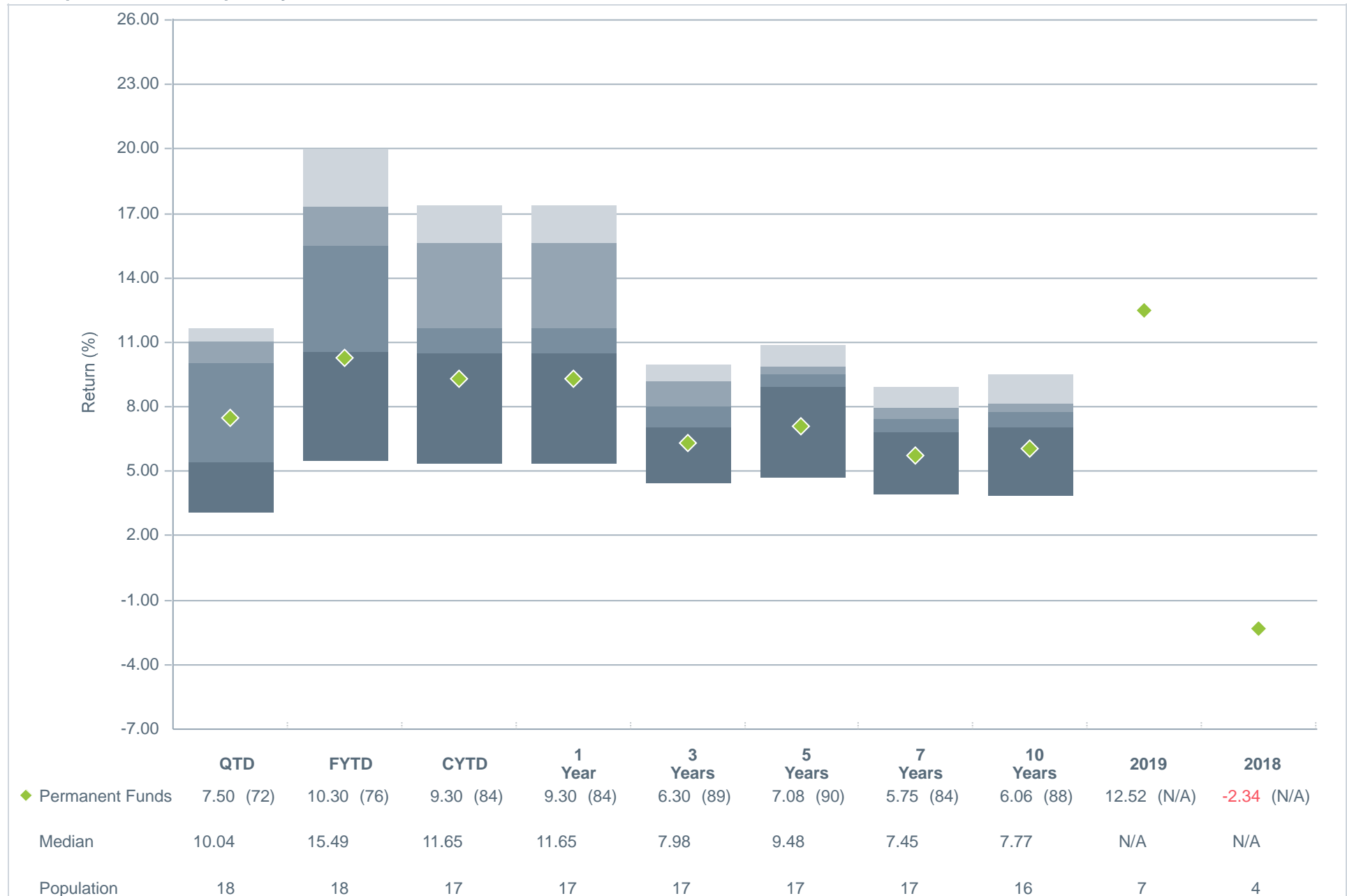
A = HFRI EH: Equity Market Neutral Index (Alpha)  
 B = MSCI ACW Index (USD) (Gross) (Capital Appreciation)  
 C = Bloomberg US Gov't Bond Index (Capital Preservation)  
 D = Real Return Custom Index (Inflation)

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 Endowment & Foundation > \$1B-Total Fund  
Plan Sponsor Peer Group Analysis

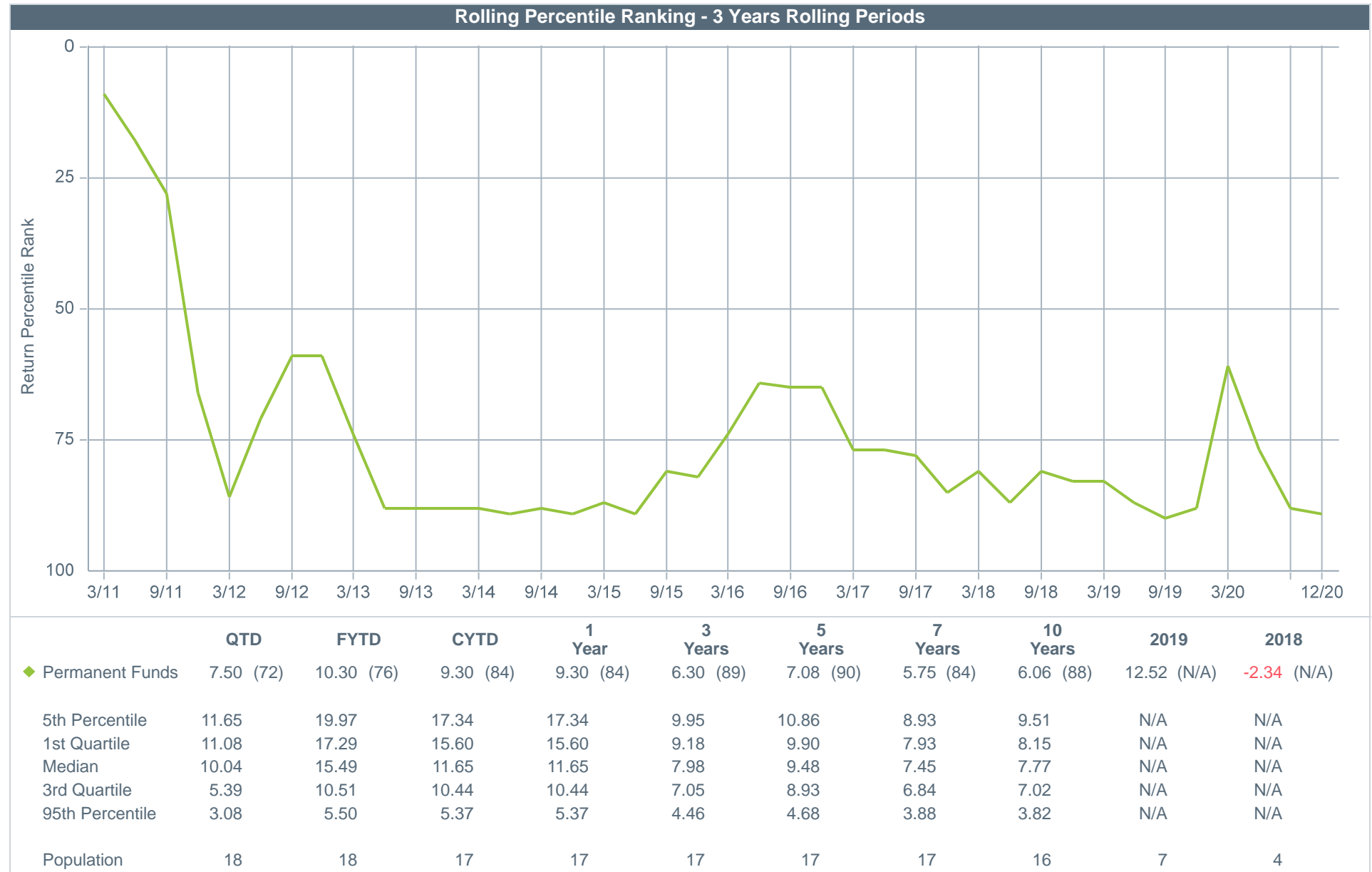
As of December 31, 2020



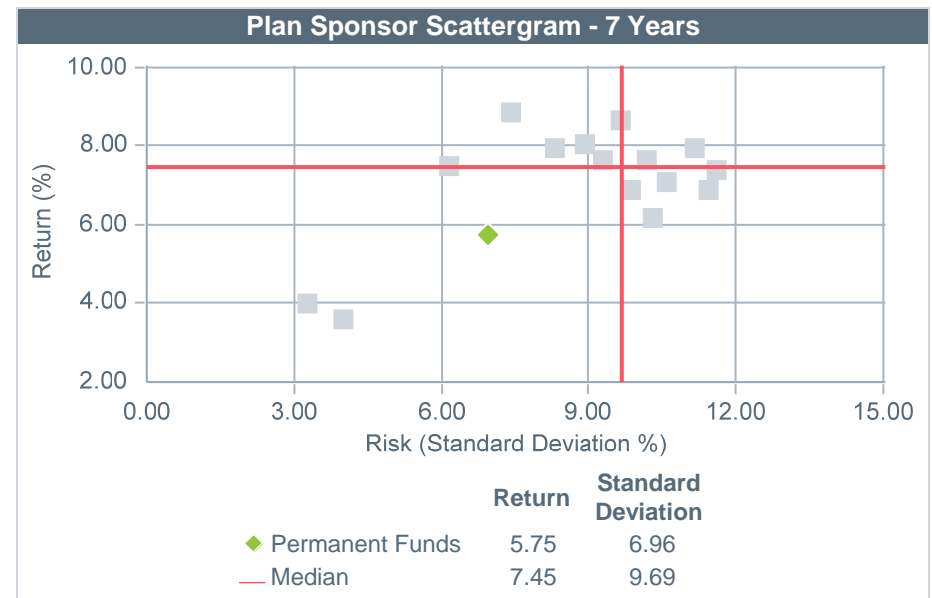
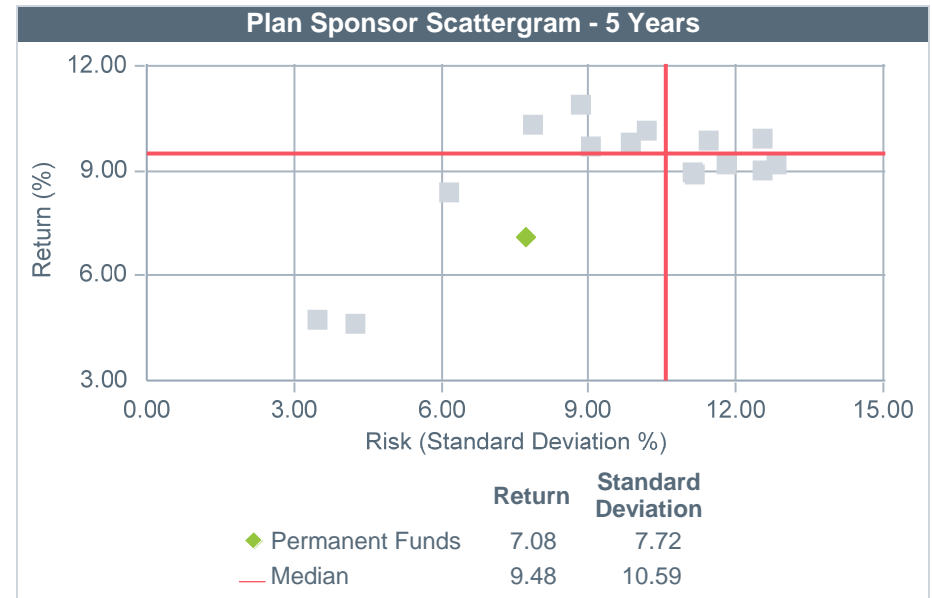
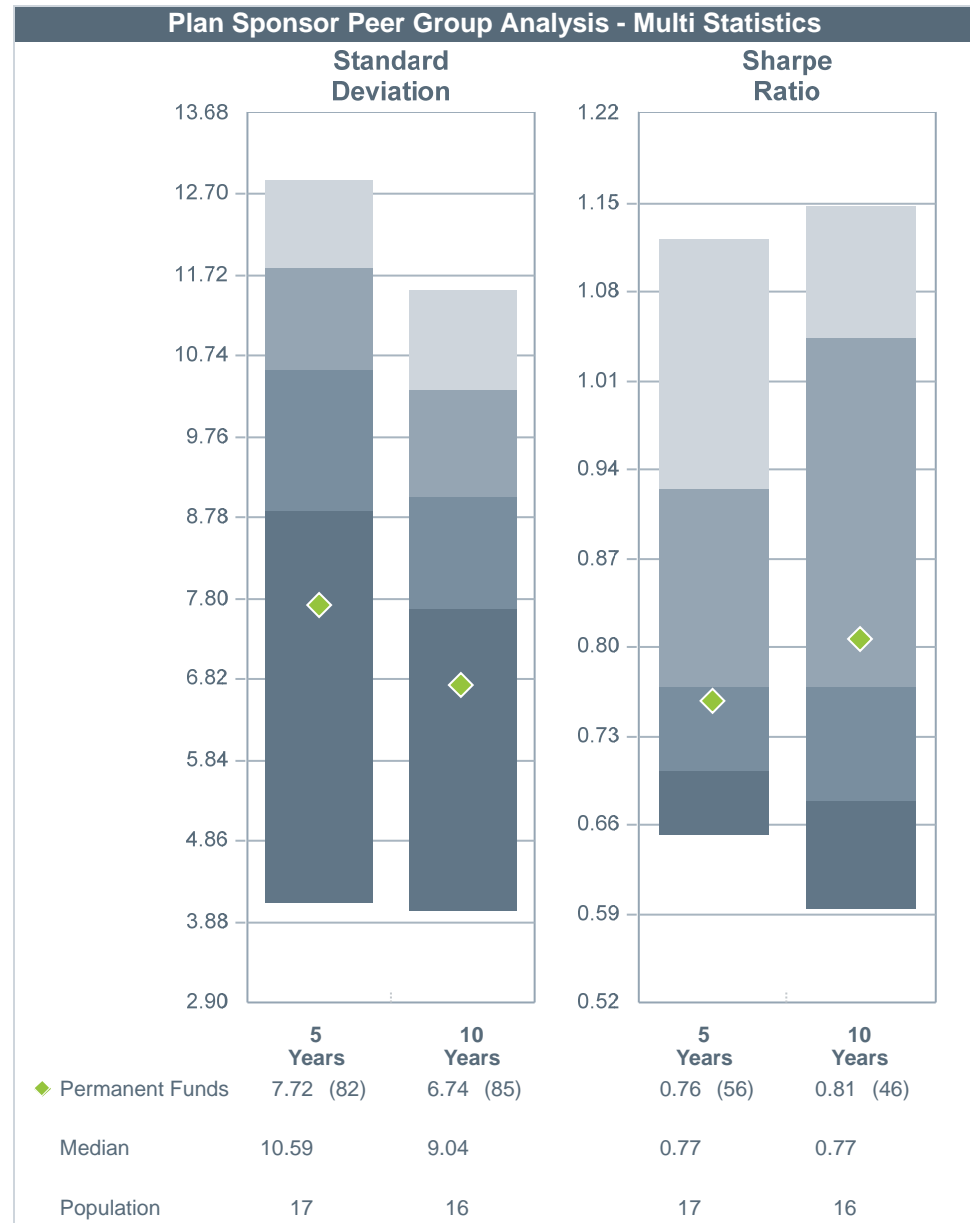
Performance shown is net of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.  
Wyoming State Treasurer's Office fiscal year ends on June 30th.

Wyoming State Treasurer's Office  
All Endowment & Foundation > \$1B-Total Fund  
Rolling Percentile Ranking and Plan Sponsor Peer Group Analysis

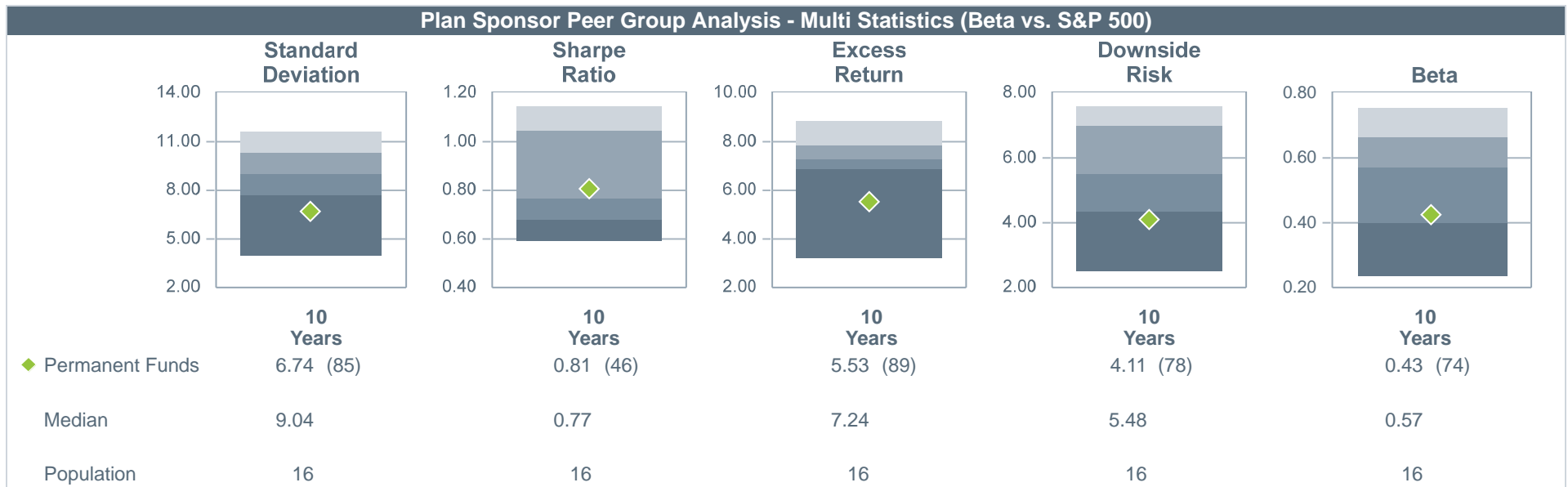
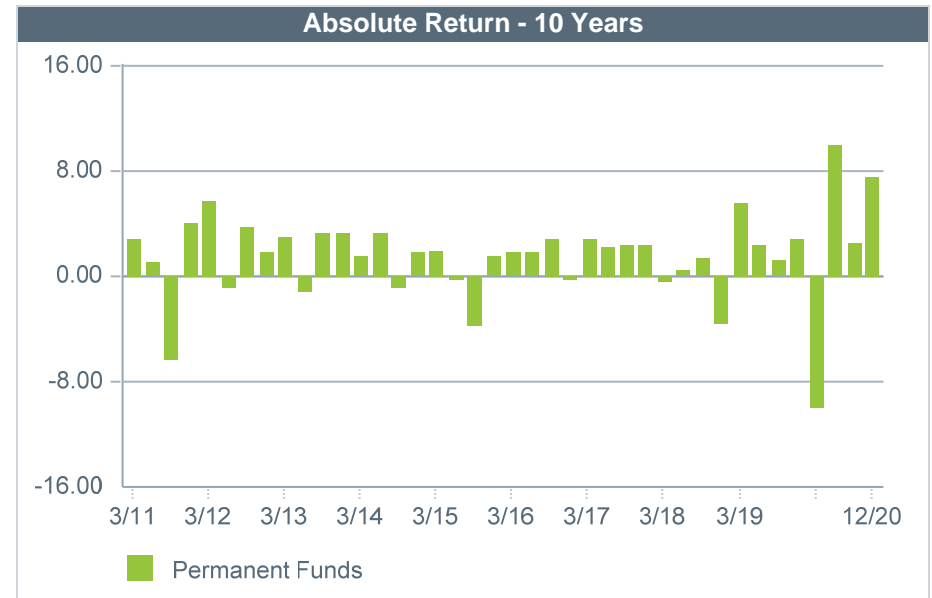
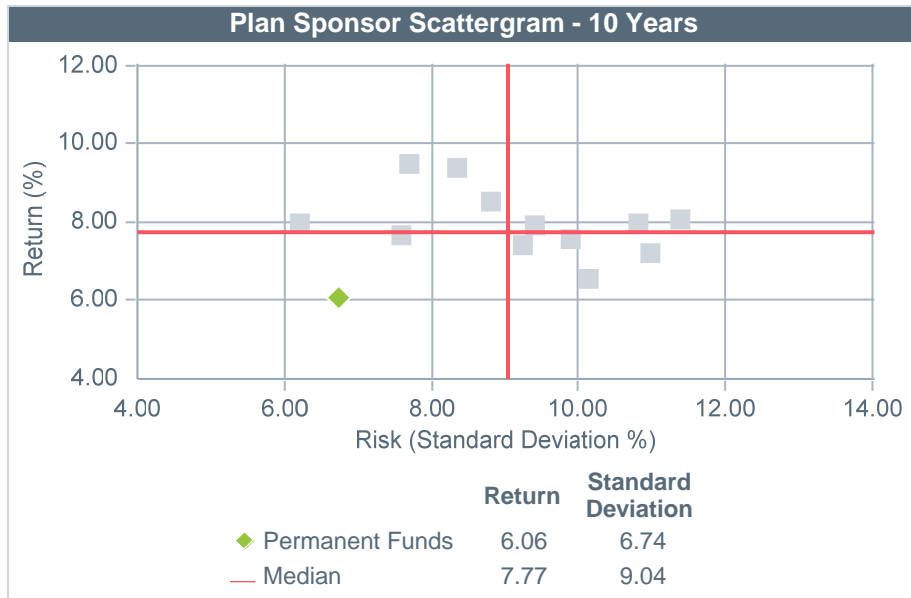
As of December 31, 2020



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



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

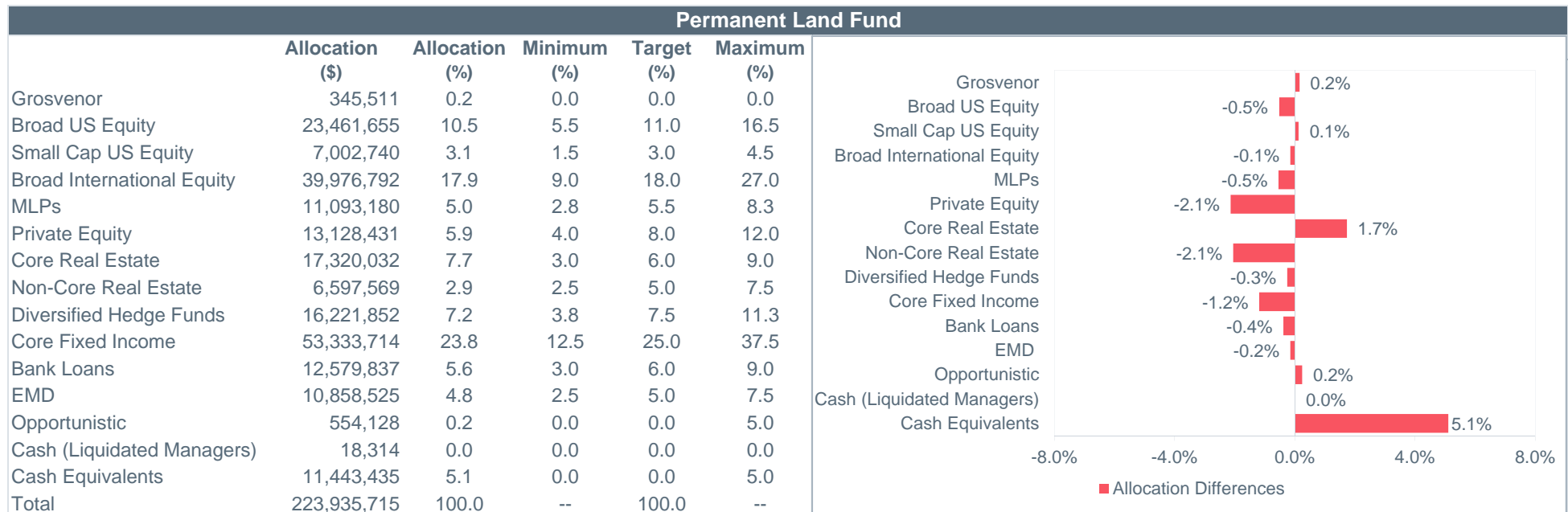
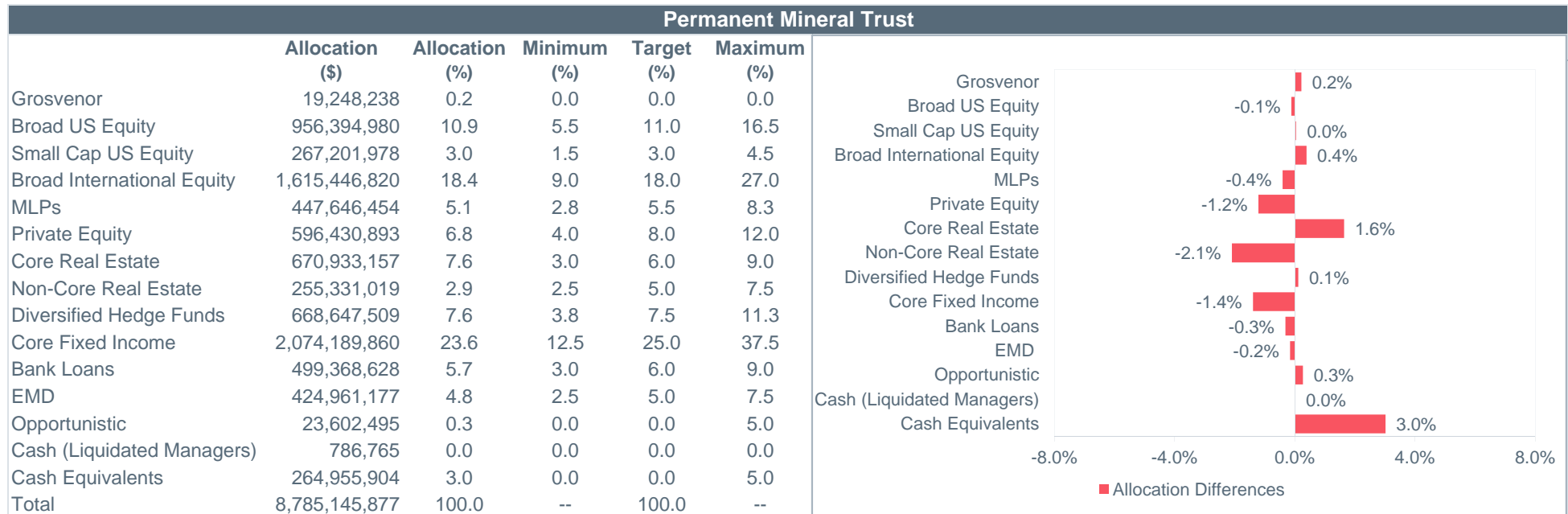


Performance shown is net of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Investment Profile					Long-Term Target Allocation																	
<p><b>Fund Type:</b> Permanent Fund</p> <p><b>Main Objective:</b> Produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity.</p> <p><b>Primary Investment Goals:</b> Capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals.</p> <p><b>Maximum Equity Allocation:</b> 70%</p> <p><b>Current Long-Term Target Equity Allocation:</b> 64%</p> <p><b>Spending Policy</b></p> <ul style="list-style-type: none"><li>• <b>Permanent Mineral Trust Fund:</b> 5% of the five-year trailing average market value, calculated on the first day of the fiscal year. In fiscal year 2023, the spending rate will be 4.75%. In fiscal year 2024 and thereafter, the spending rate will be 4.5%.</li><li>• <b>Hathaway Scholarship:</b> The amount necessary to fully fund scholarships awarded under W.S. 21-16-1301 <i>et seq.</i></li></ul>					Minimum Range (%)	Target (%)		Maximum Range (%)														
					<b>Permanent Mineral Trust</b>				-	<b>100.00</b>	-											
					Broad US Equity				5.50	11.00	16.50											
					Small Cap US Equity				1.50	3.00	4.50											
					International Equity				9.00	18.00	27.00											
					MLPs				2.75	5.50	8.25											
					Private Equity				4.00	8.00	12.00											
					Core Real Estate				3.00	6.00	9.00											
					Non-Core Real Estate				2.50	5.00	7.50											
					Diversified Hedge Funds				3.75	7.50	11.25											
					Core Fixed Income				12.50	25.00	37.50											
					Bank Loans				3.00	6.00	9.00											
					Opportunistic Fixed Income				0.00	0.00	5.00											
					EMD				2.50	5.00	7.50											
					Opportunistic Investments				0.00	0.00	5.00											
					Cash (inv. in SAP)				0.00	0.00	5.00											
Thematic Allocation					Risk Metrics																	
<table><thead><tr><th>Thematic Allocation</th><th>Percentage</th></tr></thead><tbody><tr><td>Alpha</td><td>8%</td></tr><tr><td>Capital Appreciation</td><td>47%</td></tr><tr><td>Capital Preservation</td><td>28%</td></tr><tr><td>Inflation</td><td>18%</td></tr></tbody></table>					Thematic Allocation	Percentage	Alpha	8%	Capital Appreciation	47%	Capital Preservation	28%	Inflation	18%	5 Years				10 Years			
					Thematic Allocation	Percentage																
					Alpha	8%																
					Capital Appreciation	47%																
					Capital Preservation	28%																
Inflation	18%																					
	PMTF	PLF	UPLF	Hath	PMTF	PLF	UPLF	Hath														
Sharpe Ratio	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7														
Standard Deviation	8.5	8.2	9.6	8.6	7.4	7.1	8.0	7.1														
Beta	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4														
Comparative Performance																						
Allocation		Performance (%)																				
	Market Value (\$)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years													
Permanent Mineral Trust	8,910,832,139	8.3	11.6	9.3	9.3	6.2	7.2	5.8	6.2													
PMTF - Total Fund Index		8.3	11.3	8.6	8.6	6.1	6.9	5.8	6.1													
Difference		0.0	0.3	0.7	0.7	0.1	0.3	0.0	0.1													
Permanent Land Fund	223,935,715	8.4	11.5	9.5	9.5	6.3	7.1	5.8	6.1													
PLF - Total Fund Index		8.3	11.3	8.6	8.6	6.1	6.9	5.7	6.0													
Difference		0.1	0.2	0.9	0.9	0.2	0.2	0.1	0.1													
University Permanent Land Fund	29,401,035	8.6	12.7	9.9	9.9	6.6	7.7	6.2	6.3													
UPLF - Total Fund Index		8.3	11.3	8.6	8.6	6.2	7.3	6.1	6.3													
Difference		0.3	1.4	1.3	1.3	0.4	0.4	0.1	0.0													
Hathaway Scholarship	649,684,586	8.7	11.7	9.5	9.5	6.1	6.8	5.6	5.8													
Hathaway - Total Fund Index		8.3	11.3	8.6	8.6	5.9	6.6	5.6	5.7													
Difference		0.4	0.4	0.9	0.9	0.2	0.2	0.0	0.1													

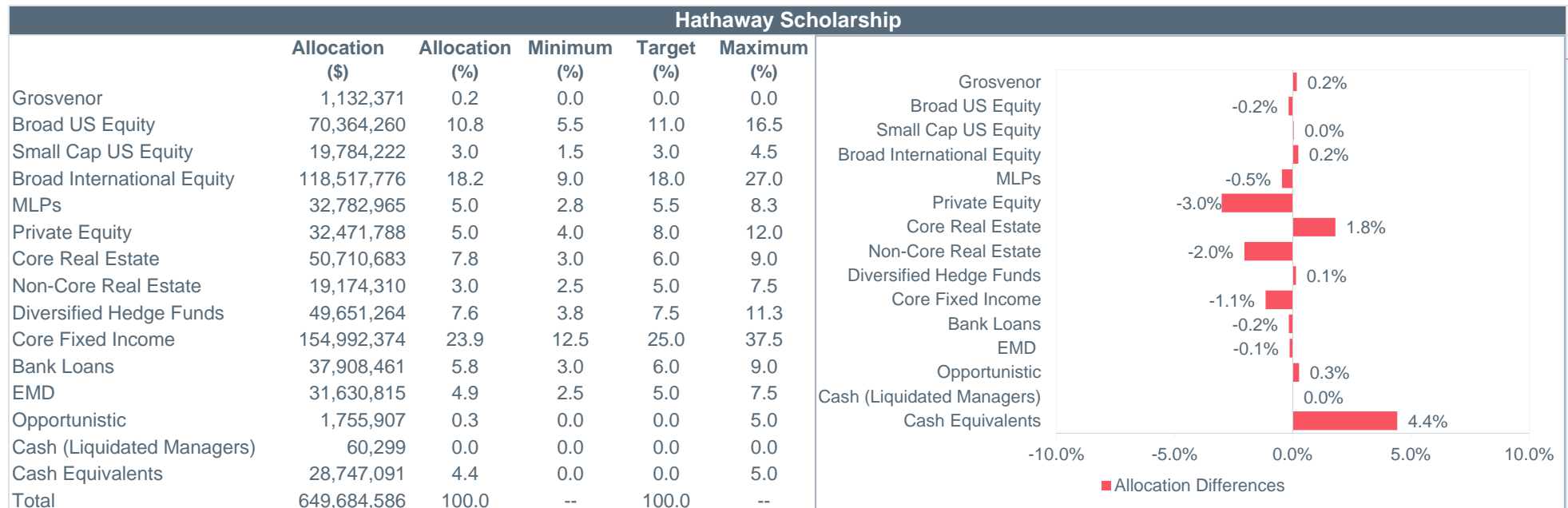
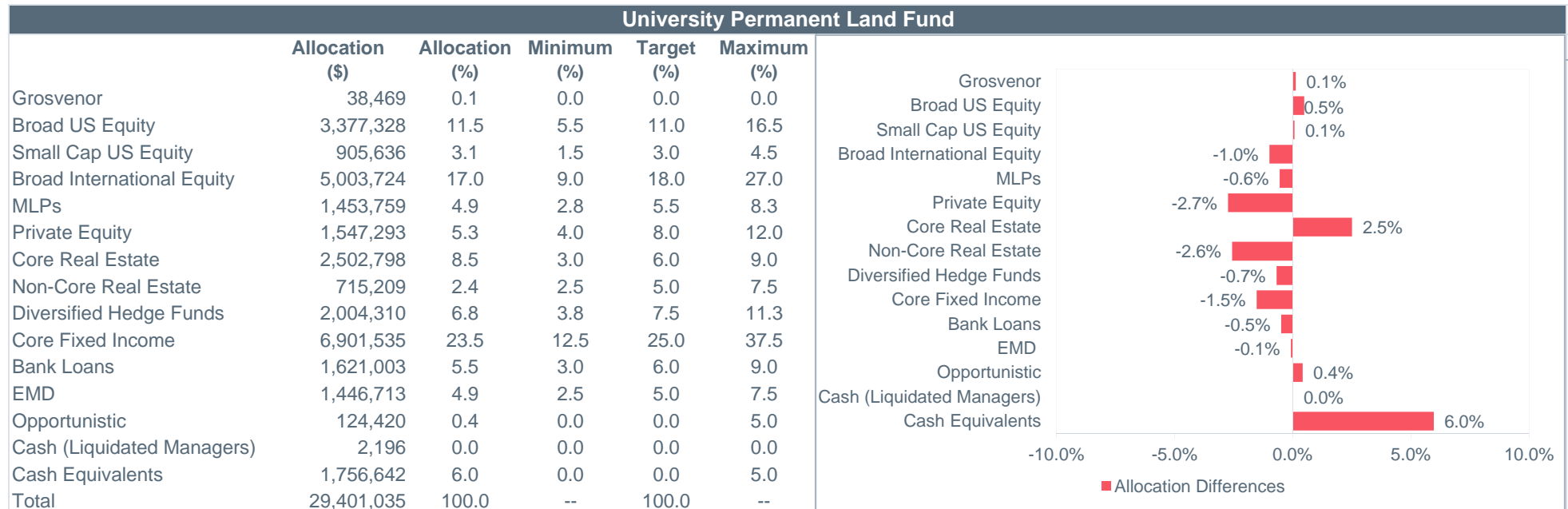
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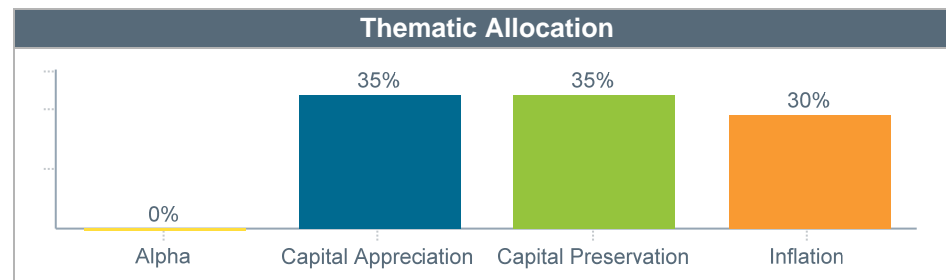


Wyoming State Treasurer's Office  
Permanent Funds - Long-Term Total Return Focus  
Asset Allocation vs. Long-Term Target

As of December 31, 2020



Investment Profile
<b>Fund Type:</b> Permanent Fund <b>Main Objective:</b> Produce maximized long-term investment income and capital gains while providing an appropriate level of safety and liquidity. <b>Primary Investment Goals:</b> Income generation, capital appreciation, total return, and protection against inflation. Capital preservation and liquidity are important secondary goals. <b>Maximum Equity Allocation:</b> 70% <b>Current Long-Term Target Equity Allocation:</b> 46%
<b>Spending Policy</b> <ul style="list-style-type: none"> <li>• <b>Common School Permanent Land Fund:</b> 5% of the five-year trailing average market value, calculated on the first day of the fiscal year. In fiscal year 2025, the spending rate will be 4.75%. In fiscal year 2026 and thereafter, the spending rate will be 4.5%.</li> <li>• <b>Higher Education:</b> 4.75% of the five-year trailing average market value, calculated on the first day of the fiscal year.</li> </ul>

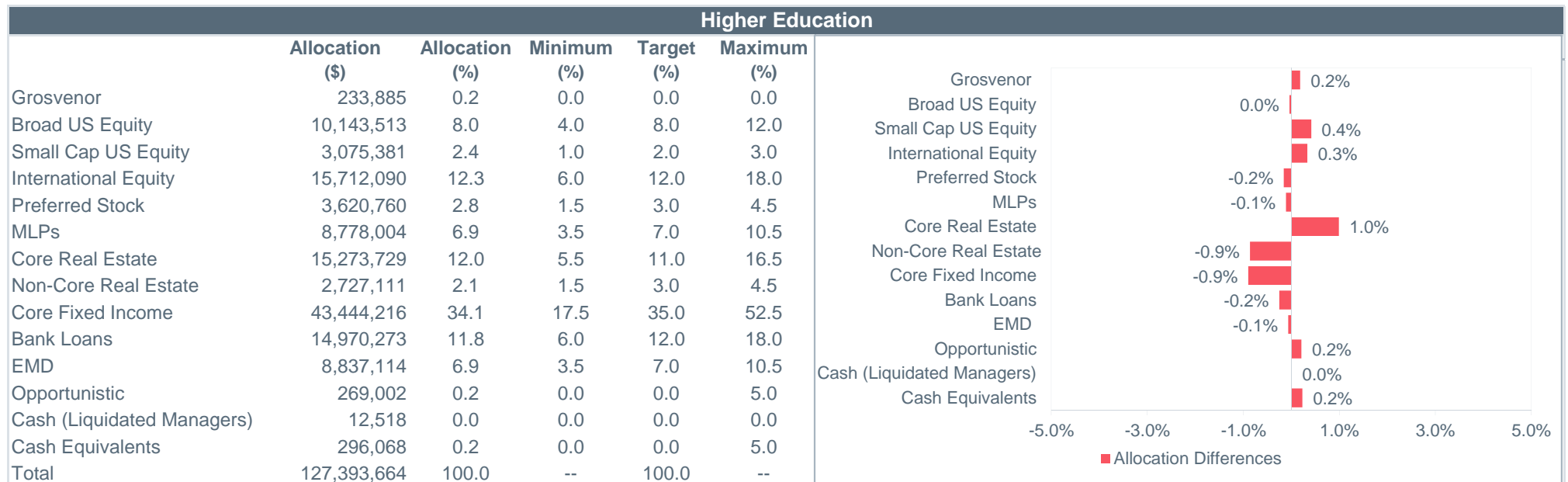
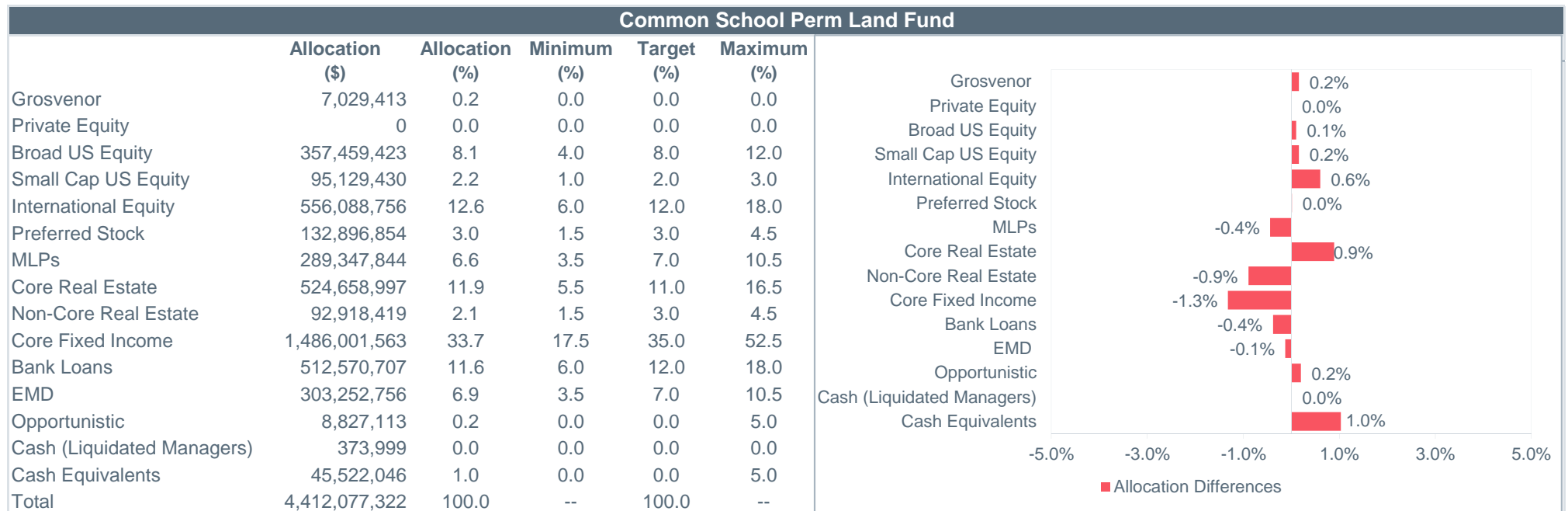


Long-Term Target Allocation			
	Minimum Range (%)	Target (%)	Maximum Range (%)
<b>Common School PLF</b>	-	<b>100.00</b>	-
Broad US Equity	4.00	8.00	12.00
Small Cap US Equity	1.00	2.00	3.00
International Equity	6.00	12.00	18.00
Preferred Stock	1.50	3.00	4.50
MLPs	3.50	7.00	10.50
Core Real Estate	5.50	11.00	16.50
Non-Core Real Estate	1.50	3.00	4.50
Core Fixed Income	17.50	35.00	52.50
Bank Loans	6.00	12.00	18.00
Opportunistic Fixed Income	0.00	0.00	5.00
EMD	3.50	7.00	10.50
Opportunistic Investments	0.00	0.00	5.00
Cash (inv. in SAP)	0.00	0.00	5.00

Risk Metrics				
	5 Years		10 Years	
	CSPLF	HiEd	CSPLF	HiEd
Sharpe Ratio	0.7	0.6	0.8	0.7
Standard Deviation	7.7	7.7	6.9	6.6
Beta	0.4	0.4	0.4	0.4

Comparative Performance									
	Allocation	Performance (%)							
	Market Value (\$)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
<b>Common School Perm Land Fund</b>	<b>4,430,437,060</b>	<b>6.9</b>	<b>9.0</b>	<b>7.7</b>	<b>7.7</b>	<b>5.5</b>	<b>6.7</b>	<b>5.5</b>	<b>6.1</b>
CSPLF - Total Fund Index		7.0	8.8	6.7	6.7	5.2	6.4	5.5	5.9
Difference		-0.1	0.2	1.0	1.0	0.3	0.3	0.0	0.2
<b>Higher Education</b>	<b>127,393,664</b>	<b>6.9</b>	<b>9.1</b>	<b>6.9</b>	<b>6.9</b>	<b>5.0</b>	<b>6.1</b>	<b>5.1</b>	<b>5.4</b>
Higher Education - Total Fund Index		7.0	8.8	6.7	6.7	5.0	6.0	5.2	5.4
Difference		-0.1	0.3	0.2	0.2	0.0	0.1	-0.1	0.0

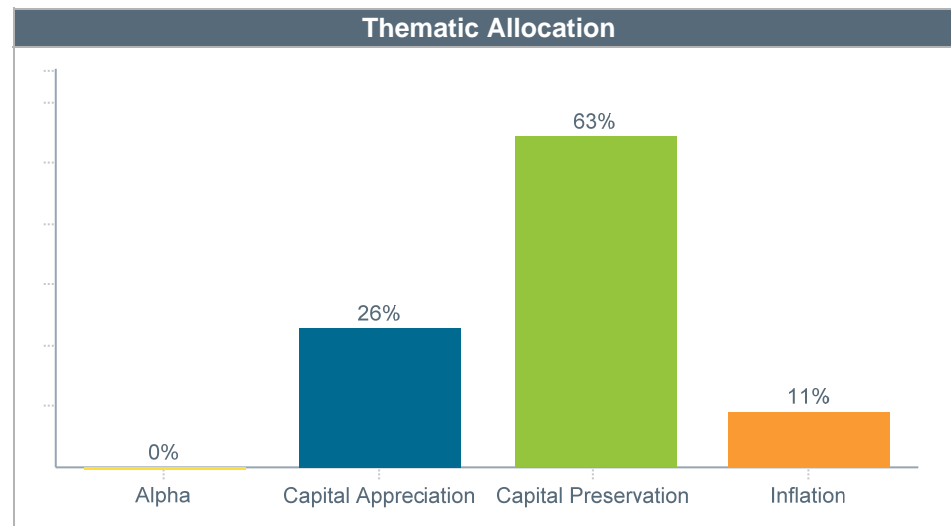
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Wyoming State Treasurer's Office  
Permanent Funds - Workers' Compensation Fund

As of December 31, 2020

Investment Profile
<b>Fund Type:</b> Permanent Fund <b>Main Objective:</b> Provide a return that assures the Workers' Compensation Fund will be self-funding or nearly self-funding in order to substantially reduce or eliminate the need for employer contributions. <b>Primary Investment Goals:</b> Long-term return, safety of capital, yield and capital appreciation. <b>Maximum Equity Allocation:</b> 70% <b>Current Long-Term Target Equity Allocation:</b> 38% <b>Actuarial Discount Rate:</b> 2.5%* <b>Funded Status:</b> >100%* <b>Duration of Liabilities:</b> 11.4 years*
*As of the most recent report.



Comparative Performance									
	Allocation	Performance (%)							
	Market Value (\$)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
Workers' Compensation Fund	2,592,652,336	5.6	7.7	12.4	12.4	8.2	7.5	6.0	5.8
WC - Total Fund Index		5.9	7.7	11.3	11.3	7.9	7.1	5.9	5.7
Difference		-0.3	0.0	1.1	1.1	0.3	0.4	0.1	0.1

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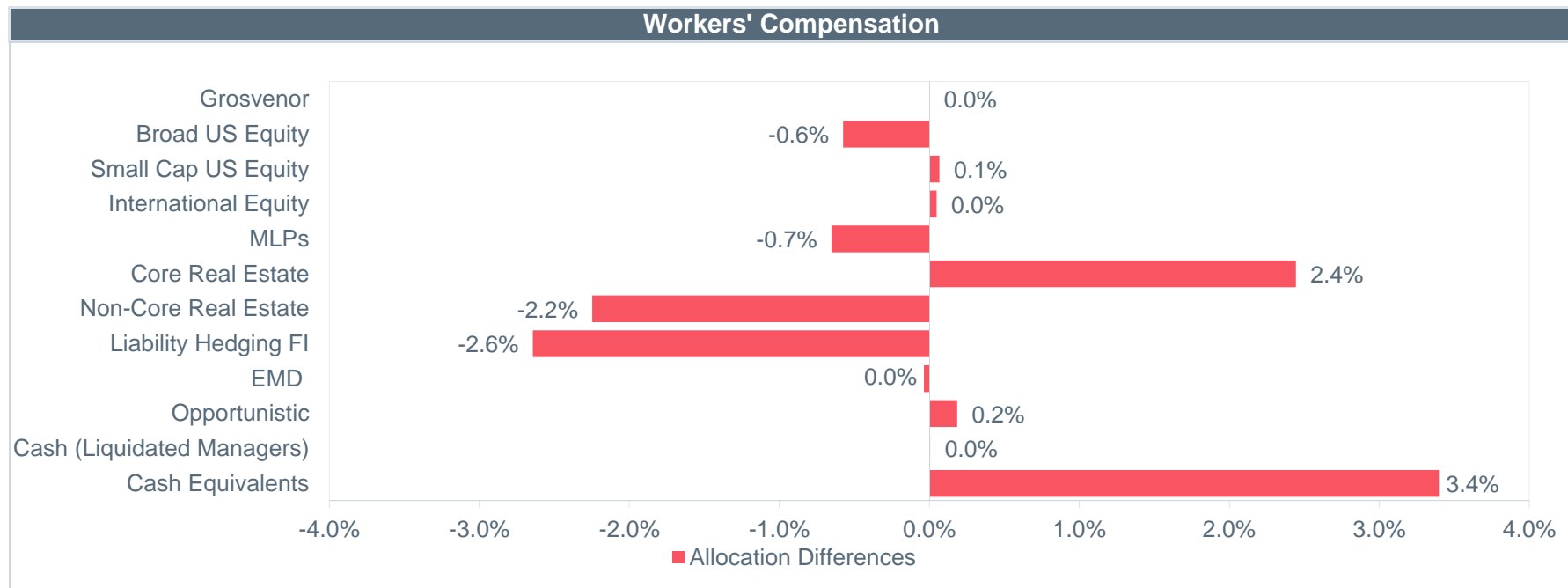
Long-Term Target Allocation			
	Minimum Range (%)	Target (%)	Maximum Range (%)
<b>Workers Compensation Fund</b>	-	<b>100.00</b>	-
Broad US Equity	4.00	8.00	12.00
Small Cap US Equity	1.00	2.00	3.00
International Equity	6.25	12.50	18.75
MLPs	2.25	4.50	6.75
Core Real Estate	2.25	4.50	6.75
Non-Core Real Estate	2.00	4.00	6.00
Liability Driven Fixed Income	31.00	62.00	93.00
Opportunistic Fixed Income	0.00	0.00	5.00
EMD	1.25	2.50	3.75
Opportunistic Investments	0.00	0.00	5.00
Cash (inv. in SAP)	0.00	0.00	5.00

Fixed Income Characteristics vs. BB US Agg Bond Index		
	Portfolio	Benchmark
Effective Duration	10.3	6.2
Avg. Quality	Aa3	Aa1/Aa2
Yield To Maturity (%)	1.8	1.1
Coupon Rate (%)	3.1	2.8

Risk Metrics		
	5 Years	10 Years
Sharpe Ratio	1.2	1.1
Standard Deviation	5.2	4.6
Beta	0.3	0.3

Wyoming State Treasurer's Office  
Permanent Funds - Workers' Compensation Fund  
Asset Allocation vs. Long-Term Target

As of December 31, 2020



	Market Value	Allocation	Minimum	Target	Maximum
	(\$)	(%)	(%)	(%)	(%)
Grosvenor	13,986	0.0	0.0	0.0	0.0
Broad US Equity	192,508,053	7.4	4.0	8.0	12.0
Small Cap US Equity	53,625,595	2.1	1.0	2.0	3.0
International Equity	325,369,142	12.5	6.3	12.5	18.8
MLPs	99,764,461	3.8	2.3	4.5	6.8
Core Real Estate	180,046,646	6.9	2.3	4.5	6.8
Non-Core Real Estate	45,442,427	1.8	2.0	4.0	6.0
Liability Hedging FI	1,538,922,363	59.4	31.0	62.0	93.0
EMD	63,876,286	2.5	1.3	2.5	3.8
Opportunistic	4,838,973	0.2	0.0	0.0	5.0
Cash (Liquidated Managers)	142,090	0.0	0.0	0.0	0.0
Cash Equivalents	88,102,314	3.4	0.0	0.0	5.0
Total	2,592,652,336	100.0	--	100.0	--

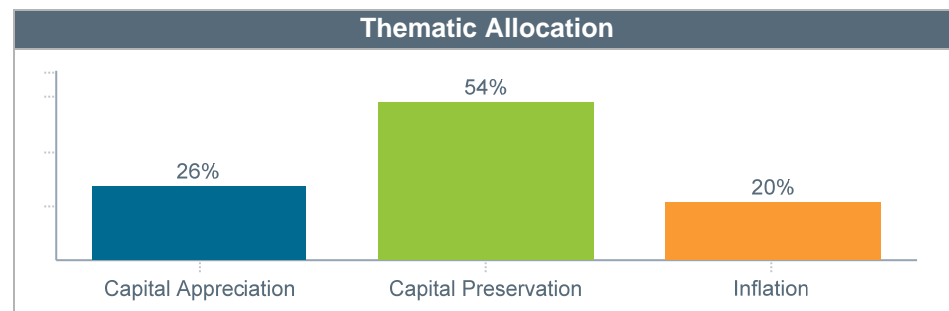


Wyoming State Treasurer's Office  
Pool A Investment Account

As of December 31, 2020

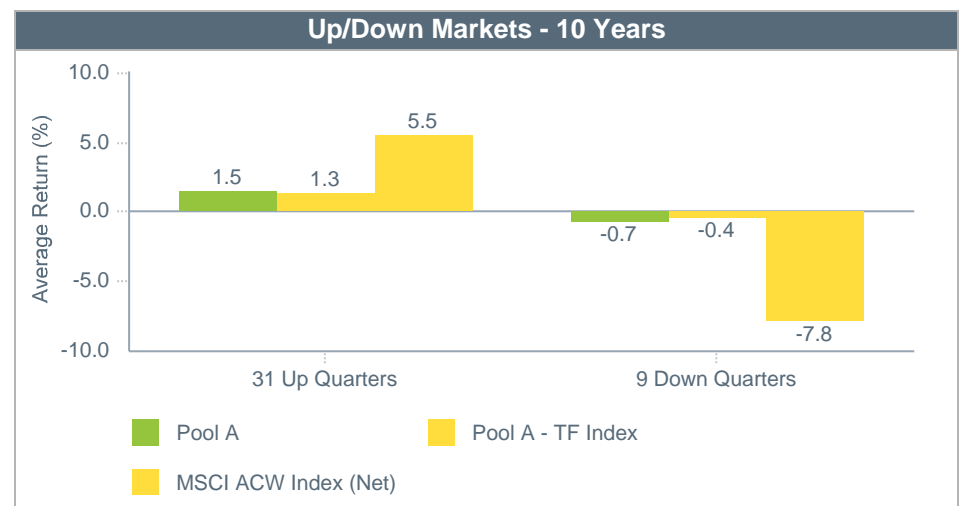
Investment Profile
<b>Fund Type:</b> Non-Permanent Fund <b>Main Objective:</b> Provide a diverse array of securities including equities, while maintaining adequate liquidity, stability, and return on investment. <b>Primary Investment Goal:</b> Pool A is intended to be moderately liquid and safely invested but also be invested for return and growth. <b>Maximum Equity Allocation:</b> 60% <b>Current Target Equity Allocation:</b> 36% <b>Participating Funds:</b> <ul style="list-style-type: none"> <li>• Tobacco Settlement Trust Fund</li> <li>• Wildlife and Natural Resource Trust Account</li> <li>• Cultural Trust Fund</li> <li>• Public Television Matching Fund Account</li> <li>• Game and Fish Fund Trust Account</li> </ul>

Risk Metrics	5 Years	10 Years
Sharpe Ratio	0.7	0.8
Standard Deviation	5.4	4.3
Beta	0.3	0.2



Comparative Performance									
	Allocation	Performance (%)							
	Market Value (\$)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
<b>Pool A</b>	<b>265,604,694</b>	<b>5.1</b>	<b>7.3</b>	<b>8.5</b>	<b>8.5</b>	<b>5.5</b>	<b>4.9</b>	<b>4.1</b>	<b>3.9</b>
Pool A - Total Fund Index		5.0	6.9	7.0	7.0	4.9	4.3	3.9	3.8
Difference		0.1	0.4	1.5	1.5	0.6	0.6	0.2	0.1

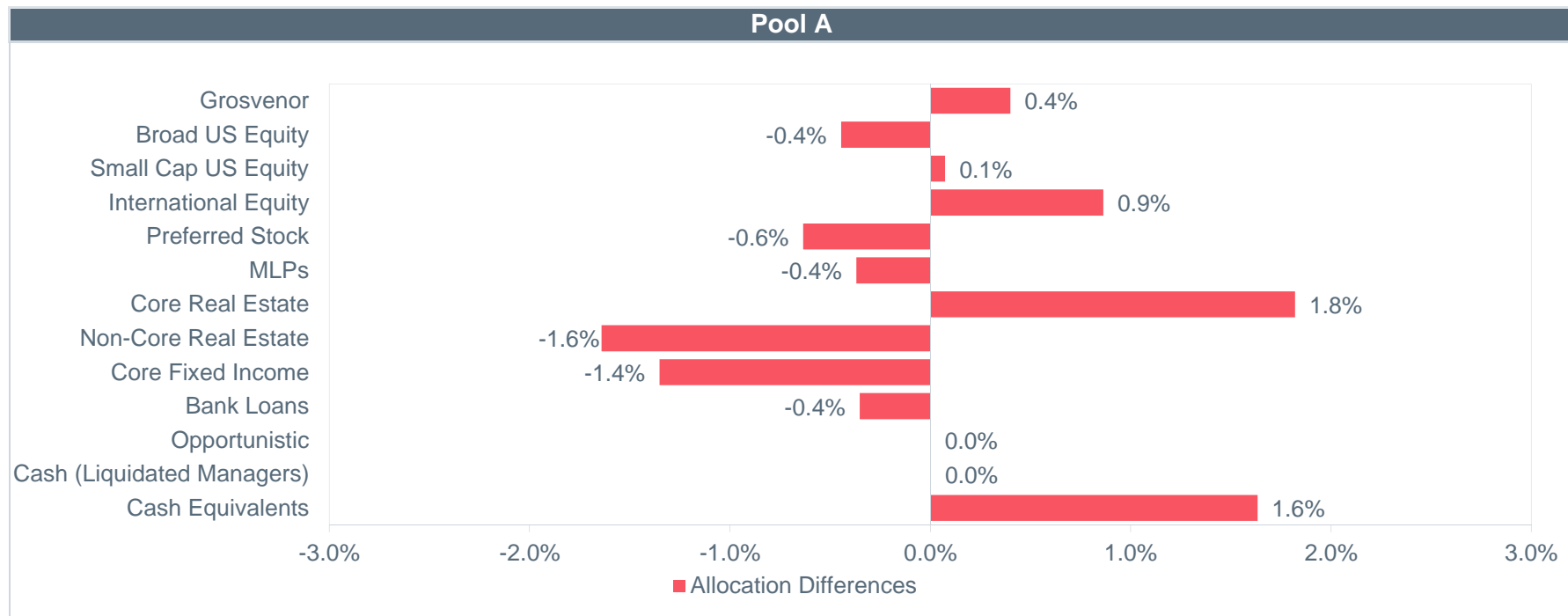
Long-Term Target Allocation	Minimum Range (%)	Target (%)	Maximum Range (%)
<b>Pool A</b>	-	<b>100.00</b>	-
Broad US Equity	3.75	7.50	11.25
Small Cap US Equity	0.50	1.00	1.50
International Equity	3.75	7.50	11.25
Preferred Stock	3.50	7.00	10.50
MLPs	2.50	5.00	7.50
Core Real Estate	2.00	4.00	6.00
Non-Core Real Estate	2.00	4.00	6.00
Core Fixed Income	24.50	49.00	73.50
Bank Loans	5.00	10.00	15.00
Opportunistic Investments	0.00	0.00	5.00
Cash (inv. in SAP)	2.50	5.00	7.50



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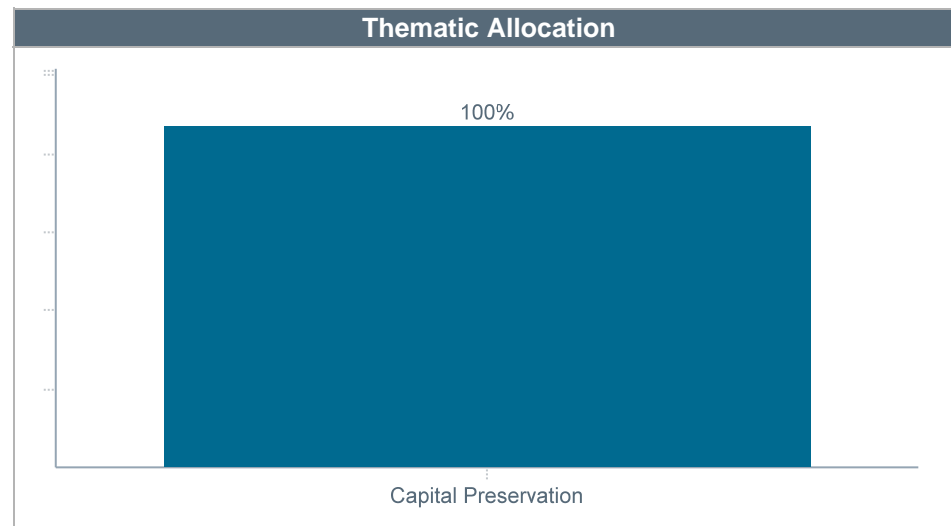
## Pool A

## Asset Allocation vs. Long-Term Target



	Market Value	Allocation	Minimum	Target	Maximum
	(\$)	(%)	(%)	(%)	(%)
Grosvenor	1,060,050	0.4	0.0	0.0	0.0
Broad US Equity	18,739,255	7.1	3.8	7.5	11.3
Small Cap US Equity	2,851,762	1.1	0.5	1.0	1.5
International Equity	22,215,425	8.4	3.8	7.5	11.3
Preferred Stock	16,907,522	6.4	3.5	7.0	10.5
MLPs	12,298,605	4.6	2.5	5.0	7.5
Core Real Estate	15,459,286	5.8	2.0	4.0	6.0
Non-Core Real Estate	6,265,979	2.4	2.0	4.0	6.0
Core Fixed Income	126,556,970	47.6	24.5	49.0	73.5
Bank Loans	25,625,508	9.6	5.0	10.0	15.0
Opportunistic	0	0.0	0.0	0.0	5.0
Cash (Liquidated Managers)	6,376	0.0	0.0	0.0	0.0
Cash Equivalents	17,617,955	6.6	2.5	5.0	7.5
Total	265,604,694	100.0	--	100.0	--

Investment Profile
<b>Fund Type:</b> Non-Permanent Fund <b>Main Objective:</b> Produce an investment return so that State agencies have the advantage of better income from their invested funds, while maintaining stability. <b>Primary Investment Goal:</b> Capital preservation, yield, and liquidity <b>Liquidity Constraints:</b> The Fund must meet the day-to-day cash flow needs of the State <b>Maximum Equity Allocation:</b> 0% <b>Current Target Equity Allocation:</b> 0%



Long-Term Target Allocation			
	Minimum Allocation (%)	Target Allocation (%)	Maximum Allocation (%)
<b>State Agency Pool Excluding PPI</b>	-	<b>100.00</b>	-
Laddered Short-Term Treasury	100.00	100.00	100.00
Core Fixed Income	0.00	0.00	0.00
Low Duration Fixed Income	0.00	0.00	0.00
Bank Loans	0.00	0.00	0.00
Opportunistic Fixed Income	0.00	0.00	0.00
EMD	0.00	0.00	0.00
Cash Equivalents	0.00	0.00	0.00

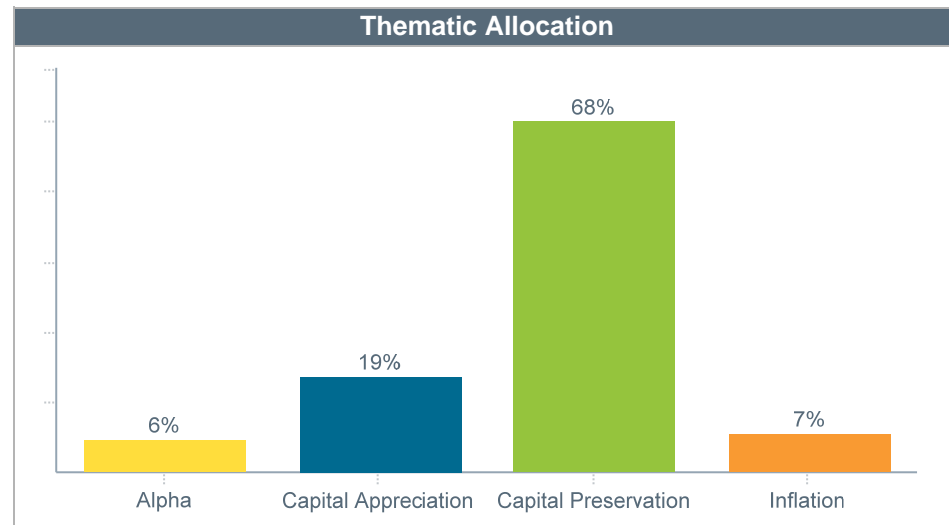
Fixed Income Characteristics vs. BB US Agg Bond Index		
	Portfolio	Benchmark
Effective Duration	1.7	6.2
Avg. Quality	Aaa	Aa1/Aa2
Yield To Maturity (%)	0.2	1.1
Coupon Rate (%)	1.0	2.8

Risk Metrics		
	5 Years	10 Years
Sharpe Ratio	0.9	1.0
Standard Deviation	2.0	2.1
Beta	0.0	0.0

Comparative Performance									
	Allocation	Performance (%)							
	Market Value (\$)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
<b>State Agency Pool</b>	<b>4,344,228,823</b>	<b>0.1</b>	<b>0.3</b>	<b>2.9</b>	<b>2.9</b>	<b>2.8</b>	<b>3.0</b>	<b>2.7</b>	<b>2.7</b>
State Agency Pool - Actual Allocation Index		0.1	0.3	2.7	2.7	2.6	2.7	2.7	2.7
Difference		0.0	0.0	0.2	0.2	0.2	0.3	0.0	0.0

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Investment Profile
<b>Fund Type:</b> Non-Permanent Fund <b>Main Objective:</b> LSRA will be invested to obtain the highest possible return while seeking to preserve the balance necessary to address potential budget shortfalls or a budget deficit. <b>Primary Investment Goal:</b> liquidity, capital preservation, and capital appreciation. <b>Maximum Equity Allocation:</b> 36% <b>Current Target Equity Allocation:</b> 29.17% <b>Spending Policy:</b> Legislative Appropriation <b>Participating Funds:</b> <ul style="list-style-type: none"> <li>• Long Term Reserve</li> <li>• Intermediate Term Reserve</li> <li>• Short Term Reserve</li> </ul>



Long-Term Target Allocation			
	Minimum Range (%)	Target (%)	Maximum Range (%)
<b>LSRA Long Term Reserve</b>	-	<b>100.00</b>	-
Broad US Equity	17.00	22.00	27.00
Small Cap US Equity	4.00	6.00	8.00
International Equity	21.00	28.00	35.00
Bank Loans	10.00	12.50	15.00
MLPs	10.00	12.50	15.00
Diversified Hedge Funds	15.00	19.00	23.00
Opportunistic Investments	0.00	0.00	0.00
Cash (inv. in SAP)	0.00	0.00	0.00

Risk Metrics		
	Since Incep.	Inception Date
Standard Deviation	8.9	07/01/2019
Beta	0.3	
Sharpe Ratio	0.5	

Comparative Performance									
	Allocation	Performance (%)							
	Market Value (\$)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
<b>LSRA</b>	<b>1,472,348,812</b>	<b>4.9</b>	<b>6.8</b>	<b>5.7</b>	<b>5.7</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
LSRA - Total Fund Index		5.0	6.4	6.0	6.0	N/A	N/A	N/A	N/A
Difference		-0.1	0.4	-0.3	-0.3	N/A	N/A	N/A	N/A

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## Total LSRA

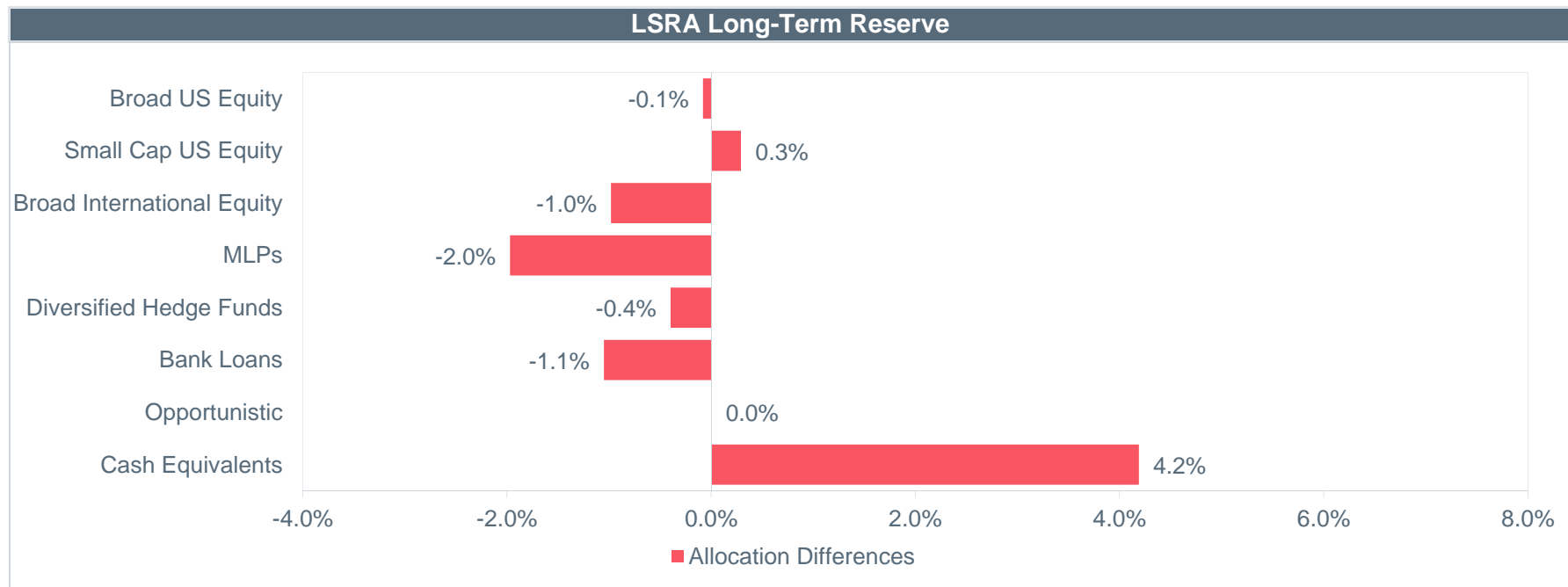
## Asset Allocation vs. Long-Term Target

Total LSRA			
	Market Value	Allocation	Target
	(\$)	(%)	(%)
Broad US Equity	108,127,003	7.3	N/A
Small Cap US Equity	31,037,515	2.1	N/A
Broad International Equity	133,275,961	9.1	N/A
MLPs	51,944,183	3.5	N/A
Diversified Hedge Funds	91,762,150	6.2	N/A
Core Fixed Income	479,254,759	32.6	N/A
Low Duration Fixed Income	499,818,437	33.9	N/A
Bank Loans	56,470,373	3.8	N/A
Opportunistic	0	0.0	N/A
Cash Equivalents	20,658,431	1.4	N/A
Total	1,472,348,812	100.0	N/A

The Total LSRA pool has no target allocation.

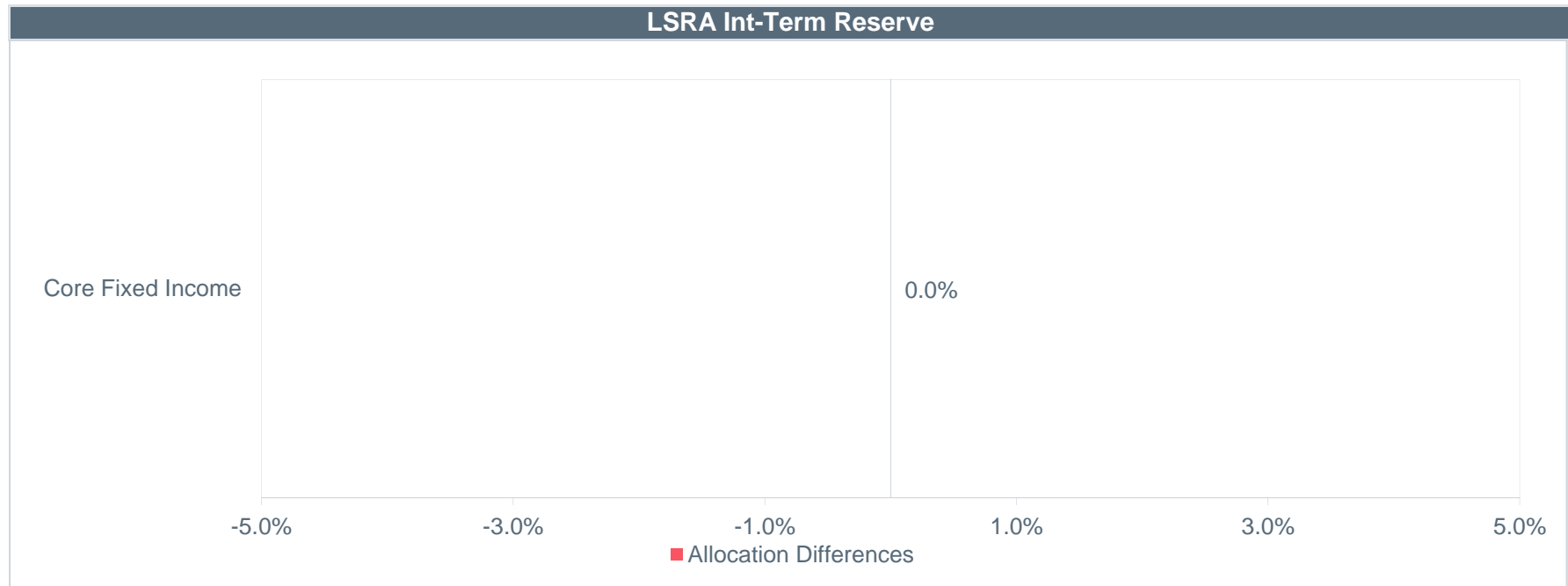
Wyoming State Treasurer's Office  
LSRA Long-Term Reserve  
Asset Allocation vs. Long-Term Target

As of December 31, 2020

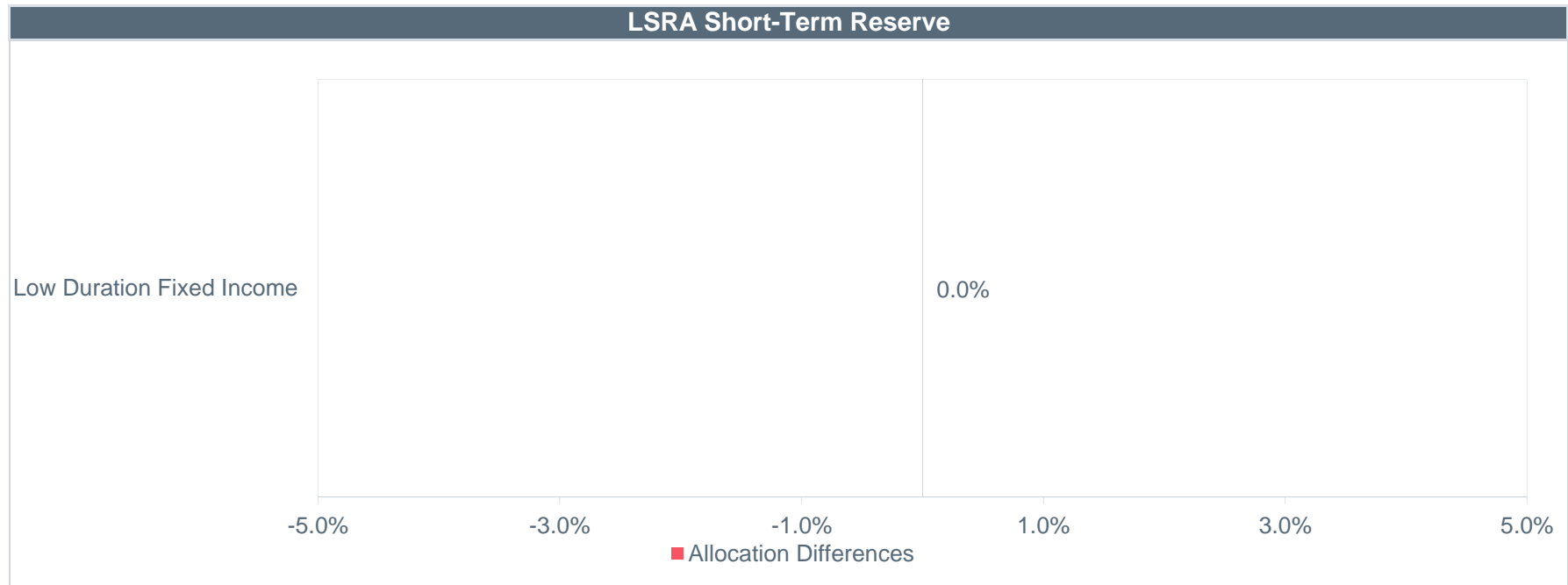


	Market Value (\$)	Allocation (%)	Minimum (%)	Target (%)	Maximum (%)
Broad US Equity	108,127,003	21.9	17.0	22.0	27.0
Small Cap US Equity	31,037,515	6.3	4.0	6.0	8.0
Broad International Equity	133,275,961	27.0	21.0	28.0	35.0
MLPs	51,944,183	10.5	10.0	12.5	15.0
Diversified Hedge Funds	91,762,150	18.6	15.0	19.0	23.0
Bank Loans	56,470,373	11.4	10.0	12.5	15.0
Opportunistic	0	0.0	0.0	0.0	0.0
Cash Equivalents	20,658,431	4.2	0.0	0.0	0.0
Total	493,275,617	100.0	--	100.0	--



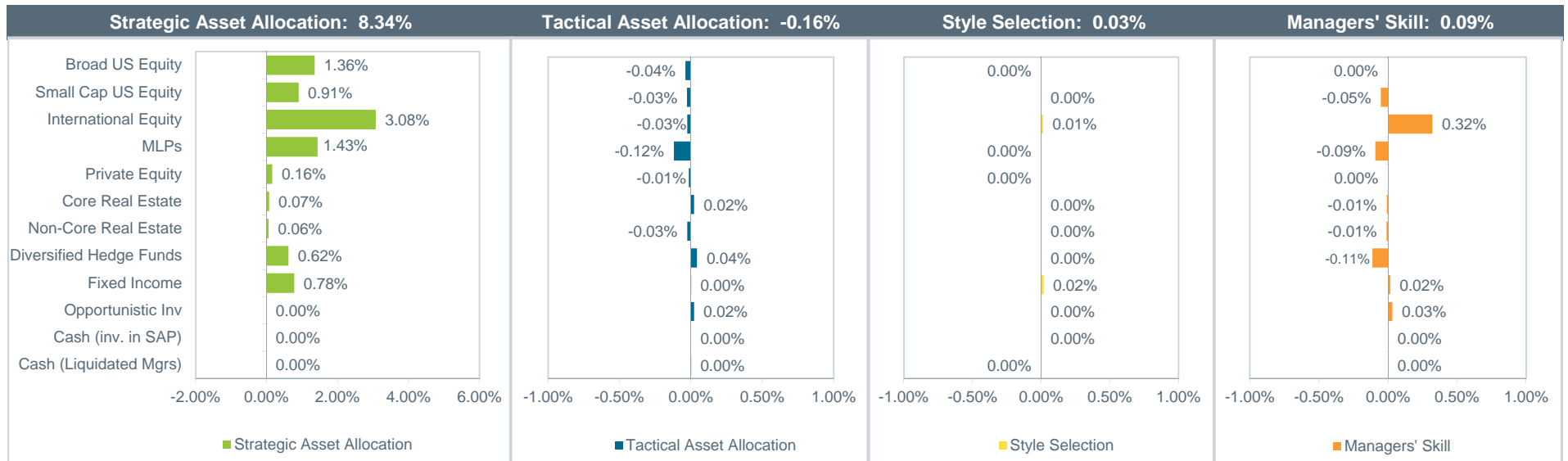
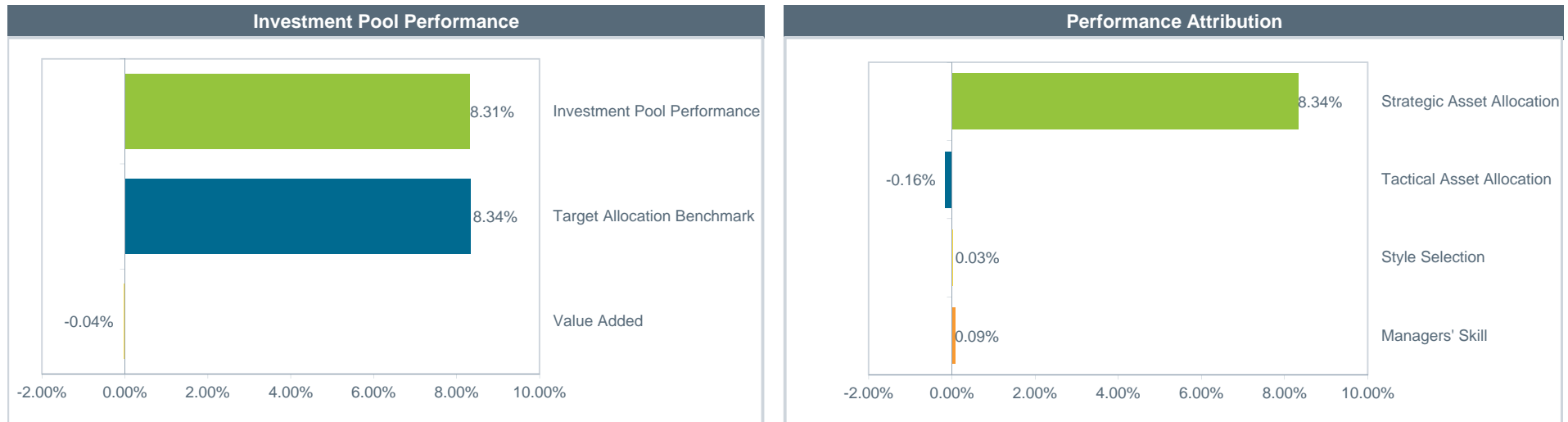


	Market Value (\$)	Allocation (%)	Minimum (%)	Target (%)	Maximum (%)
Core Fixed Income	479,254,759	100.0	100.0	100.0	100.0
Total	479,254,759	100.0	--	100.0	--



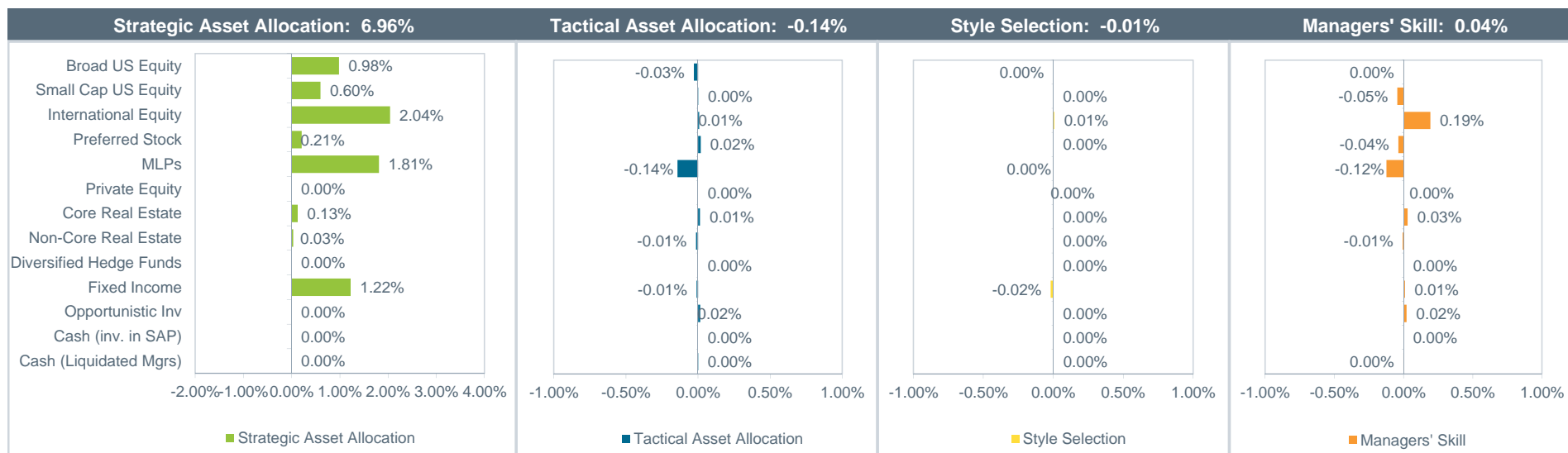
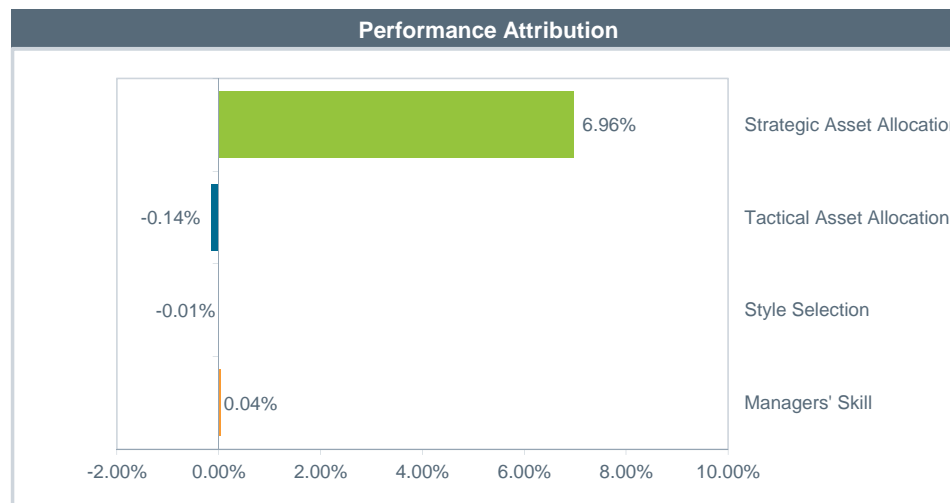
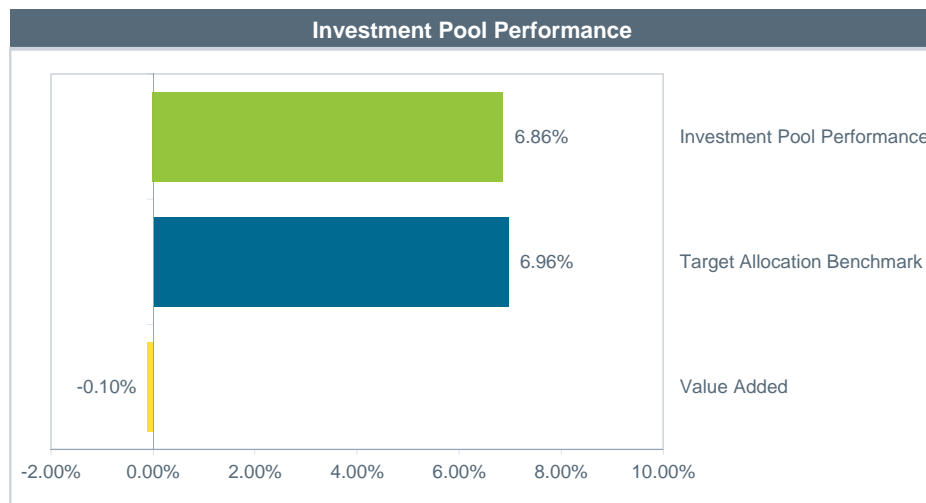
	Market Value (\$)	Allocation (%)	Minimum (%)	Target (%)	Maximum (%)
Low Duration Fixed Income	499,818,437	100.0	100.0	100.0	100.0
Total	499,818,437	100.0	--	100.0	--

**Wyoming State Treasurer's Office**  
**Pool Attribution - IDP Methodology**  
**Permanent Mineral Trust Fund vs. Target Allocation Index**  
**1 Quarter Ending December 31, 2020**



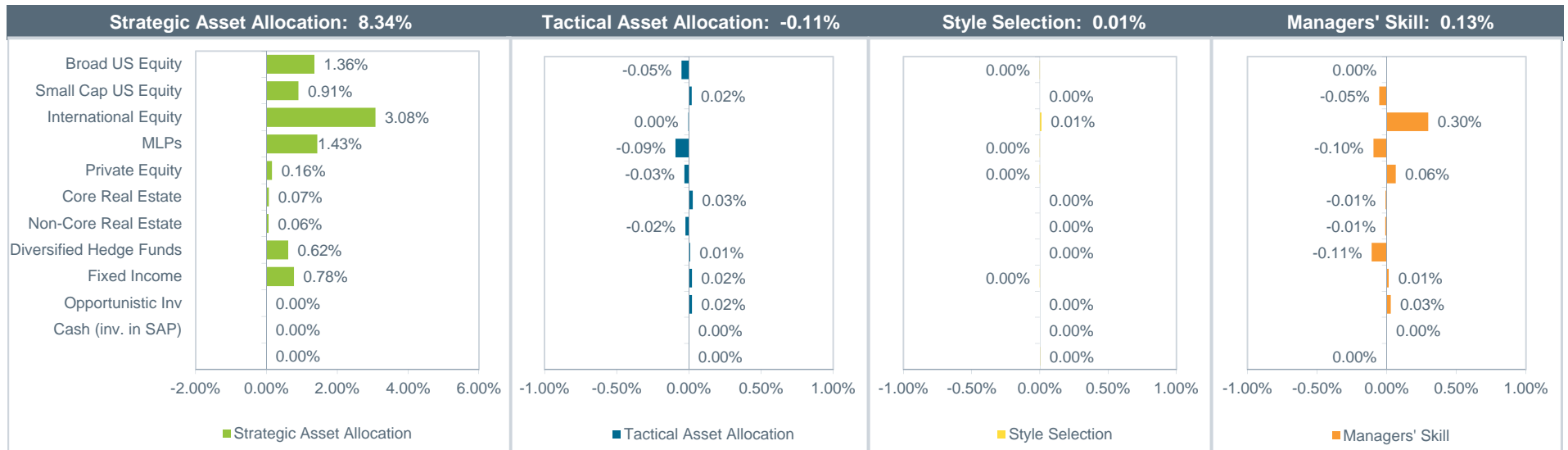
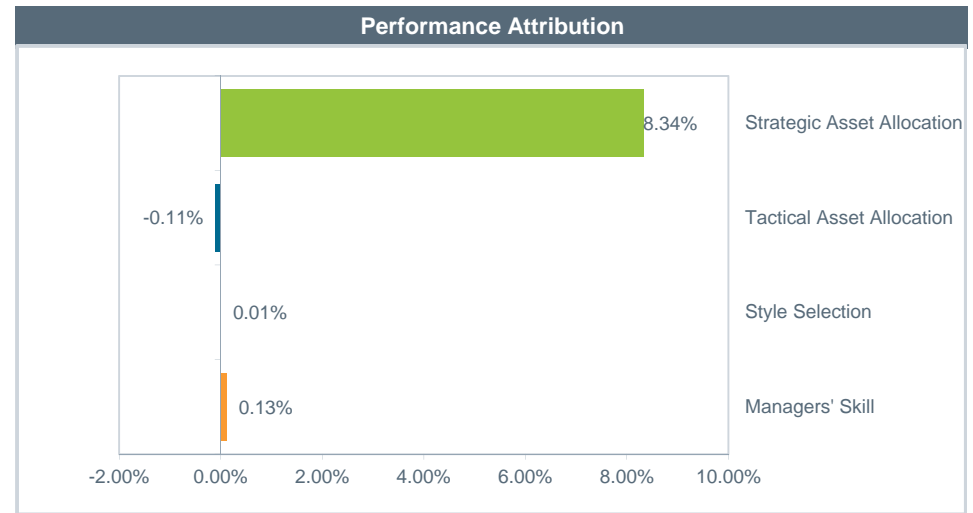
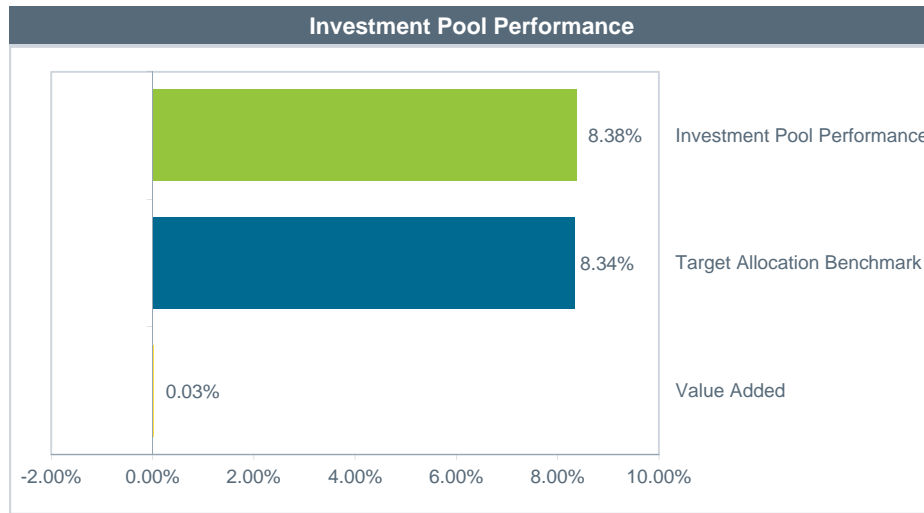
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.  
 Actual Allocation 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 December 31, 2020**



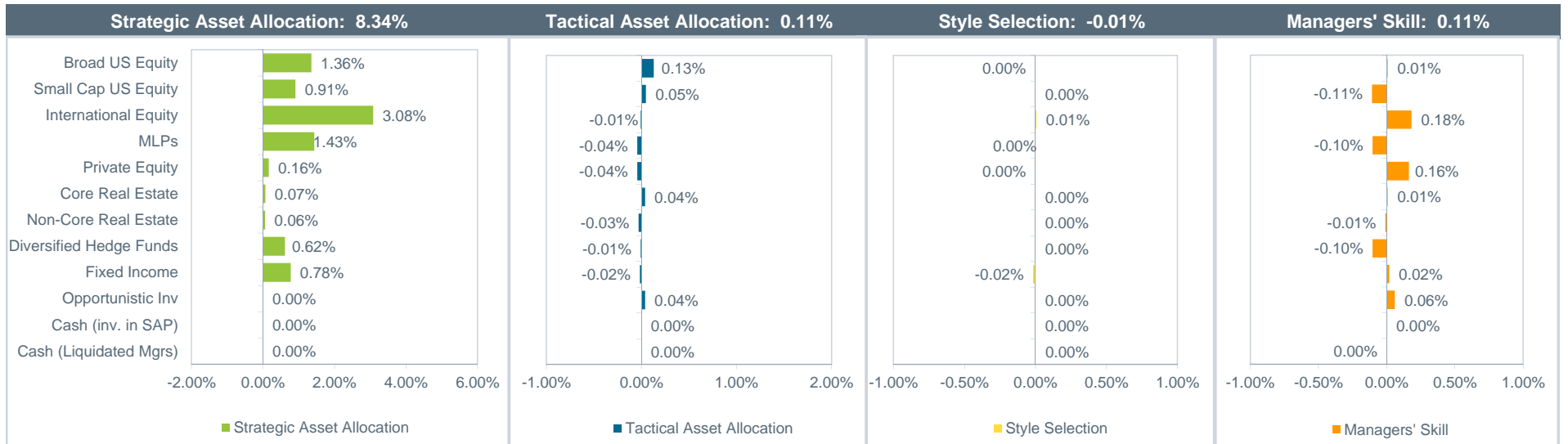
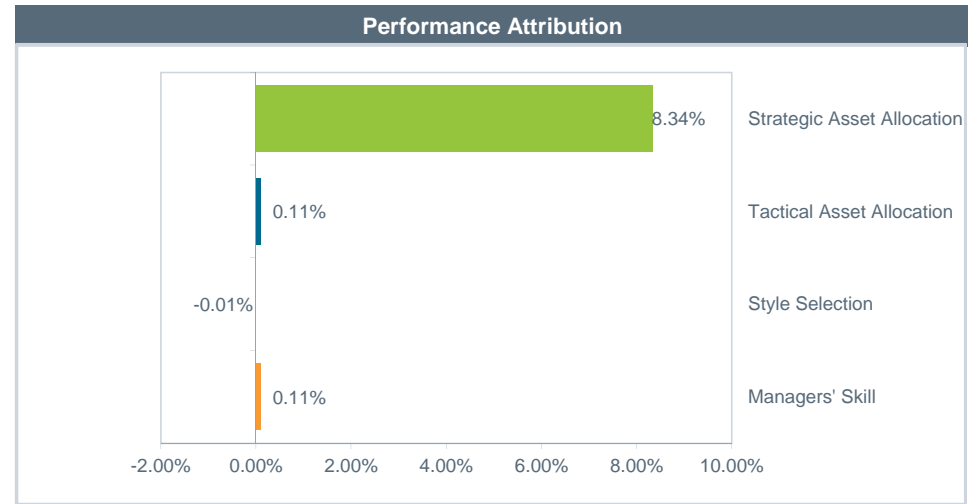
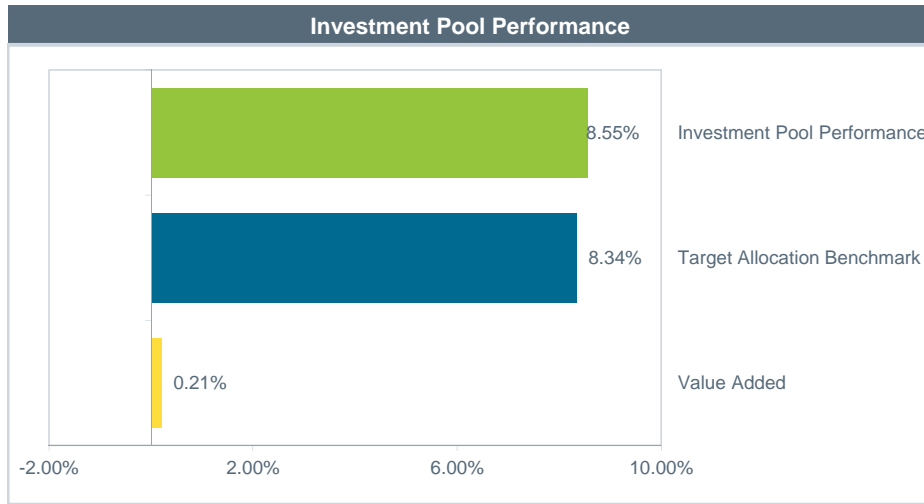
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index. Actual Allocation 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 December 31, 2020**



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.

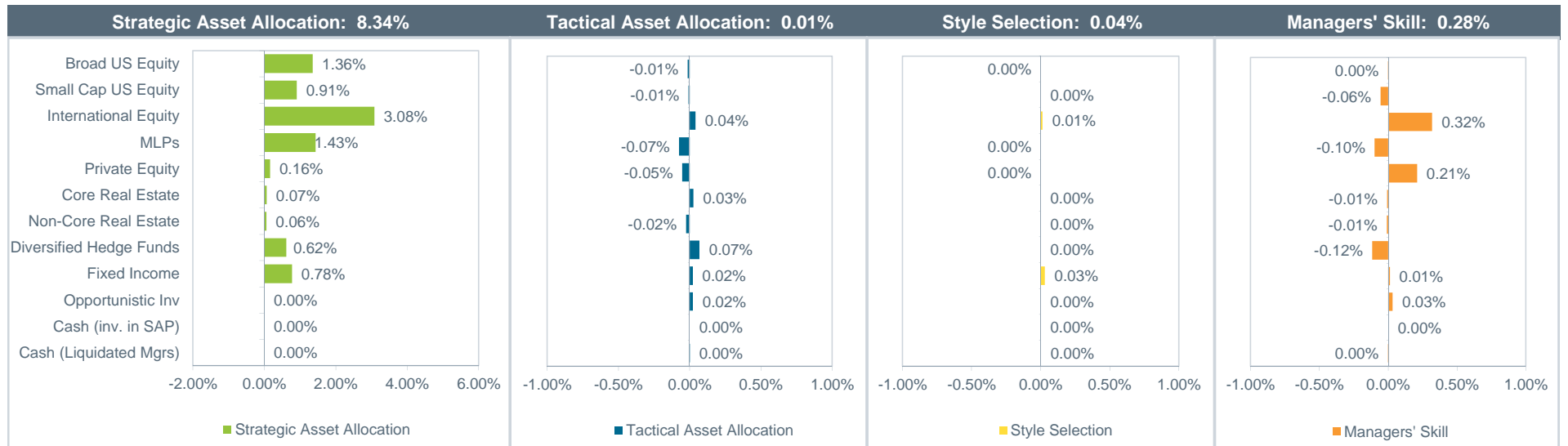
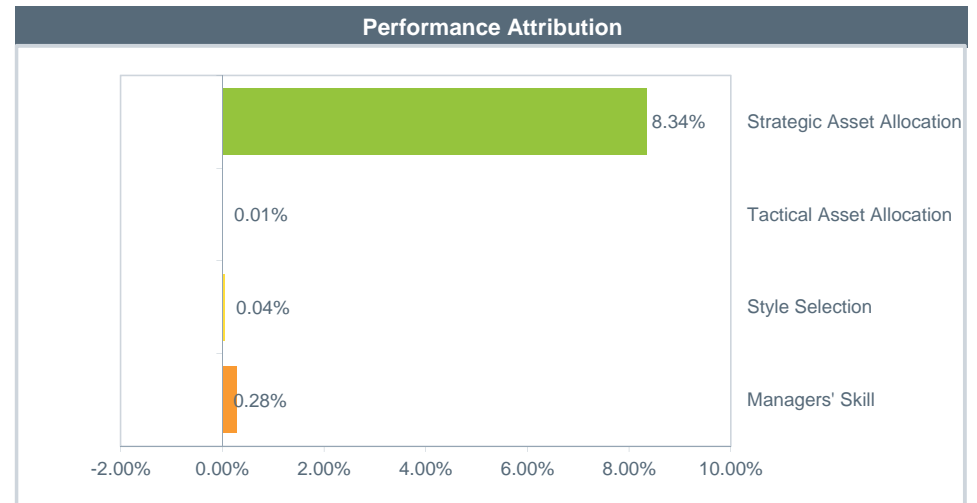
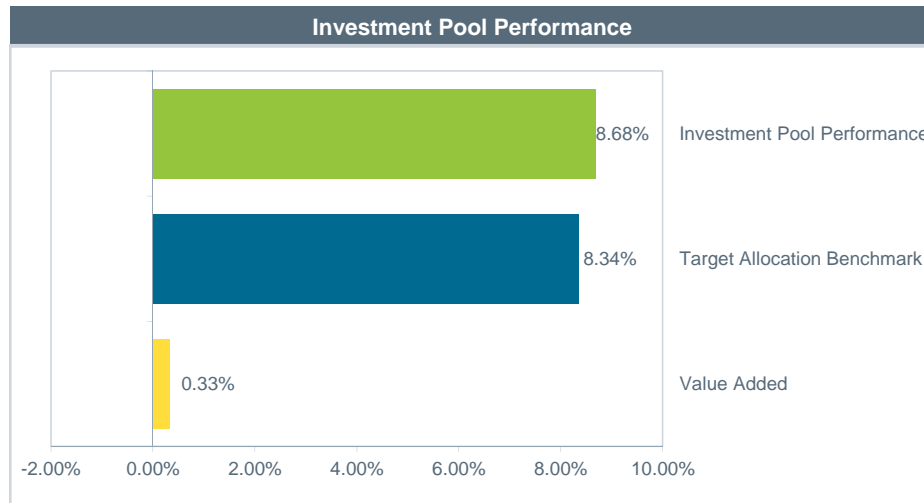
**Wyoming State Treasurer's Office**  
**Pool Attribution - IDP Methodology**  
**University Permanent Land Fund vs. Target Allocation Index**  
**1 Quarter Ending December 31, 2020**



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.

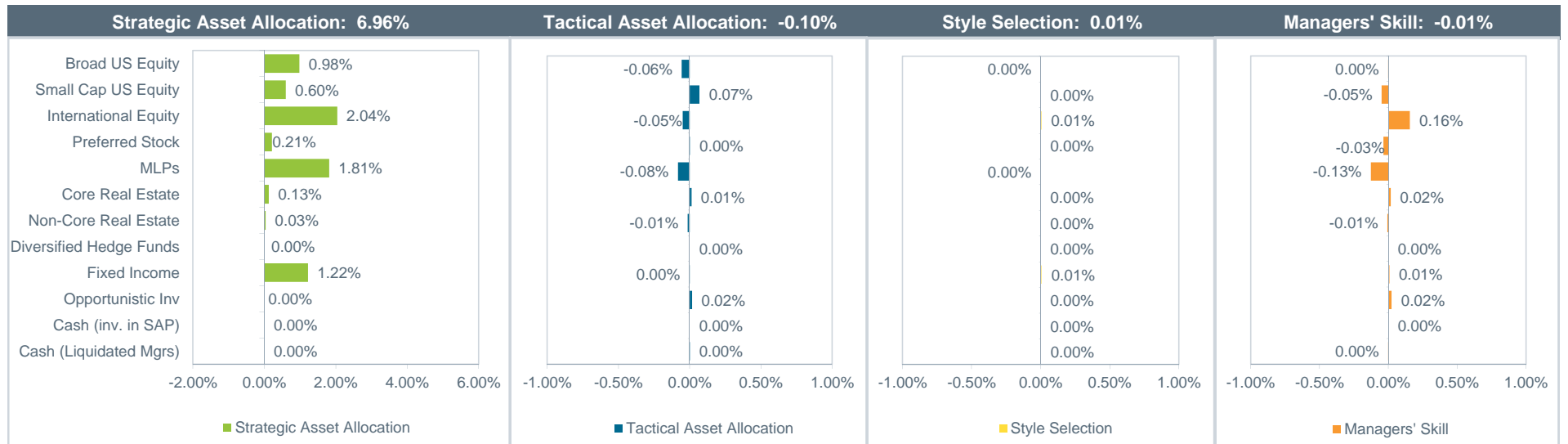
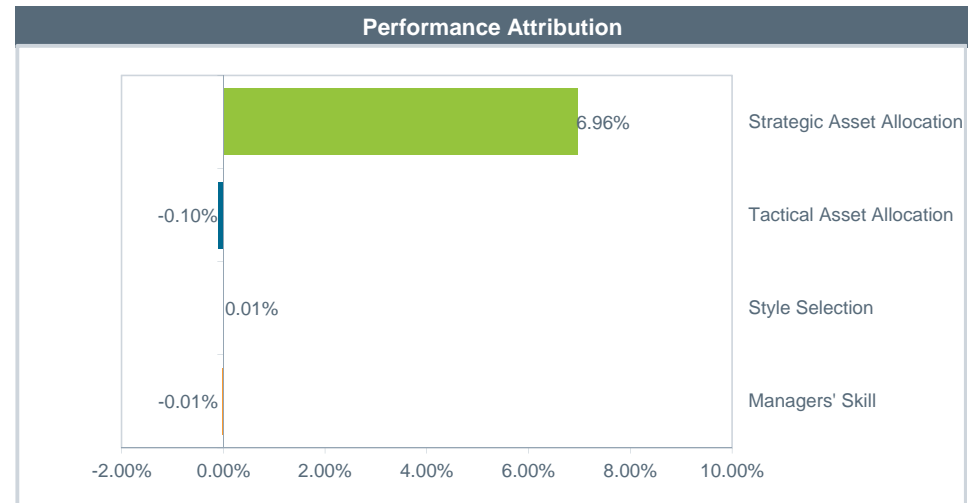
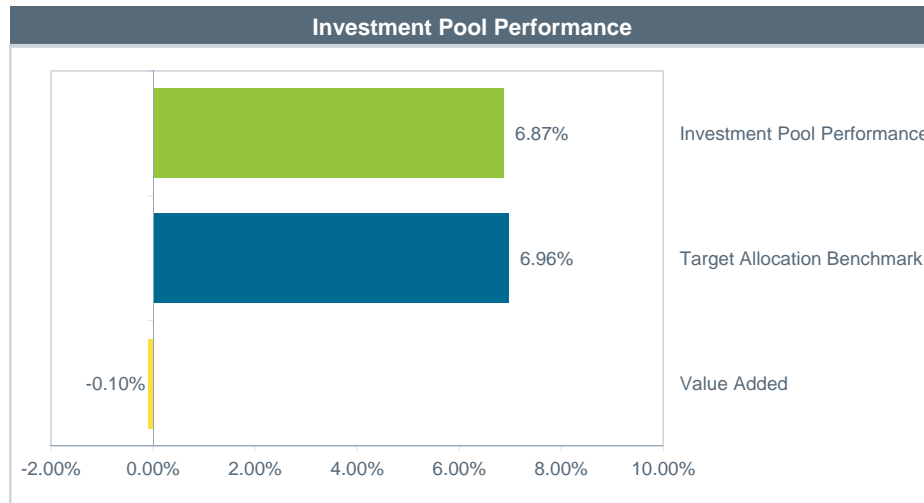


**Wyoming State Treasurer's Office**  
**Pool Attribution - IDP Methodology**  
**Hathaway Scholarship Endowment Fund vs. Target Allocation Index**  
**1 Quarter Ending December 31, 2020**



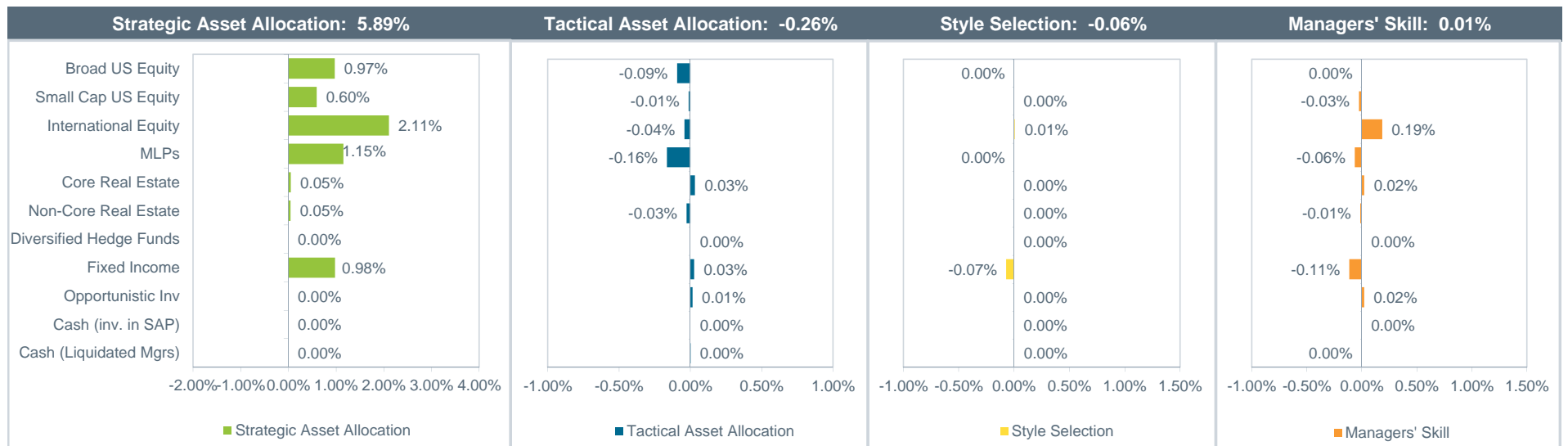
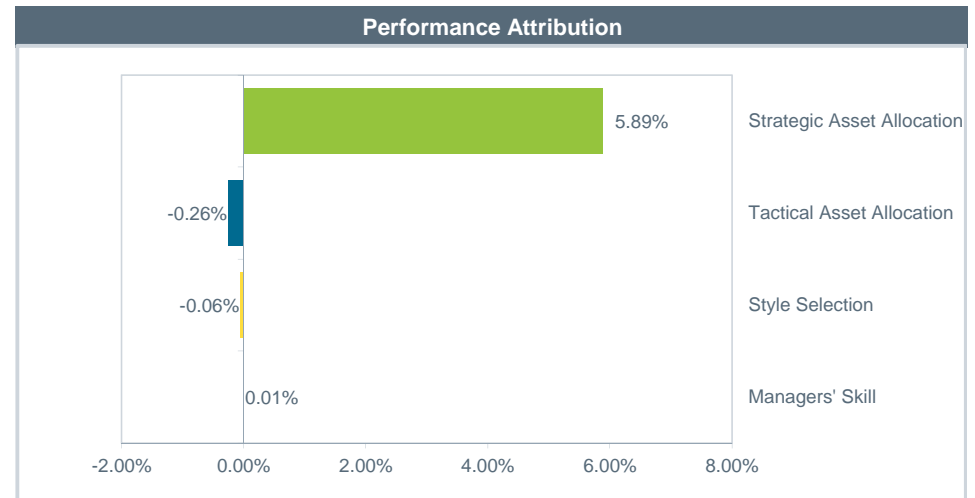
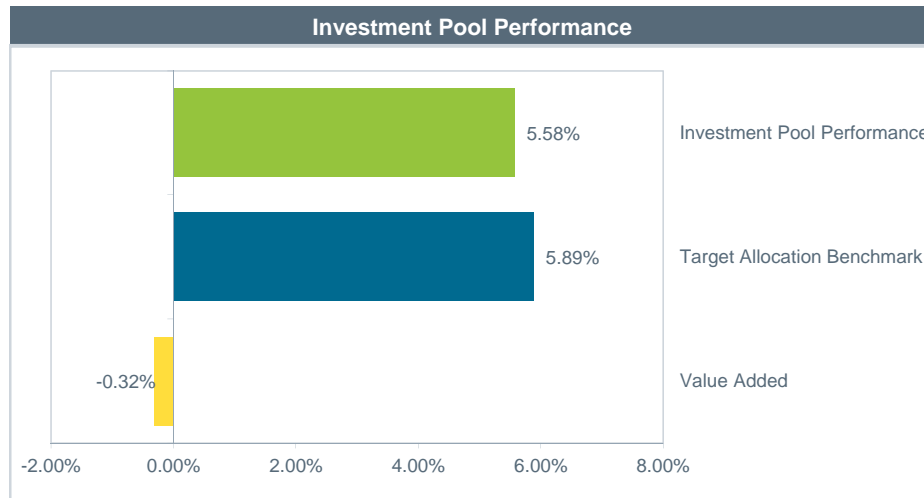
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index. Actual Allocation 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 December 31, 2020**



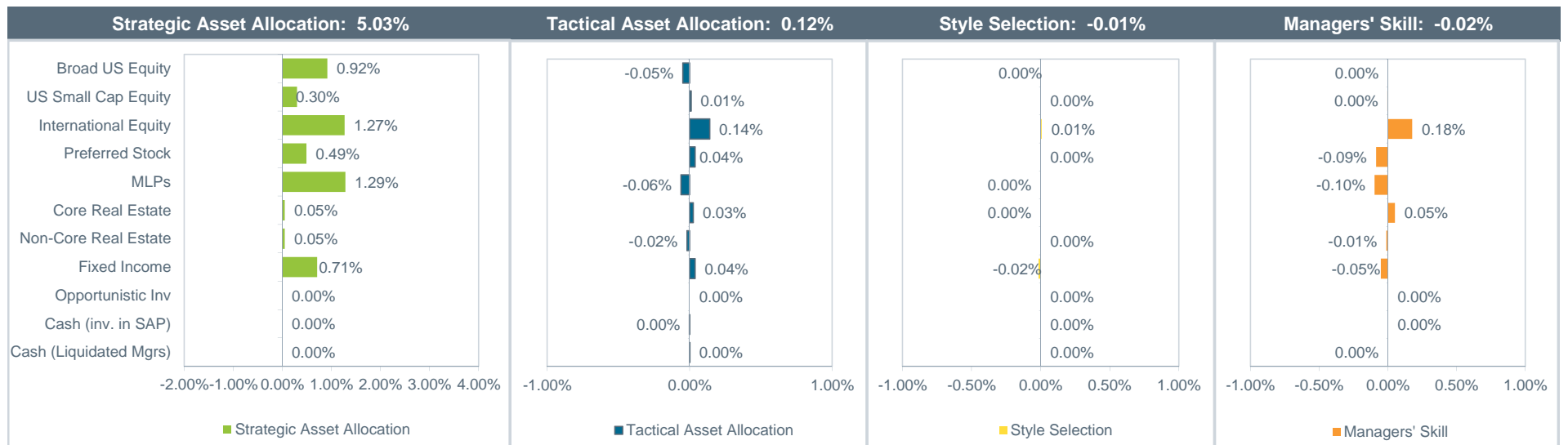
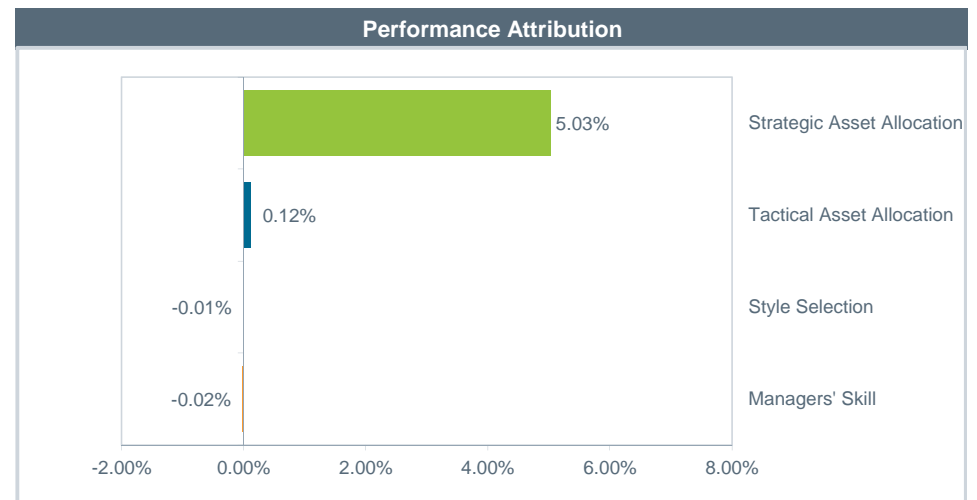
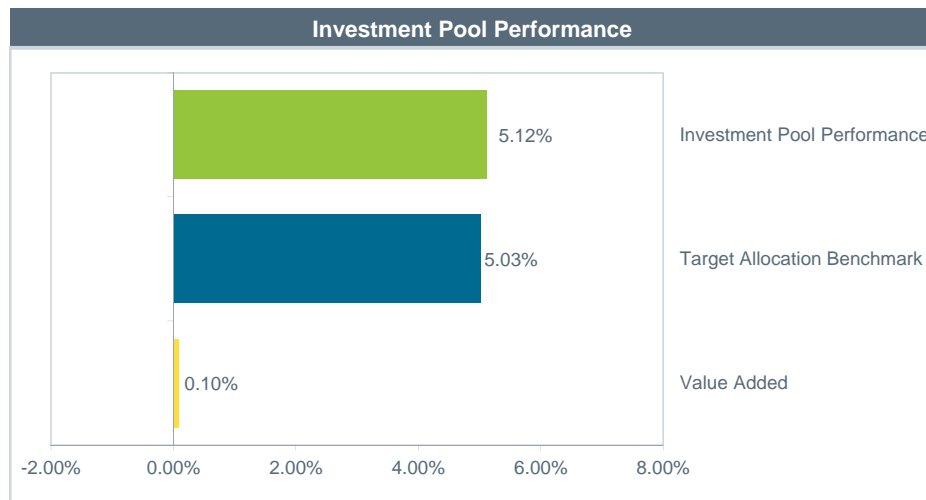
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.  
 Actual Allocation 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 December 31, 2020**



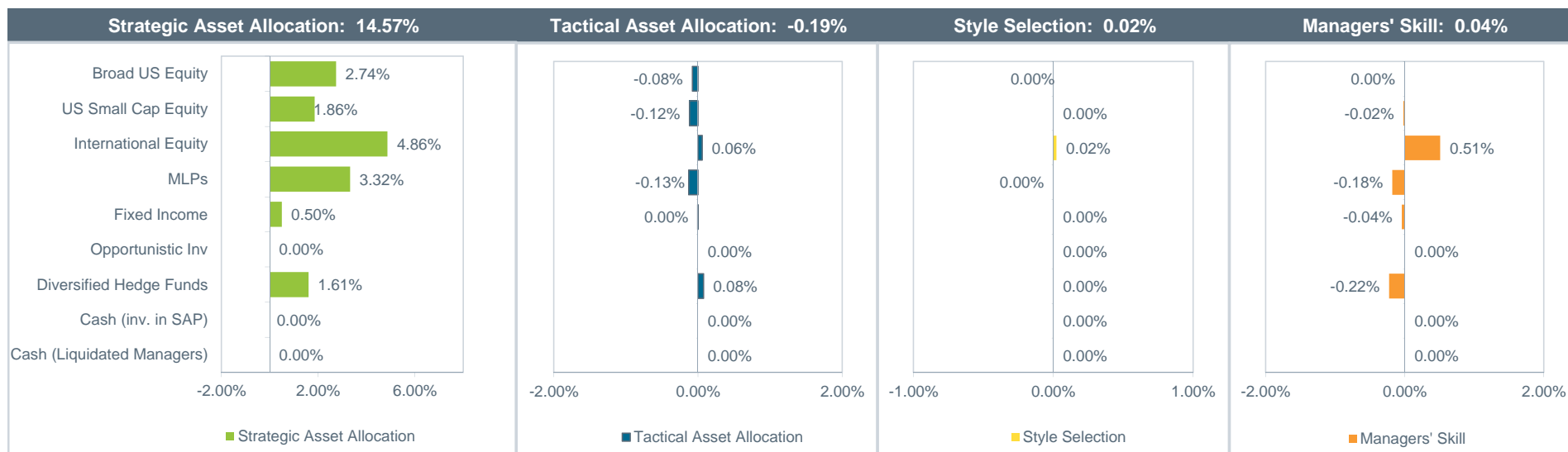
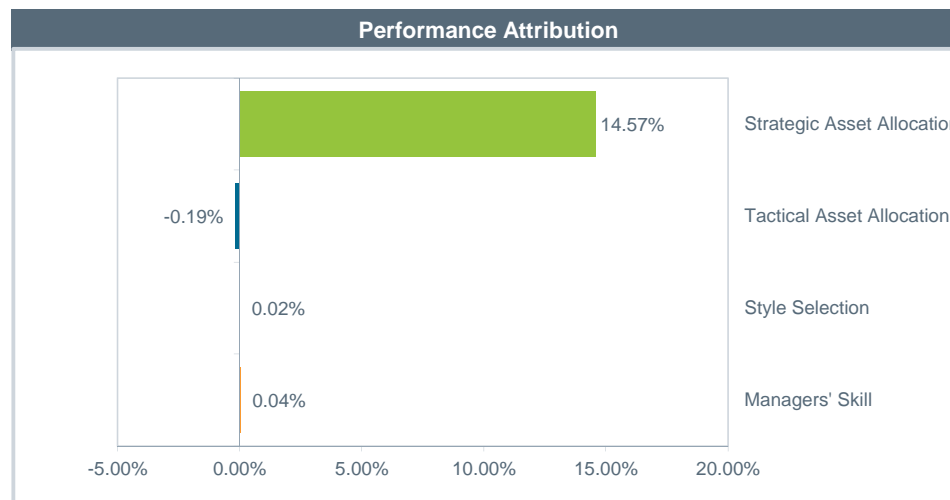
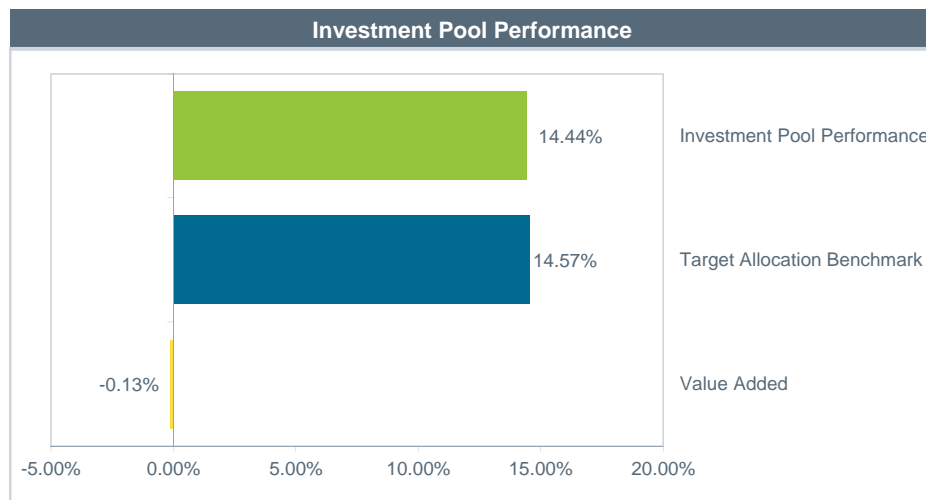
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. The benchmark utilized in this analysis is a passive target allocation index rather than an active actual allocation index.  
 Actual Allocation 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 December 31, 2020



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**  
**LSRA LT Reserve vs. Target Allocation Index**  
**1 Quarter Ending December 31, 2020**



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

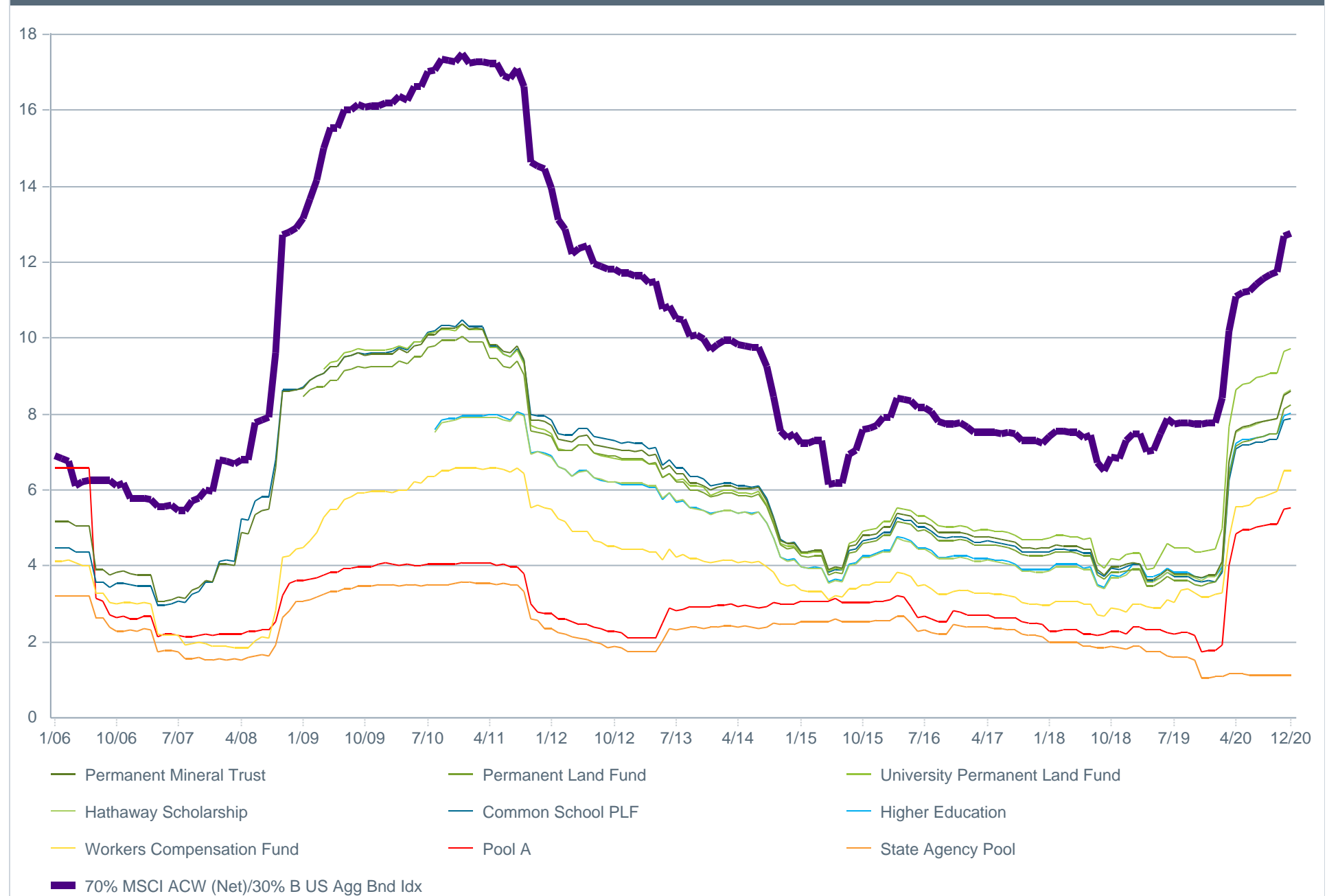
As of December 31, 2020

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
<b>Permanent Funds</b>	<b>16,964,336,535</b>	<b>73.6</b>	<b>7.5</b>	<b>10.3</b>	<b>9.3</b>	<b>9.3</b>	<b>6.3</b>	<b>7.1</b>	<b>5.7</b>	<b>6.1</b>	<b>6.3</b>	<b>07/01/2002</b>
<b>Permanent Mineral Trust</b>	<b>8,910,832,139</b>	<b>38.7</b>	<b>8.3</b>	<b>11.6</b>	<b>9.3</b>	<b>9.3</b>	<b>6.2</b>	<b>7.2</b>	<b>5.8</b>	<b>6.2</b>	<b>6.2</b>	<b>06/01/2001</b>
PMTF - Total Fund Index			8.3	11.3	8.6	8.6	6.1	6.9	5.8	6.1	5.6	
Difference			0.0	0.3	0.7	0.7	0.1	0.3	0.0	0.1	0.6	
<b>Common School Permanent Land Fund</b>	<b>4,430,437,060</b>	<b>19.2</b>	<b>6.9</b>	<b>9.0</b>	<b>7.7</b>	<b>7.7</b>	<b>5.5</b>	<b>6.7</b>	<b>5.5</b>	<b>6.1</b>	<b>6.3</b>	<b>06/01/2001</b>
Common School - Total Fund Index			7.0	8.8	6.7	6.7	5.2	6.4	5.5	5.9	5.5	
Difference			-0.1	0.2	1.0	1.0	0.3	0.3	0.0	0.2	0.8	
<b>Permanent Land Fund</b>	<b>223,935,715</b>	<b>1.0</b>	<b>8.4</b>	<b>11.5</b>	<b>9.5</b>	<b>9.5</b>	<b>6.3</b>	<b>7.1</b>	<b>5.8</b>	<b>6.1</b>	<b>5.7</b>	<b>02/01/2006</b>
PLF - Total Fund Index			8.3	11.3	8.6	8.6	6.1	6.9	5.7	6.0	5.3	
Difference			0.1	0.2	0.9	0.9	0.2	0.2	0.1	0.1	0.4	
<b>University Permanent Land Fund</b>	<b>29,401,035</b>	<b>0.1</b>	<b>8.6</b>	<b>12.7</b>	<b>9.9</b>	<b>9.9</b>	<b>6.6</b>	<b>7.7</b>	<b>6.2</b>	<b>6.3</b>	<b>5.6</b>	<b>05/01/2006</b>
University PLF - Total Fund Index			8.3	11.3	8.6	8.6	6.2	7.3	6.1	6.3	5.5	
Difference			0.3	1.4	1.3	1.3	0.4	0.4	0.1	0.0	0.1	
<b>Hathaway Scholarship</b>	<b>649,684,586</b>	<b>2.8</b>	<b>8.7</b>	<b>11.7</b>	<b>9.5</b>	<b>9.5</b>	<b>6.1</b>	<b>6.8</b>	<b>5.6</b>	<b>5.8</b>	<b>5.7</b>	<b>09/01/2007</b>
Hathaway - Total Fund Index			8.3	11.3	8.6	8.6	5.9	6.6	5.6	5.7	5.5	
Difference			0.4	0.4	0.9	0.9	0.2	0.2	0.0	0.1	0.2	
<b>Higher Education</b>	<b>127,393,664</b>	<b>0.6</b>	<b>6.9</b>	<b>9.1</b>	<b>6.9</b>	<b>6.9</b>	<b>5.0</b>	<b>6.1</b>	<b>5.1</b>	<b>5.4</b>	<b>5.4</b>	<b>09/01/2007</b>
Higher Education - Total Fund Index			7.0	8.8	6.7	6.7	5.0	6.0	5.2	5.4	5.3	
Difference			-0.1	0.3	0.2	0.2	0.0	0.1	-0.1	0.0	0.1	
<b>Workers Compensation Fund</b>	<b>2,592,652,336</b>	<b>11.2</b>	<b>5.6</b>	<b>7.7</b>	<b>12.4</b>	<b>12.4</b>	<b>8.2</b>	<b>7.5</b>	<b>6.0</b>	<b>5.8</b>	<b>6.0</b>	<b>06/01/2001</b>
Workers Comp - Total Fund Index			5.9	7.7	11.3	11.3	7.9	7.1	5.9	5.7	5.7	
Difference			-0.3	0.0	1.1	1.1	0.3	0.4	0.1	0.1	0.3	
<b>Non-Permanent Funds</b>	<b>6,082,182,329</b>	<b>26.4</b>	<b>1.5</b>	<b>2.2</b>	<b>3.6</b>	<b>3.6</b>	<b>3.2</b>	<b>3.3</b>	<b>2.9</b>	<b>2.9</b>	<b>3.8</b>	<b>07/01/2002</b>
<b>Pool A</b>	<b>265,604,694</b>	<b>1.2</b>	<b>5.1</b>	<b>7.3</b>	<b>8.5</b>	<b>8.5</b>	<b>5.5</b>	<b>4.9</b>	<b>4.1</b>	<b>3.9</b>	<b>4.5</b>	<b>01/01/2000</b>
Pool A - Total Fund Index			5.0	6.9	7.0	7.0	4.9	4.3	3.9	3.8	5.1	
Difference			0.1	0.4	1.5	1.5	0.6	0.6	0.2	0.1	-0.6	
<b>LSRA</b>	<b>1,472,348,812</b>	<b>6.4</b>	<b>4.9</b>	<b>6.8</b>	<b>5.7</b>	<b>5.7</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.5</b>	<b>07/01/2019</b>
LSRA - Total Fund Index			5.0	6.4	6.0	6.0	N/A	N/A	N/A	N/A	5.6	
Difference			-0.1	0.4	-0.3	-0.3	N/A	N/A	N/A	N/A	-0.1	
<b>LSRA Long Term Reserve</b>	<b>493,275,617</b>	<b>2.1</b>	<b>14.4</b>	<b>19.2</b>	<b>7.4</b>	<b>7.4</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>8.0</b>	<b>07/01/2019</b>
LSRA Long Term Reserve - Total Fund Index			14.6	18.7	8.5	8.5	N/A	N/A	N/A	N/A	8.7	
Difference			-0.2	0.5	-1.1	-1.1	N/A	N/A	N/A	N/A	-0.7	
<b>LSRA Intermediate Term Reserve</b>	<b>479,254,759</b>	<b>2.1</b>	<b>0.7</b>	<b>1.9</b>	<b>8.9</b>	<b>8.9</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>7.9</b>	<b>08/01/2019</b>
LSRA Int Term Reserve - Total Fund Index			0.7	1.3	7.5	7.5	N/A	N/A	N/A	N/A	6.9	
Difference			0.0	0.6	1.4	1.4	N/A	N/A	N/A	N/A	1.0	
<b>LSRA Short Term Reserve</b>	<b>499,818,437</b>	<b>2.2</b>	<b>0.1</b>	<b>0.2</b>	<b>3.1</b>	<b>3.1</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.1</b>	<b>01/01/2020</b>
LSRA Short Term Reserve - Total Fund Index			0.1	0.2	3.1	3.1	N/A	N/A	N/A	N/A	3.1	
Difference			0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	0.0	
<b>State Agency Pool</b>	<b>4,344,228,823</b>	<b>18.8</b>	<b>0.1</b>	<b>0.3</b>	<b>2.9</b>	<b>2.9</b>	<b>2.8</b>	<b>3.0</b>	<b>2.7</b>	<b>2.7</b>	<b>3.9</b>	<b>06/01/2001</b>
State Agency Pool - Actual Allocation Index			0.1	0.3	2.7	2.7	2.6	2.7	2.7	2.7	3.7	
Difference			0.0	0.0	0.2	0.2	0.2	0.3	0.0	0.0	0.2	
<b>Total Fund</b>	<b>23,046,518,863</b>	<b>100.0</b>	<b>5.8</b>	<b>8.0</b>	<b>7.5</b>	<b>7.5</b>	<b>5.4</b>	<b>6.0</b>	<b>5.0</b>	<b>5.1</b>	<b>5.6</b>	<b>10/01/1996</b>
Wyoming State Total Fund Index			6.0	7.9	7.2	7.2	5.3	5.7	4.9	5.1	5.5	
Difference			-0.2	0.1	0.3	0.3	0.1	0.3	0.1	0.0	0.1	

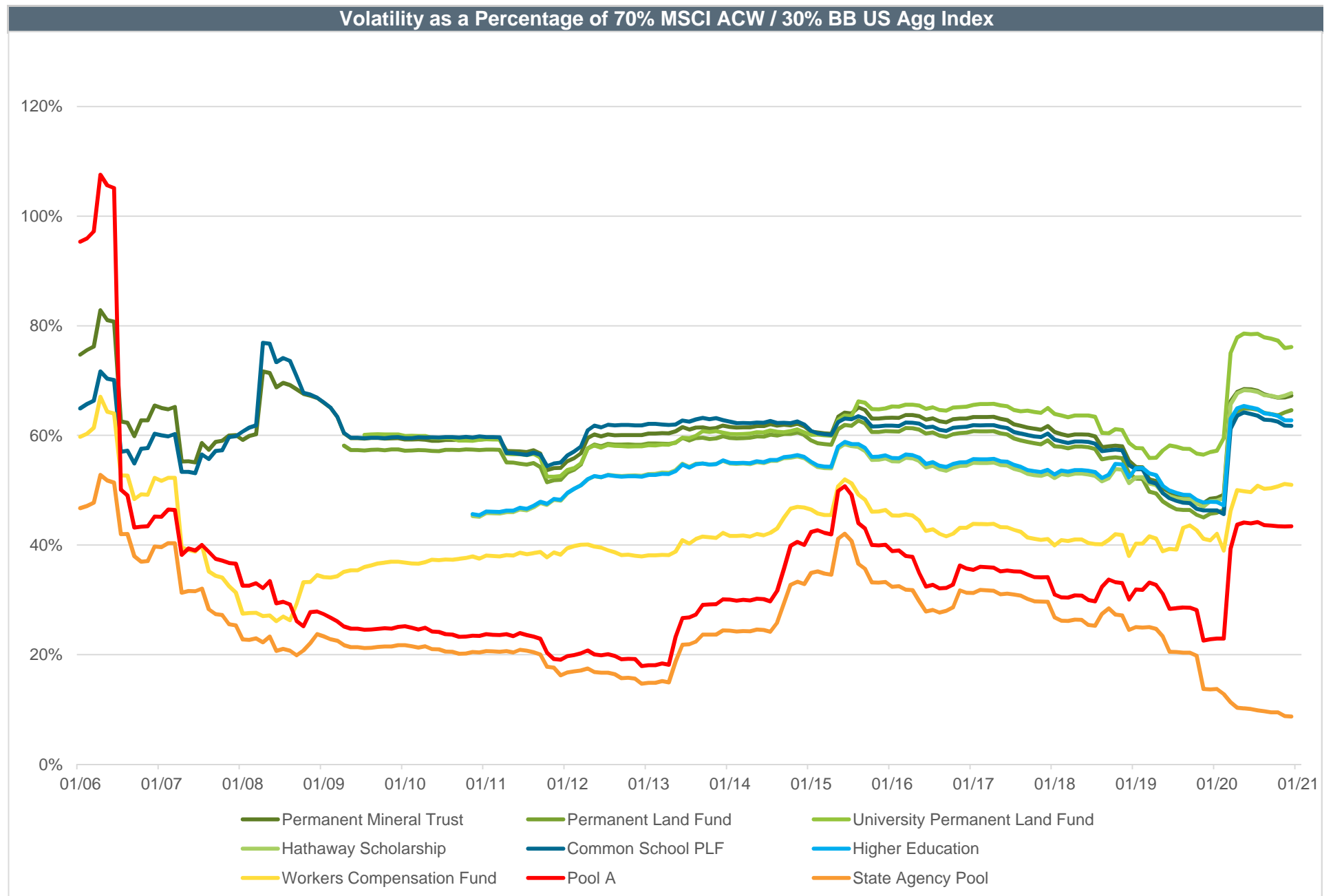
Performance shown is net of fees and excludes PPIs and operational cash. Wyoming State Treasurer's Office fiscal year ends on June 30th.



## Standard Deviation

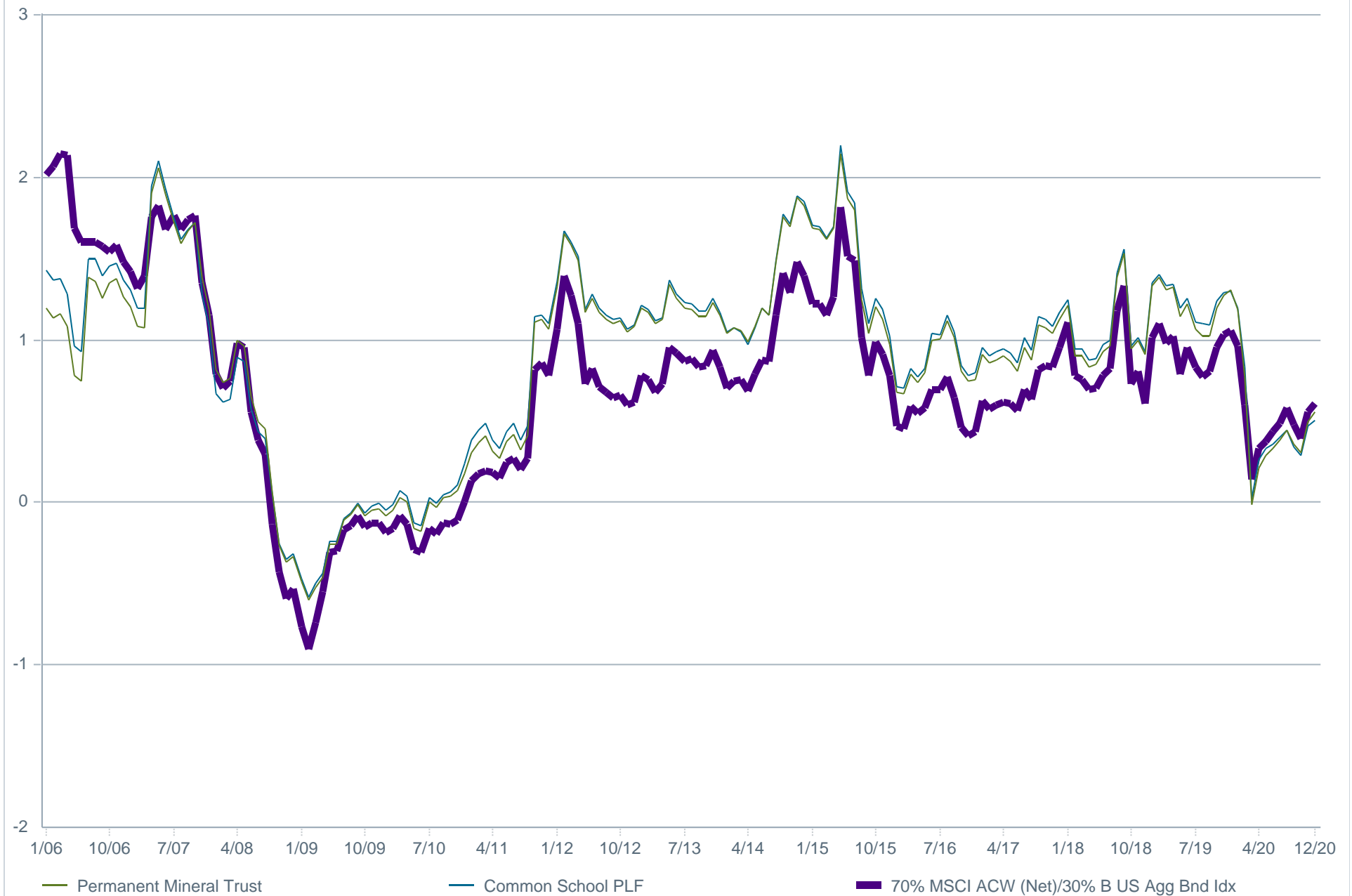


Performance shown is net of fees and excludes Public Purpose Investments (PPIs) and operational cash. Calculation is based on monthly periodicity.



Performance shown is net of fees. Calculation is based on monthly periodicity.

## Sharpe Ratio



Performance shown is net of fees and excludes Public Purpose Investments (PPIs) and operational cash. Calculation is based on monthly periodicity.

December 31, 2020 : \$5,052,796,216



	Market Value (\$)	Allocation (%)
State Street All Cap	1,738,860,738	34.41
Internal Domestic Equity	35,841	0.00
UW Portfolio Mgmt Program	1,678,892	0.03
State Street Russell 2000	58,136,937	1.15
Van Beroom	234,196,299	4.63
BlackRock Small Cap	187,852,908	3.72
Internal Small Cap	428,115	0.01
Northern Trust	1,193,176,158	23.61
Arrowstreet	946,536,461	18.73
Harding Loevner	691,893,867	13.69

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

Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>All Cap US Equity Composite</b>	<b>1,738,896,578</b>	<b>34.41</b>	<b>12.14</b>	<b>22.14</b>	<b>17.54</b>	<b>17.54</b>	<b>12.85</b>	<b>14.01</b>	<b>N/A</b>	<b>N/A</b>	<b>30.40</b>	<b>12.80</b>	<b>11/01/2014</b>
All Cap US Equity Custom Index			12.15	22.16	18.37	18.37	13.69	14.95	12.42	13.55	31.02	12.48	
Difference			-0.01	-0.02	-0.83	-0.83	-0.84	-0.94	N/A	N/A	-0.62	0.32	
<b>State Street All Cap</b>	<b>1,738,860,738</b>	<b>34.41</b>	<b>12.14</b>	<b>22.14</b>	<b>17.54</b>	<b>17.54</b>	<b>13.19</b>	<b>14.58</b>	<b>N/A</b>	<b>N/A</b>	<b>30.29</b>	<b>12.01</b>	<b>01/01/2015</b>
State Street All Cap Custom Index			12.15	22.16	17.65	17.65	13.09	14.55	12.13	13.39	30.11	12.01	
Difference			-0.01	-0.02	-0.11	-0.11	0.10	0.03	N/A	N/A	0.18	0.00	
<b>UW Portfolio Mgmt Program</b>	<b>1,678,892</b>	<b>0.03</b>	<b>12.32</b>	<b>21.60</b>	<b>14.73</b>	<b>14.73</b>	<b>9.92</b>	<b>12.40</b>	<b>10.83</b>	<b>10.41</b>	<b>25.88</b>	<b>6.20</b>	<b>04/01/2006</b>
S&P 500 Index (Cap Wtd)			12.15	22.16	18.40	18.40	14.18	15.22	12.92	13.88	31.49	9.75	
Difference			0.17	-0.56	-3.67	-3.67	-4.26	-2.82	-2.09	-3.47	-5.61	-3.55	
<b>Small Cap US Equity Composite</b>	<b>480,614,259</b>	<b>9.51</b>	<b>29.44</b>	<b>33.02</b>	<b>14.53</b>	<b>14.53</b>	<b>5.47</b>	<b>10.55</b>	<b>N/A</b>	<b>N/A</b>	<b>25.40</b>	<b>7.34</b>	<b>11/01/2014</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	10.33	
Difference			-1.93	-4.83	-5.43	-5.43	-4.78	-2.71	N/A	N/A	-0.13	-2.99	
<b>State Street Russell 2000</b>	<b>58,136,937</b>	<b>1.15</b>	<b>31.38</b>	<b>37.87</b>	<b>20.01</b>	<b>20.01</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>23.98</b>	<b>11/01/2019</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	23.98	
Difference			0.01	0.02	0.05	0.05	N/A	N/A	N/A	N/A	N/A	0.00	
<b>Van Berkorn</b>	<b>234,196,299</b>	<b>4.63</b>	<b>27.41</b>	<b>28.01</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>23.43</b>	<b>03/01/2020</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	35.33	
Difference			-3.96	-9.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-11.90	
<b>BlackRock Small Cap</b>	<b>187,852,908</b>	<b>3.72</b>	<b>31.45</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>34.77</b>	<b>08/01/2020</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	34.14	
Difference			0.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.63	

Performance shown is net of fees. International Equity Custom Index consists of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. The All Cap US Equity Custom Index consists of the Russell 3000 Index through 02/29/2020, and the S&P 500 Index thereafter. SSGA Custom Index consists of 69% Russell 3000 Index, 24% FTSE RAFI US 1000 Index, and 7% MSCI US Min Vol Index (USD) (Gross) through 02/27/2020, State Street All Cap account performance on 02/28/2020, and the S&P 500 Index 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 December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Int'l Equity Composite</b>	<b>2,831,606,486</b>	<b>56.04</b>	<b>18.85</b>	<b>27.14</b>	<b>16.88</b>	<b>16.88</b>	<b>7.15</b>	<b>10.21</b>	<b>5.73</b>	<b>5.76</b>	<b>23.33</b>	<b>6.49</b>	<b>01/01/2004</b>
International Equity Custom Index			17.01	24.33	10.65	10.65	4.88	8.93	4.82	4.92	21.51	5.77	
Difference			1.84	2.81	6.23	6.23	2.27	1.28	0.91	0.84	1.82	0.72	
<b>Northern Trust</b>	<b>1,193,176,158</b>	<b>23.61</b>	<b>16.96</b>	<b>24.19</b>	<b>10.66</b>	<b>10.66</b>	<b>5.06</b>	<b>9.07</b>	<b>4.94</b>	<b>5.07</b>	<b>21.62</b>	<b>6.22</b>	<b>08/01/2010</b>
MSCI ACW Ex US Index (USD) (Net)			17.01	24.33	10.65	10.65	4.88	8.93	4.82	4.92	21.51	6.10	
Difference			-0.05	-0.14	0.01	0.01	0.18	0.14	0.12	0.15	0.11	0.12	
<b>Arrowstreet</b>	<b>946,536,461</b>	<b>18.73</b>	<b>23.14</b>	<b>31.96</b>	<b>22.78</b>	<b>22.78</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>22.89</b>	<b>8.56</b>	<b>03/01/2018</b>
MSCI ACW Ex US IM Index (USD) (Net)			17.22	25.19	11.12	11.12	4.83	8.98	5.03	5.06	21.63	4.90	
Difference			5.92	6.77	11.66	11.66	N/A	N/A	N/A	N/A	1.26	3.66	
<b>Harding Loevner</b>	<b>691,893,867</b>	<b>13.69</b>	<b>16.65</b>	<b>26.43</b>	<b>20.31</b>	<b>20.31</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>20.31</b>	<b>01/01/2020</b>
MSCI ACW Ex US Index (USD) (Net)			17.01	24.33	10.65	10.65	4.88	8.93	4.82	4.92	21.51	10.65	
Difference			-0.36	2.10	9.66	9.66	N/A	N/A	N/A	N/A	N/A	9.66	

Performance shown is net of fees. International Equity Custom Index consists of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. The All Cap US Equity Custom Index consists of the Russell 3000 Index through 02/29/2020, and the S&P 500 Index thereafter. SSGA Custom Index consists of 69% Russell 3000 Index, 24% FTSE RAFI US 1000 Index, and 7% MSCI US Min Vol Index (USD) (Gross) through 02/27/2020, State Street All Cap account performance on 02/28/2020, and the S&P 500 Index 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 December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>All Cap US Equity Composite</b>	<b>1,738,896,578</b>	<b>34.41</b>	<b>12.15</b>	<b>22.17</b>	<b>17.58</b>	<b>17.58</b>	<b>12.93</b>	<b>14.14</b>	<b>N/A</b>	<b>N/A</b>	<b>30.46</b>	<b>12.95</b>	<b>11/01/2014</b>
All Cap US Equity Custom Index			12.15	22.16	18.37	18.37	13.69	14.95	12.42	13.55	31.02	12.48	
Difference			0.00	0.01	-0.79	-0.79	-0.76	-0.81	N/A	N/A	-0.56	0.47	
<b>State Street All Cap</b>	<b>1,738,860,738</b>	<b>34.41</b>	<b>12.15</b>	<b>22.17</b>	<b>17.58</b>	<b>17.58</b>	<b>13.24</b>	<b>14.63</b>	<b>N/A</b>	<b>N/A</b>	<b>30.34</b>	<b>12.05</b>	<b>01/01/2015</b>
State Street All Cap Custom Index			12.15	22.16	17.65	17.65	13.09	14.55	12.13	13.39	30.11	12.01	
Difference			0.00	0.01	-0.07	-0.07	0.15	0.08	N/A	N/A	0.23	0.04	
IM U.S. All Cap Equity (SA+CF) Median			16.20	25.73	15.43	15.43	12.90	14.40	11.73	12.97	28.99	12.01	
State Street All Cap Rank			87	80	46	46	50	47	N/A	N/A	44	50	
<b>UW Portfolio Mgmt Program</b>	<b>1,678,892</b>	<b>0.03</b>	<b>12.32</b>	<b>21.60</b>	<b>14.73</b>	<b>14.73</b>	<b>9.92</b>	<b>12.40</b>	<b>10.83</b>	<b>10.41</b>	<b>25.88</b>	<b>6.20</b>	<b>04/01/2006</b>
S&P 500 Index (Cap Wtd)			12.15	22.16	18.40	18.40	14.18	15.22	12.92	13.88	31.49	9.75	
Difference			0.17	-0.56	-3.67	-3.67	-4.26	-2.82	-2.09	-3.47	-5.61	-3.55	
IM U.S. Large Cap Core Equity (SA+CF) Median			12.19	21.76	17.25	17.25	13.20	14.51	12.48	13.65	30.03	9.86	
UW Portfolio Mgmt Program Rank			49	53	60	60	78	77	80	91	81	99	
<b>Small Cap US Equity Composite</b>	<b>480,614,259</b>	<b>9.51</b>	<b>29.62</b>	<b>33.36</b>	<b>14.96</b>	<b>14.96</b>	<b>5.81</b>	<b>11.05</b>	<b>N/A</b>	<b>N/A</b>	<b>25.62</b>	<b>7.85</b>	<b>11/01/2014</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	10.33	
Difference			-1.75	-4.49	-5.00	-5.00	-4.44	-2.21	N/A	N/A	0.09	-2.48	
<b>State Street Russell 2000</b>	<b>58,136,937</b>	<b>1.15</b>	<b>31.36</b>	<b>37.79</b>	<b>19.94</b>	<b>19.94</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>23.93</b>	<b>11/01/2019</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	23.98	
Difference			-0.01	-0.06	-0.02	-0.02	N/A	N/A	N/A	N/A	N/A	-0.05	
<b>Van Berkomp</b>	<b>234,196,299</b>	<b>4.63</b>	<b>27.66</b>	<b>28.51</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>24.20</b>	<b>03/01/2020</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	35.33	
Difference			-3.71	-9.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-11.13	
IM U.S. Small Cap Core Equity (SA+CF) Median			28.10	35.01	17.76	17.76	10.03	13.54	10.17	11.97	25.11	32.34	
Van Berkomp Rank			60	93	N/A	N/A	N/A	N/A	N/A	N/A	N/A	87	
<b>BlackRock Small Cap</b>	<b>187,852,908</b>	<b>3.72</b>	<b>31.60</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>35.04</b>	<b>08/01/2020</b>
Russell 2000 Index			31.37	37.85	19.96	19.96	10.25	13.26	9.34	11.20	25.53	34.14	
Difference			0.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.90	
IM U.S. Small Cap Core Equity (SA+CF) Median			28.10	35.01	17.76	17.76	10.03	13.54	10.17	11.97	25.11	29.30	
BlackRock Small Cap Rank			26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18	

Performance shown is gross of fees. International Equity Custom Index consists of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. The All Cap US Equity Custom Index consists of the Russell 3000 Index through 02/29/2020, and the S&P 500 Index thereafter. SSGA Custom Index consists of 69% Russell 3000 Index, 24% FTSE RAFI US 1000 Index, and 7% MSCI US Min Vol Index (USD) (Gross) through 02/27/2020, State Street All Cap account performance on 02/28/2020, and the S&P 500 Index 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 December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Int'l Equity Composite</b>	<b>2,831,606,486</b>	<b>56.04</b>	<b>18.92</b>	<b>27.29</b>	<b>17.18</b>	<b>17.18</b>	<b>7.37</b>	<b>10.44</b>	<b>5.97</b>	<b>6.01</b>	<b>23.55</b>	<b>6.69</b>	<b>01/01/2004</b>
International Equity Custom Index			17.01	24.33	10.65	10.65	4.88	8.93	4.82	4.92	21.51	5.77	
Difference			1.91	2.96	6.53	6.53	2.49	1.51	1.15	1.09	2.04	0.92	
<b>Northern Trust</b>	<b>1,193,176,158</b>	<b>23.61</b>	<b>16.97</b>	<b>24.21</b>	<b>10.69</b>	<b>10.69</b>	<b>5.09</b>	<b>9.11</b>	<b>4.98</b>	<b>5.11</b>	<b>21.66</b>	<b>6.25</b>	<b>08/01/2010</b>
MSCI ACW Ex US Index (USD) (Net)			17.01	24.33	10.65	10.65	4.88	8.93	4.82	4.92	21.51	6.10	
Difference			-0.04	-0.12	0.04	0.04	0.21	0.18	0.16	0.19	0.15	0.15	
<b>Arrowstreet</b>	<b>946,536,461</b>	<b>18.73</b>	<b>23.27</b>	<b>32.23</b>	<b>23.28</b>	<b>23.28</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>23.43</b>	<b>9.03</b>	<b>03/01/2018</b>
MSCI ACW Ex US IM Index (USD) (Net)			17.22	25.19	11.12	11.12	4.83	8.98	5.03	5.06	21.63	4.90	
Difference			6.05	7.04	12.16	12.16	N/A	N/A	N/A	N/A	1.80	4.13	
IM All ACWI Ex US (SA+CF) Median			16.46	26.90	14.49	14.49	6.97	9.98	6.33	7.07	24.97	6.83	
Arrowstreet Rank			10	13	22	22	N/A	N/A	N/A	N/A	58	39	
<b>Harding Loevner</b>	<b>691,893,867</b>	<b>13.69</b>	<b>16.78</b>	<b>26.70</b>	<b>20.86</b>	<b>20.86</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>20.86</b>	<b>01/01/2020</b>
MSCI ACW Ex US Index (USD) (Net)			17.01	24.33	10.65	10.65	4.88	8.93	4.82	4.92	21.51	10.65	
Difference			-0.23	2.37	10.21	10.21	N/A	N/A	N/A	N/A	N/A	10.21	
IM All ACWI Ex US (SA+CF) Median			16.46	26.90	14.49	14.49	6.97	9.98	6.33	7.07	24.97	14.49	
Harding Loevner Rank			49	51	31	31	N/A	N/A	N/A	N/A	N/A	31	

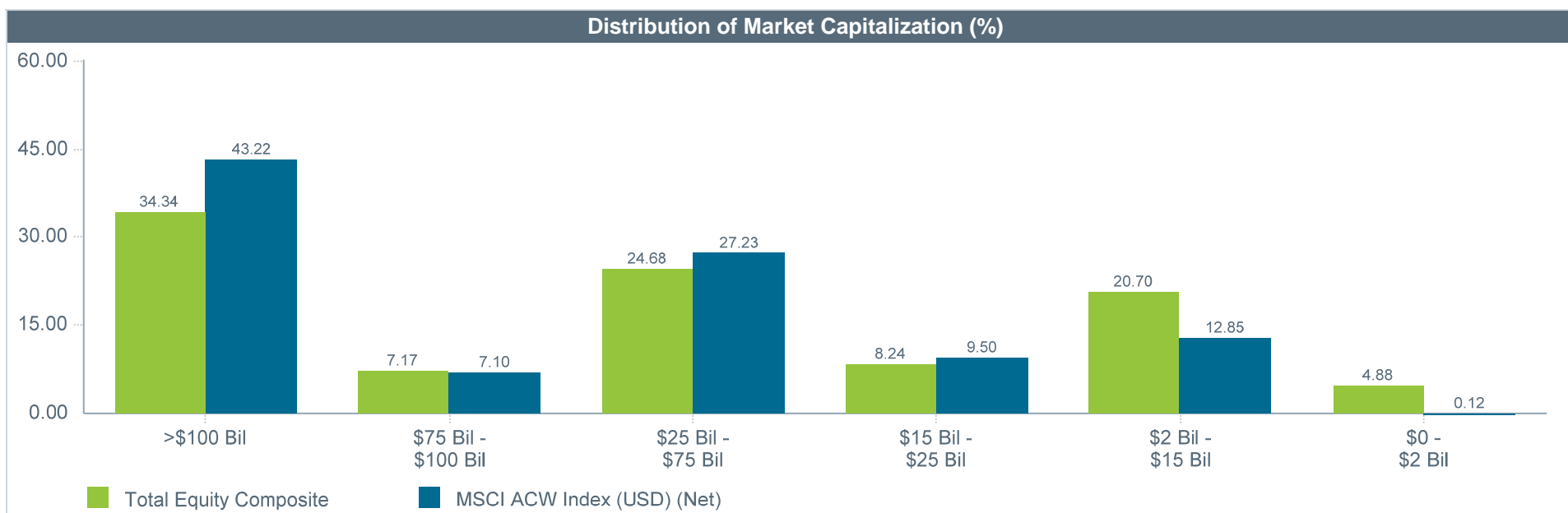
Performance shown is gross of fees. International Equity Custom Index consists of the MSCI EAFE Index (Gross) through July 2010 and the MSCI ACW Ex US Index (Net) thereafter. The All Cap US Equity Custom Index consists of the Russell 3000 Index through 02/29/2020, and the S&P 500 Index thereafter. SSGA Custom Index consists of 69% Russell 3000 Index, 24% FTSE RAFI US 1000 Index, and 7% MSCI US Min Vol Index (USD) (Gross) through 02/27/2020, State Street All Cap account performance on 02/28/2020, and the S&P 500 Index 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 December 31, 2020

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Apple Inc	2.35	3.83	-1.48	14.77
Microsoft Corp	1.86	2.70	-0.84	6.03
Amazon.com Inc	1.54	2.34	-0.80	3.44
Taiwan Semiconductor Mfg (ADR)	1.49	0.78	0.71	35.07
Tencent Holdings LTD	0.86	0.71	0.15	10.21
Roche Holding AG	0.81	0.41	0.40	1.66
Samsung Electronics Co Ltd	0.80	0.60	0.20	49.56
Facebook Inc	0.73	1.11	-0.38	4.30
Ping An Insurance Group	0.70	0.12	0.58	19.44
Infineon Technologies AG	0.61	0.08	0.53	35.60
% of Portfolio	11.75	12.68	-0.93	

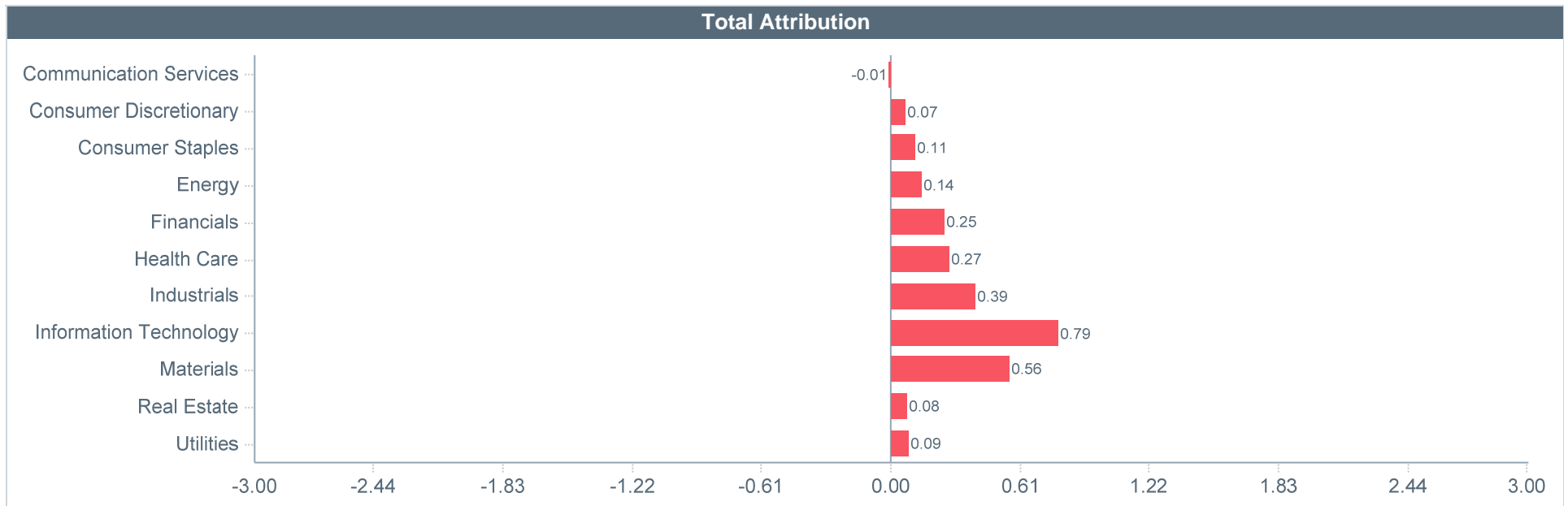
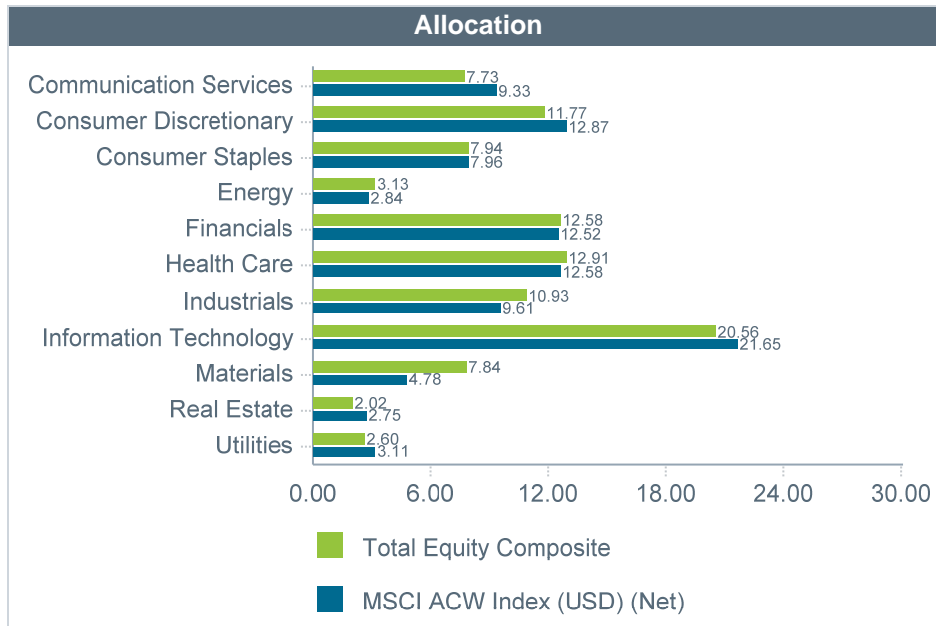
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	224,926	303,755
Median Mkt. Cap (\$M)	2,167	12,171
Price/Earnings Ratio	24.09	25.34
Price/Book Ratio	3.46	3.68
5 Yr. EPS Growth Rate (%)	12.06	13.15
Current Yield (%)	1.82	1.81
Beta (5 Years, Monthly)	1.01	1.00
Number of Securities	7,979	2,980



A stock with multiple share classes may be shown twice in the Top Ten Equity Holdings.

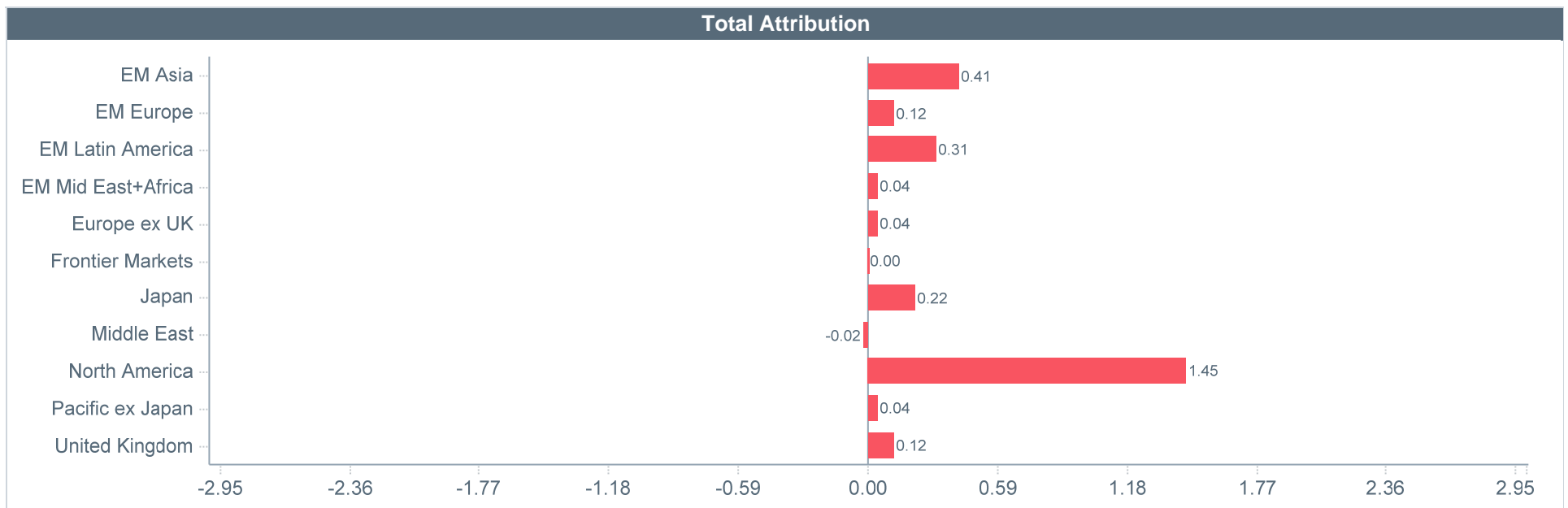
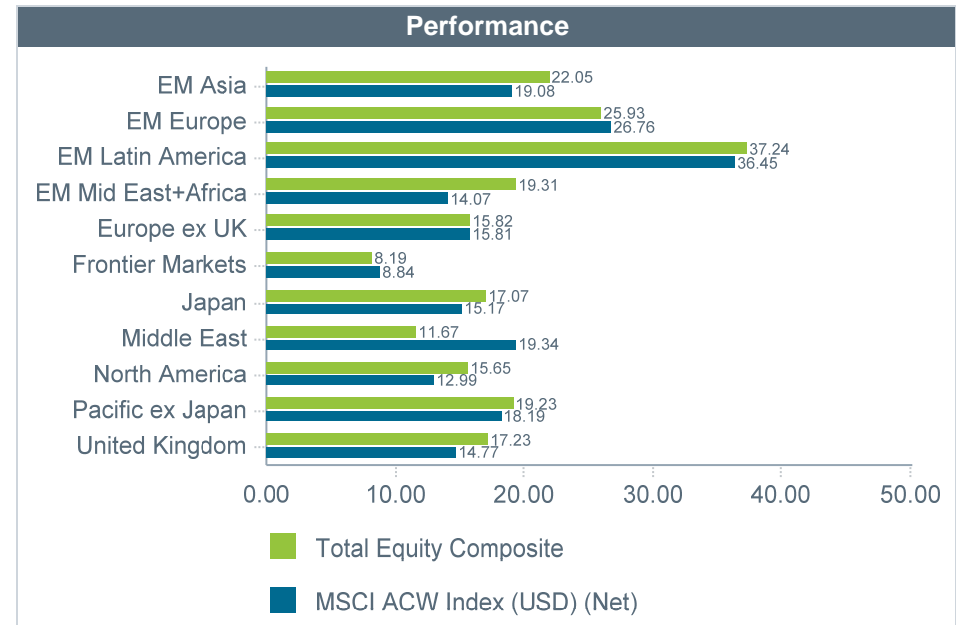
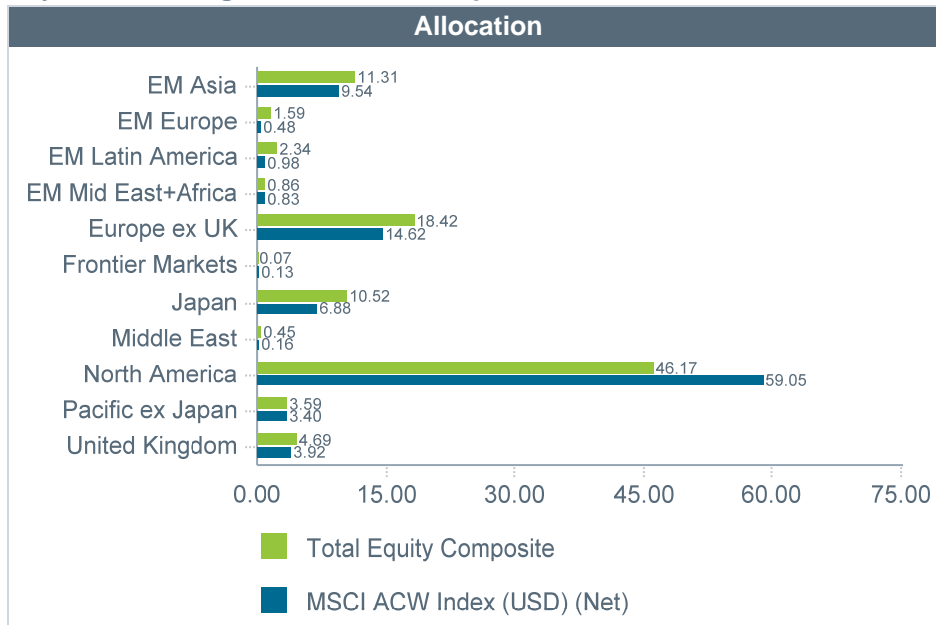
Wyoming State Treasurer's Office  
Total Equity Composite vs. MSCI ACW Index (USD) (Net)  
Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2020



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

1 Quarter Ending December 31, 2020

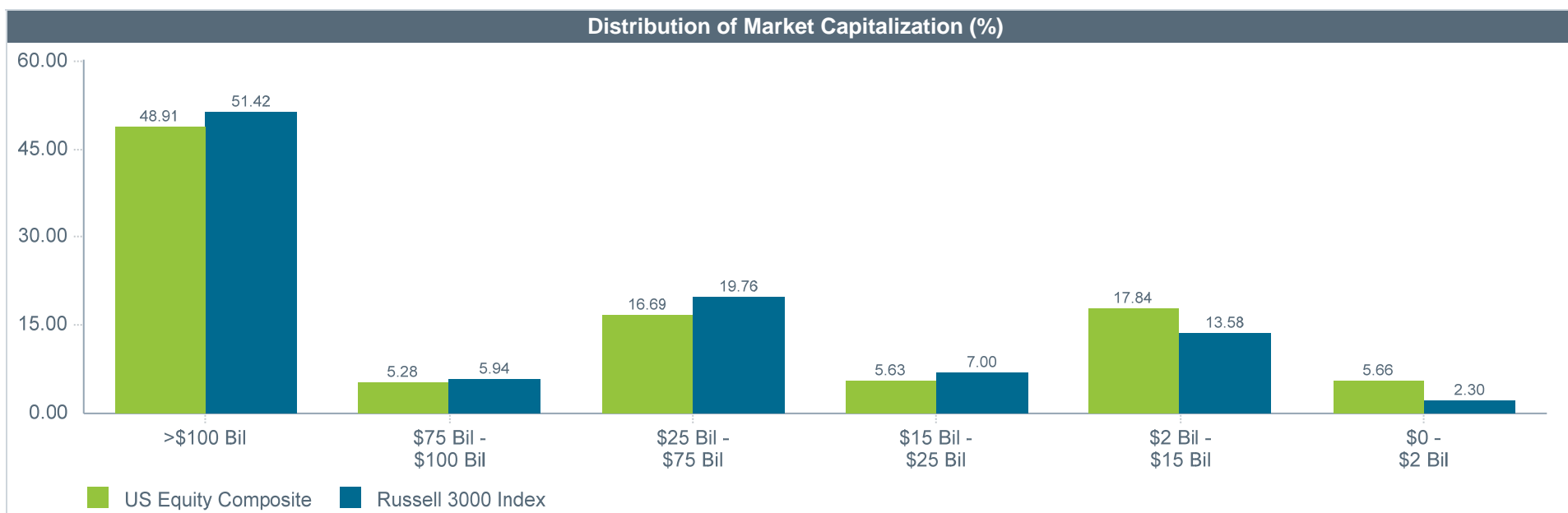


Wyoming State Treasurer's Office  
US Equity Composite vs. Russell 3000 Index  
Portfolio Characteristics

As of December 31, 2020

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Apple Inc	5.32	5.68	-0.36	14.77
Microsoft Corp	4.21	4.41	-0.20	6.03
Amazon.com Inc	3.48	3.66	-0.18	3.44
Facebook Inc	1.64	1.74	-0.10	4.30
Tesla Inc	1.34	1.38	-0.04	64.49
Alphabet Inc	1.32	1.39	-0.07	19.59
Alphabet Inc	1.27	1.38	-0.11	19.21
Berkshire Hathaway Inc	1.13	1.18	-0.05	8.89
Johnson & Johnson	1.04	1.10	-0.06	6.45
JPMorgan Chase & Co	0.97	1.02	-0.05	33.19
% of Portfolio	21.72	22.94	-1.22	

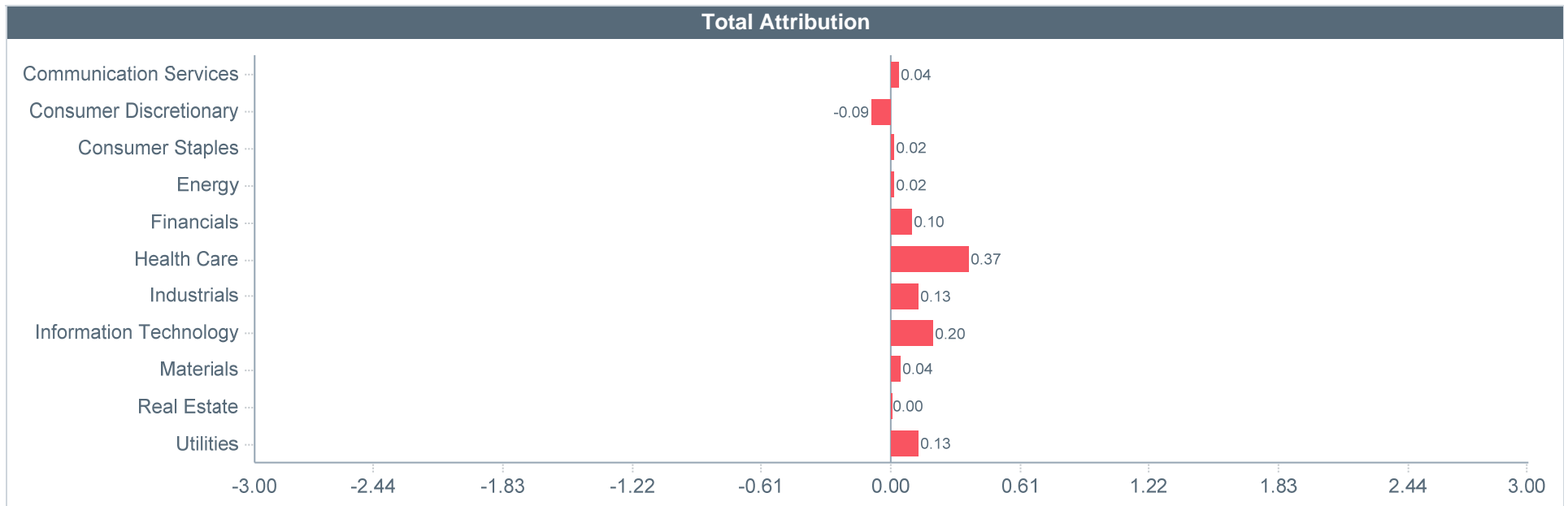
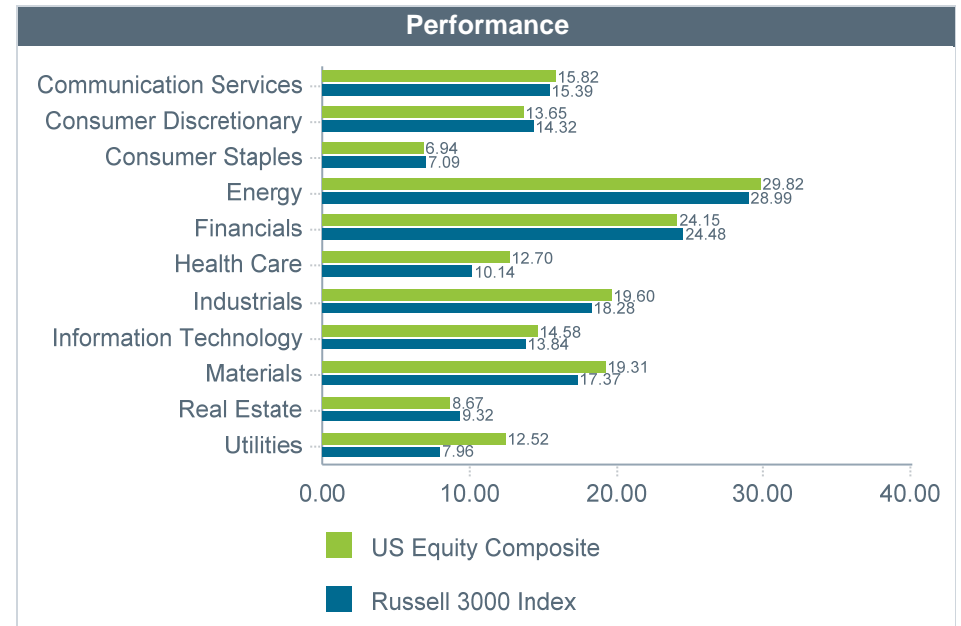
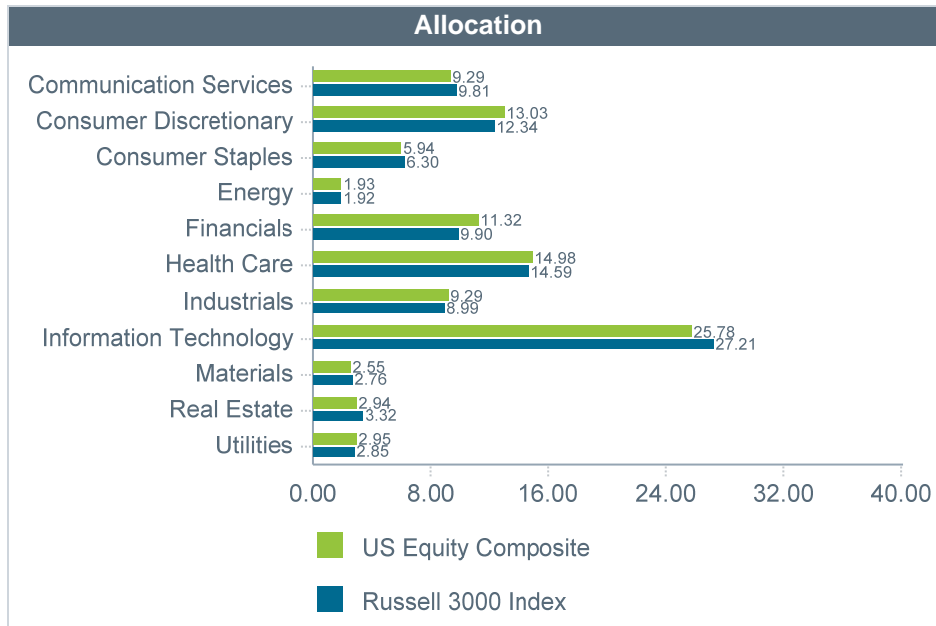
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	383,836	406,840
Median Mkt. Cap (\$M)	1,390	1,989
Price/Earnings Ratio	28.04	28.99
Price/Book Ratio	4.24	4.42
5 Yr. EPS Growth Rate (%)	16.73	17.61
Current Yield (%)	1.39	1.42
Beta (5 Years, Monthly)	1.01	1.00
Number of Securities	2,623	3,060



A stock with multiple share classes may be shown twice in the Top Ten Equity Holdings.

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

1 Quarter Ending December 31, 2020

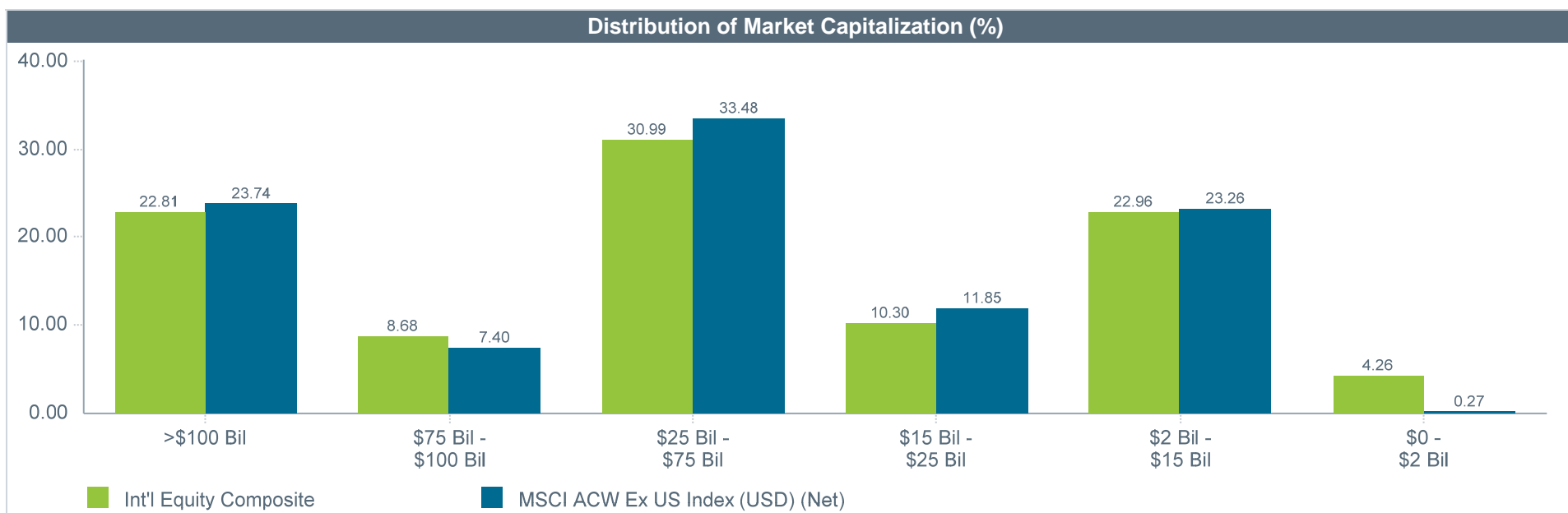


Wyoming State Treasurer's Office  
Int'l Equity Composite vs. MSCI ACW Ex US Index (USD) (Net)  
Portfolio Characteristics

As of December 31, 2020

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Mfg (ADR)	2.66	1.84	0.82	35.07
Tencent Holdings LTD	1.54	1.65	-0.11	10.21
Roche Holding AG	1.44	0.97	0.47	1.66
Samsung Electronics Co Ltd	1.42	1.41	0.01	49.56
Ping An Insurance Group	1.26	0.29	0.97	19.44
Infineon Technologies AG	1.09	0.20	0.89	35.60
Alibaba Group Holding Ltd	1.04	1.74	-0.70	-20.83
L'Oreal S.A., Paris	0.94	0.38	0.56	16.63
Keyence Corp	0.94	0.41	0.53	21.01
Adyen N.V	0.90	0.17	0.73	26.20
% of Portfolio	13.23	9.06	4.17	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	99,217	97,624
Median Mkt. Cap (\$M)	2,706	9,463
Price/Earnings Ratio	21.42	20.67
Price/Book Ratio	2.93	2.74
5 Yr. EPS Growth Rate (%)	7.88	6.01
Current Yield (%)	2.16	2.28
Beta (5 Years, Monthly)	1.00	1.00
Number of Securities	5,363	2,359

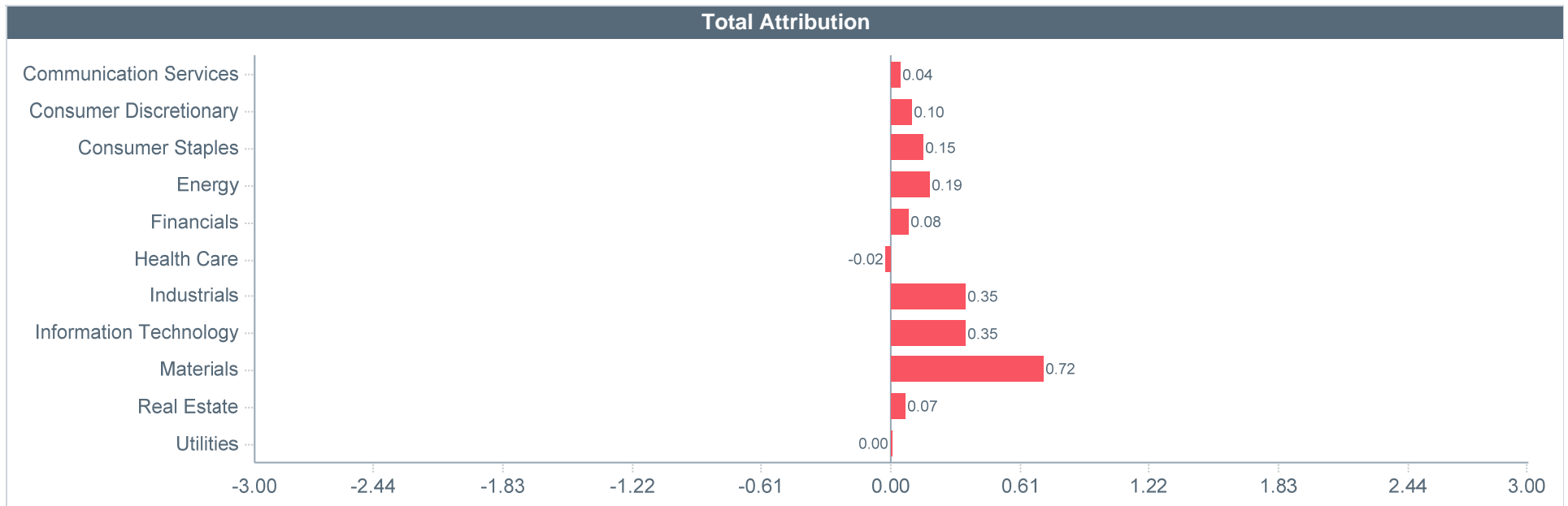
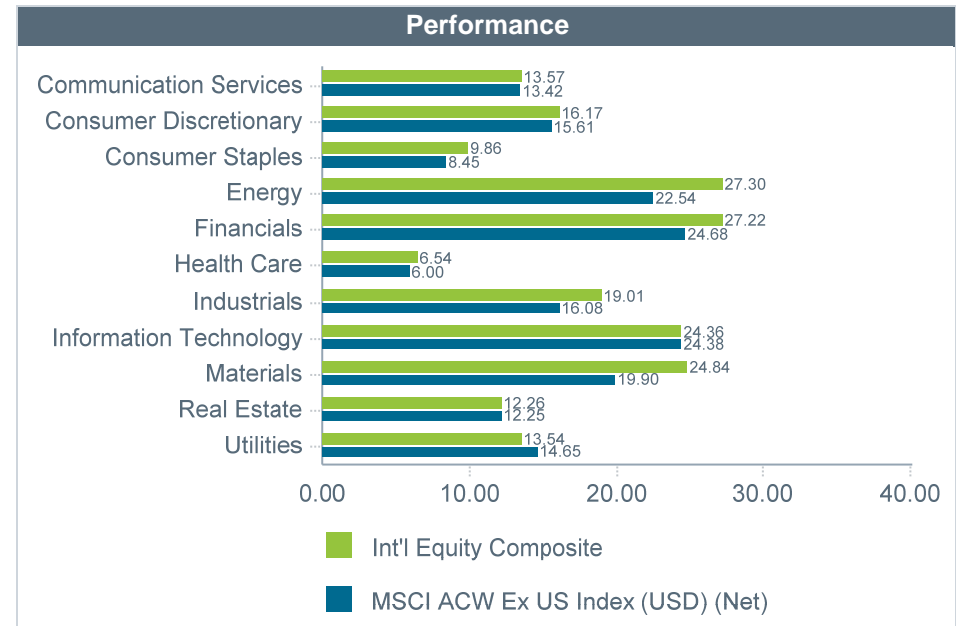
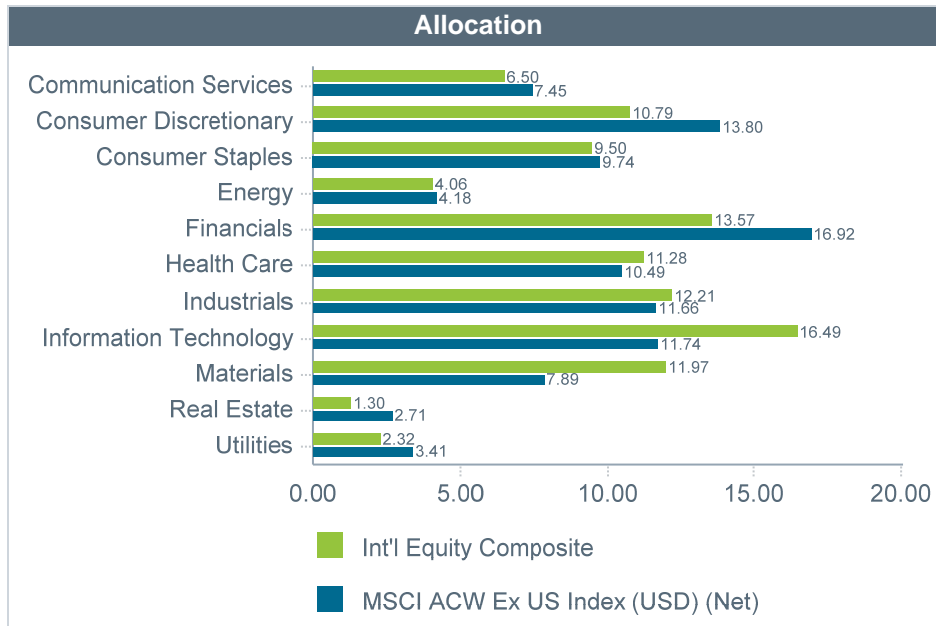


The International Equity Custom Index currently consists of the MSCI ACW Ex US Index (USD) (Net).



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

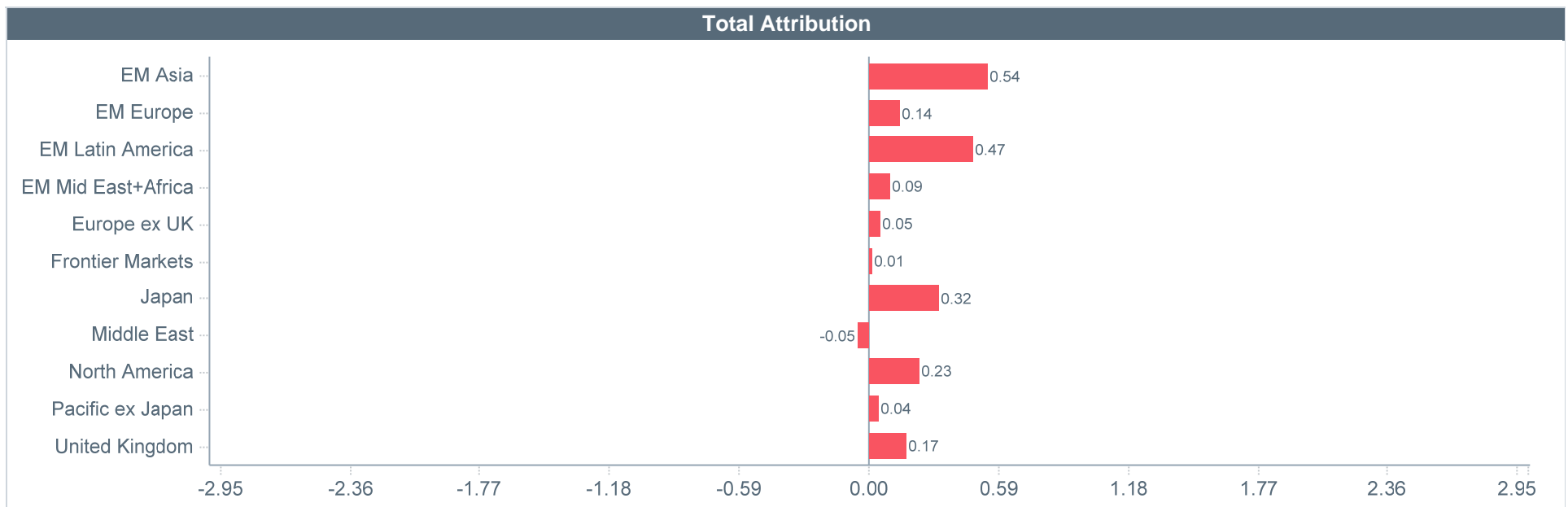
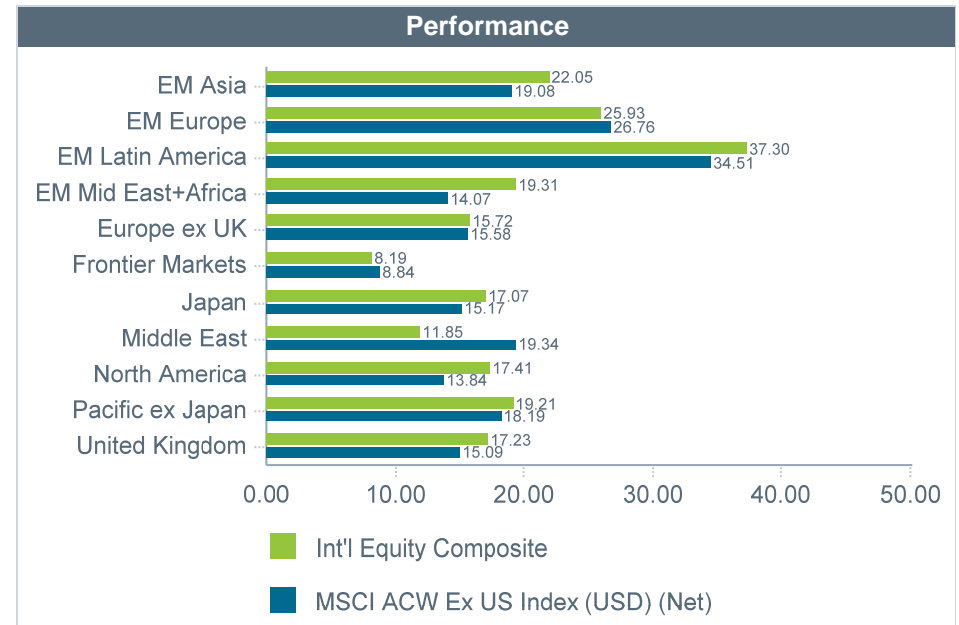
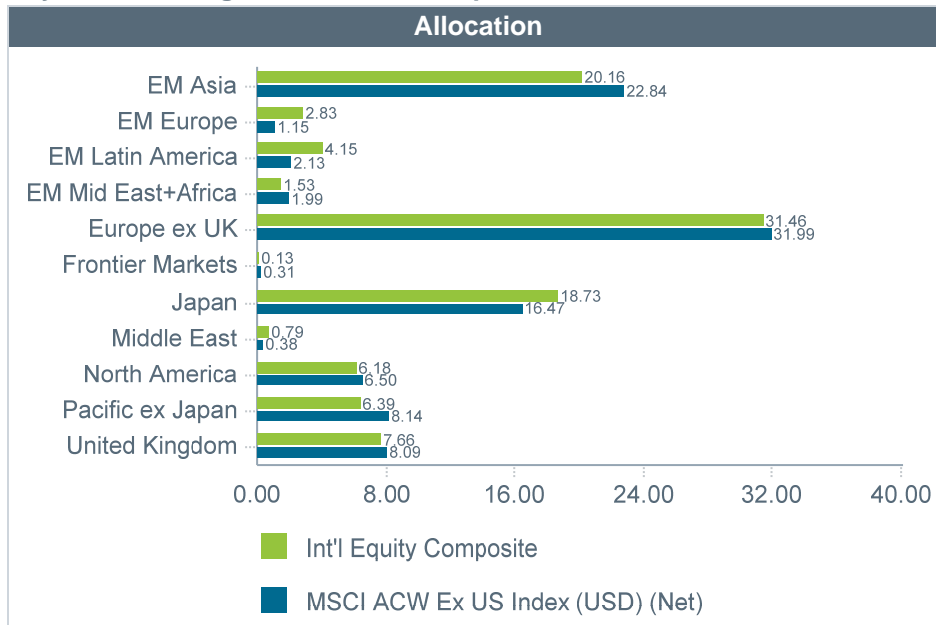
1 Quarter Ending December 31, 2020



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 December 31, 2020



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

December 31, 2020 : \$1,108,534,592



	Market Value (\$)	Allocation (%)
Cohen & Steers Preferred Stock	153,425,137	13.84
Harvest Fund Advisors	480,490,680	43.34
Harvest Fund Advisors Passive	474,618,775	42.81

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

Wyoming State Treasurer's Office  
Comparative Performance

As of December 31, 2020

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Cohen &amp; Steers Preferred Stock</b>	<b>5.80</b>	<b>11.28</b>	<b>7.68</b>	<b>7.68</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>19.32</b>	<b>9.65</b>	<b>07/01/2018</b>
S&P US Preferred Stock Index	6.94	14.54	7.97	7.97	6.74	6.23	7.20	6.66	17.64	7.60	
Difference	-1.14	-3.26	-0.29	-0.29	N/A	N/A	N/A	N/A	1.68	2.05	
<b>MLP Composite</b>	<b>24.33</b>	<b>10.78</b>	<b>-24.38</b>	<b>-24.38</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>13.12</b>	<b>-15.15</b>	<b>08/01/2018</b>
MLP Custom Index	26.20	9.96	-25.60	-25.60	-10.92	-4.04	-7.74	-1.19	7.55	-15.83	
Difference	-1.87	0.82	1.22	1.22	N/A	N/A	N/A	N/A	5.57	0.68	
<b>Harvest Fund Advisors</b>	<b>22.64</b>	<b>10.71</b>	<b>-24.38</b>	<b>-24.38</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>13.12</b>	<b>-15.15</b>	<b>08/01/2018</b>
MLP Custom Index	26.20	9.96	-25.60	-25.60	-10.92	-4.04	-7.74	-1.19	7.55	-15.83	
Difference	-3.56	0.75	1.22	1.22	N/A	N/A	N/A	N/A	5.57	0.68	
<b>Harvest Fund Advisors Passive</b>	<b>26.13</b>	<b>10.84</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-21.82</b>	<b>02/01/2020</b>
MLP Custom Index	26.20	9.96	-25.60	-25.60	-10.92	-4.04	-7.74	-1.19	7.55	-22.25	
Difference	-0.07	0.88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.43	

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. The MLP Custom Index consists of the S&P MLP Index (TR) through 06/30/2019, the Alerian MLP Index through 12/31/2019, and 50% Alerian MLP Index / 50% Alerian Midstream Energy Index thereafter.

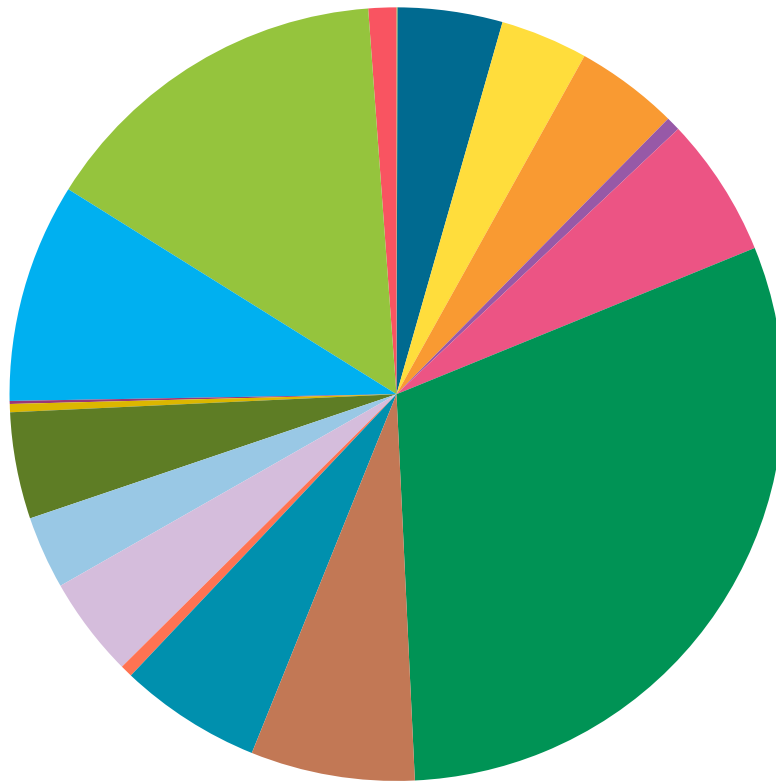
Wyoming State Treasurer's Office  
Comparative Performance

As of December 31, 2020

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Cohen &amp; Steers Preferred Stock</b>	<b>5.88</b>	<b>11.44</b>	<b>8.01</b>	<b>8.01</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>19.68</b>	<b>9.99</b>	<b>07/01/2018</b>
S&P US Preferred Stock Index	6.94	14.54	7.97	7.97	6.74	6.23	7.20	6.66	17.64	7.60	
Difference	-1.06	-3.10	0.04	0.04	N/A	N/A	N/A	N/A	2.04	2.39	
<b>MLP Composite</b>	<b>24.42</b>	<b>10.94</b>	<b>-24.16</b>	<b>-24.16</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>13.82</b>	<b>-14.73</b>	<b>08/01/2018</b>
MLP Custom Index	26.20	9.96	-25.60	-25.60	-10.92	-4.04	-7.74	-1.19	7.55	-15.83	
Difference	-1.78	0.98	1.44	1.44	N/A	N/A	N/A	N/A	6.27	1.10	
<b>Harvest Fund Advisors</b>	<b>22.81</b>	<b>11.03</b>	<b>-23.94</b>	<b>-23.94</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>13.82</b>	<b>-14.63</b>	<b>08/01/2018</b>
MLP Custom Index	26.20	9.96	-25.60	-25.60	-10.92	-4.04	-7.74	-1.19	7.55	-15.83	
Difference	-3.39	1.07	1.66	1.66	N/A	N/A	N/A	N/A	6.27	1.20	
<b>Harvest Fund Advisors Passive</b>	<b>26.13</b>	<b>10.84</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-21.82</b>	<b>02/01/2020</b>
MLP Custom Index	26.20	9.96	-25.60	-25.60	-10.92	-4.04	-7.74	-1.19	7.55	-22.25	
Difference	-0.07	0.88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.43	

Performance shown is gross of fees. Wyoming State Treasurer's Office fiscal year ends June 30th. Since Inception date shown represents the first full month following initial funding. The MLP Custom Index consists of the S&P MLP Index (TR) through 06/30/2019, the Alerian MLP Index through 12/31/2019, and 50% Alerian MLP Index / 50% Alerian Midstream Energy Index thereafter.

December 31, 2020 : \$3,417,914,899



	Market Value (\$)	Allocation (%)
Access Venture Partners II	1,518,259	0.04
Cheyenne Equity Capital Fund, L.P.	149,322,984	4.37
BlackRock Long Term Private Capital	125,052,258	3.66
Hamilton Lane Nowood Fund, L.P.	147,330,768	4.31
Valor Equity Partners V LP	20,340,307	0.60
Neuberger Berman Sauger Fund, L.P.	200,013,827	5.85
Clarion Lion	1,039,693,232	30.42
UBS Trumbull	234,263,082	6.85
MS Prime	202,949,014	5.94
M&G	17,693,569	0.52
Northwood	143,322,350	4.19
SC Capital	104,032,058	3.04
Realterm	152,275,130	4.46
WestRiver	11,848,936	0.35
PAAMCO - Jackalope Fund	4,308,725	0.13
Grosvenor Diversified Hedge Funds	313,245,631	9.16
Internal Diversified Hedge Funds	510,732,730	14.94
Grosvenor Silvery Lupine Fund Class D	39,972,039	1.17

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

Wyoming State Treasurer's Office  
Comparative Performance

As of December 31, 2020

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Core Real Estate Composite</b>	<b>1.19</b>	<b>1.55</b>	<b>0.51</b>	<b>0.51</b>	<b>3.58</b>	<b>4.99</b>	<b>7.14</b>	<b>8.47</b>	<b>2.68</b>	<b>5.28</b>	<b>01/01/2006</b>
NCREIF ODCE Index (AWA) (Net)	1.10	1.37	0.34	0.34	3.99	5.27	7.34	8.87	4.39	5.46	
Difference	0.09	0.18	0.17	0.17	-0.41	-0.28	-0.20	-0.40	-1.71	-0.18	
<b>Clarion Lion</b>	<b>1.88</b>	<b>2.42</b>	<b>1.67</b>	<b>1.67</b>	<b>5.69</b>	<b>6.73</b>	<b>8.64</b>	<b>9.99</b>	<b>6.61</b>	<b>5.30</b>	<b>01/01/2006</b>
NCREIF ODCE Index (AWA) (Net)	1.10	1.37	0.34	0.34	3.99	5.27	7.34	8.87	4.39	5.46	
Difference	0.78	1.05	1.33	1.33	1.70	1.46	1.30	1.12	2.22	-0.16	
<b>UBS Trumbull</b>	<b>-2.08</b>	<b>-2.44</b>	<b>-4.74</b>	<b>-4.74</b>	<b>-0.57</b>	<b>1.91</b>	<b>4.50</b>	<b>6.15</b>	<b>-2.81</b>	<b>4.25</b>	<b>07/01/2006</b>
NCREIF ODCE Index (AWA) (Net)	1.10	1.37	0.34	0.34	3.99	5.27	7.34	8.87	4.39	5.13	
Difference	-3.18	-3.81	-5.08	-5.08	-4.56	-3.36	-2.84	-2.72	-7.20	-0.88	
<b>MS Prime</b>	<b>1.47</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>1.47</b>	<b>10/01/2020</b>
NCREIF ODCE Index (AWA) (Net)	1.10	1.37	0.34	0.34	3.99	5.27	7.34	8.87	4.39	1.10	
Difference	0.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.37	
<b>Diversified Hedge Funds Composite</b>	<b>6.72</b>	<b>10.56</b>	<b>7.14</b>	<b>7.14</b>	<b>3.41</b>	<b>3.13</b>	<b>2.52</b>	<b>3.41</b>	<b>4.07</b>	<b>2.70</b>	<b>12/01/2007</b>
HFRI FOF Comp Index	8.09	12.69	10.86	10.86	4.87	4.55	3.68	3.32	8.39	1.97	
Difference	-1.37	-2.13	-3.72	-3.72	-1.46	-1.42	-1.16	0.09	-4.32	0.73	
<b>Grosvenor Diversified Hedge Funds</b>	<b>6.38</b>	<b>11.19</b>	<b>9.70</b>	<b>9.70</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.67</b>	<b>4.73</b>	<b>07/01/2018</b>
HFRI FOF Comp Index	8.09	12.69	10.86	10.86	4.87	4.55	3.68	3.32	8.39	5.56	
Difference	-1.71	-1.50	-1.16	-1.16	N/A	N/A	N/A	N/A	-2.72	-0.83	
<b>Internal Diversified Hedge Funds</b>	<b>6.97</b>	<b>10.30</b>	<b>5.83</b>	<b>5.83</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>6.08</b>	<b>5.10</b>	<b>07/01/2018</b>
HFRI FOF Comp Index	8.09	12.69	10.86	10.86	4.87	4.55	3.68	3.32	8.39	5.56	
Difference	-1.12	-2.39	-5.03	-5.03	N/A	N/A	N/A	N/A	-2.31	-0.46	
<b>Grosvenor Opportunistic Class D</b>	<b>25.43</b>	<b>29.60</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>29.60</b>	<b>07/01/2020</b>
Grosvenor Opportunistic Class D Custom Benchmark	8.87	11.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.37	
Difference	16.56	18.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.23	

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.



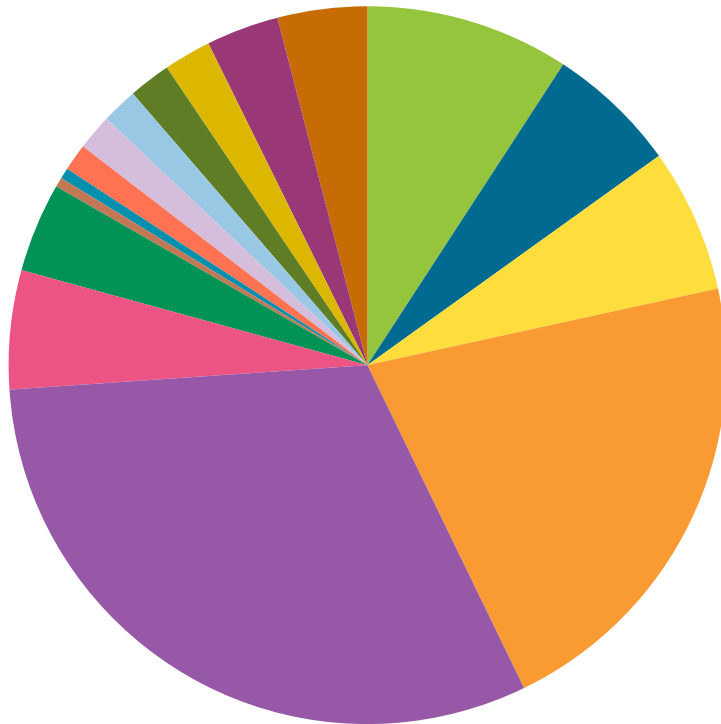
Wyoming State Treasurer's Office  
Comparative Performance

As of December 31, 2020

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Core Real Estate Composite</b>	<b>1.34</b>	<b>1.86</b>	<b>1.11</b>	<b>1.11</b>	<b>4.25</b>	<b>5.72</b>	<b>7.93</b>	<b>9.33</b>	<b>3.33</b>	<b>6.11</b>	<b>01/01/2006</b>
NCREIF ODCE Index (AWA) (Gross)	1.30	1.79	1.19	1.19	4.92	6.21	8.32	9.88	5.34	6.42	
Difference	0.04	0.07	-0.08	-0.08	-0.67	-0.49	-0.39	-0.55	-2.01	-0.31	
<b>Clarion Lion</b>	<b>2.02</b>	<b>2.70</b>	<b>2.23</b>	<b>2.23</b>	<b>6.34</b>	<b>7.41</b>	<b>9.37</b>	<b>10.77</b>	<b>7.26</b>	<b>6.07</b>	<b>01/01/2006</b>
NCREIF ODCE Index (AWA) (Gross)	1.30	1.79	1.19	1.19	4.92	6.21	8.32	9.88	5.34	6.42	
Difference	0.72	0.91	1.04	1.04	1.42	1.20	1.05	0.89	1.92	-0.35	
<b>UBS Trumbull</b>	<b>-1.90</b>	<b>-2.08</b>	<b>-4.05</b>	<b>-4.05</b>	<b>0.16</b>	<b>2.73</b>	<b>5.39</b>	<b>7.11</b>	<b>-2.11</b>	<b>5.19</b>	<b>07/01/2006</b>
NCREIF ODCE Index (AWA) (Gross)	1.30	1.79	1.19	1.19	4.92	6.21	8.32	9.88	5.34	6.09	
Difference	-3.20	-3.87	-5.24	-5.24	-4.76	-3.48	-2.93	-2.77	-7.45	-0.90	
<b>MS Prime</b>	<b>1.68</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>1.68</b>	<b>10/01/2020</b>
NCREIF ODCE Index (AWA) (Gross)	1.30	1.79	1.19	1.19	4.92	6.21	8.32	9.88	5.34	1.30	
Difference	0.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.38	
<b>Diversified Hedge Funds Composite</b>	<b>6.72</b>	<b>10.56</b>	<b>7.14</b>	<b>7.14</b>	<b>3.41</b>	<b>3.13</b>	<b>2.52</b>	<b>3.41</b>	<b>4.07</b>	<b>2.70</b>	<b>12/01/2007</b>
HFRI FOF Comp Index	8.09	12.69	10.86	10.86	4.87	4.55	3.68	3.32	8.39	1.97	
Difference	-1.37	-2.13	-3.72	-3.72	-1.46	-1.42	-1.16	0.09	-4.32	0.73	
<b>Grosvenor Diversified Hedge Funds</b>	<b>6.38</b>	<b>11.19</b>	<b>9.70</b>	<b>9.70</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.67</b>	<b>4.73</b>	<b>07/01/2018</b>
HFRI FOF Comp Index	8.09	12.69	10.86	10.86	4.87	4.55	3.68	3.32	8.39	5.56	
Difference	-1.71	-1.50	-1.16	-1.16	N/A	N/A	N/A	N/A	-2.72	-0.83	
<b>Internal Diversified Hedge Funds</b>	<b>6.97</b>	<b>10.30</b>	<b>5.83</b>	<b>5.83</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>6.08</b>	<b>5.10</b>	<b>07/01/2018</b>
HFRI FOF Comp Index	8.09	12.69	10.86	10.86	4.87	4.55	3.68	3.32	8.39	5.56	
Difference	-1.12	-2.39	-5.03	-5.03	N/A	N/A	N/A	N/A	-2.31	-0.46	
<b>Grosvenor Opportunistic Class D</b>	<b>25.43</b>	<b>29.60</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>29.60</b>	<b>07/01/2020</b>
Grosvenor Opportunistic Class D Custom Benchmark	8.87	11.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.37	
Difference	16.56	18.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.23	

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 managers and opportunistic managers. Wyoming State Treasurer's Office fiscal year ends June 30th. Since Inception date shown represents the first full month following initial funding.

December 31, 2020 : \$12,370,438,485



	Market Value (\$)	Allocation (%)
Internal Intermediate Govt Fixed Income Portfolio	1,136,314,775	9.19
Payden & Rygel IGC	730,627,668	5.91
JP Morgan MBS	802,142,691	6.48
PIMCO Core	2,626,360,264	21.23
Internal Ladder Portfolio	3,847,615,890	31.10
Credit Suisse	662,476,465	5.36
Octagon	498,638,325	4.03
Grosvenor Silvery Lupine Fund	53,368,483	0.43
Ninety One	60,357,378	0.49
Global Evolution	150,232,209	1.21
Global Evolution Hard	199,514,180	1.61
Eaton Vance	200,000,000	1.62
Goldman Sachs	234,759,621	1.90
Internal Long Duration Govt Fixed Income Portfolio	264,339,193	2.14
Metlife	403,812,761	3.26
Internal Low Duration Fixed Income Portfolio	499,878,582	4.04

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

Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Core Fixed Income Composite</b>	<b>5,295,445,399</b>	<b>42.81</b>	<b>0.60</b>	<b>1.63</b>	<b>8.40</b>	<b>8.40</b>	<b>5.57</b>	<b>4.61</b>	<b>4.18</b>	<b>N/A</b>	<b>8.01</b>	<b>3.36</b>	<b>01/01/2013</b>
Bloomberg US Agg Bond Index			0.67	1.29	7.51	7.51	5.34	4.44	4.09	3.84	8.72	3.30	
Difference			-0.07	0.34	0.89	0.89	0.23	0.17	0.09	N/A	-0.71	0.06	
<b>Internal Aggregate Core Fixed Income</b>	<b>2,669,085,134</b>	<b>21.58</b>	<b>0.53</b>	<b>1.36</b>	<b>8.14</b>	<b>8.14</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>6.82</b>	<b>11/01/2019</b>
Bloomberg US Agg Bond Index			0.67	1.29	7.51	7.51	5.34	4.44	4.09	3.84	8.72	6.29	
Difference			-0.14	0.07	0.63	0.63	N/A	N/A	N/A	N/A	N/A	0.53	
<b>Internal Intermediate Govt Fixed Income Portfolio</b>	<b>1,136,314,775</b>	<b>9.19</b>	<b>-0.83</b>	<b>-0.56</b>	<b>7.85</b>	<b>7.85</b>	<b>4.71</b>	<b>3.37</b>	<b>3.42</b>	<b>2.90</b>	<b>4.53</b>	<b>4.70</b>	<b>10/01/1996</b>
Internal Intermediate Govt Fixed Income Portfolio Index			-0.83	-0.66	8.00	8.00	4.68	3.23	2.83	2.62	4.70	4.70	
Difference			0.00	0.10	-0.15	-0.15	0.03	0.14	0.59	0.28	-0.17	0.00	
<b>Payden &amp; Rygel IGC</b>	<b>730,627,668</b>	<b>5.91</b>	<b>2.69</b>	<b>4.53</b>	<b>10.15</b>	<b>10.15</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>9.06</b>	<b>11/01/2019</b>
Payden & Rygel Custom Index			3.05	4.63	8.94	8.94	6.75	6.56	5.62	5.54	14.54	8.14	
Difference			-0.36	-0.10	1.21	1.21	N/A	N/A	N/A	N/A	N/A	0.92	
<b>JP Morgan MBS</b>	<b>802,142,691</b>	<b>6.48</b>	<b>0.51</b>	<b>1.24</b>	<b>5.62</b>	<b>5.62</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.95</b>	<b>11/01/2019</b>
Bloomberg US MBS Index (Unhgd)			0.25	0.36	3.87	3.87	3.71	3.05	3.26	3.01	6.35	3.63	
Difference			0.26	0.88	1.75	1.75	N/A	N/A	N/A	N/A	N/A	1.32	
<b>PIMCO Core</b>	<b>2,626,360,264</b>	<b>21.23</b>	<b>0.65</b>	<b>1.91</b>	<b>8.82</b>	<b>8.82</b>	<b>5.57</b>	<b>4.81</b>	<b>4.27</b>	<b>N/A</b>	<b>7.60</b>	<b>3.38</b>	<b>01/01/2013</b>
PIMCO Custom Index			0.67	1.29	8.14	8.14	5.19	4.35	4.02	3.80	7.30	3.25	
Difference			-0.02	0.62	0.68	0.68	0.38	0.46	0.25	N/A	0.30	0.13	
<b>Opportunistic Fixed Income</b>													
<b>Grosvenor Silvery Lupine Fund</b>	<b>53,368,483</b>	<b>0.43</b>	<b>4.15</b>	<b>4.30</b>	<b>-7.50</b>	<b>-7.50</b>	<b>0.88</b>	<b>4.10</b>	<b>N/A</b>	<b>N/A</b>	<b>6.59</b>	<b>3.92</b>	<b>07/01/2014</b>
CS Western Euro Hi Yld Index			5.75	8.92	3.59	3.59	5.44	7.18	6.01	7.27	14.41	5.64	
Difference			-1.60	-4.62	-11.09	-11.09	-4.56	-3.08	N/A	N/A	-7.82	-1.72	

Performance shown is net of fees. Fiscal year ends on June 30th. The Internal Int Govt Fixed Income Portfolio Index currently consists of the BB US Treasury Index. Nov 2019 performance consists of the Internal Int Govt Fixed Income Portfolio. Prior to November 2019, the index consists of BB US Gov't Int Term Bond Index. Prior to December 2009, the index consisted of the BB US Gov't Crdt Bond Index. The PIMCO Custom Index consists of the BB US Agg Bond Index through February 2018, the BB US Agg Int Index through June 2019, the BB US Agg Bond Index through 03/26/2020, account performance from 03/27/2020 through 04/03/2020, and the BB US Agg Bond Index thereafter. The Payden & Rygel Custom Index consists of the BB US Corp Inv Grade Index through 03/25/2020, account performance from 03/26/2020 through 03/31/2020, and BB US Corp Inv Grade Index thereafter.

Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>Bank Loans</b>	<b>1,161,114,790</b>	<b>9.39</b>	<b>3.47</b>	<b>7.22</b>	<b>3.95</b>	<b>3.95</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.58</b>	<b>09/01/2019</b>
S&P/LSTA Lvg'd Loan Index			3.81	8.11	3.12	3.12	4.01	5.24	3.84	4.32	8.64	4.02	
Difference			-0.34	-0.89	0.83	0.83	N/A	N/A	N/A	N/A	N/A	0.56	
<b>Credit Suisse</b>	<b>662,476,465</b>	<b>5.36</b>	<b>3.46</b>	<b>7.12</b>	<b>2.82</b>	<b>2.82</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.78</b>	<b>09/01/2019</b>
S&P/LSTA Lvg'd Loan Index			3.81	8.11	3.12	3.12	4.01	5.24	3.84	4.32	8.64	4.02	
Difference			-0.35	-0.99	-0.30	-0.30	N/A	N/A	N/A	N/A	N/A	-0.24	
<b>Octagon</b>	<b>498,638,325</b>	<b>4.03</b>	<b>3.54</b>	<b>7.40</b>	<b>3.27</b>	<b>3.27</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.46</b>	<b>09/01/2019</b>
S&P/LSTA Lvg'd Loan Index			3.81	8.11	3.12	3.12	4.01	5.24	3.84	4.32	8.64	4.02	
Difference			-0.27	-0.71	0.15	0.15	N/A	N/A	N/A	N/A	N/A	0.44	
<b>Emerging Market Debt Fixed Income Composite</b>	<b>844,863,387</b>	<b>6.83</b>	<b>8.25</b>	<b>9.87</b>	<b>2.81</b>	<b>2.81</b>	<b>1.84</b>	<b>5.70</b>	<b>0.61</b>	<b>N/A</b>	<b>12.98</b>	<b>-0.85</b>	<b>04/01/2013</b>
EMD Custom Benchmark			7.43	8.77	1.50	1.50	2.61	6.47	1.34	1.37	13.47	0.00	
Difference			0.82	1.10	1.31	1.31	-0.77	-0.77	-0.73	N/A	-0.49	-0.85	
<b>Ninety One</b>	<b>60,357,378</b>	<b>0.49</b>	<b>10.43</b>	<b>12.07</b>	<b>4.18</b>	<b>4.18</b>	<b>2.78</b>	<b>6.19</b>	<b>1.18</b>	<b>N/A</b>	<b>13.55</b>	<b>-0.16</b>	<b>04/01/2013</b>
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			9.62	10.29	2.69	2.69	3.01	6.72	1.51	1.49	13.47	0.15	
Difference			0.81	1.78	1.49	1.49	-0.23	-0.53	-0.33	N/A	0.08	-0.31	
<b>Global Evolution</b>	<b>150,232,209</b>	<b>1.21</b>	<b>10.17</b>	<b>10.72</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.76</b>	<b>02/01/2020</b>
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			9.62	10.29	2.69	2.69	3.01	6.72	1.51	1.49	13.47	4.03	
Difference			0.55	0.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.27	
<b>Goldman Sachs</b>	<b>234,759,621</b>	<b>1.90</b>	<b>5.91</b>	<b>8.96</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>6.37</b>	<b>03/01/2020</b>
Goldman Sachs Custom Index			4.60	7.48	7.31	7.31	6.07	7.16	5.98	5.80	13.09	5.69	
Difference			1.31	1.48	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.68	
<b>Eaton Vance</b>	<b>200,000,000</b>	<b>1.62</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>01/01/2021</b>
JP Morgan EMB (JEMB) Hard/Local 50/50			7.36	9.04	4.49	4.49	4.34	6.99	3.87	3.80	13.84	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>Global Evolution Hard</b>	<b>199,514,180</b>	<b>1.61</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>1.79</b>	<b>12/01/2020</b>
JP Morgan EMBIG Div Ex CCC (USD) (TR) Index			5.82	8.29	6.09	6.09	5.58	7.33	6.46	6.27	15.72	1.78	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.01	

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 EMD Custom Index consists of the JPM GBI-EM Gbl Dvf'd Index through 02/29/2020, 70% JPM GBI-EM Gbl Dvf'd Index / 30% JPM CEMBI Brd Dvf'd Index thereafter through 11/30/2020, and 1/3 JPM GBI-EM Gbl Dvf'd Index, 1/3 JPM CEMBI Brd Dvf'd Index, and 1/3 JPM EMBI Gbl Dvf'd Index thereafter. The Goldman Sachs Index consists of JPM CEMBI Brd Dvf'd Index through 11/22/2020, account performance from 11/23/2020 through 11/30/2020, and the JPM CEMBI Brd Dvf'd Index thereafter.

Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date	
Laddered Treasury Composite	3,847,615,890	31.10	0.05	0.15	3.20	3.20	N/A	N/A	N/A	N/A	N/A	2.93	10/01/2019	
Internal Ladder Portfolio	3,847,615,890	31.10	0.05	0.15	3.20	3.20	N/A	N/A	N/A	N/A	N/A	2.93	10/01/2019	
Long Duration Fixed Income Composite	668,151,953	5.40	1.25	2.27	18.08	18.08	N/A	N/A	N/A	N/A	19.11	18.59	01/01/2019	
Bloomberg US Gov't Crdt Lng Trm Bond Index			1.68	2.92	16.12	16.12	9.80	9.35	8.79	8.16	19.59	17.84		
Difference			-0.43	-0.65	1.96	1.96	N/A	N/A	N/A	N/A	-0.48	0.75		
Internal Long Duration Govt Fixed Income Portfolio	264,339,193	2.14	-3.03	-2.90	17.06	17.06	N/A	N/A	N/A	N/A	14.61	15.83	01/01/2019	
Bloomberg US Gov't Lng Trm Bond Index			-2.95	-2.82	17.55	17.55	9.83	7.84	8.73	7.74	14.75	16.14		
Difference			-0.08	-0.08	-0.49	-0.49	N/A	N/A	N/A	N/A	-0.14	-0.31		
Logan Circle Long Credit	403,812,761	3.26	4.25	5.95	16.14	16.14	N/A	N/A	N/A	N/A	23.48	19.18	11/01/2018	
Bloomberg US Lng Crdt Index			4.92	6.99	13.32	13.32	9.23	10.02	8.68	8.24	23.36	17.81		
Difference			-0.67	-1.04	2.82	2.82	N/A	N/A	N/A	N/A	0.12	1.37		
Low Duration Fixed Income Composite	499,878,582	4.04	0.06	0.19	3.14	3.14	N/A	N/A	N/A	N/A	3.96	3.75	12/01/2018	
Low Duration Fixed Income Custom Index			0.05	0.15	3.14	3.14	2.86	2.13	1.73	1.56	3.84	3.73		
Difference			0.01	0.04	0.00	0.00	N/A	N/A	N/A	N/A	0.12	0.02		
Internal Low Duration Fixed Income Portfolio	499,878,582	4.04	0.06	0.19	3.14	3.14	N/A	N/A	N/A	N/A	3.80	3.12	03/01/2018	
Bloomberg US Gov't 1-3 Yr Bond Index			0.05	0.15	3.14	3.14	2.77	1.92	1.54	1.32	3.59	3.06		
Difference			0.01	0.04	0.00	0.00	N/A	N/A	N/A	N/A	0.21	0.06		

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 Low Duration Fixed Income Custom Index consists of the Bloomberg US Gov't Crdt 1-3 Yr Bond Index through 06/30/2019 and the Bloomberg US Gov't 1-3 Yr Bond Index thereafter.

Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
Core Fixed Income Composite	5,295,445,399	42.81	0.63	1.67	8.50	8.50	5.68	4.73	4.31	N/A	8.12	3.49	01/01/2013
Bloomberg US Agg Bond Index			0.67	1.29	7.51	7.51	5.34	4.44	4.09	3.84	8.72	3.30	
Difference			-0.04	0.38	0.99	0.99	0.34	0.29	0.22	N/A	-0.60	0.19	
IM U.S. Broad Mkt Core Fixed Income (SA+CF) Median			1.12	2.23	8.56	8.56	5.88	5.03	4.58	4.39	9.19	3.77	
Core Fixed Income Composite Rank			88	70	53	53	66	72	73	N/A	93	76	
Internal Aggregate Core Fixed Income	2,669,085,134	21.58	0.55	1.40	8.23	8.23	N/A	N/A	N/A	N/A	N/A	6.90	11/01/2019
Bloomberg US Agg Bond Index			0.67	1.29	7.51	7.51	5.34	4.44	4.09	3.84	8.72	6.29	
Difference			-0.12	0.11	0.72	0.72	N/A	N/A	N/A	N/A	N/A	0.61	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.12	2.23	8.56	8.56	5.88	5.03	4.58	4.39	9.19	7.17	
Internal Aggregate Core Fixed Income Rank			91	82	60	60	N/A	N/A	N/A	N/A	N/A	61	
Internal Intermediate Govt Fixed Income Portfolio	1,136,314,775	9.19	-0.83	-0.56	7.85	7.85	4.71	3.37	3.42	2.90	4.53	4.70	10/01/1996
Internal Intermediate Govt Fixed Income Portfolio Index			-0.83	-0.66	8.00	8.00	4.68	3.23	2.83	2.62	4.70	4.70	
Difference			0.00	0.10	-0.15	-0.15	0.03	0.14	0.59	0.28	-0.17	0.00	
IM U.S. Government Bonds (SA+CF) Median			-0.22	-0.01	6.39	6.39	4.61	3.33	2.93	2.67	5.84	5.10	
Internal Intermediate Govt Fixed Income Portfolio Rank			64	64	47	47	50	50	48	47	74	58	
Payden & Rygel IGC	730,627,668	5.91	2.74	4.62	10.37	10.37	N/A	N/A	N/A	N/A	N/A	9.24	11/01/2019
Payden & Rygel Custom Index			3.05	4.63	8.94	8.94	6.75	6.56	5.62	5.54	14.54	8.14	
Difference			-0.31	-0.01	1.43	1.43	N/A	N/A	N/A	N/A	N/A	1.10	
IM U.S. Corporate Bonds (SA+CF) Median			3.55	5.63	11.58	11.58	7.85	7.60	6.53	6.53	15.08	10.45	
Payden & Rygel IGC Rank			72	71	66	66	N/A	N/A	N/A	N/A	N/A	68	
JP Morgan MBS	802,142,691	6.48	0.53	1.28	5.71	5.71	N/A	N/A	N/A	N/A	N/A	5.04	11/01/2019
Bloomberg US MBS Index (Unhgd)			0.25	0.36	3.87	3.87	3.71	3.05	3.26	3.01	6.35	3.63	
Difference			0.28	0.92	1.84	1.84	N/A	N/A	N/A	N/A	N/A	1.41	
IM U.S. Mortgage Backed Bonds (SA+CF) Median			0.61	1.41	4.31	4.31	4.02	3.54	3.80	3.90	6.56	3.86	
JP Morgan MBS Rank			58	56	15	15	N/A	N/A	N/A	N/A	N/A	15	
PIMCO Core	2,626,360,264	21.23	0.68	1.96	8.93	8.93	5.68	4.93	4.41	N/A	7.71	3.53	01/01/2013
PIMCO Custom Index			0.67	1.29	8.14	8.14	5.19	4.35	4.02	3.80	7.30	3.25	
Difference			0.01	0.67	0.79	0.79	0.49	0.58	0.39	N/A	0.41	0.28	
IM U.S. Broad Mkt Core Fixed Income (SA+CF) Median			1.12	2.23	8.56	8.56	5.88	5.03	4.58	4.39	9.19	3.77	
PIMCO Core Rank			82	59	34	34	66	57	64	N/A	95	75	

Performance shown is gross of fees. Fiscal year ends on June 30th. The Internal Int Govt Fixed Income Portfolio Index currently consists of the BB US Treasury Index. Nov 2019 performance consists of the Internal Int Govt Fixed Income Portfolio. Prior to November 2019, the index consists of BB US Gov't Int Term Bond Index. Prior to December 2009, the index consisted of the BB US Gov't Crdt Bond Index. The PIMCO Custom Index consists of the BB US Agg Bond Index through February 2018, the BB US Agg Int Index through June 2019, the BB US Agg Bond Index through 03/26/2020, account performance from 03/27/2020 through 04/03/2020, and the BB US Agg Bond Index thereafter. The Payden & Rygel Custom Index consists of the BB US Corp Inv Grade Index through 03/25/2020, account performance from 03/26/2020 through 03/31/2020, and BB US Corp Inv Grade Index thereafter.

Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date	
Opportunistic Fixed Income														
Grosvenor Silvery Lupine Fund	53,368,483	0.43	4.15	4.30	-7.50	-7.50	0.88	4.10	N/A	N/A	6.59	3.92	07/01/2014	
CS Western Euro Hi Yld Index			5.75	8.92	3.59	3.59	5.44	7.18	6.01	7.27	14.41	5.64		
Difference			-1.60	-4.62	-11.09	-11.09	-4.56	-3.08	N/A	N/A	-7.82	-1.72		
Bank Loans	1,161,114,790	9.39	3.56	7.39	4.29	4.29	N/A	N/A	N/A	N/A	N/A	4.89	09/01/2019	
S&P/LSTA Lvg'd Loan Index			3.81	8.11	3.12	3.12	4.01	5.24	3.84	4.32	8.64	4.02		
Difference			-0.25	-0.72	1.17	1.17	N/A	N/A	N/A	N/A	N/A	0.87		
IM U.S. Bank Loans (SA+CF) Median			3.46	7.32	2.32	2.32	3.88	4.95	3.93	4.59	8.77	3.67		
Bank Loans Rank			43	48	9	9	N/A	N/A	N/A	N/A	N/A	17		
Credit Suisse	662,476,465	5.36	3.52	7.25	3.11	3.11	N/A	N/A	N/A	N/A	N/A	4.01	09/01/2019	
S&P/LSTA Lvg'd Loan Index			3.81	8.11	3.12	3.12	4.01	5.24	3.84	4.32	8.64	4.02		
Difference			-0.29	-0.86	-0.01	-0.01	N/A	N/A	N/A	N/A	N/A	-0.01		
IM U.S. Bank Loans (SA+CF) Median			3.46	7.32	2.32	2.32	3.88	4.95	3.93	4.59	8.77	3.67		
Credit Suisse Rank			44	53	26	26	N/A	N/A	N/A	N/A	N/A	36		
Octagon	498,638,325	4.03	3.65	7.63	3.72	3.72	N/A	N/A	N/A	N/A	N/A	4.89	09/01/2019	
S&P/LSTA Lvg'd Loan Index			3.81	8.11	3.12	3.12	4.01	5.24	3.84	4.32	8.64	4.02		
Difference			-0.16	-0.48	0.60	0.60	N/A	N/A	N/A	N/A	N/A	0.87		
IM U.S. Bank Loans (SA+CF) Median			3.46	7.32	2.32	2.32	3.88	4.95	3.93	4.59	8.77	3.67		
Octagon Rank			34	42	15	15	N/A	N/A	N/A	N/A	N/A	17		

Performance shown is gross of fees with the exception of Grosvenor SLF, 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.

Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
Emerging Market Debt Fixed Income Composite	844,863,387	6.83	8.40	10.04	3.04	3.04	2.21	6.17	1.12	N/A	13.42	-0.34	04/01/2013
EMD Custom Benchmark			7.43	8.77	1.50	1.50	2.61	6.47	1.34	1.37	13.47	0.00	
Difference			0.97	1.27	1.54	1.54	-0.40	-0.30	-0.22	N/A	-0.05	-0.34	
IM Emerging Markets Debt (SA+CF) Median			7.92	10.97	6.72	6.72	4.86	7.74	5.56	5.73	14.24	4.48	
Emerging Market Debt Fixed Income Composite Rank			41	75	92	92	93	90	99	N/A	68	97	
Ninety One	60,357,378	0.49	11.64	13.33	5.40	5.40	3.56	6.93	1.85	N/A	14.10	0.50	04/01/2013
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			9.62	10.29	2.69	2.69	3.01	6.72	1.51	1.49	13.47	0.15	
Difference			2.02	3.04	2.71	2.71	0.55	0.21	0.34	N/A	0.63	0.35	
IM Emerging Markets Debt (SA+CF) Median			7.92	10.97	6.72	6.72	4.86	7.74	5.56	5.73	14.24	4.48	
Ninety One Rank			7	9	66	66	79	82	88	N/A	54	90	
Global Evolution	150,232,209	1.21	10.23	10.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.95	02/01/2020
JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)			9.62	10.29	2.69	2.69	3.01	6.72	1.51	1.49	13.47	4.03	
Difference			0.61	0.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.08	
IM Emerging Markets Debt (SA+CF) Median			7.92	10.97	6.72	6.72	4.86	7.74	5.56	5.73	14.24	5.81	
Global Evolution Rank			25	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	87	
Goldman Sachs	234,759,621	1.90	6.05	9.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.51	03/01/2020
Goldman Sachs Custom Index			4.60	7.48	7.31	7.31	6.07	7.16	5.98	5.80	13.09	5.69	
Difference			1.45	1.62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.82	
IM Emerging Markets Debt (SA+CF) Median			7.92	10.97	6.72	6.72	4.86	7.74	5.56	5.73	14.24	7.72	
Goldman Sachs Rank			86	86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	75	
Eaton Vance	200,000,000	1.62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2021
JP Morgan EMB (JEMB) Hard /Local 50/50			7.36	9.04	4.49	4.49	4.34	6.99	3.87	3.80	13.84	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
IM Emerging Markets Debt (SA+CF) Median			7.92	10.97	6.72	6.72	4.86	7.74	5.56	5.73	14.24	N/A	
Eaton Vance Rank			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Global Evolution Hard	199,514,180	1.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.81	12/01/2020
JP Morgan EMBIG Div Ex CCC (USD) (TR) Index			5.82	8.29	6.09	6.09	5.58	7.33	6.46	6.27	15.72	1.78	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.03	
IM Emerging Markets Debt (SA+CF) Median			7.92	10.97	6.72	6.72	4.86	7.74	5.56	5.73	14.24	2.74	
Global Evolution Hard Rank			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	89	

Performance shown is gross 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 EMD Custom Index consists of the JPM GBI-EM Gbl Dvf'd Index through 02/29/2020, 70% JPM GBI-EM Gbl Dvf'd Index / 30% JPM CEMBI Brd Dvf'd Index thereafter through 11/30/2020, and 1/3 JPM GBI-EM Gbl Dvf'd Index, 1/3 JPM CEMBI Brd Dvf'd Index, and 1/3 JPM EMBI Gbl Dvf'd Index thereafter. The Goldman Sachs Index consists of JPM CEMBI Brd Dvf'd Index through 11/22/2020, account performance from 11/23/2020 through 11/30/2020, and the JPM CEMBI Brd Dvf'd Index thereafter.



Wyoming State Treasurer's Office  
Asset Allocation & Performance

As of December 31, 2020

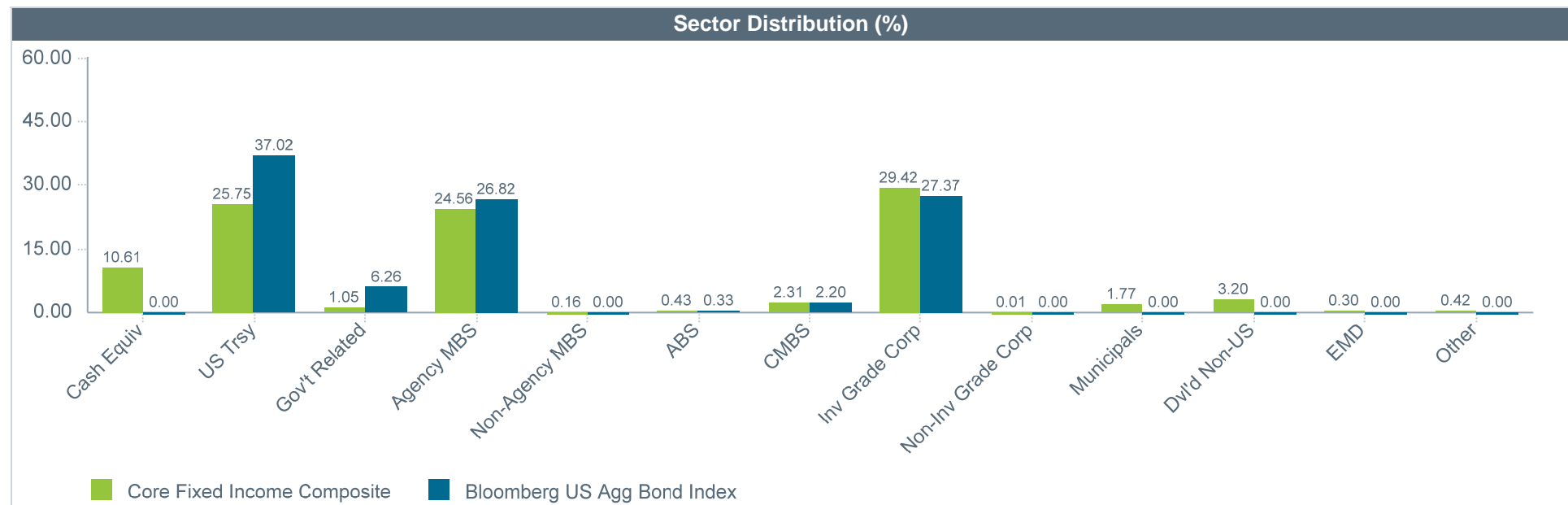
	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
Laddered Treasury Composite	3,847,615,890	31.10	0.05	0.15	3.20	3.20	N/A	N/A	N/A	N/A	N/A	2.93	10/01/2019
Internal Ladder Portfolio	3,847,615,890	31.10	0.05	0.15	3.20	3.20	N/A	N/A	N/A	N/A	N/A	2.93	10/01/2019
Long Duration Fixed Income Composite	668,151,953	5.40	1.28	2.32	18.20	18.20	N/A	N/A	N/A	N/A	19.24	18.72	01/01/2019
Bloomberg US Gov't Crdt Lng Trm Bond Index			1.68	2.92	16.12	16.12	9.80	9.35	8.79	8.16	19.59	17.84	
Difference			-0.40	-0.60	2.08	2.08	N/A	N/A	N/A	N/A	-0.35	0.88	
IM U.S. Long Duration (SA+CF) Median			2.83	4.51	17.10	17.10	10.40	10.10	9.24	8.74	20.14	19.11	
Long Duration Fixed Income Composite Rank			97	97	28	28	N/A	N/A	N/A	N/A	76	65	
Internal Long Duration Govt Fixed Income Portfolio	264,339,193	2.14	-3.03	-2.90	17.06	17.06	N/A	N/A	N/A	N/A	14.61	15.83	01/01/2019
Bloomberg US Gov't Lng Trm Bond Index			-2.95	-2.82	17.55	17.55	9.83	7.84	8.73	7.74	14.75	16.14	
Difference			-0.08	-0.08	-0.49	-0.49	N/A	N/A	N/A	N/A	-0.14	-0.31	
IM U.S. Long Duration (SA+CF) Median			2.83	4.51	17.10	17.10	10.40	10.10	9.24	8.74	20.14	19.11	
Internal Long Duration Govt Fixed Income Portfolio Rank			100	100	51	51	N/A	N/A	N/A	N/A	91	83	
Logan Circle	403,812,761	3.26	4.30	6.05	16.37	16.37	N/A	N/A	N/A	N/A	23.73	19.43	11/01/2018
Bloomberg US Lng Crdt Index			4.92	6.99	13.32	13.32	9.23	10.02	8.68	8.24	23.36	17.81	
Difference			-0.62	-0.94	3.05	3.05	N/A	N/A	N/A	N/A	0.37	1.62	
IM U.S. Long Duration (SA+CF) Median			2.83	4.51	17.10	17.10	10.40	10.10	9.24	8.74	20.14	19.25	
Logan Circle Rank			22	24	58	58	N/A	N/A	N/A	N/A	10	44	
Low Duration Fixed Income Composite	499,878,582	4.04	0.06	0.19	3.14	3.14	N/A	N/A	N/A	N/A	3.96	3.75	12/01/2018
Low Duration Fixed Income Custom Index			0.05	0.15	3.14	3.14	2.86	2.13	1.73	1.56	3.84	3.73	
Difference			0.01	0.04	0.00	0.00	N/A	N/A	N/A	N/A	0.12	0.02	
IM U.S. Short Duration Fixed Income (SA+CF) Median			0.43	0.97	3.82	3.82	3.30	2.65	2.20	2.10	4.51	4.36	
Low Duration Fixed Income Composite Rank			99	99	82	82	N/A	N/A	N/A	N/A	79	82	
Internal Low Duration Fixed Income Portfolio	499,878,582	4.04	0.06	0.19	3.14	3.14	N/A	N/A	N/A	N/A	3.80	3.12	03/01/2018
Bloomberg US Gov't 1-3 Yr Bond Index			0.05	0.15	3.14	3.14	2.77	1.92	1.54	1.32	3.59	3.06	
Difference			0.01	0.04	0.00	0.00	N/A	N/A	N/A	N/A	0.21	0.06	
IM U.S. Short Duration Fixed Income (SA+CF) Median			0.43	0.97	3.82	3.82	3.30	2.65	2.20	2.10	4.51	3.66	
Internal Low Duration Fixed Income Portfolio Rank			99	99	82	82	N/A	N/A	N/A	N/A	83	86	

Performance shown is gross 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 Low Duration Fixed Income Custom Index consists of the Bloomberg US Gov't Crdt 1-3 Yr Bond Index through 06/30/2019 and the Bloomberg US Gov't 1-3 Yr Bond Index thereafter.

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

As of December 31, 2020

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	6.02	6.22
Convexity	0.48	0.34
Avg. Maturity	7.79	8.28
Avg. Quality	Aa2	Aa1/Aa2
Yield To Maturity (%)	1.13	1.14
Coupon Rate (%)	2.59	2.76
Current Yield (%)	2.55	N/A

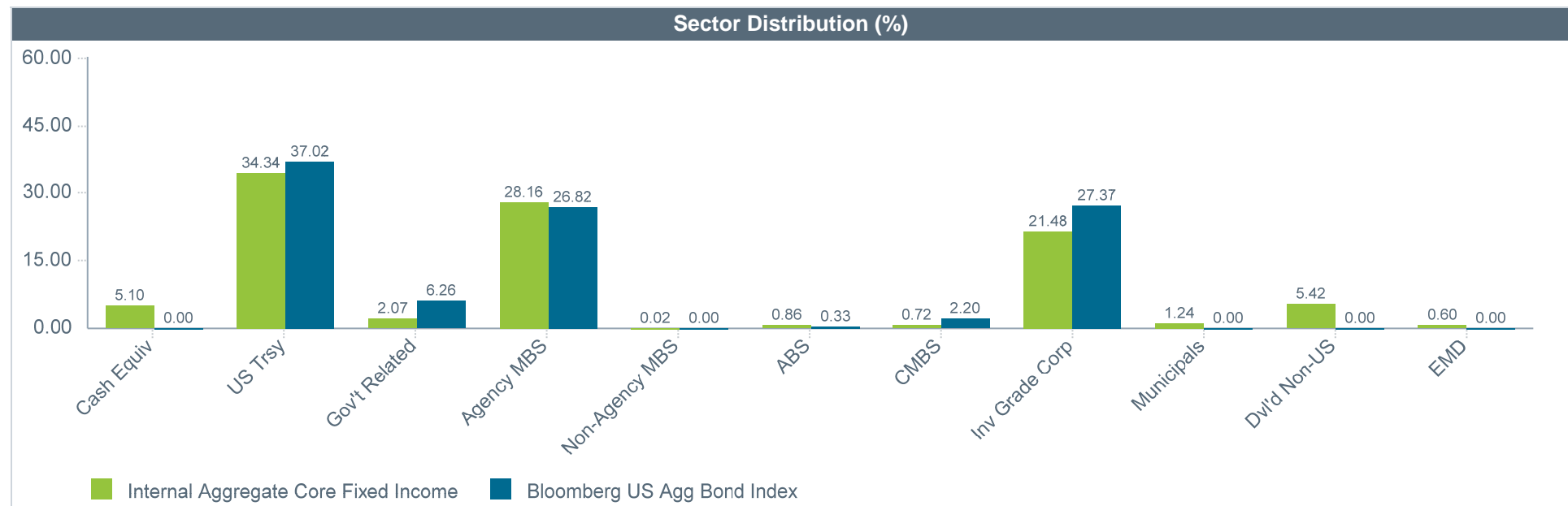


The statistics are calculated based on a weighted average of the underlying managers. Allocation to "Other" consists of Euro/Yankee securities.

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

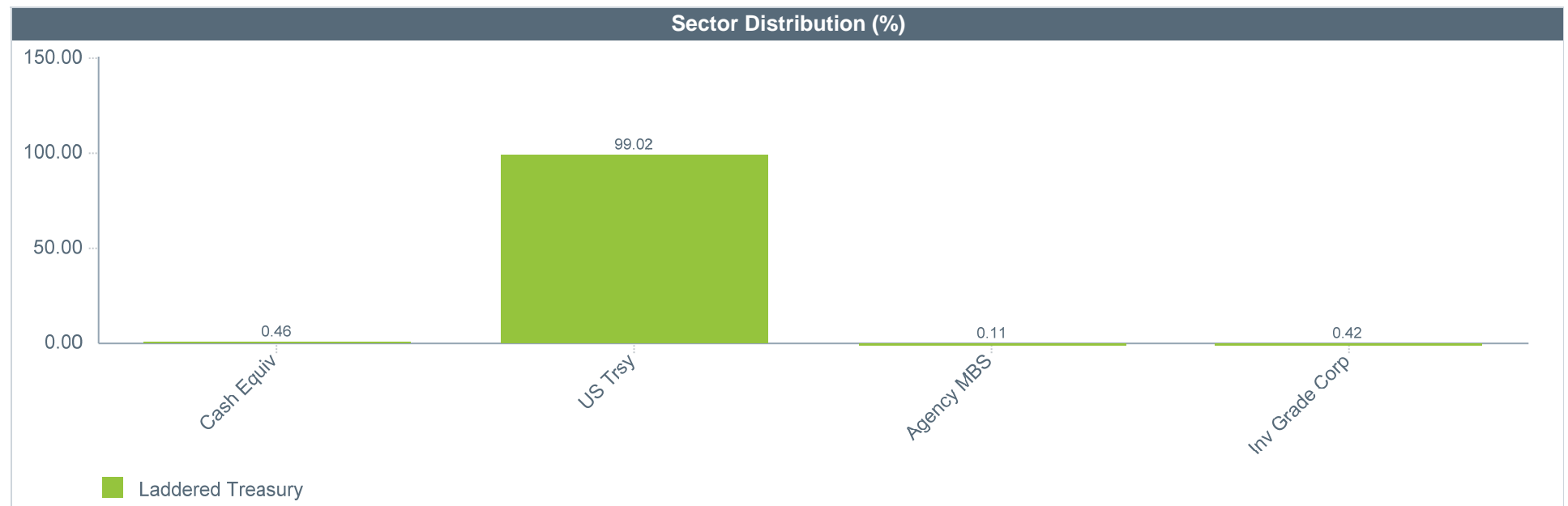
As of December 31, 2020

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	6.10	6.22
Convexity	0.76	0.34
Avg. Maturity	8.44	8.28
Avg. Quality	Aa2	Aa1/Aa2
Yield To Maturity (%)	1.01	1.14
Coupon Rate (%)	2.89	2.76
Current Yield (%)	2.94	N/A



The statistics are calculated based on a weighted average of the underlying managers.

Portfolio Characteristics	
	Portfolio
Effective Duration	1.73
Convexity	0.05
Avg. Maturity	1.75
Avg. Quality	Aaa
Yield To Maturity (%)	0.15
Coupon Rate (%)	1.05

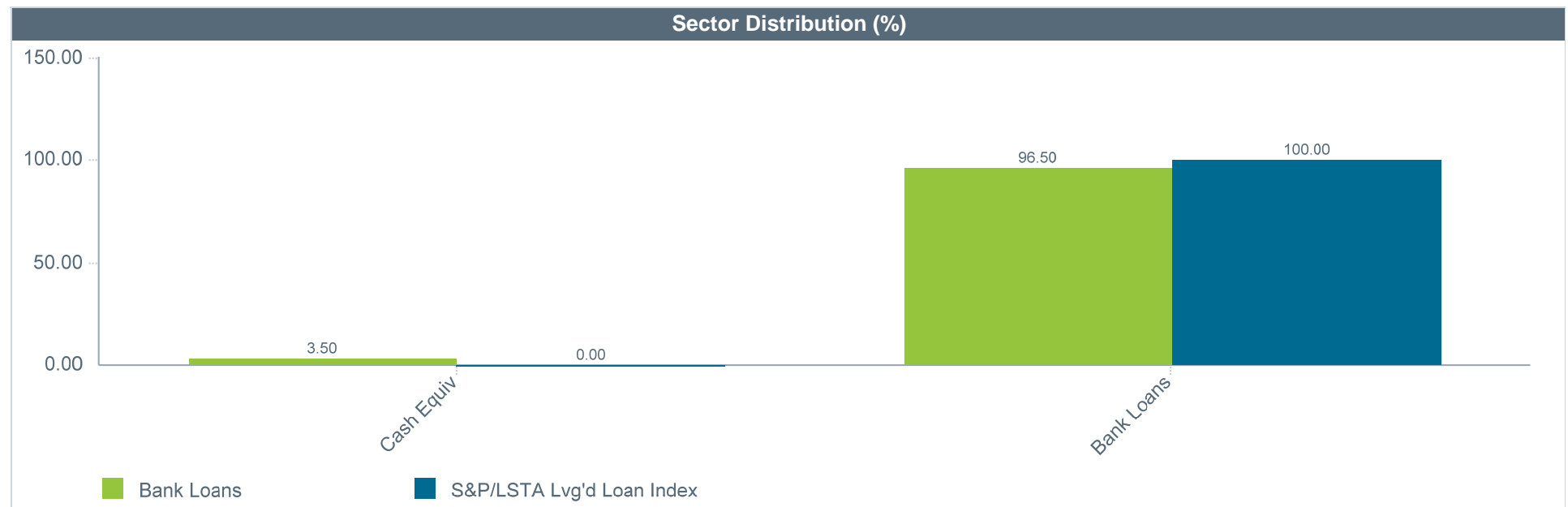


The statistics are calculated based on a weighted average of the underlying managers.

Wyoming State Treasurer's Office  
Bank Loans vs. S&P/LSTA Lvg'd Loan Index  
Portfolio Characteristics

As of December 31, 2020

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	0.25	N/A
Avg. Maturity	4.95	4.65
Avg. Quality	B2	B1
Yield To Maturity (%)	4.63	5.02
Coupon Rate (%)	4.00	4.01
Current Yield (%)	4.09	5.02

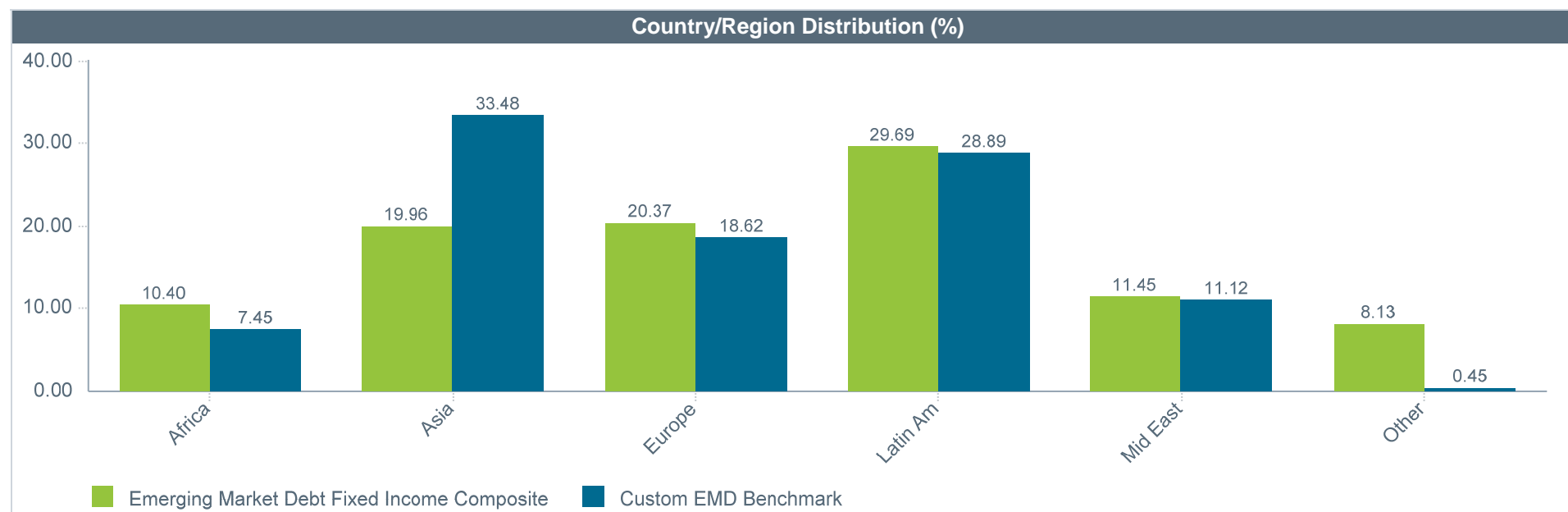


The statistics are calculated based on a weighted average of the underlying managers.

**Wyoming State Treasurer's Office**  
**Emerging Market Debt Fixed Income Composite vs. Custom EMD Benchmark**  
**Portfolio Characteristics**

**As of December 31, 2020**

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	N/A	6.18
Convexity	N/A	0.66
Avg. Maturity	12.12	10.21
Avg. Quality	Ba1	Ba2
Yield To Maturity (%)	4.95	3.94
Coupon Rate (%)	5.31	5.19
Yield To Worst (%)	4.90	3.76
Current Yield (%)	4.94	4.81

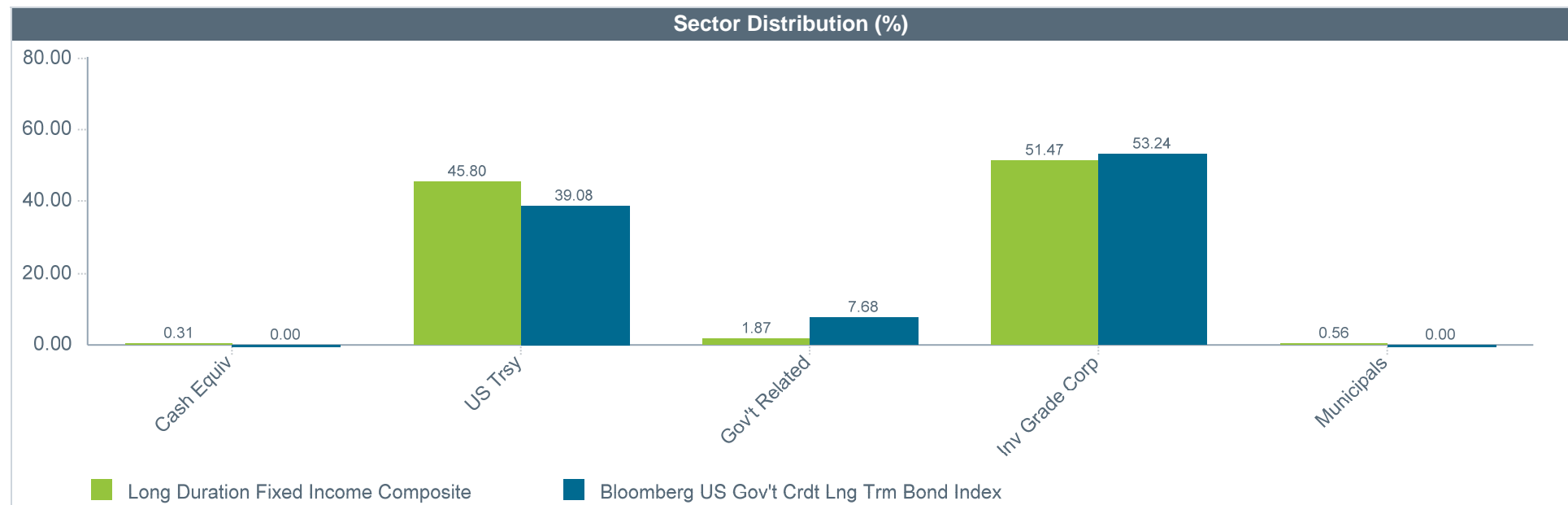


The statistics are calculated based on a weighted average of the underlying managers. Region allocation to "Other" consists of cash. The EMD Custom Index consists of the JPM GBI-EM Gbl Dvf'd Index through 02/29/2020, 70% JPM GBI-EM Gbl Dvf'd Index / 30% JPM CEMBI Brd Dvf'd Index thereafter through 11/30/2020, and 1/3 JPM GBI-EM Gbl Dvf'd Index, 1/3 JPM CEMBI Brd Dvf'd Index, and 1/3 JPM EMBI Gbl Dvf'd Index thereafter.

## Long Duration Fixed Income Composite vs. Bloomberg US Gov't Crdt Lng Trm Bond Index

## Portfolio Characteristics

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	16.33	16.83
Convexity	3.47	3.75
Avg. Quality	A1	Aa3/A1
Yield To Maturity (%)	2.28	2.29
Coupon Rate (%)	3.72	3.81

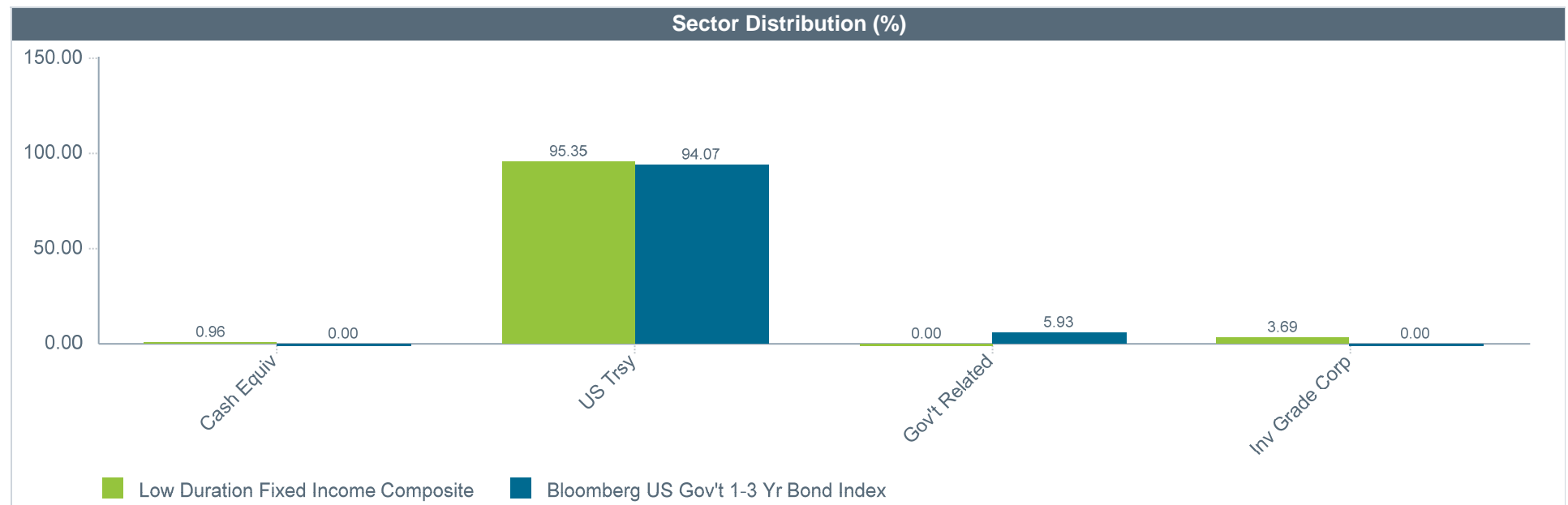


The statistics are calculated based on a weighted average of the underlying managers.

Wyoming State Treasurer's Office  
Low Duration Fixed Income Composite vs. Bloomberg US Gov't 1-3 Yr Bond Index  
Portfolio Characteristics

As of December 31, 2020

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	1.73	1.94
Convexity	0.04	0.00
Avg. Quality	Aaa	Aaa/Aa1
Yield To Maturity (%)	0.11	0.14
Coupon Rate (%)	1.36	1.43



The statistics are calculated based on a weighted average of the underlying managers.



Wyoming State Treasurer's Office  
Comparative Performance

As of December 31, 2020

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>JP Morgan Cash Composite</b>	<b>0.01</b>	<b>0.02</b>	<b>0.43</b>	<b>0.43</b>	<b>1.58</b>	<b>1.20</b>	<b>0.90</b>	<b>0.70</b>	<b>2.42</b>	<b>1.48</b>	<b>01/01/2006</b>
JP Morgan Cash Custom Index	0.03	0.07	0.67	0.67	1.67	1.24	0.94	0.76	2.47	1.51	
Difference	-0.02	-0.05	-0.24	-0.24	-0.09	-0.04	-0.04	-0.06	-0.05	-0.03	
<b>Wyo-Star Cash Composite</b>	<b>0.01</b>	<b>0.06</b>	<b>1.13</b>	<b>1.13</b>	<b>1.82</b>	<b>1.33</b>	<b>1.02</b>	<b>0.80</b>	<b>2.57</b>	<b>3.14</b>	<b>10/01/1996</b>
Wyo-Star Cash Custom Index	0.05	0.14	1.36	1.36	1.98	1.42	1.09	0.89	2.81	2.60	
Difference	-0.04	-0.08	-0.23	-0.23	-0.16	-0.09	-0.07	-0.09	-0.24	0.54	
<b>WYO STAR II Total Fund</b>	<b>0.54</b>	<b>0.92</b>	<b>3.53</b>	<b>3.53</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.97</b>	<b>4.24</b>	<b>01/01/2019</b>
Bloomberg US Corp 1-3 Yr Index	0.68	1.28	3.79	3.79	3.54	2.96	2.43	2.47	5.30	4.54	
Difference	-0.14	-0.36	-0.26	-0.26	N/A	N/A	N/A	N/A	-0.33	-0.30	

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. 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 through 06/30/2019, and the ICE BofAML 3 Mo US T-Bill Index thereafter.

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 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.

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

**As of December 31, 2020**

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	Since Incep.	Inception Date
<b>JP Morgan Cash Composite</b>	<b>0.01</b>	<b>0.02</b>	<b>0.44</b>	<b>0.44</b>	<b>1.62</b>	<b>1.26</b>	<b>0.98</b>	<b>0.79</b>	<b>2.47</b>	<b>1.56</b>	<b>01/01/2006</b>
JP Morgan Cash Custom Index	0.03	0.07	0.67	0.67	1.67	1.24	0.94	0.76	2.47	1.51	
Difference	-0.02	-0.05	-0.23	-0.23	-0.05	0.02	0.04	0.03	0.00	0.05	
<b>Wyo-Star Cash Composite</b>	<b>0.02</b>	<b>0.09</b>	<b>1.20</b>	<b>1.20</b>	<b>1.88</b>	<b>1.39</b>	<b>1.08</b>	<b>0.88</b>	<b>2.63</b>	<b>3.18</b>	<b>10/01/1996</b>
Wyo-Star Cash Custom Index	0.05	0.14	1.36	1.36	1.98	1.42	1.09	0.89	2.81	2.60	
Difference	-0.03	-0.05	-0.16	-0.16	-0.10	-0.03	-0.01	-0.01	-0.18	0.58	
<b>WYO STAR II Total Fund</b>	<b>0.56</b>	<b>0.95</b>	<b>3.60</b>	<b>3.60</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.03</b>	<b>4.31</b>	<b>01/01/2019</b>
Bloomberg US Corp 1-3 Yr Index	0.68	1.28	3.79	3.79	3.54	2.96	2.43	2.47	5.30	4.54	
Difference	-0.12	-0.33	-0.19	-0.19	N/A	N/A	N/A	N/A	-0.27	-0.23	

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. 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 through 06/30/2019, and the ICE BofAML 3 Mo US T-Bill Index thereafter.

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 shown is gross 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.

**Wyoming State Treasurer's Office**  
**Investment Values by Fund**  
December 31, 2020

	Total Investment Value	Fiscal Year Ending 06/30/20 Market Value	Current Market Value	% of MV
<b>Wyoming State Total Fund</b>	<b>\$21,034,642,537</b>	<b>\$22,741,032,950</b>	<b>\$23,046,518,863</b>	<b>100.0%</b>
<b>Permanent Mineral Trust</b>	<b>\$7,791,123,312</b>	<b>\$7,990,956,831</b>	<b>\$8,910,832,139</b>	<b>100.0%</b>
US Equity	\$807,851,871	\$1,120,037,056	\$1,223,596,958	13.7%
International Equity	\$1,246,866,432	\$1,450,187,580	\$1,615,446,820	18.1%
MLPs	\$459,861,548	\$411,164,093	\$447,646,454	5.0%
Private Equity	\$444,134,887	\$504,572,829	\$596,430,893	6.7%
Real Estate	\$855,064,502	\$817,221,309	\$926,264,176	10.4%
Diversified Hedge Funds	\$609,286,469	\$611,293,123	\$668,647,509	7.5%
Fixed Income	\$2,962,096,559	\$2,881,829,152	\$3,017,767,903	33.9%
Opportunistic	\$18,618,648	\$8,284,086	\$23,602,495	0.3%
Public Purpose Investments	\$125,686,262	\$134,894,182	\$125,686,262	1.4%
Cash Equivalents (Liquidated Managers)	\$0	\$775,904	\$786,765	0.0%
Cash (invested in State Agency Pool)	\$261,656,134	\$50,697,517	\$264,955,904	3.0%
<b>Common School Perm Land Fund</b>	<b>\$4,049,352,701</b>	<b>\$4,125,664,118</b>	<b>\$4,430,437,060</b>	<b>100.0%</b>
US Equity	\$280,606,671	\$431,786,613	\$452,588,853	10.2%
International Equity	\$425,762,168	\$571,017,771	\$556,088,756	12.6%
Preferred Stock	\$104,677,880	\$136,896,867	\$132,896,854	3.0%
MLPs	\$297,149,372	\$264,856,326	\$289,347,844	6.5%
Private Equity	\$0	\$106,894,965	\$0	0.0%
Real Estate	\$586,374,067	\$569,776,232	\$617,577,416	13.9%
Diversified Hedge Funds	\$0	\$0	\$0	0.0%
Fixed Income	\$2,284,504,259	\$1,984,541,051	\$2,308,854,440	52.1%
Opportunistic	\$6,963,433	\$3,029,610	\$8,827,113	0.2%
Public Purpose Investments	\$18,359,738	\$18,359,738	\$18,359,738	0.4%
Cash Equivalents (Liquidated Managers)	\$0	\$373,592	\$373,999	0.0%
Cash (invested in State Agency Pool)	\$44,955,113	\$38,131,354	\$45,522,046	1.0%
<b>Permanent Land Fund</b>	<b>\$200,507,393</b>	<b>\$202,823,913</b>	<b>\$223,935,715</b>	<b>100.0%</b>
US Equity	\$24,649,345	\$26,357,892	\$30,464,395	13.6%
International Equity	\$30,933,175	\$36,024,093	\$39,976,792	17.9%
MLPs	\$11,399,338	\$10,174,773	\$11,093,180	5.0%
Private Equity	\$9,473,074	\$12,533,798	\$13,128,431	5.9%
Real Estate	\$22,139,956	\$20,345,582	\$23,917,600	10.7%
Diversified Hedge Funds	\$14,772,105	\$14,496,493	\$16,221,852	7.2%
Fixed Income	\$75,402,242	\$80,418,728	\$77,117,587	34.4%
Opportunistic	\$437,240	\$192,157	\$554,128	0.2%
Cash Equivalents (Liquidated Managers)	\$0	\$18,107	\$18,314	0.0%
Cash (invested in State Agency Pool)	\$11,300,919	\$2,262,290	\$11,443,435	5.1%
<b>University Permanent Land Fund</b>	<b>\$24,928,060</b>	<b>\$26,615,611</b>	<b>\$29,401,035</b>	<b>100.0%</b>
US Equity	\$1,652,495	\$7,746,560	\$4,282,964	14.6%
International Equity	\$3,945,473	\$5,026,537	\$5,003,724	17.0%
MLPs	\$1,489,614	\$1,121,367	\$1,453,759	4.9%
Private Equity	\$1,154,571	\$1,413,897	\$1,547,293	5.3%
Real Estate	\$3,003,972	\$2,712,270	\$3,218,007	10.9%
Diversified Hedge Funds	\$1,831,441	\$1,524,638	\$2,004,310	6.8%
Fixed Income	\$10,017,674	\$6,421,657	\$10,007,720	34.0%
Opportunistic	\$98,056	\$46,271	\$124,420	0.4%
Cash Equivalents (Liquidated Managers)	\$0	\$2,103	\$2,196	0.0%
Cash (invested in State Agency Pool)	\$1,734,765	\$600,311	\$1,756,642	6.0%

**Wyoming State Treasurer's Office**  
**Investment Values by Fund**  
December 31, 2020

	Total Investment Value	Fiscal Year Ending 06/30/20 Market Value	Current Market Value	% of MV
<b>Wyoming State Total Fund</b>	<b>\$21,034,642,537</b>	<b>\$22,741,032,950</b>	<b>\$23,046,518,863</b>	<b>100.0%</b>
<b>Hathaway Scholarship</b>	<b>\$571,943,315</b>	<b>\$592,278,846</b>	<b>\$649,684,586</b>	<b>100.0%</b>
US Equity	\$59,496,054	\$83,725,477	\$90,148,482	13.9%
International Equity	\$91,343,028	\$109,180,435	\$118,517,776	18.2%
MLPs	\$33,765,145	\$30,044,142	\$32,782,965	5.0%
Private Equity	\$27,177,406	\$29,805,233	\$32,471,788	5.0%
Real Estate	\$64,247,895	\$61,310,651	\$69,884,993	10.8%
Diversified Hedge Funds	\$45,465,513	\$56,302,857	\$49,651,264	7.6%
Fixed Income	\$220,674,015	\$217,927,539	\$225,664,020	34.7%
Opportunistic	\$1,385,186	\$613,228	\$1,755,907	0.3%
Cash Equivalents (Liquidated Managers)	\$0	\$58,480	\$60,299	0.0%
Cash (invested in State Agency Pool)	\$28,389,074	\$3,310,805	\$28,747,091	4.4%
<b>Higher Education</b>	<b>\$115,615,819</b>	<b>\$119,493,551</b>	<b>\$127,393,664</b>	<b>100.0%</b>
US Equity	\$8,073,975	\$11,880,131	\$13,218,894	10.4%
International Equity	\$12,073,612	\$16,098,931	\$15,712,090	12.3%
Preferred Stock	\$2,823,866	\$3,615,540	\$3,620,760	2.8%
MLPs	\$8,691,008	\$6,858,964	\$8,778,004	6.9%
Real Estate	\$16,914,927	\$15,055,391	\$18,000,840	14.1%
Diversified Hedge Funds	\$0	\$0	\$0	0.0%
Fixed Income	\$66,533,870	\$65,489,749	\$67,485,488	53.0%
Opportunistic	\$212,181	\$94,921	\$269,002	0.2%
Cash Equivalents (Liquidated Managers)	\$0	\$12,032	\$12,518	0.0%
Cash (invested in State Agency Pool)	\$292,381	\$387,893	\$296,068	0.2%
<b>Workers Compensation Fund</b>	<b>\$2,311,693,041</b>	<b>\$2,435,825,765</b>	<b>\$2,592,652,336</b>	<b>100.0%</b>
US Equity	\$169,600,338	\$225,494,197	\$246,133,648	9.5%
International Equity	\$255,374,265	\$298,231,850	\$325,369,142	12.5%
MLPs	\$103,491,743	\$92,124,054	\$99,764,461	3.8%
Real Estate	\$215,894,304	\$188,888,293	\$225,489,073	8.7%
Diversified Hedge Funds	\$0	\$0	\$0	0.0%
Fixed Income	\$1,476,509,124	\$1,508,044,796	\$1,602,812,635	61.8%
Opportunistic	\$3,818,181	\$1,624,788	\$4,838,973	0.2%
Cash Equivalents (Liquidated Managers)	\$0	\$138,257	\$142,090	0.0%
Cash (invested in State Agency Pool)	\$87,005,085	\$121,279,529	\$88,102,314	3.4%
<b>Pool A</b>	<b>\$259,426,814</b>	<b>\$241,213,542</b>	<b>\$265,604,694</b>	<b>100.0%</b>
US Equity	\$17,163,034	\$19,934,042	\$21,591,017	8.1%
International Equity	\$17,104,432	\$24,783,825	\$22,215,425	8.4%
Preferred Stock	\$24,973,299	\$8,437,326	\$16,907,522	6.4%
MLPs	\$12,288,546	\$11,195,190	\$12,298,605	4.6%
Real Estate	\$21,756,871	\$20,352,153	\$21,725,265	8.2%
Fixed Income	\$148,742,094	\$153,198,832	\$153,242,528	57.7%
Opportunistic	\$0	\$160,988	\$0	0.0%
Cash Equivalents (Liquidated Managers)	\$0	\$677	\$6,376	0.0%
Cash (invested in State Agency Pool)	\$17,398,540	\$3,150,508	\$17,617,955	6.6%
<b>LSRA</b>	<b>\$1,419,926,440</b>	<b>\$1,551,541,169</b>	<b>\$1,472,348,812</b>	<b>100.0%</b>
US Equity	\$111,623,729	\$123,220,149	\$139,164,518	9.5%
International Equity	\$104,929,260	\$156,854,672	\$133,275,961	9.1%
MLPs	\$49,664,381	\$49,912,298	\$51,944,183	3.5%
Diversified Hedge Funds	\$84,573,584	\$82,102,235	\$91,762,150	6.2%
Fixed Income	\$1,048,734,336	\$955,309,111	\$1,035,543,568	70.3%
Opportunistic	\$0	\$1,050,876	\$0	0.0%
Cash (invested in State Agency Pool)	\$20,401,150	\$183,091,827	\$20,658,431	1.4%
<b>State Agency Pool</b>	<b>\$4,290,125,643</b>	<b>\$5,454,619,605</b>	<b>\$4,344,228,823</b>	<b>100.0%</b>
Fixed Income	\$3,404,810,408	\$3,874,466,372	\$3,871,942,596	89.1%
Public Purpose Investments	\$47,735,525	\$123,339,388	\$53,000,000	1.2%
Cash Equivalents	\$837,579,710	\$1,456,813,845	\$419,286,227	9.7%

**Wyoming State Treasurer's Office**  
**Investment Values by Manager**  
December 31, 2020

	Total Investment Value	Fiscal Year Ending 06/30/20 Market Value	Current Market Value	% of MV
<b>Wyoming State Total Fund</b>	<b>\$21,034,642,537</b>	<b>\$22,741,032,950</b>	<b>\$23,046,518,863</b>	<b>100.0%</b>
<b>US Equity</b>	<b>\$1,480,717,511</b>	<b>\$2,050,182,117</b>	<b>\$2,221,189,730</b>	<b>9.6%</b>
State Street All Cap	\$1,143,363,607	\$1,614,943,234	\$1,738,860,738	
UW Portfolio Management Program	\$1,000,000	\$1,389,900	\$1,678,892	
Wyoming Internal Domestic Equity	\$34,000	\$0	\$35,841	
Van Berkum	\$153,114,364	\$202,424,251	\$234,196,299	
State Street Small Cap	\$39,261,675	\$231,424,731	\$58,136,937	
BlackRock Small Cap	\$143,535,337	\$0	\$187,852,908	
Wyoming Internal Small Cap	\$408,528	\$0	\$428,115	
<b>International Equity</b>	<b>\$2,188,331,844</b>	<b>\$2,667,405,694</b>	<b>\$2,831,606,486</b>	<b>12.3%</b>
Northern Trust	\$950,736,457	\$1,295,468,268	\$1,193,176,158	
Harding Loevner	\$552,137,273	\$654,671,093	\$691,893,867	
Arrowstreet	\$685,458,114	\$717,266,333	\$946,536,461	
<b>Mixed Assets</b>	<b>\$1,110,275,740</b>	<b>\$1,026,400,941</b>	<b>\$1,108,534,592</b>	<b>4.8%</b>
Cohen & Steers	\$132,475,044	\$148,949,732	\$153,425,137	
Harvest	\$494,507,440	\$419,163,914	\$480,490,680	
Harvest Passive	\$483,293,256	\$458,287,294	\$474,618,775	
<b>Private Equity</b>	<b>\$481,939,938</b>	<b>\$655,220,721</b>	<b>\$643,578,404</b>	<b>2.8%</b>
Access Venture Partners II	\$2,226,749	\$1,755,169	\$1,518,259	
Cheyenne Capital Fund, L.P.	\$102,465,927	\$165,839,306	\$149,322,984	
Hamilton Lane Nowood Fund, L.P.	\$131,125,828	\$142,888,665	\$147,330,768	
BlackRock LTPC	\$117,211,424	\$147,953,066	\$125,052,258	
Valor PE	\$16,544,165	\$0	\$20,340,307	
Neuberger Berman Sauger	\$112,365,845	\$196,784,515	\$200,013,827	
<b>Real Estate</b>	<b>\$1,781,980,922</b>	<b>\$1,695,661,881</b>	<b>\$1,906,077,370</b>	<b>8.3%</b>
Clarion Lion	\$956,653,578	\$1,136,011,809	\$1,039,693,232	
Morgan Stanley Prime	\$200,000,000	\$0	\$202,949,014	
UBS Trumbull	\$225,441,212	\$243,815,177	\$234,263,082	
M&G	\$40,181,498	\$36,244,862	\$17,693,569	
Northwood	\$106,834,408	\$133,728,445	\$143,322,350	
SC Capital	\$99,592,288	\$102,534,813	\$104,032,058	
Realterm	\$150,000,000	\$31,519,959	\$152,275,130	
WestRiver	\$3,277,938	\$11,806,817	\$11,848,936	
<b>Diversified Hedge Funds</b>	<b>\$755,929,111</b>	<b>\$765,719,345</b>	<b>\$828,287,086</b>	<b>3.6%</b>
PAAMCO - Jackalope	\$8,370,646	\$4,277,742	\$4,308,725	
Grosvenor Diversified Hedge Funds	\$281,500,000	\$274,987,673	\$313,245,631	
Internal Diversified Hedge Funds	\$466,058,466	\$486,453,930	\$510,732,730	
<b>Fixed Income</b>	<b>\$12,054,506,961</b>	<b>\$12,013,839,104</b>	<b>\$12,370,438,485</b>	<b>53.7%</b>
PIMCO	\$2,546,207,663	\$2,261,419,729	\$2,626,360,264	
Payden & Rygel	\$686,527,901	\$716,381,745	\$730,627,668	
JPM MBS	\$785,232,254	\$807,441,873	\$802,142,691	
Credit Suisse	\$671,473,938	\$655,626,364	\$662,476,465	
Octagon	\$494,443,268	\$465,803,874	\$498,638,325	
Grosvenor Silvery Lupine Fund	\$41,916,242	\$70,930,128	\$53,368,483	
Ninety One	\$87,239,278	\$228,135,522	\$60,357,378	
Global Evolution	\$149,794,714	\$345,149,949	\$150,232,209	
Eaton Vance EMD	\$200,000,000	\$0	\$200,000,000	
Global Evolution Hard	\$196,000,000	\$0	\$199,514,180	
Goldman Sachs	\$226,716,170	\$250,884,818	\$234,759,621	
Internal Long Duration Govt Portfolio	\$222,806,460	\$308,589,453	\$264,339,193	
Metlife	\$339,189,939	\$428,906,762	\$403,812,761	
Internal Int. Duration Govt Portfolio	\$1,135,554,984	\$1,170,677,551	\$1,136,314,775	
Internal Low Duration Govt Portfolio	\$511,370,216	\$485,244,029	\$499,878,582	
Wyoming Internal Ladder Portfolio	\$3,760,033,934.98	\$3,818,647,307	\$3,847,615,890	
<b>Opportunistic</b>	<b>\$31,532,924</b>	<b>\$15,096,925</b>	<b>\$39,972,039</b>	<b>0.2%</b>
Grosvenor D	\$31,532,924	\$15,096,925	\$39,972,039	
<b>Public Purpose Investments</b>	<b>\$197,046,000</b>	<b>\$285,703,920</b>	<b>\$197,046,000</b>	<b>0.9%</b>
<b>Cash &amp; Cash Equivalents</b>	<b>\$952,381,586</b>	<b>\$1,565,802,302</b>	<b>\$899,788,671</b>	<b>3.9%</b>
Epoch	\$0	\$0	\$0	
Internal Equity Russell 2000	\$0	\$1,095	\$1,095	
Fisher Investments	\$0	\$1,108,212	\$1,176,264	
Cornerstone	\$83,682	\$2,363	\$2,354	
Heitman	\$1,759,375	\$3	\$0	
TA Realty	\$1,572,513	\$26,122	\$26,117	
Allianz Global Investors	\$0	\$36,305	\$36,297	
C.S. McKee	\$4,588,726	\$2	\$0	
JP Morgan Core	\$12,476,418	\$0	\$0	
Neuberger Berman Credit	\$0	\$574,113	\$574,056	
Seix	\$0	\$1,520	\$1,520	
State Street TIPS	\$1,798,617	\$0	\$0	
State Street Low Duration	\$0	\$29,707	\$29,699	
Stone Harbor	\$150,719	\$1	\$0	
JP Morgan Cash Composite	\$929,951,535	\$1,564,022,859	\$897,941,269	



# Investment Manager Profiles



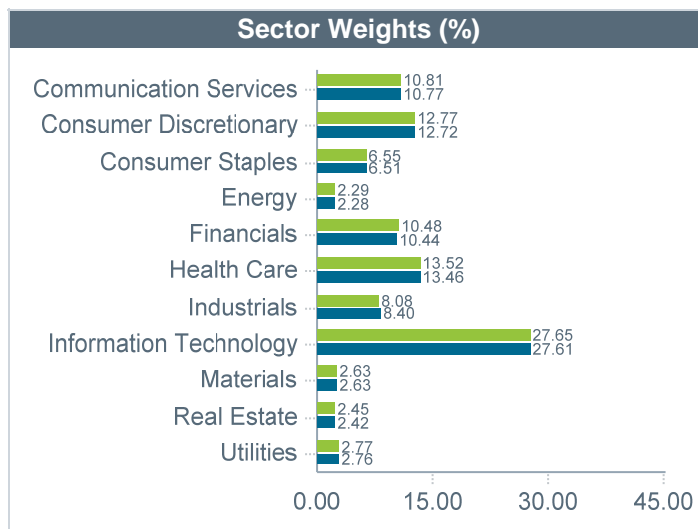
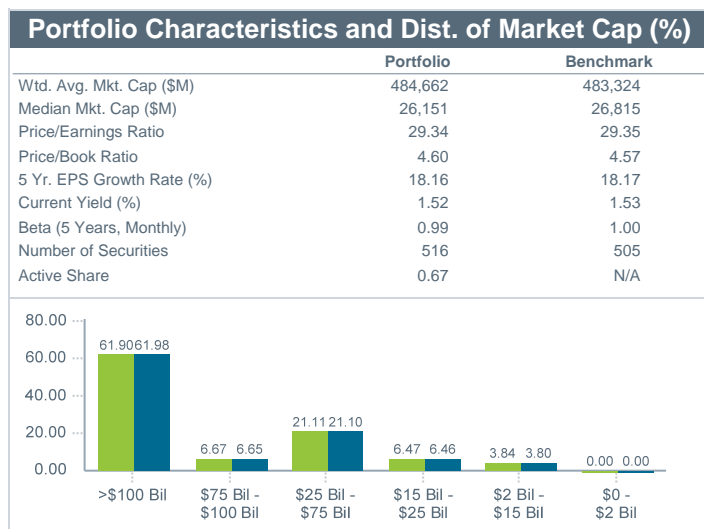
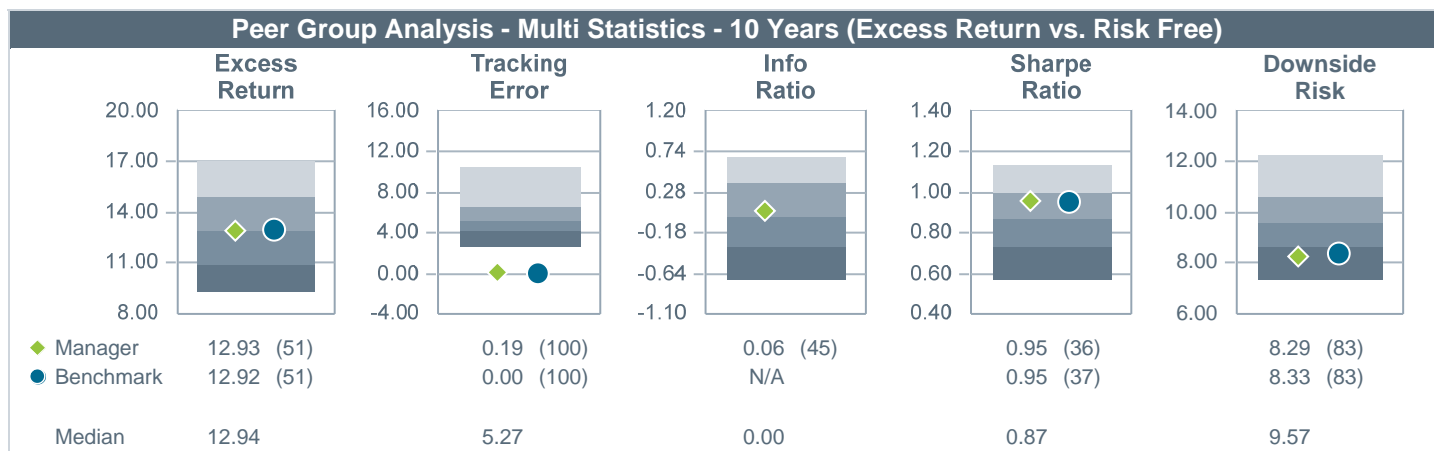
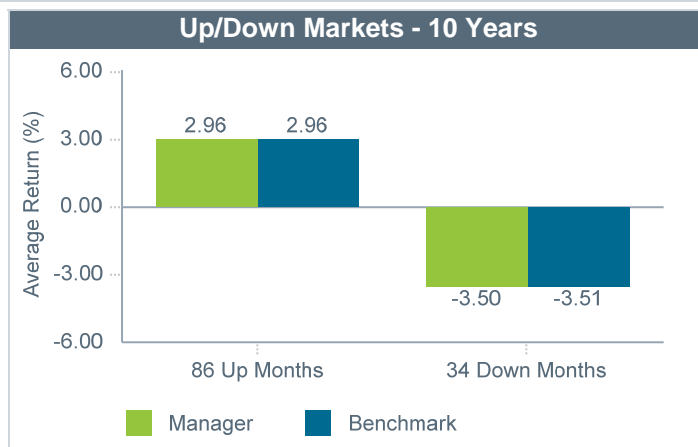
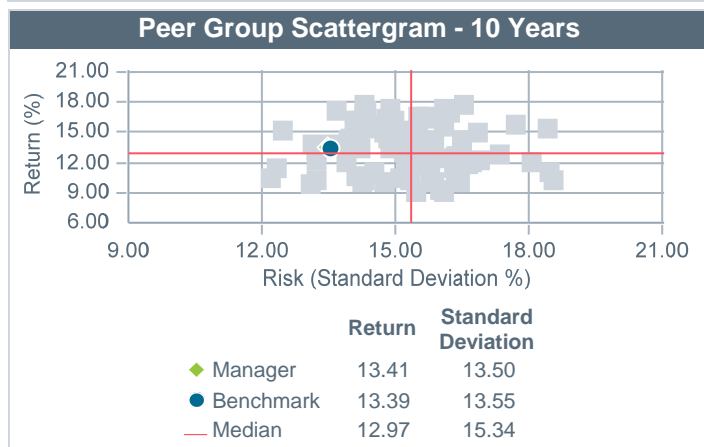
Manager: State Street All Cap

As of December 31, 2020

Benchmark: State Street All Cap Custom Index

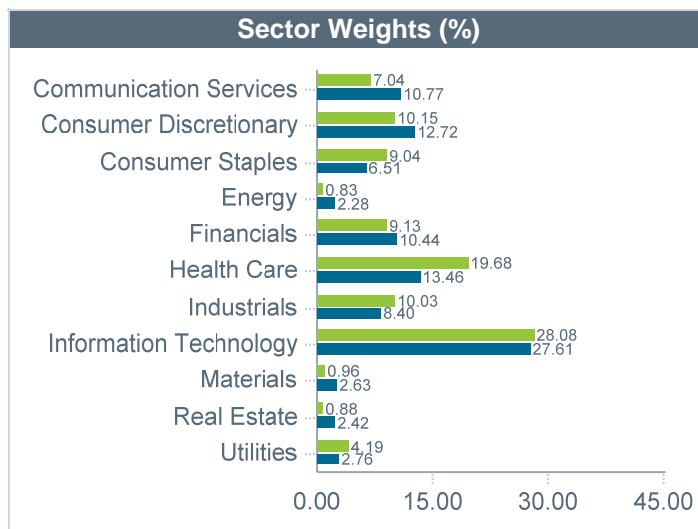
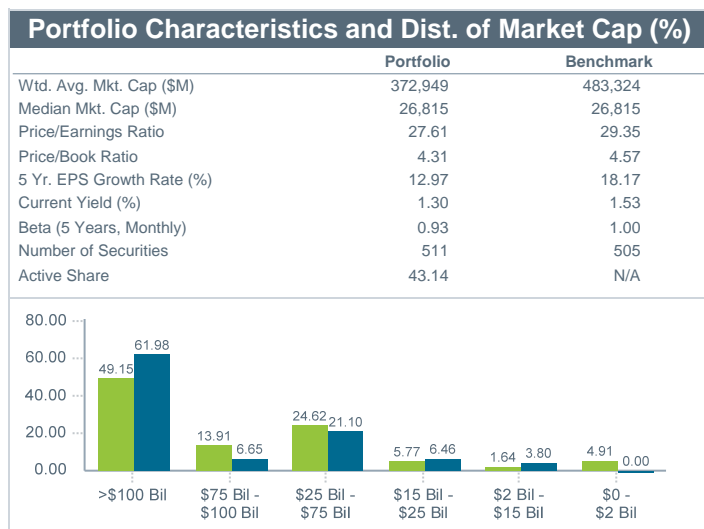
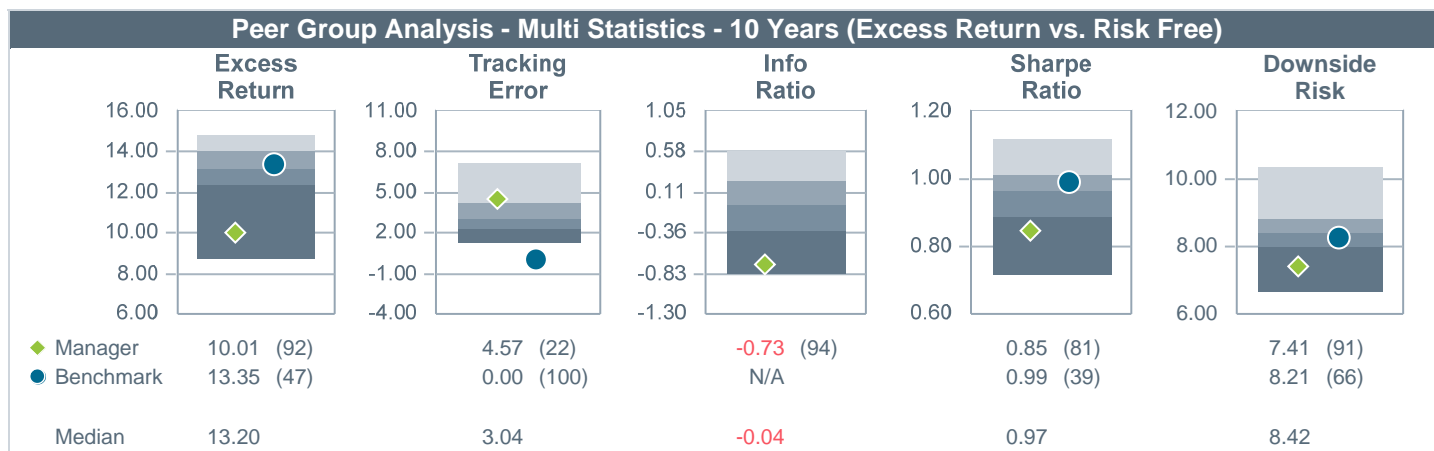
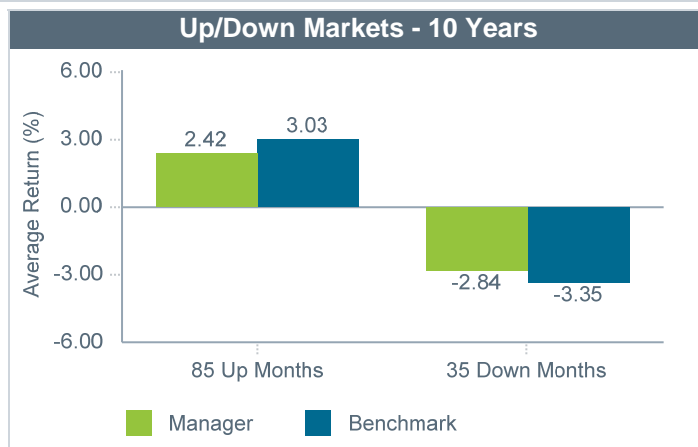
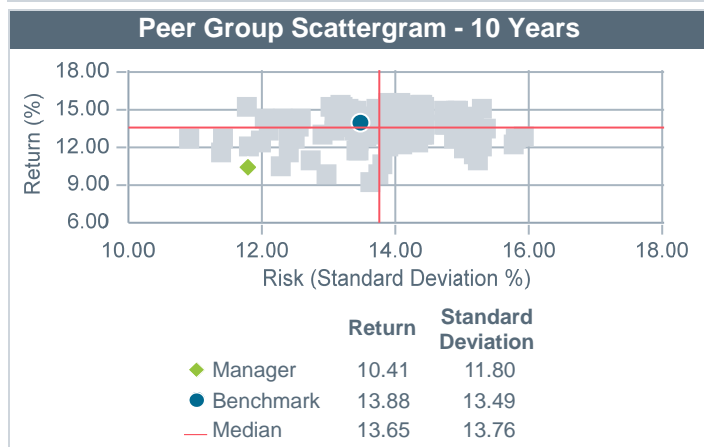
Peer Group: IM U.S. All Cap Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	12.15	17.58	13.24	14.63	12.16	13.41	30.34	-5.25	19.79	13.77	-0.02
Benchmark	12.15	17.65	13.09	14.55	12.13	13.39	30.11	-5.50	19.85	13.78	0.12
Difference	0.00	-0.07	0.15	0.08	0.03	0.02	0.23	0.25	-0.06	-0.01	-0.14
Peer Group Median	16.20	15.43	12.90	14.40	11.73	12.97	28.99	-5.70	20.24	12.51	-0.35
Rank	87	46	50	47	44	47	44	47	55	43	48
Population	149	147	144	138	129	113	166	173	180	195	197



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.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	12.32	14.73	9.92	12.40	10.83	10.41	25.88	-8.04	21.83	10.87	1.03
Benchmark	12.15	18.40	14.18	15.22	12.92	13.88	31.49	-4.38	21.83	11.96	1.38
Difference	0.17	-3.67	-4.26	-2.82	-2.09	-3.47	-5.61	-3.66	0.00	-1.09	-0.35
Peer Group Median	12.19	17.26	13.29	14.56	12.49	13.66	30.03	-5.15	21.84	10.63	1.43
Rank	49	60	78	78	80	92	81	85	51	48	55
Population	204	204	201	195	189	165	246	274	297	317	333



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



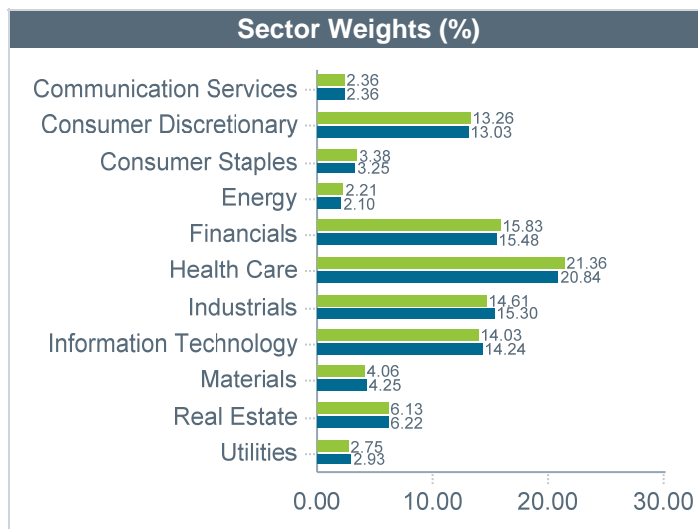
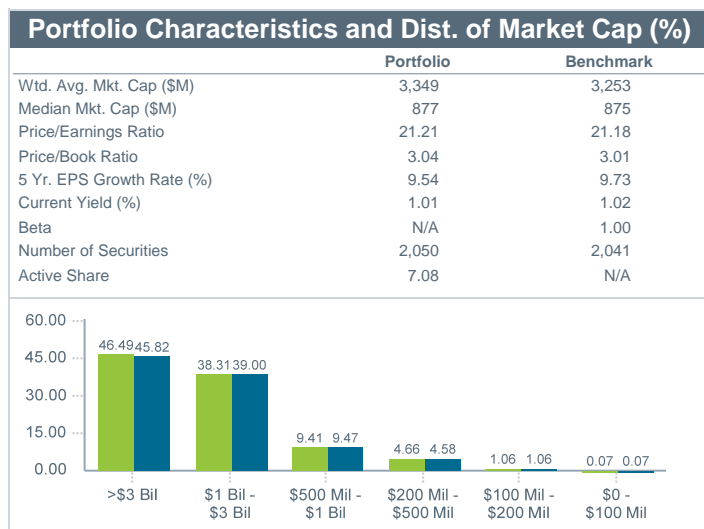
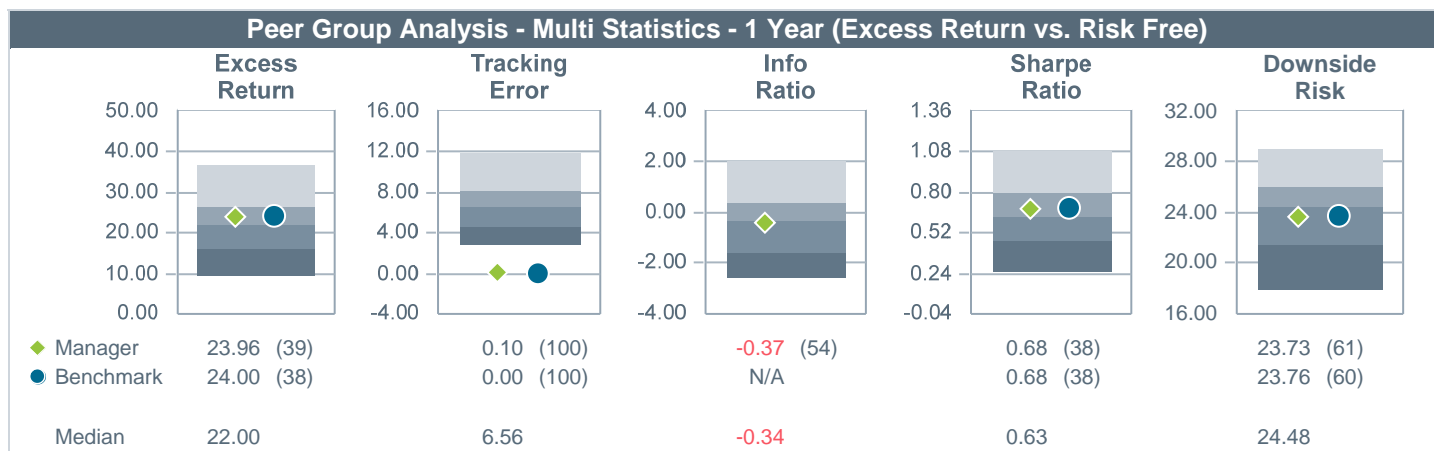
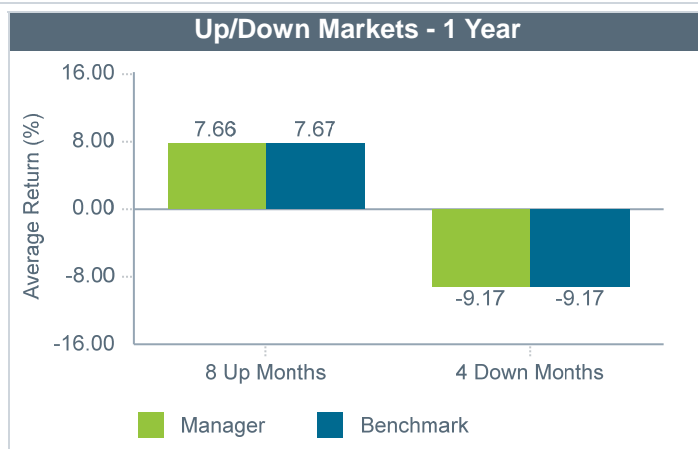
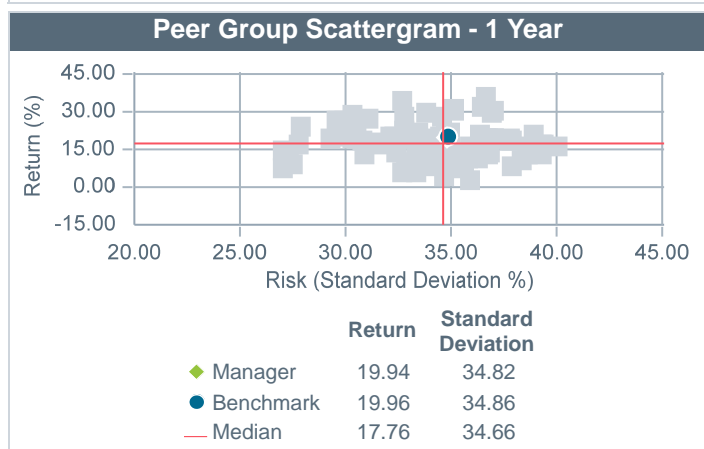
Manager: State Street Russell 2000

As of December 31, 2020

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	2019	2018	2017	2016	2015
Manager	31.36	19.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	31.37	19.96	10.25	13.26	9.34	11.20	25.53	-11.01	14.65	21.31	-4.41
Difference	-0.01	-0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	28.10	17.76	10.03	13.54	10.17	11.97	25.11	-10.69	15.13	20.77	-1.36
Rank	28	34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	110	110	109	107	104	94	126	144	148	151	156



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

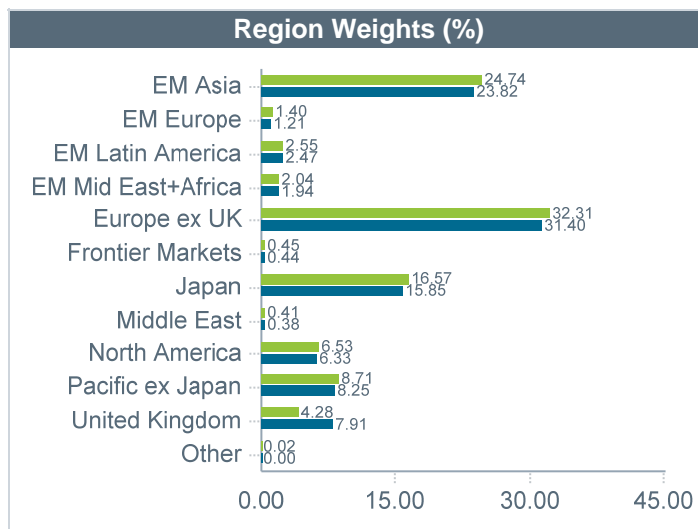
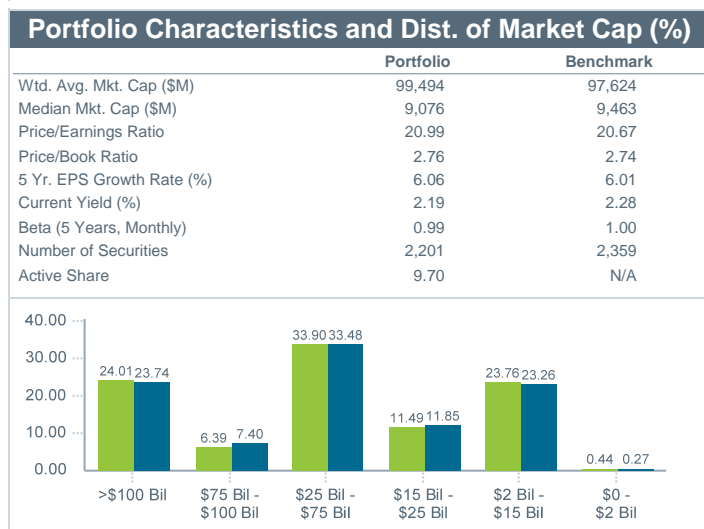
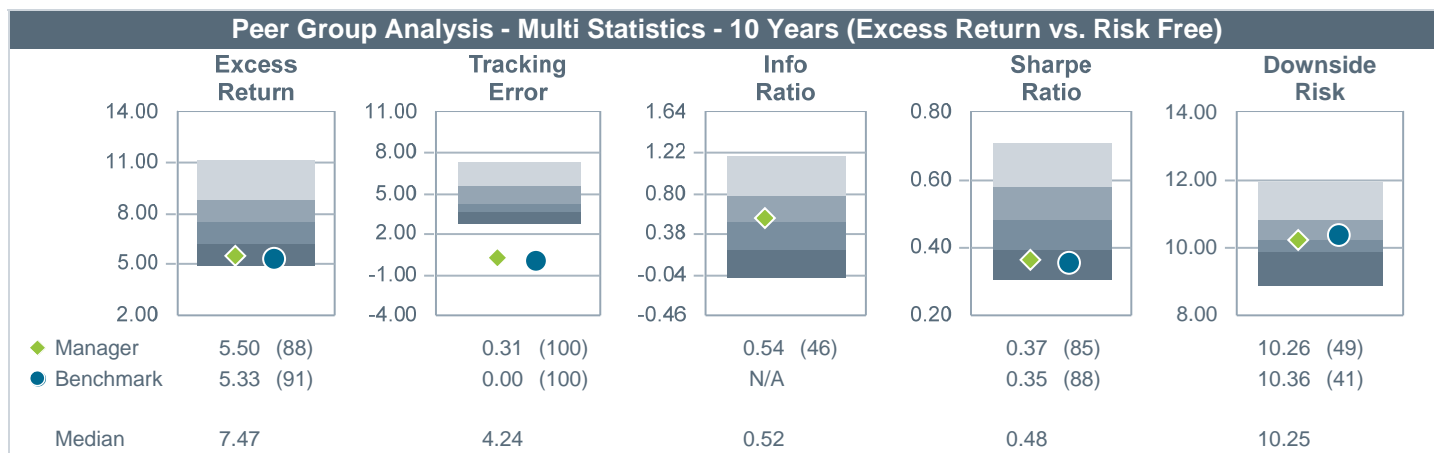
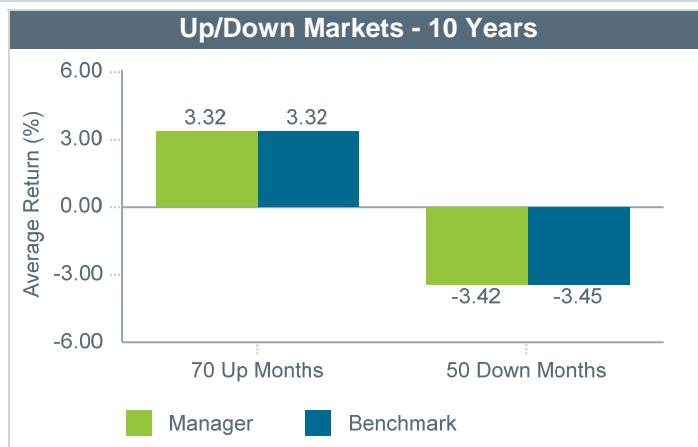
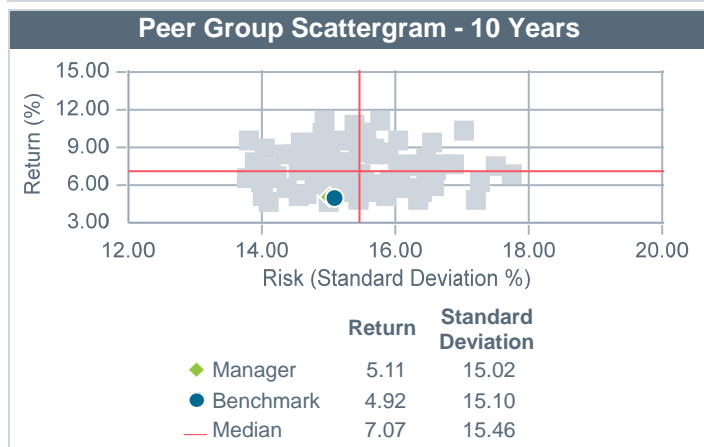
Manager: Northern Trust

As of December 31, 2020

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	2019	2018	2017	2016	2015
Manager	16.97	10.69	5.09	9.11	4.98	5.11	21.66	-13.81	27.51	4.48	-5.70
Benchmark	17.01	10.65	4.88	8.93	4.82	4.92	21.51	-14.20	27.19	4.50	-5.66
Difference	-0.04	0.04	0.21	0.18	0.16	0.19	0.15	0.39	0.32	-0.02	-0.04
Peer Group Median	16.46	14.49	6.97	9.98	6.33	7.07	24.97	-14.64	28.74	2.11	-0.59
Rank	47	60	65	59	70	87	68	41	62	30	86
Population	161	161	161	161	153	133	171	181	191	205	216



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

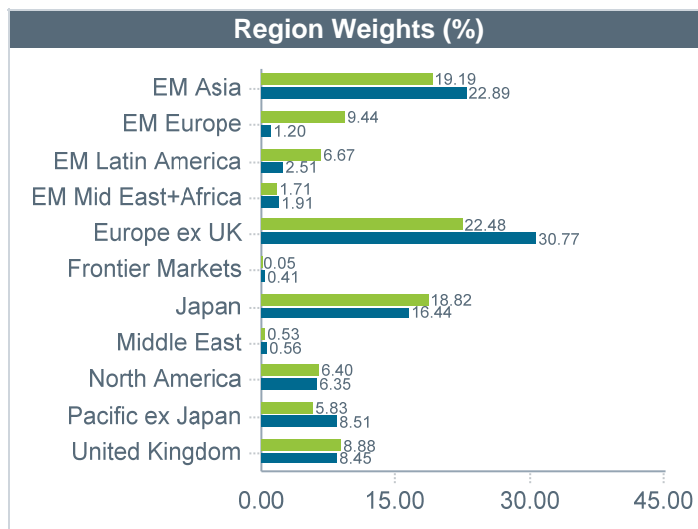
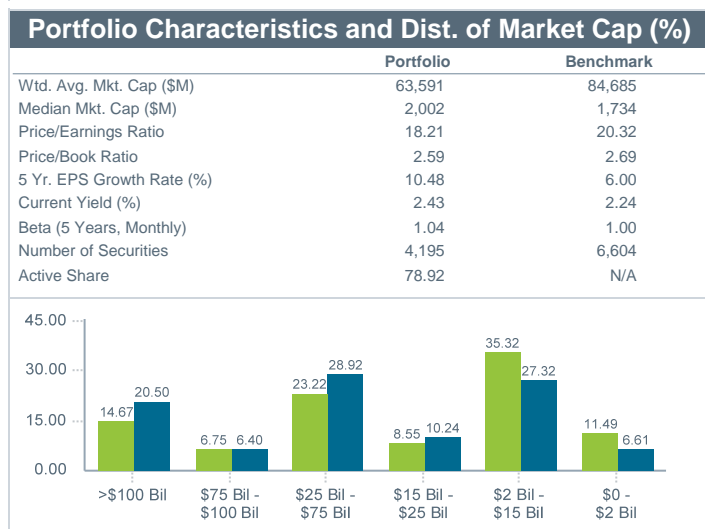
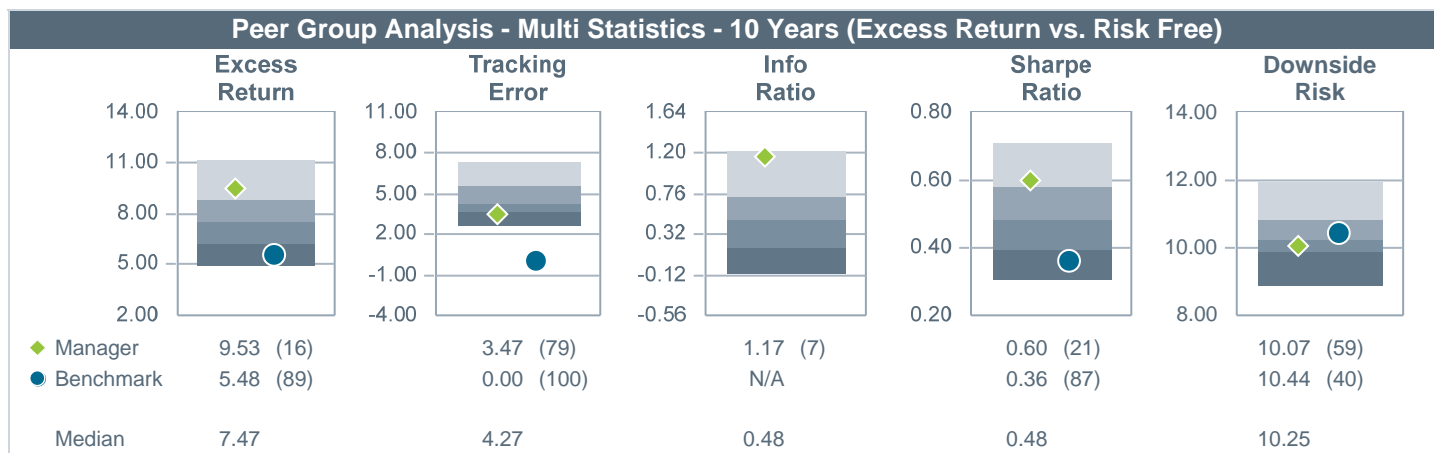
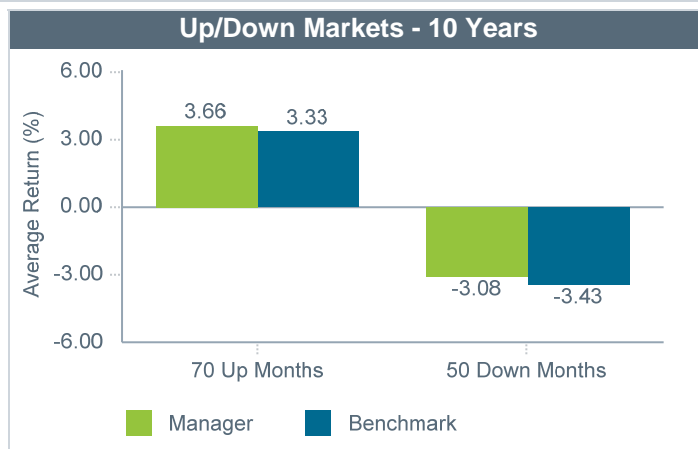
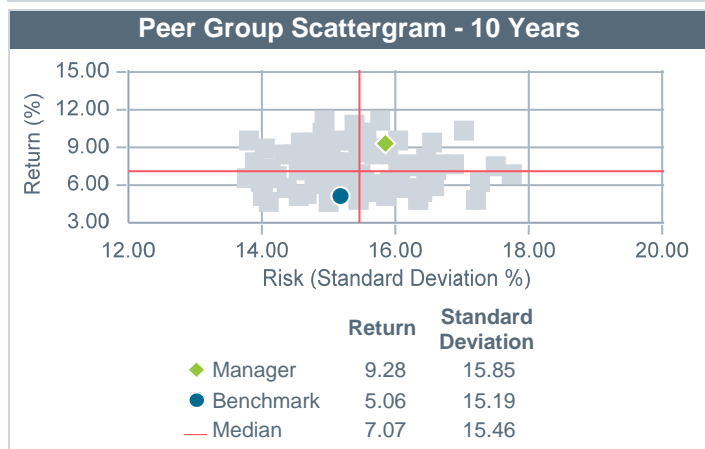
Manager: Arrowstreet

As of December 31, 2020

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	2019	2018	2017	2016	2015
Manager	23.27	23.28	9.45	12.84	9.02	9.28	23.43	-13.84	29.12	8.06	0.01
Benchmark	17.22	11.12	4.83	8.98	5.03	5.06	21.63	-14.76	27.81	4.41	-4.60
Difference	6.05	12.16	4.62	3.86	3.99	4.22	1.80	0.92	1.31	3.65	4.61
Peer Group Median	16.46	14.49	6.97	9.98	6.33	7.07	24.97	-14.64	28.74	2.11	-0.59
Rank	10	22	31	22	19	19	58	41	48	10	46
Population	161	161	161	161	153	133	171	181	191	205	216



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

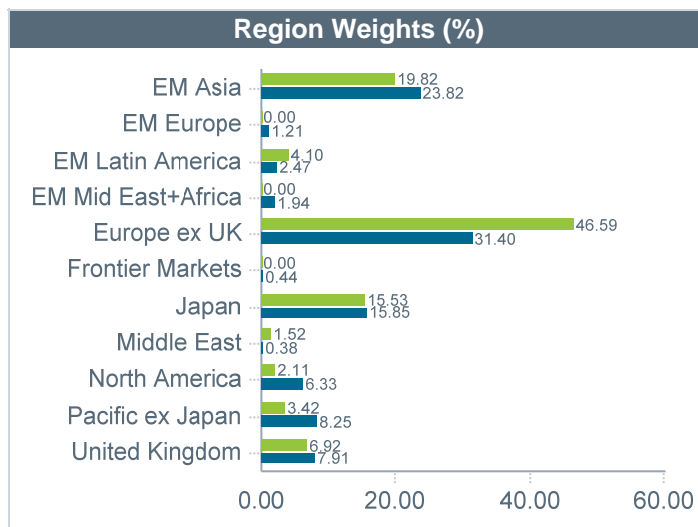
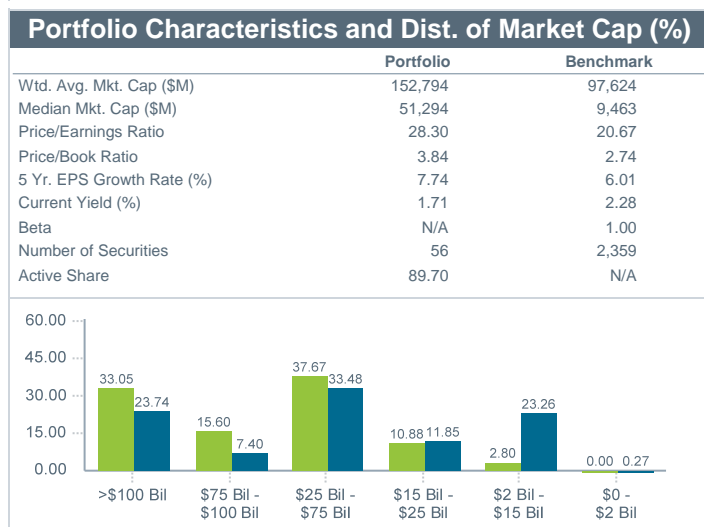
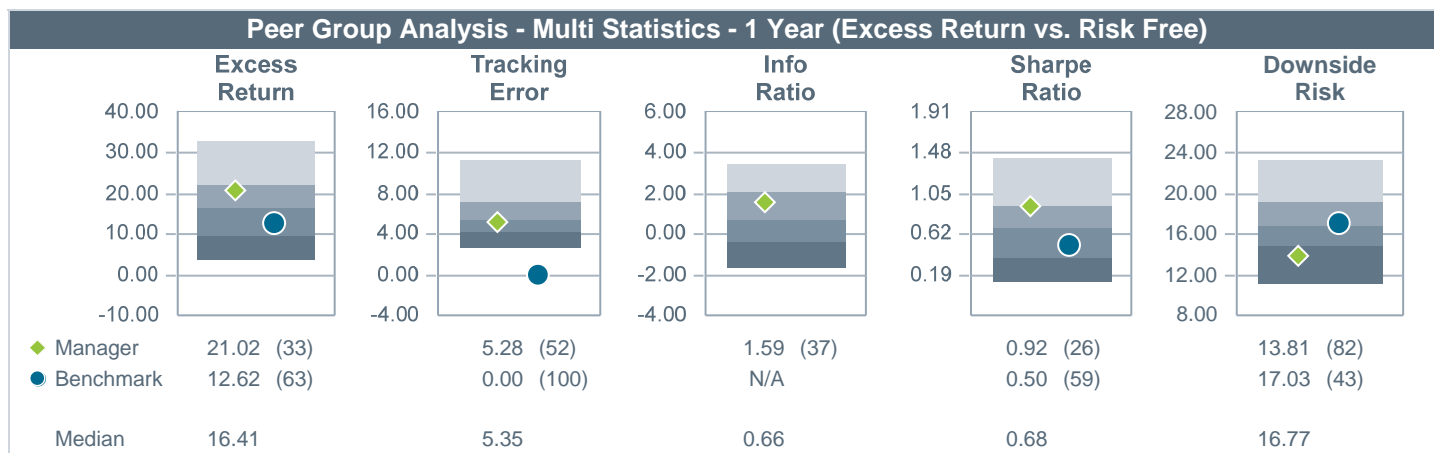
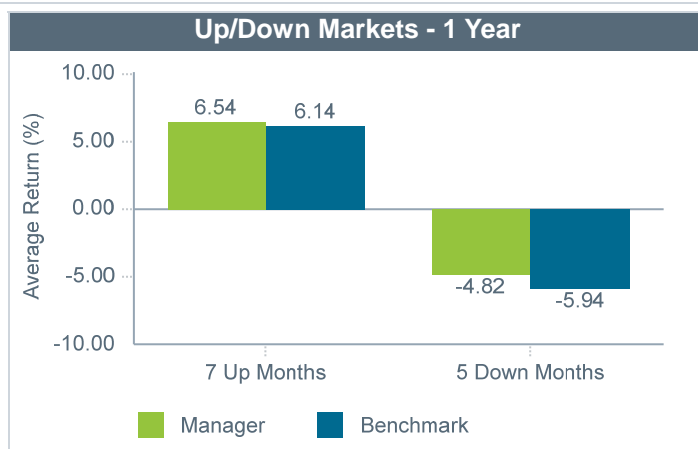
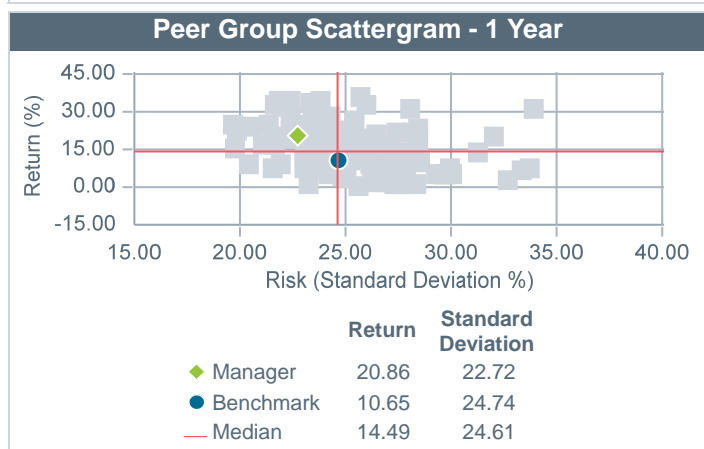
Manager: Harding Loevner

As of December 31, 2020

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

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

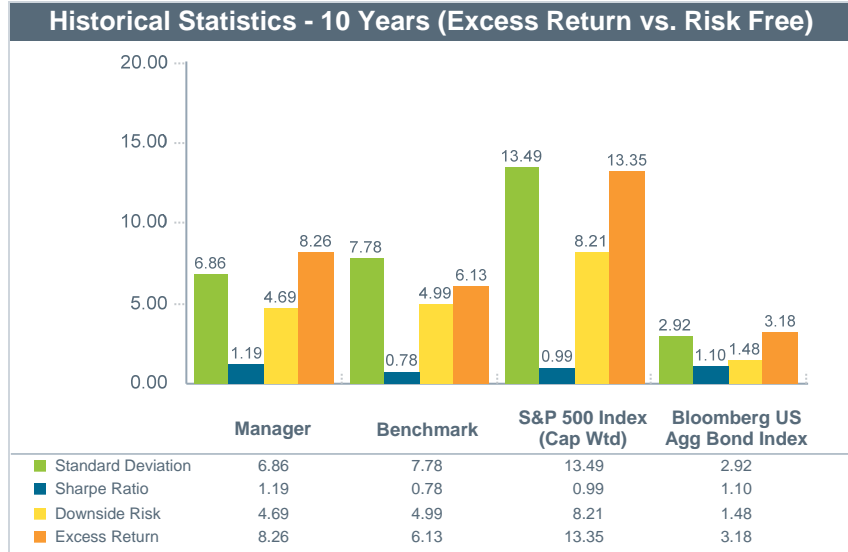
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	16.78	20.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	17.01	10.65	4.88	8.93	4.82	4.92	21.51	-14.20	27.19	4.50	-5.66
Difference	-0.23	10.21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	16.46	14.49	6.97	9.98	6.33	7.07	24.97	-14.64	28.74	2.11	-0.59
Rank	49	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	161	161	161	161	153	133	171	181	191	205	216



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

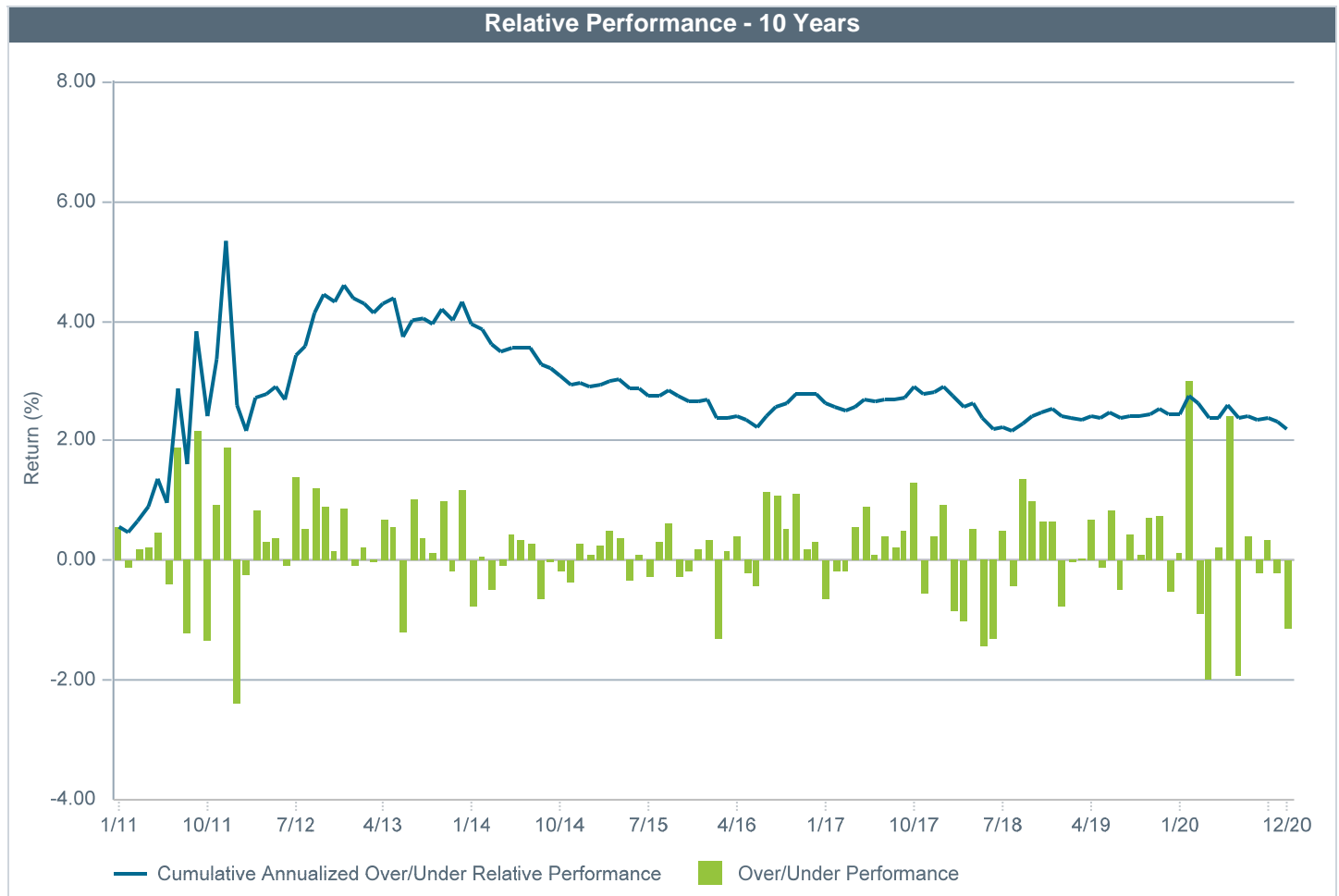


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	5.88	8.01	7.58	8.07	8.60	9.00	19.68	-3.68	12.31	5.43	7.04
Benchmark	6.94	7.97	6.74	6.23	7.20	6.66	17.64	-4.25	9.11	1.94	5.47
Difference	-1.06	0.04	0.84	1.84	1.40	2.34	2.04	0.57	3.20	3.49	1.57



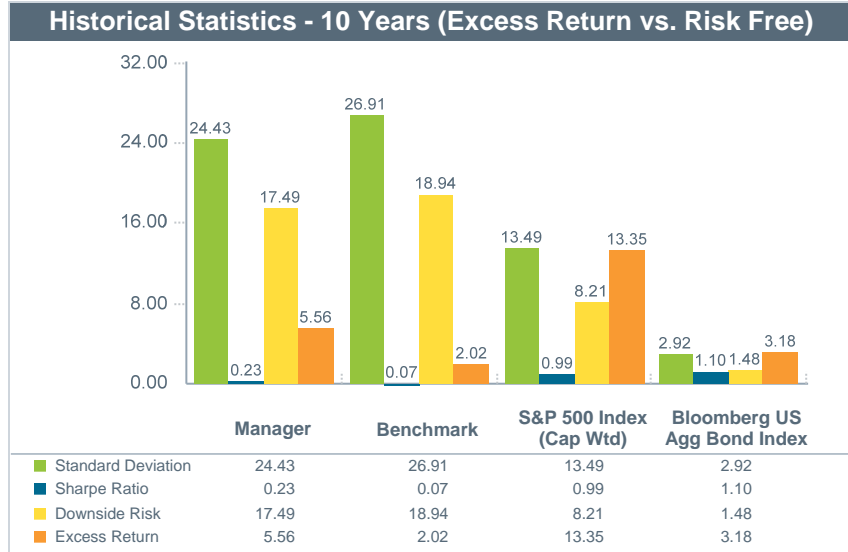
**Actual Correlation - 10 Years**

	Actual Correlation
S&P US Preferred Stock Index	0.96
S&P 500 Index (Cap Wtd)	0.81
Russell 2000 Index	0.74
MSCI EAFE Index (USD) (Net)	0.81
MSCI Emg Mkts Index (USD) (Net)	0.77
Bloomberg US Agg Bond Index	0.10
Bloomberg US Trsy US TIPS Index	0.29
NCREIF ODCE Index (AWA) (Gross)	-0.24
Wilshire US REIT Index	0.77
HFRI FOF Comp Index	0.80
Bloomberg Cmtty Index (TR)	0.62
ICE BofAML 3 Mo US T-Bill Index	-0.26
Cons Price Index (Unadjusted)	0.16



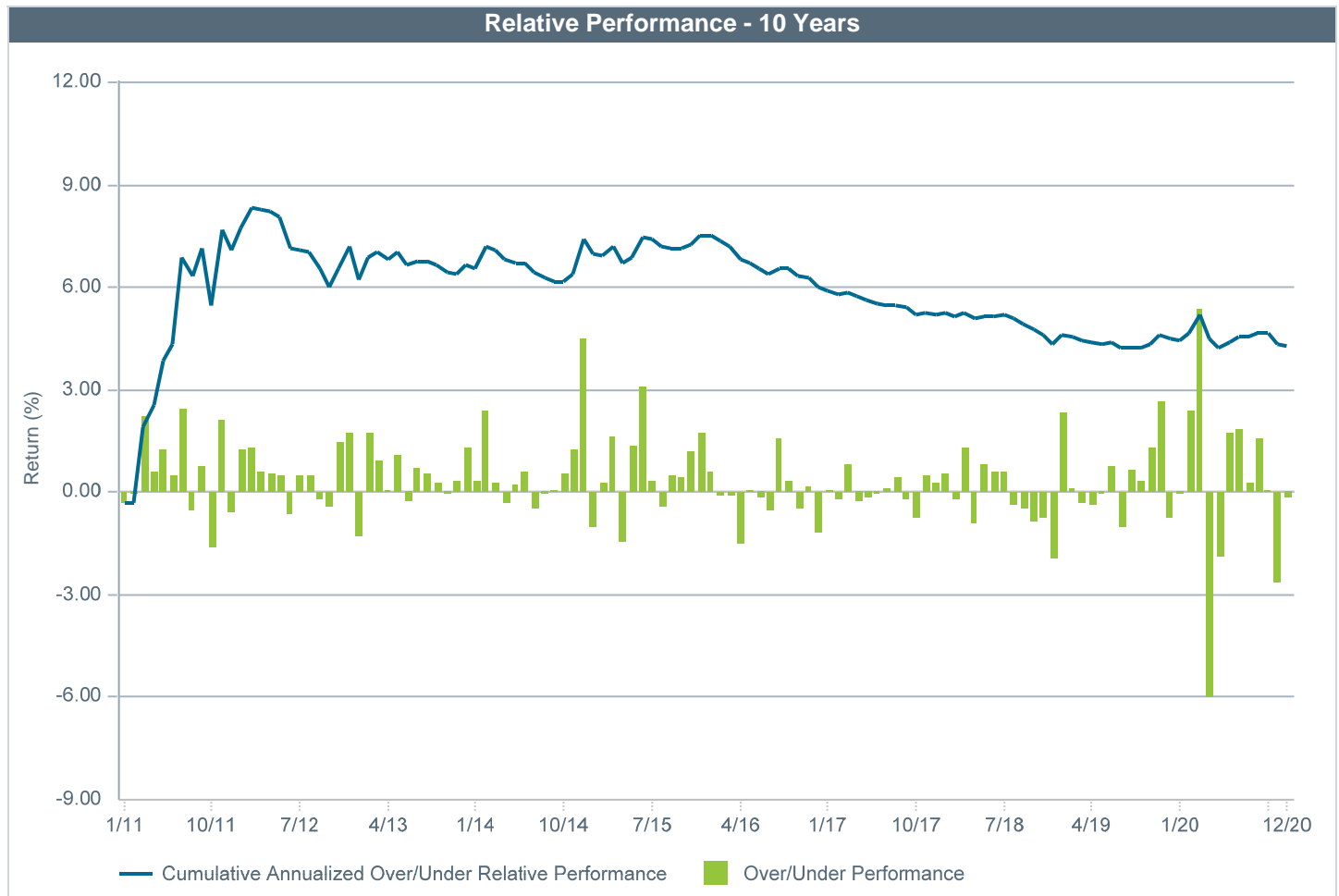
Performance shown is gross of fees and product specific prior to client inception. Calculation is based on quarterly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	22.81	-23.94	-9.06	-2.97	-4.74	3.02	13.82	-13.12	-4.98	20.34	-29.94
Benchmark	26.20	-25.60	-10.92	-4.04	-7.74	-1.19	7.55	-11.67	-5.58	21.95	-35.07
Difference	-3.39	1.66	1.86	1.07	3.00	4.21	6.27	-1.45	0.60	-1.61	5.13



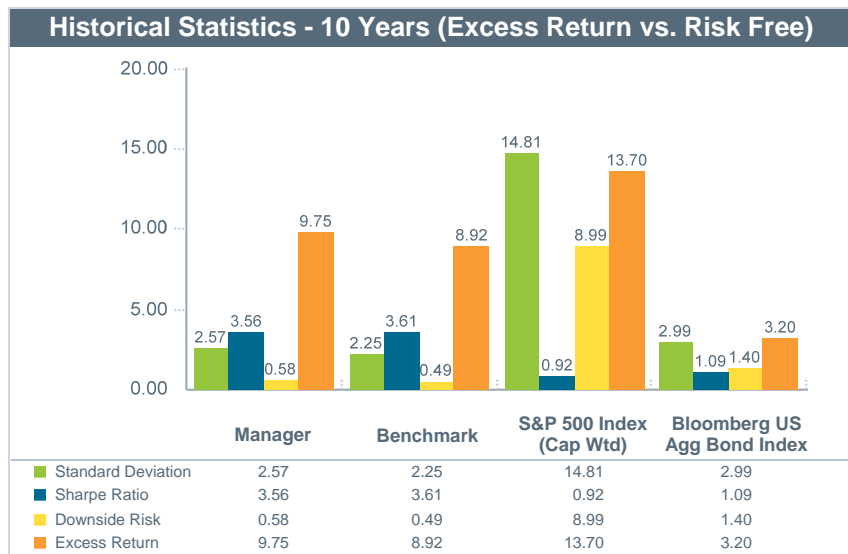
**Actual Correlation - 10 Years**

	Actual Correlation
MLP Custom Index	0.99
S&P 500 Index (Cap Wtd)	0.79
Russell 2000 Index	0.80
MSCI EAFE Index (USD) (Net)	0.69
MSCI Emg Mkts Index (USD) (Net)	0.60
Bloomberg US Agg Bond Index	-0.07
Bloomberg US Trsy US TIPS Index	0.17
NCREIF ODCE Index (AWA) (Gross)	-0.10
Wilshire US REIT Index	0.66
HFRI FOF Comp Index	0.75
Bloomberg Cmdty Index (TR)	0.66
ICE BofAML 3 Mo US T-Bill Index	-0.29
Cons Price Index (Unadjusted)	0.20



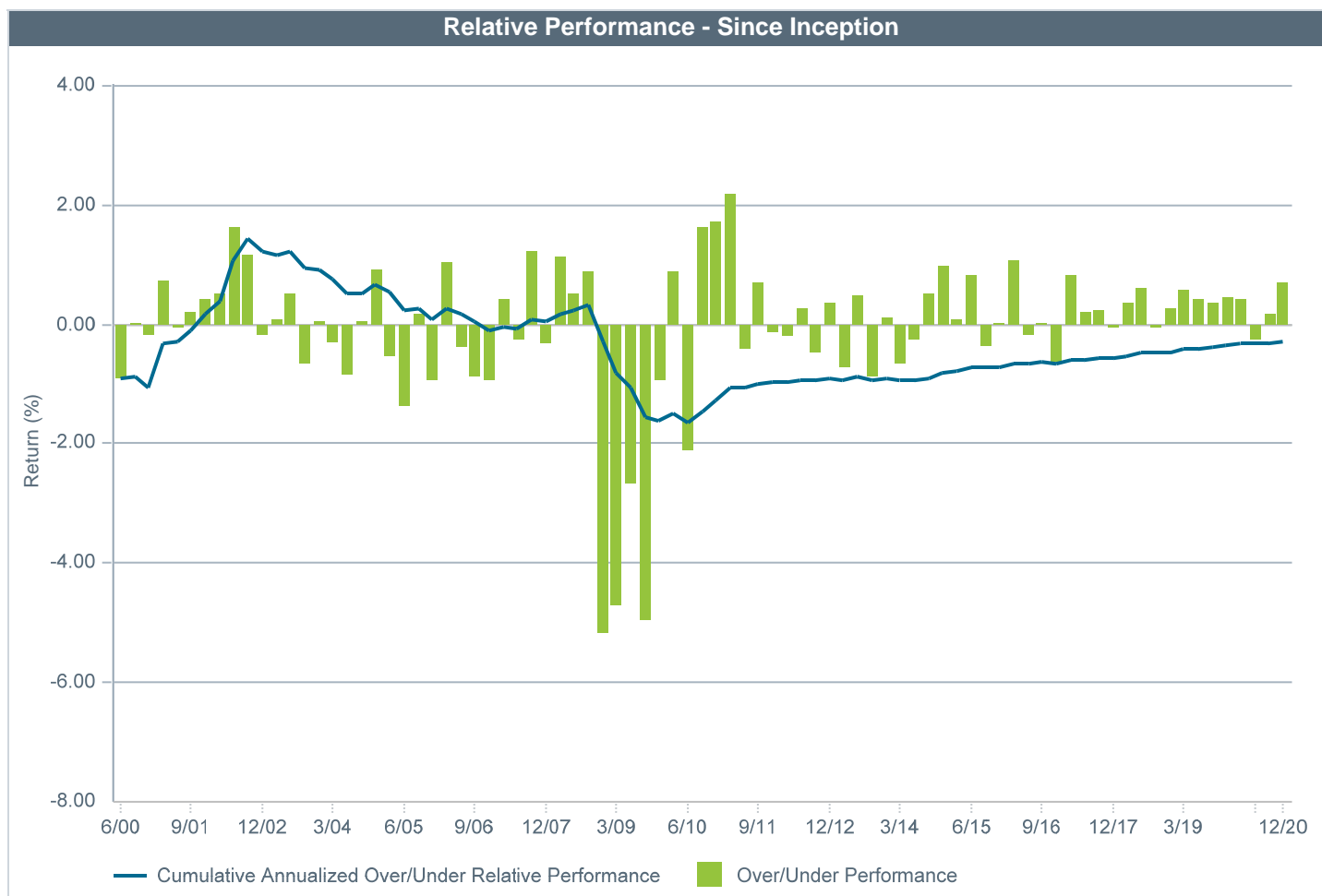
Performance shown is gross of fees and product specific prior to client inception. Calculation is based on quarterly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	2.02	2.24	6.34	7.41	9.37	10.76	7.26	9.66	8.99	9.09	15.71
Benchmark	1.30	1.19	4.92	6.21	8.32	9.88	5.34	8.35	7.62	8.77	15.02
Difference	0.72	1.05	1.42	1.20	1.05	0.88	1.92	1.31	1.37	0.32	0.69



**Actual Correlation - 10 Years**

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.89
S&P 500 Index (Cap Wtd)	-0.28
Russell 2000 Index	-0.23
MSCI EAFE Index (USD) (Net)	-0.26
MSCI Emg Mkts Index (USD) (Net)	-0.33
Bloomberg US Agg Bond Index	-0.21
Bloomberg US Trsy US TIPS Index	-0.25
Wilshire US REIT Index	-0.06
HFRI FOF Comp Index	-0.33
Bloomberg Cmtty Index (TR)	-0.30
ICE BofAML 3 Mo US T-Bill Index	-0.33
Cons Price Index (Unadjusted)	0.07



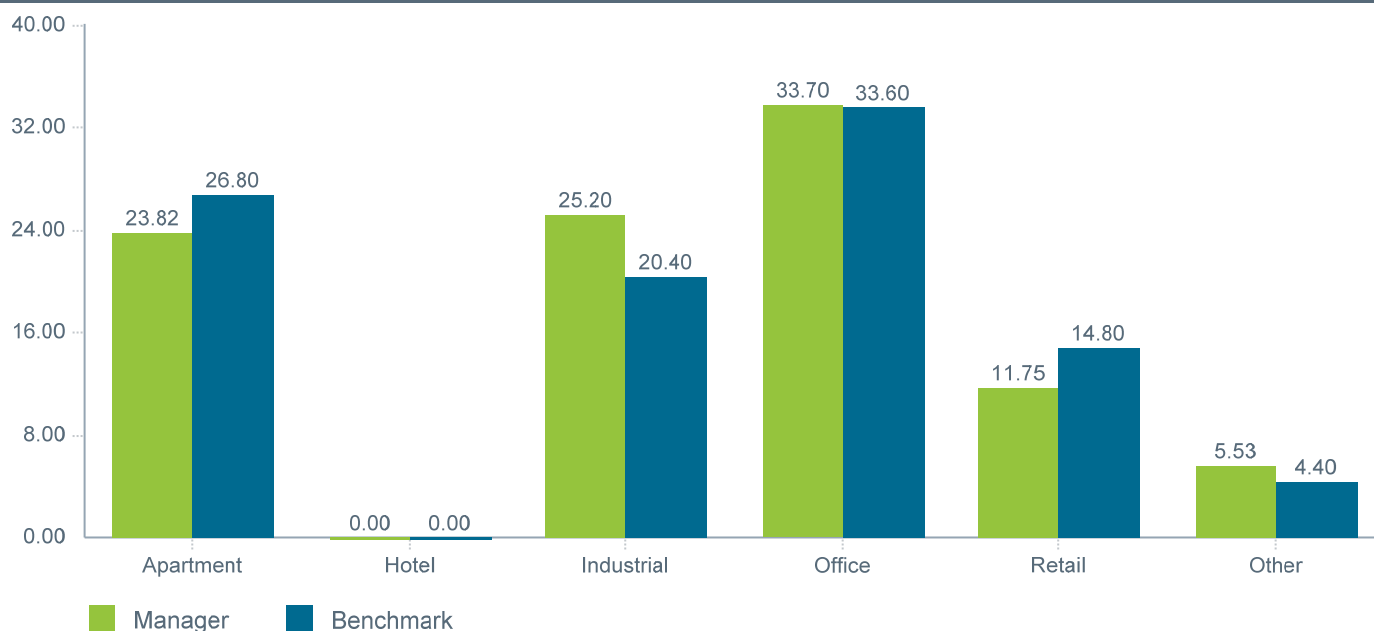
### Investment Strategy

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.

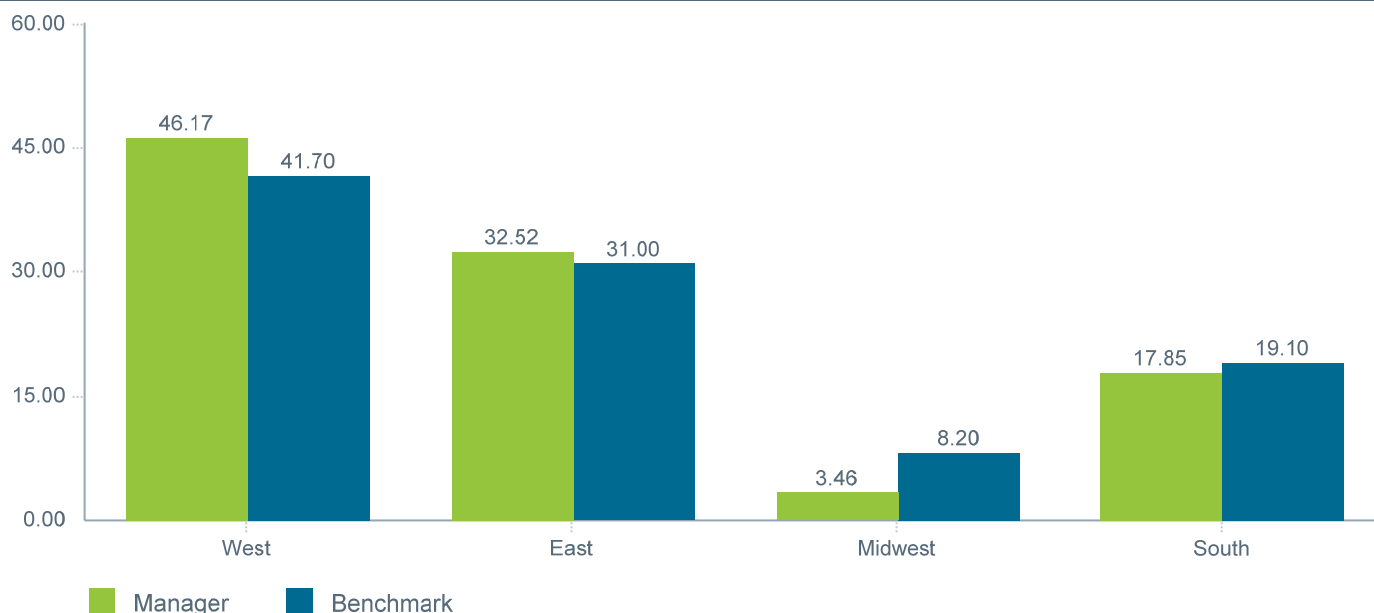
### Investment Profile

Fund Inception	2000
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	16,579
Fund Leverage %	23.20
Portfolio Occupancy %	93.80
Cash Reserve %	7.60
Number of Investments	158
Number of Limited Partners	531

### Property Type Allocation (%)



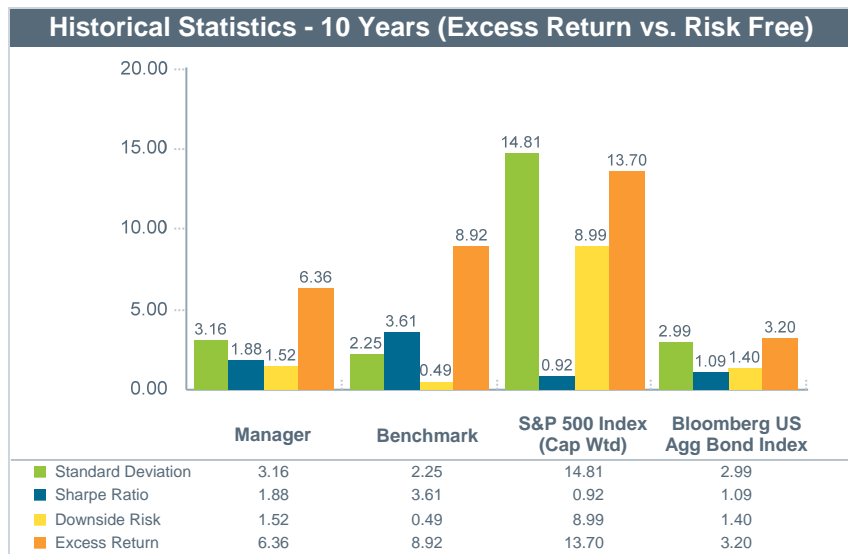
### Geographic Allocation (%)



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. Manager allocation to "Other" consists of lab-office properties. 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.

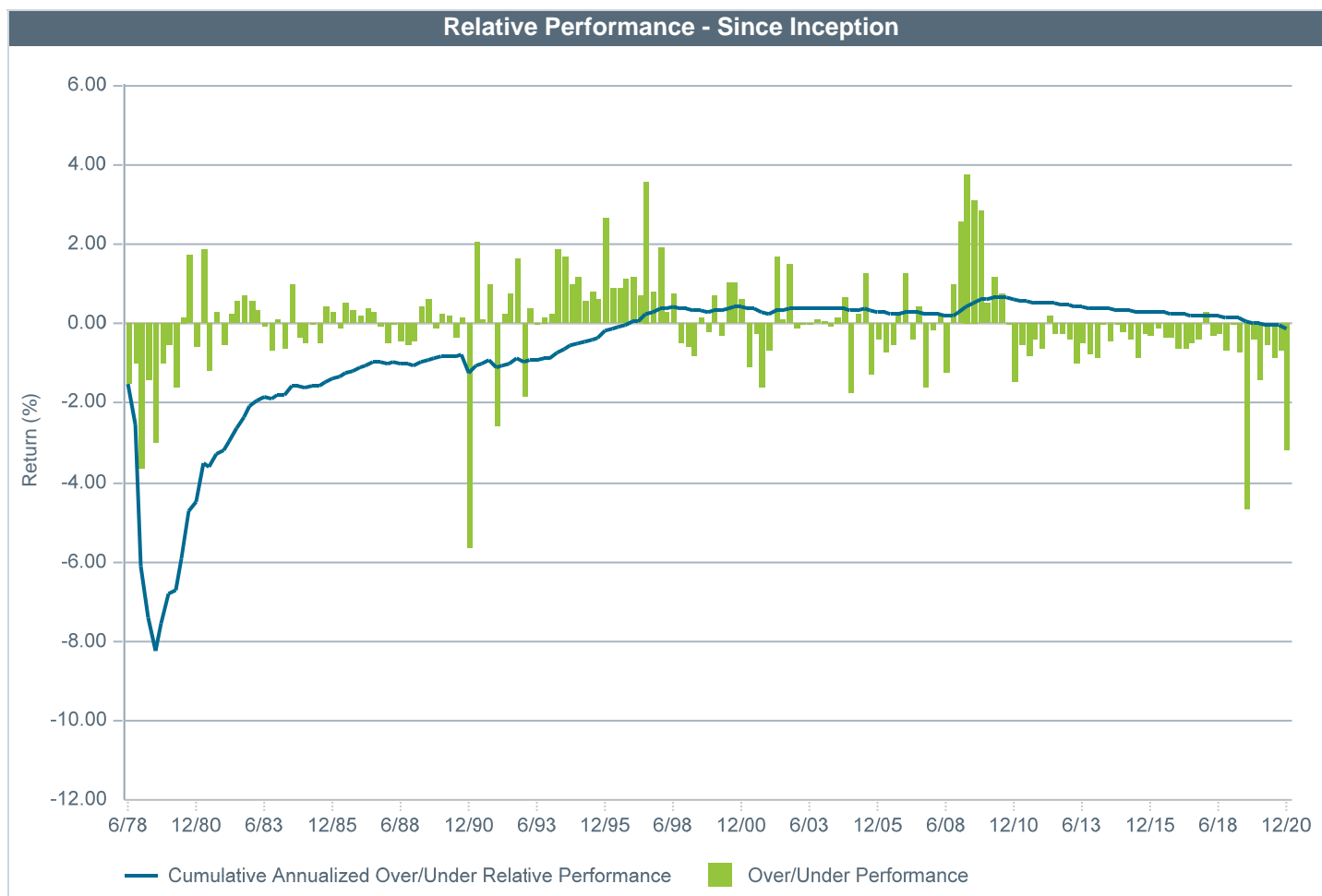


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	-1.90	-4.04	0.17	2.75	5.40	7.12	-2.10	6.99	6.30	7.21	12.94
Benchmark	1.30	1.19	4.92	6.21	8.32	9.88	5.34	8.35	7.62	8.77	15.02
Difference	-3.20	-5.23	-4.75	-3.46	-2.92	-2.76	-7.44	-1.36	-1.32	-1.56	-2.08



**Actual Correlation - 10 Years**

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.86
S&P 500 Index (Cap Wtd)	-0.29
Russell 2000 Index	-0.31
MSCI EAFE Index (USD) (Net)	-0.30
MSCI Emg Mkts Index (USD) (Net)	-0.36
Bloomberg US Agg Bond Index	-0.25
Bloomberg US Trsy US TIPS Index	-0.29
Wilshire US REIT Index	-0.05
HFRI FOF Comp Index	-0.39
Bloomberg Cmtty Index (TR)	-0.30
ICE BofAML 3 Mo US T-Bill Index	-0.47
Cons Price Index (Unadjusted)	0.01



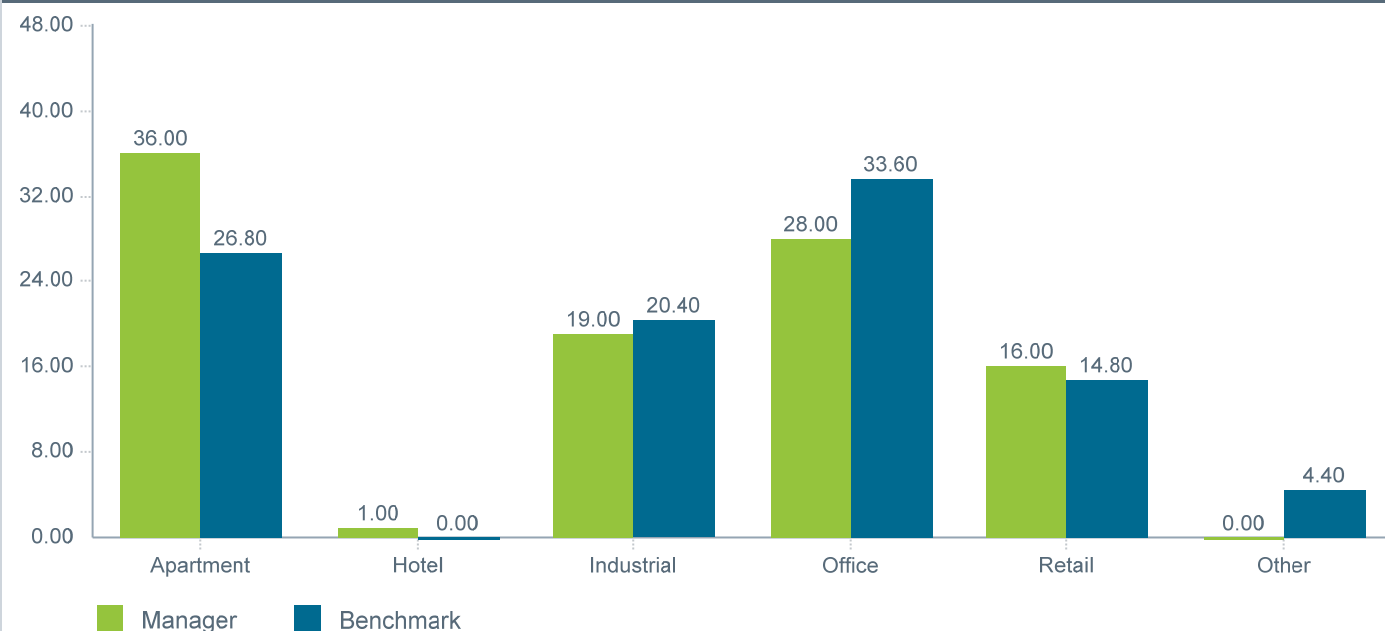
### Investment Strategy

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.

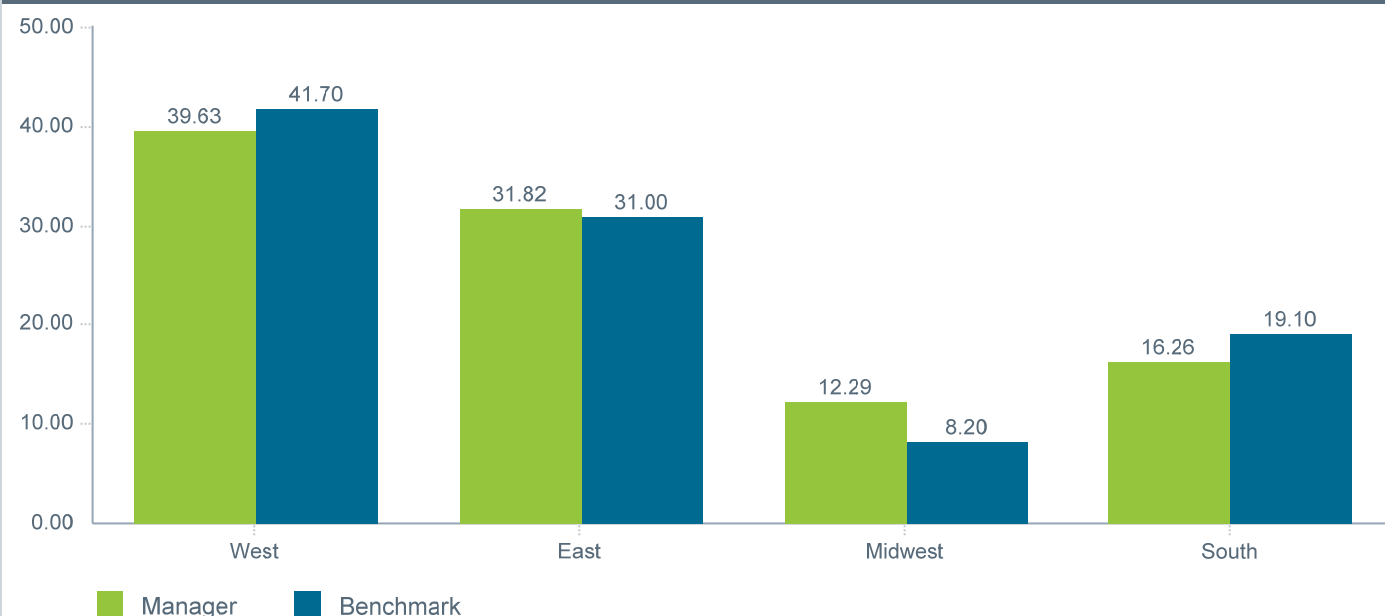
### Investment Profile

Fund Inception	1978
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	18,723
Fund Leverage %	18.80
Portfolio Occupancy %	91.00
Cash Reserve %	1.50
Number of Investments	184
Number of Limited Partners	445

### Property Type Allocation (%)

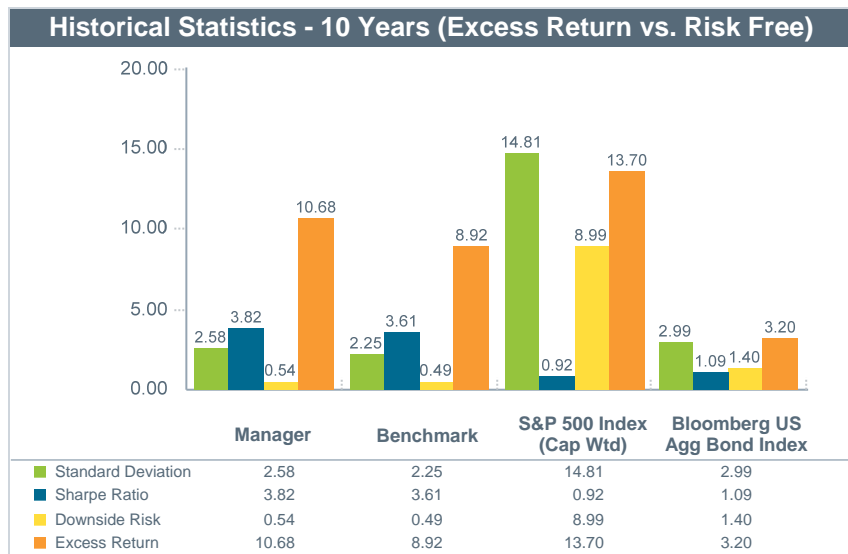


### Geographic Allocation (%)



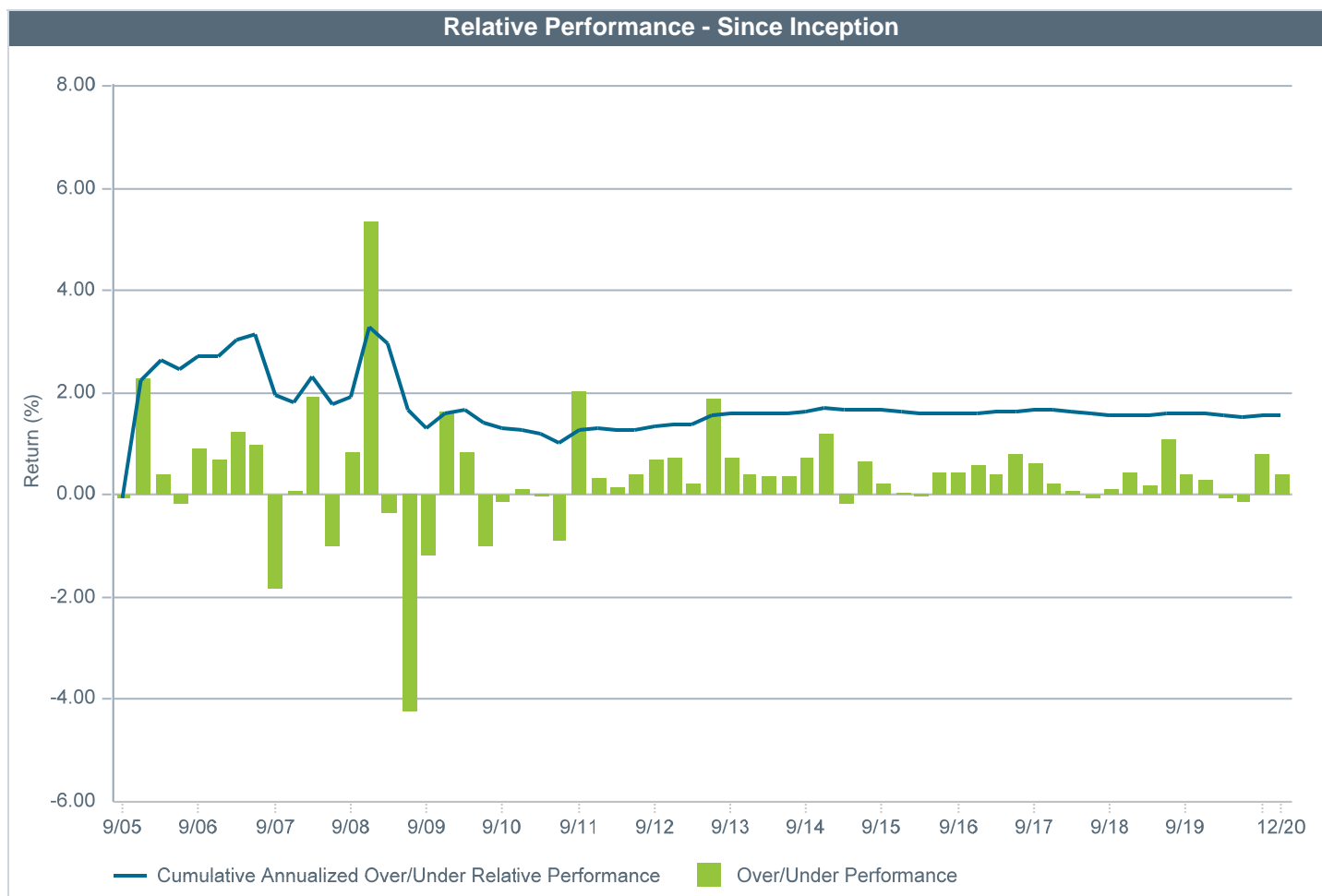
Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Benchmark allocation to "Other" consists 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	2019	2018	2017	2016	2015
Manager	1.70	2.18	6.15	7.72	9.94	11.76	7.40	8.99	9.84	10.38	15.86
Benchmark	1.30	1.19	4.92	6.21	8.32	9.88	5.34	8.35	7.62	8.77	15.02
Difference	0.40	0.99	1.23	1.51	1.62	1.88	2.06	0.64	2.22	1.61	0.84



**Actual Correlation - 10 Years**

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.91
S&P 500 Index (Cap Wtd)	-0.29
Russell 2000 Index	-0.25
MSCI EAFE Index (USD) (Net)	-0.27
MSCI Emg Mkts Index (USD) (Net)	-0.40
Bloomberg US Agg Bond Index	-0.28
Bloomberg US Trsy US TIPS Index	-0.39
Wilshire US REIT Index	-0.14
HFRI FOF Comp Index	-0.31
Bloomberg Cmdb Index (TR)	-0.29
ICE BofAML 3 Mo US T-Bill Index	-0.46
Cons Price Index (Unadjusted)	-0.05



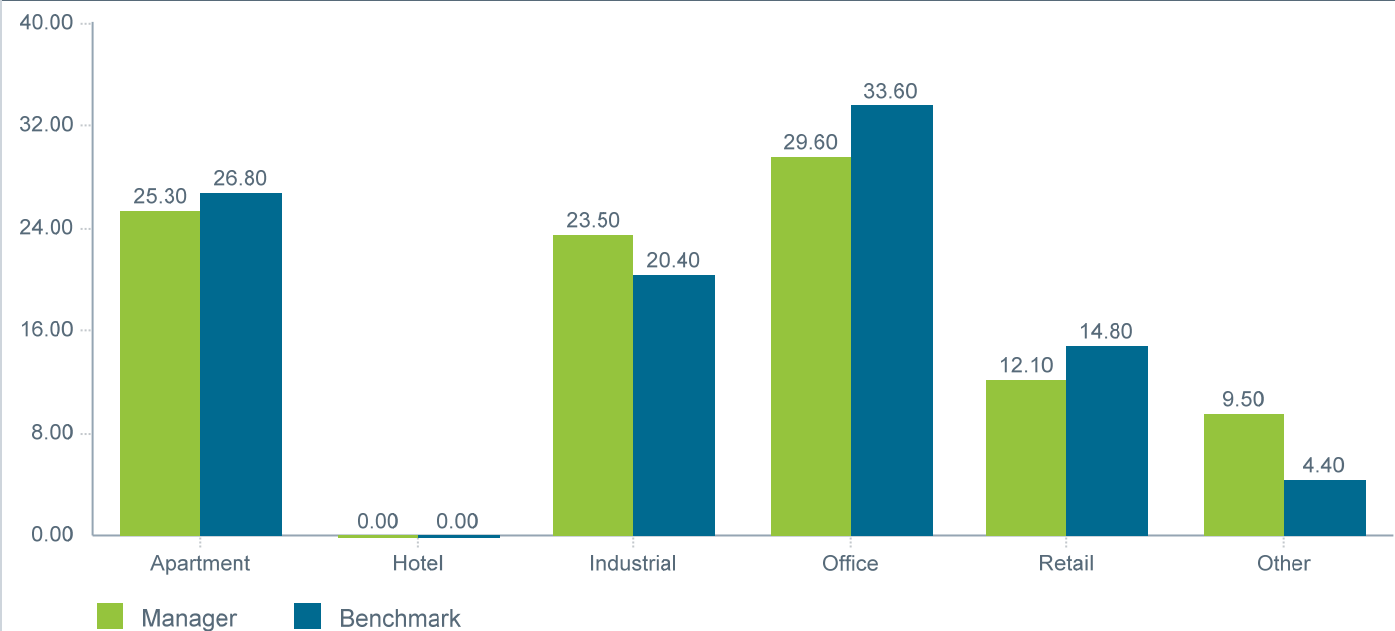
### Investment Strategy

The Fund pursues a diversified core real estate strategy that invests in assets with stable, highly predictable cash flow returns. The Fund targets high quality office, Class A multifamily, warehouse distribution, and top-tier super regional malls in addition to storage facilities in targeted primary markets. The Fund favors investing in major metropolitan markets and secondary markets expected to achieve above-average economic performance and believes that those cities offer better liquidity, more diverse tenant bases, and stronger resilience to market cycles. It operates with leverage of 50% or less and may invest up to 15% of its gross assets in higher-risk, value-added real estate investment opportunities.

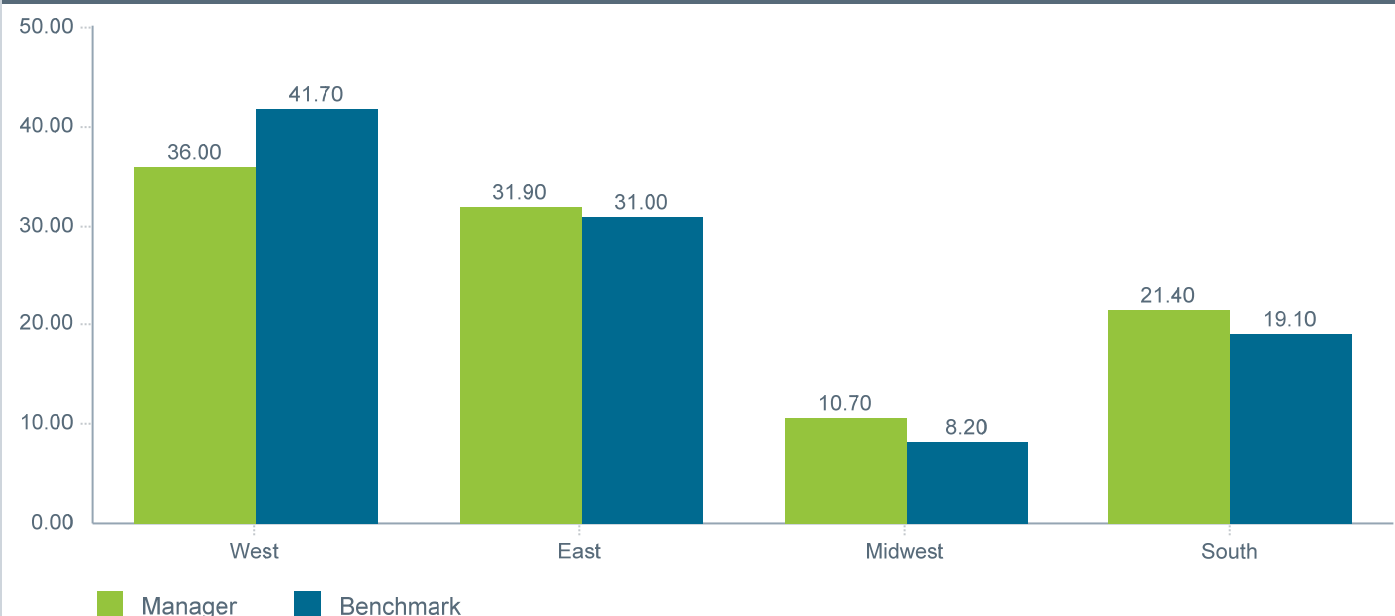
### Investment Profile

Fund Inception	1973
Legal Structure	LLC
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	32,566
Fund Leverage %	18.40
Portfolio Occupancy %	92.10
Cash Reserve %	0.80
Number of Investments	450
Number of Limited Partners	421

### 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. Manager allocation to "Other" consists of health care land held for potential development, and hotel. 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**

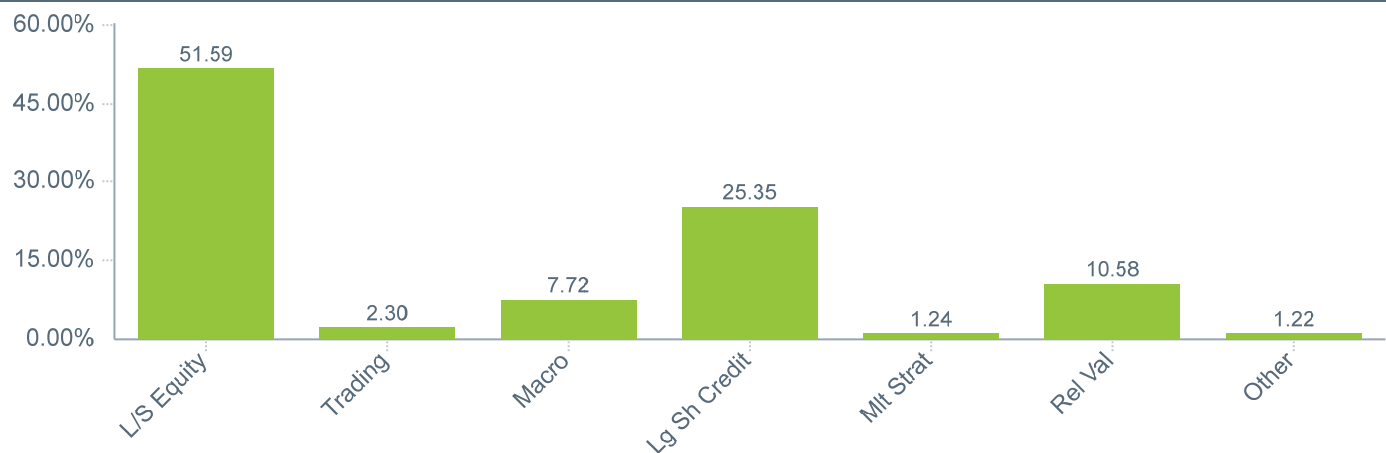
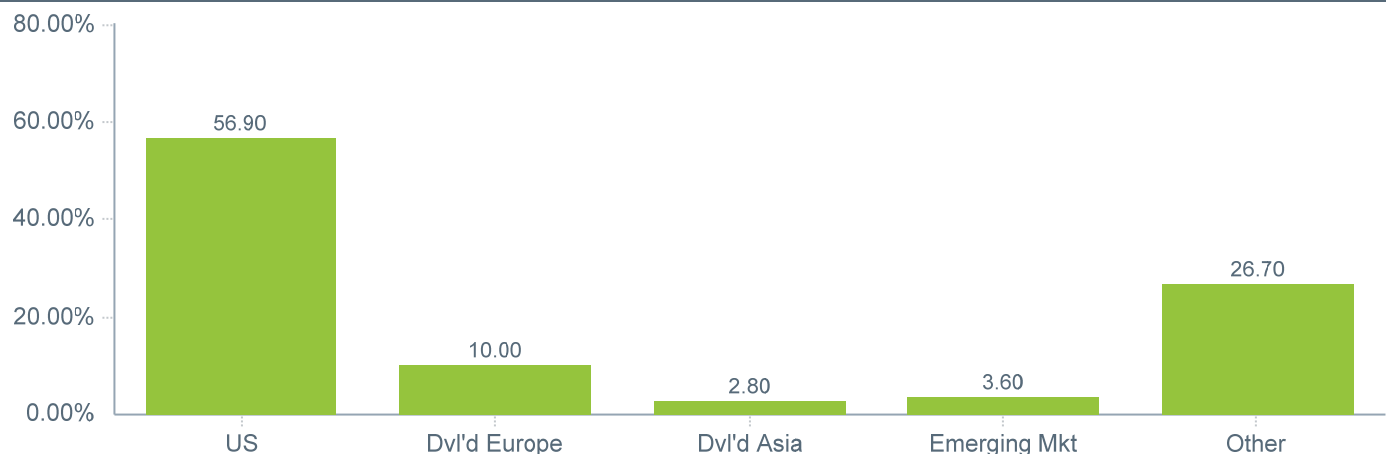
The Fund's investment objectives are to generate superior absolute and risk adjusted rates of return with low performance volatility and low correlation with global equity and fixed-income markets over a full market cycle. The Fund is also designed to preserve capital in challenging market environments. It does this through investment in a diversified pool of hedge fund strategies.

**Firm Statistics**

Year Firm Established	1971
Firm AUM (\$M)	24,972
Percentage Employee Owned %	92.00

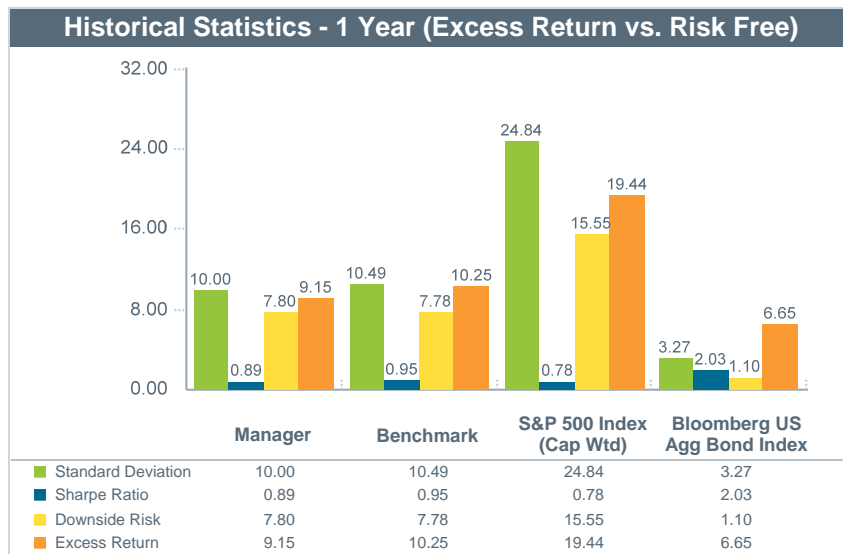
**Fund Statistics**

Fund Inception	2018
Fund Size(\$M)	305
Number of Underlying Managers	25
Maximum Weighting of an Underlying Manager %	N/A
Current Leverage (Assets/Equity)	4.30
Annual Manager Turnover %	40.00
Annual Management Fee %	0.60
Performance Fee %	5
Hurdle %	T-Bills + 2%
Initial Lock-Up Periods	N/A
Redemption Frequency	N/A
Notification Period	N/A

**Strategy Allocation (%)****Geographic Allocation (%)**

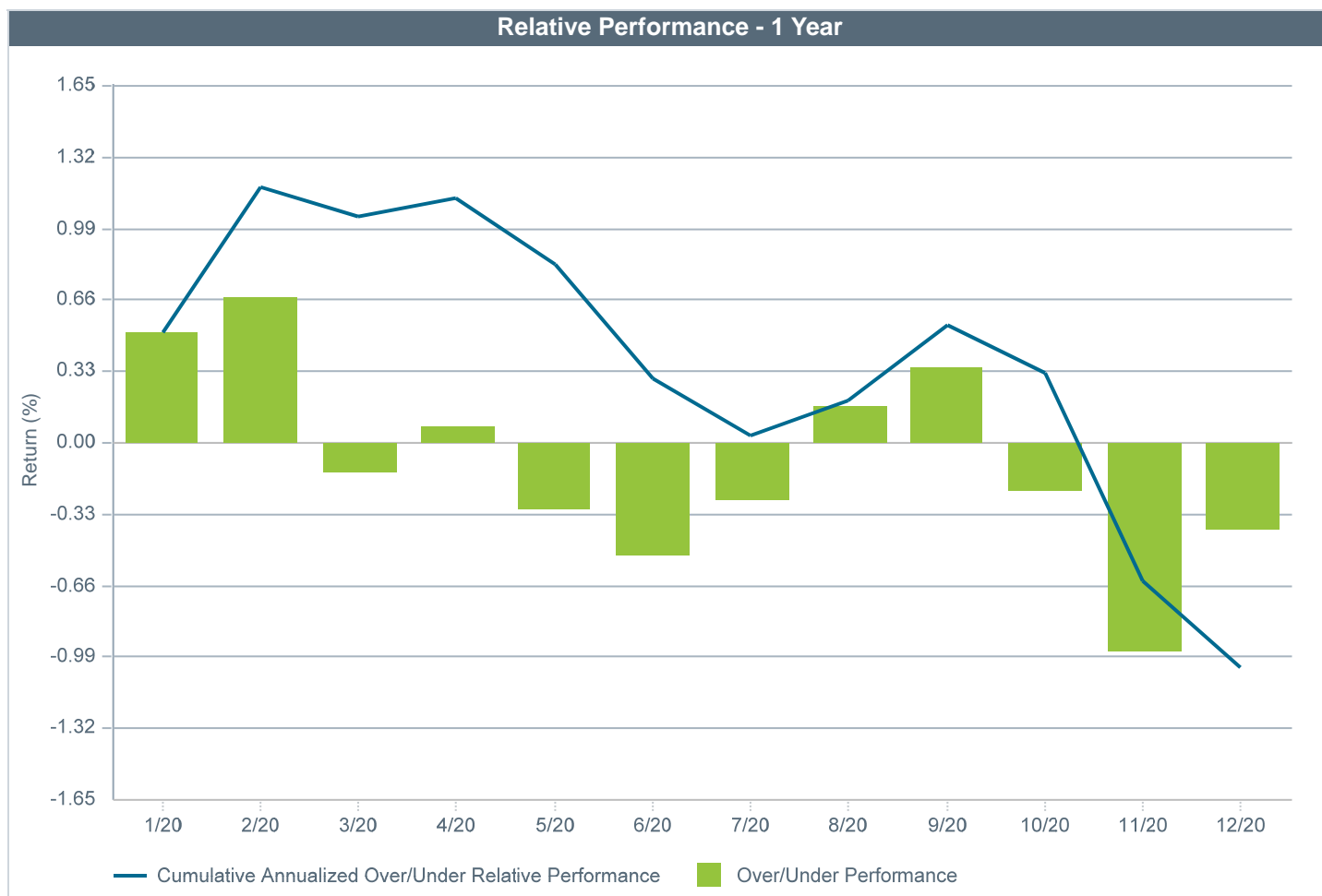
Strategy allocation to other consists of cash, expenses, management fees, and net receivable. Geographic allocation to other consists of cash or funds where geographic data are unavailable. Fund statistics shown are provided by the investment manager and are as of the most recently available quarter end.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	6.38	9.70	N/A	N/A	N/A	N/A	5.67	N/A	N/A	N/A	N/A
Benchmark	8.09	10.86	4.87	4.55	3.68	3.32	8.39	-4.02	7.77	0.51	-0.27
Difference	-1.71	-1.16	N/A	N/A	N/A	N/A	-2.72	N/A	N/A	N/A	N/A



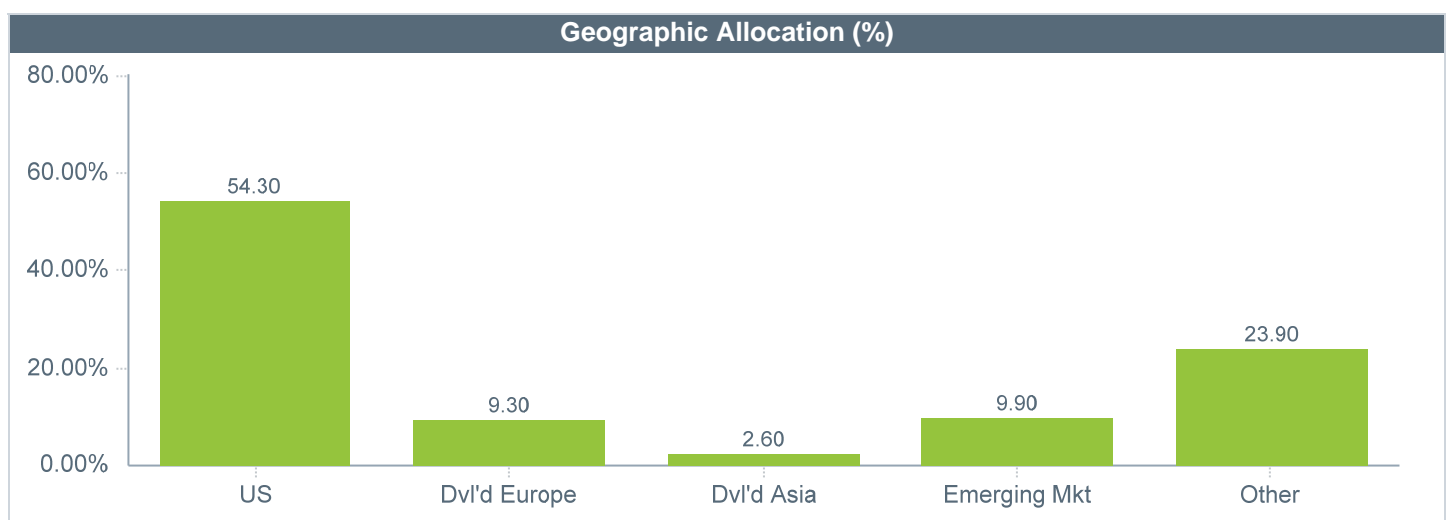
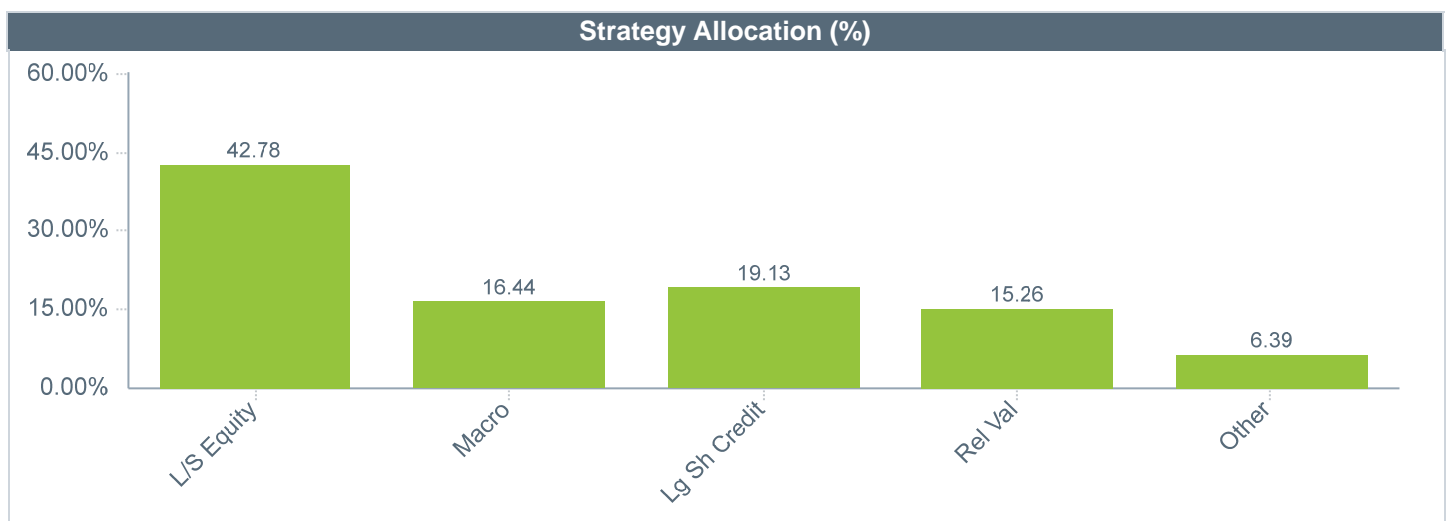
**Actual Correlation - 1 Year**

	Actual Correlation
HFRI FOF Comp Index	1.00
S&P 500 Index (Cap Wtd)	0.99
Russell 2000 Index	0.96
MSCI EAFE Index (USD) (Net)	0.99
MSCI Emg Mkts Index (USD) (Net)	0.99
Bloomberg US Agg Bond Index	-0.54
Bloomberg US Trsy US TIPS Index	0.53
NCREIF ODCE Index (AWA) (Gross)	-0.42
Wilshire US REIT Index	0.99
Bloomberg Cmdb Index (TR)	0.97
ICE BofAML 3 Mo US T-Bill Index	-0.99
Cons Price Index (Unadjusted)	-0.30



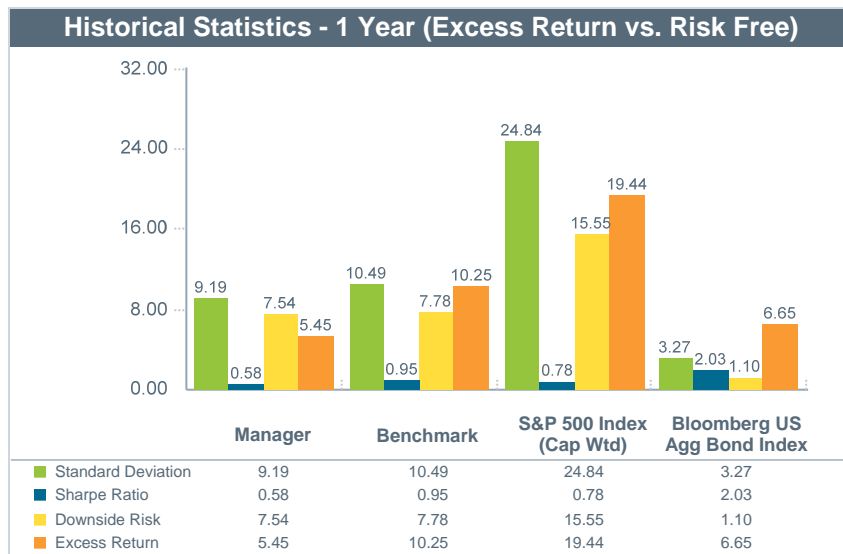
Performance shown is net of fees and client specific. Calculation is based on quarterly periodicity.

Investment Strategy	Firm Statistics
Silvery Lupine Fund Class C is a direct hedge funds portfolio managed by the Wyoming State Treasurer's Office.	Year Firm Established
	1971
	Firm AUM (\$M)
	24,972
	Percentage Employee Owned %
	92.00
	Fund Statistics
	Fund Inception
	2018
	Fund Size(\$M)
	510
	Number of Underlying Managers
	14
	Maximum Weighting of an Underlying Manager %
	N/A
	Current Leverage (Assets/Equity)
	4.20
	Annual Manager Turnover %
	0.00
	Annual Management Fee %
	N/A
	Performance Fee %
	N/A
	Hurdle %
	N/A
	Initial Lock-Up Periods
	N/A
	Redemption Frequency
	N/A
	Notification Period
	N/A



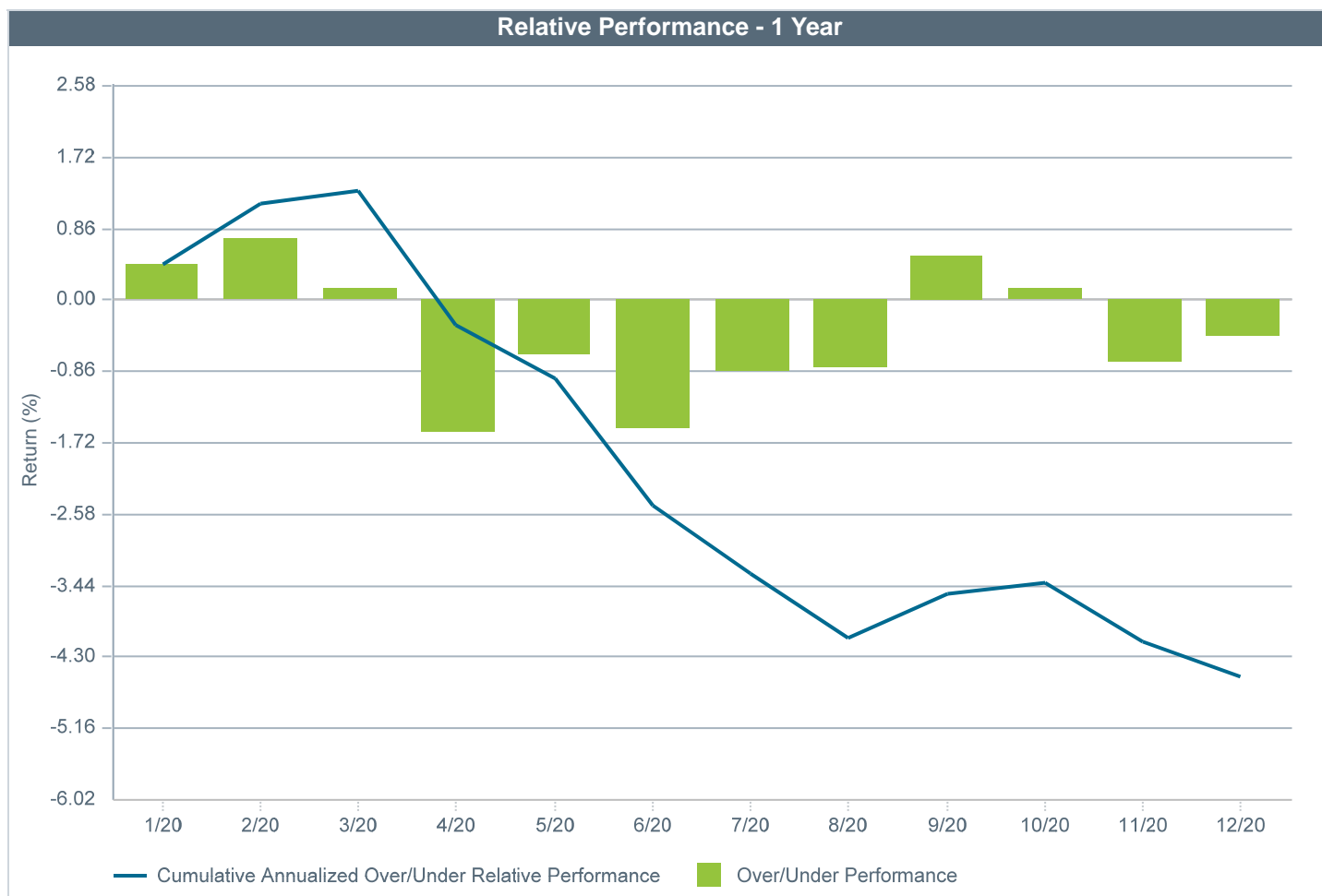
Strategy allocation to other consists of cash, expenses, and net receivable. Geographic allocation to other consists of cash or funds where geographic data are unavailable. Fund statistics shown are provided by GCM and are as of the most recently available quarter end.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	6.97	5.83	N/A	N/A	N/A	N/A	6.08	N/A	N/A	N/A	N/A
Benchmark	8.09	10.86	4.87	4.55	3.68	3.32	8.39	-4.02	7.77	0.51	-0.27
Difference	-1.12	-5.03	N/A	N/A	N/A	N/A	-2.31	N/A	N/A	N/A	N/A



**Actual Correlation - 1 Year**

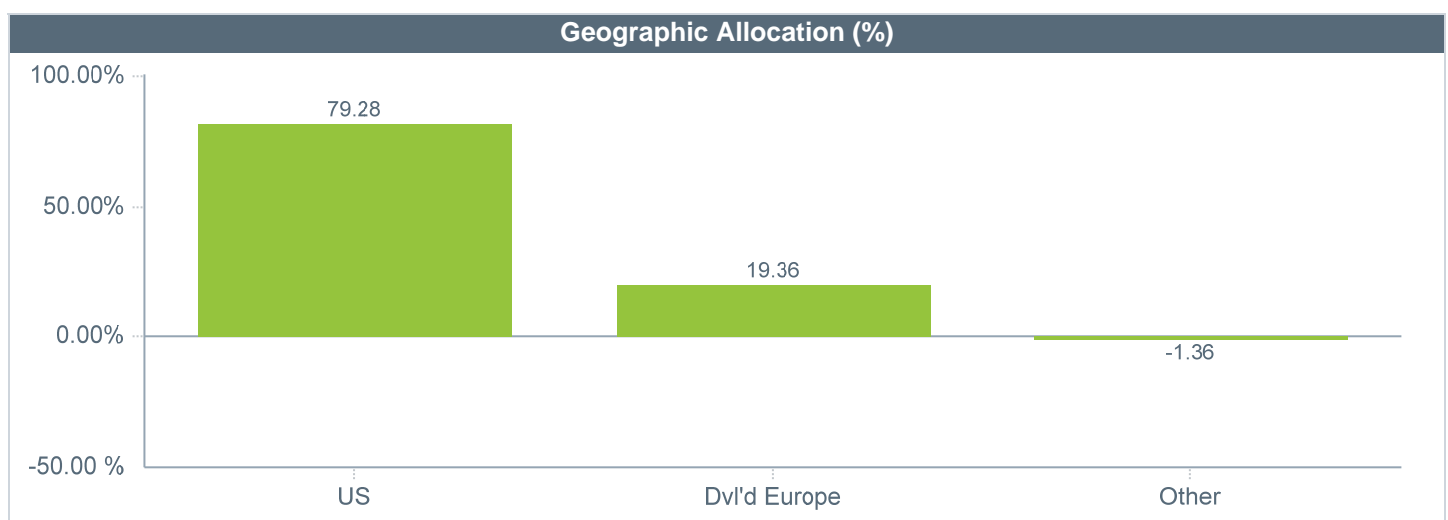
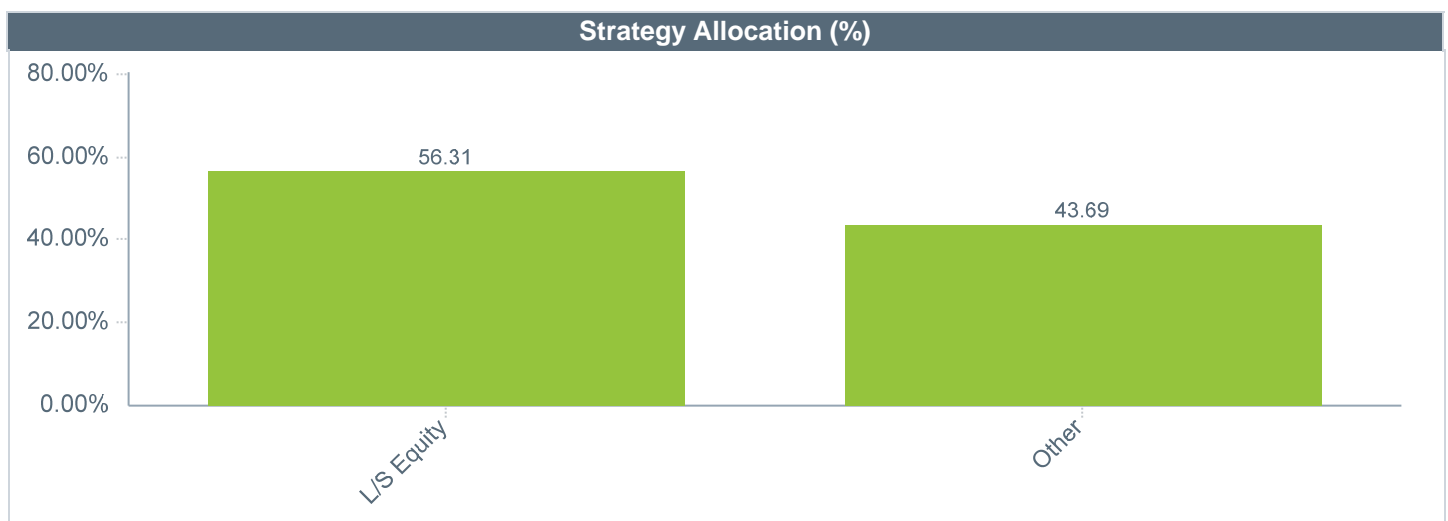
	Actual Correlation
HFRI FOF Comp Index	0.98
S&P 500 Index (Cap Wtd)	0.92
Russell 2000 Index	0.97
MSCI EAFE Index (USD) (Net)	0.98
MSCI Emg Mkts Index (USD) (Net)	0.98
Bloomberg US Agg Bond Index	-0.68
Bloomberg US Trsy US TIPS Index	0.31
NCREIF ODCE Index (AWA) (Gross)	-0.19
Wilshire US REIT Index	0.98
Bloomberg Cmnty Index (TR)	0.97
ICE BofAML 3 Mo US T-Bill Index	-0.97
Cons Price Index (Unadjusted)	-0.27



Performance shown is net of fees and client specific. Calculation is based on quarterly periodicity.



Investment Strategy		Firm Statistics	
Grosvenor Silvery Lupine Fund Class D is the opportunistic investment portfolio of the State Treasurer's Office.		Year Firm Established	1971
		Firm AUM (\$M)	24,972
		Percentage Employee Owned %	92.00
		Fund Statistics	
		Fund Inception	2020
		Fund Size(\$M)	40
		Number of Underlying Managers	N/A
		Maximum Weighting of an Underlying Manager %	N/A
		Current Leverage (Assets/Equity)	1.20
		Annual Manager Turnover %	N/A
		Annual Management Fee %	0.30
		Performance Fee %	10
		Hurdle %	custom index
		Initial Lock-Up Periods	N/A
		Redemption Frequency	N/A
		Notification Period	N/A



Strategy allocation to other consists of cash, expenses, fees, SPV, and net receivable. Geographic allocation to other consists of cash or funds where geographic data are unavailable. Fund statistics shown are provided by GCM and are as of the most recently available quarter end.

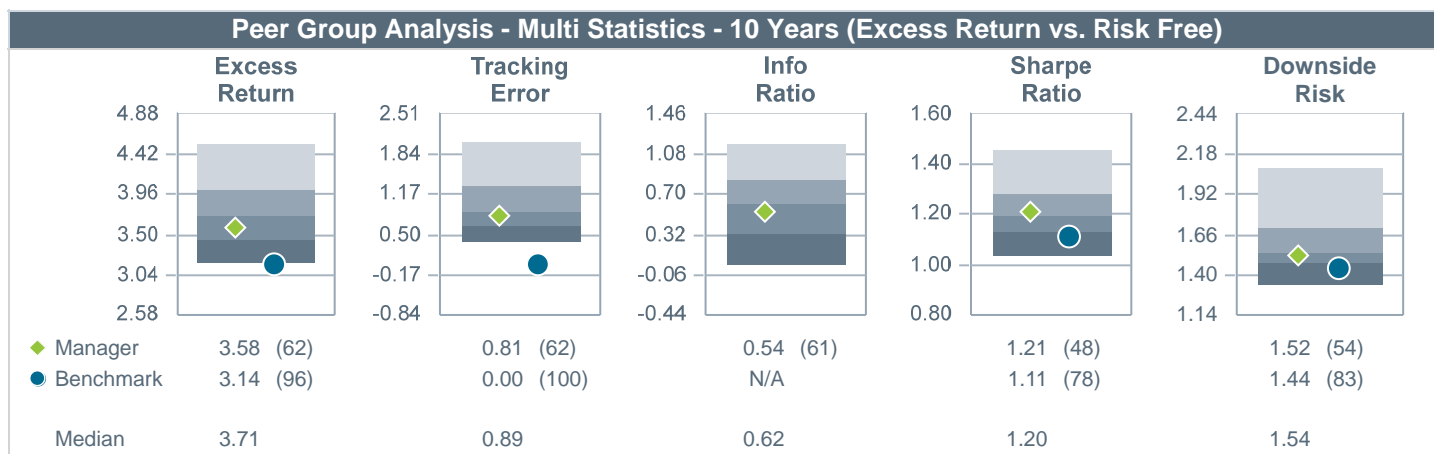
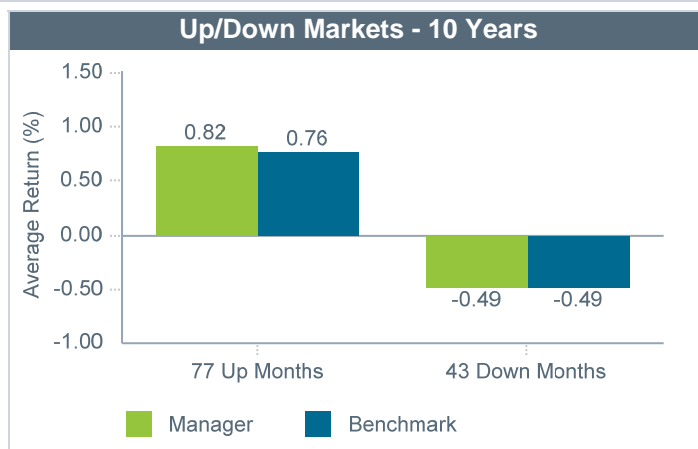
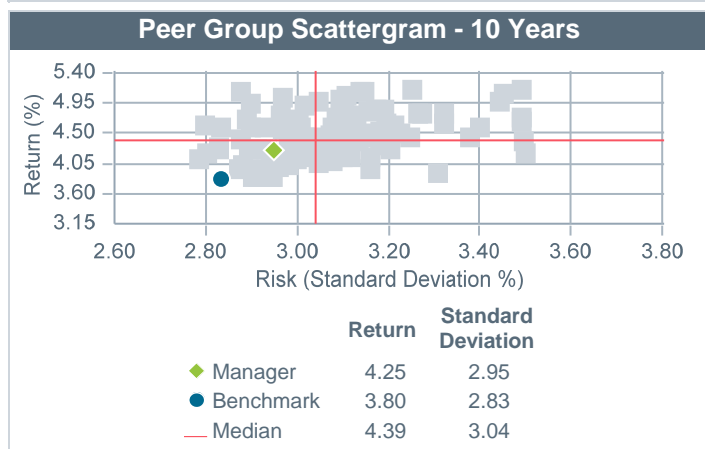
Manager: PIMCO Core

As of December 31, 2020

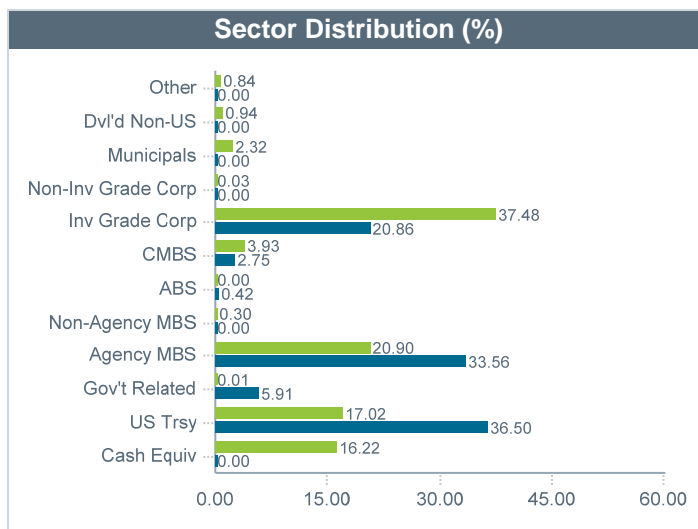
Benchmark: PIMCO Custom Index

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

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	0.68	8.93	5.68	4.93	4.41	4.25	7.71	0.58	4.27	3.35	0.50
Benchmark	0.67	8.14	5.19	4.35	4.02	3.80	7.30	0.32	3.54	2.65	0.55
Difference	0.01	0.79	0.49	0.58	0.39	0.45	0.41	0.26	0.73	0.70	-0.05
Peer Group Median	1.12	8.56	5.88	5.03	4.58	4.39	9.19	0.07	4.03	3.10	0.82
Rank	82	34	66	57	64	62	95	15	33	44	80
Population	143	143	140	138	135	128	152	158	163	170	175

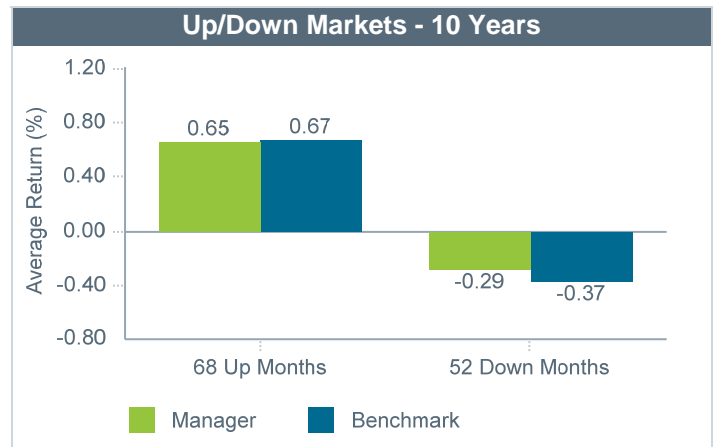
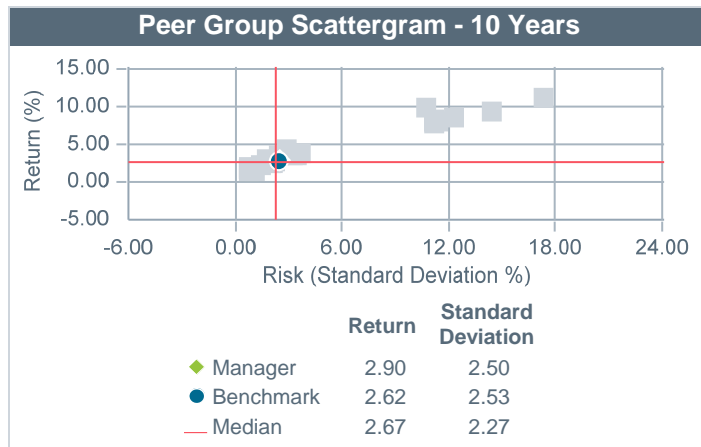


Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	5.93	3.55
Spread Duration	3.61	4.00
Avg. Maturity	7.13	4.34
Avg. Quality	Aa2	Aa1/Aa2
Yield To Maturity (%)	1.26	0.85
Coupon Rate (%)	2.28	2.54
Current Yield (%)	2.16	N/A
Holdings Count	407	9,108

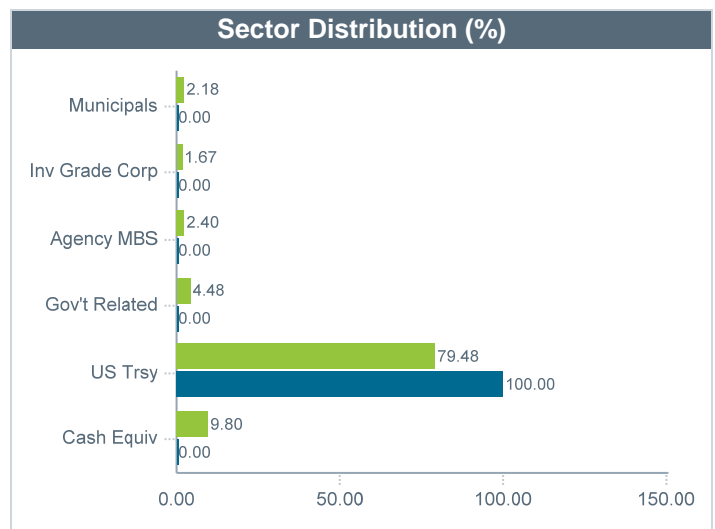


Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Sector allocation to "Other" consists of Euro/Yankee securities.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	-0.83	7.85	4.71	3.37	3.42	2.90	4.53	1.85	1.84	0.95	1.83
Benchmark	-0.83	8.00	4.68	3.23	2.83	2.62	4.70	1.43	1.14	1.05	1.18
Difference	0.00	-0.15	0.03	0.14	0.59	0.28	-0.17	0.42	0.70	-0.10	0.65
Peer Group Median	-0.22	6.39	4.61	3.33	2.93	2.67	5.84	1.27	1.77	1.34	0.67
Rank	64	47	50	50	48	47	74	7	50	81	7
Population	39	39	39	38	37	35	44	50	49	50	50

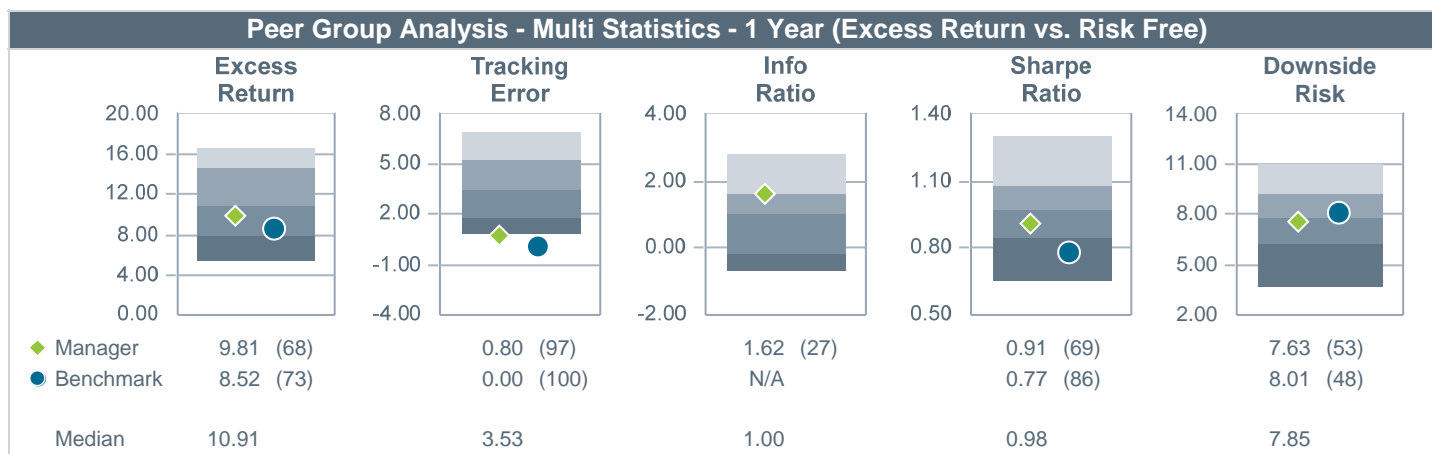
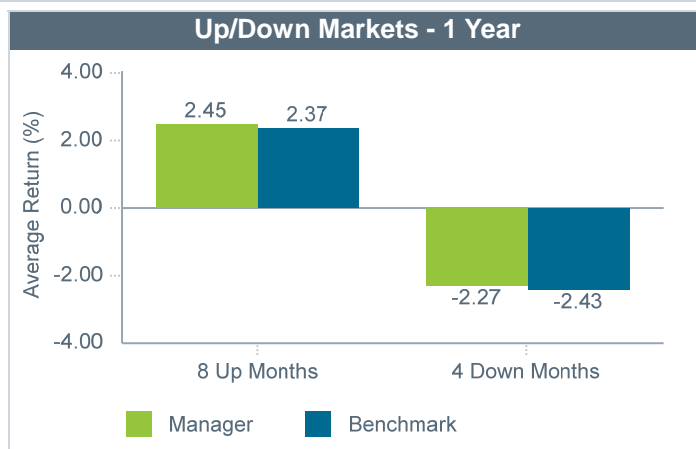
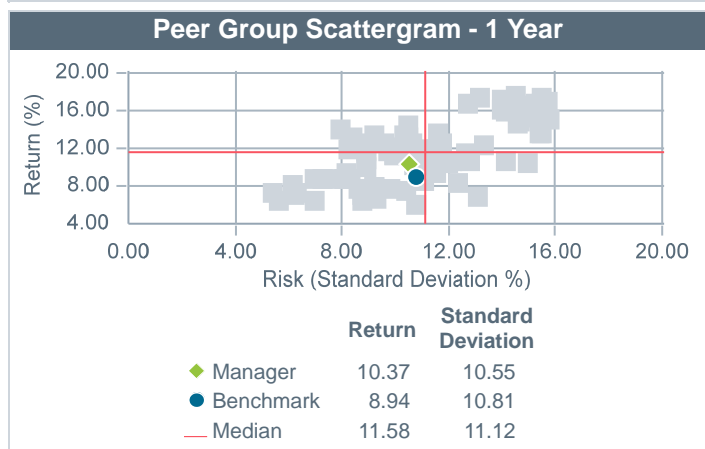


Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	7.69	7.21
Spread Duration	N/A	7.01
Avg. Maturity	9.56	8.45
Avg. Quality	Aaa	Aaa
Yield To Maturity (%)	0.70	0.57
Coupon Rate (%)	2.11	1.82
Current Yield (%)	1.92	N/A
Holdings Count	41	262

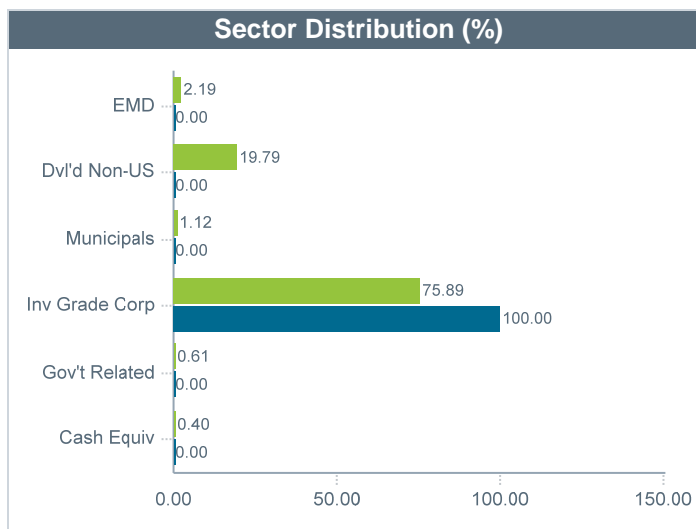


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. The Internal Intermediate Govt Fixed Income Portfolio Index consists of the Bloomberg US Treasury Index as of 12/1/2019. November 2019 performance consists of the Internal Intermediate Govt Fixed Income Portfolio. Prior to November 2019, the index consists of Bloomberg US Gov't Int Term Bond Index. Prior to December 2009, the index consisted of the Bloomberg US Gov't Crdt Bond Index.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	2.74	10.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	3.05	8.94	6.75	6.56	5.62	5.54	14.54	-2.51	6.42	6.11	-0.68
Difference	-0.31	1.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	3.55	11.58	7.85	7.60	6.53	6.53	15.08	-2.33	7.23	7.29	-0.81
Rank	72	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	116	114	110	103	99	94	124	129	127	129	129



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	8.59	8.84
Spread Duration	8.63	8.60
Avg. Maturity	11.97	12.34
Avg. Quality	A3	A3/Baa1
Yield To Maturity (%)	1.83	1.79
Coupon Rate (%)	3.86	3.76
Current Yield (%)	3.19	N/A
Holdings Count	241	6,647



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

Manager: JP Morgan MBS

As of December 31, 2020

Benchmark: Bloomberg US MBS Index (Unhgd)

Peer Group: IM U.S. Mortgage Backed Bonds (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	0.53	5.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	0.25	3.87	3.71	3.05	3.26	3.01	6.35	0.99	2.47	1.67	1.51
Difference	0.28	1.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	0.61	4.31	4.02	3.54	3.80	3.90	6.56	1.33	3.59	2.38	1.71
Rank	58	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	44	44	44	43	42	41	51	52	55	58	59

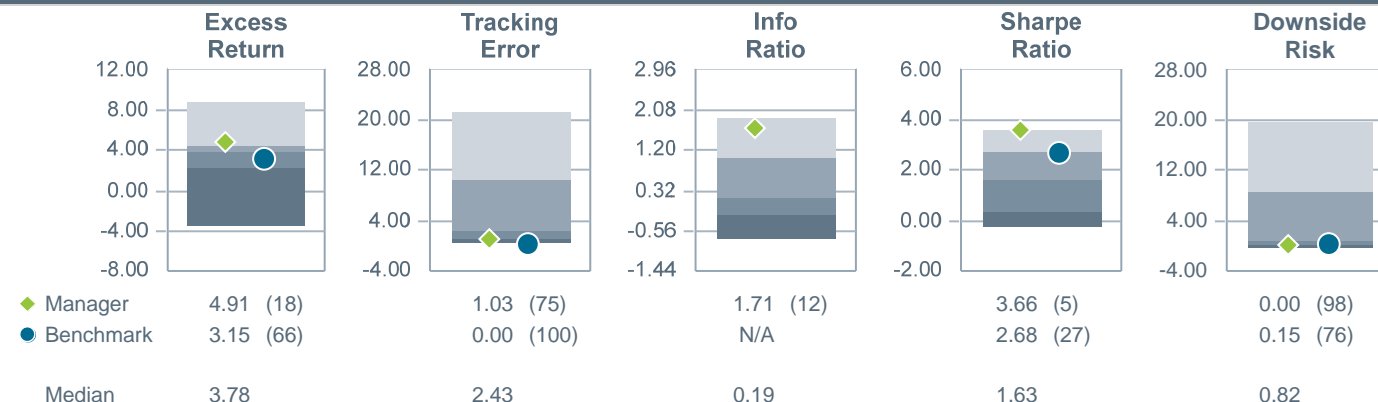
#### Peer Group Scattergram - 1 Year



#### Up/Down Markets - 1 Year



#### Peer Group Analysis - Multi Statistics - 1 Year (Excess Return vs. Risk Free)



#### Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	1.59	2.34
Spread Duration	3.39	3.72
Avg. Maturity	3.65	4.05
Avg. Quality	Aaa	Aaa
Yield To Maturity (%)	0.69	1.25
Coupon Rate (%)	3.13	3.10
Current Yield (%)	4.14	N/A
Holdings Count	344	443

#### Sector Distribution (%)



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

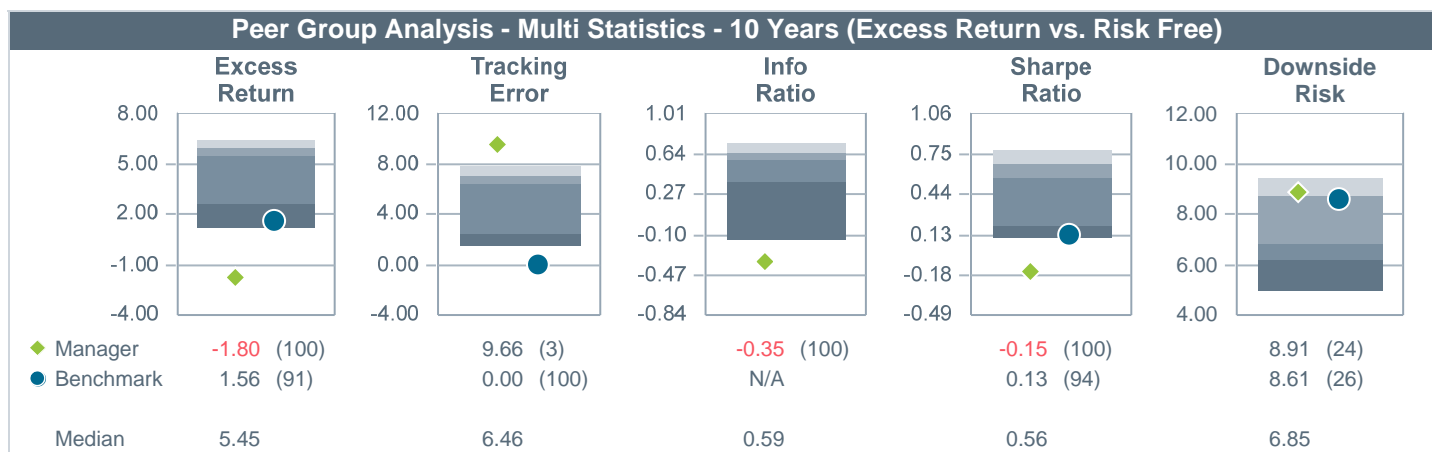
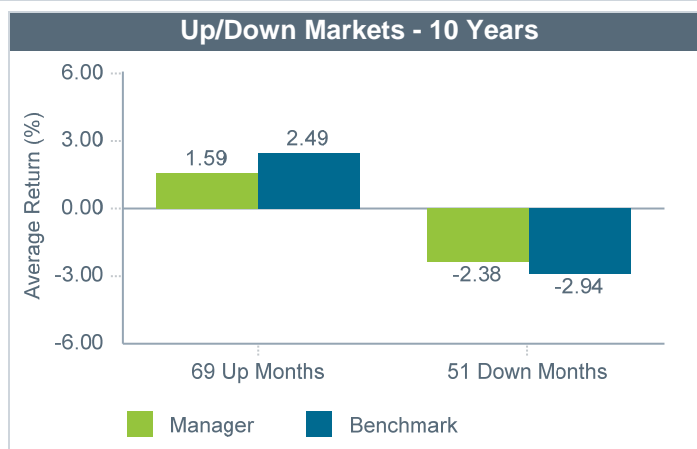
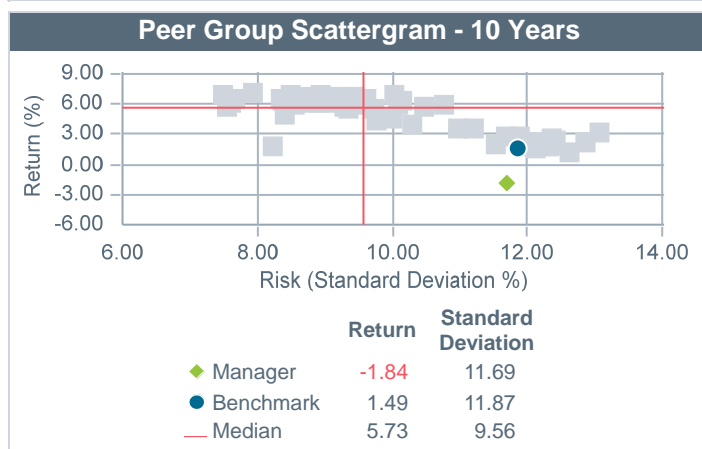
Manager: 91

As of December 31, 2020

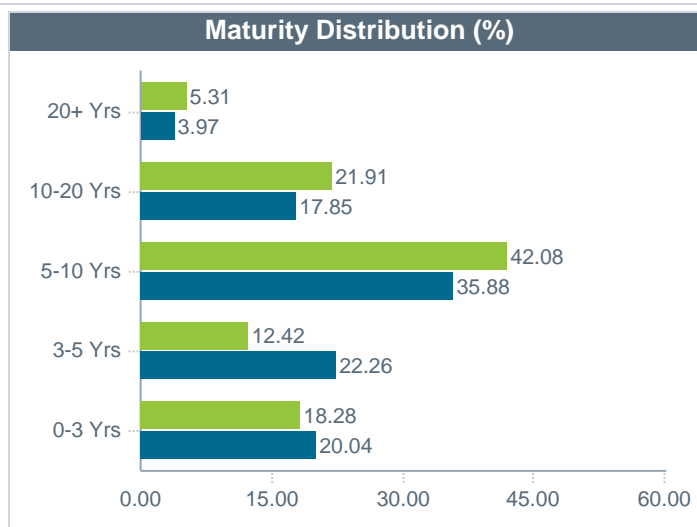
Benchmark: JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged)

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

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	11.64	5.40	3.56	6.93	1.85	-1.84	14.10	-7.64	17.65	7.00	-14.68
Benchmark	9.62	2.69	3.01	6.72	1.51	1.49	13.47	-6.21	15.21	9.94	-14.92
Difference	2.02	2.71	0.55	0.21	0.34	-3.33	0.63	-1.43	2.44	-2.94	0.24
Peer Group Median	7.92	6.72	4.86	7.74	5.56	5.73	14.24	-5.33	12.43	11.04	-2.53
Rank	7	66	79	82	88	100	54	83	6	92	84
Population	131	131	124	116	102	74	147	158	163	172	177



Portfolio Characteristics (%)		
	Portfolio	Benchmark
Effective Duration	N/A	5.50
Spread Duration	N/A	0.03
Avg. Maturity	9.06	7.33
Avg. Quality	Baa2	Ba3
Yield To Maturity (%)	6.35	4.04
Coupon Rate (%)	5.54	5.57
Current Yield (%)	5.84	5.01
Holdings Count	141	251

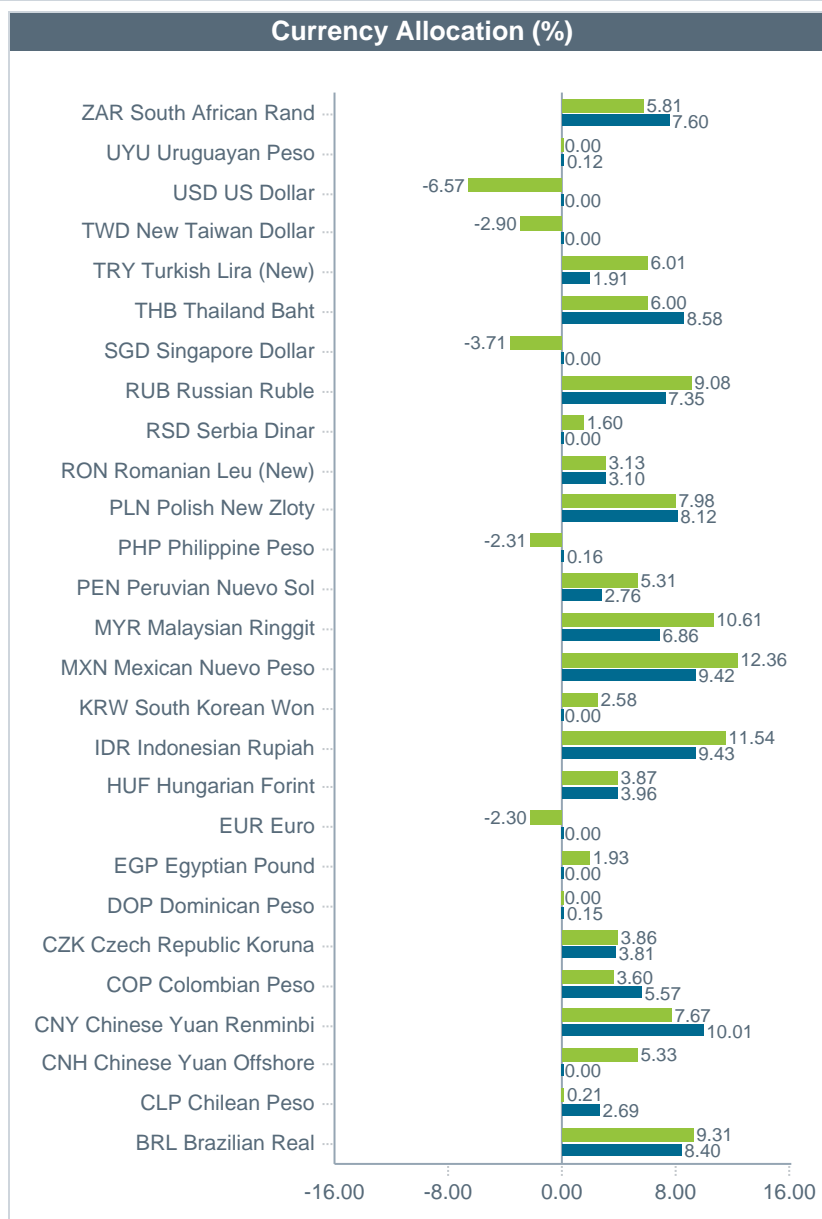
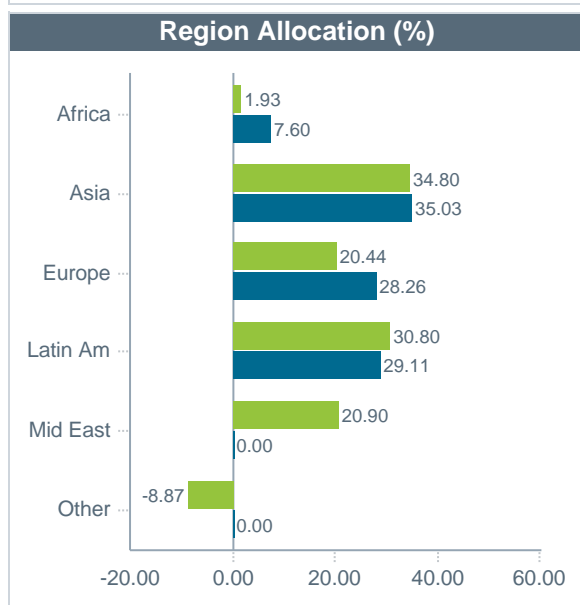
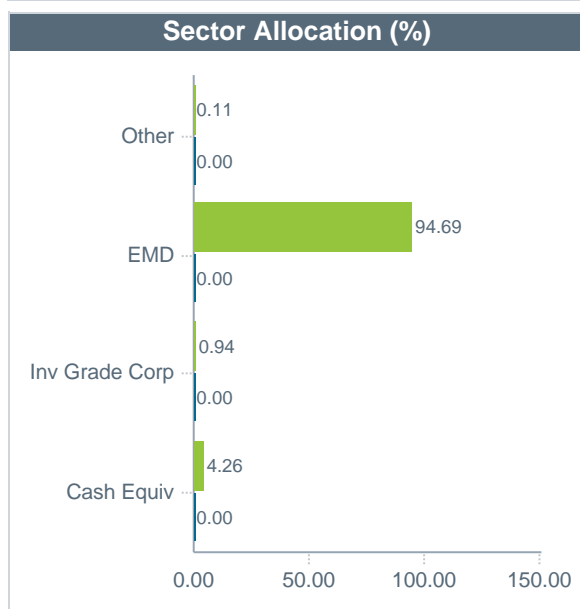
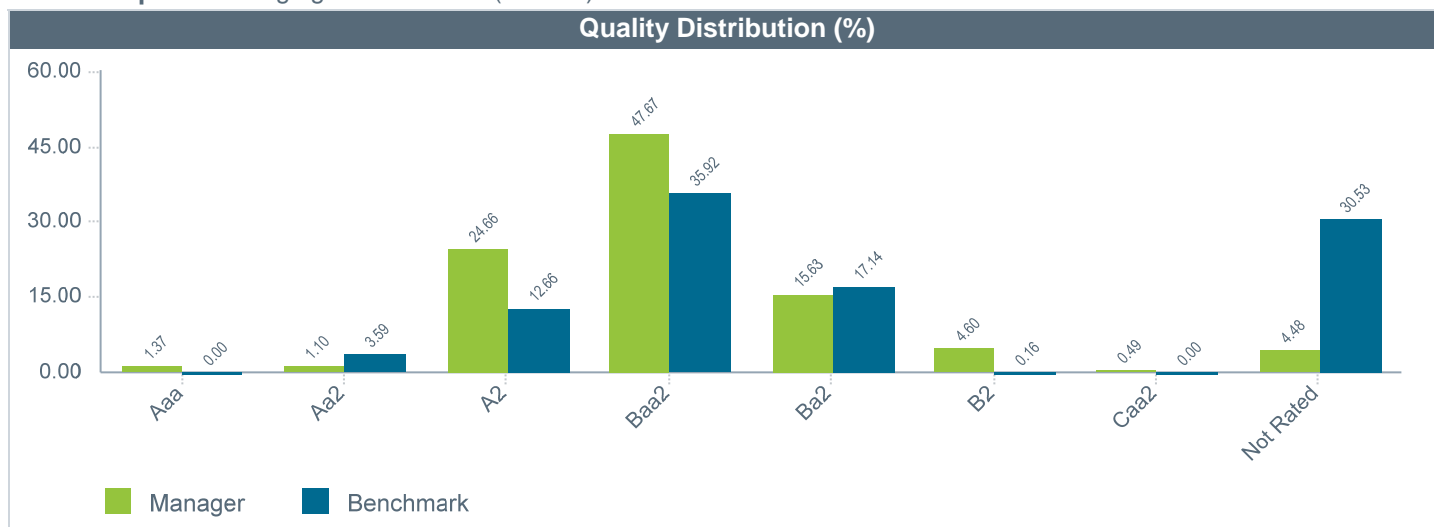


Manager: 91

As of December 31, 2020

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. Sector allocation to "Other" consists of foreign exchange and interest rate swaps. Region allocation to "Other" consists of cash and developed.



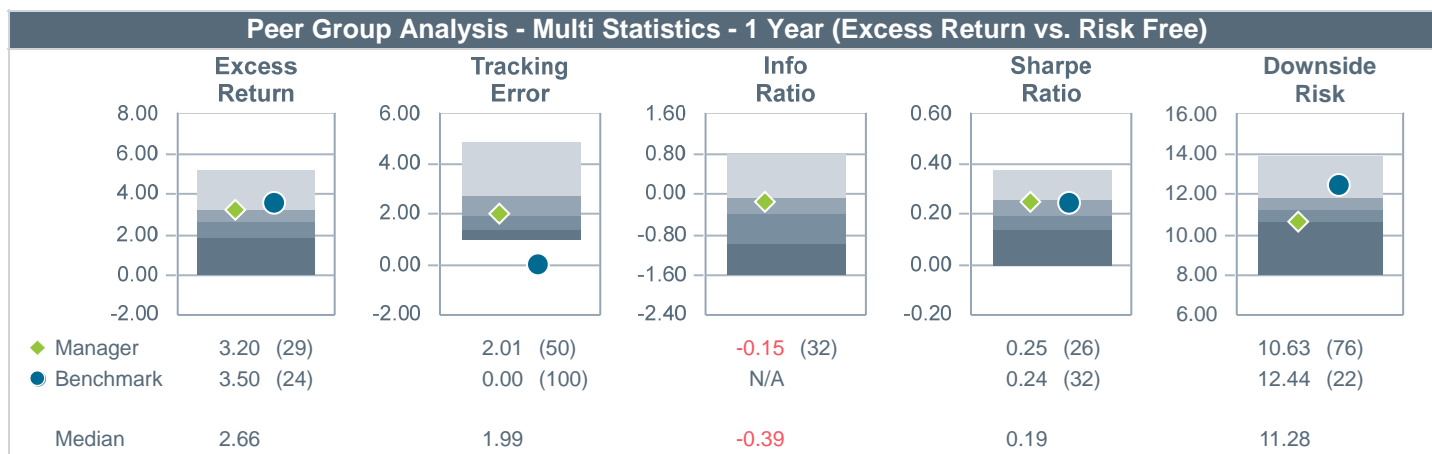
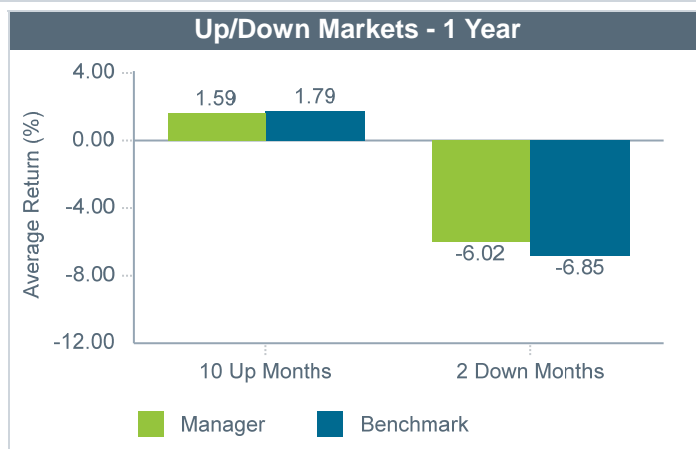
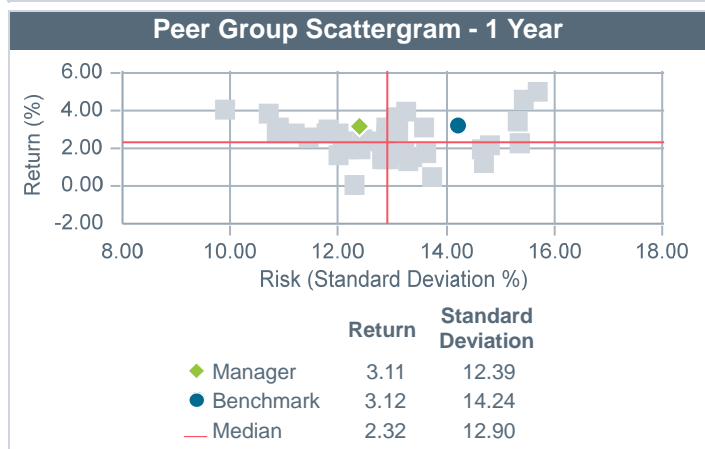
Manager: Credit Suisse

As of December 31, 2020

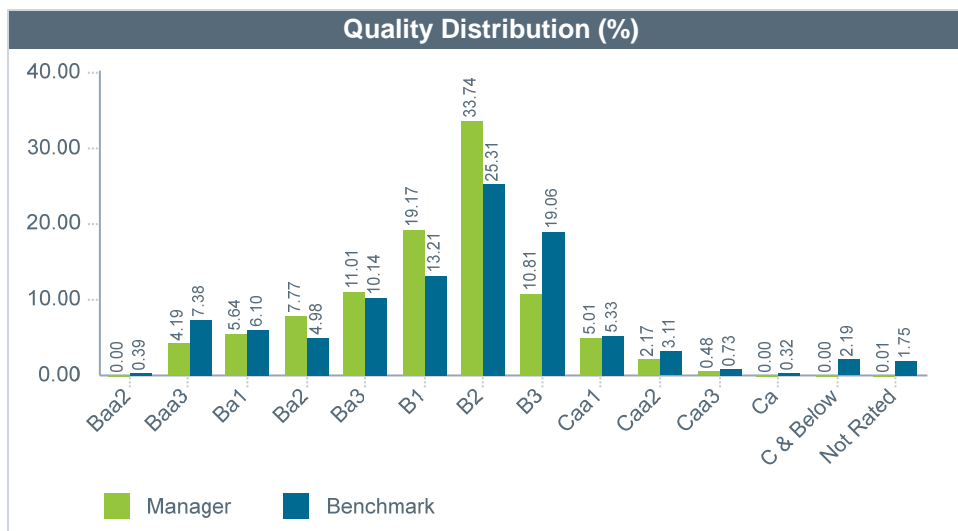
Benchmark: S&P/LSTA Lvg'd Loan Index

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

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	3.52	3.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	3.81	3.12	4.01	5.24	3.84	4.32	8.64	0.44	4.12	10.16	-0.69
Difference	-0.29	-0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	3.46	2.32	3.88	4.95	3.93	4.59	8.77	0.78	4.44	9.51	0.66
Rank	44	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	51	51	50	48	48	39	56	65	66	67	70



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	0.25	N/A
Spread Duration	4.25	N/A
Avg. Maturity	4.89	4.65
Avg. Quality	B1	B1
Yield To Maturity (%)	4.63	5.02
Coupon Rate (%)	3.90	4.01
Current Yield (%)	3.99	5.02
Holdings Count	345	1,450



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



Manager: Octagon

As of December 31, 2020

Benchmark: S&P/LSTA Lvg'd Loan Index

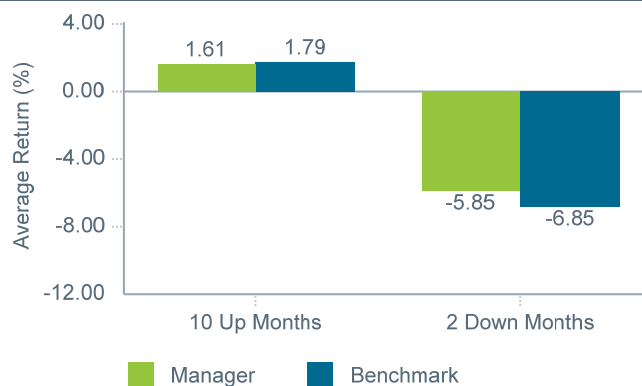
Peer Group: IM U.S. Bank Loans (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	3.65	3.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	3.81	3.12	4.01	5.24	3.84	4.32	8.64	0.44	4.12	10.16	-0.69
Difference	-0.16	0.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	3.46	2.32	3.88	4.95	3.93	4.59	8.77	0.78	4.44	9.51	0.66
Rank	34	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	51	51	50	48	48	39	56	65	66	67	70

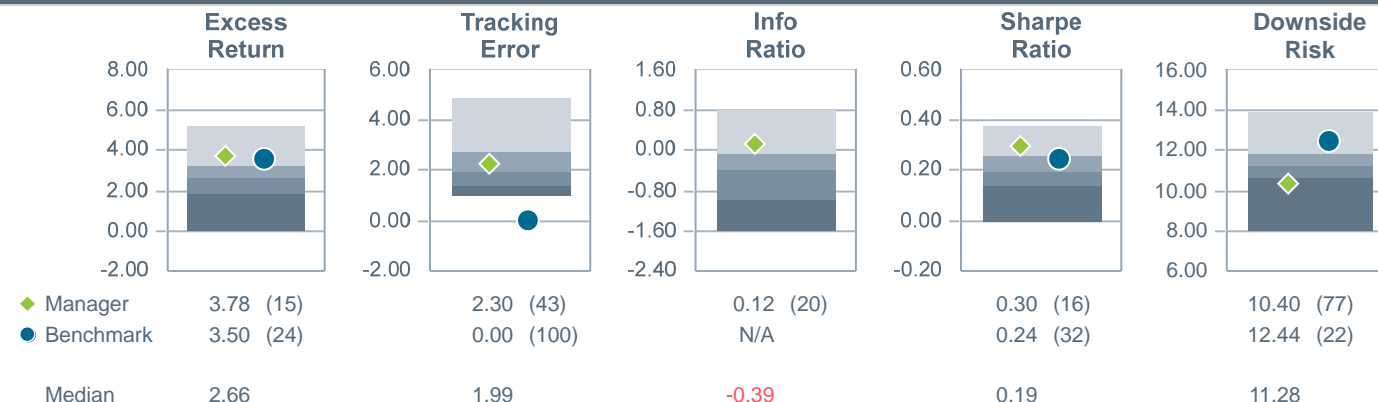
Peer Group Scattergram - 1 Year



Up/Down Markets - 1 Year



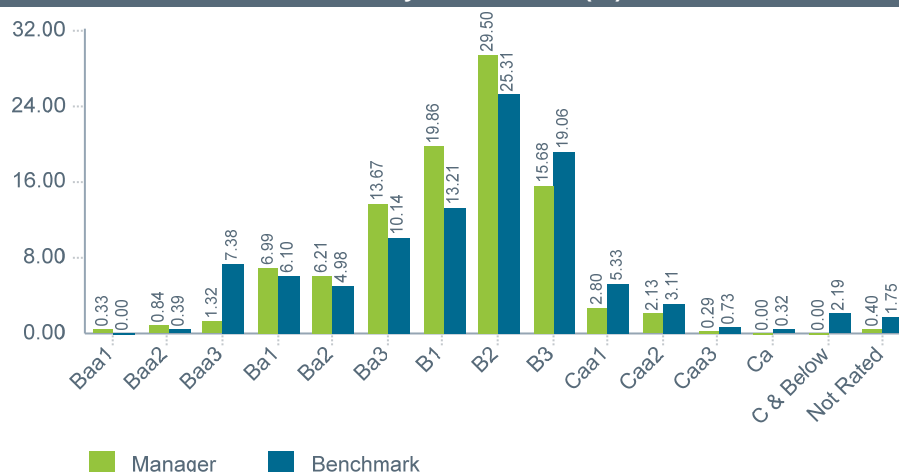
Peer Group Analysis - Multi Statistics - 1 Year (Excess Return vs. Risk Free)



Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	0.25	N/A
Spread Duration	N/A	N/A
Avg. Maturity	5.04	4.65
Avg. Quality	B2	B1
Yield To Maturity (%)	4.62	5.02
Coupon Rate (%)	4.14	4.01
Current Yield (%)	4.23	5.02
Holdings Count	296	1,450

Quality Distribution (%)



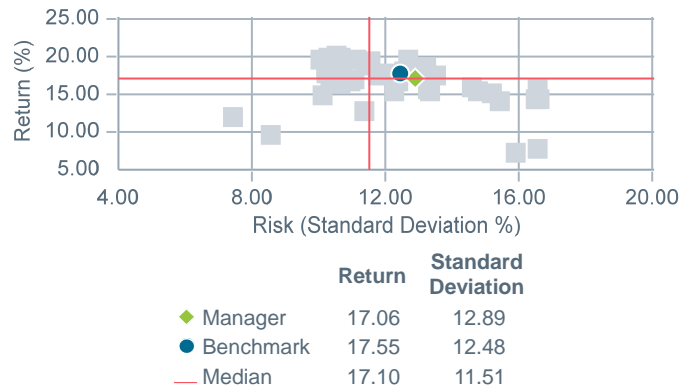
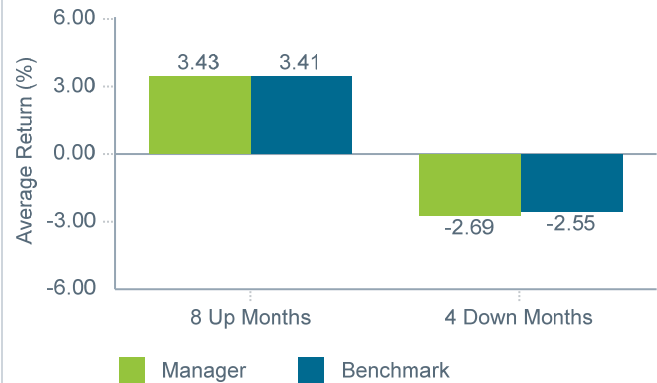
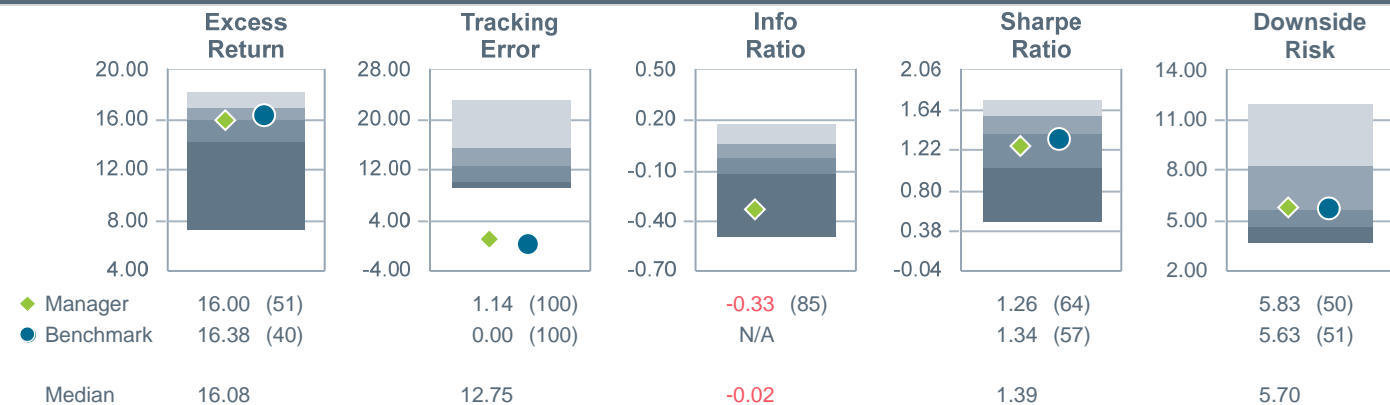
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



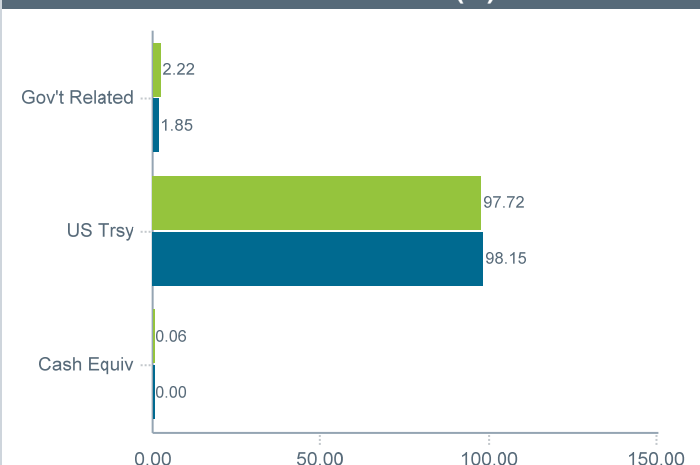
**Manager: Internal Long Duration Fixed Income Portfolio**
**As of December 31, 2020**
**Benchmark:** Bloomberg US Gov't Lng Trm Bond Index

**Peer Group:** IM U.S. Long Duration (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	-3.03	17.06	N/A	N/A	N/A	N/A	14.61	N/A	N/A	N/A	N/A
Benchmark	-2.95	17.55	9.83	7.84	8.73	7.74	14.75	-1.79	8.53	1.43	-1.16
Difference	-0.08	-0.49	N/A	N/A	N/A	N/A	-0.14	N/A	N/A	N/A	N/A
Peer Group Median	2.83	17.10	10.40	10.10	9.24	8.74	20.14	-4.74	11.21	7.39	-3.22
Rank	100	51	N/A	N/A	N/A	N/A	91	N/A	N/A	N/A	N/A
Population	56	56	55	50	49	46	62	73	75	77	78

**Peer Group Scattergram - 1 Year**

**Up/Down Markets - 1 Year**

**Peer Group Analysis - Multi Statistics - 1 Year (Excess Return vs. Risk Free)**

**Portfolio Characteristics**

	Portfolio	Benchmark
Effective Duration	18.64	19.10
Spread Duration	18.26	18.22
Avg. Maturity	23.93	24.40
Avg. Quality	Aaa	Aaa/Aa1
Yield To Maturity (%)	1.51	1.52
Coupon Rate (%)	2.66	2.74
Current Yield (%)	2.19	N/A
Holdings Count	14	89

**Sector Distribution (%)**


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

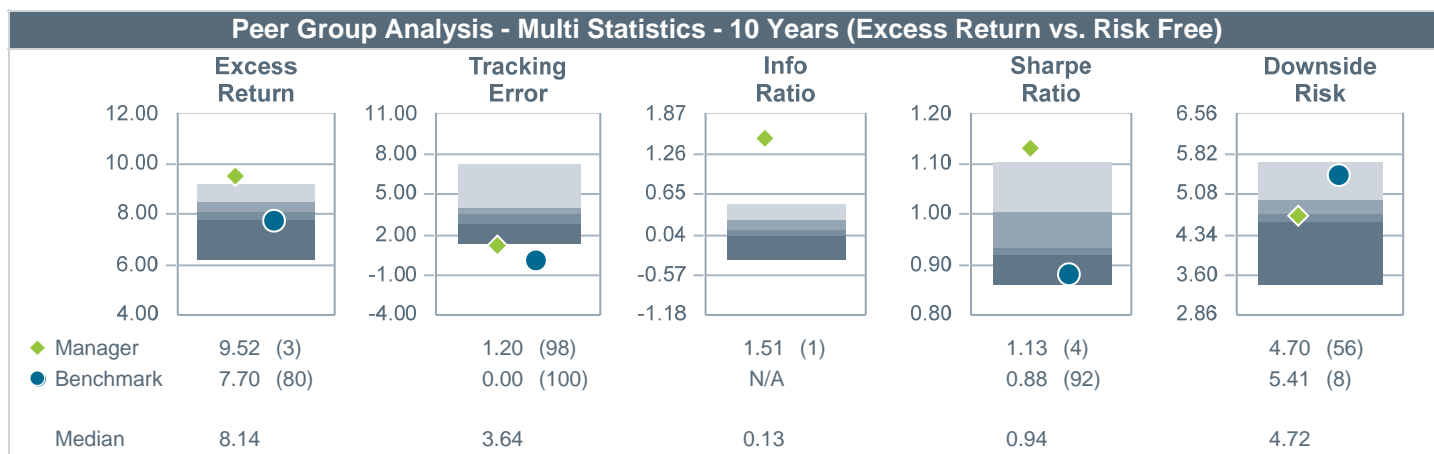
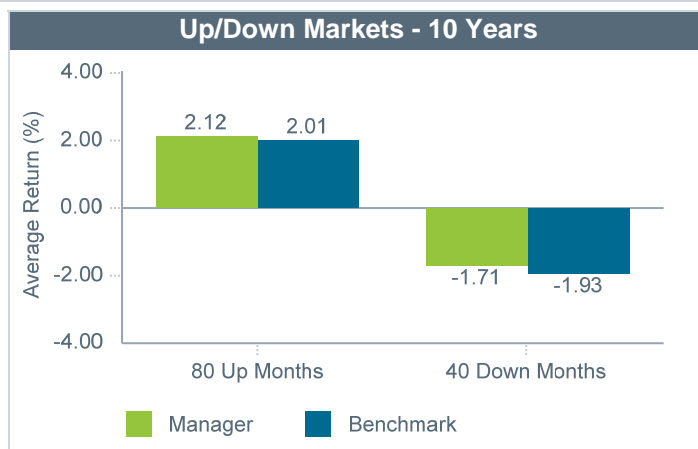
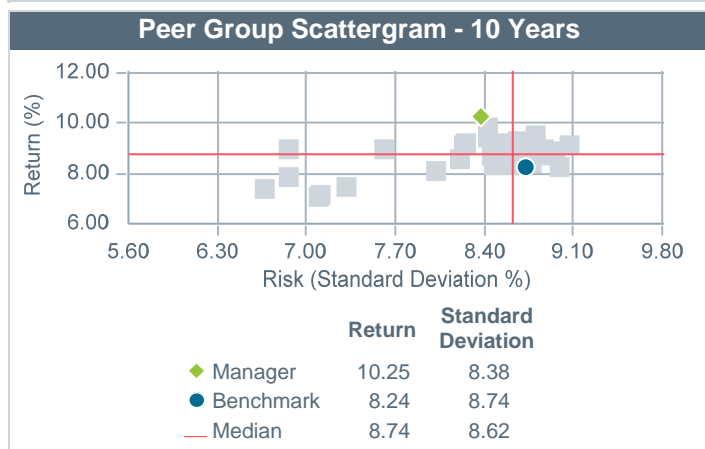
Manager: Metlife

As of December 31, 2020

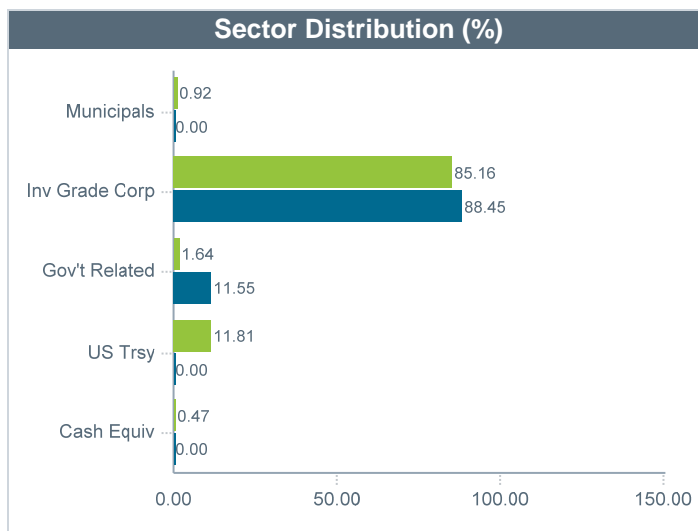
Benchmark: Bloomberg US Lng Crdt Index

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

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	4.30	16.37	10.74	11.83	10.11	10.25	23.73	-5.68	13.59	13.40	-4.73
Benchmark	4.92	13.32	9.23	10.02	8.68	8.24	23.36	-6.76	12.21	10.22	-4.56
Difference	-0.62	3.05	1.51	1.81	1.43	2.01	0.37	1.08	1.38	3.18	-0.17
Peer Group Median	2.83	17.10	10.40	10.10	9.24	8.74	20.14	-4.74	11.21	7.39	-3.22
Rank	22	58	37	1	5	2	10	78	3	2	94
Population	56	56	55	50	49	46	62	73	75	77	78



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	14.81	15.33
Spread Duration	12.31	14.73
Avg. Maturity	22.12	23.67
Avg. Quality	A3	A3/Baa1
Yield To Maturity (%)	2.79	2.80
Coupon Rate (%)	4.41	4.54
Current Yield (%)	3.55	N/A
Holdings Count	238	2,787

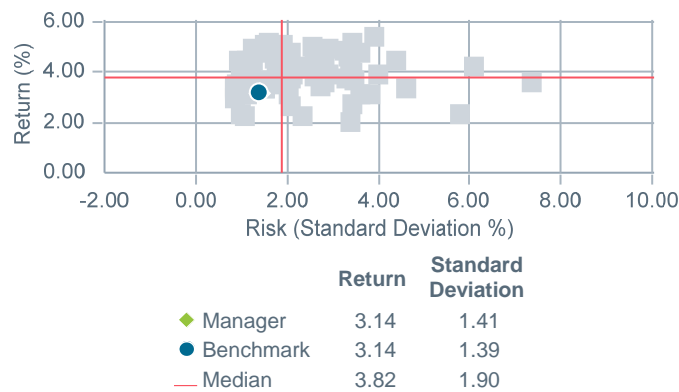
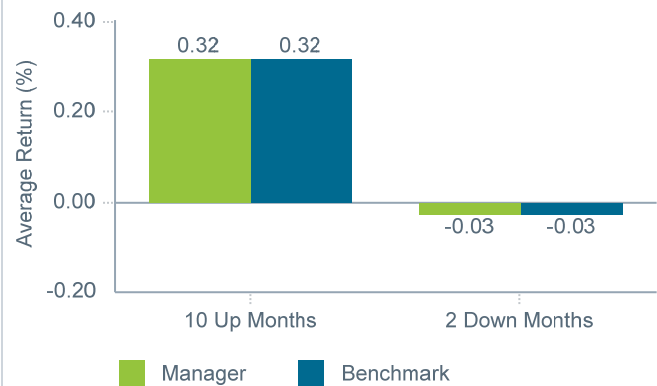
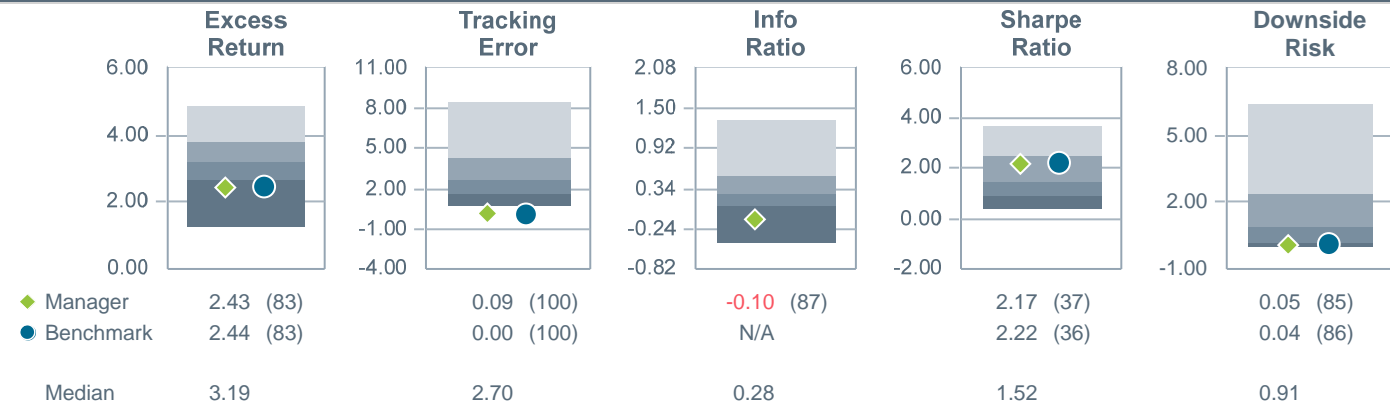


Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

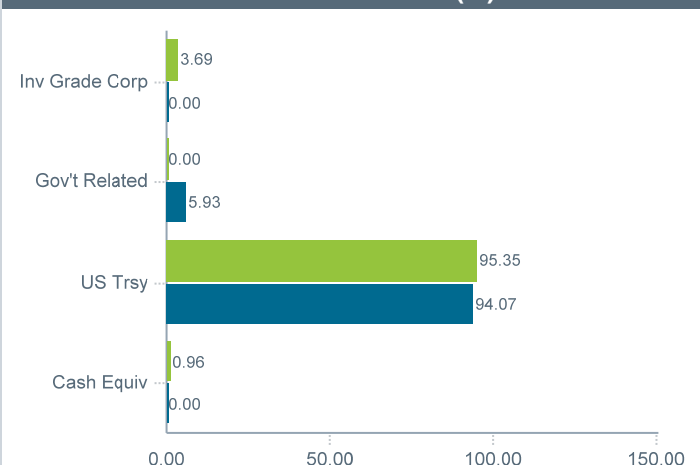
**Manager: Internal Low Duration Fixed Income Portfolio**
**As of December 31, 2020**
**Benchmark:** Bloomberg US Gov't 1-3 Yr Bond Index

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

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Manager	0.06	3.14	N/A	N/A	N/A	N/A	3.80	N/A	N/A	N/A	N/A
Benchmark	0.05	3.14	2.77	1.92	1.54	1.32	3.59	1.58	0.45	0.87	0.57
Difference	0.01	0.00	N/A	N/A	N/A	N/A	0.21	N/A	N/A	N/A	N/A
Peer Group Median	0.43	3.82	3.30	2.65	2.20	2.10	4.51	1.68	1.52	1.65	0.94
Rank	99	82	N/A	N/A	N/A	N/A	83	N/A	N/A	N/A	N/A
Population	108	108	105	102	99	92	113	123	126	128	128

**Peer Group Scattergram - 1 Year**

**Up/Down Markets - 1 Year**

**Peer Group Analysis - Multi Statistics - 1 Year (Excess Return vs. Risk Free)**

**Portfolio Characteristics**

	Portfolio	Benchmark
Effective Duration	1.73	1.94
Spread Duration	1.73	1.94
Avg. Maturity	1.74	1.99
Avg. Quality	Aaa	Aaa/Aa1
Yield To Maturity (%)	0.11	0.14
Coupon Rate (%)	1.36	1.43
Current Yield (%)	1.34	N/A
Holdings Count	14	309

**Sector Distribution (%)**


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

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

December 31, 2020

Investment Policy Guidelines	Meeting Objective			Explanation
	Yes	No	N/A	
<b>1. Total Fund</b>				
Exceed the rate of inflation (C.P.I.) over a market cycle of 5-years.	✓			Wyoming returned 6.0% vs. 1.9% 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 6.0% vs. 5.7% for the Total Fund Index for the current 5-year period
Not more than 1% of the outstanding common shares of any corporation shall be owned by the State. An exception may be made for Alternative Investments.	✓			
Not more than 1.5% of the total book value of permanent funds shall be invested in the common stock of any corporation. An exception may be made for Alternative Investments.	✓			

	Yes	No	N/A	Explanation
<b>2. Investment Funds</b>				
<b>a) Permanent Mineral Trust Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Permanent Mineral Trust Fund return was 7.2% vs. 6.9% for the Total Fund Index
<b>b) Common School Permanent Land Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Common School Permanent Land Fund return was 6.7% vs. 6.4% for the Total Fund Index
<b>c) Permanent Land Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Permanent Land Fund return was 7.1% vs. 6.9% for the Total Fund Index
<b>d) University Permanent Land Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: University Permanent Land Fund return was 7.7% vs. 7.3% for the Total Fund Index
<b>e) Hathaway Scholarship Endowment Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Hathaway Scholarship Endowment Fund return was 6.8% vs. 6.6% for the Total Fund Index
<b>f) Higher Education Endowment Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Higher Education Endowment Fund return was 6.1% vs. 6.0% for the Total Fund Index
<b>g) Workers Compensation Fund</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Workers Compensation Fund return was 7.5% vs. 7.1% for the Total Fund Index
<b>h) Pool A</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Pool A return was 4.9% vs. 4.3% for the Total Fund Index
<b>i) LSRA</b>				
Exceed a weighted index of the Fund's asset allocation and component benchmarks over a full market cycle, approximated by the most recent 5-year period.			N/A	LSRA was funded during 2019.
<b>j) State Agency Pool</b>				
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 3.0% vs. 2.7% for the Actual Allocation Index

	Yes	No	N/A	Explanation
<b>3. US Equity Portfolios</b>				
<b>a) State Street Global Advisors – All Cap – Passive</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.	✓			Largest Holding: Apple = 6.72%
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.	✓			
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.	✓			
A minimum number of 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.	✓			5-year: State Street return was 14.6% vs. 14.6% for the index
	Yes	No	N/A	Explanation
<b>b) Internal Domestic Equity – Broad US Equity</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.			N/A	This account is in development as of 12/31.
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.			N/A	
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.			N/A	
A minimum number of 20 securities shall be held.			N/A	
Meet performance of the S&P 500 Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	

	Yes	No	N/A	Explanation
<b>c) Van Berkom – Small Cap - Active</b>				
The portfolio will achieve its goal primarily through the investment in a portfolio of 35 to 55 U.S. small-cap equity securities.	✓			
At the time of initial purchase, the market capitalization of the company's common stocks purchased will not exceed 0.023% of the total market capitalization of the S&P 500 Index. Furthermore, the Portfolio Manager may own up to 25% of the portfolio at market value in U.S. stocks that exceed 0.023% of the total market capitalization of the S&P 500 Index.	✓			
Individual Security = no more than 7% of account value Cash Position = no more than 5% of account value Sub-sector Limit = no more than 15% of the account value invested in a single sub-sector (Level IV of GICS sectors) GICS Sectors = minimum of 5 different GICS sectors (Level 1 GICS sectors)	✓			
Outperform the Russell 2000 Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 3/2020
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: 3/2020
	Yes	No	N/A	Explanation
<b>d) State Street Russell 2000 – Small Cap - Passive</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.	✓			Largest Holding: Penn Gaming = 0.58%
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.	✓			
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.	✓			
A minimum number of 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: 11/2019



	Yes	No	N/A	Explanation
<b>e) Internal Small Cap – Small Cap</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.			N/A	This account is in development as of 12/31.
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.			N/A	
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.			N/A	
A minimum number of 20 securities shall be held.			N/A	
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	
<b>f) BlackRock Small Cap – Small Cap - Active</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.	✓			Largest Holding: Varonis Systems = 0.95%
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.	✓			
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.	✓			
A minimum number of 20 securities shall be held.	✓			
Outperform 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: 08/2020
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: 08/2020

	Yes	No	N/A	Explanation
<b>4. International Equity Portfolios</b>				
<b>a) Northern Trust – Int'l – Passive</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.	✓			Largest Holding: Alibaba Ltd = 1.82%
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.	✓			
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.	✓			
A minimum number of 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 9.1% vs. 8.9% for the MSCI ACW Ex US Index (Net)
	Yes	No	N/A	Explanation
<b>b) Arrowstreet – Int'l Active</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.	✓			Largest Holding: Samsung = 2.79%
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.	✓			
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.	✓			
A minimum number of 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
<b>c) Harding Loevner – Int'l Active</b>				
A maximum of 5% or the benchmark weighting + 2%, whichever is greater, of the total stock portfolio of the investment manager be invested in any one company.	✓			Largest Holding: Taiwan Semi = 5.00%
A maximum of 1% of the outstanding float of shares shall be held in companies with market capitalizations of \$5 Billion or greater at the time of purchase. For companies with market capitalizations of less than \$5 Billion, a maximum of 5% shall apply.	✓			
The maximum allowable in any sector, as defined by Global Industry Classification System Level 1, is 2.5 times the respective benchmark weighting.	✓			
A minimum number of 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.			N/A	Inception date: 01/2020
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2020

	Yes	No	N/A	Explanation
<b>5. Preferred Stock</b>				
<b>a) Cohen &amp; Steers</b>				
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
	Yes	No	N/A	Explanation
<b>6. MLPs</b>				
<b>a) Harvest</b>				
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 MLP Custom Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 08/2018
<b>b) Harvest Passive</b>				
A maximum of 15% or the benchmark weighting + 2%, whichever is greater, of the total portfolio may be invested in any one company.	✓			
Meet the MLP Custom Index, net of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 02/2020

	Yes	No	N/A	Explanation
<b>7. Alternative Strategies</b>				
<b>Core Real Estate</b>				
<b>a) Clarion Lion</b>				
Outperform the NCREIF Fund Index – Open-End Diversified Core Equity (ODCE), net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Clarion Lion net of fees return was 6.7% vs. 5.3% for the NCREIF ODCE Index (Net) (AWA)
The core portfolio shall consist of well-leased, high quality, income producing institutional properties.	✓			
The core portfolio shall be adequately diversified by geographical region, as well as by property type.	✓			
<b>b) UBS Trumbull</b>				
Outperform the NCREIF Fund Index – Open-End Diversified Core Equity (ODCE), net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: UBS Trumbull net of fees return was 1.9% vs. 5.3% for the NCREIF ODCE Index (Net) (AWA)
The core portfolio shall consist of well-leased, high quality, income producing institutional properties.	✓			
The core portfolio shall be adequately diversified by geographical region, as well as by property type.	✓			
<b>c) MS Prime</b>				
Outperform the NCREIF Fund Index – Open-End Diversified Core Equity (ODCE), net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 10/2020
The core portfolio shall consist of well-leased, high quality, income producing institutional properties.	✓			
The core portfolio shall be adequately diversified by geographical region, as well as by property type.	✓			
<b>Diversified Hedge Funds</b>				
<b>d) Grosvenor Diversified Hedge Funds</b>				
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
The portfolio shall be diversified across underlying hedge fund strategies and hedge fund managers.	✓			
<b>e) Internal Diversified Hedge Funds</b>				
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
The portfolio shall be diversified across underlying hedge fund strategies and hedge fund managers.	✓			

	Yes	No	N/A	Explanation
<b>8. Fixed Income Portfolios</b>				
<b>a) PIMCO – Core</b>				
Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.	✓			
All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.	✓			
Non-U.S. dollar denominated securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to 10% of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than 10% of the portfolio market value.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than 5% of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500,000,000.	✓			
A minimum number of 25 securities shall be held.	✓			
Duration must fall in the range of +/- 20% of the manager's primary benchmark, but not to exceed the duration of the Bloomberg Barclays U.S. Aggregate Bond Index or the Bloomberg Barclays Intermediate U.S. Aggregate Bond Index by more than 20%.	✓			
Average portfolio credit quality must be at least A- or equivalent.	✓			
Minimum issue credit rating at time of purchase shall be: A1+ or equivalent for commercial paper;  BBB- or equivalent for corporate bonds, Mortgage-Backed Securities, Commercial Mortgage-Backed Securities, Asset Backed Securities, Non-U.S. Dollar-Denominated Securities and Dollar-Denominated Emerging Market Securities.	✓			
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 4.8% vs. 4.3% 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 57th percentile for Core Fixed Income

	Yes	No	N/A	Explanation
<b>b) Internal Int. Govt Fixed Income Portfolio – Core</b>				
Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.	✓			
All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.	✓			
Non-U.S. dollar denominated securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to 10% of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than 10% of the portfolio market value.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than 5% of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500,000,000.	✓			
A minimum number of 25 securities shall be held.	✓			
Duration must fall in the range of +/- 20% of the manager's primary benchmark, but not to exceed the duration of the Bloomberg Barclays U.S. Aggregate Bond Index or the Bloomberg Barclays Intermediate U.S. Aggregate Bond Index by more than 20%.	✓			
Average portfolio credit quality must be at least A- or equivalent.	✓			
Minimum issue credit rating at time of purchase shall be: A1+ or equivalent for commercial paper;  BBB- or equivalent for corporate bonds, Mortgage-Backed Securities, Commercial Mortgage-Backed Securities, Asset Backed Securities, Non-U.S. Dollar-Denominated Securities and Dollar-Denominated Emerging Market Securities.	✓			
Outperform the Internal Int. Gov Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.	✓			5-year: Int. Govt Fixed Income Portfolio net of fees return was 3.4% vs. return of 3.2% for the Internal Int. Gov 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: Int. Govt Fixed Income Portfolio ranked in the 50th percentile for Government Fixed Income

	Yes	No	N/A	Explanation
<b>c) Payden &amp; Rygel – Core</b>				
Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.	✓			
All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.	✓			
Non-U.S. dollar denominated securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to 10% of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than 10% of the portfolio market value.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than 5% of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500,000,000.	✓			
A minimum number of 25 securities shall be held.	✓			
Duration must fall in the range of +/- 20% of the manager's primary benchmark, but not to exceed the duration of the Bloomberg Barclays U.S. Aggregate Bond Index or the Bloomberg Barclays Intermediate U.S. Aggregate Bond Index by more than 20%.	✓			
Average portfolio credit quality must be at least A- or equivalent.	✓			
Minimum issue credit rating at time of purchase shall be: A1+ or equivalent for commercial paper;  BBB- or equivalent for corporate bonds, Mortgage-Backed Securities, Commercial Mortgage-Backed Securities, Asset Backed Securities, Non-U.S. Dollar-Denominated Securities and Dollar-Denominated Emerging Market Securities.	✓			
Outperform the Payden & Rygel Custom Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 11/2019
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: 11/2019



	Yes	No	N/A	Explanation
<b>d) JPM MBS – Core</b>				
Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.	✓			
All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles.	✓			
Non-U.S. dollar denominated securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Private mortgage-backed and asset-backed securities are limited to 10% of the portfolio market value.	✓			
Commercial mortgage-backed securities are permitted but shall comprise no more than 10% of the portfolio market value.	✓			
Dollar denominated emerging market securities are permitted, but shall comprise no more than 10% of the portfolio market value.	✓			
Investments in mortgage interest only and principal only securities or their derivations are permitted, but shall comprise no more than 5% of the portfolio market value.	✓			
Commercial paper of all issuers shall not exceed \$500,000,000.	✓			
A minimum number of 25 securities shall be held.	✓			
Duration must fall in the range of +/- 20% of the manager's primary benchmark, but not to exceed the duration of the Bloomberg Barclays U.S. Aggregate Bond Index or the Bloomberg Barclays Intermediate U.S. Aggregate Bond Index by more than 20%.	✓			
Average portfolio credit quality must be at least A- or equivalent.	✓			
Minimum issue credit rating at time of purchase shall be: A1+ or equivalent for commercial paper;  BBB- or equivalent for corporate bonds, Mortgage-Backed Securities, Commercial Mortgage-Backed Securities, Asset Backed Securities, Non-U.S. Dollar-Denominated Securities and Dollar-Denominated Emerging Market Securities.	✓			
Outperform the Bloomberg US MBS Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 11/2019
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: 11/2019

	Yes	No	N/A	Explanation
<b>e) Credit Suisse – Bank Loans</b>				
Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.	✓			
Duration must not exceed + 1 year of the S&P/LSTA Leveraged Loan Index.	✓			
Average portfolio credit quality must be at least B or equivalent.	✓			
Minimum issue credit rating at the time of purchase shall be: a) CCC or equivalent for individual securities; and b) Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.	✓			
Outperform the S&P/LSTA Leveraged Loan Index., net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 09/2019
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: 09/2019
	Yes	No	N/A	Explanation
<b>f) Octagon – Bank Loans</b>				
Obligations of specific issuers are subject to a 5% per issuer limit, excluding investments in commingled vehicles.	✓			
Duration must not exceed + 1 year of the S&P/LSTA Leveraged Loan Index.	✓			
Average portfolio credit quality must be at least B or equivalent.	✓			
Minimum issue credit rating at the time of purchase shall be: a) CCC or equivalent for individual securities; and b) Securities that are not rated shall be, in the judgment of the investment manager, of credit quality equal or superior to the standards described above.	✓			
Outperform the S&P/LSTA Leveraged Loan Index., net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 09/2019
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: 09/2019

	Yes	No	N/A	Explanation
<b>g) Grosvenor Silvery Lupine Fund – Opportunistic Fixed Income</b>				
Outperform the CS Western European Hi Yld Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: net of fees return was 4.1% vs 7.2% for the index
<b>h) 91 – Emerging Market Debt (Local Currency)</b>				
Obligations of individual sovereign/quasi-sovereign issuers are subject to a 20% per issuer limit.	✓			
Obligations of corporate issuers are subject to a 10% per issuer limit.	✓			
The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.	✓			
Duration must not be more than + 20% of the index.	✓			
Average portfolio credit quality must be BB+ or equivalent or better.	✓			
Minimum Issue Credit Rating at the time of purchase shall be: A1+ or equivalent for commercial paper; B- or equivalent for individual securities Where a security is not rated at the issue level, the issuer rating shall be relied upon.	✓			
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: 91 net of fees return was 6.2% vs. the return of 6.7% 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: 91 ranked in the 82nd percentile for Emerging Market Debt (Local Currency)

	Yes	No	N/A	Explanation
<b>i) Global Evolution – Emerging Market Debt (Local Currency)</b>				
Obligations of individual sovereign/quasi-sovereign issuers are subject to a 20% per issuer limit.	✓			
Obligations of corporate issuers are subject to a 10% per issuer limit.	✓			
The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.	✓			
Duration must not be more than + 20% of the index.	✓			
Average portfolio credit quality must be BB+ or equivalent or better.	✓			
Minimum Issue Credit Rating at the time of purchase shall be: A1+ or equivalent for commercial paper; B- or equivalent for individual securities Where a security is not rated at the issue level, the issuer rating shall be relied upon.	✓			
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.			N/A	Inception date: 02/2020
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: 02/2020

	Yes	No	N/A	Explanation
<b>j) Global Evolution – Emerging Market Debt (Hard Currency)</b>				
Obligations of individual sovereign/quasi-sovereign issuers are subject to a 20% per issuer limit.	✓			
Obligations of corporate issuers are subject to a 10% per issuer limit.	✓			
The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.	✓			
Duration must not be more than + 20% of the index.	✓			
Average portfolio credit quality must be BB+ or equivalent or better.	✓			
Minimum Issue Credit Rating at the time of purchase shall be: A1+ or equivalent for commercial paper; B- or equivalent for individual securities Where a security is not rated at the issue level, the issuer rating shall be relied upon.	✓			
Outperform the JPM EMBIG Div Ex CCC (USD) Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 12/2020
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: 12/2020

	Yes	No	N/A	Explanation
<b>k) Eaton Vance – Emerging Market Debt</b>				
Obligations of individual sovereign/quasi-sovereign issuers are subject to a 20% per issuer limit.	✓			
Obligations of corporate issuers are subject to a 10% per issuer limit.	✓			
The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.	✓			
Duration must not be more than + 20% of the index.	✓			
Average portfolio credit quality must be BB+ or equivalent or better.	✓			
Minimum Issue Credit Rating at the time of purchase shall be: A1+ or equivalent for commercial paper; B- or equivalent for individual securities Where a security is not rated at the issue level, the issuer rating shall be relied upon.	✓			
Outperform the JPM EMB (JEMB) Hard/Local 50/50 Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2021
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2021

	Yes	No	N/A	Explanation
<b>I) Goldman Sachs – Emerging Market Debt (Corporate)</b>				
Obligations of individual sovereign/quasi-sovereign issuers are subject to a 20% per issuer limit.	✓			
Obligations of corporate issuers are subject to a 10% per issuer limit.	✓			
The investment manager, as part of managing the account, can take net investment positions of up to 20% of the portfolio in currency and currency forwards.	✓			
Duration must not be more than + 20% of the index.	✓			
Average portfolio credit quality must be BB+ or equivalent or better.	✓			
Minimum Issue Credit Rating at the time of purchase shall be: A1+ or equivalent for commercial paper; B- or equivalent for individual securities Where a security is not rated at the issue level, the issuer rating shall be relied upon.	✓			
Outperform the JPM CEMBI Broad Div Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 03/2020
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: 03/2020

	Yes	No	N/A	Explanation
<b>m) Metlife – Long Duration Credit</b>				
Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.	✓			
All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles	✓			
A maximum of 30% of the portfolio may be invested in U.S. dollar denominated non-U.S. fixed income securities.	✓			
A maximum of 10% of the portfolio may be invested in U.S. dollar denominated emerging market securities.	✓			
A maximum of the appropriate benchmark plus 5% of the portfolio may be invested in convertible and municipal securities.	✓			
Average portfolio quality will be BBB+ or better. Securities shall be rated investment grade at time of purchase.	✓			
Outperform the Bloomberg US Long Credit Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 11/2018
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: 11/2018
	Yes	No	N/A	Explanation
<b>n) Internal Long Duration – Long Duration Government</b>				
Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.	✓			
All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles	✓			
A maximum of 30% of the portfolio may be invested in U.S. dollar denominated non-U.S. fixed income securities.	✓			
A maximum of 10% of the portfolio may be invested in U.S. dollar denominated emerging market securities.	✓			
A maximum of the appropriate benchmark plus 5% of the portfolio may be invested in convertible and municipal securities.	✓			
Average portfolio quality will be BBB+ or better. Securities shall be rated investment grade at time of purchase.	✓			
Outperform the Bloomberg US Gov Long Term Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-year period.			N/A	Inception date: 01/2019
Performance should rank in the top 40th percentile of peer manager universe as measured by the State's Consultant, gross of fees, over a full market cycle, approximated by the most recent five-year period.			N/A	Inception date: 01/2019



	Yes	No	N/A	Explanation
<b>o) Internal Low Duration – Low Duration Government</b>				
Obligations issued or guaranteed by the U.S. government, U.S. agencies or U.S. government-sponsored corporations and agencies are eligible without limit.	✓			
All other issuers are subject to a 5% per issuer limit excluding investments in commingled vehicles	✓			
Corporate securities will be subject to a maximum limit of 20%.	✓			
Portfolio duration must be within plus or minus 30% of the Bloomberg Barclays US Gov't: 1-3 Year Bond Index.	✓			
Average portfolio quality will be A or better.	✓			
Outperform the Bloomberg US Gov 1-3 Year Bond Index, net of fees, over a full market cycle, approximated by the most recent 5-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
<b>9. Cash and Cash Equivalents Portfolios</b>				
<b>JP Morgan Cash Composite*</b>				
<b>a) JP Morgan Treasury Cash</b>				
The portfolio's weighted average maturity shall not exceed 90 days.	✓			
All securities shall have a maximum maturity of 365 days.	✓			
The maximum average cash flow weighted duration of the portfolio shall not exceed 90 days.	✓			
The market value of the portfolio shall remain within +/- 0.5% of 1.0% of amortized cost.	✓			
A maximum of 5% of total assets may be placed in securities of one issuer except for government securities.	✓			
Investment in any single issuer must not exceed 5% of the outstanding issues of that issuer.	✓			
Investment performance must exceed Monitored Repurchase Agreement Rate and the cash equivalents allocation by the 90-day T-Bill rate, net of fees, over a full market cycle, approximated by the most recent 5-year period.		✗		5-year: JP Morgan Treasury Cash net of fees return was 1.1% vs. 1.2% for the ICE BofAML 3 Mo US T-Bill Index

\*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
<b>JP Morgan Wyo-Star Cash Composite*</b>				
<b>b) JP Morgan Wyo-Star Cash</b>				
The portfolio's weighted average maturity is not to exceed 90 days.	✓			
All securities must have a maximum maturity of 365 days.	✓			
The maximum average cash flow weighted duration of the portfolio must not exceed 90 days.	✓			
The market value of the portfolio must remain within +/- 0.5% of 1% of amortized cost.	✓			
A maximum of 5% of total assets may be placed in securities of one 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 Wyo-Star Cash net of fees return was 1.1% vs. 1.2% for the ICE BofAML 3 Mo US T-Bill Index
<b>c) JP Morgan Wyo-Star Extended Cash</b>				
Maximum average cash flow weighted duration is not to exceed 3 years.	✓			
Individual securities must not exceed a cash flow weighted duration of 5 years.	✓			
A maximum of 5% of total assets may be placed in 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 1.9% vs. 1.9% for the Blended Index
The extended portion of WYO-STAR may not exceed 35% of the market value of the portfolio at the time of purchase.	✓			

\*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 Total Fund Index and Pool Total Fund Indices are calculated using target asset class weights applied to the appropriate asset class benchmark return, using the S&P 500 Index for US all cap equities, the Russell 2000 Index for US small cap equity, MSCI ACW Ex US Index (Net) for international equities, MLP Custom Index for MLPs, Bloomberg US Agg Bond Index for core fixed income, S&P/LSTA Lvg'd Loan Index for bank loans, EMD Blended Benchmark for EMD, NCREIF Open-End Diversified Core Equity Index for 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.

- The Wyoming State Custom Index is calculated using beginning month asset class weights applied to the appropriate asset class benchmark return through 12/31/2019. As of 01/01/2020, the Index is calculated using the weighted average of the respective Investment Funds' Target Allocation Indices.
- The All Cap US Equity Custom Index consists of the Russell 3000 Index through 02/29/2020, and the S&P 500 Index thereafter.
- The MLP Custom Index consists of the S&P MLP Index (TR) through 06/30/2019, the Alerian MLP Index through 12/31/2019, and 50% Alerian MLP Index / 50% Alerian Midstream Energy Index thereafter.
- The International Equity Custom Index consists of the MSCI EAFE Index (USD) (Gross) through July 2010 and the MSCI ACW Ex US Index (USD) (Net) thereafter.
- The Internal Intermediate Govt Fixed Income Portfolio Index currently consists of the Bloomberg US Treasury Index. November 2019 performance consists of the Internal Intermediate Govt Fixed Income Portfolio. Prior to November 2019, the index consists of Bloomberg US Gov't Int Term Bond Index. Prior to December 2009, the index consisted of the Bloomberg US Gov't Crdt Bond Index.
- The PIMCO Custom Index consists of the Bloomberg US Agg Bond Index through February 2018, the Bloomberg US Agg Int Index through June 2019, the Bloomberg US Agg Bond Index through 03/26/2020, account performance from 03/27/2020 through 04/03/2020, and the Bloomberg US Agg Bond Index thereafter.
- The Low Duration Fixed Income Custom Index consists of the Bloomberg US Gov't Crdt 1-3 Yr Bond Index through 06/30/2019 and the Bloomberg US Gov't 1-3 Yr Bond Index thereafter.
- The State Street All Cap Custom Index consists of 69% Russell 3000 Index, 24% FTSE RAFI US 1000 Index, and 7% MSCI US Min Vol Index (USD) (Gross) through 02/27/2020, State Street All Cap account performance on 02/28/2020, and the S&P 500 Index thereafter.
- The EMD Custom Index consists of the JPM GBI-EM Gbl Dvf'd Index through 02/29/2020, 70% JPM GBI-EM Gbl Dvf'd Index / 30% JPM CEMBI Brd Dvf'd Index thereafter through 11/30/2020, and 1/3 JPM GBI-EM Gbl Dvf'd Index, 1/3 JPM CEMBI Brd Dvf'd Index, and 1/3 JPM EMBI Gbl Dvf'd Index thereafter.
- The JP Morgan EMB (JEMB) Hard Currency/Local Currency 50/50 consists of 50% JPM GBI-EM Gbl Dvf'd Index, 25% JPM CEMBI Brd Dvf'd Index, and 25% JPM EMBI Gbl Dvf'd Index.
- The Goldman Sachs Index consists of JPM CEMBI Brd Dvf'd Index through 11/22/2020, account performance from 11/23/2020 through 11/30/2020, and the JPM CEMBI Brd Dvf'd Index thereafter.
- The Payden & Rygel Custom Index consists of the Bloomberg US Corp Inv Grade Index through 03/25/2020, account performance from 03/26/2020 through 03/31/2020, and Bloomberg US Corp Inv Grade Index thereafter.
- Opportunistic Investments Index: The Opportunistic Investments Index is the weighted average of the permanent funds' target allocation indices, excluding the opportunistic allocation.
- 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. 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 through 06/30/2019, and the ICE BofAML 3 Mo US T-Bill Index thereafter.
- 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 non-core 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 non-core 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.

During the 4th quarter of 2018, Logan Circle, Internal Long Duration Fixed Income Portfolio, and State Street Low Duration were funded.

During the 1st quarter of 2019, Epoch began the liquidation process.

During the 2nd quarter of 2019, Allianz, Stone Harbor, Fisher, JPM Core, NB Credit, Seix, State Street TIPS, and State Street Low Duration began the liquidation process.

During the 3rd quarter of 2019, Credit Suisse, Octagon, and Internal Ladder Portfolio were funded.

During the 4th quarter of 2019, Harding Loevner, State Street Russell 2000, Harvest Passive, Payden & Rygel, and JPM MBS were funded, and CS McKee began the liquidation process.

During the 1st quarter of 2020, Van Berkomp was funded.

During the 2nd quarter of 2020, Grosvenor D was funded.

During the 3rd quarter of 2020, MS Prime and BlackRock Small Cap were funded.

During the 4th quarter of 2020, Eaton Vance and Global Evolution Hard were 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 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.

**IM U.S. Short Duration Fixed Income (SA+CF):** The **U.S. Short Duration Fixed Income** universe includes products where the portfolio weighted average duration is greater than or equal to 1 year and less than 2.5 years. The average maturity is between 1 and 3 years.

**IM U.S. Long Duration Fixed Income (SA+CF):** The **U.S. Long Duration Fixed Income** universe includes products where the portfolio weighted average duration is greater than or equal to 6 years. The average maturity can be greater than 6 years.

**IM U.S. Bank Loans (SA+CF):** The **U.S. Bank Loans** universe includes products where the sector allocation to bank loans is greater than or equal to 75%. The S&P/LSTA Leverage Loan Index or Credit Suisse Leveraged Loan Index 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&amp;P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&amp;P</u>	<u>Moody's</u>	<u>Explanation</u>
<b>Higher Credit Quality – Investment Grade</b>			<b>Lower Credit Quality – Below Investment Grade</b>		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

**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., 1<sup>st</sup> quartile, 2<sup>nd</sup> quartile, 3<sup>rd</sup> quartile, and 4<sup>th</sup> quartile). The median observation is where the 2<sup>nd</sup> quartile and 3<sup>rd</sup> 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, and thus may differ from the classification of the investment manager and/or index provider.

**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, and 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. Stocks are unclassified when there is not enough data to determine a size and style metric.

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.

## Glossary

- 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.
- 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.
- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.
- VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."
- 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 that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. 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

## Glossary

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.

**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.

**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.

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

1 - Highest Statistical Value

100 - Lowest Statistical Value

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

**Performance Methodology** - RVK 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 valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

**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.

**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.

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

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

**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	Stable Value (Plan Sponsor Directed)	50
TIPS	95	Hedge Funds of Funds	35
US Large Cap Equity	95		
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Global Equity	90	<u>Not Liquid Investments</u>	
Non-US Large Cap Equity	90	Core Real Estate	25
Global Tactical Asset Allocation	88	Core Plus Real Estate	15
MLPs	85	Non-Core Real Estate	5
US Mid Cap Equity	85	Private Equity Funds of Funds	5
US SMid Cap Equity	85		
US Small Cap Equity	85		
REITs	85		
Non-US Small Cap Equity	85		
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.

**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		

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

**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.



## Glossary

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

**Treynor Ratio** - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., 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 portfolio's 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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