

Executive Summary - Informational

TO: State Investment Board
FROM: Dave Hunter
DATE: May 18, 2020
SUBJECT: SIB Meeting Materials – May 22, 2020

The SIB meeting on May 22 will be held in a virtual manner in light of ongoing public health concerns related to the COVID-19 outbreak. This Board meeting will include Callan’s quarterly investment performance review of SIB client returns for the periods ended March 31, 2020, in addition to the following topics:

- Interim Investment Update** – TFFR, PERS and Legacy Fund net returns ranged from a **-12.0% to -12.7%** for the Quarter Ended March 31, 2020, noting U.S. and Global Equities **lost over 20%** in the first quarter. WSI and Budget Stabilization Fund **lost 6.1% and 3.6%** respectively, during this same period. The impact of the pandemic on public health, unemployment, consumer spending and economic growth is unprecedented and led to record volatility in the equity markets and unforeseen levels of illiquidity within fixed income including high quality, short-term debt. **Fiscal Year to Date (FYTD) returns for TFFR, PERS and Legacy are broadly estimated to approximate -3% from July 1, 2019 to May 14, 2020. FYTD returns for WSI and Budget Stabilization are broadly estimated to range from +1% to -1% during this same period.**

	TFFR	PERS	Legacy	WSI	Budget Stabilization
Net Returns for 1-Year ended 12/31/19	18.0%	18.0%	18.1%	13.6%	4.7%
Net Returns for Quarter ended 9/30/2019	0.4%	0.4%	1.0%	1.7%	0.9%
Net Returns for Quarter ended 12/31/2019	5.6%	5.7%	5.2%	2.6%	0.8%
Net Returns for Quarter ended 3/31/2020	-12.0%	-12.1%	-12.7%	-6.1%	-3.6%
Fiscal Year To Date Returns 3/31/2020	-6.6%	-6.7%	-7.2%	-2.0%	-1.9%
<i>Estimated Returns for April 1-30, 2020</i>	6%	6%	6%	4%	1%
<i>Estimated Returns for May 1-14, 2020</i>	-2%	-2%	-2%	-1%	0%
Estimated FYTD Returns to May 14, 2020	-3%	-3%	-3%	1%	-1%

April and May returns are rough indicative estimates based on underlying benchmark data, not actual results. All estimates are preliminary, unaudited and subject to material change.

- Portfolio Rebalancing Update** – On March 27th, the SIB approved a recommendation to engage Parametric to assist us in synthetically rebalancing fund exposures in an efficient and cost effective manner. **RIO will provide a status update of rebalancing actions noting that Public Equity and Fixed Income/Cash are within 1% of Target as of May 14th within the Pension and Insurance pools and Legacy Fund.** As of May 14, the Pension pool is underweight Private Equity by approximately \$92 million and overweight Private Real Estate by approximately \$81 million.

3. **Diversified Real Assets** – RIO will request the SIB to approve up to a \$100 million commitment to Macquarie Infrastructure Partners V (MIP V) in order to further diversify our real asset investments within the Pension and Insurance Pools and Legacy Fund. Based on current market conditions, RIO recommends this action given that our existing Diversified Real Assets portfolio has a higher than desired allocation to U.S. Treasury Inflation Protected Securities (TIPS) of roughly \$600 million. The SIB previously approved a \$140 million commitment to MIP IV in October 2018 following a comprehensive due diligence process which included the engagement of Mercer’s real assets consulting team. RIO re-engaged with Mercer’s real asset consultants in addition to Callan’s infrastructure specialist Jan Mende in recent months to reconfirm our prior favorable opinion of Macquarie as a proven leader in the infrastructure sector. If the SIB approves this recommendation, RIO believes the SIB will be able to take advantage of a significant “first close” pricing opportunity in June. RIO conducted onsite due diligence in March.
4. **Governance Update** – The Board will be requested to accept the latest Audit Committee and Securities Litigation Review Committee reports after being provided a timely update of recent committee actions. The SIB may consider a review of ED/CIO compensation noting actions were deferred last month given the highly uncertain impact of the global pandemic and oil market decline on our State budget. RIO will also request the SIB to approve a Special meeting on Friday, June 26th, to accommodate U.S. Small Cap Equity manager presentations and provide another interim investment update.
5. **Quarterly Monitoring Reports** – RIO will request Board Acceptance of Quarterly Monitoring Reports as of March 31, 2020, including RIO’s Budget, Executive Limitations, Investment Program (including manager meetings), Retirement Program and Watch List.
6. **RIO Agency Update** – RIO’s new Deputy Executive Director/Chief Retirement Officer and Retirement Benefits Counselor are scheduled to start on June 1st. I sincerely thank all of our RIO team members for handling an increased workload due to staff retirements and/or job changes since July and due to the material impact of the global pandemic in recent months. RIO expects to be fully staffed on June 1, 2020.



ND STATE INVESTMENT BOARD MEETING

Friday, May 22, 2020, 8:30 a.m.
RIO Conference Room (Virtual Meeting Host)
Teleconferencing - 701.328.7950 Participant Code – 696855#
3442 East Century Avenue, Bismarck, ND

AGENDA

- I. CALL TO ORDER AND ACCEPTANCE OF AGENDA
- II. ACCEPTANCE OF MINUTES (April 24, 2020)
- III. INVESTMENTS
 - A. Asset and Investment Performance Overview - Mr. Hunter (15 minutes) **Board Action**
 - B. Callan Performance Review - Mr. Erlendson, Mr. Browning (30 minutes) **Board Acceptance**
 - 1. Pension Trust - March 31, 2020
 - 2. Insurance Trust - March 31, 2020
 - 3. Legacy Fund - March 31, 2020
 - C. Real Assets - Infrastructure Overview - Mr. Hunter (30 minutes)
 - 1. Macquarie Presentation - Mr. Karl Kuchel
 - 2. Staff Recommendation - Mr. Hunter **Board Action**
- IV. GOVERNANCE (30 minutes)
 - A. Audit Committee Report - Ms. Sauter **Board Acceptance**
 - B. Securities Litigation Committee Update - Mr. Hunter **Board Acceptance**
 - C. Executive Review Committee Update - Ms. Smith (Verbal)
 - D. Governor's Budget Guidelines - Mr. Hunter (Verbal)
- V. QUARTERLY MONITORING (enclosed) (15 min) **Board Acceptance**
 - A. Budget and Financial Condition - Ms. Flanagan
 - B. Executive Limitations / Staff Relations - Mr. Hunter
 - C. Investment Program - Mr. Chin
 - D. Retirement Program - Mr. Hunter
 - E. Watch List Update - Mr. Schulz
- VI. OTHER
 - Next Meetings: SIB Audit Committee, May 21, 2020, 3:00 p.m., Retirement and Investment Office
SIB - June 26, 2020, 8:30 a.m. - Retirement and Investment Office (**Pending Approval**)
- VII. ADJOURNMENT

**NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
APRIL 24, 2020, BOARD MEETING**

MEMBERS PRESENT: Brent Sanford, Lt. Governor, Chair
Rob Lech, TFFR Board, Vice Chair
Bryan Klipfel, Director of WSI
Troy Seibel, PERS Board, Parliamentarian
Jon Godfread, Insurance Commissioner
Toni Gumeringer, TFFR Board
Keith Kempenich, Legacy/Budget Stab. Adv. Board
Adam Miller, PERS Board
Mel Olson, TFFR Board
Kelly Schmidt, State Treasurer
Jodi Smith, Commissioner of Trust Lands
Yvonne Smith, PERS Board

STAFF PRESENT: Eric Chin, Chief Risk Officer/Senior CIO
Connie Flanagan, Chief Financial Officer
Ann Griffin, Investment Accountant
Bonnie Heit, Admin Svs Suprv
David Hunter, Exec Dir/CIO
Matt Posch, Investment/Compliance Officer
Sara Sauter, Suprv of Internal Audit
Darren Schulz, Dep CIO
Dottie Thorsen, Internal Auditor
Susan Walcker, Senior Financial Accountant

GUESTS: Dean DePountis, Attorney General's Office
Bryan Reinhardt, PERS

CALL TO ORDER:

Lt. Governor Sanford, Chair, called the State Investment Board (SIB) regular meeting to order at 9:00 a.m. on Friday, April 24, 2020. The virtual meeting was held at the Retirement and Investment Office, 3442 East Century Avenue, Bismarck, ND with the majority of the participants attending remotely.

AGENDA:

The Board considered the agenda for the April 24, 2020, meeting,

IT WAS MOVED BY DR. LECH AND SECONDED BY MR. OLSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE AGENDA FOR THE APRIL 24, 2020, MEETING.

AYES: MS. GUMERINGER, COMMISSIONER SMITH, MS. SMITH, TREASURER SCHMIDT, DR. LECH, COMMISSIONER GODFREAD, MR. OLSON, MR. SEIBEL, MR. MILLER, MR. KLIPFEL, AND LT. GOVERNOR SANFORD

NAYS: NONE

MOTION CARRIED

MINUTES:

IT WAS MOVED BY MS. SMITH AND SECONDED BY MS. GUMERINGER AND CARRIED BY A VOICE VOTE TO APPROVE THE MARCH 27, 2020, MINUTES AS DISTRIBUTED.

AYES: MR. OLSON, MS. GUMERINGER, MR. MILLER, MS. SMITH, MR. SEIBEL, MR. KLIPFEL, COMMISSIONER GODFREAD, COMMISSIONER SMITH, DR. LECH, TREASURER SCHMIDT, AND LT. GOVERNOR SANFORD

NAYS: NONE

MOTION CARRIED

INVESTMENTS:

Mr. Hunter highlighted returns for the five largest SIB clients for the period ending February 29, 2020. Estimated client returns are consistent with their underlying asset allocation with Teachers' Fund for Retirement (TFFR), Public Employees Retirement System (PERS) and the Legacy Fund down 3 percent, Workforce Safety & Insurance up 3 percent, and the Budget Stabilization Fund down 1 percent for the fiscal year-to-date July 1, 2019 - April 17, 2020 period.

Interim estimated fiscal year-to-date returns as of April 17, 2020, for the Pension Funds (Bismarck Employees, Bismarck Police, City of Grand Forks, and Grand Forks Parks) were down at least 2% to 3%. Job Service was up approximately 2% due to the plan being de-risked in recent years.

Mr. Hunter also referenced a report by BlackRock, as of April 2020, which illustrated market volatility and various scenario analysis for the US Public Pension Universe.

Portfolio Rebalancing - Mr. Schulz provided a portfolio rebalancing update. On March 27, 2020, the SIB approved a recommendation to engage Parametric to assist the SIB in synthetically rebalancing fund exposures in an efficient and cost effective manner. The Pension Pool, Legacy Fund, and Insurance Pool were within 1% to 3% of SIB client board approved asset allocation targets due to the rebalancing actions and a significant recovery in equities in late March and early April. The rebalancing is monitored on a daily basis and staff will be providing updates on a regular basis.

Client Updates - Mr. Hunter informed the SIB several clients have reviewed their long term assumed rate of return expectations and have revised them. PERS went from 7.50% to 7.00%, TFFR 7.75% to 7.25%, and City of Grand Forks Employee Pension Plan 7.50% to 7.25%

The Employee Benefit Programs Committee met on April 15, 2020, and Mr. Hunter provided an investment and Legacy Fund earnings update.

Inquiries have also been coming from various Legislative leaders on the liquidity of the Budget Stabilization Fund and the Legacy Fund. Mr. Hunter provided various scenarios on the impact of withdrawing funds from the two portfolios after a market downturn.

GOVERNANCE/EDUCATION:

Executive Review Committee (ERC) - Ms. Smith, Chair, reviewed the performance evaluation of the Executive Director/CIO for calendar year 2019. Overall, the results indicate Mr. Hunter continues to provide excellent leadership. Mr. Hunter's credibility and respect among board members, stakeholders, clients, and staff continues.

IT WAS MOVED BY DR. LECH AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE PERFORMANCE EVALUATION RESULTS OF THE EXECUTIVE DIRECTOR/CIO FOR CALENDAR YEAR 2019.

AYES: MR. KLIPFEL, MR. OLSON, COMMISSIONER GODFREAD, TREASURER SCHMIDT, COMMISSIONER SMITH, MR. SEIBEL, DR. LECH, MR. MILLER, MS. SMITH, MS. GUMERINGER, AND LT. GOVERNOR SANFORD

NAYS: NONE

MOTION CARRIED

Compensation Review and Recommendation - Ms. Smith reviewed the compensation recommendation from the ERC. The ERC recommended an 8% performance increase effective April 1, 2020 as well as the 2.5% legislative increase effective July 1, 2020.

Discussion followed.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY DR. LECH AND CARRIED BY A VOICE VOTE TO TABLE THE COMPENSATION REVIEW FOR THE EXECUTIVE DIRECTOR/CIO UNTIL A BETTER ECONOMIC FORECAST IS KNOWN.

AYES: DR. LECH, TREASURER SCHMIDT, MR. OLSON, COMMISSIONER SMITH, MR. SEIBEL, MR. MILLER, COMMISSIONER GODFREAD, MR. KLIPFEL, AND LT. GOVERNOR SANFORD

NAYS: MS. SMITH, MS. GUMERINGER

MOTION CARRIED

Lt. Governor Sanford exited the meeting and Dr. Lech presided over the remainder of the meeting.

Agency Update - Mr. Hunter provided an update on the status of vacant positions and agency operations as a result of the COVID-19 outbreak.

OTHER:

The next meeting of the SIB Securities Litigation Committee is scheduled for May 19, 2020, at 1:00 p.m. at the Retirement and Investment Office (virtual).

The next meeting of the SIB Audit Committee is scheduled for May 21, 2020, at 3:00 p.m. at the Retirement and Investment Office (virtual).

The next meeting of the SIB for regular business has been scheduled for May 22, 2020, at 8:30 a.m., at the Retirement and Investment Office (virtual).

ADJOURNMENT:

With no further business to come before the SIB, Vice Chairman Lech adjourned the meeting at 10:18 a.m.

Lt. Governor Brent Sanford, Chair
State Investment Board

Bonnie Heit
Recorder

Board Action

Asset and Performance Overview

Quarterly Investment Review as of March 31, 2020

May 18, 2020

Dave Hunter, Executive Director / CIO

Darren Schulz, Deputy Chief Investment Officer

Connie Flanagan, Chief Financial Officer

Eric Chin, Chief Risk Officer

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

State Investment Board – Client Assets Under Management

<u>Fund Name</u>	<u>Market Values as of 3/31/20⁽¹⁾</u>	<u>Market Values as of 6/30/19⁽²⁾</u>	<u>Market Values as of 3/31/19⁽¹⁾</u>
Pension Trust Fund			
Public Employees Retirement System (PERS)	2,909,524,117	3,152,930,087	3,050,783,390
Teachers' Fund for Retirement (TFFR)	2,358,789,518	2,573,622,554	2,487,153,763
City of Bismarck Employees Pension	97,888,813	104,517,247	100,914,673
City of Grand Forks Employees Pension	58,772,670	68,419,301	63,641,250
City of Bismarck Police Pension	38,727,234	41,862,976	40,382,091
Grand Forks Park District	6,669,500	7,176,427	6,952,858
Subtotal Pension Trust Fund	5,470,371,853	5,948,528,592	5,749,828,027
Insurance Trust Fund			
Workforce Safety & Insurance (WSI)	1,983,262,875	2,065,400,398	2,014,551,746
Budget Stabilization Fund	696,775,990	118,707,130	116,833,661
City of Fargo FargoDome Permanent Fund	38,505,207	44,840,633	43,404,933
PERS Group Insurance Account	30,670,434	31,067,120	33,055,703
State Fire and Tornado Fund	20,623,780	22,761,457	22,553,867
Petroleum Tank Release Compensation Fund	6,081,528	5,994,235	5,875,396
ND Association of Counties (NDACo) Fund	6,022,270	6,333,052	6,121,636
State Risk Management Workers Comp Fund	4,576,307	5,187,879	5,016,260
State Risk Management Fund	4,129,479	4,909,623	4,749,666
State Bonding Fund	3,663,715	3,609,422	3,533,119
ND Board of Medicine	2,255,935	2,362,384	2,310,324
Insurance Regulatory Trust Fund	1,629,413	6,218,781	2,156,818
Attorney General Settlement Fund	1,013,237		
Lewis & Clark Interpretive Center Endowment Fund	713,942	751,763	678,880
Bismarck Deferred Sick Leave Account	700,706	779,596	754,399
Cultural Endowment Fund	433,458	475,311	460,466
ND Veterans' Cemetary Trust Fund	279,234		
Subtotal Insurance Trust Fund	2,801,337,509	2,319,398,784	2,262,056,874
Legacy Trust Fund			
Legacy Fund	6,154,656,769	6,580,759,920	6,209,372,421
PERS Retiree Insurance Credit Fund	124,976,821	135,962,521	130,740,655
Job Service of North Dakota Pension	91,799,431	97,285,279	96,420,669
ND Tobacco Prevention and Control Trust Fund	7,573,495	9,300,127	28,850,459
Total Assets Under SIB Management	14,650,715,878	15,091,235,223	14,477,269,105


⁽¹⁾ Market values are unaudited and subject to change.

⁽²⁾ 6/30/19 market values as stated in the Comprehensive Annual Financial Report.

- ▶ **U.S. equity markets fell 20% in the 1st quarter of 2020 after gaining 30% in 2019.** Absolute returns in March were the worst on record for every Russell Value Index and the Russell 2000 Index (U.S. Small Cap Equity). Size and value spreads were also the worst on record with a 10% variance between Large and Small Companies and a 23% variance between Small Cap Value and Large Cap Growth (Top 200 Growth). Bond returns were mixed with Long-Term Treasuries up nearly 21% during this risk-off period, while High-Yield fell 13% as credit spreads widened to historic levels.
- ▶ **The Pension Trust posted a net return of -3.4% in the last year.** During the last 5-years, the Pension Trust generated a net annualized return of 4.2%, exceeding the performance benchmark of 3.8%.
- ▶ **The Insurance Trust generated a net return of 0.8% in the last year.** During the last 5-years, the Insurance Trust posted a net annualized return of 4.0%, exceeding the performance benchmark of 3.7%.
- ▶ **Legacy generated a net return of -4.2% last year.** During the last 5-years, Legacy Fund earned a net annualized return of 3.5%, exceeding the performance benchmark of 3.4%.
- ▶ **Equity and fixed income markets improved considerably in April, while May returns have been mixed** to date given continuing uncertainty and the impact of the global pandemic on public health, unemployment, consumer spending and economic growth.

Pension Return & Risk Summary – March 31, 2020

Returns & Risk: Most Pension clients generated positive “Excess Return” and positive “Risk Adjusted Excess Return” for the 5 years ended March 31, 2020, while adhering to prescribed risk levels (e.g. within 115% of the Policy Benchmark the last 5-years) excluding **Job Service**.

	Quarter Ended 3/31/2020	Current FYTD 3/31/2020	1 Yr Ended 3/31/2020	3 Yrs Ended 3/31/2020	5 Yrs Ended 3/31/2020	Risk 5 Yrs Ended 3/31/2020	Risk Adj Excess Return 5 Yrs Ended 3/31/2020
							
PERS \$2.9 billion							
Total Fund Return - Net	-12.08%	-6.73%	-3.47%	3.76%	4.18%	9.2%	0.24%
Policy Benchmark Return	-11.81%	-6.90%	-3.73%	3.34%	3.80%	8.7%	
Total Relative Return	-0.27%	0.17%	0.27%	0.42%	0.39%	105%	
TFFR \$2.36 billion							
Total Fund Return - Net	-11.96%	-6.65%	-3.36%	3.77%	4.17%	9.1%	0.35%
Policy Benchmark Return	-12.06%	-7.09%	-3.93%	3.27%	3.73%	8.8%	
Total Relative Return	0.10%	0.44%	0.57%	0.50%	0.45%	103%	
Bismarck \$98 million							
Total Fund Return - Net	-9.90%	-5.02%	-1.74%	4.00%	4.19%	7.6%	0.43%
Policy Benchmark Return	-9.82%	-5.26%	-2.29%	3.37%	3.68%	7.4%	
Total Relative Return	-0.09%	0.25%	0.54%	0.63%	0.51%	103%	

Risk Adjusted Excess Return measures actual portfolio results versus a benchmark adjusted by its risk relative to a benchmark portfolio. This metric is positive if excess returns are due to “smart” investment decisions or negative if driven by excess risk.

Pension Return & Risk Summary – March 31, 2020

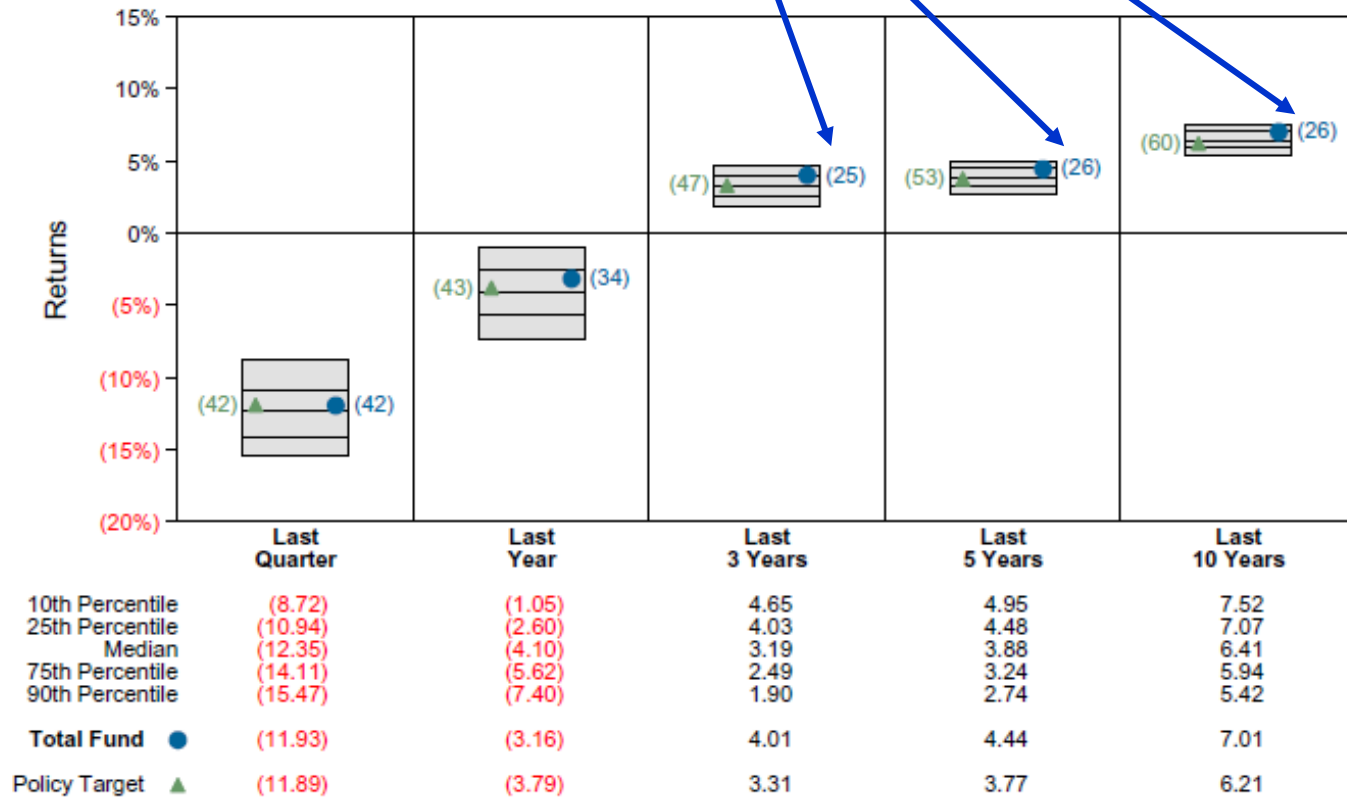
	Quarter Ended 3/31/2020	Current FYTD 3/31/2020	1 Yr Ended 3/31/2020	3 Yrs Ended 3/31/2020	5 Yrs Ended 3/31/2020	Risk 5 Yrs Ended 3/31/2020	Risk Adj Excess Return 5 Yrs Ended 3/31/2020
Bismarck Police \$39 million							
Total Fund Return - Net	-10.87%	-5.86%	-2.58%	3.83%	4.11%	8.2%	0.43%
Policy Benchmark Return	-10.91%	-6.24%	-3.25%	3.20%	3.62%	8.0%	
Total Relative Return	0.04%	0.37%	0.67%	0.63%	0.49%	102%	
Grand Forks \$59 million							
Total Fund Return - Net	-12.66%	-7.16%	-3.74%	3.82%	4.12%	9.4%	0.34%
Policy Benchmark Return	-12.81%	-7.59%	-4.49%	3.22%	3.76%	9.4%	
Total Relative Return	0.15%	0.43%	0.75%	0.60%	0.36%	101%	
Grand Forks Park \$6.7 million							
Total Fund Return - Net	-11.22%	-6.04%	-2.71%	4.13%	4.27%	8.9%	0.14%
Policy Benchmark Return	-10.79%	-6.01%	-2.94%	3.71%	3.95%	8.4%	
Total Relative Return	-0.43%	-0.03%	0.22%	0.41%	0.32%	106%	
Job Service \$92 million SEI							
Total Fund Return - Net	-5.10%	-2.16%	-0.03%	3.06%	3.61%	4.4%	-0.60%
Policy Benchmark Return	-3.45%	-0.27%	2.17%	4.08%	3.92%	3.9%	
Total Relative Return	-1.65%	-1.89%	-2.20%	-1.02%	-0.31%	114%	

Job Service (SEI) was de-risked by the NDPERS Board and SIB in recent years due to this closed pension plan being over 140% funded using a 4.5% discount rate and a 20% equity and 80% fixed income asset allocation.

Callan – SIB Pension Trust Fund Ranking

The **Callan** charts show the ranking of the **Total Fund** (SIB Pension Trust) performance relative to that of the Callan Public Fund Sponsor Database for periods ended March 31, 2020. **The SIB Pension Trust was ranked in the 25th or 26th percentile for the 3, 5, and 10-years ended March 31, 2020.**

Callan Public Fund Sponsor Database



Non-Pension Return & Risk Summary – March 31, 2020

	Quarter Ended 3/31/2020	Current FYTD 3/31/2020	1 Yr Ended 3/31/2020	3 Yrs Ended 3/31/2020	5 Yrs Ended 3/31/2020	Risk 5 Yrs Ended 3/31/2020	Risk Adj Excess Return 5 Yrs Ended 3/31/2020
WSI \$2 billion							
Total Fund Return - Net	-6.12%	-2.02%	1.18%	4.38%	4.24%	5.15%	-0.34%
Policy Benchmark Return	-3.28%	0.37%	3.48%	4.40%	3.83%	3.88%	
Total Relative Return	-2.83%	-2.39%	-2.31%	-0.02%	0.41%	133%	
Legacy Fund \$6.2 billion							
Total Fund Return - Net	-12.65%	-7.21%	-4.21%	2.70%	3.52%	9.17%	-0.07%
Policy Benchmark Return	-10.81%	-5.88%	-2.69%	3.01%	3.35%	8.19%	
Total Relative Return	-1.84%	-1.33%	-1.51%	-0.31%	0.18%	112%	
Budget Stab. \$696 million							
Total Fund Return - Net	-3.59%	-1.95%	-0.37%	1.03%	1.15%	2.11%	-0.71%
Policy Benchmark Return	1.68%	2.98%	4.50%	2.56%	1.88%	1.12%	
Total Relative Return	-5.27%	-4.93%	-4.87%	-1.54%	-0.73%	188%	
Fire & Tornado \$21 million							
Total Fund Return - Net	-9.87%	-5.15%	-2.12%	2.99%	3.47%	7.15%	-0.31%
Policy Benchmark Return	-6.73%	-2.44%	0.66%	3.53%	3.32%	5.71%	
Total Relative Return	-3.14%	-2.71%	-2.77%	-0.55%	0.14%	125%	
State Bonding \$3.7 million							
Total Fund Return - Net	-0.61%	1.50%	3.69%	3.28%	2.66%	2.01%	0.24%
Policy Benchmark Return	1.99%	3.84%	5.90%	3.49%	2.39%	1.97%	
Total Relative Return	-2.60%	-2.34%	-2.21%	-0.21%	0.27%	102%	
Insur.Reg.Trust \$1.6 million							
Total Fund Return - Net	-5.71%	-1.65%	0.79%	3.30%	3.20%	5.15%	0.39%
Policy Benchmark Return	-5.99%	-2.36%	0.11%	2.88%	2.69%	4.86%	
Total Relative Return	0.28%	0.71%	0.68%	0.42%	0.51%	106%	

5-Years Returns:
Most Non-Pension clients (10 of 16) generated positive Excess Return for the 5-years ended March 31, 2020, but the global pandemic severely impacted fixed income liquidity (and equity market returns) in March which caused most of our public fixed income managers to underperform Callan approved benchmarks by unprecedented levels in the 1st quarter of 2020.

Non-Pension Return & Risk Summary – March 31, 2020

	Quarter Ended 3/31/2020	Current FYTD 3/31/2020	1 Yr Ended 3/31/2020	3 Yrs Ended 3/31/2020	5 Yrs Ended 3/31/2020	Risk 5 Yrs Ended 3/31/2020	Risk Adj Excess Return 5 Yrs Ended 3/31/2020
Petrol.Tank Rel. \$6.1 million							
Total Fund Return - Net	-0.54%	1.46%	3.51%	3.13%	2.52%	1.83%	0.22%
Policy Benchmark Return	1.86%	3.64%	5.57%	3.33%	2.28%	1.81%	
Total Relative Return	-2.41%	-2.18%	-2.06%	-0.20%	0.23%	101%	
State Risk Mgmt. \$4.1 million							
Total Fund Return - Net	-8.80%	-4.17%	-0.94%	3.56%	3.97%	6.53%	-0.55%
Policy Benchmark Return	-5.22%	-0.87%	2.37%	4.25%	3.90%	5.08%	
Total Relative Return	-3.58%	-3.29%	-3.31%	-0.70%	0.07%	129%	
State Risk Mgt. \$4.6 million							
Total Fund Return - Net	-10.49%	-5.45%	-2.21%	3.35%	4.03%	7.58%	-0.57%
Policy Benchmark Return	-7.04%	-2.27%	1.03%	4.17%	4.07%	6.16%	
Total Relative Return	-3.44%	-3.17%	-3.24%	-0.82%	-0.04%	123%	
NDACo \$6 million							
Total Fund Return - Net	-9.82%	-4.90%	-1.64%	3.00%	3.31%	7.13%	-0.37%
Policy Benchmark Return	-6.42%	-1.98%	1.33%	3.62%	3.22%	5.57%	
Total Relative Return	-3.41%	-2.92%	-2.97%	-0.63%	0.09%	128%	
Bismarck Def.Sick \$700,706							
Total Fund Return - Net	-8.78%	-4.21%	-1.00%	3.31%	3.63%	6.56%	-0.30%
Policy Benchmark Return	-5.28%	-1.20%	2.03%	3.78%	3.35%	4.98%	
Total Relative Return	-3.51%	-3.01%	-3.02%	-0.47%	0.28%	132%	
FargoDome \$38.5 million							
Total Fund Return - Net	-13.67%	-8.24%	-5.21%	2.35%	3.30%	9.64%	-0.20%
Policy Benchmark Return	-11.02%	-6.11%	-2.94%	2.86%	3.22%	8.34%	
Total Relative Return	-2.66%	-2.14%	-2.27%	-0.51%	0.08%	116%	

Elevated Risk:
The global pandemic caused an unprecedented rise in market volatility and fixed income illiquidity in March which prompted the Fed to initiate the largest and most wide spread stimulus package in history. Due to the sharp and severe impact of the COVID-19 outbreak on the capital markets including even high quality fixed income securities, many of our SIB clients posted record high levels of volatility. (See next page.)

Non-Pension Return & Risk Summary – March 31, 2020

	Quarter Ended 3/31/2020	Current FYTD 3/31/2020	1 Yr Ended 3/31/2020	3 Yrs Ended 3/31/2020	5 Yrs Ended 3/31/2020	Risk 5 Yrs Ended 3/31/2020	Risk Adj Excess Return 5 Yrs Ended 3/31/2020
Cult.Endow. \$433,458							
Total Fund Return - Net	-14.51%	-8.78%	-5.78%	2.50%	3.82%	10.17%	-0.46%
Policy Benchmark Return	-11.91%	-6.46%	-3.25%	3.37%	3.98%	9.02%	
Total Relative Return	-2.61%	-2.33%	-2.53%	-0.87%	-0.16%	113%	
Bd.of Medicine \$2.3 million							
Total Fund Return - Net	-7.43%	-3.75%	-1.56%	1.86%	2.27%	4.74%	-0.41%
Policy Benchmark Return	-4.49%	-1.32%	0.89%	2.61%	2.40%	3.53%	
Total Relative Return	-2.94%	-2.43%	-2.45%	-0.75%	-0.13%	134%	
PERS Group Ins. \$31 million							
Total Fund Return - Net	0.43%	1.54%	3.07%	2.14%	1.53%	1.02%	-0.06%
Policy Benchmark Return	0.83%	1.67%	3.07%	2.07%	1.57%	0.94%	
Total Relative Return	-0.40%	-0.13%	0.00%	0.07%	-0.03%	108%	
Lewis & Clark \$713,942							
Total Fund Return - Net	-9.90%	-4.97%	-1.67%	N/A	N/A		
Policy Benchmark Return	-6.47%	-2.11%	1.23%	N/A	N/A		
Total Relative Return	-3.42%	-2.86%	-2.86%	N/A	N/A		
AG Settlement \$1 million							
Total Fund Return - Net	-3.59%	N/A	N/A	N/A	N/A		
Policy Benchmark Return	1.68%	N/A	N/A	N/A	N/A		
Total Relative Return	-5.27%	N/A	N/A	N/A	N/A		
PERS Retiree Health \$125 million							
Total Fund Return - Net	-14.08%	-8.44%	-5.20%	2.39%	3.21%	10.40%	-0.65%
Policy Benchmark Return	-12.67%	-7.07%	-3.67%	3.05%	3.68%	9.49%	
Total Relative Return	-1.41%	-1.37%	-1.53%	-0.67%	-0.47%	110%	
Tobacco Prevention \$7.6 million							
Total Fund Return - Net	2.28%	3.36%	5.04%	3.31%	N/A		
Policy Benchmark Return	2.40%	3.52%	5.07%	3.35%	N/A		
Total Relative Return	-0.13%	-0.15%	-0.03%	-0.03%			

Elevated Risk:
Given elevated market volatility experienced in recent months, RIO has been monitoring portfolio returns and risk levels on a daily basis. Portfolio risk levels, as measured by standard deviation, remain elevated, but have declined by more than 50% since peaking in March. RIO has discussed these events with Callan and many of our investment managers and will re-evaluate SIB client risk levels in even greater depth as of our June 30 fiscal year-end.

State Investment Board – Five Largest Clients

Interim FYTD Estimated Returns – May 14, 2020

Interim estimated FYTD investment returns for the SIB's five largest clients are summarized below on a **fiscal year to date** basis from July 1, 2019 through May 14, 2020:

	TFFR	PERS	Legacy	WSI	Budget Stabilization
Net Returns for 1-Year ended 12/31/19	18.0%	18.0%	18.1%	13.6%	4.7%
Net Returns for Quarter ended 9/30/2019	0.4%	0.4%	1.0%	1.7%	0.9%
Net Returns for Quarter ended 12/31/2019	5.6%	5.7%	5.2%	2.6%	0.8%
Net Returns for Quarter ended 3/31/2020	-12.0%	-12.1%	-12.7%	-6.1%	-3.6%
Fiscal Year To Date Returns 3/31/2020	-6.6%	-6.7%	-7.2%	-2.0%	-1.9%
<i>Estimated Returns for April 1-30, 2020</i>	6%	6%	6%	4%	1%
<i>Estimated Returns for May 1-14, 2020</i>	-2%	-2%	-2%	-1%	0%
Estimated FYTD Returns to May 14, 2020	-3%	-3%	-3%	1%	-1%

April and May returns are rough indicative estimates based on underlying benchmark data (not actual results) and all amounts are preliminary, unaudited and subject to material change.

- Investment volatility hit an all-time high in 2020 as the longest bull market in history (11+ years) was immediately followed by the fastest bear market correction on record (less than one month). This record level of volatility resulted in U.S. and global equities declining by over 20% in the first of quarter of 2020 after increasing by 30% in 2019.
- TFFR, PERS and Legacy portfolios gained 18% in 2019 before losing 12% in Q1 of 2020 as their diversified portfolios served to dampen roughly 40% of the equity market volatility (or experience roughly 60% of the equity market gains and losses). The impact of the COVID-19 pandemic on public health, global economy, capital markets and consumer spending was unprecedented.
- Based on preliminary market data which is unaudited and subject to material change, TFFR, PERS & Legacy Fund returns are roughly estimated to approximate **-3%** on a fiscal year to date basis as of May 14, 2020, and are expected to benefit from a significant public equity and fixed income market recovery in April with mixed results in the first half of May.
- WSI and Budget Stabilization Fund returns are estimated to range from +1 to **-1%** on a fiscal year to date basis as of May 14, 2020, and are also expected to benefit from a significant public fixed income recovery in April and early-May.

Portfolio Overlay and Rebalancing Update

As of May 15, 2020

PENSION POOL

	Physical	Overlay	Actual	Target	Over or Under	
					\$	%
Public Equity	\$ 2,780	\$ 151	\$ 2,931	\$ 2,924	\$ 7	0.1%
Fixed Income/Cash	\$ 1,511	\$ (151)	\$ 1,360	\$ 1,354	\$ 6	0.1%
Private Equity	\$ 279	\$ -	\$ 279	\$ 371	\$ (92)	-1.6%
Private Real Assets	\$ 1,141	\$ -	\$ 1,141	\$ 1,062	\$ 79	1.4%
As of May 15, 2020	\$ 5,711	\$ -	\$ 5,711	\$ 5,711	\$ -	0%

The Pension Pool was valued at approximately \$5.7 billion as of May 15, 2020. Public Equity and Fixed Income or Cash were within 0.1% of Target Allocations. Private Equity was underweight 1.6% and Private Real Estate was overweight 1.4% at May 15, 2020.

LEGACY FUND

	Physical	Overlay	Actual	Target	Over or Under	
					\$	%
Public Equity	\$ 2,947	\$ 277	\$ 3,224	\$ 3,253	\$ (29)	-0.4%
Fixed Income/Cash	\$ 2,557	\$ (277)	\$ 2,280	\$ 2,278	\$ 2	0.0%
Private Real Assets	\$ 1,003	\$ -	\$ 1,003	\$ 976	\$ 27	0.4%
As of May 15, 2020	\$ 6,507	\$ -	\$ 6,507	\$ 6,507	\$ -	0%

The Legacy Fund was valued at approximately \$6.5 billion as of May 15, 2020. Public Equity was underweight 0.4% and Fixed Income or Cash were consistent with Target Allocations. Private Real Assets were overweight 0.4% at May 15, 2020.

INSURANCE POOL

	Physical	Overlay	Actual	Target	Over or Under	
					\$	%
Public Equity	\$ 416	\$ 56	\$ 472	\$ 488	\$ (16)	-0.6%
Fixed Income/Cash	\$ 2,114	\$ (56)	\$ 2,058	\$ 2,043	\$ 15	0.5%
Private Real Assets	\$ 356	\$ -	\$ 356	\$ 355	\$ 1	0.0%
As of May 15, 2020	\$ 2,886	\$ -	\$ 2,886	\$ 2,886	\$ -	0%

The Insurance Pool was valued at \$2.9 billion as of May 15, 2020. Public Equity was underweight 0.6% and Fixed Income or Cash were overweight 0.5% of Target Allocations at May 15, 2020.

ND Legacy Fund

Summary of Deposits, Earnings and Net Position

As of March 31, 2020

						Earnings as
	Deposits	Withdrawals	Total Net Earnings	Net Increase/ (Decrease)	Ending Net Position	defined in NDCC 21-10-12
FY2012	396,585,658	-	2,300,225	398,885,883	398,885,883	2,571,475
FY2013	791,126,479	-	4,216,026	795,342,505	1,194,228,388	15,949,089
FY2014	907,214,971	-	113,153,662	1,020,368,633	2,214,597,021	50,033,655
FY2015	1,011,343,040	-	99,895,650	1,111,238,690	3,325,835,711	95,143,905
FY2016	434,853,950	-	45,851,680	480,705,630	3,806,541,341	65,326,673
FY2017	399,501,134	-	479,595,256	879,096,390	4,685,637,731	207,814,875
Totals	3,940,625,232	-	745,012,499	4,685,637,731	4,685,637,731	436,839,672

All earnings prior to 7/1/2017 became part of principal.

FY2018	529,870,755		360,575,532	890,446,287	5,576,084,018	242,859,840
FY2019 *	628,610,681		53,186,743	681,797,424	6,257,881,442	212,403,376
Earnings transferred 7/23/19 for 2017-19 biennium						455,263,216
June, 2019	63,958,262	(455,263,216)	255,651,383	(135,653,571)	6,122,227,871	46,980,140
FY2020 **	515,229,549	-	(485,896,124)	29,333,425	29,333,425	96,054,291
Earnings transferrable at end of 2019-21 biennium						143,034,431
Life-to-date Totals	5,678,294,479		928,530,033	6,151,561,296	6,151,561,296	1,035,137,319

* FY2019 amounts reflect 11 months ended 5/31/19 as 2019-21 transfer was based on 23 months.

** FY2020 amounts are preliminary and unaudited.

NDCC 21-10-12 Earnings exceed Total Net Earnings due to net unrealized losses of \$106,607,286 at March 31, 2020.

NDCC 21-10-12 defines "earnings" as net income in accordance with generally accepted accounting principles excluding unrealized gains and losses. In order to eliminate undue risk in the State budget process, the SIB supports a Percent Of Market Value (POMV) approach to defining Legacy Fund "earnings". The POMV approach is considered a best practice and commonly used by other sovereign wealth funds (and ND's Department of Trust Lands) to determine a sustainable spending policy in a prudent, efficient and transparent manner. POMV earnings estimates using spending rate assumptions ranging from 1% to 10% are shown at right and based on the market value of the Legacy Fund the last four fiscal year ends* (including March 31, 2020 for FYE 2020).

	POMV Last Four FYE's*		POMV Last Four FYE's*
	4,534,232,897		4,534,232,897
1%	\$ 45,342,329	6%	\$ 272,053,974
2%	\$ 90,684,658	7%	\$ 317,396,303
3%	\$ 136,026,987	8%	\$ 362,738,632
4%	\$ 181,369,316	9%	\$ 408,080,961
5%	\$ 226,711,645	10%	\$ 453,423,290

Investment Work Plan Update

- ▶ **U.S. Small Cap Equity: Conduct a two manager search to fulfill a three manager structure that includes top performing Atlanta Capital High Quality Small Cap.**
- ▶ **Callan was retained to aide RIO in the identification of suitable candidates. RIO and Callan are working to create a shortlist of U.S. small cap growth and core/value managers utilizing either a fundamental or quantitative approach.**
- ▶ **Through quantitative screens and simulations of portfolio combinations, Staff filtered an initial list of 100 candidates down to a shortlist of 8 to 10 managers.**
- ▶ **RIO recently shared this shortlist of candidates with Callan and intends to complete a final round of advanced due diligence in the next month.**
- ▶ **If the SIB concurs, RIO will request the Board to make a motion to approve new regular SIB meeting on Friday, June 26th, in order to accommodate finalist presentations by at least one U.S. Small Cap Equity manager (as jointly identified by RIO and Callan).**
- ▶ **In light of unprecedented market volatility and the continuing impact of the coronavirus pandemic on public heath, unemployment, economic growth and the capital markets, RIO will continue to review SIB client portfolio structures and investment manager performance including developing opportunities in the public & private markets (such as opportunistic credit & private infrastructure).**

Callan



May 2020

North Dakota State Investment Board

Performance Evaluation
as of March 31, 2020

Paul Erlendson
Senior Vice President

Alex Browning
Senior Vice President

Callan

Market Update

First Quarter 2020

Global Economic Update 2020

The big picture

Markets faced unprecedented disruption in Q1 as the COVID-19 virus caused global economies to grind to a halt

- Governments urged social distancing and temporarily shut down "non-essential businesses"
- Economic activity dropped precipitously and unemployment surged
- March unemployment rose to 4.4% from 3.5% in February, the largest one-month increase since January 1975
- The TSA reported a 95% year-over-year decline in airline passenger travel
- Oil prices fell 65% in the first quarter on supply and demand shocks

Governments stepped in quickly with immediate monetary response and fiscal stimulus

- Fed Chairman Powell: "We'll do whatever it takes."
- The Fed cut policy rates to the lower bound of 0% to 0.25% and expanded asset purchasing programs to bolster liquidity and stabilize the financial markets
- The CARES act provides over \$2 trillion in aid targeted at assisting small businesses and individuals

Broad economic impact

- Companies/Organizations: Stresses to revenue, earnings, economic viability, access to capital, recovery
- Individuals: Unemployment, income, wealth, retirement savings
- Governments: Declining tax revenues while service burden increases

A true recovery may require a vaccine

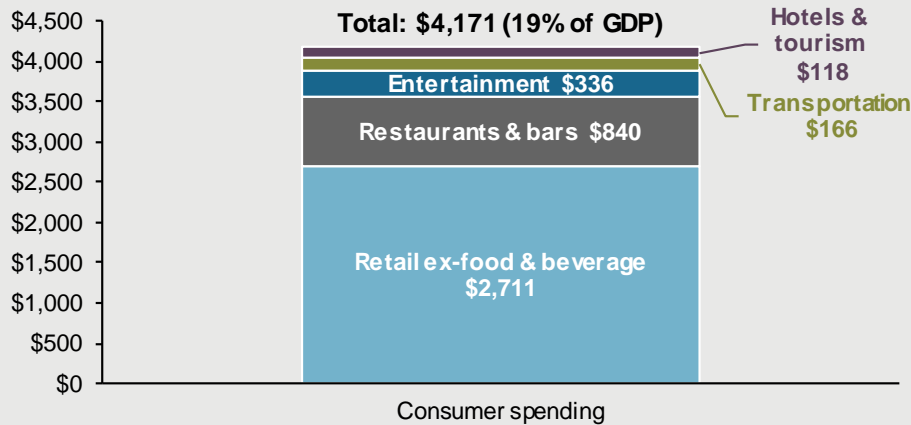
- Vaccine development timelines are highly variable
- Government support can only alleviate economic symptoms caused by the virus

Social Distancing Vulnerability

Retail sales fell 8.7% in March

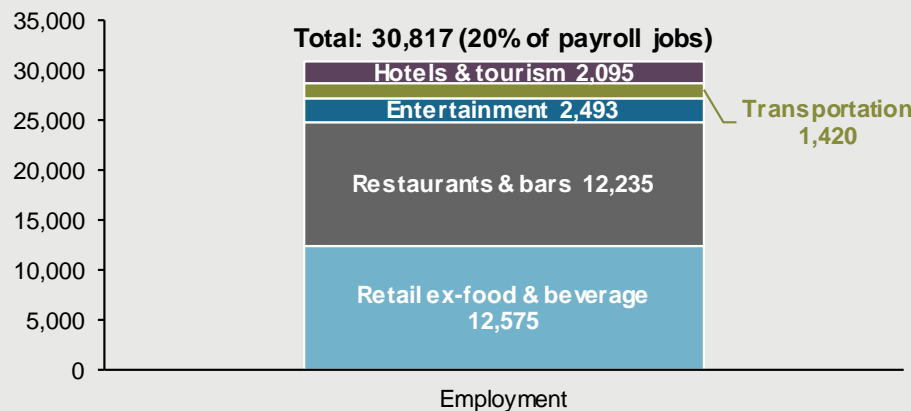
Consumer spending by industry

2019, billions



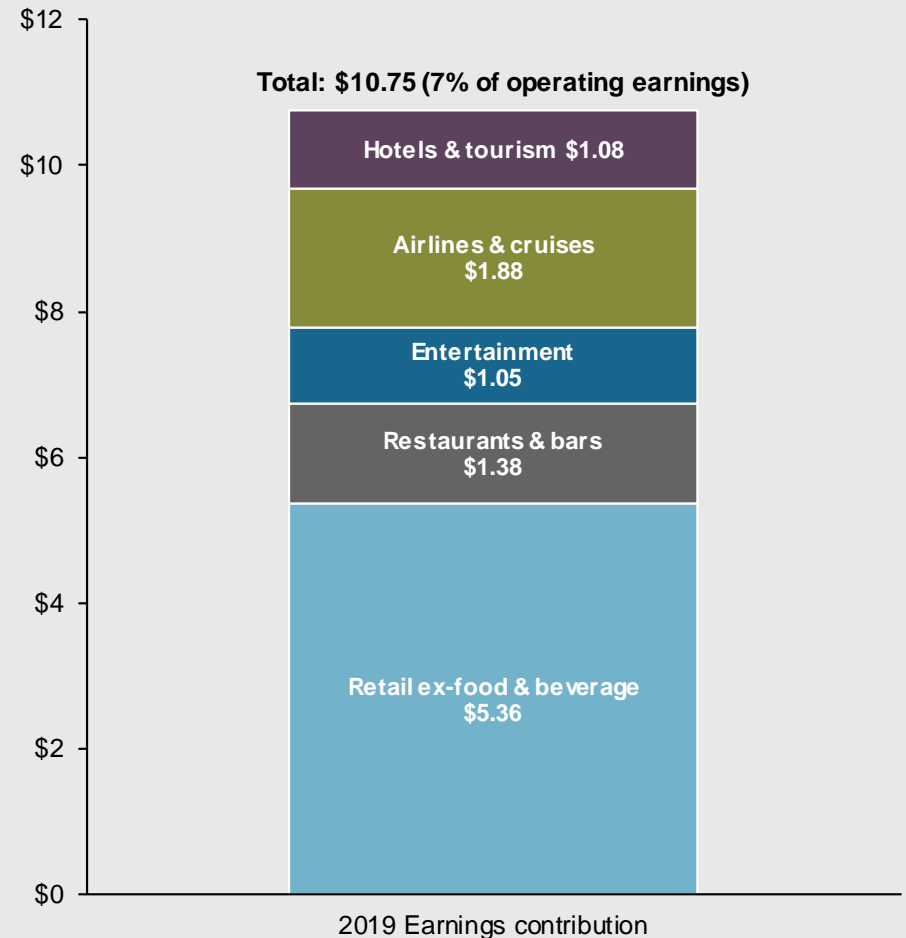
Employment by industry

Jan. 2020, thousands



Earnings contribution by industry

Contribution to 2019 S&P 500 operating earnings



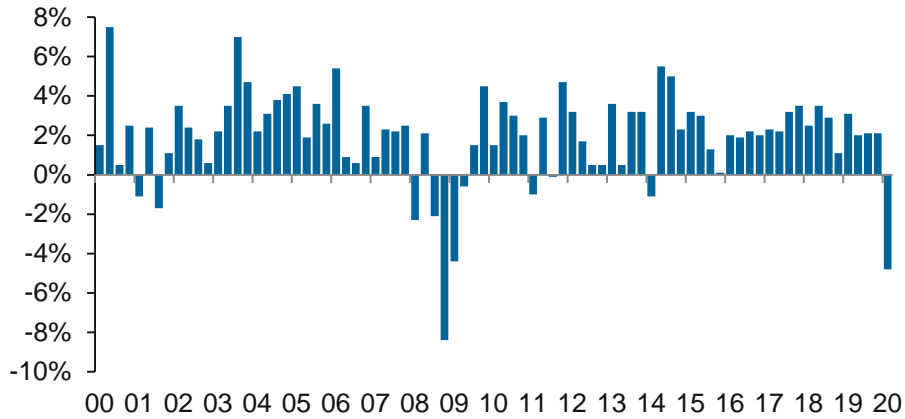
– Within retail, clothing stores were hit the hardest, followed by bars & restaurants and the automotive industry

Source: JPMorgan Guide to the Markets, April 9, 2020

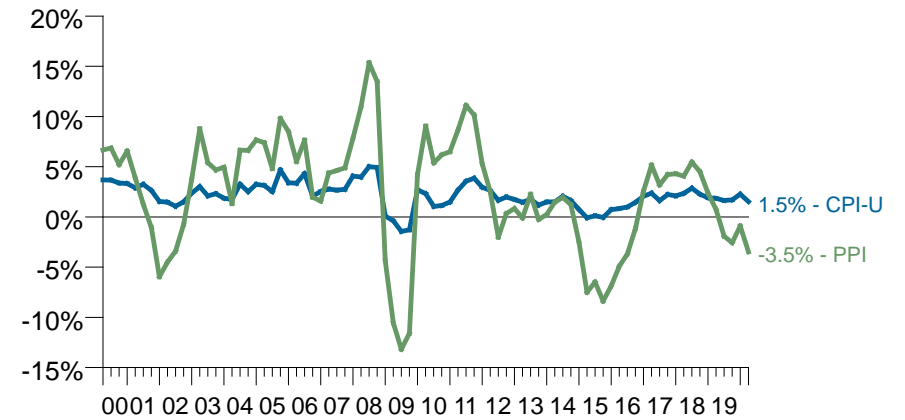
U.S. Economy—Summary

For periods ended March 31, 2019

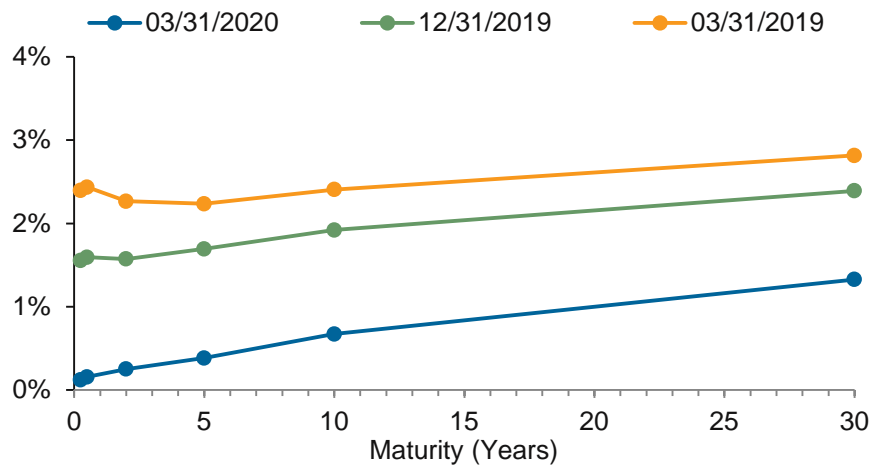
Quarterly Real GDP Growth



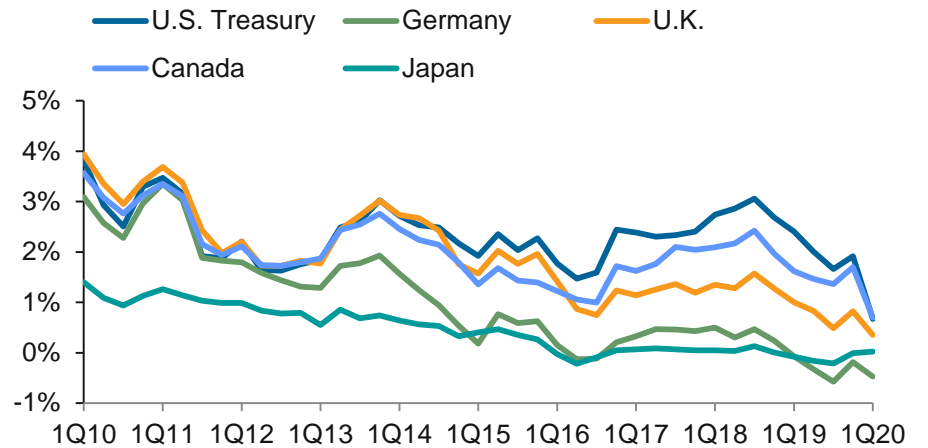
Inflation Year-Over-Year



U.S. Treasury Yield Curves



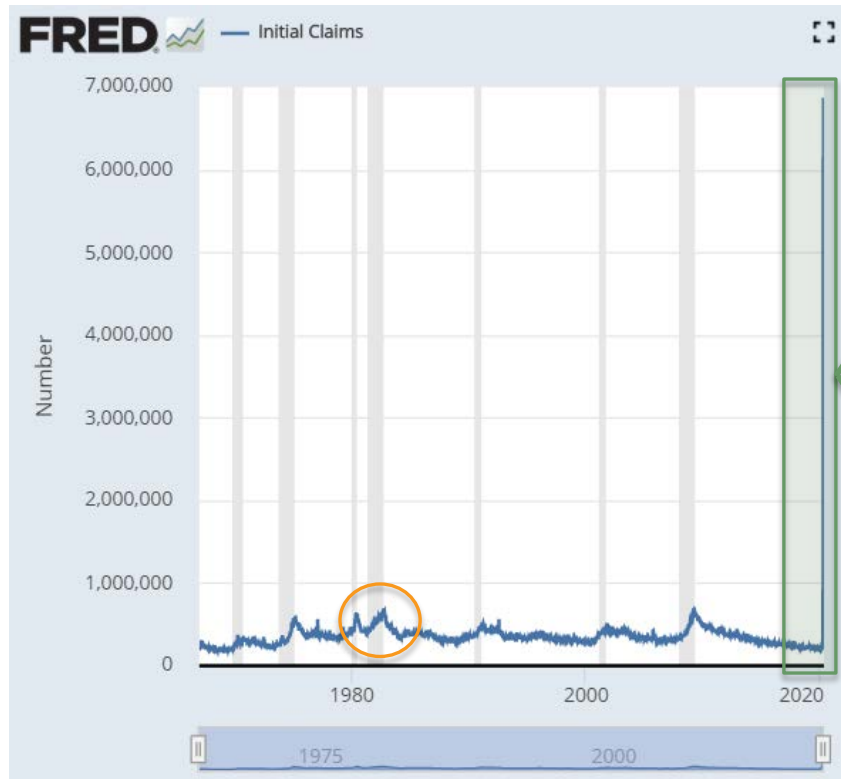
10-Year Global Government Bond Yields



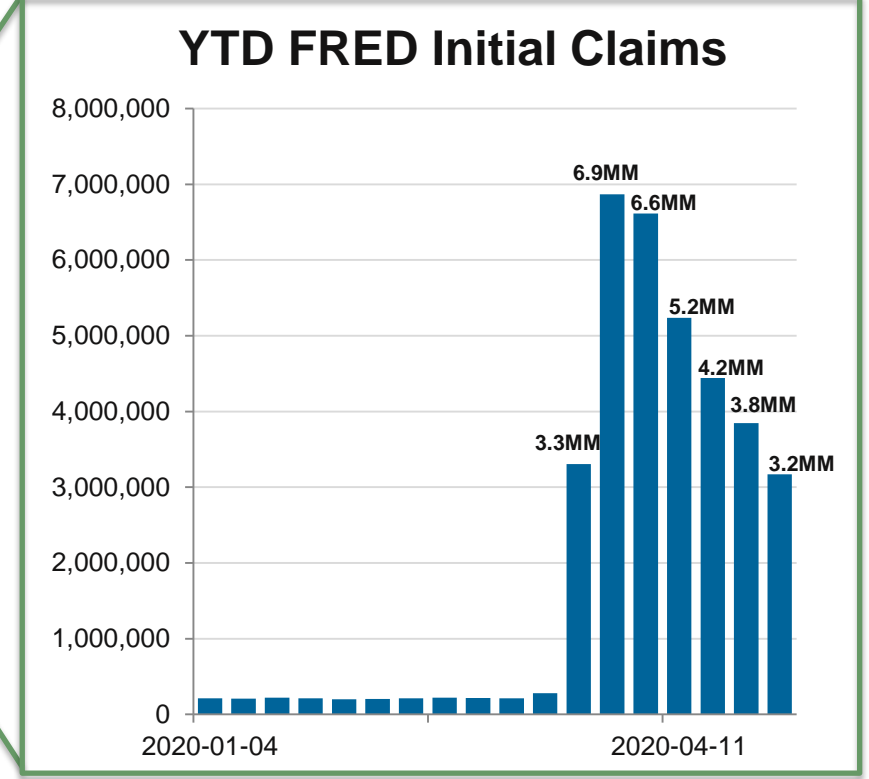
Sources: Bloomberg, Bureau of Labor Statistics, Callan

Unemployment Is Skyrocketing as Businesses Shut Down

Historical Initial Unemployment Claims



Recent Initial Unemployment Claims

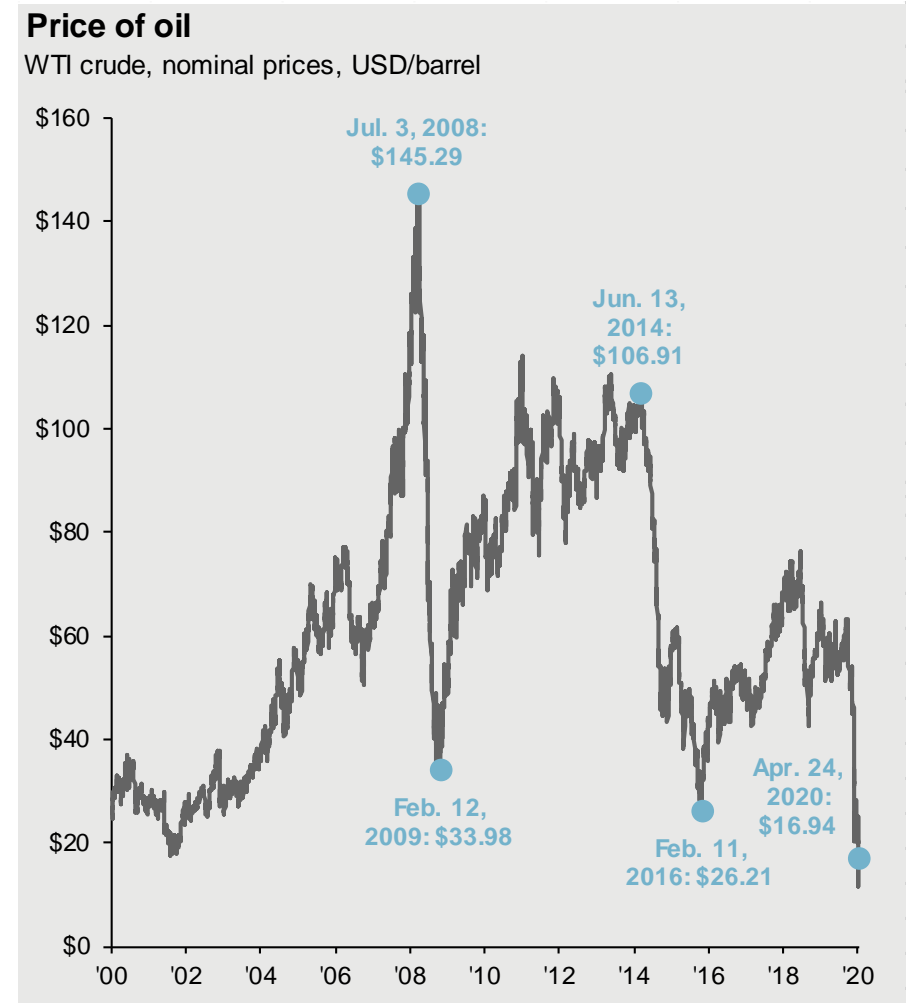
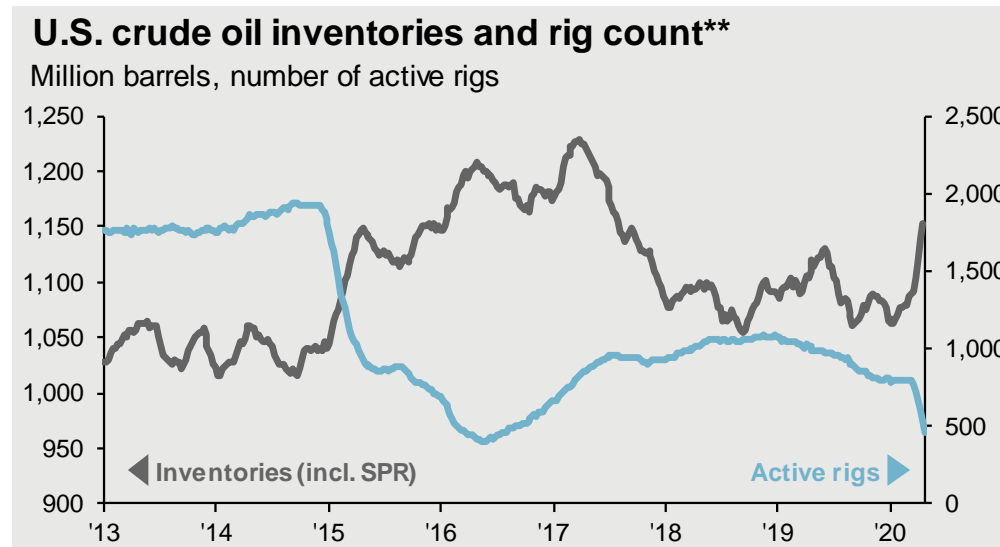


Source: St. Louis FRED

- Initial unemployment claims have skyrocketed:
 - As of May 2nd, the cumulative weekly claims from March 21st to present are 33.5MM, more than all the jobs added since the GFC
 - The previous record high initial weekly unemployment claims was 695,000 set in 1982
 - If one assumes that none of the weekly claimants has found work, that implies an unemployment rate of 21%
- The highest rate of U.S. unemployment was 24.9% in 1933, during the Great Depression. Unemployment remained above 14% from 1931 to 1940
 - Preliminary economist estimates for the month ending April are close to 16%
 - A stark difference from the half century low unemployment rate in February of 3.5%

Oil Prices Collapse

- The price of oil plummeted 65% in the first quarter
- Slowing demand as a result of COVID-19 was exacerbated by supply issues as Russia and Saudi Arabia failed to agree on production limits
- On April 20th, WTI crude futures prices for May delivery dropped below -\$37/bbl as technical factors collided with scarce storage capacity



Source: J.P. Morgan Asset Management; (left) EIA; (Right) FactSet; (Bottom left) Baker Hughes.

**U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD.

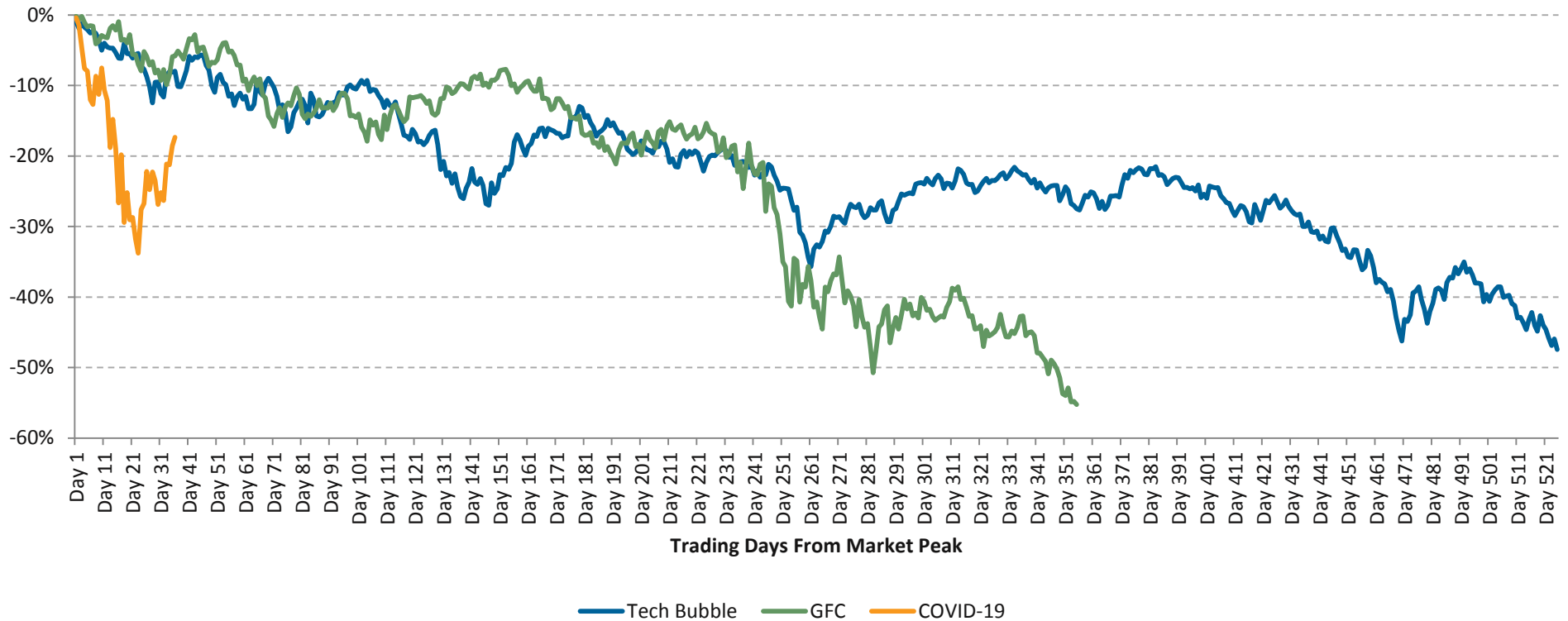
Guide to the Markets – U.S. Data are as of April 24, 2020.

A Rapid and Severe Drawdown

A “Global Hurricane” in the form of a pandemic.

S&P 500 Index Cumulative Returns

Market Peak-to-Trough for Last Two Corrections vs. Current Path of COVID-19 Correction Through 4/9/20



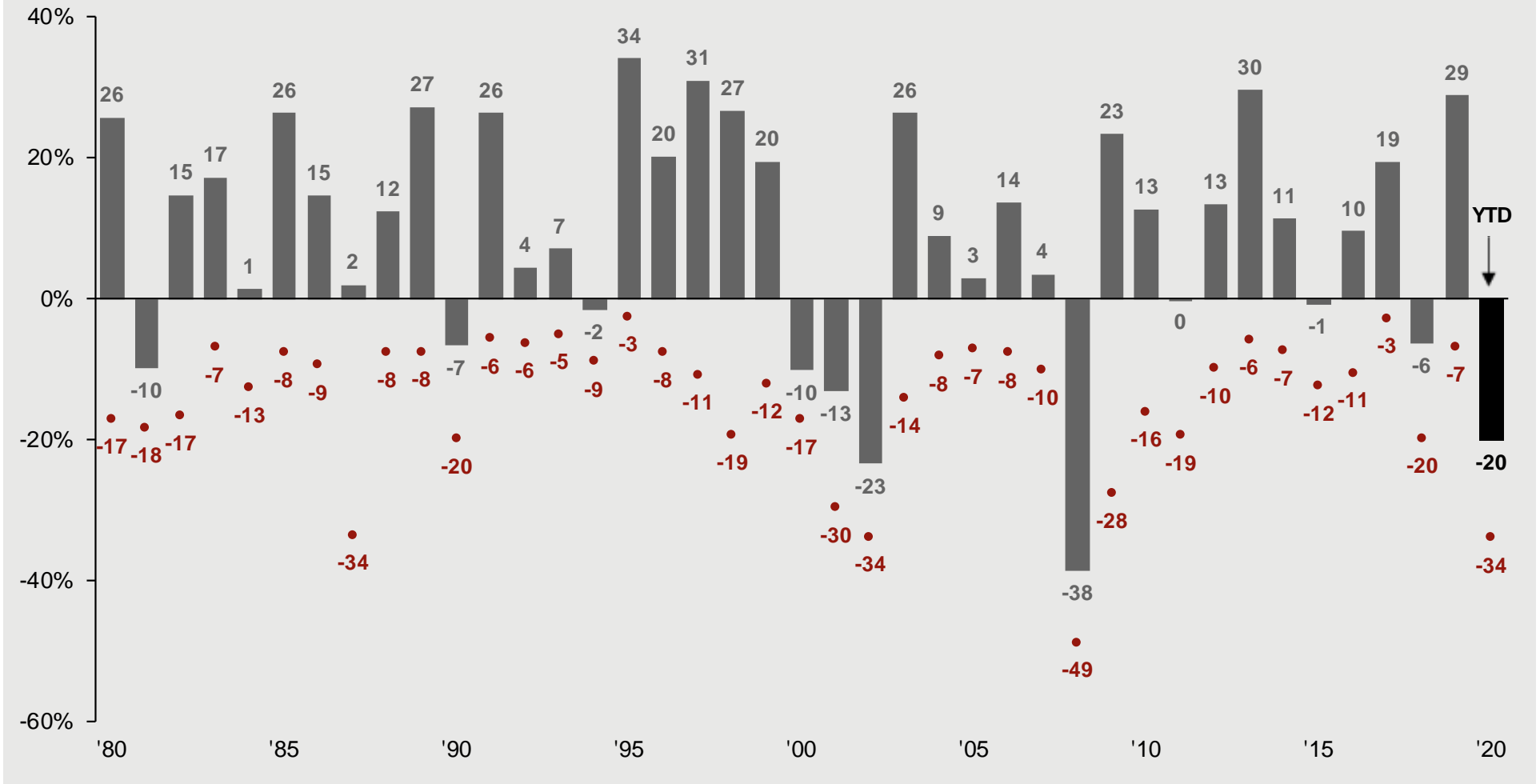
- The sharpest and fastest equity market decline ever: 16 trading days to reach bear market (-20%); -34% after just 23 days
- It took equities 130 days to hit bear market territory during the tech bubble and 191 days in the GFC

Equity Market Calendar Year Returns

The 34% drawdown experienced in the first quarter is among the worst in the past 40 years

S&P 500 intra-year declines vs. calendar year returns

Despite average intra-year drops of 13.8%, annual returns positive in 30 of 40 years



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2019, over which time period the average annual return was 8.9%.

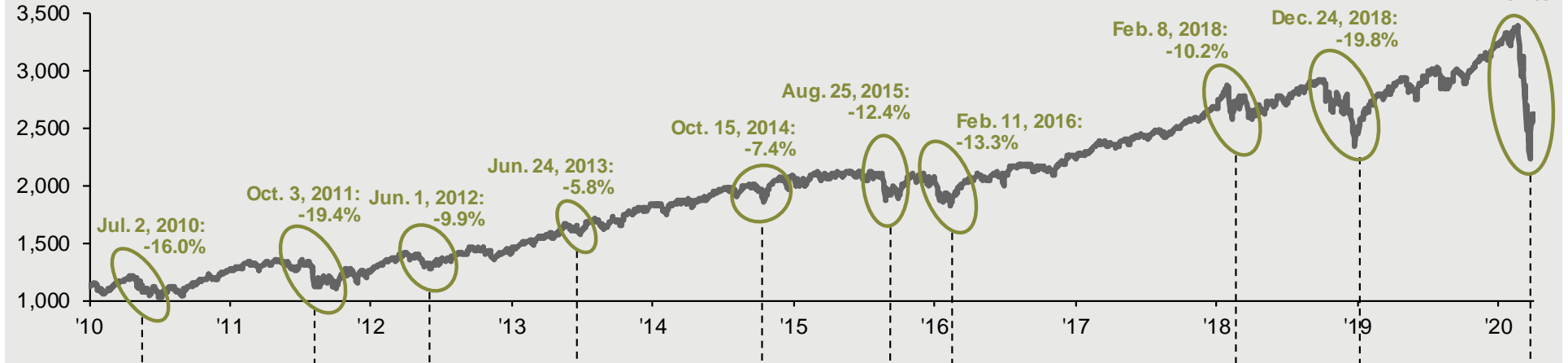
Guide to the Markets – U.S. Data are as of March 31, 2020.

Unprecedented Spike in Volatility

VIX reaches record high of 82.69

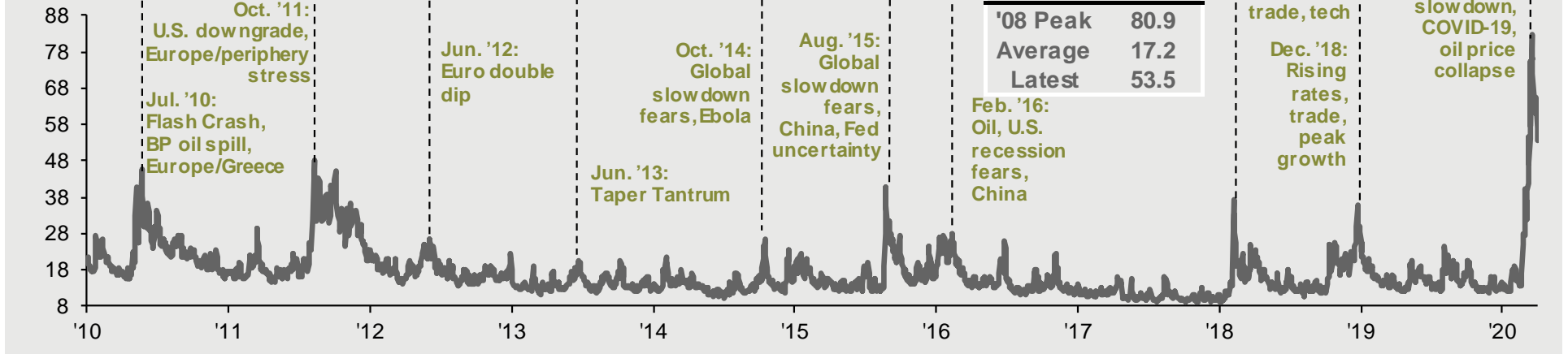
Major pullbacks since the Financial Crisis

S&P 500 Price index



Volatility

VIX Index



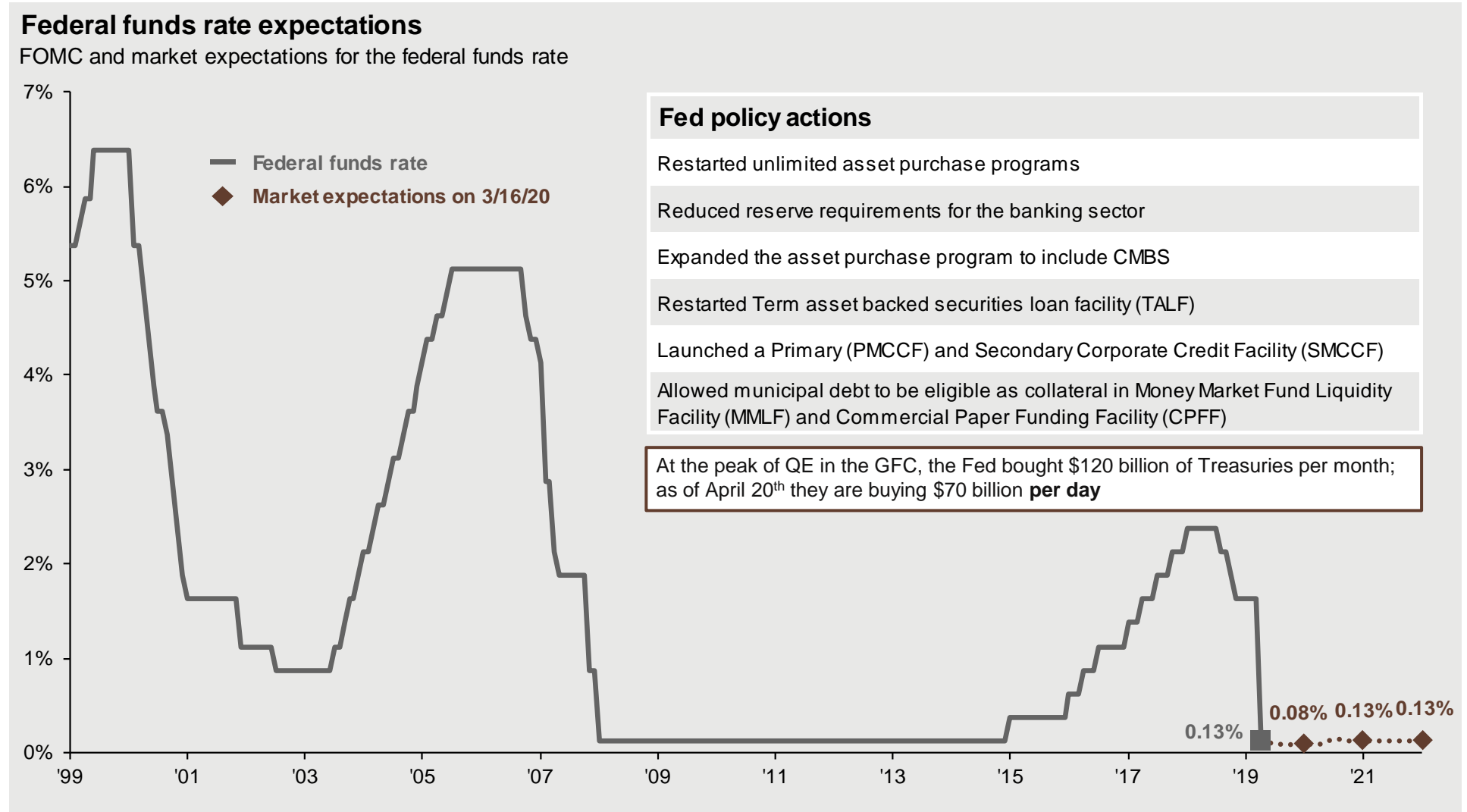
Source: CBOE, FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Drawdowns are calculated as the prior peak to the lowest point.

Guide to the Markets – U.S. Data are as of March 31, 2020.

Federal Reserve Policy Actions

Federal Funds Rate is set at the lower bound (0.0% to 0.25%)



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.

Market expectations are the federal funds rates priced into the fed futures market as of the following date of the March 15, 2020 emergency cut and are through December 2022.

Guide to the Markets – U.S. Data are as of April 15, 2020.

Coordinated Global Legislative Response

Fiscal Stimulus Measures

Announced Fiscal Measures				
Country	All Measures (\$B)	% of GDP	Ex Loan Guarantees & Tax Deferrals (\$)	% of GDP
US	2,872	13.4%	2,372	11.1%
China	718	5.1%	70	0.5%
UK	416	15.2%	36	1.3%
Italy	350	17.6%	28	1.4%
Germany	811	21.0%	356	9.2%
France	390	14.4%	12	0.4%
Spain	220	15.7%	20	1.4%
Sweden	31	5.9%	31	5.9%
Norway	9	2.2%	0	0.0%
Canada	64	3.7%	27	1.5%
Australia	19	1.4%	19	1.4%
New Zealand	7	3.5%	7	3.5%
Japan	1,011	19.6%	269	5.2%
Switzerland	10	1.5%	10	1.5%
South Korea	104	6.4%	104	6.4%
Hong Kong	33	8.9%	33	8.9%
Singapore	38	10.5%	5	1.3%
Thailand	13	2.4%	13	2.4%
Brazil	30	1.6%	30	1.6%
India	23	0.7%	23	0.7%
Malaysia	63	16.4%	63	16.4%
IMF	200		200	
World Bank	12		12	
Total Announced (% of World GDP)	7,445	8.6%	3,739	4.3%

Rumored Fiscal Measures				
Country	All Measures (\$B)	% of GDP	Ex Loan Guarantees & Tax Deferrals (\$)	% of GDP
US	2,000	9.3%	2,000	9.3%
EU	590		590	
Total Rumored Measures (% of World GDP)	2,590	3.0%	2,590	3.0%
Total Announced and Rumored Measures (% of World GDP)	10,035	11.6%	6,329	7.3%

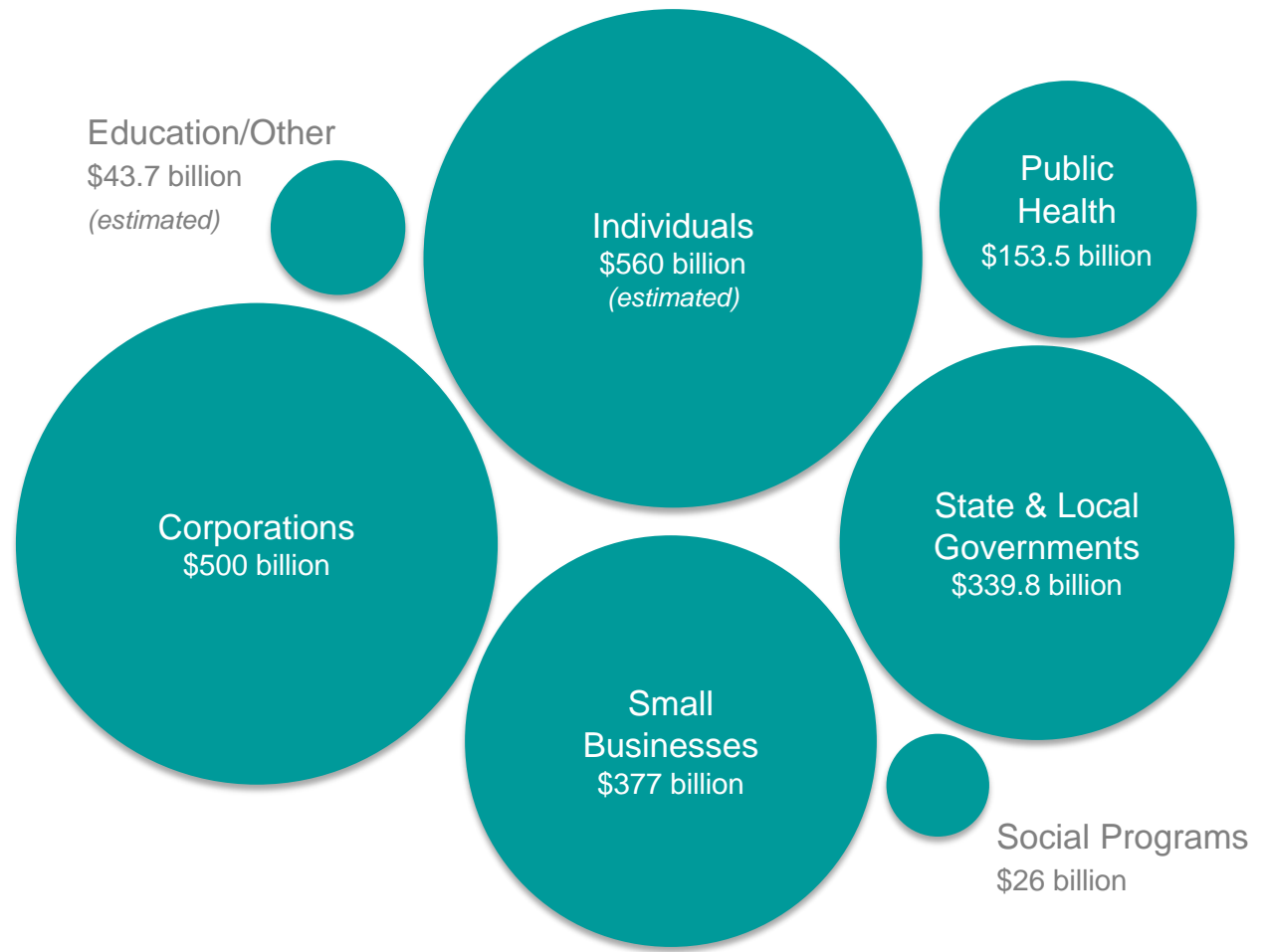
Source: Natixis

2020 CARES Act Injects \$2.3 Trillion in Fiscal Stimulus

The stimulus equates to roughly 10% of GDP

- Expanded Unemployment Benefits
 - Relaxed qualifications
 - Additional \$600 per week for up to four months
 - Potential for 13 weeks of federal benefits after state benefits exhausted
- Cash Distributions
 - Up to \$1,200 for individuals
- Student Loan Relief
 - Suspended payments and interest for some federal student loans
 - More flexibility for federal education grants
 - Tax-free employer loan payments
- Defined Contribution Plan Liquidity
 - Relaxation of distribution taxes
 - Expansion of loan amounts
- \$58 billion in airline industry relief
- \$377 billion in small business loans, grants, and loan relief funds
- Federally backed home loan forbearance

Distribution of the \$2 Trillion from the CARES Act



Source: NPR.org

Asset Class Performance

Periodic Table of Investment Returns for Periods Ended March 31, 2020

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 20 Years
<p>Best</p> <p>Worst</p>	Blmbg:Aggregate	Blmbg:Aggregate	Blmbg:Aggregate	NCREIF:NFI-ODCE Val Wt Nt	NCREIF:NFI-ODCE Val Wt Nt	S&P:500	NCREIF:NFI-ODCE Val Wt Nt
	3.1%	3.1%	8.9%	5.9%	7.5%	10.5%	7.1%
	NCREIF:NFI-ODCE Val Wt Nt	NCREIF:NFI-ODCE Val Wt Nt	NCREIF:NFI-ODCE Val Wt Nt	S&P:500	S&P:500	NCREIF:NFI-ODCE Val Wt Nt	MSCI:EM Gross
	0.8%	0.8%	3.9%	5.1%	6.7%	10.4%	5.5%
	3 Month T-Bill	3 Month T-Bill	3 Month T-Bill	Blmbg:Aggregate	Blmbg:Aggregate	Russell:2000 Index	Russell:2000 Index
	0.6%	0.6%	2.3%	4.8%	3.4%	6.9%	5.3%
	S&P:500	S&P:500	S&P:500	3 Month T-Bill	3 Month T-Bill	Blmbg:Aggregate	Blmbg:Aggregate
	(19.6%)	(19.6%)	(7.0%)	1.8%	1.2%	3.9%	5.1%
MSCI:EAFE	MSCI:EAFE	MSCI:EAFE	MSCI:EM Gross	MSCI:EM Gross	MSCI:EAFE	S&P:500	
(22.8%)	(22.8%)	(14.4%)	(1.2%)	0.0%	2.7%	4.8%	
Blmbg:Commodity Price Idx	Blmbg:Commodity Price Idx	MSCI:EM Gross	MSCI:EAFE	Russell:2000 Index	MSCI:EM Gross	MSCI:EAFE	
(23.5%)	(23.5%)	(17.4%)	(1.8%)	(0.2%)	1.0%	2.0%	
MSCI:EM Gross	MSCI:EM Gross	Blmbg:Commodity Price Idx	Russell:2000 Index	MSCI:EAFE	3 Month T-Bill	3 Month T-Bill	
(23.6%)	(23.6%)	(23.7%)	(4.6%)	(0.6%)	0.6%	1.7%	
Russell:2000 Index	Russell:2000 Index	Russell:2000 Index	Blmbg:Commodity Price Idx	Blmbg:Commodity Price Idx	Blmbg:Commodity Price Idx	Blmbg:Commodity Price Idx	
(30.6%)	(30.6%)	(24.0%)	(10.2%)	(8.8%)	(7.3%)	(2.3%)	

Callan Periodic Table of Investment Returns

Trailing periods as of March 31, 2020

Monthly Returns				Annual Returns					Cumulative Returns			
Jan 2020	Feb 2020	Mar 2020	YTD 2020	2019	2018	2017	2016	2015	1-Year	3-Year	5-Year	10-Year
U.S. Fixed Income	U.S. Fixed Income	U.S. Fixed Income	U.S. Fixed Income	Large Cap Equity	U.S. Fixed Income	Emerging Market Equity	Small Cap Equity	Large Cap Equity	U.S. Fixed Income	Large Cap Equity	Large Cap Equity	Large Cap Equity
1.92%	1.80%	-0.59%	3.15%	31.49%	0.01%	37.28%	21.31%	1.38%	8.93%	5.10%	6.73%	10.53%
Real Estate	Global ex-U.S. Fixed Income	Global ex-U.S. Fixed Income	Global ex-U.S. Fixed Income	Small Cap Equity	High Yield	Dev ex-U.S. Equity	High Yield	U.S. Fixed Income	Global ex-U.S. Fixed Income	U.S. Fixed Income	U.S. Fixed Income	Small Cap Equity
0.84%	-0.20%	-3.22%	-2.68%	25.52%	-2.08%	24.21%	17.13%	0.55%	0.74%	4.82%	3.36%	6.90%
Global ex-U.S. Fixed Income	High Yield	High Yield	High Yield	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income	Large Cap Equity	Large Cap Equity	Real Estate	High Yield	Global ex-U.S. Fixed Income	High Yield	High Yield
0.76%	-1.41%	-11.46%	-12.68%	22.49%	-2.15%	21.83%	11.96%	-0.79%	-6.94%	2.57%	2.78%	5.64%
High Yield	Emerging Market Equity	Large Cap Equity	Large Cap Equity	Real Estate	Large Cap Equity	Small Cap Equity	Emerging Market Equity	Dev ex-U.S. Equity	Large Cap Equity	High Yield	Global ex-U.S. Fixed Income	Real Estate
0.03%	-5.27%	-12.35%	-19.60%	21.91%	-4.38%	14.65%	11.19%	-3.04%	-6.98%	0.77%	2.04%	4.40%
Large Cap Equity	Large Cap Equity	Dev ex-U.S. Equity	Dev ex-U.S. Equity	Emerging Market Equity	Real Estate	Global ex-U.S. Fixed Income	Real Estate	Small Cap Equity	Dev ex-U.S. Equity	Emerging Market Equity	Small Cap Equity	U.S. Fixed Income
-0.04%	-8.23%	-14.12%	-23.26%	18.44%	-5.63%	10.51%	4.06%	-4.41%	-14.89%	-1.62%	-0.25%	3.88%
Dev ex-U.S. Equity	Real Estate	Emerging Market Equity	Emerging Market Equity	High Yield	Small Cap Equity	Real Estate	Dev ex-U.S. Equity	High Yield	Emerging Market Equity	Dev ex-U.S. Equity	Emerging Market Equity	Dev ex-U.S. Equity
-1.94%	-8.24%	-15.40%	-23.60%	14.32%	-11.01%	10.36%	2.75%	-4.47%	-17.69%	-2.07%	-0.36%	2.43%
Small Cap Equity	Small Cap Equity	Small Cap Equity	Real Estate	U.S. Fixed Income	Dev ex-U.S. Equity	High Yield	U.S. Fixed Income	Global ex-U.S. Fixed Income	Real Estate	Real Estate	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income
-3.21%	-8.42%	-21.73%	-28.53%	8.72%	-14.09%	7.50%	2.65%	-6.02%	-23.97%	-3.85%	-0.76%	1.39%
Emerging Market Equity	Dev ex-U.S. Equity	Real Estate	Small Cap Equity	Global ex-U.S. Fixed Income	Emerging Market Equity	U.S. Fixed Income	Global ex-U.S. Fixed Income	Emerging Market Equity	Small Cap Equity	Small Cap Equity	Real Estate	Emerging Market Equity
-4.66%	-8.88%	-22.76%	-30.61%	5.09%	-14.57%	3.54%	1.49%	-14.92%	-23.99%	-4.64%	-2.06%	0.69%

Sources: ● Bloomberg Barclays Aggregate ● Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US
● FTSE EPRA Nareit Developed ● MSCI World ex USA ● MSCI Emerging Markets ● Russell 2000 ● S&P 500

U.S. Equity: COVID-19 Decimates U.S. Equity Returns

Cyclicals punished; Tech, Staples, and Health Care more resilient

- Energy fell as demand declined and OPEC and Russia refused to cut production, driving down oil prices globally
- Tech fared the best— “FAAMG” stocks averaged -7.9% led by Amazon (+5.5%) and Microsoft (+0.3%)

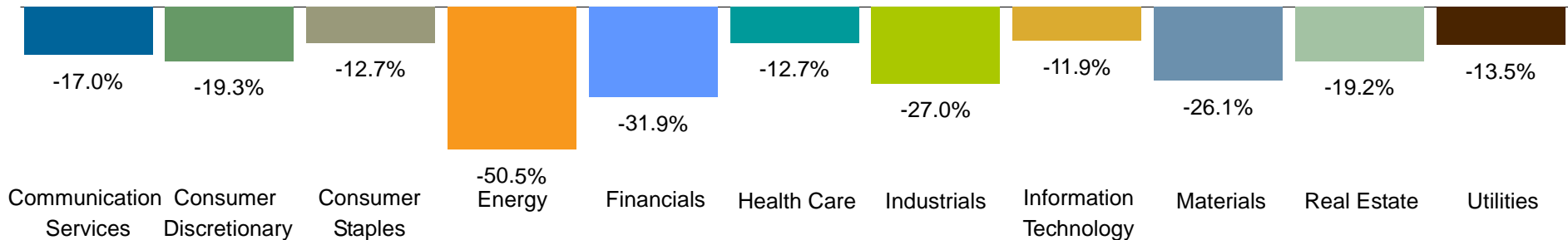
Large cap outpaces small cap for quarter

- Russell 2000 (-30.6%) experienced worst quarter on record
- Perceived safety of larger companies combined with more acute exposure to COVID-19 impact (restaurants, hotels, airlines) drove sell-off
- Russell 2000 Value exposure to Energy (especially E&P companies) and Financials (banks) drove results

Growth outpaces value across market capitalizations

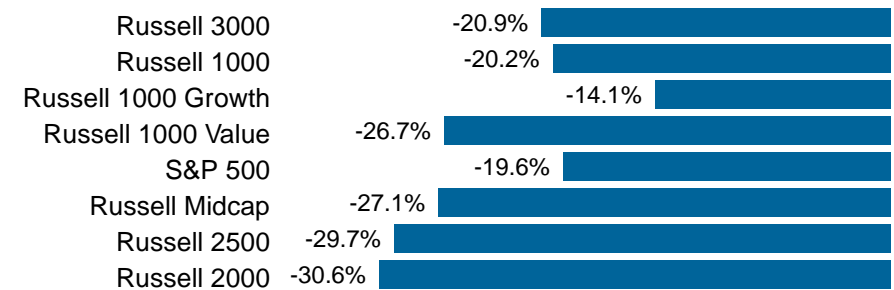
- Spread between Russell 1000 Growth (-14.1%) and Russell 2000 Value (-35.7%) one of widest on record

Economic Sector Quarterly Performance (S&P 500)

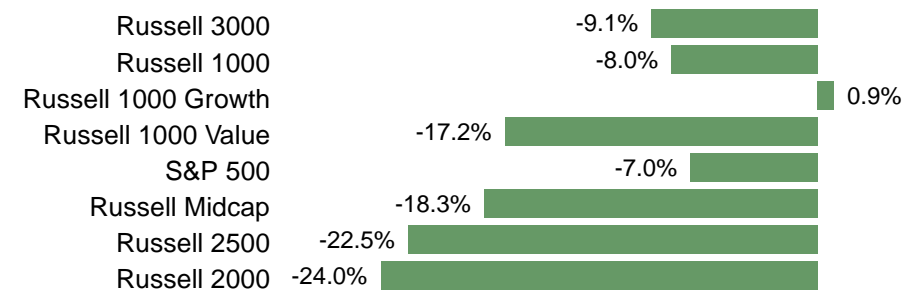


Sources: FTSE Russell, S&P Dow Jones Indices

U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



Global ex-U.S. Equity Performance

Worst sell-off since 2008

- Global economic activity came to a halt with shelter-in-place mandate worldwide
- Decisive actions to contain the outbreak and stimulate the economy allowed China to outperform every developed and developing country

Cyclical sectors imploded

- Energy, Financial, and travel-related industries were derailed by the pandemic and oil price war
- Factor performance favored risk aversion

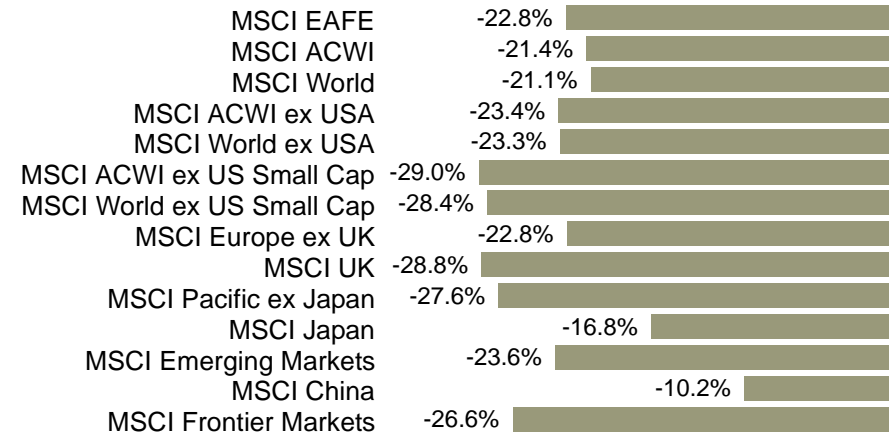
U.S. dollar vs. other currencies

- Safe-haven currencies such as the U.S. Dollar, Swiss Franc, and Yen were bid up as market volatility peaked and outperformed other major currencies

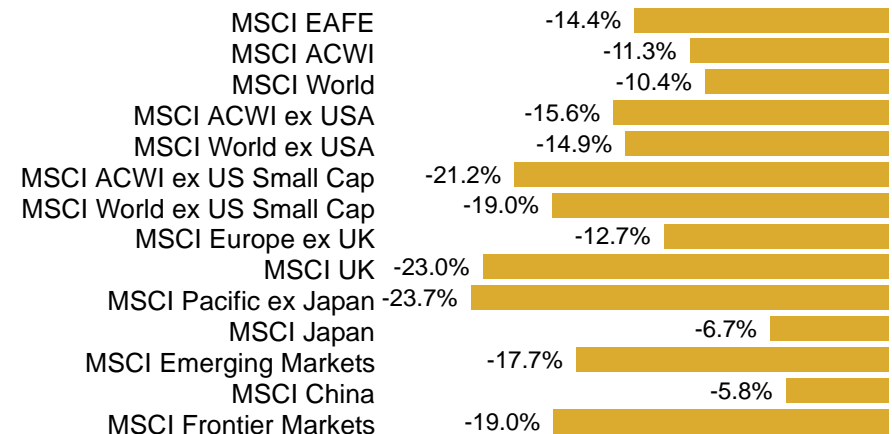
Growth vs. value

- Growth continued to outperform value within markets and capitalizations, supported by Health Care, Consumer Staples, and Information Technology

Global Equity: Quarterly Returns



Global Equity: Annual Returns



Source: MSCI

U.S. Fixed Income Performance

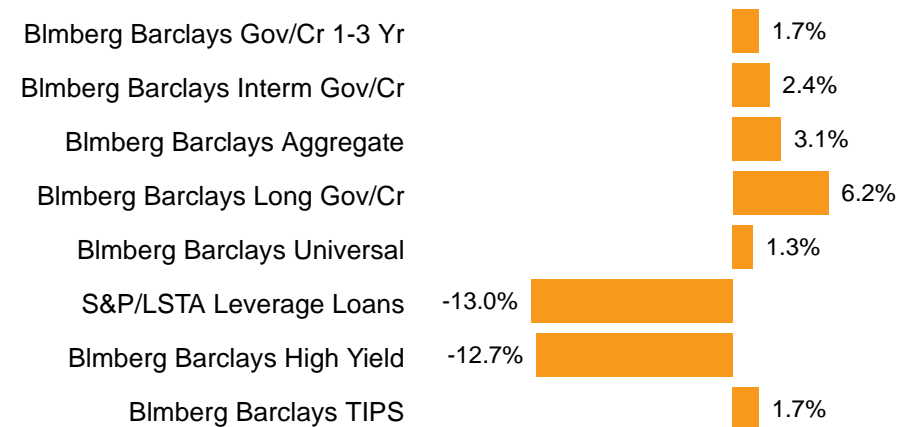
Treasuries rallied as investors sought safety

- The 10-year U.S. Treasury yield reached a low in March of 0.31% before closing the quarter at 0.70%, down sharply from 2019 year-end level of 1.92%
- The Treasury yield curve steepened as the Fed cut rates to 0% - 0.25%
- TIPS underperformed as inflation expectations sank. The 10-year breakeven spread ended the quarter at 87 bps, down sharply from 177 bps at year-end

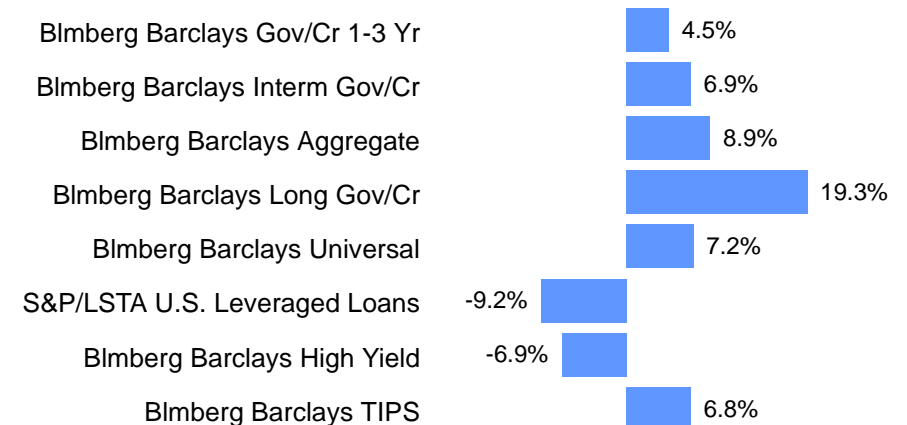
Investors spurned credit risk

- Investment grade and high yield bond funds experienced record outflows as investors flocked to cash
- IG corporate spreads widened by 149 bps to 272 bps
 - *Several well-known issuers were downgraded to below investment grade, including Occidental Petroleum and Ford*
- The quality bias: BBB-rated credit (-7.4%) substantially underperformed single A or higher (+0.50%)
- CCC-rated high yield (-20.6%) lagged BB-rated corporates (-10.2%)
- Energy (-38.9%) was the lowest performing high yield sector following the collapse in oil prices

U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: Annual Returns



Sources: Bloomberg Barclays, S&P Dow Jones Indices

Real Yields

As of March 31, 2020



Emerging Markets compared to Developed Markets

- The chart to the left shows Emerging Market (EM) and Developed Market (DM) inflation-adjusted yields based on local market inflation expectations.

Divergence in times of market tumult

- In comparison to the DMs, EM real yields spiked during the onset of the COVID-19 crisis.
- This phenomenon is consistent with prior occurrences during periods of market stress.

Current state of real yields

- Real yields EM and DM are near historical lows.

Sources: Eaton Vance, Bloomberg, JP Morgan

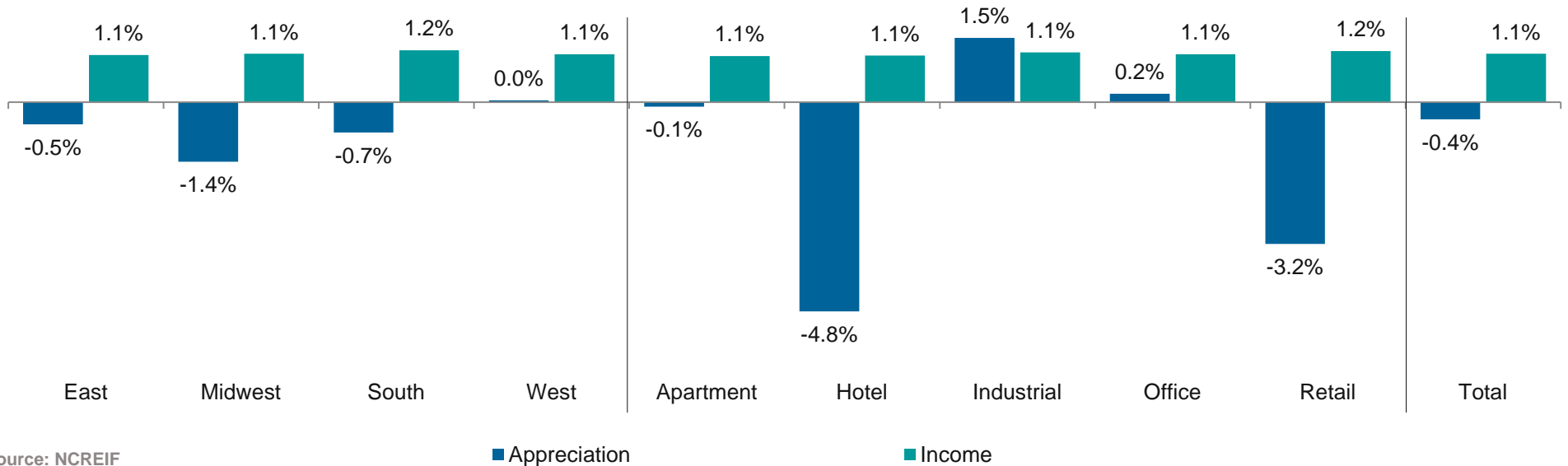
U.S. Private Real Estate Market Trends

Results

- Initial impact of pandemic reflected in Q1 results
- Positive return due to income
- Industrial real estate performed well
- Retail depreciation accelerated this quarter
- Negative returns expected for the second quarter and beyond.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NCREIF ODCE	1.0%	4.9%	6.8%	8.5%	11.5%
Appreciation	0.0%	0.7%	2.5%	3.9%	6.3%
Income	1.0%	4.2%	4.2%	4.4%	4.9%
NCREIF Property Index	0.7%	5.3%	6.4%	7.7%	10.2%
Appreciation	-0.4%	0.7%	1.8%	2.9%	5.7%
Income	1.1%	4.5%	4.6%	4.7%	4.6%

NCREIF Property Index Returns by Region and Property Type



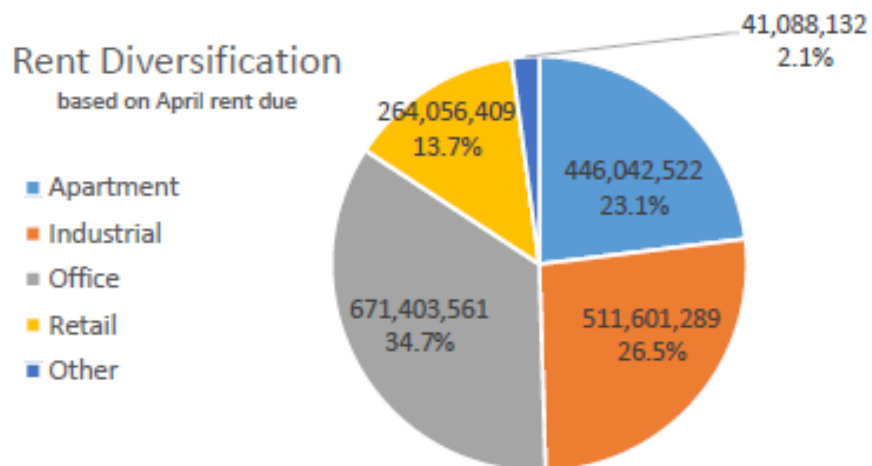
Source: NCREIF

Core Real Estate Fund April Rent Collections

First calendar quarter 2020

NFI-OE Operating Properties

Total Rent Due \$1,934,191,912

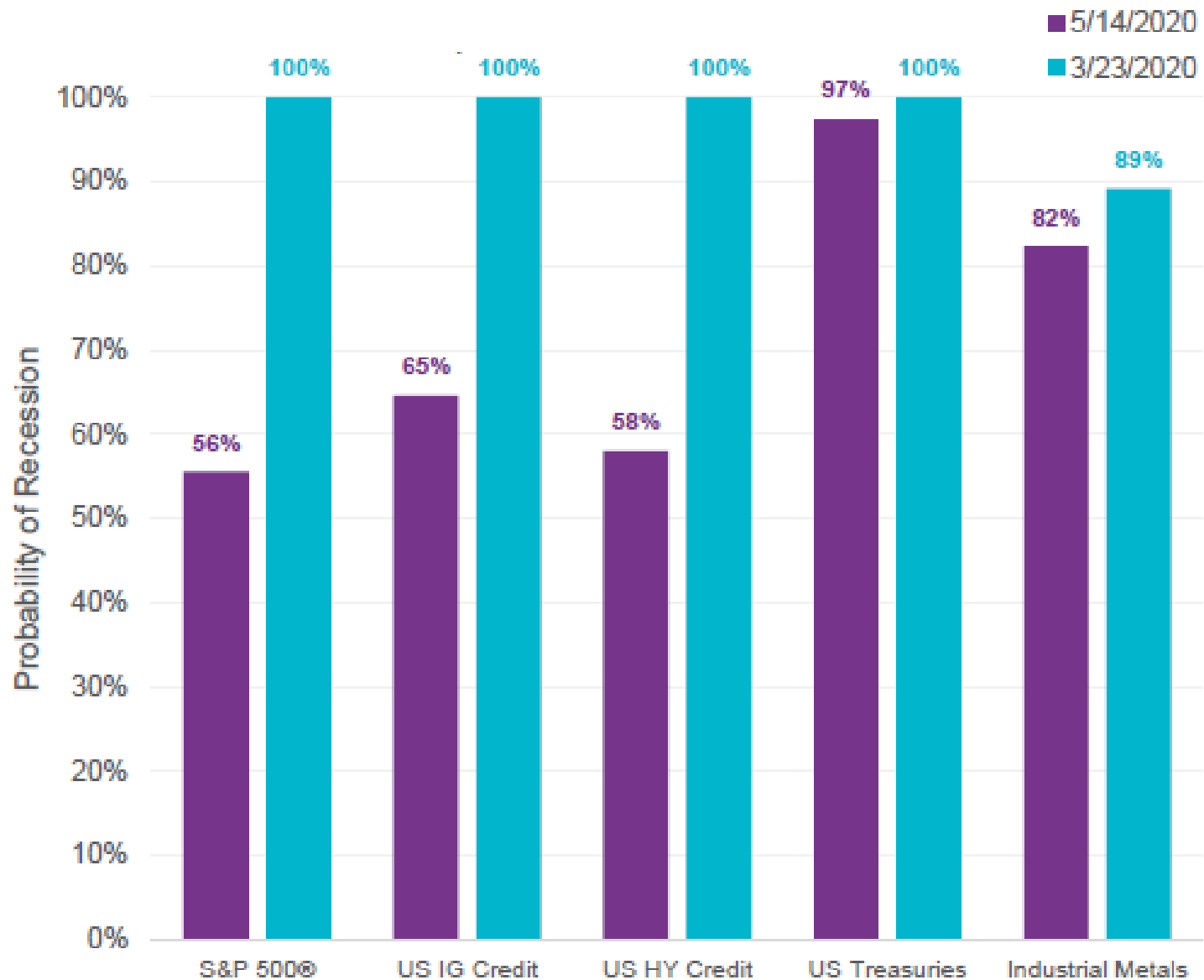


Fund Rent Collection Rates

Percentiles

	⁽¹⁾ Value-weight	⁽²⁾ Equal-weight	(based on ranking fund collection rates)			
			75%	50%	25%	Dispersion
Apartment	91.7%	91.7%	93.7%	92.5%	90.3%	3.4%
Industrial	81.2%	83.1%	88.6%	83.7%	79.5%	7.8%
Office	86.8%	86.3%	90.5%	87.7%	82.1%	7.2%
Retail	36.1%	44.6%	54.1%	42.7%	32.7%	16.2%
Other	89.7%	84.5%	94.7%	89.9%	88.9%	26.8%
Total	79.6%	78.0%	85.7%	79.3%	77.6%	6.0%

Implied Recession Probabilities by Market



Sources Natixis PRCG, FactSet, Bloomberg. Recession probability for the S&P 500 and Industrial Metals represents drawdown to average peak-to-trough drawdown during recessions. IG and HY probabilities reflect current option-adjusted spread as compared to recessionary and non-recessionary averages. UT Treasuries' probability reflects current change in 5-year yield as compared to average change in a recession.

Callan

NDSIB Total Performance Summary

NDSIB Consolidated Gross Performance Summary

As of March 31, 2020

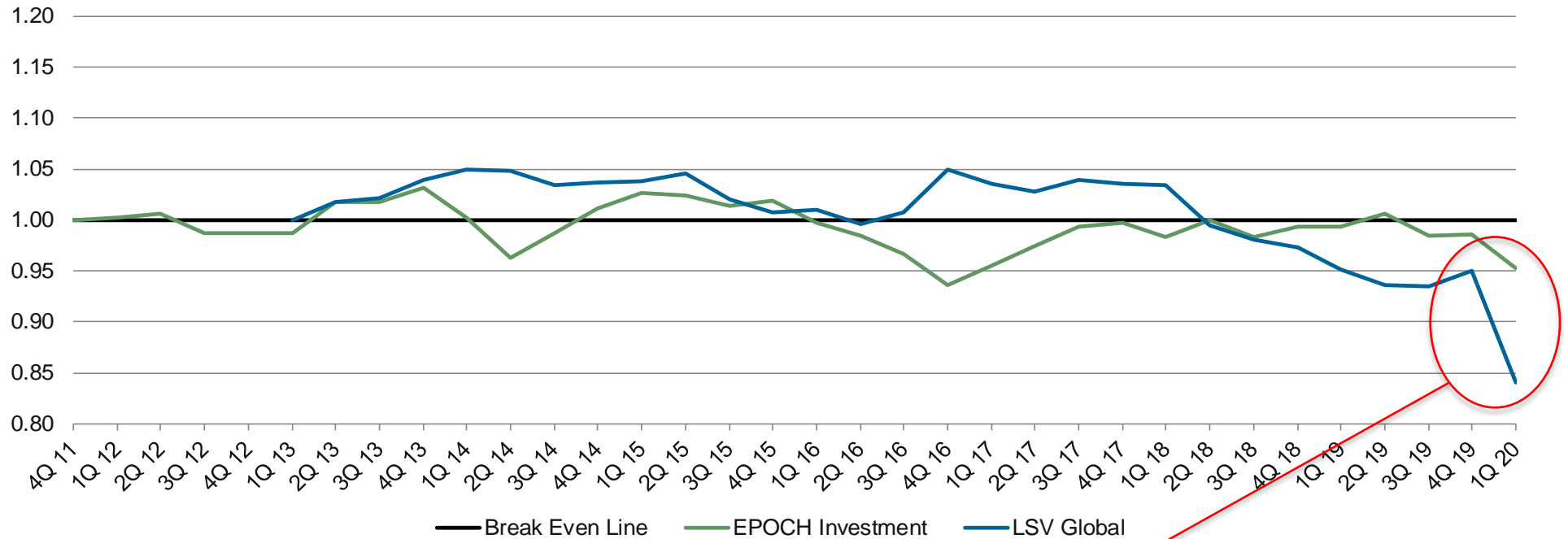
	Last Quarter	Last Year	Last 5 Years
Consolidated Pension Trust	-11.93%	-3.16%	4.44%
<i>Consolidated Pension Trust Target</i>	-11.88%	-3.81%	3.76%
Relative Performance vs. Target	-0.05%	0.65%	0.68%
PERS Total Fund	-12.02%	-3.23%	4.45%
<i>NDSIB PERS Total Fund Target</i>	-11.80%	-3.73%	3.80%
Relative Performance vs. Target	-0.22%	0.50%	0.65%
TFFR Total Fund	-11.91%	-3.13%	4.44%
<i>NDSIB TFFR Total Fund Target</i>	-12.05%	-3.95%	3.72%
Relative Performance vs. Target	0.14%	0.82%	0.72%
WSI Total Fund	-6.08%	1.34%	4.45%
<i>NDSIB WSI Total Fund Target</i>	-3.28%	3.49%	3.83%
Relative Performance vs. Target	-2.80%	-2.15%	0.62%
Legacy - Total Fund	-12.61%	-4.03%	3.74%
<i>NDSIB Legacy - Total Fund Target</i>	-10.81%	-2.70%	3.35%
Relative Performance vs. Target	-1.80%	-1.33%	0.39%
Budget - Total Fund	-3.54%	-0.24%	1.31%
<i>NDSIB Budget - Total Fund Target</i>	1.68%	4.49%	1.88%
Relative Performance vs. Target	-5.22%	-4.73%	-0.57%

Callan

Manager Relative Performance

Word Equities

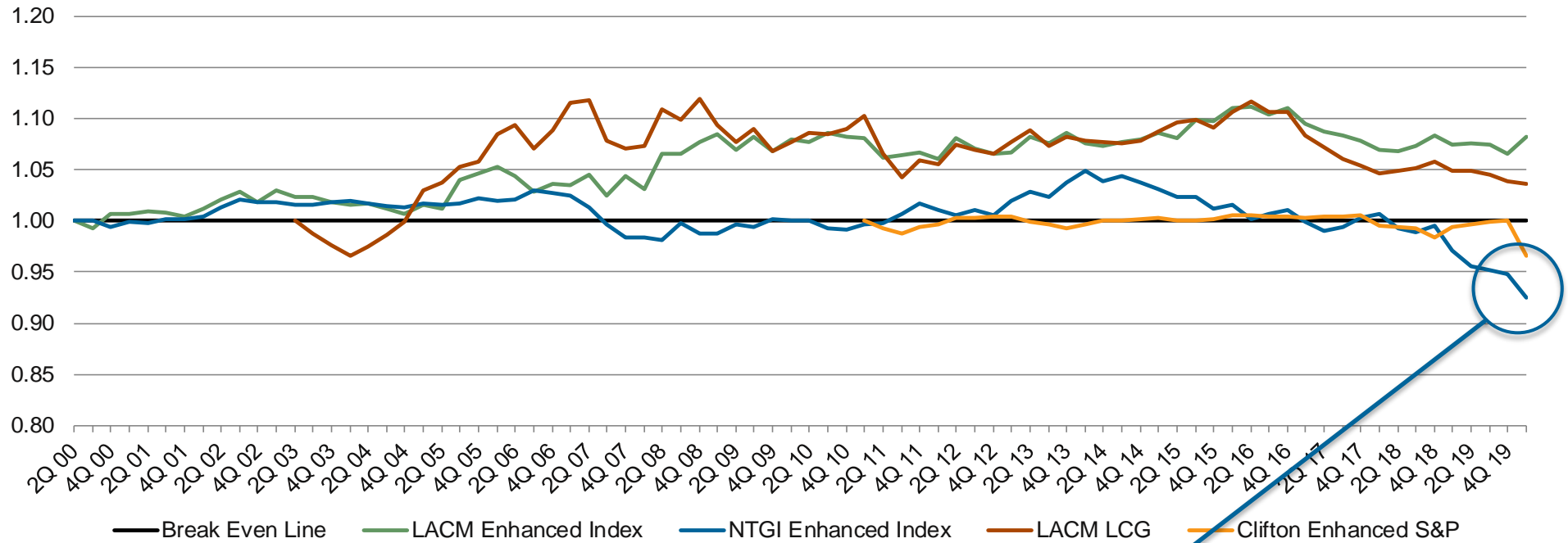
Cumulative Net Relative Return Since Inception, as of March 31, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
EPOCH Investment	Q1 2012	0.95	MSCI World
LSV Global	Q2 2013	0.84	MSCI ACWI Gross

U.S. Large Cap Equities

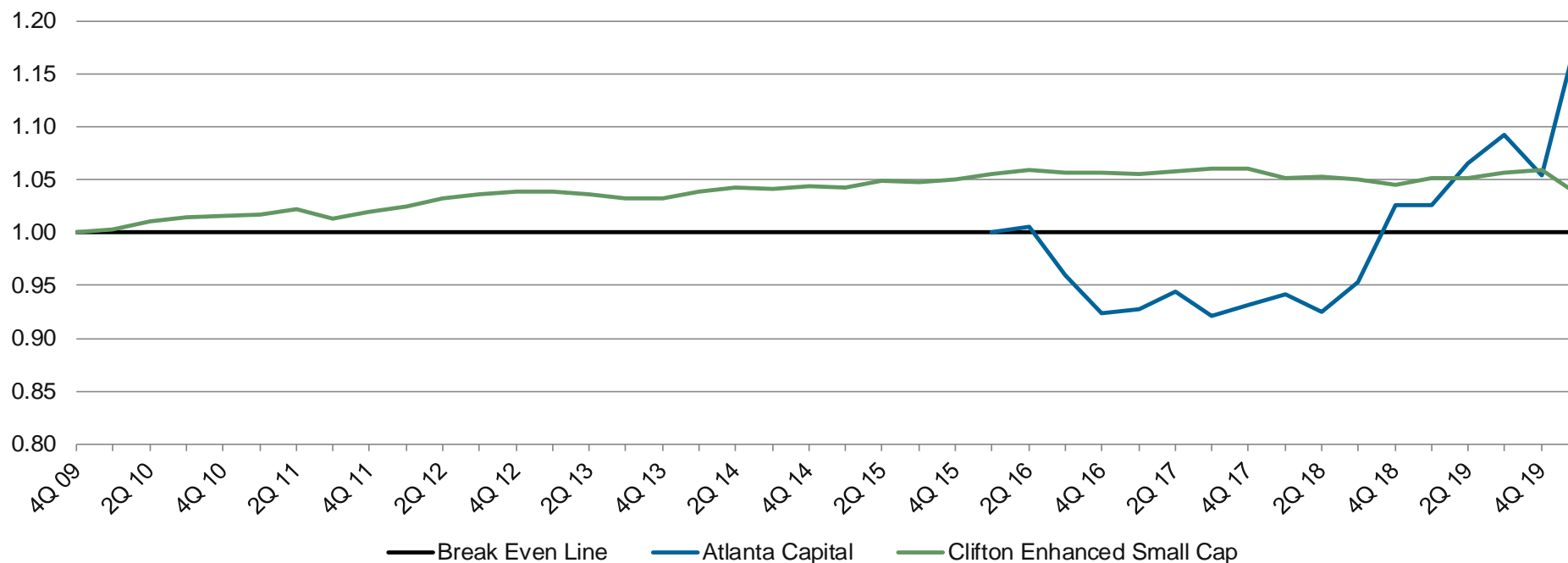
Cumulative Net Relative Return Since Inception, as of March 31, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Clifton Enhanced S&P	Q2 2011	0.97	S&P 500
LACM LCG	Q3 2003	1.04	Russell 1000 Growth
LACM Enhanced Index	Q3 2000	1.08	Russell 1000
NTGI Enhanced Index	Q3 2000	0.93	S&P 500

U.S. Small Cap Equities

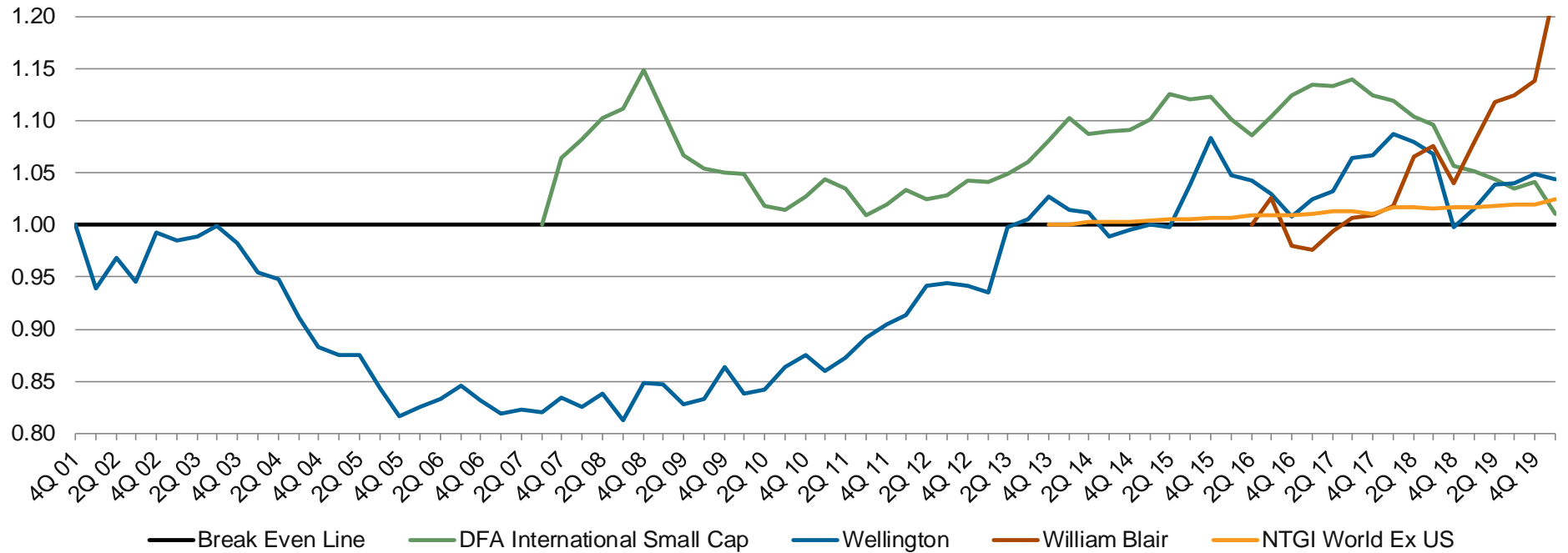
Cumulative Net Relative Return Since Inception, as of March 31, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Atlanta Capital	Q2 2016	1.19	S&P 600 Small Cap
Clifton Enhanced Small Cap	Q1 2010	1.04	Russell 2000

Developed International Equities

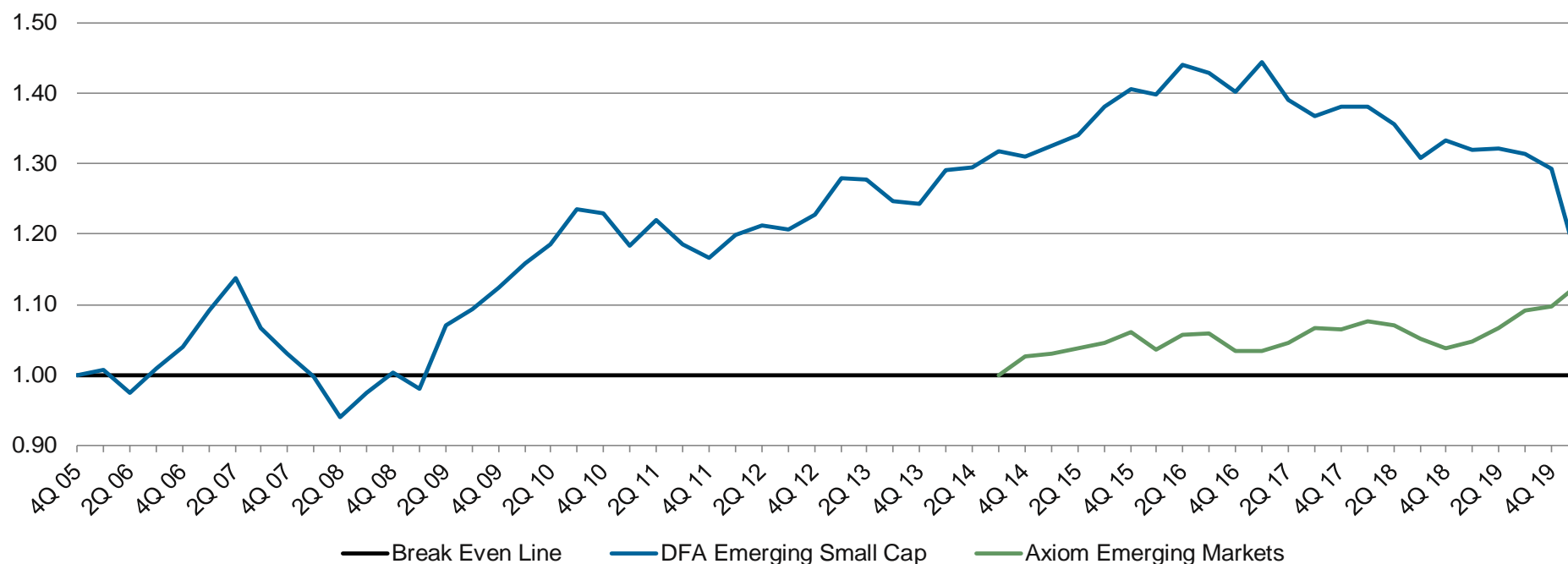
Cumulative Net Relative Return Since Inception, as of March 31, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
DFA International Small Cap	Q4 2007	1.01	MSCI World Ex US SC Value
NTGI World Ex US	Q1 2014	1.02	MSCI World Ex US
Wellington	Q1 2002	1.04	BMI, EPAC, <\$2 B
William Blair	Q3 2016	1.23	MSCI ACWI Ex US IMI

Emerging Market Equities

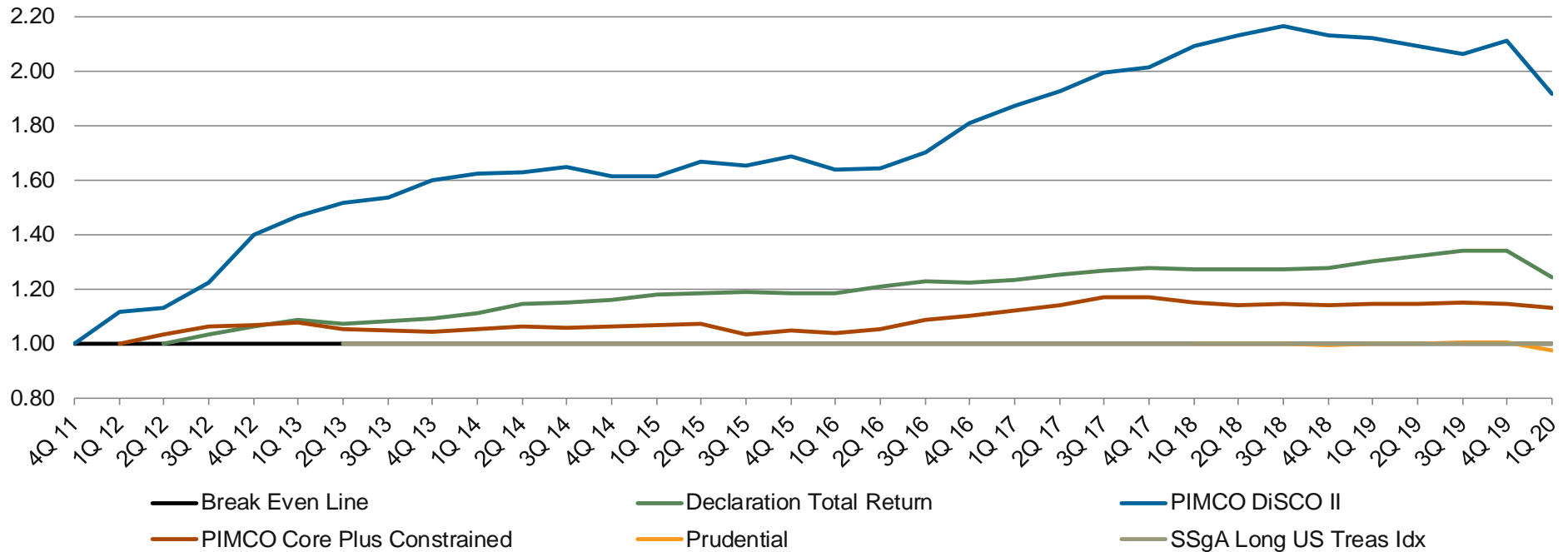
Cumulative Net Relative Return Since Inception, as of March 31, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Axiom Emerging Markets	Q4 2014	1.13	MSCI Emerging Market
DFA Emerging Small Cap	Q1 2006	1.16	MSCI Emerging Market

Investment Grade Fixed Income

Cumulative Net Relative Return Since Inception, as of March 31, 2020

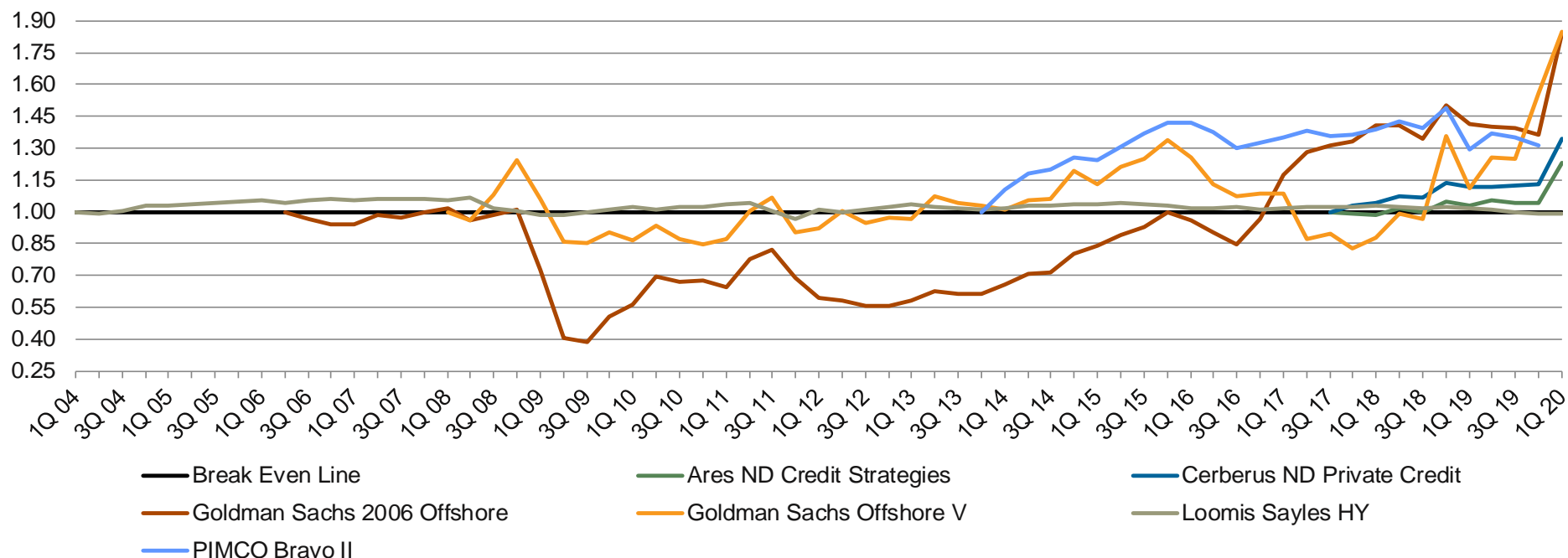


Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Declaration Total Return	Q3 2012	1.24	3-Month LIBOR
PIMCO DiSCO II	Q1 2012	1.91	Bloomberg Aggregate
PIMCO Core Plus Constrained	Q2 2014	1.13	PIMCO Custom Benchmark
Prudential	Q2 2018	0.97	Bloomberg Aggregate
SSgA Long US Treas Idx	Q3 2013	1.00	Bloomberg Aggregate

The PIMCO Custom Benchmark reflects the returns of 3-month Libor through Feb. 28, 2014; The fund's performance through March 31, 2014; 3-month Libor through June 30, 2018; and the Blmbg Agg thereafter.

Below Investment Grade Fixed Income

Cumulative Net Relative Return Since Inception, as of March 31, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Ares ND Credit Strategies	Q4 2017	1.23	S&P:LSTA Leveraged Loan B
Cerberus ND Private Credit	Q4 2017	1.34	S&P:LSTA Leveraged Loan B
Goldman Sachs 2006 Offshore	Q3 2006	1.84	Bloomberg: HY Corp 2% Iss Cap
Goldman Sachs Offshore V	Q4 2007	1.85	Bloomberg: HY Corp 2% Iss Cap
Loomis Sayles HY	Q2 2004	0.99	Bloomberg: HY Corp 2% Iss Cap
PIMCO Bravo II	Q1 2014	1.57	Bloomberg: HY Corp 2% Iss Cap

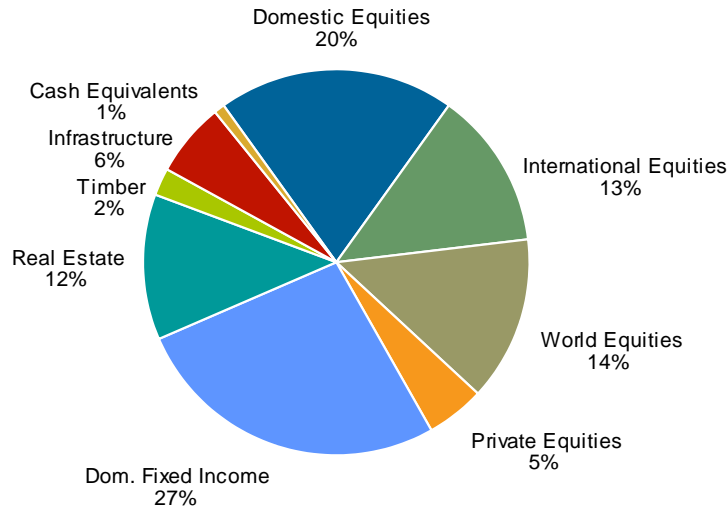
Consolidated Pension Trusts Quarterly Review

- Public Employees Retirement System
- Teachers' Fund for Retirement

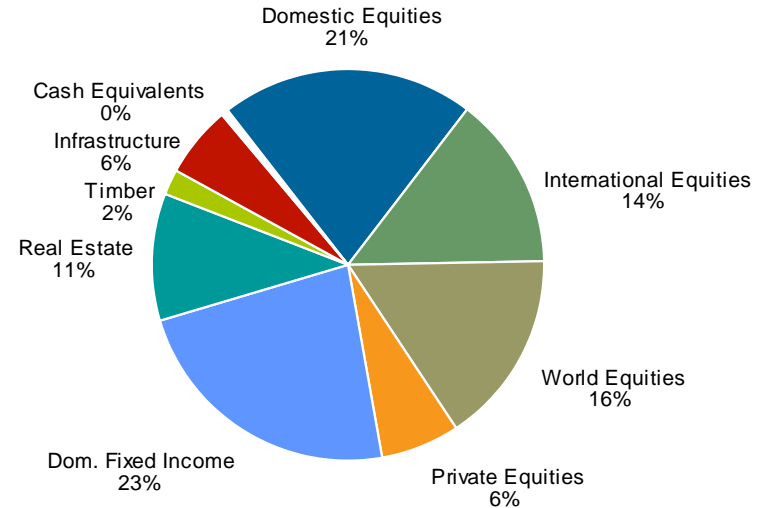
Consolidated Pension Trust Allocation

As of March 31, 2020

Actual Asset Allocation



Target Asset Allocation

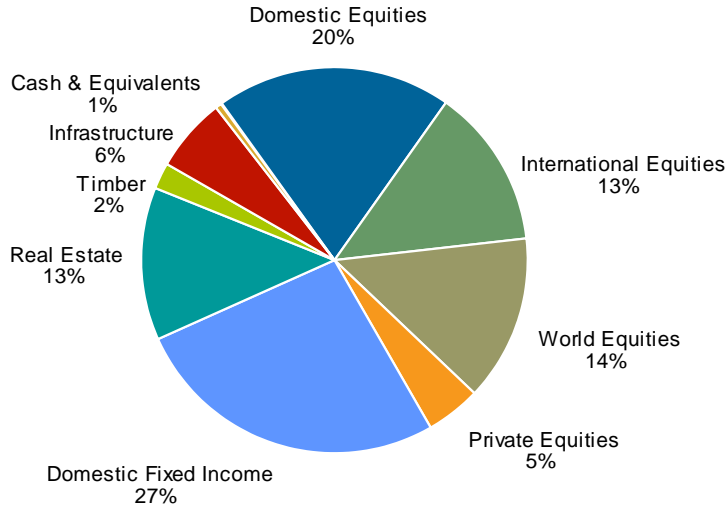


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	1,082,195	19.8%	20.9%	(1.1%)	(62,884)
International Equities	721,093	13.2%	14.3%	(1.2%)	(63,384)
World Equities	752,243	13.8%	16.0%	(2.2%)	(123,017)
Private Equities	269,951	4.9%	6.5%	(1.5%)	(84,534)
Dom. Fixed Income	1,459,384	26.7%	23.3%	3.4%	187,352
Real Estate	669,430	12.2%	10.5%	1.7%	92,329
Timber	127,397	2.3%	2.3%	(0.0%)	(0)
Infrastructure	338,608	6.2%	5.7%	0.5%	28,242
Cash Equivalents	50,072	0.9%	0.4%	0.5%	25,896
Total	5,470,372	100.0%	100.0%		

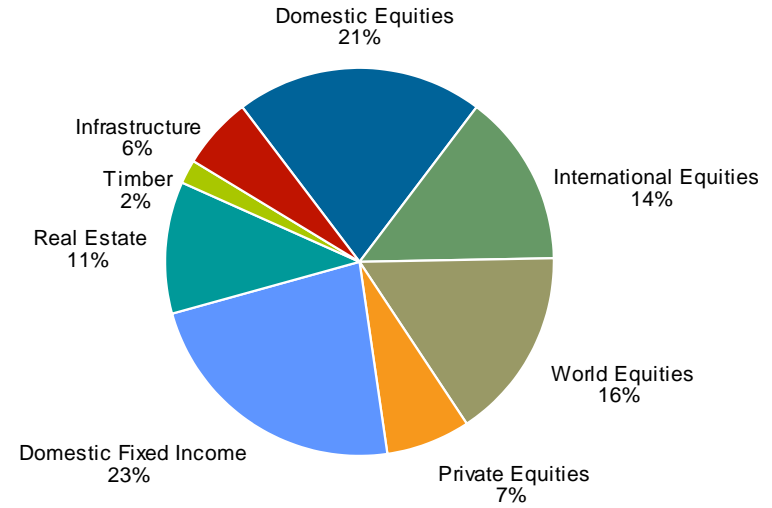
PERS Allocation

As of March 31, 2020

Actual Asset Allocation



Target Asset Allocation

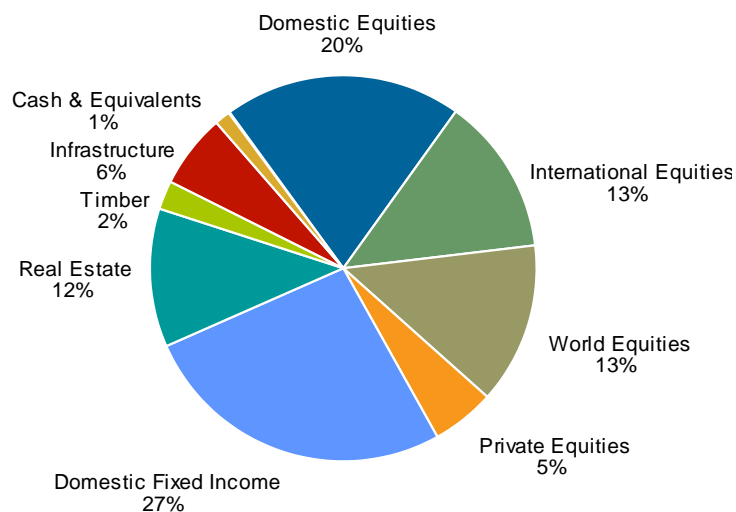


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	573,163	19.7%	20.6%	(0.9%)	(25,858)
International Equities	389,181	13.4%	14.4%	(1.0%)	(30,133)
World Equities	403,965	13.9%	16.0%	(2.1%)	(61,559)
Private Equities	135,219	4.6%	7.0%	(2.4%)	(68,448)
Domestic Fixed Income	775,054	26.6%	23.0%	3.6%	105,863
Real Estate	373,516	12.8%	11.0%	1.8%	53,468
Timber	64,424	2.2%	2.0%	0.2%	6,221
Infrastructure	179,520	6.2%	6.0%	0.2%	4,961
Cash & Equivalents	15,486	0.5%	0.0%	0.5%	15,486
Total	2,909,528	100.0%	100.0%		

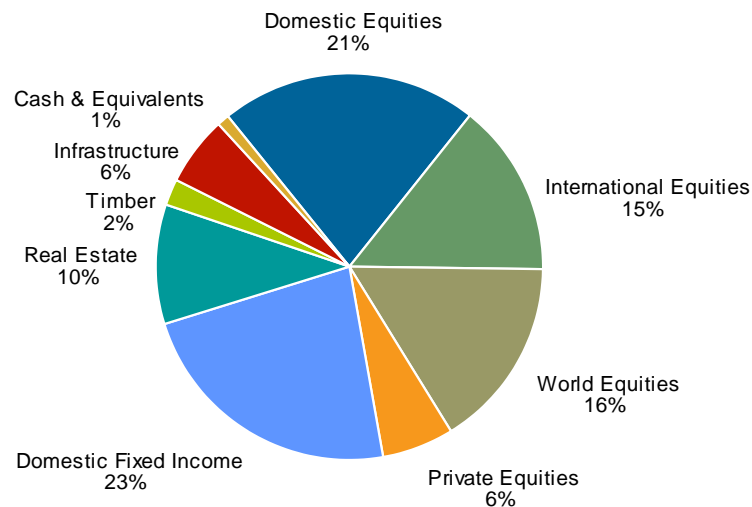
TFFR Allocation

As of March 31, 2020

Actual Asset Allocation



Target Asset Allocation

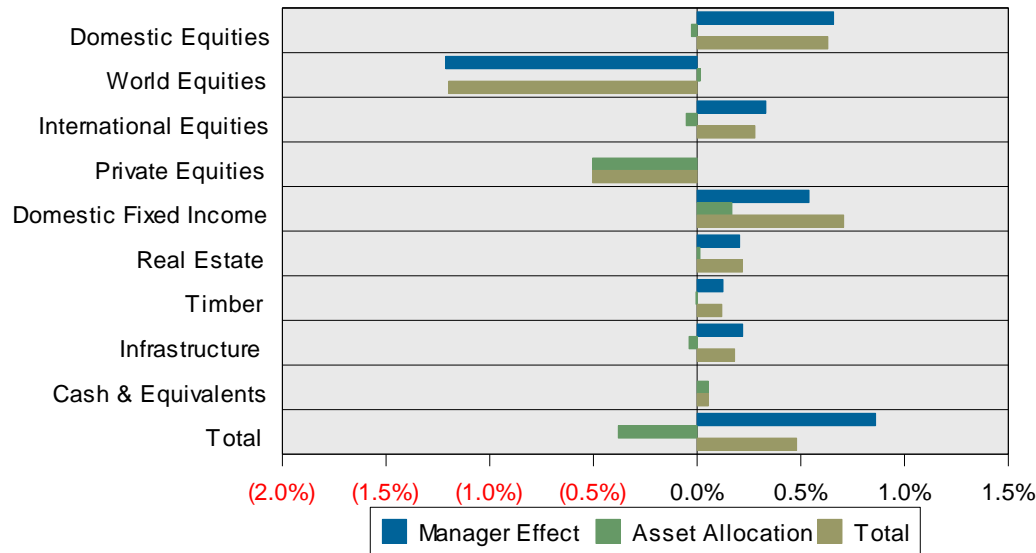


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	469,664	19.9%	21.5%	(1.6%)	(36,569)
International Equities	310,218	13.2%	14.5%	(1.4%)	(32,714)
World Equities	317,895	13.5%	16.0%	(2.5%)	(59,512)
Private Equities	124,891	5.3%	6.0%	(0.7%)	(16,637)
Domestic Fixed Income	626,107	26.5%	23.0%	3.5%	83,585
Real Estate	273,833	11.6%	10.0%	1.6%	37,954
Timber	57,506	2.4%	2.2%	0.2%	5,474
Infrastructure	147,247	6.2%	5.8%	0.4%	10,576
Cash & Equivalents	31,431	1.3%	1.0%	0.3%	7,843
Total	2,358,793	100.0%	100.0%		

PERS Performance and Attribution

As of March 31, 2020

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2020

Return Type	Return (%)
Gross	-3.23%
Net of fees	-3.47%
Target	-3.73%
Net added	0.26%

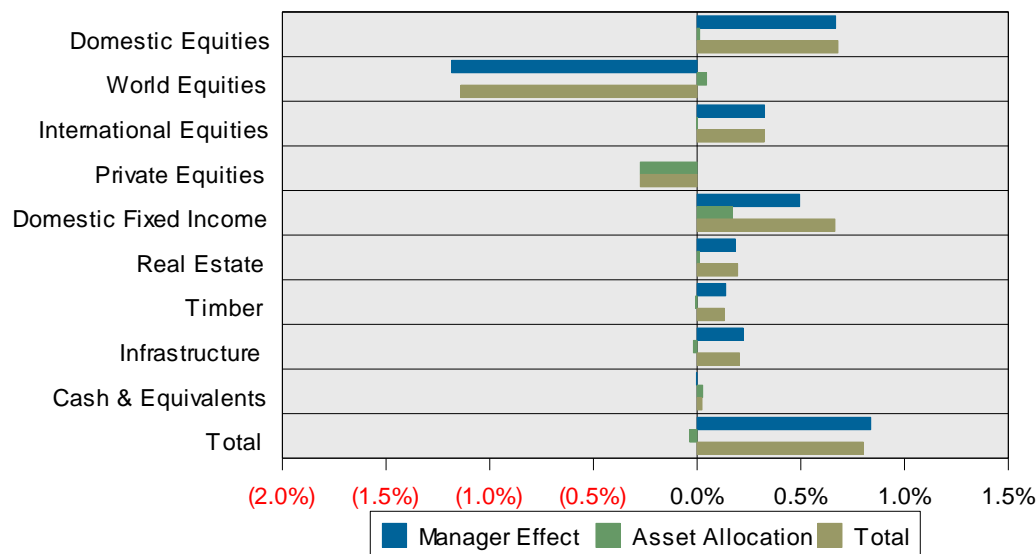
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(8.91%)	(11.93%)	0.66%	(0.03%)	0.63%
World Equities	16%	16%	(17.59%)	(10.39%)	(1.21%)	0.01%	(1.20%)
International Equities	16%	14%	(13.73%)	(15.52%)	0.33%	(0.05%)	0.28%
Private Equities	4%	7%	11.46%	11.46%	0.00%	(0.50%)	(0.50%)
Domestic Fixed Income	23%	23%	6.35%	4.02%	0.54%	0.17%	0.71%
Real Estate	12%	11%	7.22%	5.28%	0.20%	0.01%	0.22%
Timber	2%	2%	8.03%	1.30%	0.12%	(0.01%)	0.12%
Infrastructure	5%	6%	8.13%	3.33%	0.22%	(0.04%)	0.18%
Cash & Equivalents	0%	0%	1.97%	1.97%	0.00%	0.05%	0.05%
Total			(3.23%)	(3.71%)	+ 0.86%	+ (0.38%)	0.48%

TFFR Performance and Attribution

As of March 31, 2020

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2020

Return Type	Return (%)
Gross	-3.13%
Net of fees	-3.36%
Target	-3.95%
Net added	0.59%

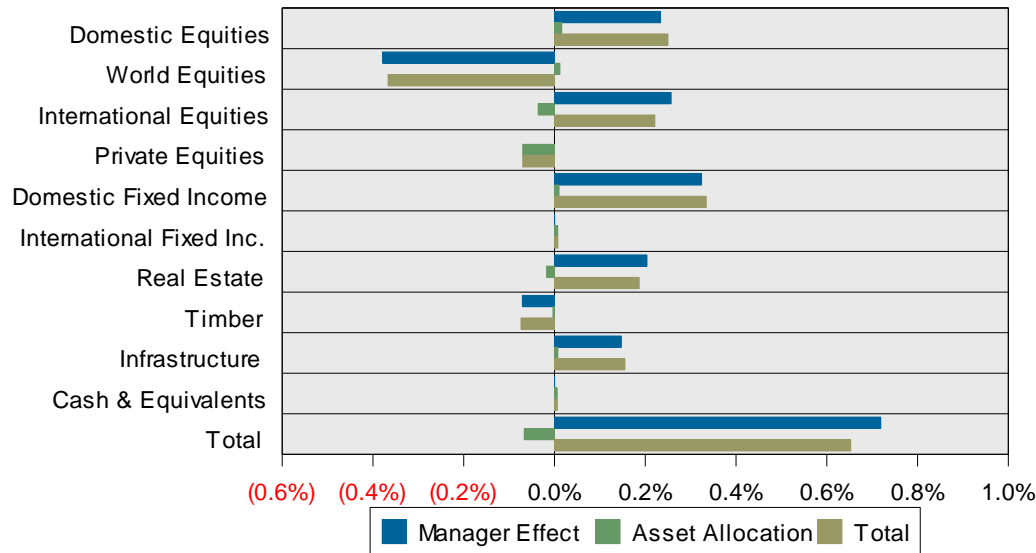
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(8.77%)	(11.80%)	0.67%	0.01%	0.68%
World Equities	16%	16%	(17.59%)	(10.39%)	(1.18%)	0.04%	(1.14%)
International Equities	15%	15%	(13.61%)	(15.39%)	0.32%	(0.00%)	0.32%
Private Equities	4%	6%	11.44%	11.44%	0.00%	(0.27%)	(0.27%)
Domestic Fixed Income	23%	23%	6.15%	4.02%	0.49%	0.17%	0.66%
Real Estate	11%	10%	7.22%	5.28%	0.18%	0.01%	0.20%
Timber	2%	2%	8.03%	1.30%	0.14%	(0.01%)	0.13%
Infrastructure	5%	6%	8.13%	3.33%	0.22%	(0.02%)	0.20%
Cash & Equivalents	1%	1%	1.96%	2.25%	(0.00%)	0.03%	0.02%
Total			(3.13%)	(3.93%)	+ 0.84%	+ (0.04%)	0.80%

PERS Performance and Attribution

As of March 31, 2020

Five Year Annualized Relative Attribution Effects



Returns for 5 Year Ended 03/31/2020

Return Type	Return (%)
Gross	4.45%
Net of fees	4.18%
Target	3.80%
Net added	0.38%

Five Year Annualized Relative Attribution Effects

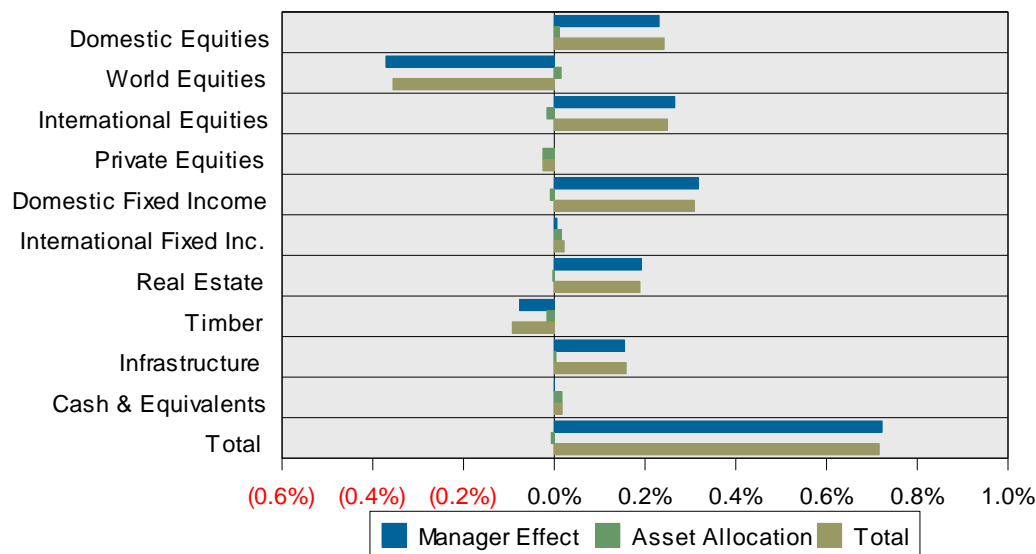
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	5.88%	4.76%	0.23%	0.02%	0.25%
World Equities	16%	16%	0.79%	3.25%	(0.38%)	0.01%	(0.37%)
International Equities	16%	14%	0.93%	(0.63%)	0.26%	(0.04%)	0.22%
Private Equities	3%	6%	3.61%	3.61%	0.00%	(0.07%)	(0.07%)
Domestic Fixed Income	20%	20%	4.76%	3.19%	0.32%	0.01%	0.33%
International Fixed Inc.	3%	3%	-	-	0.00%	0.01%	0.01%
Real Estate	11%	11%	9.60%	7.65%	0.20%	(0.02%)	0.19%
Timber	3%	3%	0.42%	2.80%	(0.07%)	(0.00%)	(0.07%)
Infrastructure	5%	5%	5.80%	2.49%	0.15%	0.01%	0.16%
Cash & Equivalents	1%	0%	1.24%	1.21%	0.00%	0.01%	0.01%

Total 4.45% = 3.80% + 0.72% + (0.07%) 0.65%

TFFR Performance and Attribution

As of March 31, 2020

Five Year Annualized Relative Attribution Effects



Returns for 5 Year Ended 03/31/2020

Return Type	Return (%)
Gross	4.44%
Net of fees	4.17%
Target	3.72%
Net added	0.45%

Five Year Annualized Relative Attribution Effects

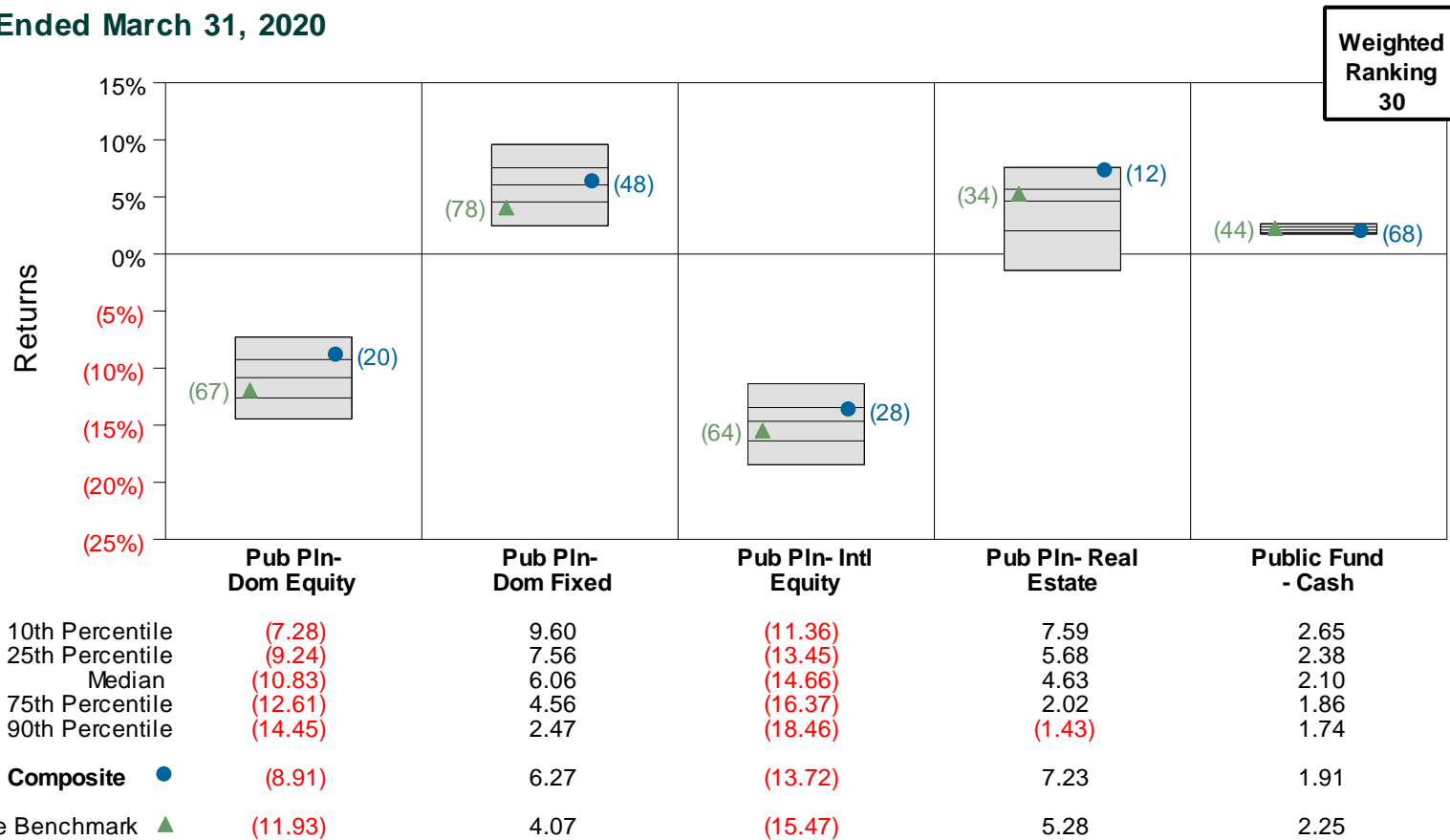
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	5.91%	4.80%	0.23%	0.01%	0.24%
World Equities	16%	16%	0.79%	3.25%	(0.37%)	0.02%	(0.36%)
International Equities	15%	15%	0.95%	(0.66%)	0.27%	(0.02%)	0.25%
Private Equities	4%	6%	3.61%	3.61%	0.00%	(0.02%)	(0.02%)
Domestic Fixed Income	20%	20%	4.63%	3.05%	0.32%	(0.01%)	0.31%
International Fixed Inc.	3%	3%	-	-	0.01%	0.02%	0.02%
Real Estate	10%	10%	9.60%	7.65%	0.19%	(0.00%)	0.19%
Timber	3%	3%	0.42%	2.80%	(0.08%)	(0.02%)	(0.09%)
Infrastructure	5%	5%	5.80%	2.49%	0.15%	0.00%	0.16%
Cash & Equivalents	1%	1%	1.24%	1.19%	0.00%	0.02%	0.02%

Total 4.44% = 3.72% + 0.72% + (0.01%) 0.72%

Asset Class Composite Results

Consolidated Pension Trust Asset Class Results vs. Other Public Pension Funds

Total Asset Class Performance One Year Ended March 31, 2020

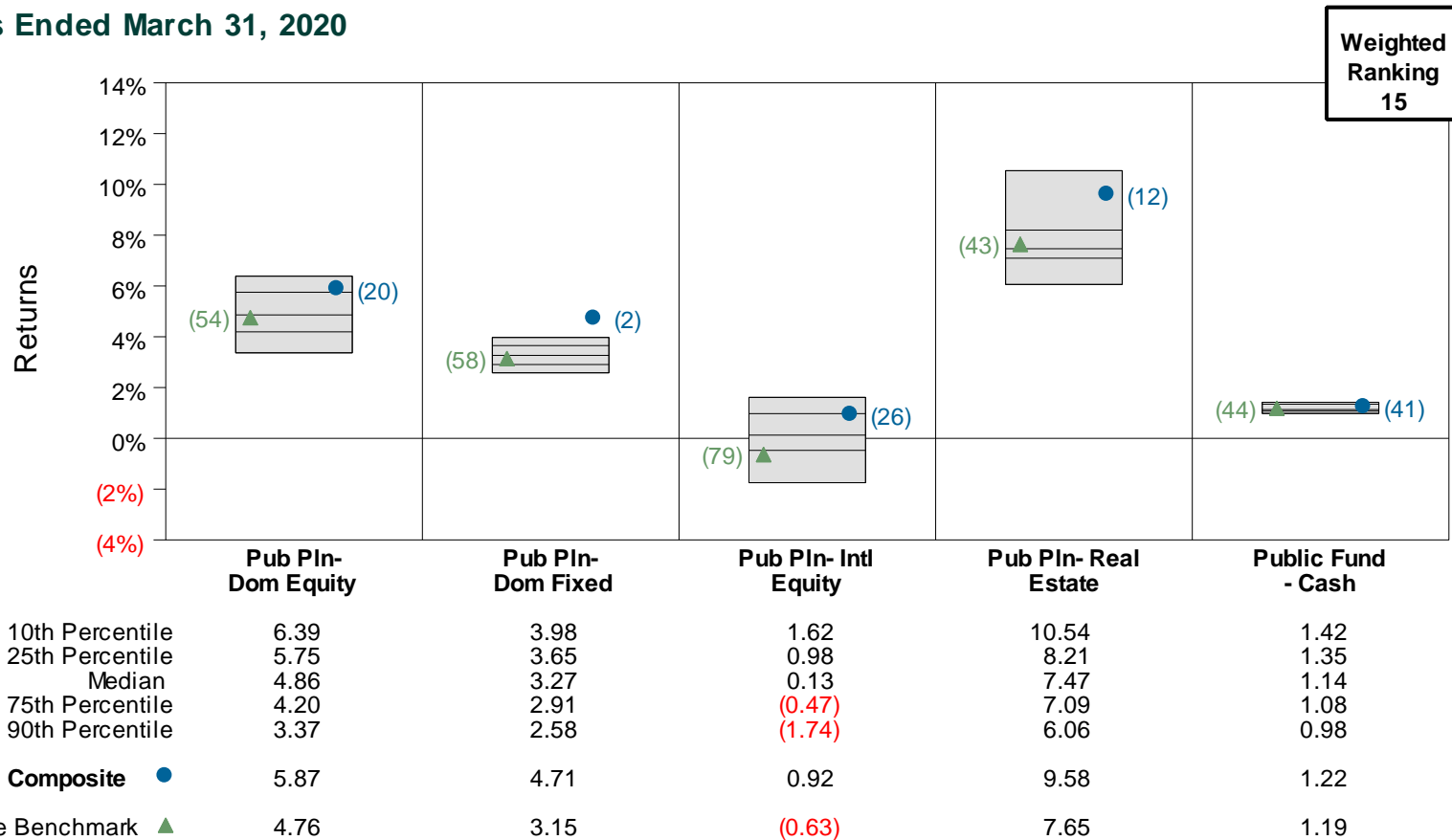


- Real estate and fixed income produced the strongest absolute returns over the trailing 12 months. The best relative performance was experienced in domestic equity where the composite outpaced the benchmark by nearly three percentage points.
- With the exception of cash, all asset classes outperformed their respective peer group medians and benchmarks.

Asset Class Composite Results

Consolidated Pension Trust Asset Class Results vs. Other Public Pension Funds

Total Asset Class Performance Five Years Ended March 31, 2020



- All asset classes outperformed their respective benchmarks over the trailing five years.
- Domestic equity, fixed income, and real estate all ranked in the top quartile. International equity and cash both performed above median.

Callan

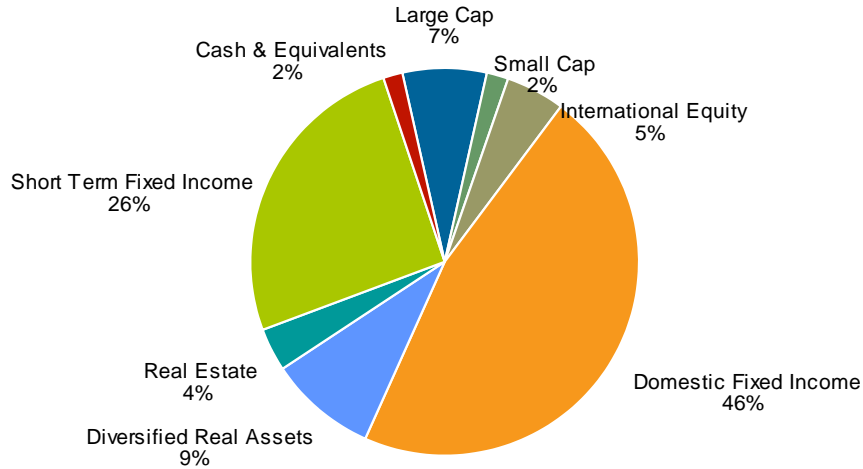
Consolidated Insurance Trust Quarterly Review

- Workforce Safety and Insurance Legacy Fund
- Budget Stabilization Fund

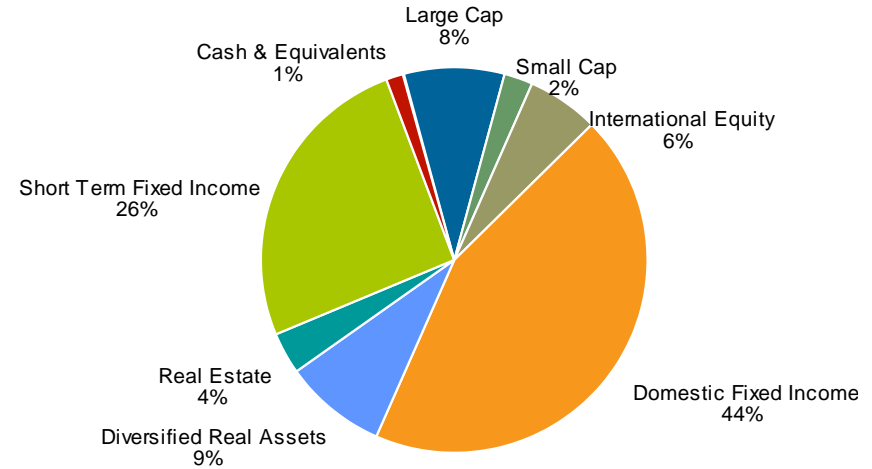
Consolidated Insurance Trust Allocation

As of March 31, 2020

Actual Asset Allocation



Target Asset Allocation

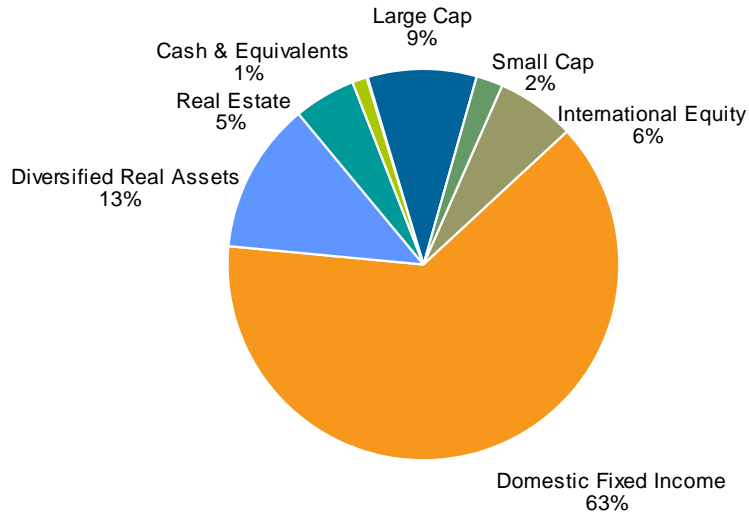


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	195,544	7.0%	8.4%	(1.4%)	(39,691)
Small Cap	50,486	1.8%	2.4%	(0.6%)	(16,269)
International Equity	136,940	4.9%	6.0%	(1.1%)	(30,835)
Domestic Fixed Income	1,301,895	46.5%	44.0%	2.4%	68,104
Diversified Real Assets	252,364	9.0%	8.6%	0.4%	10,493
Real Estate	101,299	3.6%	3.5%	0.1%	1,965
Short Term Fixed Income	717,314	25.6%	25.6%	(0.0%)	(1)
Cash & Equivalents	45,499	1.6%	1.4%	0.2%	6,234
Total	2,801,341	100.0%	100.0%		

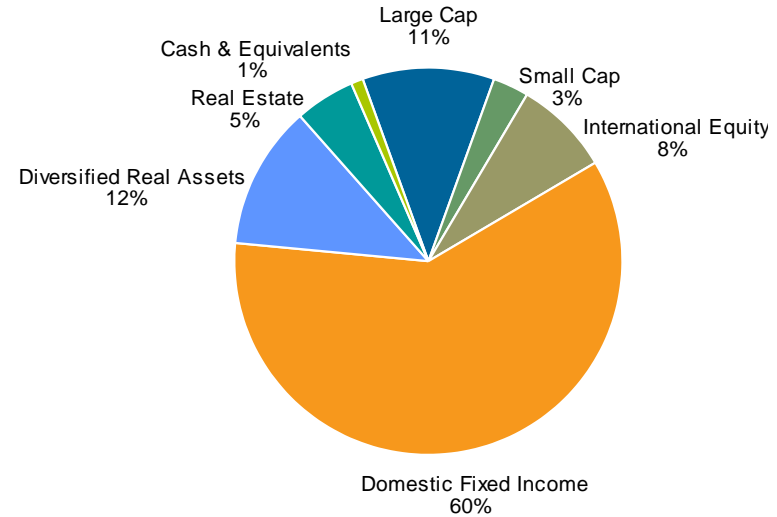
WSI Allocation

As of March 31, 2020

Actual Asset Allocation



Target Asset Allocation

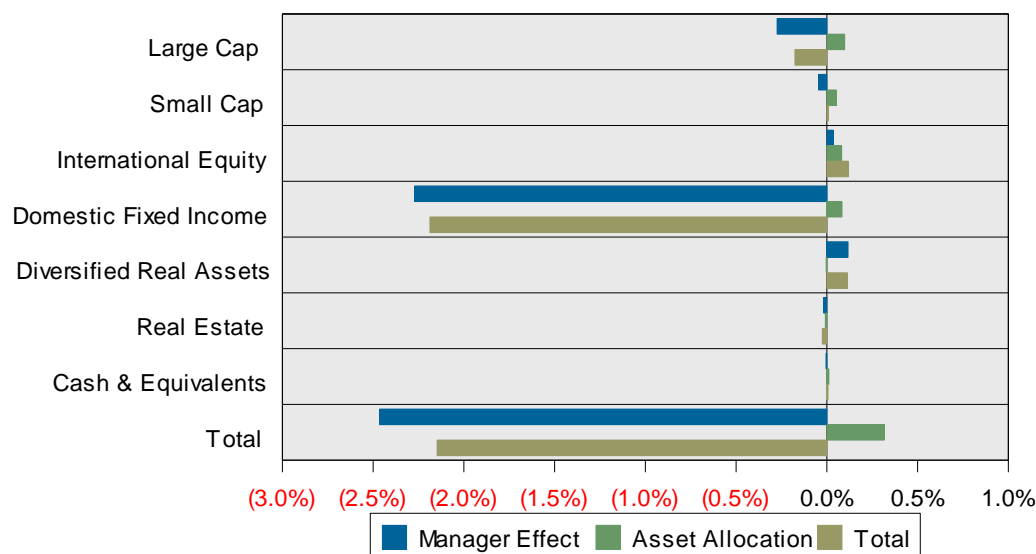


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	179,088	9.0%	11.0%	(2.0%)	(39,072)
Small Cap	44,147	2.2%	3.0%	(0.8%)	(15,351)
International Equity	128,196	6.5%	8.0%	(1.5%)	(30,466)
Domestic Fixed Income	1,257,584	63.4%	60.0%	3.4%	67,624
Diversified Real Assets	248,485	12.5%	12.0%	0.5%	10,493
Real Estate	101,115	5.1%	5.0%	0.1%	1,951
Cash & Equivalents	24,652	1.2%	1.0%	0.2%	4,819
Total	1,983,266	100.0%	100.0%		

WSI Performance and Attribution

As of March 31, 2020

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2020

Return Type	Return (%)
Gross	1.34%
Net of fees	1.18%
Target	3.49%
Net added	-2.31%

One Year Relative Attribution Effects

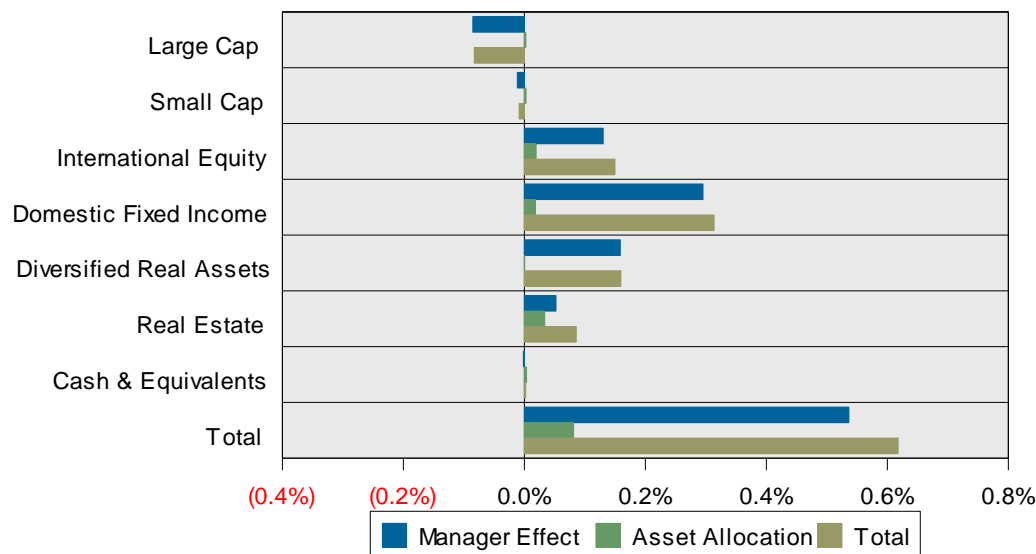
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	(10.50%)	(8.03%)	(0.27%)	0.10%	(0.18%)
Small Cap	3%	3%	(25.30%)	(23.99%)	(0.04%)	0.05%	0.01%
International Equity	8%	8%	(14.96%)	(14.89%)	0.04%	0.08%	0.12%
Domestic Fixed Income	61%	60%	5.30%	8.93%	(2.27%)	0.08%	(2.19%)
Diversified Real Assets	12%	12%	6.16%	5.12%	0.12%	(0.00%)	0.11%
Real Estate	5%	5%	4.95%	5.28%	(0.02%)	(0.01%)	(0.02%)
Cash & Equivalents	1%	1%	1.89%	2.25%	(0.00%)	0.01%	0.01%

Total 1.34% = 3.49% + (2.46%) + 0.32% (2.15%)

WSI Performance and Attribution

As of March 31, 2020

Five Year Annualized Relative Attribution Effects



Returns for 5 Year Ended 03/31/2020

Return Type	Return (%)
Gross	4.45%
Net of fees	4.24%
Target	3.83%
Net added	0.41%

Five Year Annualized Relative Attribution Effects

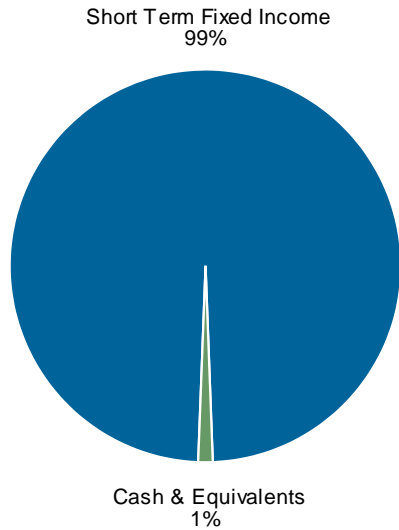
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	12%	12%	5.36%	6.22%	(0.09%)	0.00%	(0.08%)
Small Cap	4%	4%	(0.70%)	(0.25%)	(0.01%)	0.00%	(0.01%)
International Equity	9%	9%	0.35%	(0.81%)	0.13%	0.02%	0.15%
Domestic Fixed Income	55%	55%	4.09%	3.36%	0.30%	0.02%	0.31%
Diversified Real Assets	14%	14%	4.25%	3.10%	0.16%	0.00%	0.16%
Real Estate	6%	6%	8.35%	7.65%	0.05%	0.03%	0.09%
Cash & Equivalents	1%	1%	1.05%	1.19%	(0.00%)	0.00%	0.00%

Total 4.45% = 3.83% + 0.54% + 0.08% **0.62%**

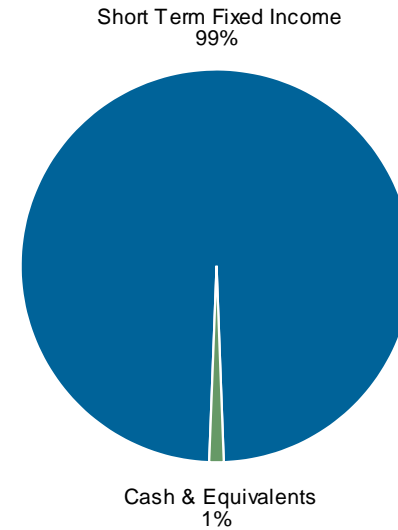
Budget Stabilization Fund Allocation

As of March 31, 2020

Actual Asset Allocation



Target Asset Allocation

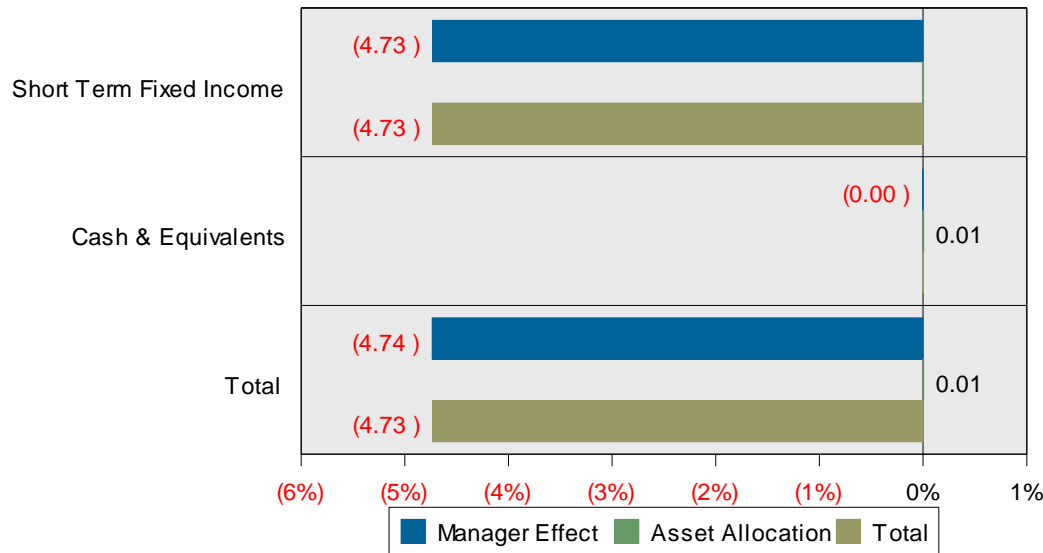


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Short Term Fixed Income	688,746	98.8%	98.8%	0.0%	192
Cash & Equivalents	8,030	1.2%	1.2%	(0.0%)	(192)
Total	696,776	100.0%	100.0%		

Budget Stabilization Fund Performance and Attribution

As of March 31, 2020

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2020

Return Type	Return (%)
Gross	-0.24%
Net of fees	-0.37%
Target	4.49%
Net added	-4.86%

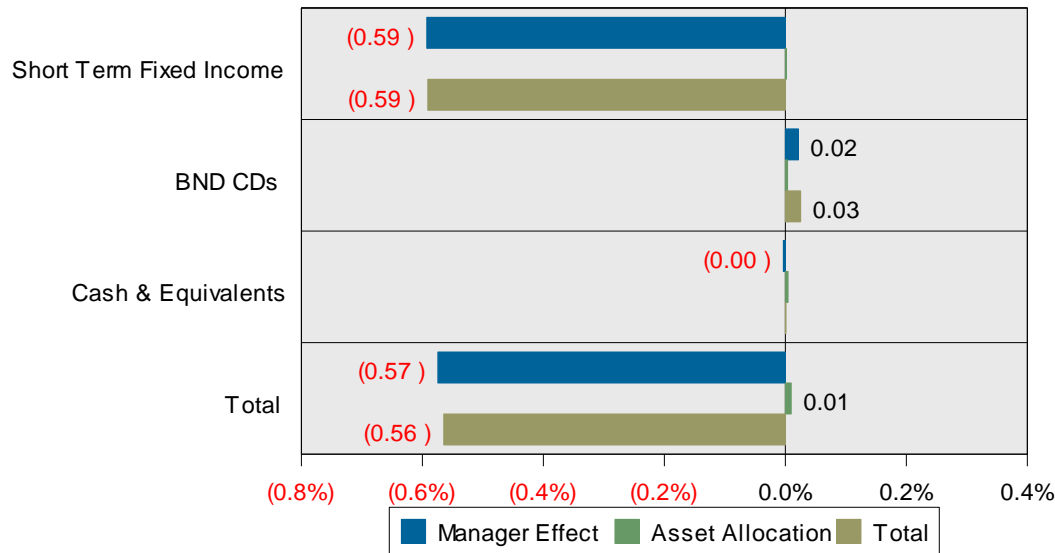
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	98%	98%	(0.26%)	4.53%	(4.73%)	0.00%	(4.73%)
Cash & Equivalents	2%	2%	1.89%	2.25%	(0.00%)	0.01%	0.00%
Total			(0.24%)	4.49%	+ (4.74%)	+ 0.01%	(4.73%)

Budget Stabilization Fund Performance and Attribution

As of March 31, 2020

Five Year Annualized Relative Attribution Effects



Returns for 5 Year Ended 03/31/2020

Return Type	Return (%)
Gross	1.31%
Net of fees	1.15%
Target	1.88%
Net added	-0.73%

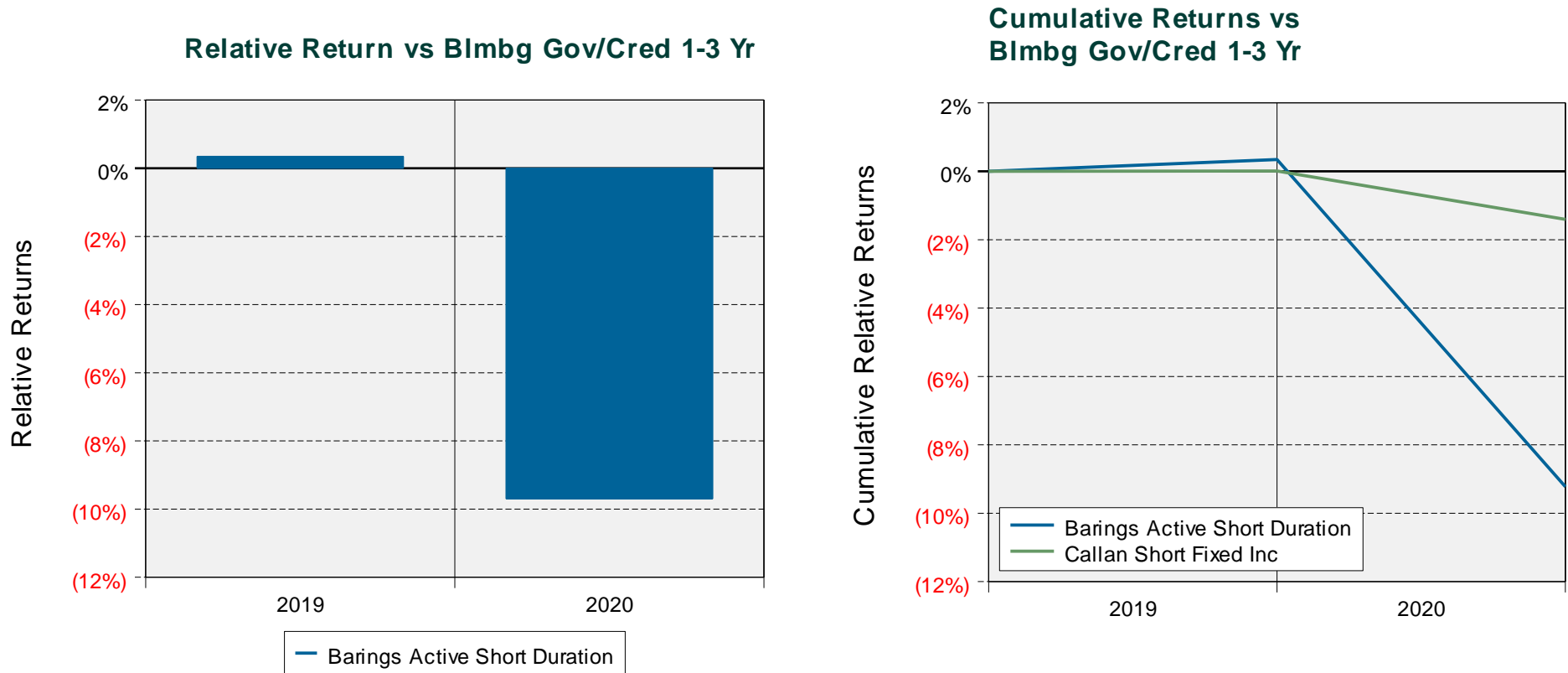
Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	91%	91%	1.24%	1.78%	(0.59%)	0.00%	(0.59%)
BND CDs	6%	6%	-	-	0.02%	0.00%	0.03%
Cash & Equivalents	3%	3%	1.04%	1.19%	(0.00%)	0.00%	0.00%

Total **1.31% = 1.88% + (0.57%) + 0.01%** **(0.56%)**

Barings Short Term Duration Strategy

Credit Exposures + Shorter Duration = Significant Underperformance in 1Q2020

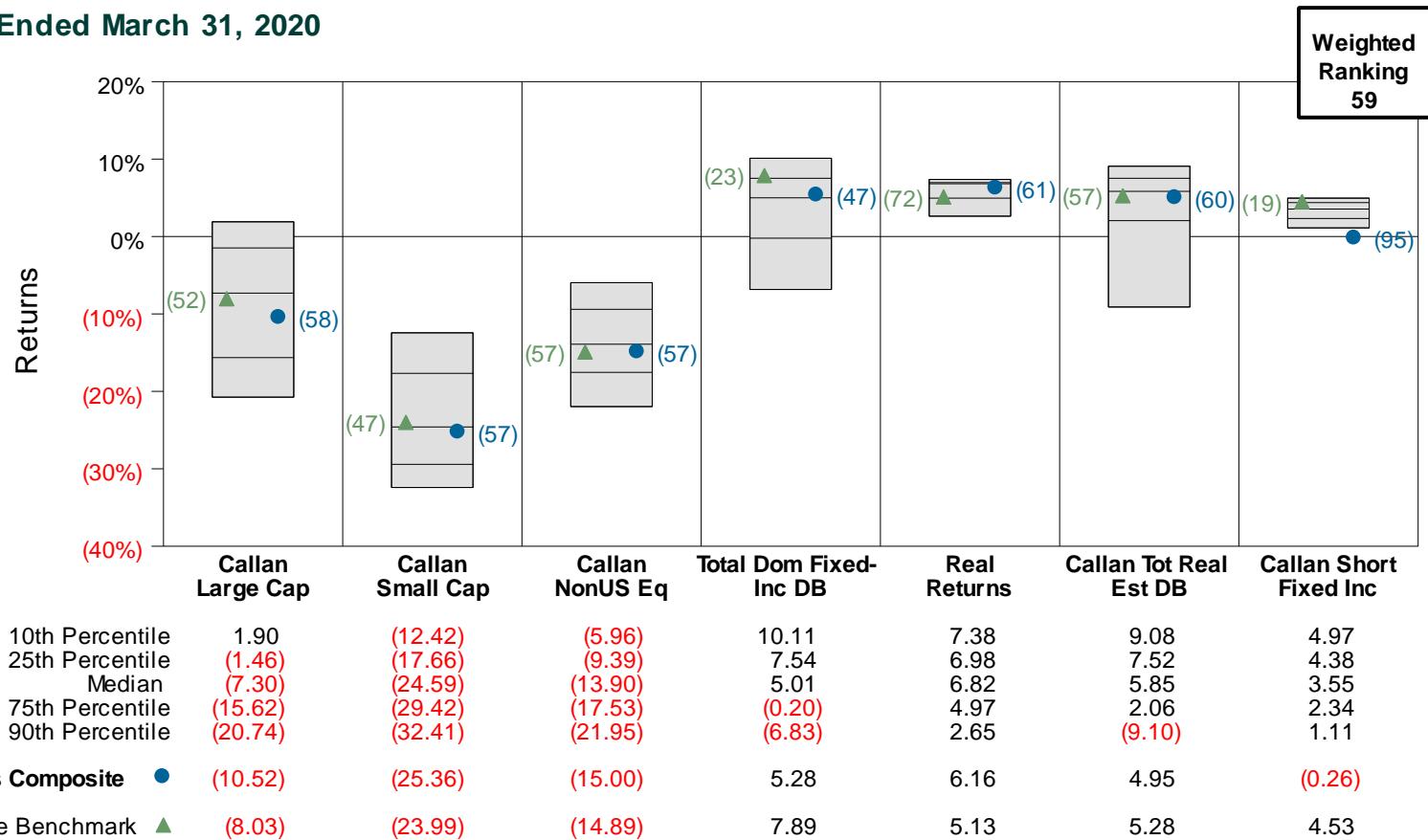


- Strategy is strategically tilted towards investments in securitized debt and Investment Grade Credit.
- This strategy returned (6.77)% vs the +2.73% of its benchmark, the Bloomberg Barclays Government 1-3 year index. The difference, 9.5%, explains the totality of the Budget Stabilization Fund's underperformance.
- Given that this strategy emphasizes credit, their recent and long-term results are understandable.
- As of quarter end, "losses" are unrealized. Barings reports that all issues are current on interest rate payments.

Asset Class Composite Results

Consolidated Insurance Trust Asset Class Results vs. Callan Style Groups

Total Asset Class Performance
One Year Ended March 31, 2020

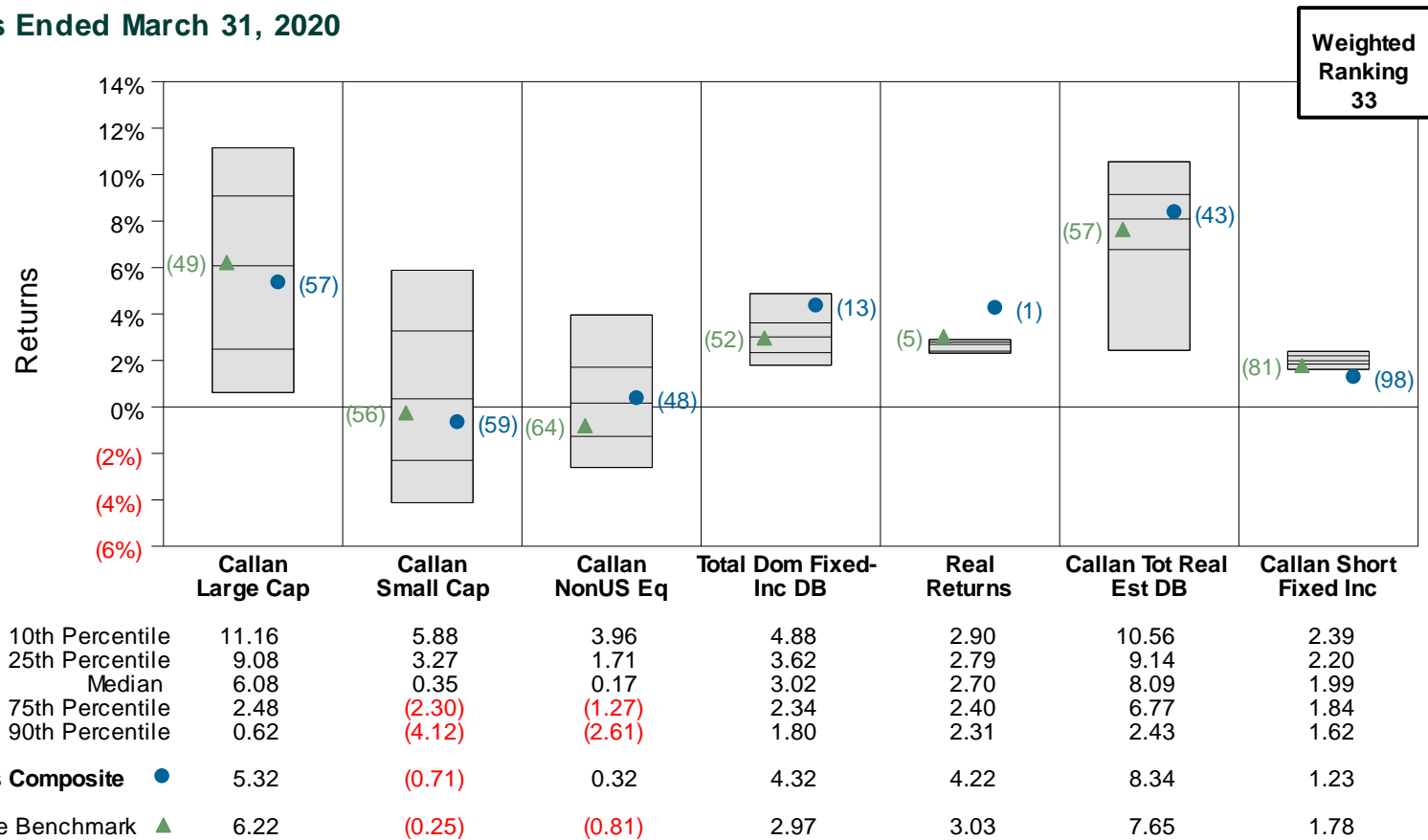


- Real assets was the only asset class to outperform its benchmark during the period.
- Domestic fixed income was the only asset class to perform above median over the trailing 12 months.

Asset Class Composite Results

Consolidated Insurance Trust Asset Class Results vs. Callan Style Groups

Total Asset Class Performance
Five Years Ended March 31, 2020



- Non-U.S. equity, domestic fixed income, real assets, and real estate beat their benchmarks over the trailing five years, while the other asset class composites fell short.
- Real assets ranked in the top percentile over the past five years. Domestic fixed income ranked in the top quartile and both non-U.S. equity and real estate ranked above median.

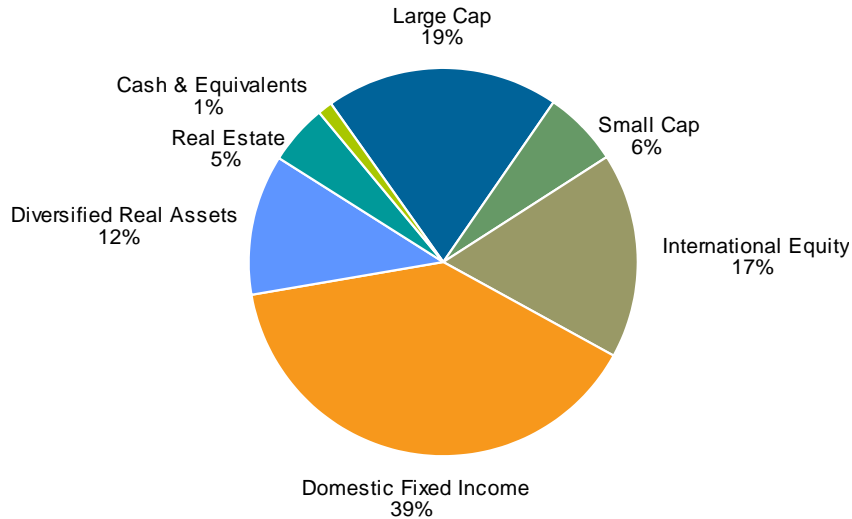
Callan

Legacy Fund Quarterly Review

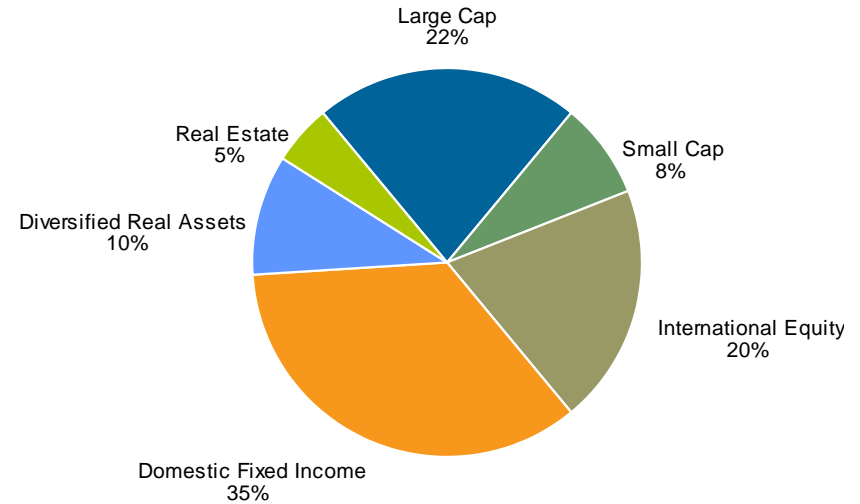
Legacy Fund Allocation

As of March 31, 2020

Actual Asset Allocation



Target Asset Allocation

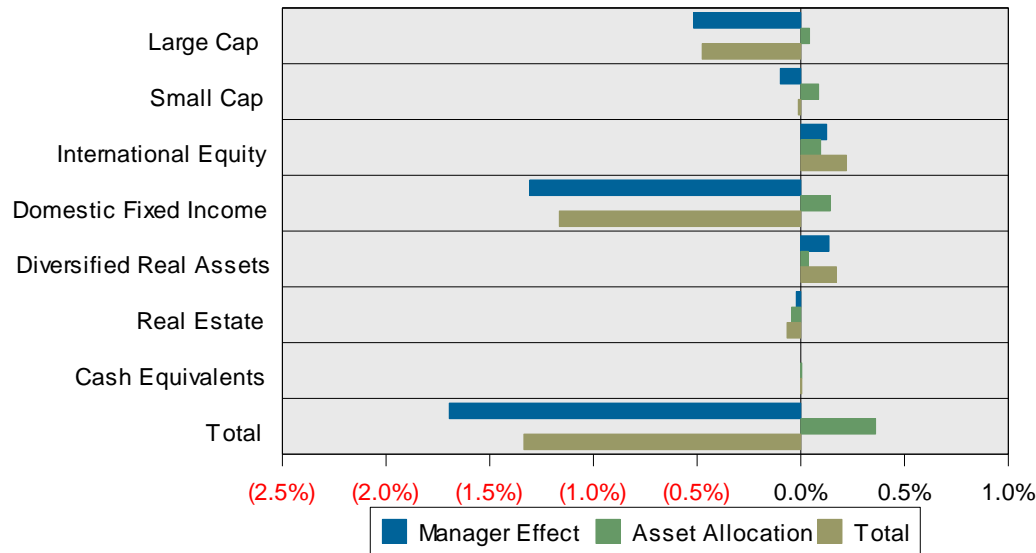


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	1,196,284	19.4%	22.0%	(2.6%)	(157,747)
Small Cap	384,765	6.3%	8.0%	(1.7%)	(107,610)
International Equity	1,053,519	17.1%	20.0%	(2.9%)	(177,418)
Domestic Fixed Income	2,419,574	39.3%	35.0%	4.3%	265,435
Diversified Real Assets	722,389	11.7%	10.0%	1.7%	106,921
Real Estate	305,268	5.0%	5.0%	(0.0%)	(2,467)
Cash & Equivalents	72,884	1.2%	0.0%	1.2%	72,884
Total	6,154,682	100.0%	100.0%		

Legacy Performance and Attribution

As of March 31, 2020

One Year Relative Attribution Effects



Returns for 1 Year Ended 03/31/2020

Return Type	Return (%)
Gross	-4.03%
Net of fees	-4.21%
Target	-2.70%
Net added	-1.51%

One Year Relative Attribution Effects

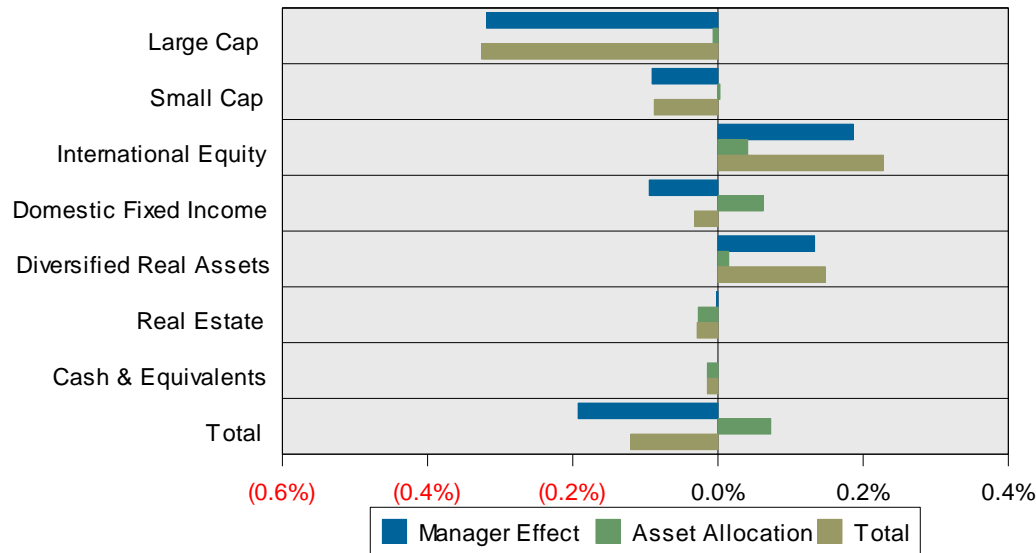
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	(10.38%)	(8.03%)	(0.52%)	0.04%	(0.48%)
Small Cap	8%	8%	(25.02%)	(23.99%)	(0.10%)	0.09%	(0.01%)
International Equity	20%	20%	(14.62%)	(14.89%)	0.12%	0.10%	0.22%
Domestic Fixed Income	35%	35%	5.46%	8.93%	(1.31%)	0.14%	(1.16%)
Diversified Real Assets	10%	10%	7.65%	5.98%	0.14%	0.04%	0.17%
Real Estate	5%	5%	4.85%	5.28%	(0.02%)	(0.04%)	(0.07%)
Cash Equivalents	1%	0%	1.87%	1.87%	0.00%	0.00%	0.00%

Total (4.03%) = (2.70%) + (1.70%) + 0.36% (1.34%)

Legacy Performance and Attribution

As of March 31, 2020

Three Year Annualized Relative Attribution Effects



Returns for 3 Year Ended 03/31/2020

Return Type	Return (%)
Gross	2.90%
Net of fees	2.70%
Target	3.02%
Net added	-0.32%

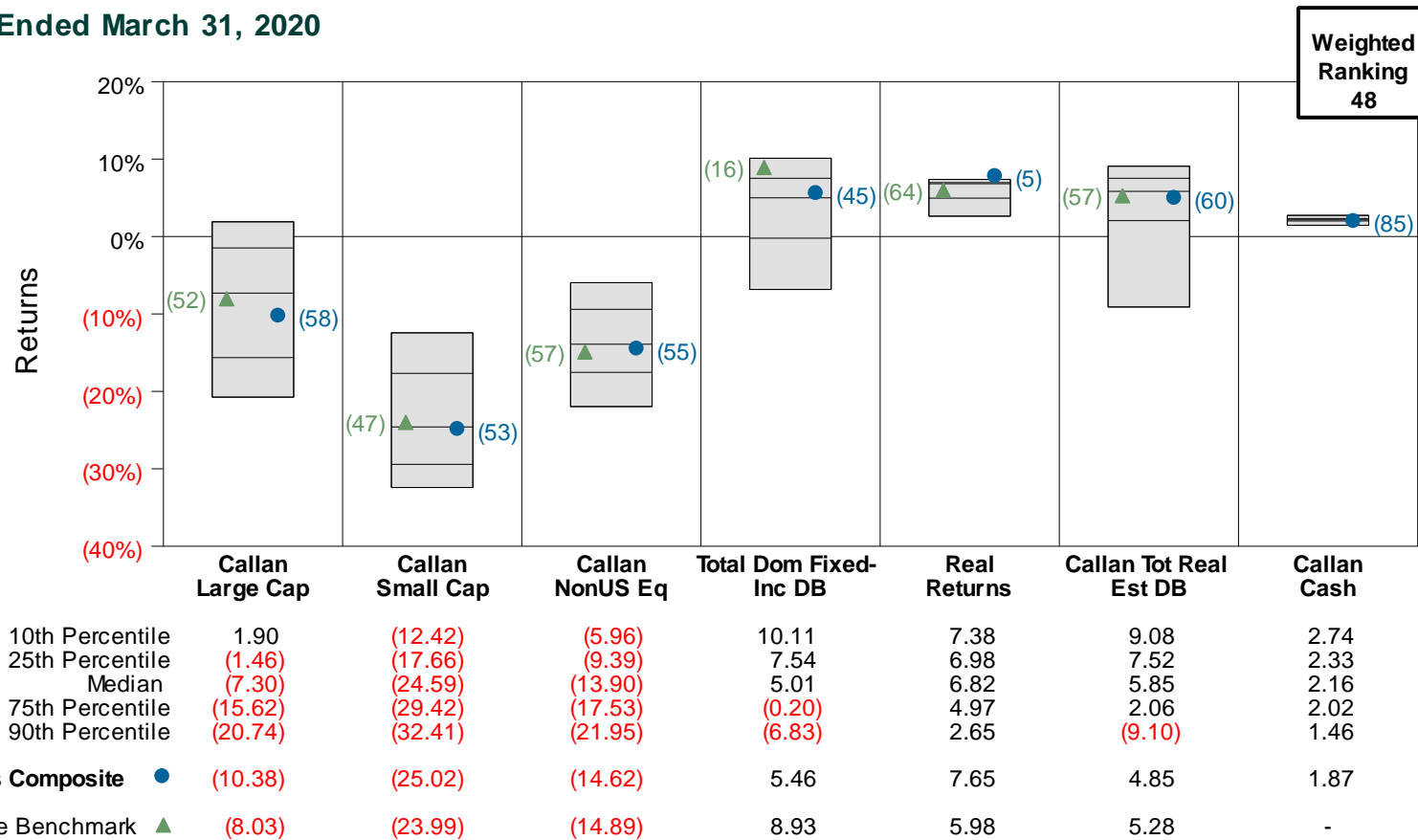
Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	3.12%	4.64%	(0.32%)	(0.01%)	(0.33%)
Small Cap	8%	8%	(5.71%)	(4.64%)	(0.09%)	0.00%	(0.09%)
International Equity	20%	20%	(1.37%)	(2.07%)	0.19%	0.04%	0.23%
Domestic Fixed Income	35%	35%	4.81%	4.82%	(0.09%)	0.06%	(0.03%)
Diversified Real Assets	10%	10%	5.76%	4.26%	0.13%	0.01%	0.15%
Real Estate	5%	5%	6.34%	6.41%	(0.00%)	(0.03%)	(0.03%)
Cash & Equivalents	1%	0%	1.61%	1.61%	0.00%	(0.01%)	(0.01%)
Total			2.90%	3.02%	+ (0.19%)	+ 0.07%	(0.12%)

Asset Class Composite Results

Legacy Fund Asset Class Results vs. Callan Style Groups

Total Asset Class Performance
One Year Ended March 31, 2020

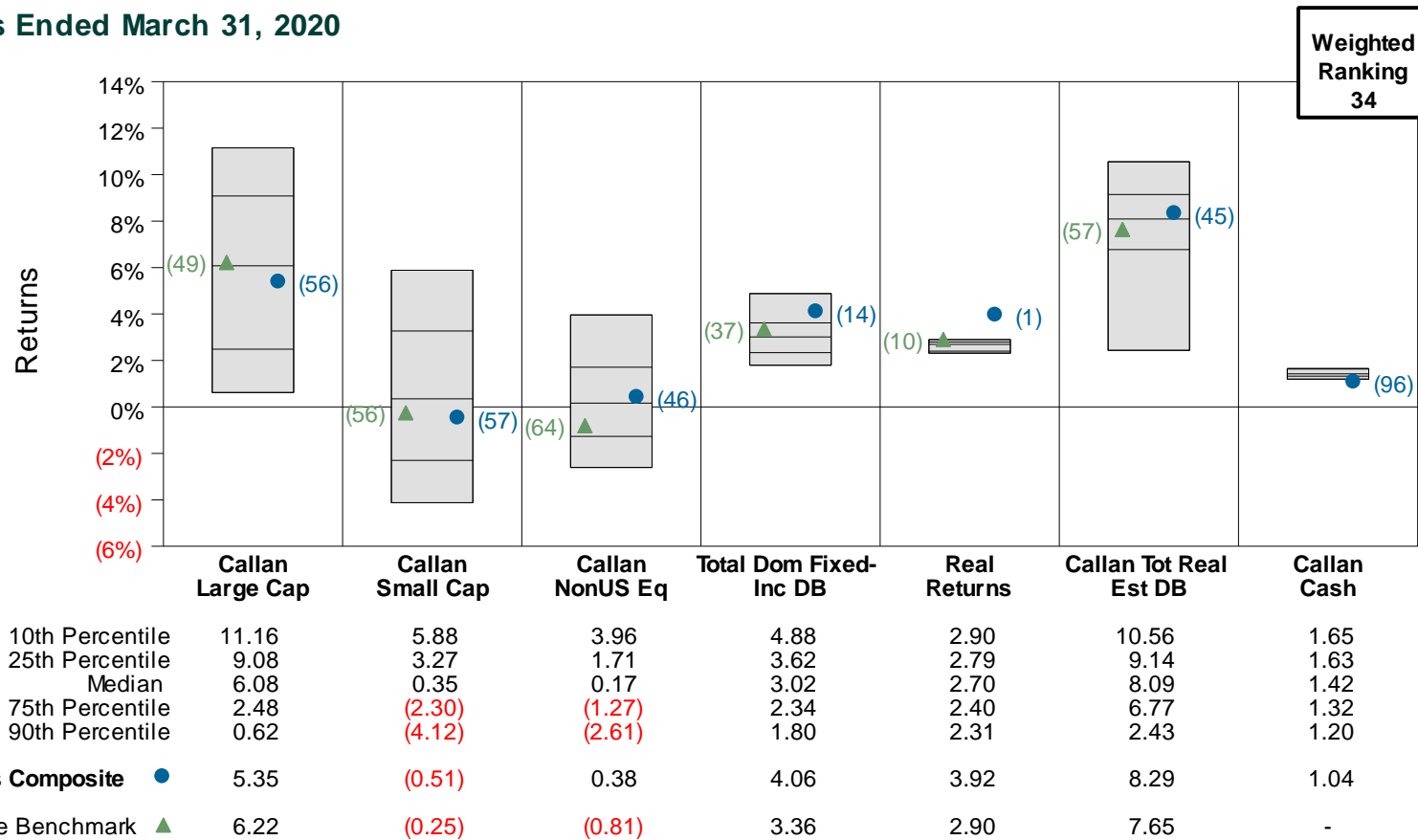


- Non-U.S. equity and real returns were the only two asset classes to outpace their respective benchmarks over the past year.
- Besides domestic fixed income and real returns, all other asset classes performed below median during the period.

Asset Class Composite Results

Legacy Fund Asset Class Results vs. Callan Style Groups

Total Asset Class Performance
Five Years Ended March 31, 2020



- Non-U.S. equities, domestic fixed income, real returns, and real estate all beat their respective benchmarks over the past five years.
- Real assets ranked in the top percentile. Domestic fixed income, non-U.S. equity, and real estate ranked above median. All other asset classes trailed their respective peer medians.

Callan

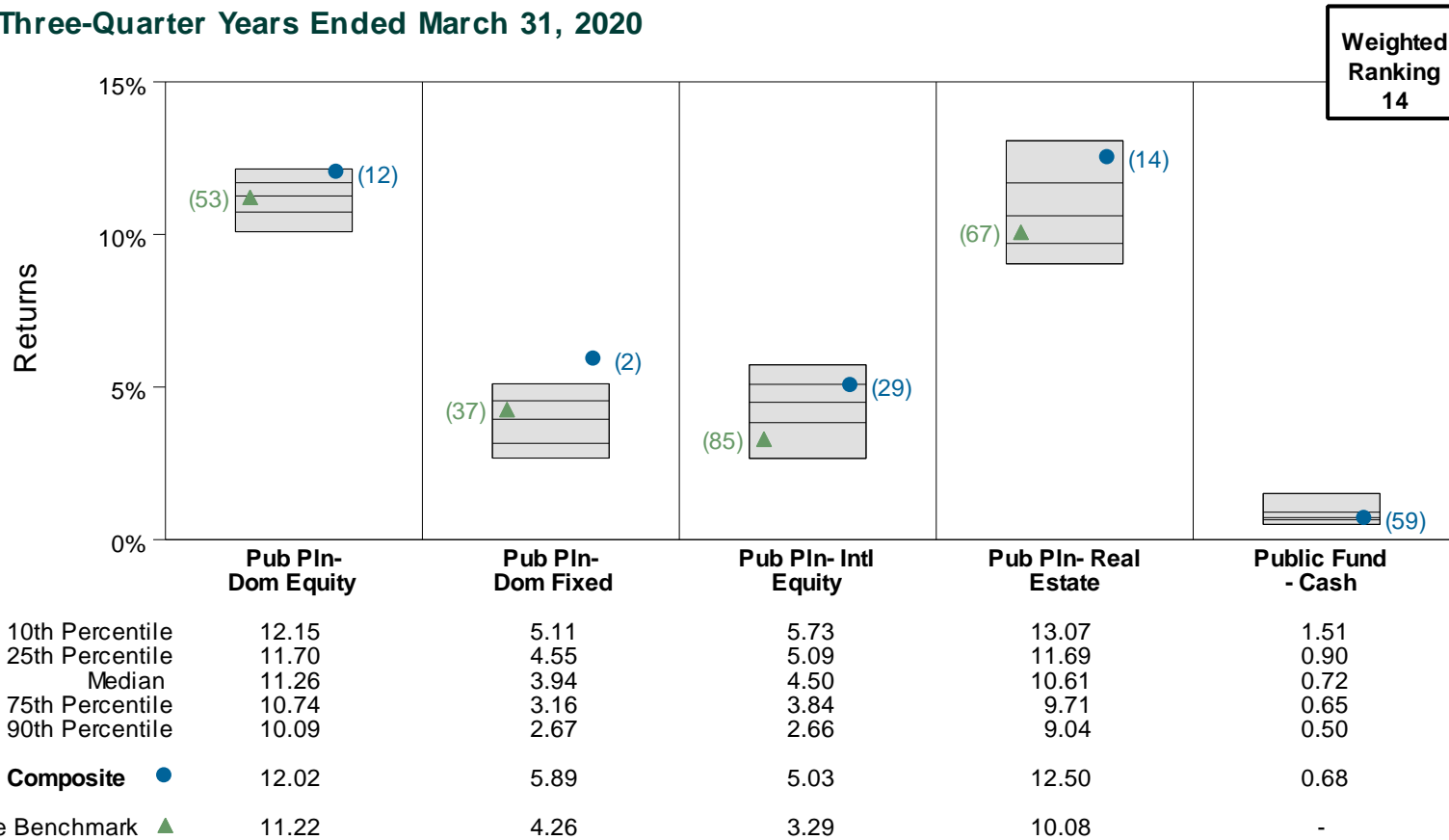
Appendix A

Consolidated Asset Class Rankings

Asset Class Composite Results

PERS' Asset Class Results vs. Other Public Pension Funds

Total Asset Class Performance Nine and Three-Quarter Years Ended March 31, 2020

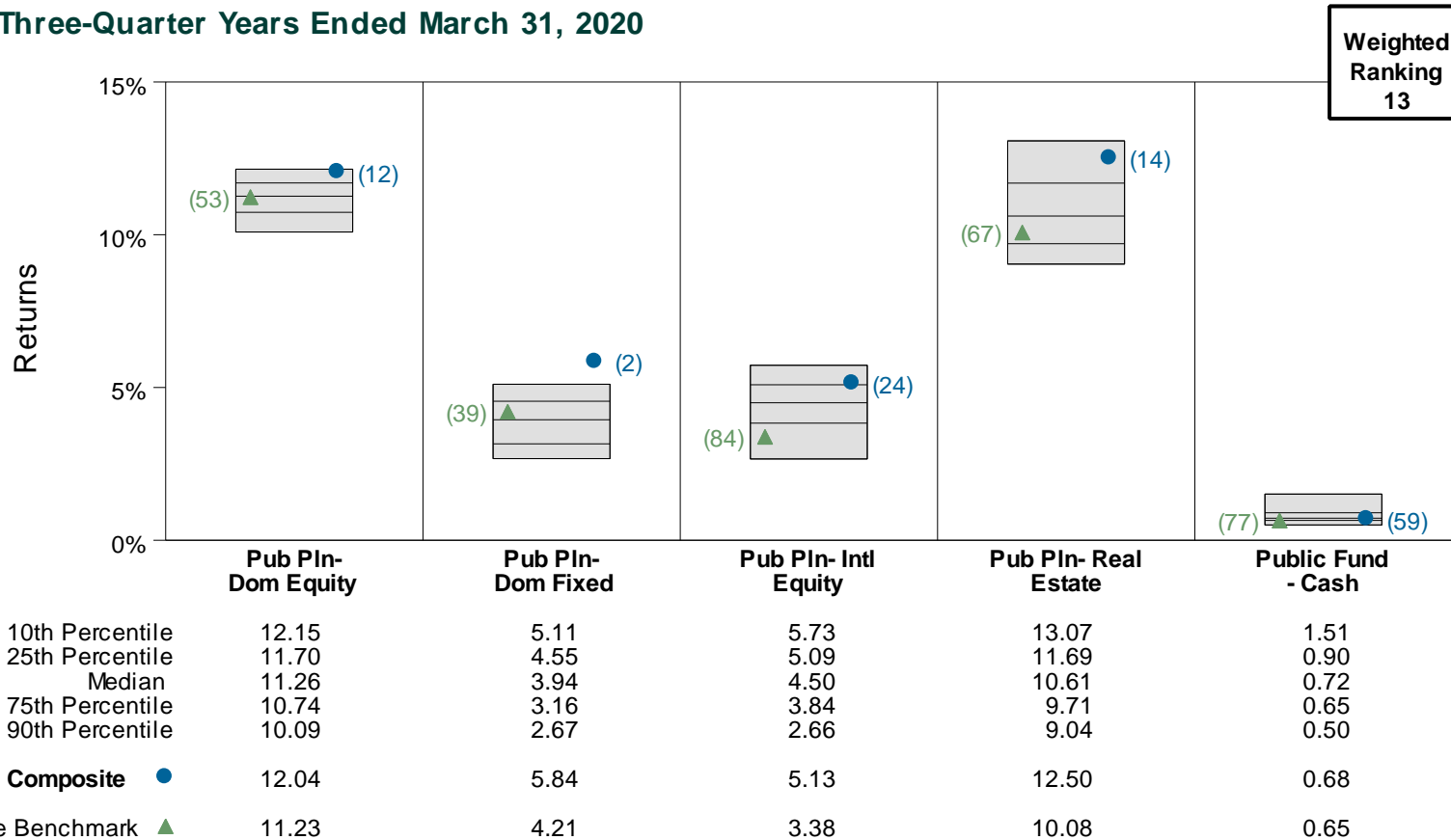


- All asset classes have outperformed their benchmarks and performed above the median of peer public funds over the last 9.75 years (excluding cash).
- Domestic equity, fixed income, and real estate have ranked in the top quartile over the period.

Asset Class Composite Results

TFFR's Asset Class Results vs. Other Public Pension Funds

Total Asset Class Performance Nine and Three-Quarter Years Ended March 31, 2020

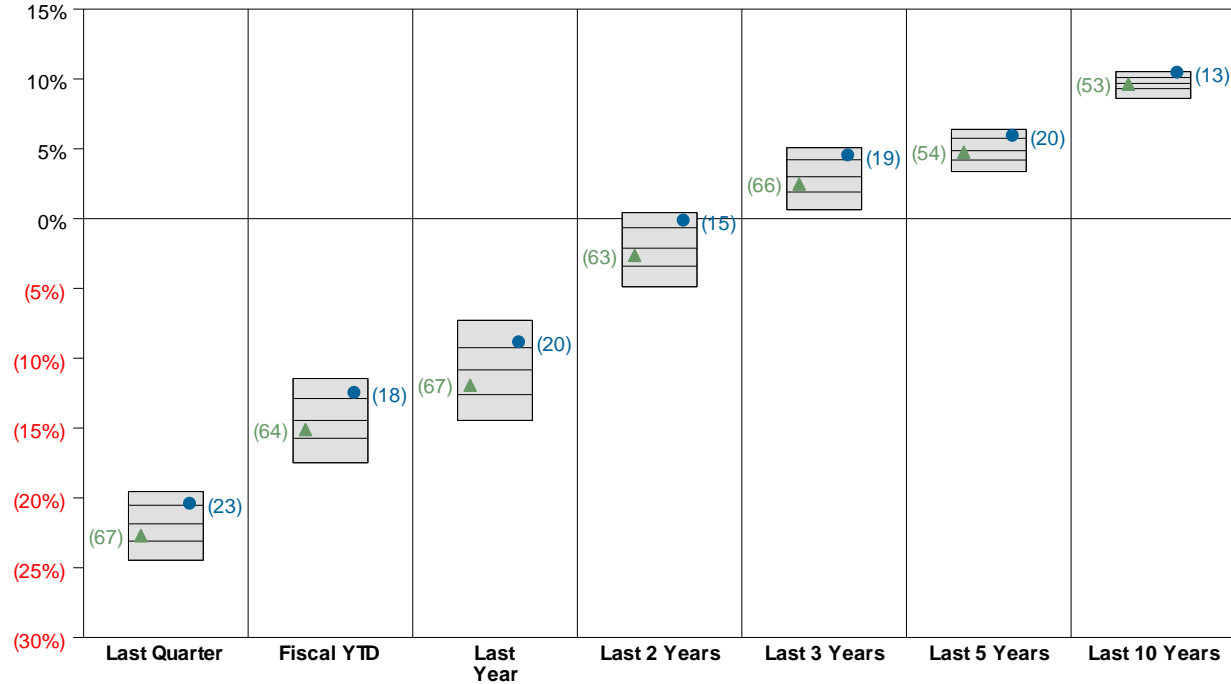


- All asset classes have outperformed their benchmarks over the last 9.75 years.
- With the exception of cash, all asset classes have ranked in the top quartile over the period.

Consolidated Pension Trust: Domestic Equity

As of March 31, 2020

Performance vs Public Fund - Domestic Equity (Gross)



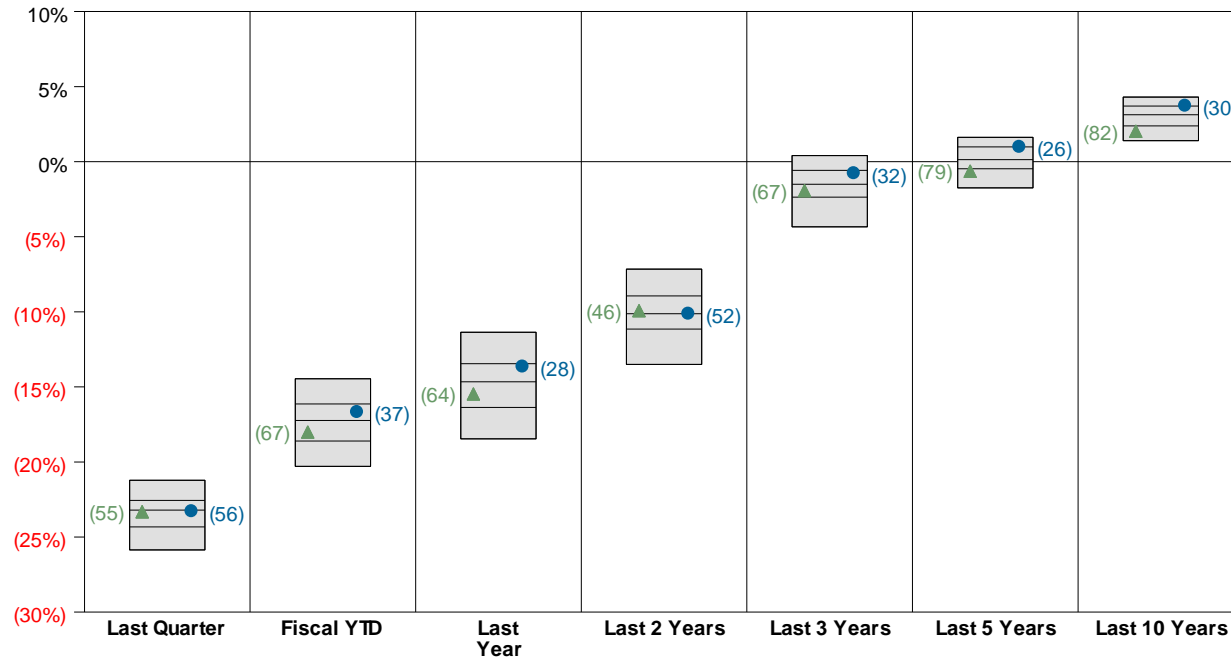
10th Percentile	(19.55)	(11.45)	(7.28)	0.43	5.08	6.39	10.53
25th Percentile	(20.53)	(12.88)	(9.24)	(0.65)	4.21	5.75	10.10
Median	(21.86)	(14.45)	(10.83)	(2.11)	2.99	4.86	9.68
75th Percentile	(23.10)	(15.73)	(12.61)	(3.41)	1.91	4.20	9.31
90th Percentile	(24.46)	(17.49)	(14.45)	(4.88)	0.63	3.37	8.61
Domestic Equities	(20.48)	(12.54)	(8.91)	(0.21)	4.47	5.87	10.38
Domestic Equity Target	(22.70)	(15.10)	(11.93)	(2.64)	2.48	4.76	9.64

- The domestic equity composite outperformed the benchmark over all measured periods.
- Over the trailing 10-year period the composite ranks in the top quartile.

Consolidated Pension Trust: International Equity

As of March 31, 2020

Performance vs Public Fund - International Equity (Gross)



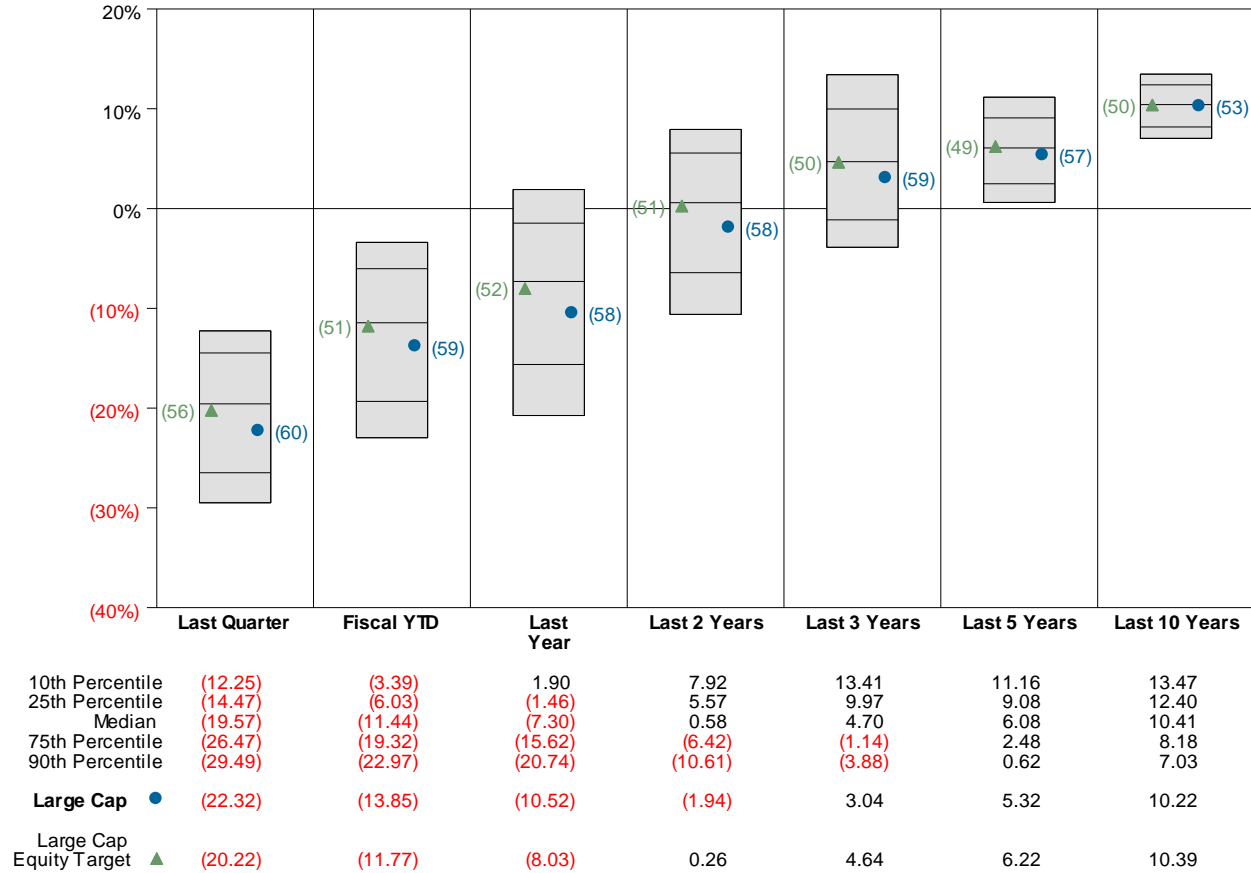
10th Percentile	(21.22)	(14.46)	(11.36)	(7.16)	0.40	1.62	4.30
25th Percentile	(22.56)	(16.14)	(13.45)	(8.94)	(0.58)	0.98	3.70
Median	(23.20)	(17.24)	(14.66)	(10.13)	(1.50)	0.13	3.12
75th Percentile	(24.33)	(18.61)	(16.37)	(11.15)	(2.36)	(0.47)	2.38
90th Percentile	(25.85)	(20.29)	(18.46)	(13.50)	(4.34)	(1.74)	1.40
International Equities	● (23.35)	(16.74)	(13.72)	(10.20)	(0.84)	0.92	3.66
International Equity Target	▲ (23.32)	(18.01)	(15.47)	(9.93)	(1.93)	(0.63)	2.03

- Over the past three-, five-, and ten-year periods the international equity composite outperformed the benchmark.
- The portfolio has performed above, or near the peer median over all trailing periods.

Consolidated Insurance Trust: Large Cap Equity

As of March 31, 2020

Performance vs Callan Large Capitalization (Gross)

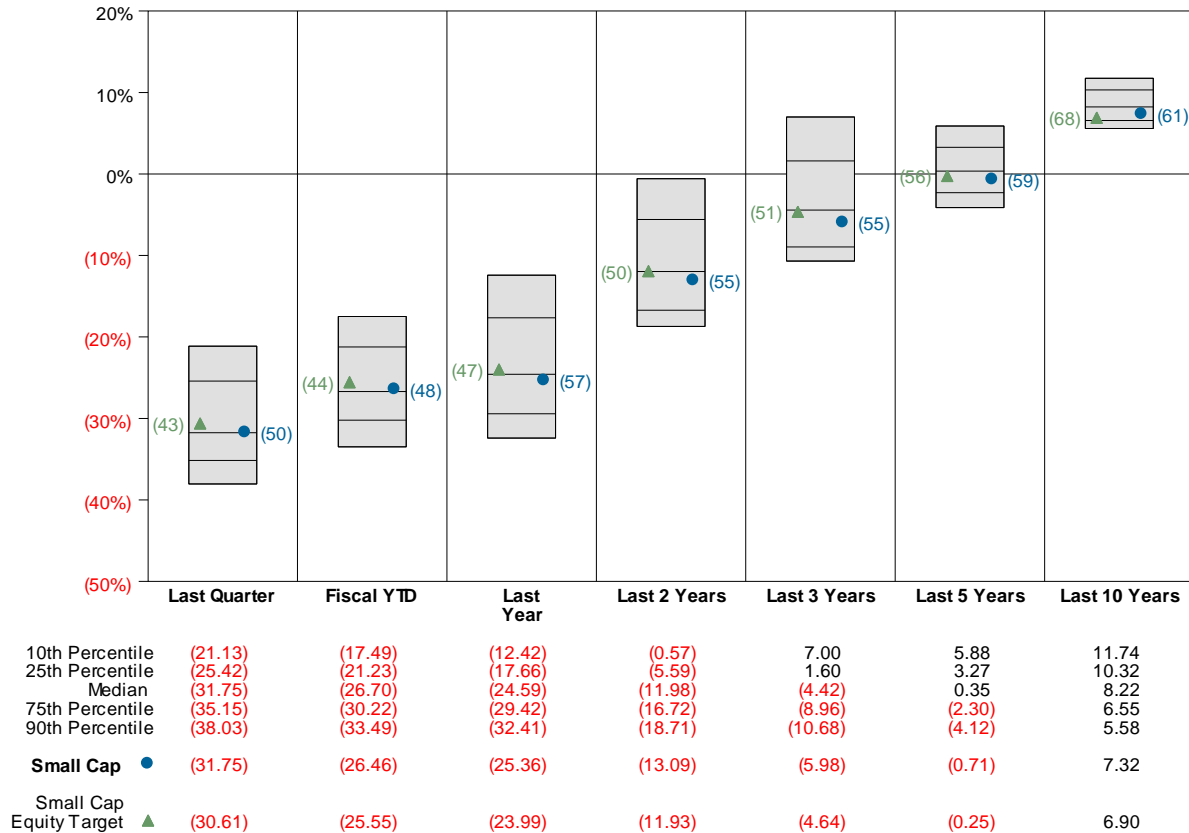


- The portfolio fell short of both the peer median and the benchmark over all measured periods.

Consolidated Insurance Trust: Small Cap Equity

As of March 31, 2020

Performance vs Callan Small Capitalization (Gross)

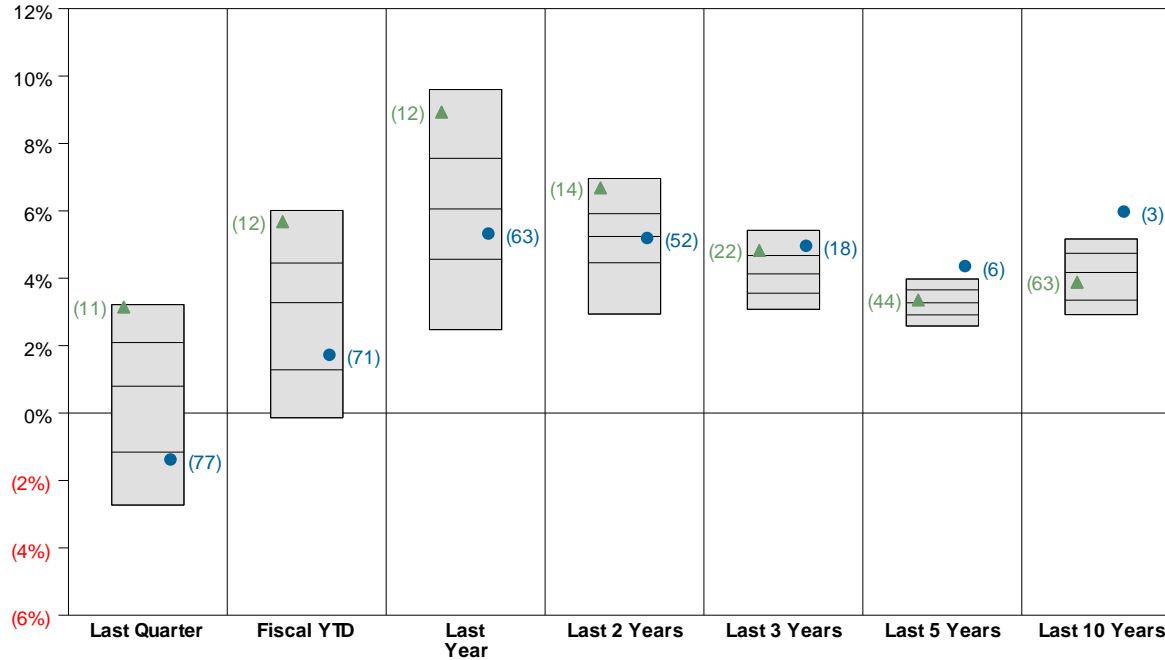


- The asset class produced mixed performance relative to the benchmark over various rolling periods.
- The small cap equity composite underperformed the peer median over all measured periods one year and longer.

Consolidated Insurance Trust: Domestic Fixed Income

As of March 31, 2020

Performance vs Public Fund - Domestic Fixed (Gross)



10th Percentile	3.22	6.01	9.60	6.96	5.42	3.98	5.17
25th Percentile	2.09	4.45	7.56	5.92	4.68	3.65	4.74
Median	0.80	3.27	6.06	5.24	4.13	3.27	4.17
75th Percentile	(1.16)	1.28	4.56	4.46	3.55	2.91	3.35
90th Percentile	(2.73)	(0.14)	2.47	2.94	3.08	2.58	2.92
Domestic Fixed Income	● (1.42)	1.69	5.28	5.16	4.92	4.32	5.93
Blmbg Aggregate	▲ 3.15	5.68	8.93	6.68	4.82	3.36	3.88

- The asset class outperformed the target over the three-, five-, and ten-year periods, while underperforming in more recent periods.
- The domestic fixed income asset class ranked in the top decile for the five- and ten-year periods. Shorter term rankings have fallen below median.

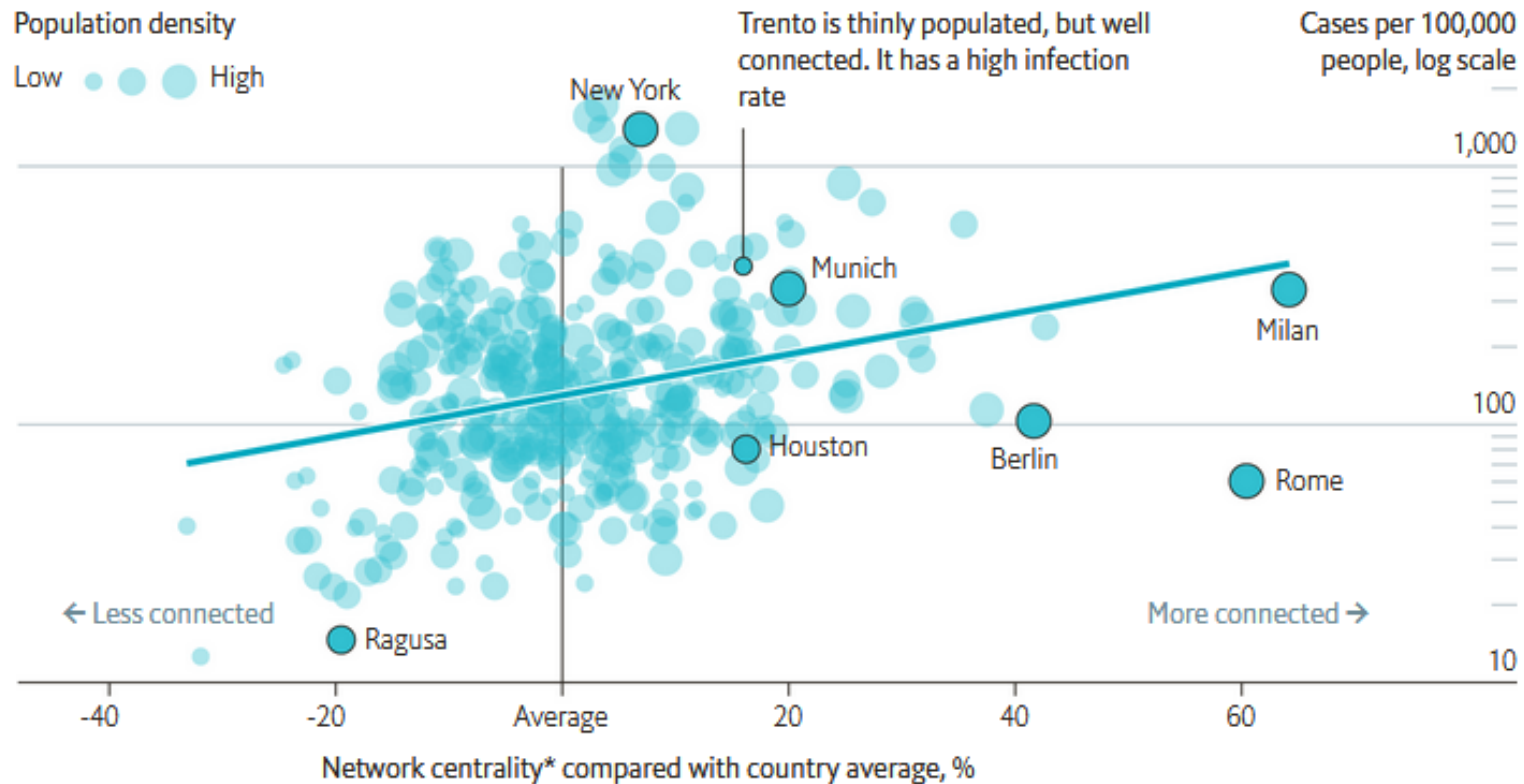
Part 1: Can data correlation exhibit reliably predictive power?

In one model, greater visitation by out-siders correlates with higher incidence of COVID-19

Covid-19 is more prevalent in better-networked cities

Interconnectedness v covid-19 cases, by geographic area

Germany, Italy and the United States, three weeks after lockdown



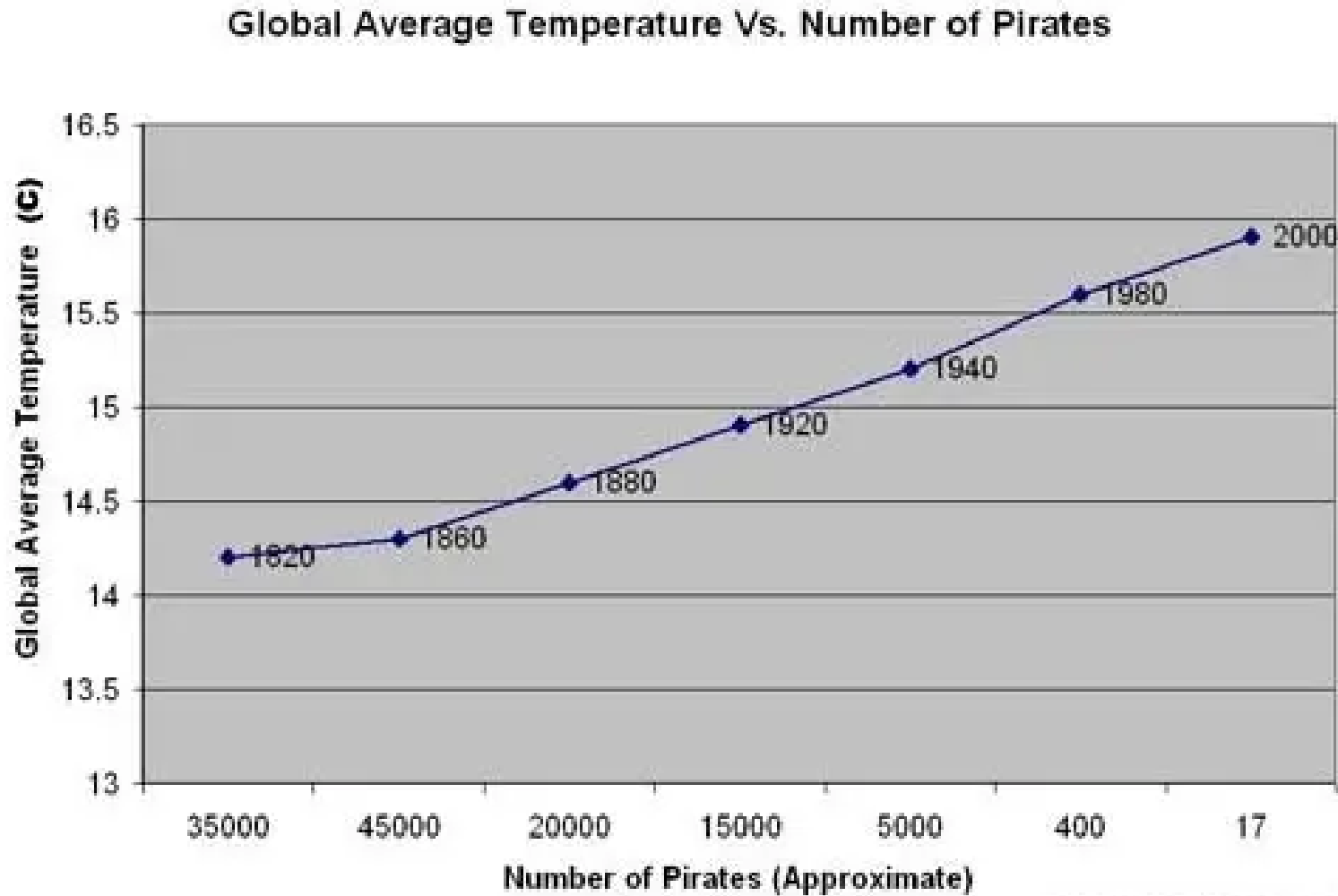
*A measure of how many different areas a given place exchanges visitors with regularly

- Cities' "network centrality", or how many other places it tends to exchange visitors with, increases probability.

Source: The Economist, 16 May 2020

Part 2: Sometimes data correlation equates more to ‘coincidence’ than ‘causality’

In another model, a decline in the number of pirates is associated with the rise in global temperature



- What's the SEC make everyone disclose? ***“A fund's past performance may not predict future results.”***
- A note of caution about models and statistics: sometimes numbers are just numbers and nothing more.

Source: BuzzFeed News

March 31, 2020



North Dakota State Investment Board Pension Funds

Investment Measurement Service
Quarterly Review

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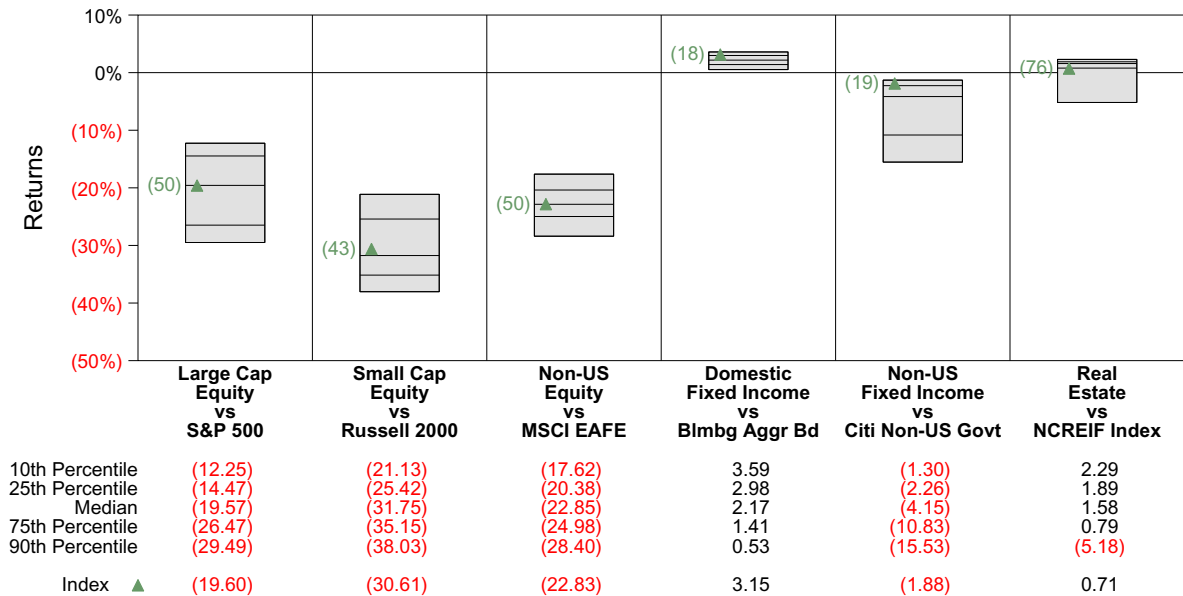
Market Overview

Active Management vs Index Returns

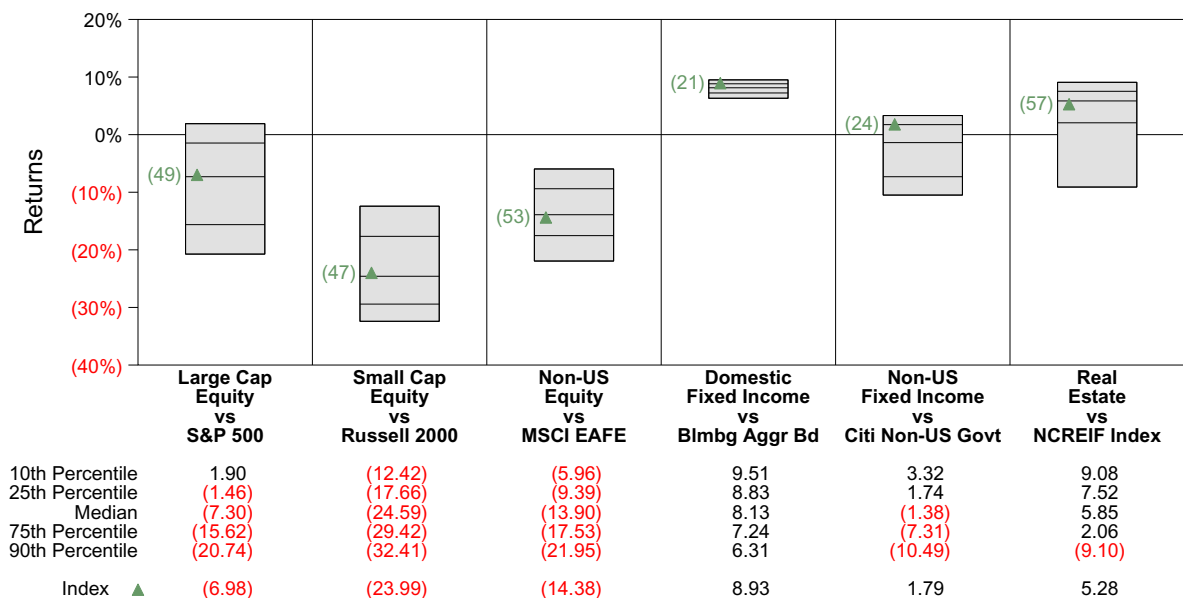
Market Overview

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class One Quarter Ended March 31, 2020



Range of Separate Account Manager Returns by Asset Class One Year Ended March 31, 2020





Pandemic Impact: What Happened?

ECONOMY

2 PAGE The speed at which the response to the pandemic shut down the economy and affected the capital markets was unprecedented. We hit bear market territory for the U.S. stock market in 16 days. The sudden drop in economic activity matched the depth and speed of the market drop.

Results Reflect Initial Impact of COVID-19

INSTITUTIONAL INVESTORS

4 PAGE All four primary types of institutional investors experienced sharp declines in the first quarter and smaller drops for the 12 months ending March 31. Over the last 20 years, all plan types have produced returns in a narrow range of 5.1%-5.3%.

Record Plunge Amid Extreme Volatility

EQUITY

6 PAGE U.S. equities experienced extreme volatility and near-record declines, in terms of speed. Large caps did relatively better; the Russell 2000 experienced its worst quarter ever. Growth continued to perform better vs. value across all market capitalizations.

Market Driven by Search for Safety

FIXED INCOME

8 PAGE Treasuries rallied as investors sought safety. The yield curve steepened as the Fed cut rates. Investment grade and high yield bonds saw record outflows. Global fixed income fell across the board, with the pain especially intense for emerging market debt.

Private RE Positive; Real Assets Hammered

REAL ESTATE/REAL ASSETS

10 PAGE Private real estate rose, due to income gains. Returns are expected to fall in 2Q20 and beyond. Global REITs underperformed equities and bonds. Infrastructure saw record fundraising. Almost all real assets saw GFC-level drops, especially energy-related sectors.

Activity Declines as Public Equity Drops

PRIVATE EQUITY

12 PAGE The public equity market decline slowed every aspect of private equity transaction activity. Valuations are likely to decline when first quarter numbers become available in early July. But historically, private equity has proven resilient in weathering downturns.

Notable Losses Amid Wider Market Plunge

HEDGE FUNDS/MACs

13 PAGE The Credit Suisse Hedge Fund Index lost 9.0% in the first quarter. The Callan Hedge Fund-of-Funds Peer Group slumped 8.1%, net of all fees and expenses. And representing 50 of the largest, broadly diversified hedge funds, the Callan Institutional Hedge Fund Peer Group fell 6.3%.

Index Posts Highest Return Since 2009

DEFINED CONTRIBUTION

15 PAGE The Callan DC Index gained 21.9% in 2019, while the Age 45 Target Date Fund rose 24.0%. TDFs saw the biggest inflows for the quarter, while U.S. large cap equity saw the largest outflows. The allocation to equity hit 70.2%, the highest since the third quarter of 2018.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000



Global ex-U.S. Equity
MSCI ACWI ex USA



U.S. Fixed Income
Bloomberg Barclays Agg



Global ex-U.S. Fixed Income
Bloomberg Barclays Gbl ex US



Sources: Bloomberg Barclays, FTSE Russell, MSCI

What Just Happened?

ECONOMY | Jay Kloepfer

The unprecedented response to the COVID-19 pandemic touched every actor in the global economy: consumers, workers, businesses, shareholders and business owners, renters, property owners, nonprofits, and governments at every level. The worldwide lockdown hit travel, transportation, and retail first, and spending collapsed in March as shelter-in-place orders and steep job losses restricted expenditures. Tax revenues plunged across all levels of government while demand for (and supply of) certain services ballooned. The Federal Reserve and central banks around the globe stepped in at record speed to revive and expand many of the policies developed during the Global Financial Crisis, to provide liquidity and support for financial markets that were seizing up in uncertainty. Governments rushed to offer massive fiscal stimulus to backstop the economy.

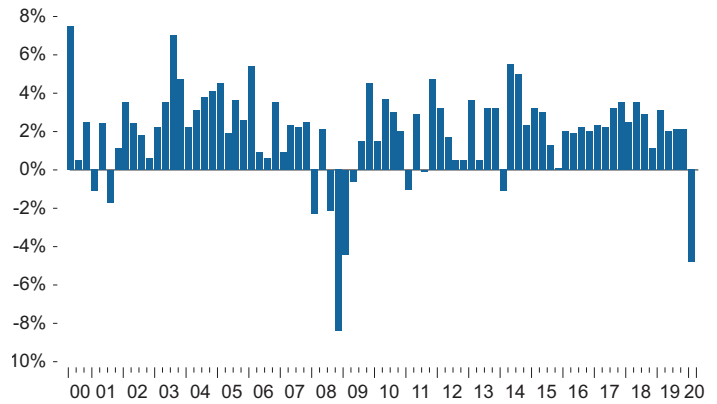
All these actions were taken to address the economic impact of the shutdown. However, these policies can only address the symptoms of the economic dislocation. At its core, this event is a global health crisis, and its resolution depends on the containment of the spread of the virus and a vaccine. The full return of the economy depends on the confidence that we are safe to resume jobs, travel, consumption, and daily interaction. Until then, the global economy will be hampered in ways we can only partly anticipate; the unmeasurable risk of the global health crisis will dominate for some time.

The speed with which the response to the pandemic shut down the economy and devastated confidence in the capital markets was remarkable. We hit bear market territory for the U.S. stock market—defined as a decline of 20%—in 16 days, the second-fastest drop in history (dating back to the Great Depression), only missing the record by a day. We hit a bottom on March 23, when the U.S. market was down almost 34%. Equity markets around the globe were down by at least the same amount.

The U.S. economy finished February in pretty good shape, trending to a GDP growth rate for the first quarter of just above 2% annualized, with unemployment at a generational low of

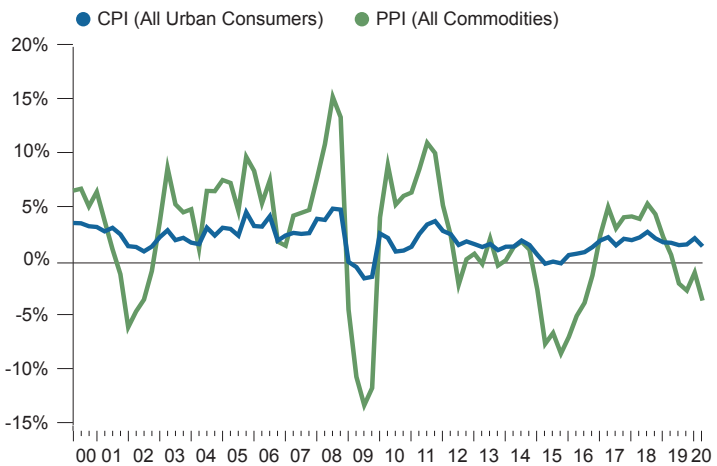
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

3.5%. In a matter of weeks, as efforts to address the spread of the virus were enacted quickly, the sudden drop in economic activity matched the depth and speed of the stock market drop. The national emergency was declared March 13, most shelter-in-place orders came over the next couple of weeks, and the economic impact was sudden and severe.

Initial unemployment claims came in at 211,000 the first week of March, at trend for the year, and moved up to 282,000 in the second week, normally an alarming increase of 34%. However,

claims then shot up to 3.3 million the next week and doubled again to 6.9 million the following week. While my commentary is focused on the first quarter, it is important to note that through the fourth week of April, claims have reached almost 30 million in just six weeks. Economic activity hit a serious bump after March 13, with 2½ weeks left in the quarter. The loss in this short period to GDP pulled growth from 2% as March began to a fall of 4.8% for the first quarter, a swing of almost 7% in less than three weeks. This was the largest quarterly decline since the fourth quarter of 2008.

As large and surprising as the first quarter drop may be, a much steeper plunge is in store for the U.S. and the rest of the global economy in the second quarter. Consensus projections are for second quarter GDP to fall by up to 35% (annual rate), and for consumption to fall by more than 40%. These numbers would be cartoonish, if they weren't so dire.

The pullback in business activity, employment, labor income, and subsequently in consumption is without modern parallel, and the usual measures of gauging economic activity must be viewed through a new lens to gain meaning. Percent changes in GDP around a cataclysmic event like this are difficult to grasp and not very helpful; a more useful approach will be to compare levels now and in the future versus pre-COVID. Percent change is more useful in describing an economy moving smoothly through normal cycles of expansion and recession.

On a hopeful note, in the words of Dr. Anthony Fauci, “this pandemic will be over, I promise.” The monetary and fiscal response is massive and is keeping markets liquid. The S&P 500 was down 20% through March, but has retreated to a loss

The Long-Term View

Index	2020 1st Qtr	Periods Ended 3/31/20			
		Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	-20.9	-9.1	5.8	10.1	8.8
S&P 500	-19.6	-7.0	6.7	10.5	8.9
Russell 2000	-30.6	-24.0	-0.2	6.9	7.6
Global ex-U.S. Equity					
MSCI EAFE	-22.8	-14.4	-0.6	2.7	4.0
MSCI ACWI ex USA	-23.4	-15.6	-0.6	2.1	--
MSCI Emerging Markets	-23.6	-17.7	-0.4	0.7	--
MSCI ACWI ex USA Small Cap	-29.0	-21.2	-0.8	2.8	4.6
Fixed Income					
Bloomberg Barclays Agg	3.1	8.9	3.4	3.9	5.5
90-Day T-Bill	0.6	2.3	1.2	0.6	2.4
Bloomberg Barclays Long G/C	6.2	19.3	6.0	8.1	7.9
Bloomberg Barclays GI Agg ex US	-2.7	0.7	2.0	1.4	3.8
Real Estate					
NCREIF Property	0.7	5.3	7.6	10.2	9.3
FTSE Nareit Equity	-27.3	-21.3	-0.3	7.4	9.2
Alternatives					
CS Hedge Fund	-9.0	-4.3	0.2	3.0	7.4
Cambridge PE*	5.7	16.6	12.8	13.7	15.3
Bloomberg Commodity	-23.3	-22.3	-7.8	-6.7	0.6
Gold Spot Price	4.8	23.0	6.2	3.7	5.8
Inflation – CPI-U	0.4	1.5	1.8	1.7	2.2

*Data for most recent period lags by a quarter. Data as of Dec. 31, 2019.
Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices, Refinitiv/Cambridge

of 12% year-to-date through April, and the index is now at a level comparable to both September 2019 and one year ago. Finally, we will adapt and learn to live and work safely, just as we learned to fly safely after 9/11.

Recent Quarterly Economic Indicators

	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18
Employment Cost–Total Compensation Growth	2.8%	2.7%	2.8%	2.7%	2.8%	2.9%	2.8%	2.8%
Nonfarm Business–Productivity Growth	-2.5%	1.2%	-0.3%	2.6%	3.8%	0.5%	1.6%	2.0%
GDP Growth	-4.8%	2.1%	2.1%	2.0%	3.1%	1.1%	2.9%	3.5%
Manufacturing Capacity Utilization	73.5%	75.0%	75.4%	75.5%	76.4%	77.0%	76.9%	76.4%
Consumer Sentiment Index (1966=100)	96.4	97.2	93.8	98.4	94.5	98.2	98.1	98.3

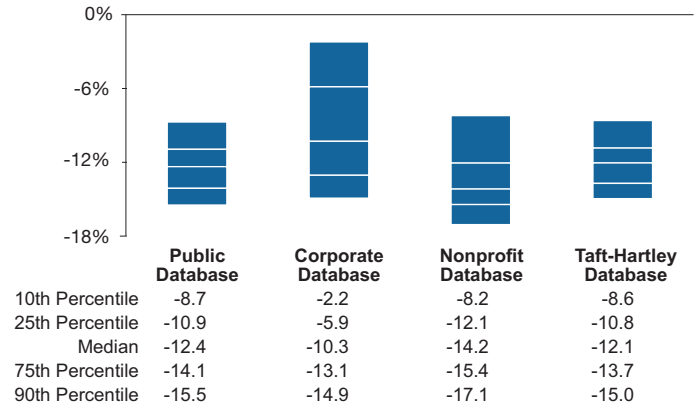
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Results Reflect the Initial Impact of the Pandemic

INSTITUTIONAL INVESTORS

- All four primary types of institutional investors experienced sharp declines in the first quarter and smaller drops for the 12 months ending March 31. A quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio declined 10.9% during the quarter and 0.4% over the year. Equities, represented by the S&P 500 Index, experienced a much-sharper decline of 19.6%.
- Over the one-year period, corporate defined benefit (DB) plans showed the smallest decline, nonprofits the sharpest.
- Over longer time periods, corporate DB plans have been the best performers. But over the last 20 years, all plan types have produced returns in a narrow range of 5.1%-5.3%, in line with the performance of the blended equities/ fixed income benchmark.
- Entering the year, the primary fear for institutional investors was an equity market downturn. Those fears were of course realized.
- In the wake of the pandemic-induced bear market, investors are turning their attention to rebalancing their portfolios and managing liquidity needs.

Quarterly Returns, Callan Database Groups



Source: Callan

- Investors are also reevaluating the purpose and implementation of all diversifiers, including real assets, hedge funds and liquid alternatives, fixed income, and private assets.
- At this point, the depth and magnitude of the downturn and the recession remain unknown.

Callan Database Median and Index Returns* for Periods Ended 3/31/20

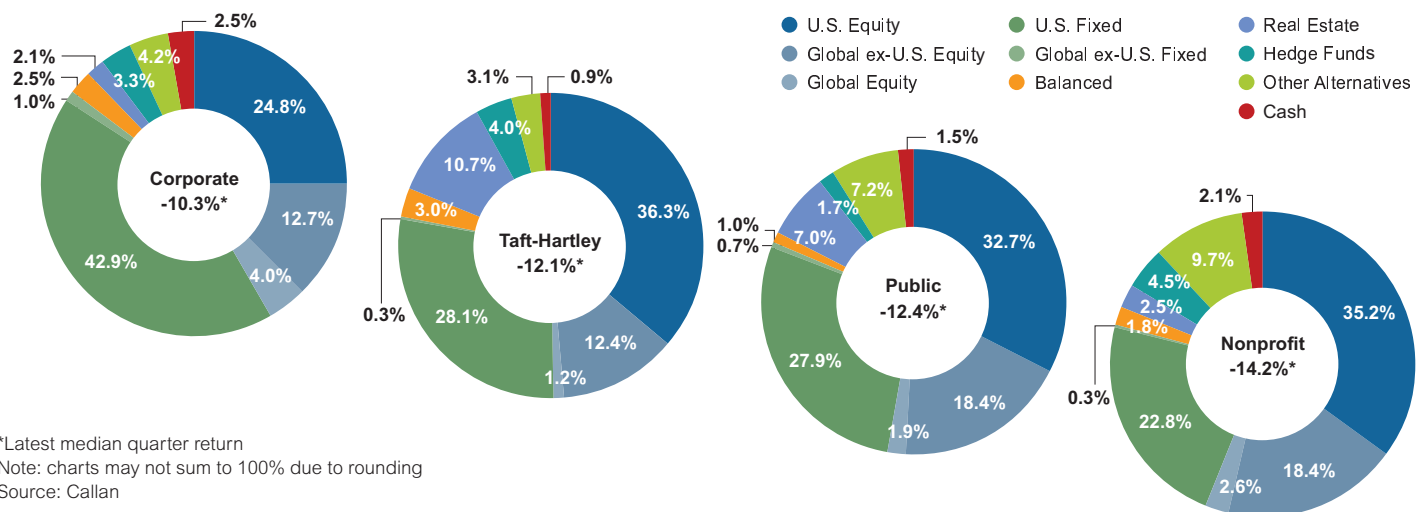
Database Group	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Public Database	-12.35	-4.10	3.19	3.88	6.41	5.77
Corporate Database	-10.29	-0.77	4.24	4.29	6.88	6.08
Nonprofit Database	-14.17	-5.81	2.50	3.21	6.08	5.67
Taft-Hartley Database	-12.05	-4.07	3.36	4.23	6.83	5.68
All Institutional Investors	-12.53	-4.24	3.20	3.81	6.55	5.80
Large (>\$1 billion)	-10.98	-2.61	3.88	4.25	6.89	6.06
Medium (\$100mm - \$1bn)	-12.48	-4.31	3.31	3.94	6.52	5.77
Small (<\$100 million)	-13.48	-5.01	2.78	3.36	6.21	5.66

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

- Our counsel to investors: stay the course, rebalance, manage liquidity, evaluate portfolio segments and strategies for impairment or unexpected performance, and watch for opportunities, both inside your portfolio and across the markets.
- Not surprisingly, the coronavirus pandemic and related market upheaval dominated the attention of investors:
 - Risk management and volatility were common concerns for all institutional investors.
 - **Public DB plans:** Rebalancing was a recurring theme, as was the related issue of liquidity. Across nearly all asset classes, plans showed limited interest in making changes to their strategic allocations.
 - **Corporate DB plans:** Many were trying to address the challenges caused by changes in their funded status. A large share of plans continued to implement the process of de-risking. The decline in rates since October 2018 demonstrated the benefit to de-risking with respect to matching interest rate risk. The plunge in rates through March 2020 obscures the impact of spread widening; the effect on funded status and LDI match is uncertain and variable.
- **DC plans:** Sponsors focused on communication to help participants affected by the economic shutdown. They were also trying to determine the effects of the SECURE and CARES Acts. Both make major changes to the regulatory environment for DC plans. While fees continued to be the top issue, concerns about plans' investment structures climbed. The active/passive debate continues, but it is more muted and likely to stay that way as plans focus on the impact of the coronavirus pandemic.
- **Nonprofits:** A key concern for some of these organizations was the impact of an economic slowdown on the organization: less tuition for colleges and fewer donations for churches. Nonprofits also had little interest in changing their strategic allocations, although there was interest in alternative beta/enhanced index products and unconstrained fixed income.
- Investors are already discussing opportunities in fixed income coming from the market dislocation and the policy response around the globe. The biggest question to answer: If opportunistic fixed income is to be pursued, from where do you fund it? Do you expect it to outperform equity? Do you risk up your fixed income in response to a zero interest rate policy that is back in place?

Average Asset Allocation, Callan Database Groups



Equity

U.S. Equities

During the 1st quarter of 2020, the COVID-19 pandemic coupled with an oil price war between Saudi Arabia and Russia spurred extreme global market volatility, which was further exacerbated by the realization that a shelter-in-place mandate was required to overcome the spread of the disease, subsequently inducing an all-but-certain global recession.

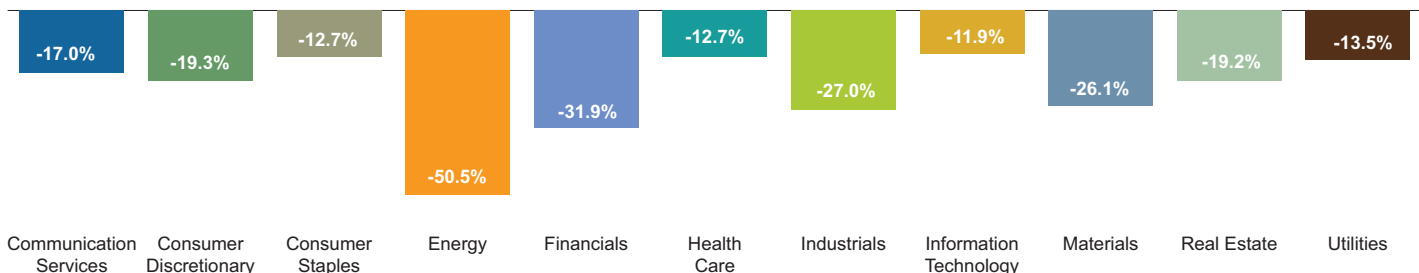
Large cap ► Russell 2000: -30.6% | Russell 1000: -20.2%

- Cyclical were punished while Technology, Staples, and Health Care were more resilient.
- Energy (-50.5%) plunged as demand declined and OPEC and Russia refused to cut production, driving down oil prices globally.
- Financials (-31.9%) and Industrials (-27.0%) fell sharply as interest rates were cut by the Fed in an emergency session, combined with expectations of a steep GDP decline because of COVID-19.
- Technology fared the best (-11.9%). The FAAMG stocks had an average return of -7.9% in 1Q, led by Amazon (+5.5%) and Microsoft (+0.3%); Health Care (-12.7%) and Consumer Staples (-12.7%) also held up better than the index average.

Large cap outpaced small cap for the quarter

- The Russell 2000 (-30.6%) experienced its worst quarter on record.
- The perceived safety of larger companies combined with more acute exposure to COVID-19 impact (e.g., restaurants, hotels, airlines, REITs) drove the sell-off.

Quarterly Performance of Industry Sectors



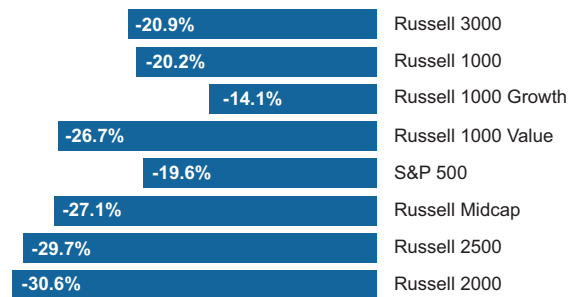
Source: S&P Dow Jones Indices

- The performance of the Russell 2000 Value (-35.7%) was driven by its exposure to Energy (especially exploration and production companies) and Financials (banks).

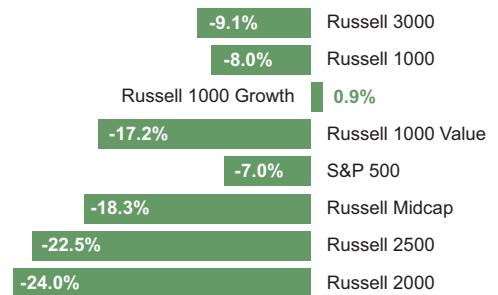
Growth outpaces value across market capitalizations

- The spread between Russell 1000 Growth (-14.1%) and Russell 2000 Value (-35.7%) was one of the widest ever.
- Russell MidCap Value (-0.8%) and Russell 2000 Value (-2.4%) now have negative annualized returns over a trailing five-year time period.

U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



Sources: FTSE Russell and S&P Dow Jones Indices

Global/Global ex-U.S. Equity

The COVID-19 pandemic coupled with the oil price war between Saudi Arabia and Russia injected significant volatility into the global equity markets, with most major indices entering bear market territory.

Global/Developed ex-U.S. ► *MSCI EAFE: -22.8% | MSCI World ex USA: -23.3% | MSCI ACWI ex USA: -23.4% | MSCI Japan: -16.8% | MSCI Pacific ex Japan: -27.6%*

- Fears of the pandemic and a global recession stoked the worst quarterly sell off since 2008 as economic activity halted worldwide.
- The oil price war further exacerbated the market meltdown, bidding up safe-haven assets and currencies.
- The U.S. dollar outperformed the euro, the British pound, and other major currencies, while underperforming the Swiss franc and Japanese yen.
- Every sector posted negative returns, led by cyclicals like travel-related industries, Energy, and Financials given the state of the economy and oil prices.
- Defensive sectors generally were under less pressure as demand for basic necessities to function (i.e., e-commerce and mobility) and combat the pandemic (i.e., diagnostics and treatment) helped stabilize Health Care, Consumer Staples, and Information Technology.
- Factor performance in developed ex-U.S. markets reflected risk aversion, including beta, size, and volatility.

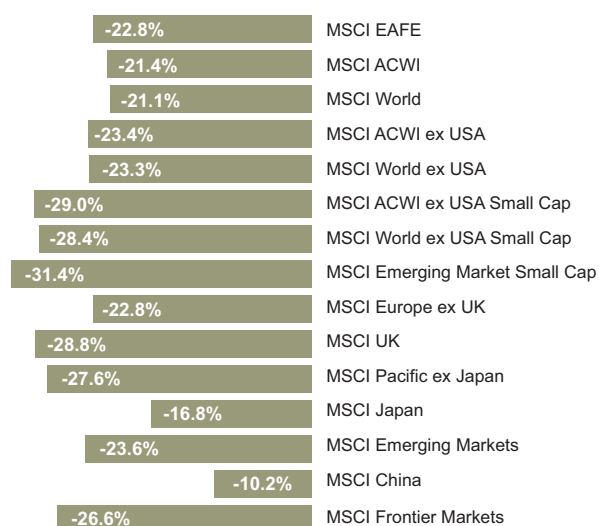
Emerging Markets ► *MSCI Emerging Markets Index: -23.6%*

- Decisive actions to contain the pandemic and stimulate the economy allowed China to outperform every developed and developing country.
- A looming global recession and the collapse in oil prices decimated commodities-levered economies like Brazil, South Africa, and Russia.
- Every sector posted negative returns, led by cyclicals such as travel-related industries, Energy, and Financials.
- Defensive sectors generally were under less pressure as demand for basic necessities and for diagnostics and treatment helped stabilize Health Care, Consumer Staples, and Information Technology.

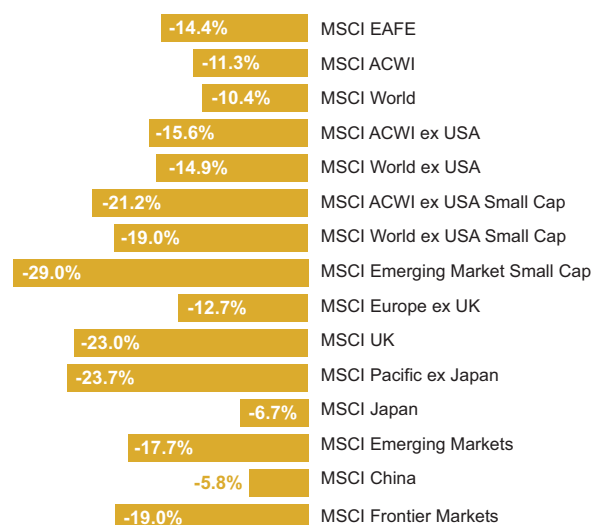
Global ex-U.S. Small Cap ► *MSCI World ex USA Small Cap: -28.4% | MSCI EM Small Cap: -31.4%*

- “Risk-off” market environment challenged small cap relative to large cap in both developed and emerging markets.
- Growth significantly outperformed value both within developed and emerging markets, supported by strong performance in Health Care, Consumer Staples, and Information Technology.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar)



Source: MSCI

Fixed Income

U.S. Fixed Income

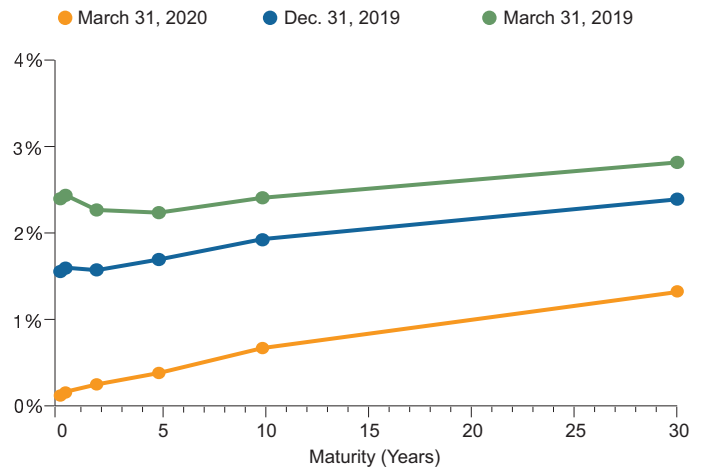
Treasuries rallied as investors sought safety

- The 10-year U.S. Treasury yield reached a low in March of 0.31% before closing the quarter at 0.70%, down sharply from the 2019 year-end level of 1.92%.
- The Treasury yield curve steepened as the Fed cut rates to 0%-0.25%.
- TIPS underperformed nominal Treasuries as expectations for inflation sank. The 10-year breakeven spread ended the quarter at 87 basis points, down sharply from 177 bps at year-end.

Investors spurned credit risk

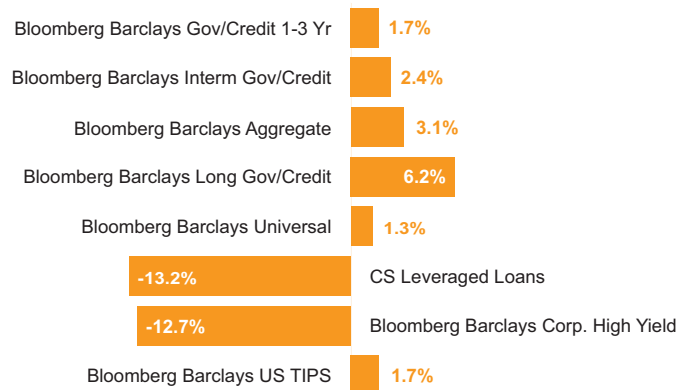
- Investment grade and high yield bond funds experienced record outflows as investors flocked to cash.
- Investment grade corporate spreads widened by 149 bps to 272 bps, representing the hardest hit sector in the Bloomberg Barclays US Aggregate Bond Index, particularly within Industrials, where several well-known issuers were downgraded to below investment grade, including Occidental Petroleum and Ford.
- The quality bias was evident as BBB-rated credit (-7.4%) underperformed single A or higher (+0.5%).
- CCC-rated high yield corporates (-20.6%) lagged BB-rated corporates (-10.2%).
- Energy (-38.9%) was the lowest-performing high yield bond sub-sector as oil prices collapsed.
- Most securitized sectors underperformed U.S. Treasuries.
- Bloomberg Barclays CMBS (+1.2%) and Bloomberg Barclays MBS (+2.8%) gained, while Bloomberg Barclays ABS declined (-0.2%).

U.S. Treasury Yield Curves



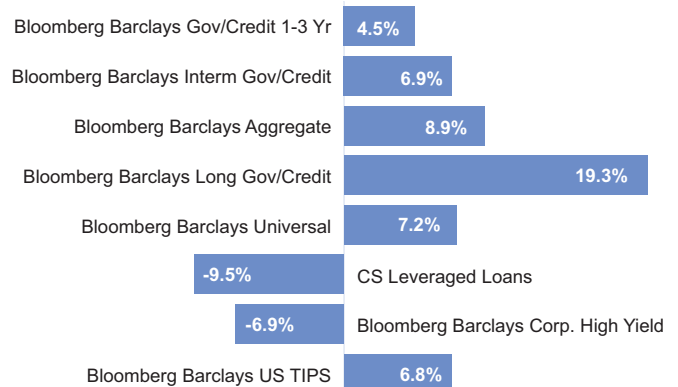
Source: Bloomberg

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

Global Fixed Income

Most indices fell by double digits

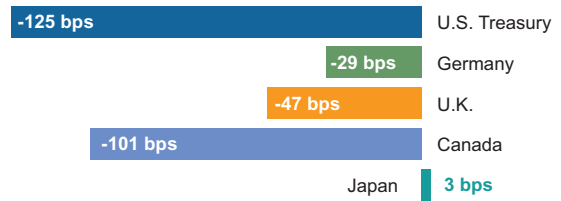
- Developed market sovereign bond yields ended the quarter slightly higher even as central banks stepped in to provide support to their economies; the European Central Bank launched a €750 billion stimulus program and the Bank of England cut interest rates.
- The U.S. dollar rose against the Australian dollar, British pound, and euro as investors sought safety within the greenback.

EM debt plummeted in the risk-off environment

- Within the dollar-denominated benchmark, returns were mixed amongst its 60+ constituents.
- Within the local currency-denominated benchmark, several local market returns in Latin America dropped about 20% (Brazil, Mexico, and Colombia), and South Africa plunged 29% as oil-sensitive economies suffered from the fall in oil prices.

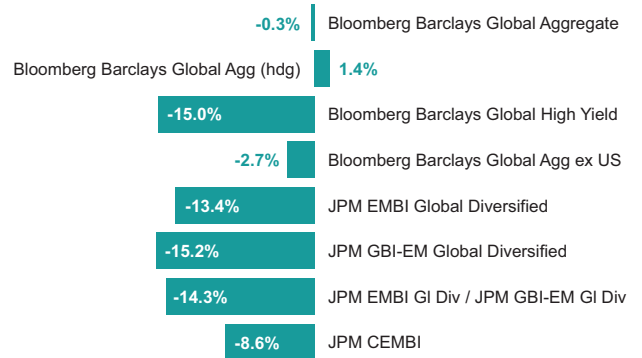
Change in 10-Year Global Government Bond Yields

4Q19 to 1Q20



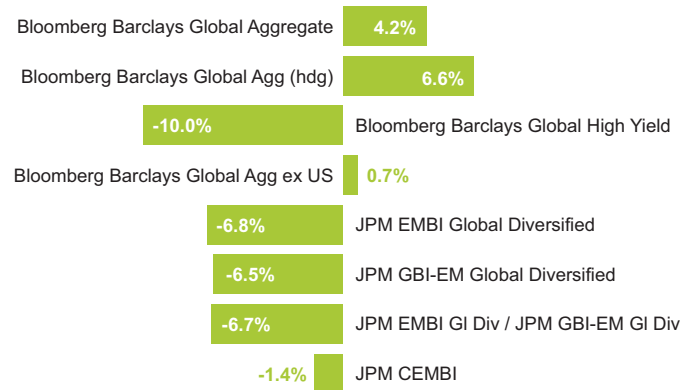
Source: Bloomberg Barclays

Global ex-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Global ex-U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Private RE Returns Positive, but Likely to Change; Real Assets Hammered

REAL ESTATE/REAL ASSETS | Sally Haskins and David Welsch

Private real estate results positive due to income

- Initial impact of pandemic reflected in 1Q20 results
- Positive return due to income
- Industrial real estate performed well.
- Retail depreciation accelerated this quarter.
- The dispersion of returns by manager within the NCREIF ODCE Index was due to the composition of underlying portfolios but also valuation methodologies and approaches.
- Negative returns expected for the second quarter and beyond.

How the pandemic is affecting fundamentals

- Vacancy rates for all property types in the U.S. are or will be impacted.
- There has been limited change in net operating income, but the second quarter will show declines.
- April rent collections show malls severely impacted followed by other types of retail. Class A/B urban apartments are relatively strong, followed by certain types of industrial and office.
- Supply was in check prior to the pandemic.
- Construction is limited to finishing up existing projects but has been hampered by shelter-in-place orders and material shortages.
- New construction will be basically halted in future quarters except for pre-leased properties.
- Transaction volumes were healthy in the first part of the quarter, but dropped off at quarter end and ground to a halt thereafter, with deals being canceled even when there were material non-refundable deposits.
- Cap rates remained steady during the quarter. The spread between cap rates and 10-year Treasuries is relatively high, leading some market participants to speculate that cap rates will not adjust much. Price discovery is happening and there are limited transactions.
- Callan believes the pandemic may cause a permanent repricing of risk across property types. Property types with more reliable cash flows will experience less of a change in cap rates; however, those with less reliable cash flows will see greater adjustments.

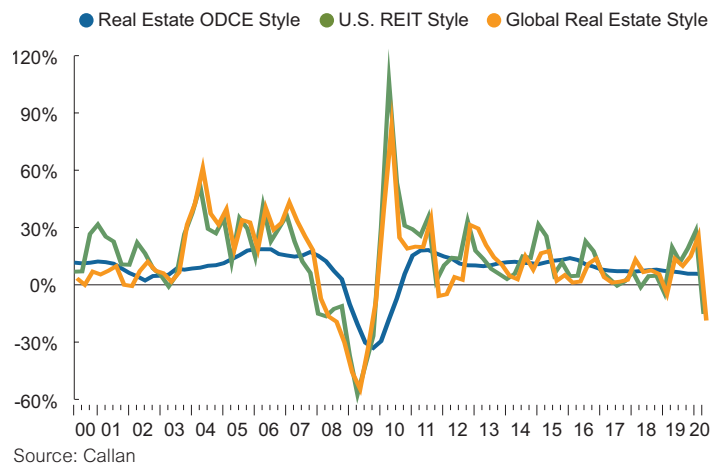
Global REITs underperformed vs. equities and bonds

- Global REITs plunged 28.5% in 1Q20 compared to a 21% drop for global equities (MSCI World).
- U.S. REITs fell 27.3% in 1Q20, lagging the S&P 500 Index, which was off 19.6%.
- Globally REITs are trading at a significant discount to NAV; in most regions the discount is at a five-year low.
- All property types except for data centers, cell towers, and life science are trading at the bottom of their range.

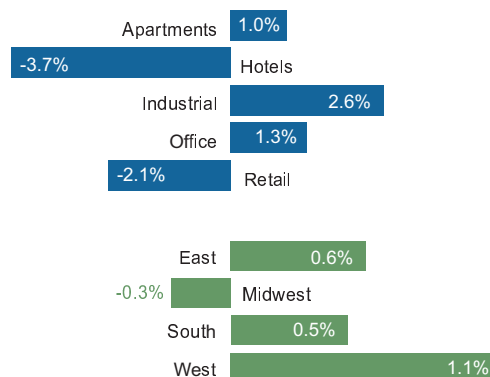
Infrastructure sees near-record fundraising

- 1Q20 was the third-largest quarter for closed-end infrastructure fundraising. The closed-end fund market continues to expand, with infrastructure debt, emerging markets, and

Rolling One-Year Returns



Sector Quarterly Returns by Property Type and Region



Source: NCREIF

REAL ESTATE/REAL ASSETS (Continued)

sector-specific strategies (e.g., communications and renewables). Investor interest in mezzanine or debt-focused funds has increased.

- Open-end funds raised significant capital in 2019, and the universe of investable funds continues to increase as the sector matures.
- In 2020 assets with guaranteed/contracted revenue or more inelastic demand patterns (e.g., renewables, telecoms, utilities) fared better than assets with GDP/demand-based revenue (e.g., airports, seaports, midstream-related).

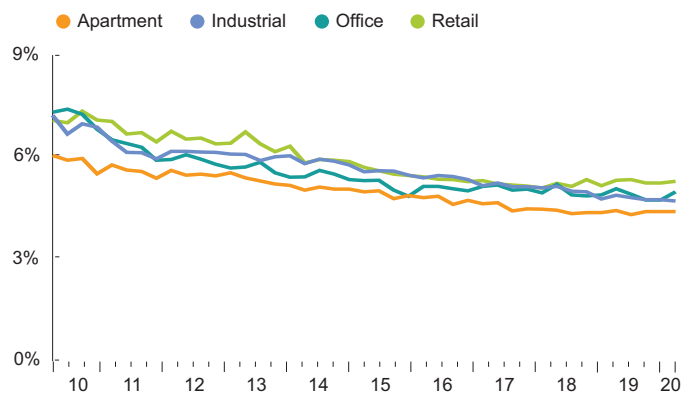
Real assets buffeted by COVID-19

- Real asset returns were significantly challenged during the first quarter of 2020 as almost the entire space (except gold

and TIPS) experienced performance not seen since the Global Financial Crisis.

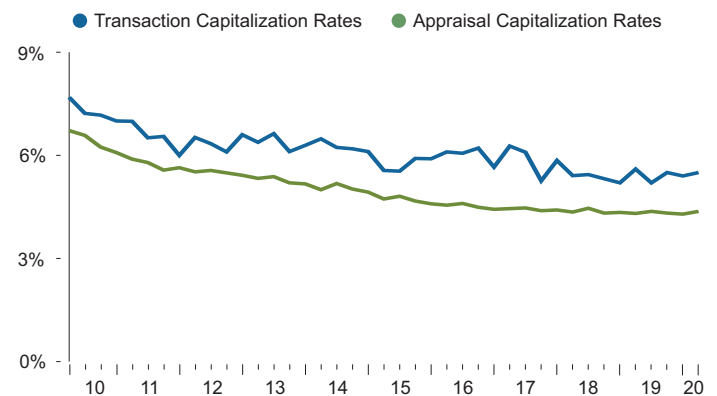
- The MLP space (Alerian MLP Index: -57%) and energy-related stocks (S&P 1200 Energy Index: -44%) were among the worst hit as Russia and Saudi Arabia engaged in an oil price war smack in the middle of a global pandemic that was already poised to cripple near-term energy demand.
- One silver lining, pun intended, was gold, which served its usual safe-haven role during the depths of March and throughout the first quarter; the Bloomberg Gold sub-Index rose 4.5% in the first quarter while equities of most companies tasked with mining the shiny metal were not so fortunate (GDX-Van Eck Gold Miners ETF: -14.5%).

NCREIF Capitalization Rates by Property Type



Source: NCREIF. Capitalization rates (net operating income / current market value (or sale price)) are appraisal-based.

NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF
Note: Transaction capitalization rate is equal weighted.

Callan Database Median and Index Returns* for Periods Ended 3/31/20

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	1.5	1.5	5.6	6.7	8.2	10.6	6.5
NFI-ODCE (value wt net)	0.8	0.8	3.9	5.9	7.5	10.4	6.5
NCREIF Property	0.7	0.7	5.3	6.4	7.6	10.2	8.1
NCREIF Farmland	-0.1	-0.1	2.6	5.2	6.3	10.7	13.1
NCREIF Timberland	0.1	0.1	1.3	2.5	2.8	4.5	6.4
Public Real Estate							
Global Real Estate Style	-25.2	-25.2	-18.7	-0.4	0.5	6.4	5.7
FTSE EPRA Nareit Developed	-28.5	-28.5	-24.0	-3.8	-2.1	4.4	--
Global ex-U.S. Real Estate Style	-24.8	-24.8	-18.0	0.6	0.1	5.4	5.3
FTSE EPRA Nareit Dev ex US	-27.7	-27.7	-23.0	-2.1	-1.5	3.4	--
U.S. REIT Style	-23.1	-23.1	-15.2	-0.4	1.4	8.6	7.2
EPRA Nareit Equity REITs	-27.3	-27.3	-21.3	-3.1	-0.3	7.4	6.2

*Returns less than one year are not annualized.
Sources: Callan, FTSE Russell, NCREIF

Over the Cliff

PRIVATE EQUITY | Gary Robertson

The impact of the COVID-19 virus on the capital markets in late February has introduced a period of price uncertainty and a pull-back in lending. Transaction activity is expected to slow for the remainder of 2020. New fundraising is also being delayed. General partners are focused more on existing portfolio company health and less on starting new company platforms.

Fundraising ► Based on preliminary data, first quarter private equity partnerships holding final closes totaled \$119 billion, down 37% from the fourth quarter. New partnerships formed totaled 223, off 28%. Callan expects fundraising to continue to slow as 2020 progresses. (Unless otherwise noted, all data come from PitchBook.)

Buyouts ► New buyout transactions declined notably, albeit from strong levels. Funds closed 1,677 investments with \$103 billion in disclosed deal value, a 27% decline in count and a 41% dip in dollar value from the fourth quarter. The largest investment was the \$14.3 billion take-private of Zayo Group, a digital communications infrastructure and services provider, by Digital Colony and EQT, along with a consortium of co-investors.

VC Investments ► New investments in venture capital companies totaled 5,868 rounds of financing, down 16%, with \$64 billion of announced value, off just 2%. The largest investment

Funds Closed 1/1/2020 to 3/31/2020

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	119	30,155	25%
Growth Equity	20	14,289	12%
Buyouts	56	52,736	44%
Mezzanine Debt	1	434	0%
Distressed	0	0	0%
Energy	2	4,475	4%
Secondary and Other	14	8,053	7%
Fund-of-Funds	11	8,836	7%
Totals	223	118,978	100%

Source: PitchBook (Figures may not total due to rounding.)

was a \$3 billion round in Gojek, a ride-hailing and personal courier company serving Southeast Asia.

Exits ► There were 422 private M&A exits of private equity-backed companies, a drop of 23%. Disclosed values plunged 69% to \$55 billion. There were 11 private equity-backed IPOs in the first quarter, down 67%, which raised an aggregate \$6 billion, lower by 14%.

Venture-backed M&A exits totaled 354 with disclosed value of \$23 billion. The number of sales declined 12% from the fourth quarter, and announced value was unchanged. There were 50 VC-backed IPOs, lower by 34%, and the combined float totaled \$6 billion, a drop of 14%.

Private Equity Performance (%) (Pooled Horizon IRRs through 9/30/2019*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	-0.37	13.01	14.56	14.39	14.83	11.41	11.02
Growth Equity	1.32	12.76	16.02	12.77	14.03	13.41	13.13
All Buyouts	1.43	8.85	15.32	12.83	14.59	13.65	12.04
Mezzanine	0.87	6.02	10.86	10.00	10.85	10.58	8.60
Credit Opportunities	-0.36	0.61	7.73	5.49	10.47	9.28	9.90
Control Distressed	1.05	4.38	8.86	7.83	11.17	10.52	10.58
All Private Equity	0.92	9.59	14.41	12.33	14.03	12.72	11.72
S&P 500	1.70	4.25	13.39	10.84	13.24	9.01	6.33
Russell 3000	1.16	2.92	12.83	10.44	13.08	9.10	6.72

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices

*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of *Capital Market Review* and other Callan publications.

Breaking Bad

HEDGE FUNDS/MACs | Jim McKee

Crushing fragile hopes of continuing economic strength coming into 2020, the COVID-19 pandemic coupled with a sudden oil market collapse forced investors to recalibrate their measures of risk across all capital markets. As investors ran for safe havens, Treasuries soared while equities cratered.

Representing a paper portfolio of hedge fund interests without implementation costs, the **Credit Suisse Hedge Fund Index (CS HFI)** lost 9.0% in the first quarter. As a proxy for live hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Peer Group** slumped 8.1%, net of all fees and expenses. Representing 50 of the largest, broadly diversified hedge funds with low-beta exposure to equity markets, the median manager in the **Callan Institutional Hedge Fund Peer Group** fell 6.3%.

Hedge Fund-of-Funds Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

Callan Peer Group Median and Index Returns* for Periods Ended 3/31/2020

Hedge Fund Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Fund-of-Funds Peer Group	-8.1	-4.9	0.5	0.7	3.1	3.8
Callan Absolute Return FOF Style	-8.5	-6.7	0.1	0.8	3.1	3.3
Callan Core Diversified FOF Style	-7.3	-4.3	0.4	0.4	3.0	3.5
Callan Long/Short Equity FOF Style	-10.8	-6.5	0.4	0.8	3.6	4.6
Credit Suisse Hedge Fund	-9.0	-4.3	0.4	0.2	3.0	4.0
CS Convertible Arbitrage	-5.3	-1.3	0.9	2.4	3.2	3.7
CS Distressed	-10.8	-11.5	-2.2	-0.8	2.5	3.9
CS Emerging Markets	-10.5	-6.2	0.7	1.8	3.2	5.1
CS Equity Market Neutral	-5.3	-6.2	-1.0	-0.3	0.9	-1.1
CS Event-Driven Multi	-18.8	-14.9	-4.1	-3.4	0.6	3.1
CS Fixed Income Arb	-5.8	-2.2	1.7	2.5	4.4	3.3
CS Global Macro	-8.1	-1.1	1.1	0.6	3.6	5.4
CS Long/Short Equity	-11.2	-5.4	1.4	1.1	3.6	4.8
CS Managed Futures	0.0	5.7	2.0	-2.0	1.4	3.0
CS Multi-Strategy	-6.5	-2.6	1.0	2.2	5.0	5.2
CS Risk Arbitrage	-6.8	-4.1	0.8	1.8	1.9	3.2
HFRI Asset Wtd Composite	-10.0	-6.1	0.2	0.4	3.1	--
90-Day T-Bill + 5%	1.8	7.3	6.8	6.2	5.6	6.4

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

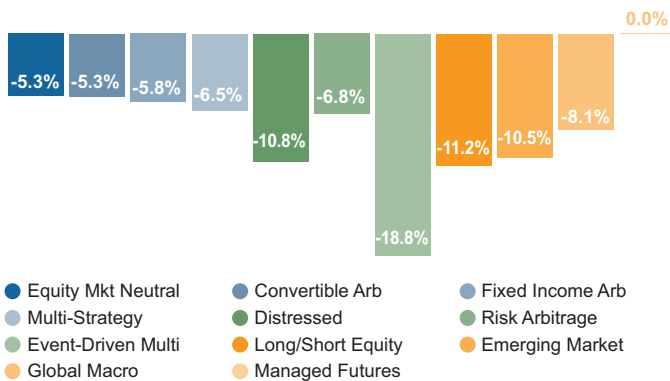
Within CS HFI, the worst-performing index was *Event-Driven Multi-Strategy* (-18.8%), reflecting its material exposure to soft deals particularly vulnerable to shifting market sentiments and crowded trades. The next group of poorly performing strategies included *Long/Short Equity* (-11.2%), *Distressed* (-10.8%), and *Emerging Markets* (-10.5%). Despite low net exposures, risk-on arbitrage strategies like *Equity Market Neutral* (-5.3%), *Convertible Arbitrage* (-5.3%), and *Fixed-Income Arbitrage* (-5.8%) suffered the next level of losses due to widened spreads from derisking or being net long with illiquidity. The best-performing strategy last quarter was *Managed Futures* (+0.0%).

Within the Callan Hedge FOF Group, net exposures to illiquidity and equity-related risks primarily determined performance in the first quarter. The median *Callan Long/Short Equity FOF* dropped 10.8%, with its net equity exposure driving the loss. Similarly, the median *Callan Absolute Return FOF* sank 8.5%.

The *Core Diversified FOF* (-7.3%) suffered the least of the FOF style groups.

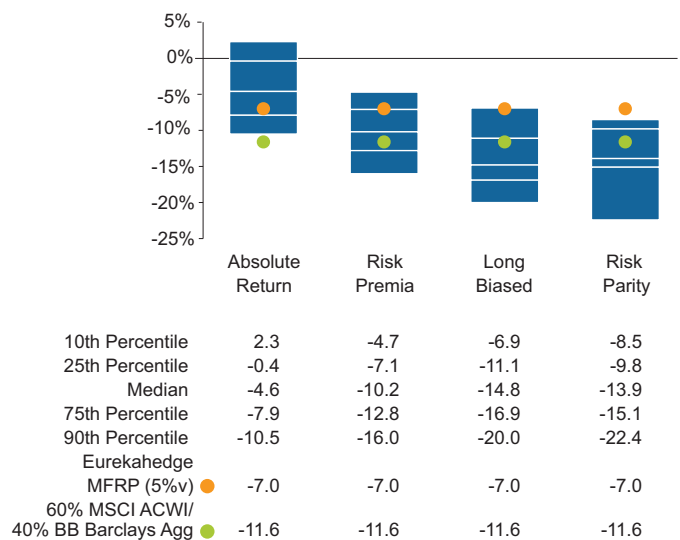
Within Callan’s database of liquid alternative solutions, the median managers of Callan Multi-Asset Class (MAC) style groups were all negative, gross of fees. The median *Callan Risk Premia MAC* dropped 10.2% as managers reduced gross exposures to their factors to keep within volatility targets. Targeting equal risk-weighted allocations to major asset classes with leverage, the *Callan Risk Parity MAC* fell 13.9%, trailing its 60% MSCI ACWI/40% Bloomberg Barclays US Aggregate Bond Index (-12.0%). Given a usually long equity bias within its dynamic asset allocation mandate, the *Callan Long-Biased MAC* (-14.8%) also trailed the 60%/40% benchmark. As the most conservative MAC style focused on non-directional strategies of long and short asset class exposures, *Callan Absolute Return MAC* slipped 4.6%.

Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

MAC Style Group Returns



Sources: Bloomberg Barclays, Callan, Eurekahedge, S&P Dow Jones Indices

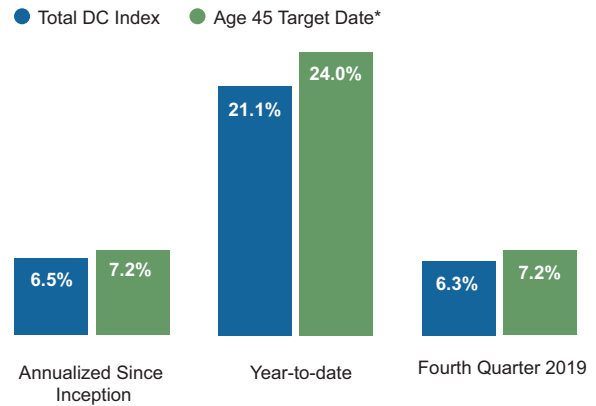
Index Posts Highest Return Since 2009

DEFINED CONTRIBUTION | Patrick Wisdom

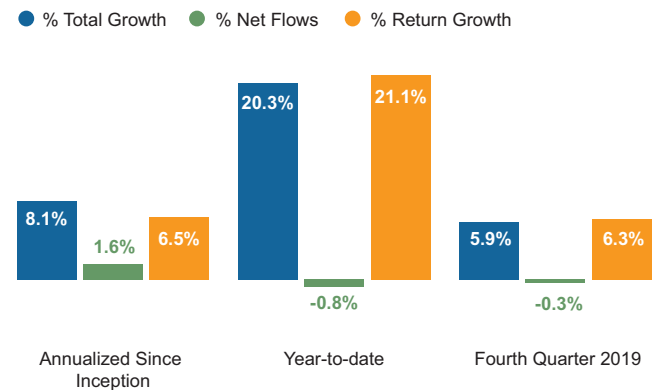
- The **Callan DC Index™** rose 6.3% in the final quarter of 2019, the fourth consecutive quarter of gains, and jumped 21.1% for the year, the highest since 2009. The Age 45 Target Date Fund had a larger fourth-quarter (7.2%) and full-year gain (24.0%).
- The Index's growth in balances in the fourth quarter (5.9%) marked the fourth straight quarter of growth. Investment returns (6.3%) drove the growth, while net flows (-0.3%) detracted.
- Target date funds (TDFs) experienced the largest inflows (53.8%). After garnering the most flows in the previous quarter, U.S. fixed income again saw significant inflows (36.5%). U.S. large cap equity (-38.5%) had the largest outflows.
- Fourth-quarter turnover (i.e., net transfer activity) increased to 0.38% from the previous quarter's 0.35%, well below the historical average (0.60%).
- The allocation to equity within the Index increased to 70.2%, the highest since the third quarter of 2018.
- The share of assets allocated to stable value decreased to 9.8%. The allocation to U.S. fixed income (6.1%) also fell despite positive flows; the asset class's relative underperformance was the primary driver of the decrease.
- TDFs experienced the largest increase in asset allocation (30.4%), due to large inflows and solid performance.
- The prevalence of real return/TIPS within DC plans increased by 3.4 percentage points from the previous quarter to 38.5%.
- The presence of company stock (21.5%) remains near historic lows. Brokerage window prevalence (41.4%) remains near all-time highs.
- For plans with more than \$1 billion in assets, the average asset-weighted fee decreased by 4 basis points to 0.29%. Plans with less than \$500 million in assets saw a fee decrease of 2 bps, while the fee for plans with assets between \$500 million and \$1 billion remained steady at 0.36%.

The Callan DC Index is an equally weighted index tracking the cash flows and performance of over 100 plans, representing nearly \$300 billion in assets. The Index is updated quarterly and is available on Callan's website.

Investment Performance



Growth Sources



Net Cash Flow Analysis (Fourth Quarter 2019) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	53.80%
U.S. Fixed Income	36.52%
U.S. Smid Cap	-18.02%
U.S. Large Cap	-38.48%
Total Turnover**	0.38%

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

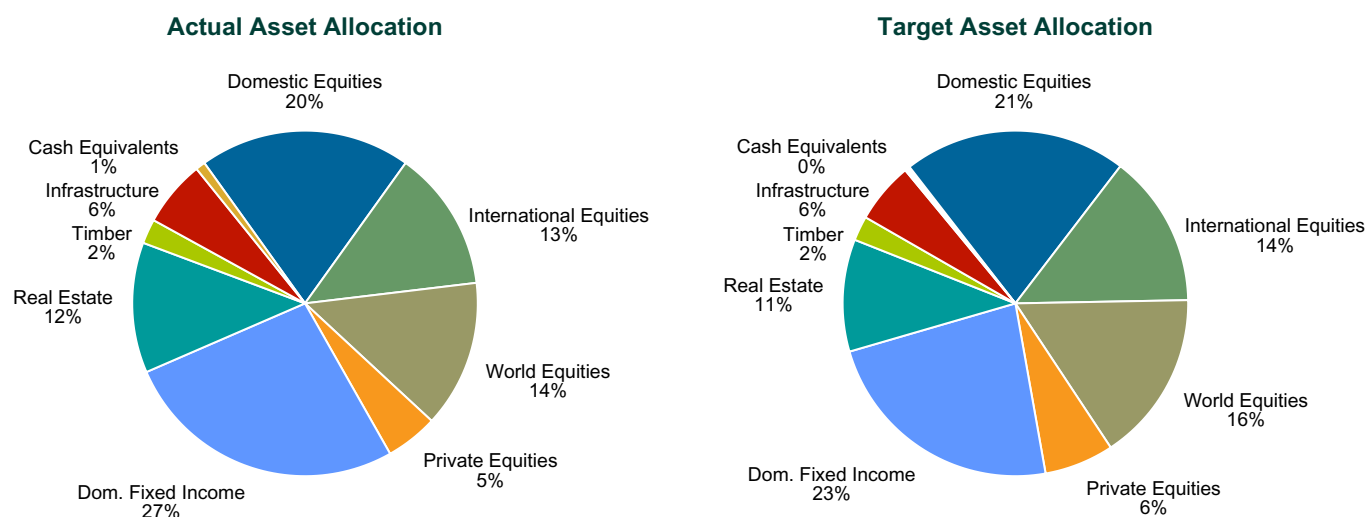
Note: DC Index inception date is January 2006.

* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

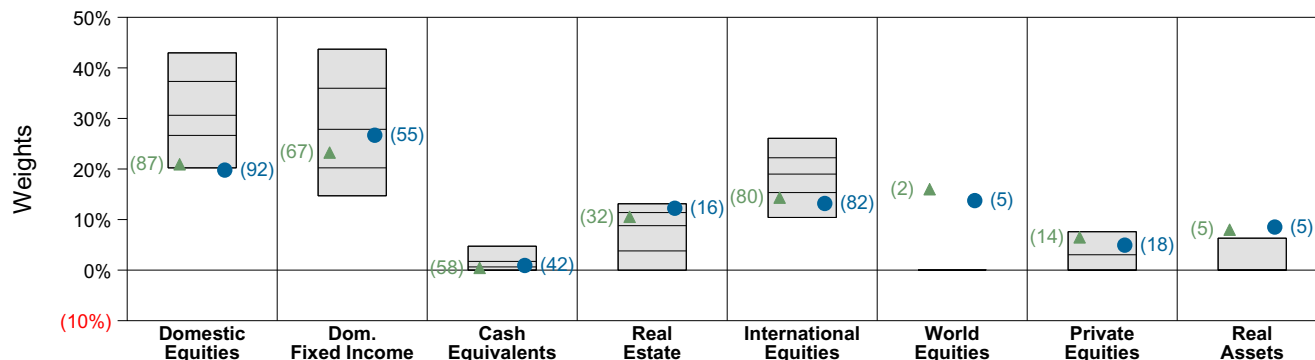
Actual vs Target Asset Allocation As of March 31, 2020

The top left chart shows the Fund's asset allocation as of March 31, 2020. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	1,082,195	19.8%	20.9%	(1.1%)	(62,884)
International Equities	721,093	13.2%	14.3%	(1.2%)	(63,384)
World Equities	752,243	13.8%	16.0%	(2.2%)	(123,017)
Private Equities	269,951	4.9%	6.5%	(1.5%)	(84,534)
Dom. Fixed Income	1,459,384	26.7%	23.3%	3.4%	187,352
Real Estate	669,430	12.2%	10.5%	1.7%	92,329
Timber	127,397	2.3%	2.3%	(0.0%)	(0)
Infrastructure	338,608	6.2%	5.7%	0.5%	28,242
Cash Equivalents	50,072	0.9%	0.4%	0.5%	25,896
Total	5,470,372	100.0%	100.0%		

Asset Class Weights vs Callan Public Fund Sponsor Database



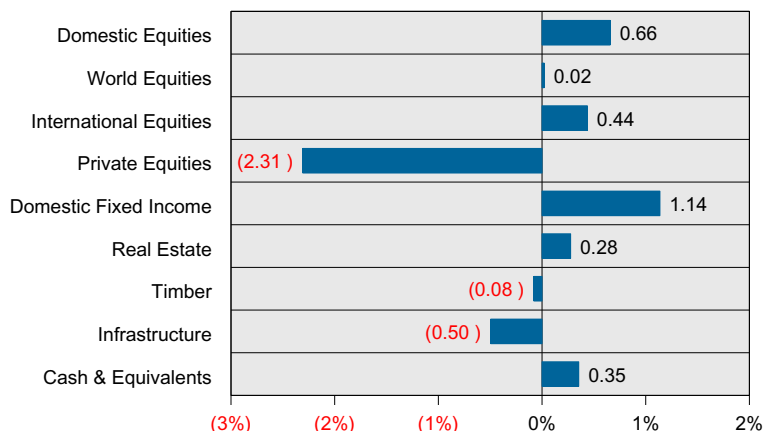
	Domestic Equities	Dom. Fixed Income	Cash Equivalents	Real Estate	International Equities	World Equities	Private Equities	Real Assets
10th Percentile	42.97	43.70	4.73	13.12	26.07	0.00	7.60	6.32
25th Percentile	37.32	35.97	1.72	11.38	22.22	0.00	3.04	0.00
Median	30.62	27.85	0.64	8.79	18.99	0.00	0.00	0.00
75th Percentile	26.64	20.23	0.01	3.80	15.34	0.00	0.00	0.00
90th Percentile	20.22	14.70	0.00	0.00	10.42	0.00	0.00	0.00
Fund ●	19.78	26.68	0.92	12.24	13.18	13.75	4.93	8.52
Target ▲	20.93	23.25	0.44	10.55	14.34	16.00	6.48	8.00
% Group Invested	96.50%	98.60%	76.92%	80.42%	94.41%	9.79%	31.47%	23.78%

* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

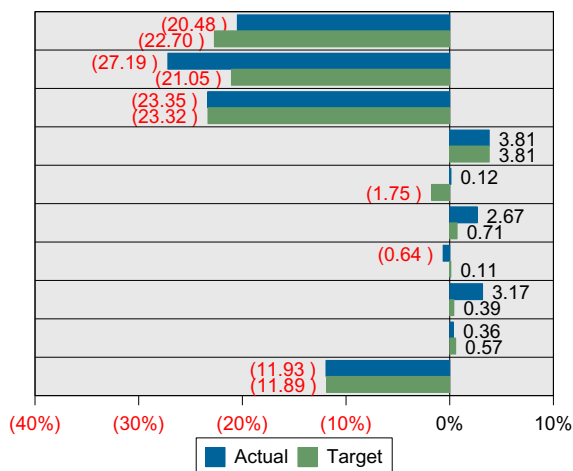
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

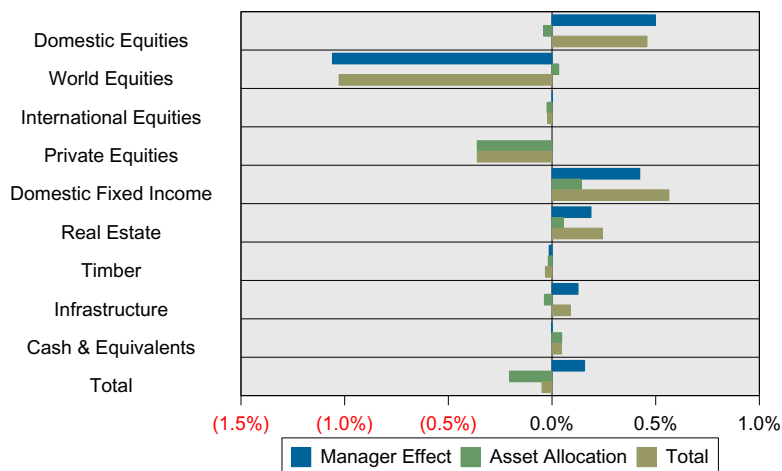
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

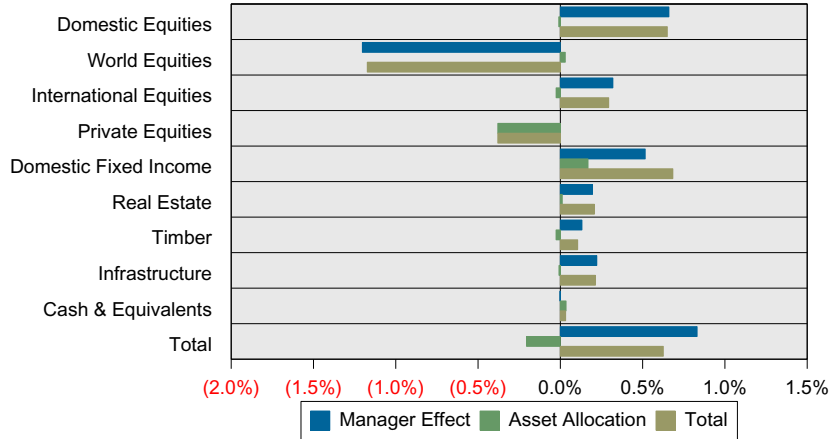
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(20.48%)	(22.70%)	0.50%	(0.04%)	0.46%
World Equities	16%	16%	(27.19%)	(21.05%)	(1.06%)	0.03%	(1.03%)
International Equities	15%	14%	(23.35%)	(23.32%)	0.00%	(0.02%)	(0.02%)
Private Equities	4%	6%	3.81%	3.81%	0.00%	(0.36%)	(0.36%)
Domestic Fixed Income	24%	23%	0.12%	(1.75%)	0.42%	0.14%	0.56%
Real Estate	11%	11%	2.67%	0.71%	0.19%	0.05%	0.24%
Timber	2%	2%	(0.64%)	0.11%	(0.01%)	(0.02%)	(0.03%)
Infrastructure	5%	6%	3.17%	0.39%	0.13%	(0.04%)	0.09%
Cash & Equivalents	1%	0%	0.36%	0.57%	(0.00%)	0.05%	0.04%
Total			(11.93%)	(11.89%)	+ 0.16%	+ (0.21%)	(0.05%)

* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

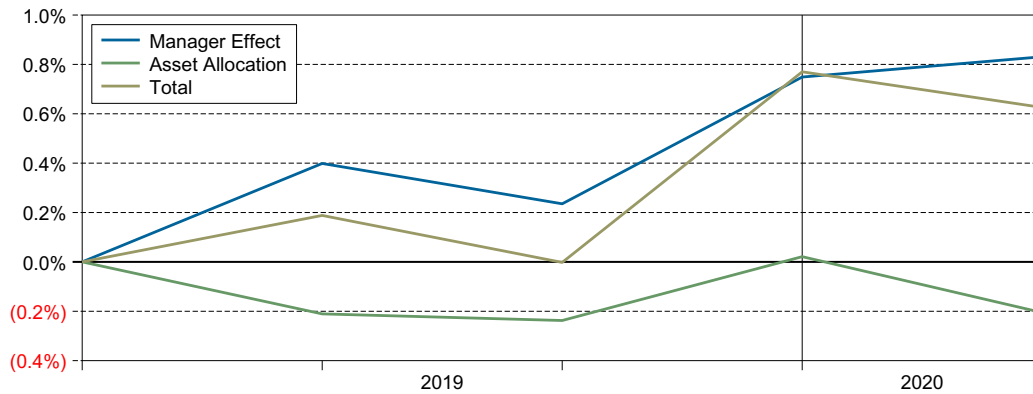
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

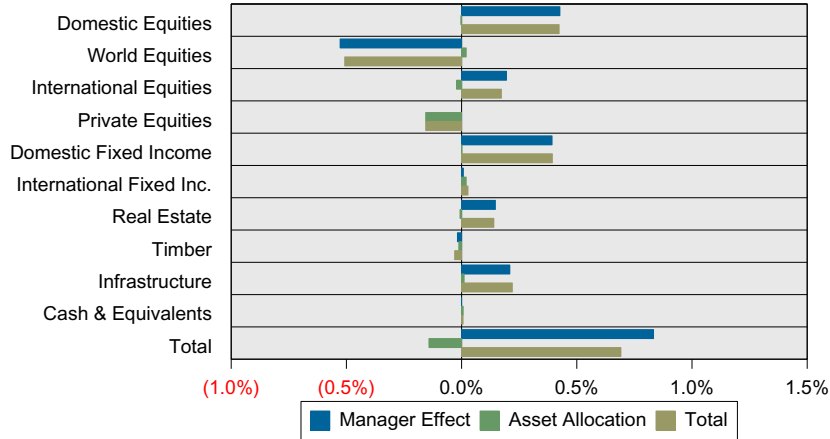
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(8.91%)	(11.93%)	0.66%	(0.01%)	0.65%
World Equities	16%	16%	(17.61%)	(10.39%)	(1.20%)	0.03%	(1.17%)
International Equities	15%	14%	(13.72%)	(15.47%)	0.32%	(0.03%)	0.29%
Private Equities	4%	6%	11.45%	11.45%	0.00%	(0.38%)	(0.38%)
Domestic Fixed Income	23%	23%	6.27%	4.07%	0.52%	0.17%	0.68%
Real Estate	11%	11%	7.23%	5.28%	0.20%	0.01%	0.21%
Timber	2%	2%	8.03%	1.30%	0.13%	(0.03%)	0.11%
Infrastructure	5%	6%	8.13%	3.33%	0.22%	(0.01%)	0.21%
Cash & Equivalents	1%	0%	1.91%	2.25%	(0.00%)	0.03%	0.03%
Total			(3.16%)	(3.79%)	+ 0.83%	+ (0.21%)	0.63%

* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

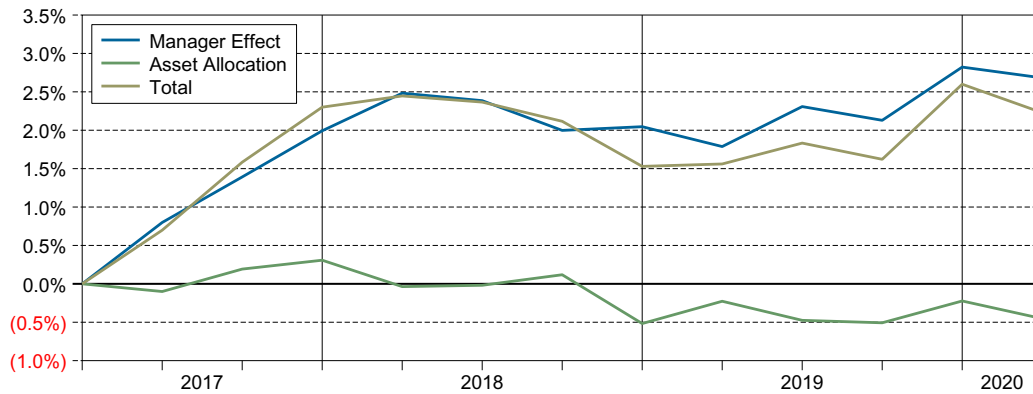
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

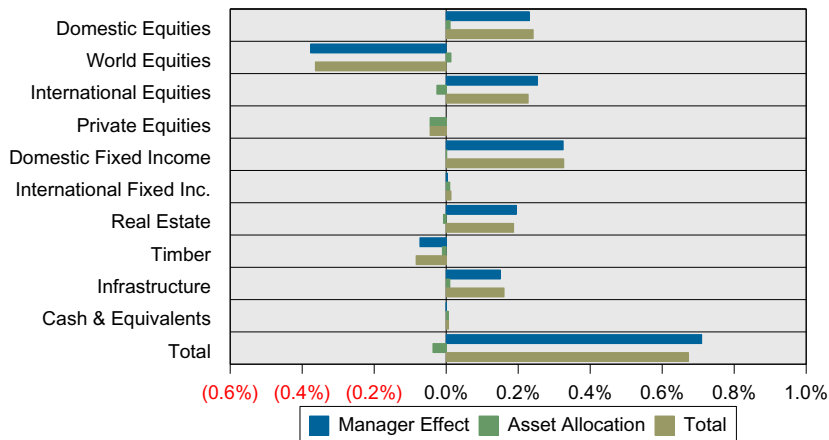
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	4.47%	2.48%	0.43%	(0.00%)	0.42%
World Equities	17%	16%	(1.49%)	1.92%	(0.53%)	0.02%	(0.51%)
International Equities	16%	14%	(0.84%)	(1.93%)	0.19%	(0.02%)	0.17%
Private Equities	3%	6%	8.40%	8.40%	0.00%	(0.16%)	(0.16%)
Domestic Fixed Income	22%	22%	5.40%	3.61%	0.39%	0.00%	0.39%
International Fixed Inc.	1%	2%	-	-	0.01%	0.02%	0.03%
Real Estate	11%	11%	7.83%	6.41%	0.15%	(0.01%)	0.14%
Timber	2%	2%	2.02%	2.48%	(0.02%)	(0.01%)	(0.03%)
Infrastructure	5%	6%	7.89%	3.21%	0.21%	0.01%	0.22%
Cash & Equivalents	1%	0%	1.77%	1.83%	(0.00%)	0.01%	0.01%
Total			4.01%	3.31%	+ 0.83%	+ (0.14%)	0.69%

* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

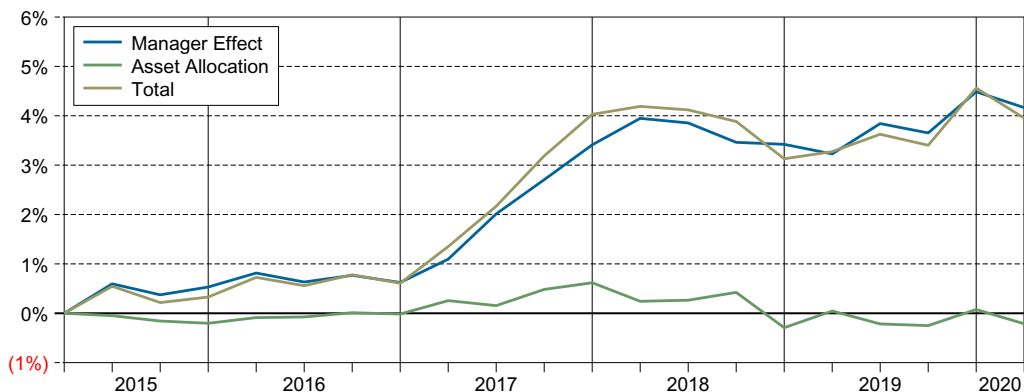
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

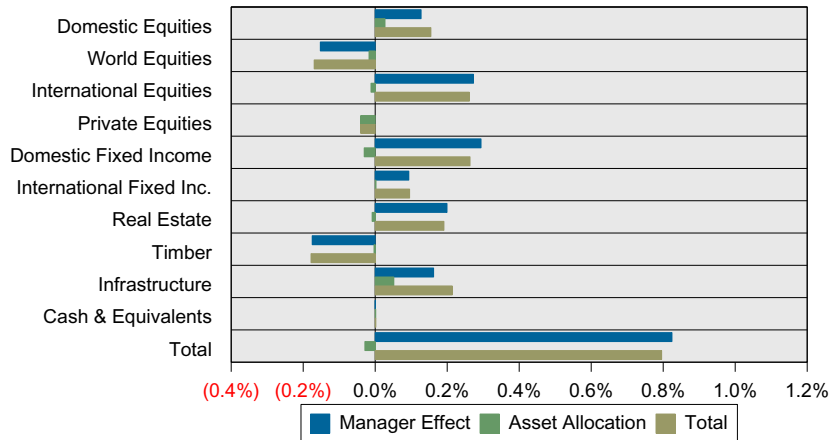
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	5.87%	4.76%	0.23%	0.01%	0.24%
World Equities	16%	16%	0.78%	3.25%	(0.38%)	0.01%	(0.36%)
International Equities	15%	14%	0.92%	(0.63%)	0.25%	(0.03%)	0.23%
Private Equities	3%	6%	3.61%	3.61%	0.00%	(0.04%)	(0.04%)
Domestic Fixed Income	20%	20%	4.71%	3.15%	0.32%	0.00%	0.33%
International Fixed Inc.	3%	3%	-	-	0.00%	0.01%	0.01%
Real Estate	11%	10%	9.58%	7.65%	0.19%	(0.01%)	0.19%
Timber	3%	3%	0.42%	2.80%	(0.07%)	(0.01%)	(0.08%)
Infrastructure	5%	5%	5.80%	2.49%	0.15%	0.01%	0.16%
Cash & Equivalents	1%	1%	1.22%	1.19%	0.00%	0.01%	0.01%
Total			4.44%	3.77%	+ 0.71%	+ (0.04%)	0.67%

* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

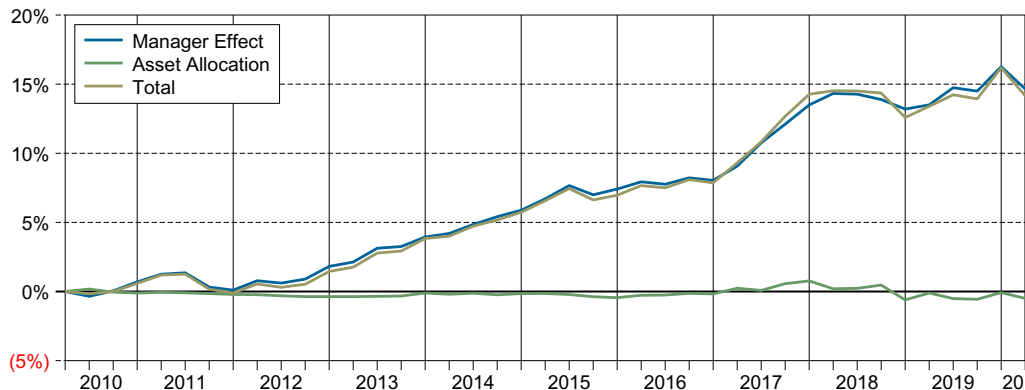
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Ten Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Ten Year Annualized Relative Attribution Effects

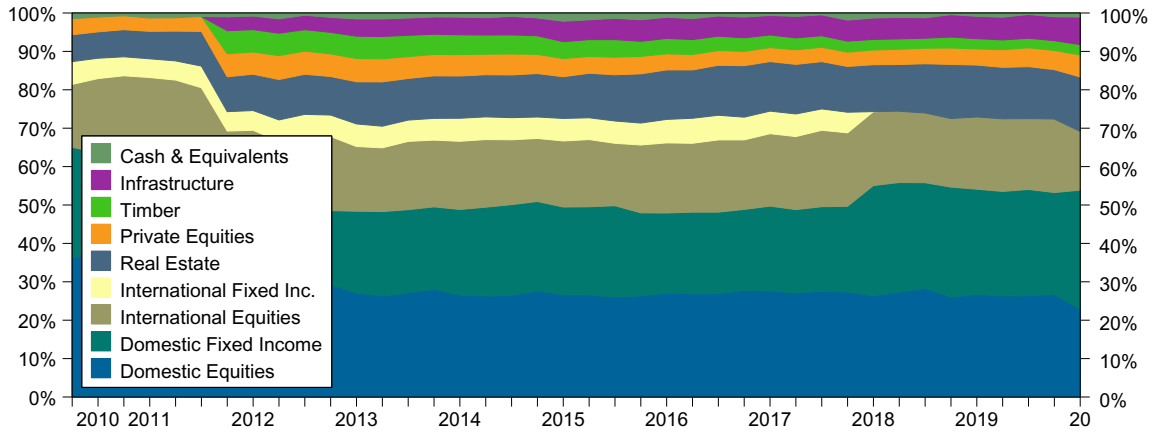
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	25%	10.38%	9.64%	0.13%	0.03%	0.15%
World Equities	12%	12%	-	-	(0.15%)	(0.02%)	(0.17%)
International Equities	16%	15%	3.66%	2.03%	0.27%	(0.01%)	0.26%
Private Equities	4%	5%	4.52%	4.52%	0.00%	(0.04%)	(0.04%)
Domestic Fixed Income	21%	20%	5.94%	4.36%	0.29%	(0.03%)	0.26%
International Fixed Inc.	4%	4%	-	-	0.09%	0.00%	0.10%
Real Estate	10%	10%	12.47%	10.17%	0.20%	(0.01%)	0.19%
Timber	3%	3%	-	-	(0.17%)	(0.00%)	(0.18%)
Infrastructure	4%	4%	-	-	0.16%	0.05%	0.21%
Cash & Equivalents	1%	1%	0.66%	0.64%	0.00%	0.00%	0.00%
Total			7.01%	6.21%	+ 0.82%	+ (0.03%)	0.80%

* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

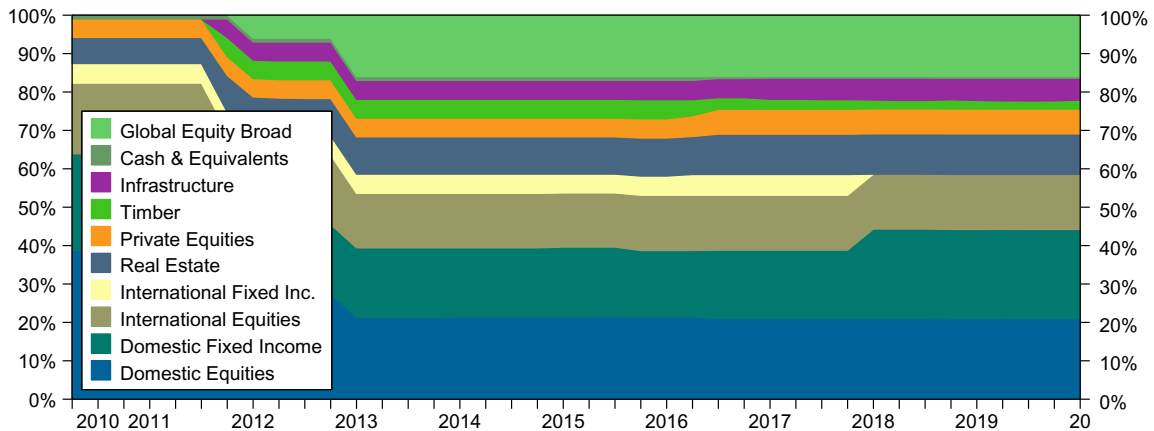
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

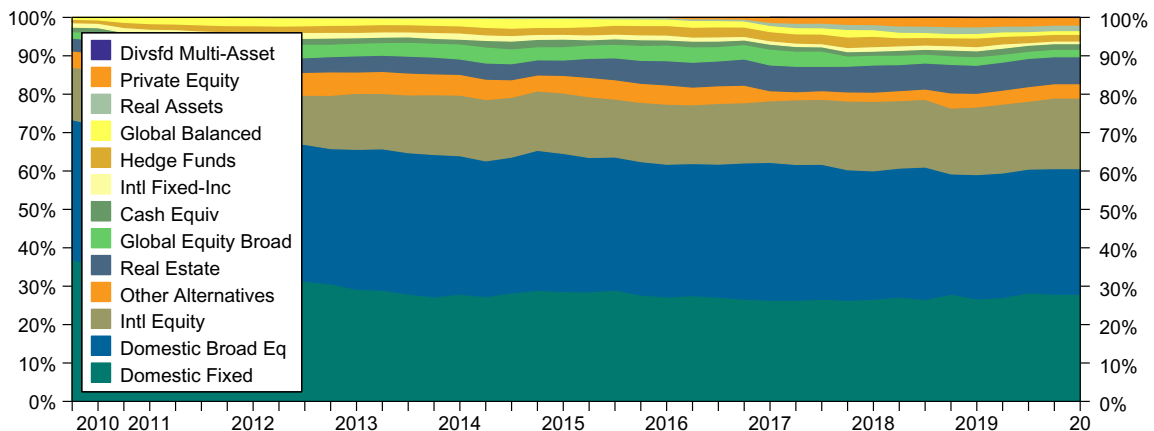
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation

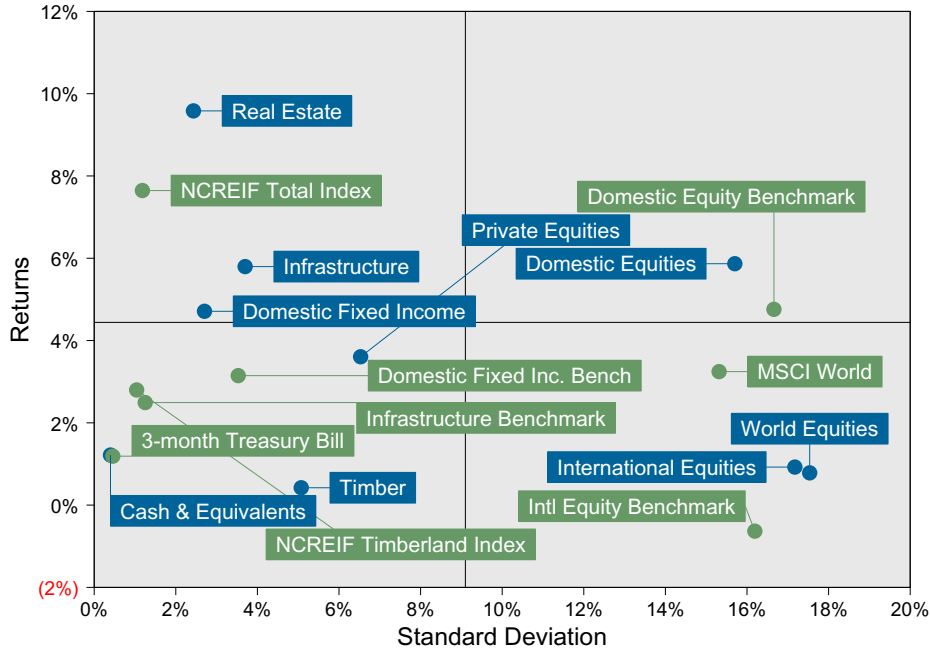


* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

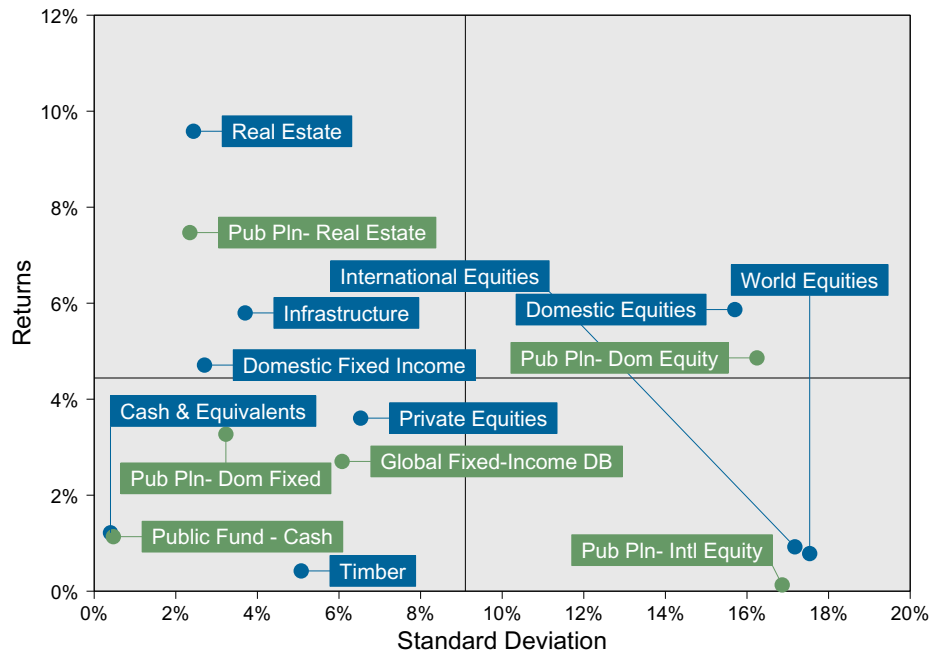
Asset Class Risk and Return

The charts below show the five year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

Five Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



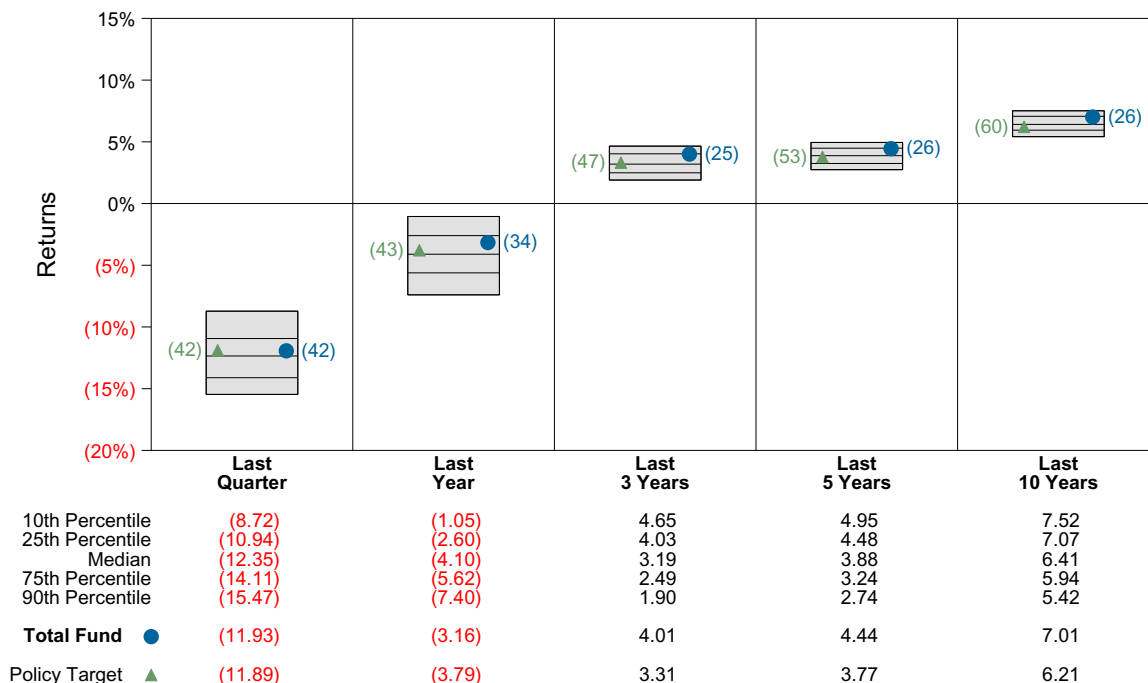
Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median



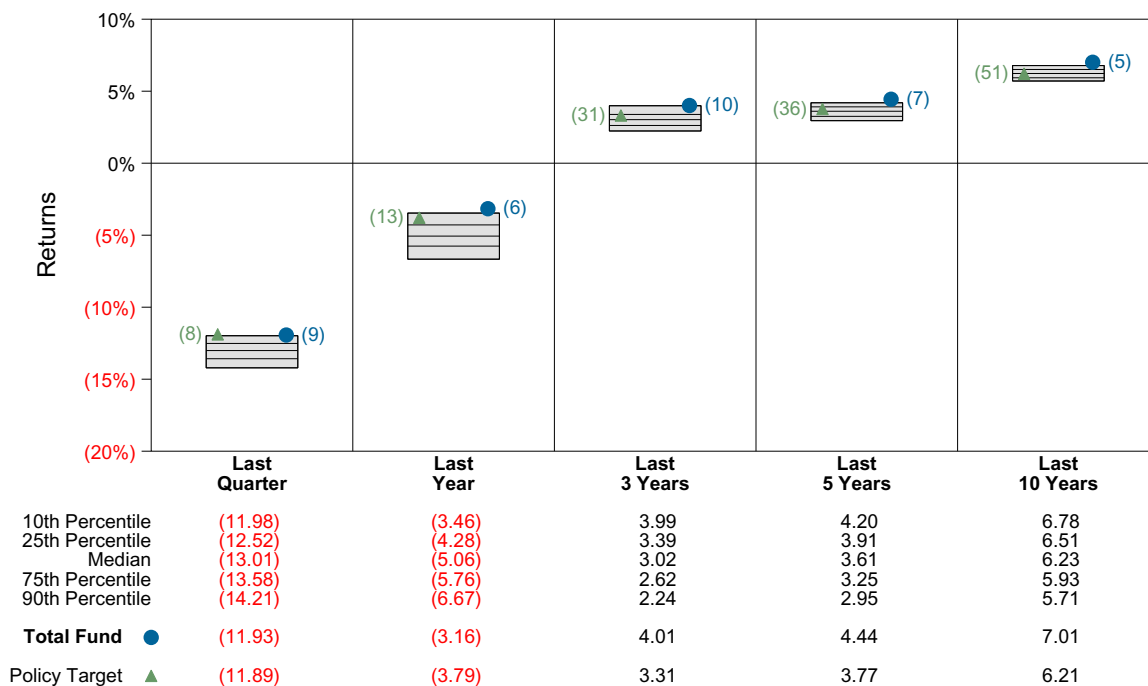
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended March 31, 2020. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

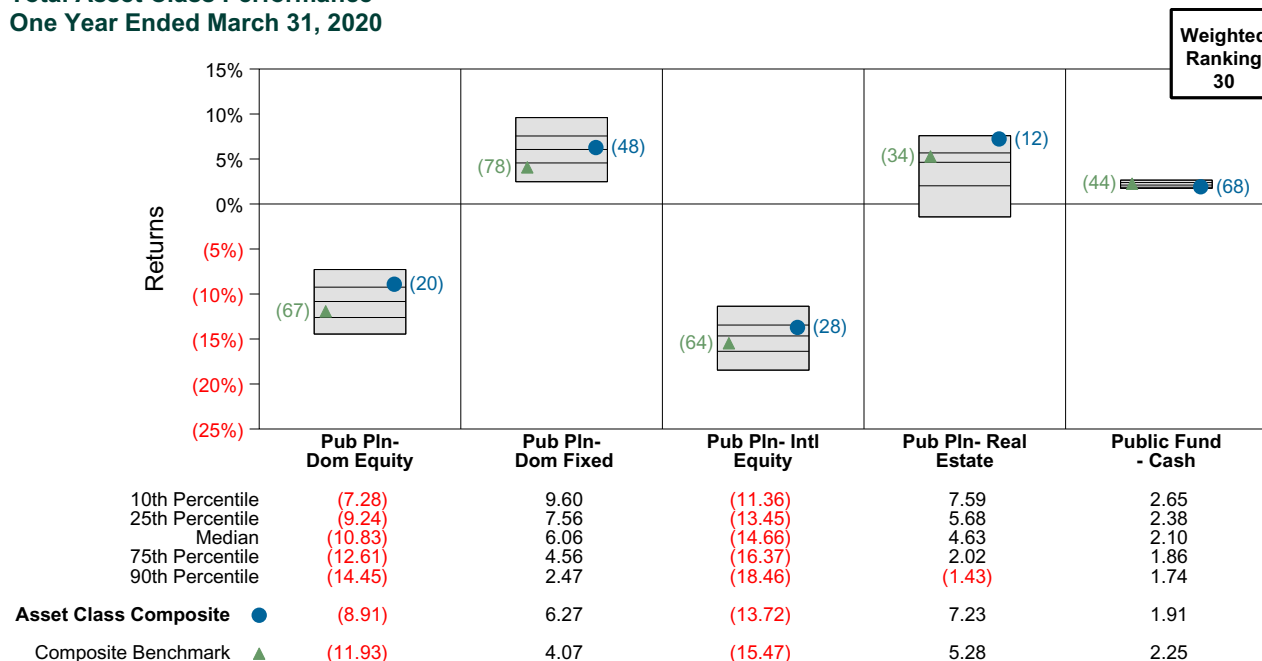


* Current Quarter Target = 16.3% Bimbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Bimbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

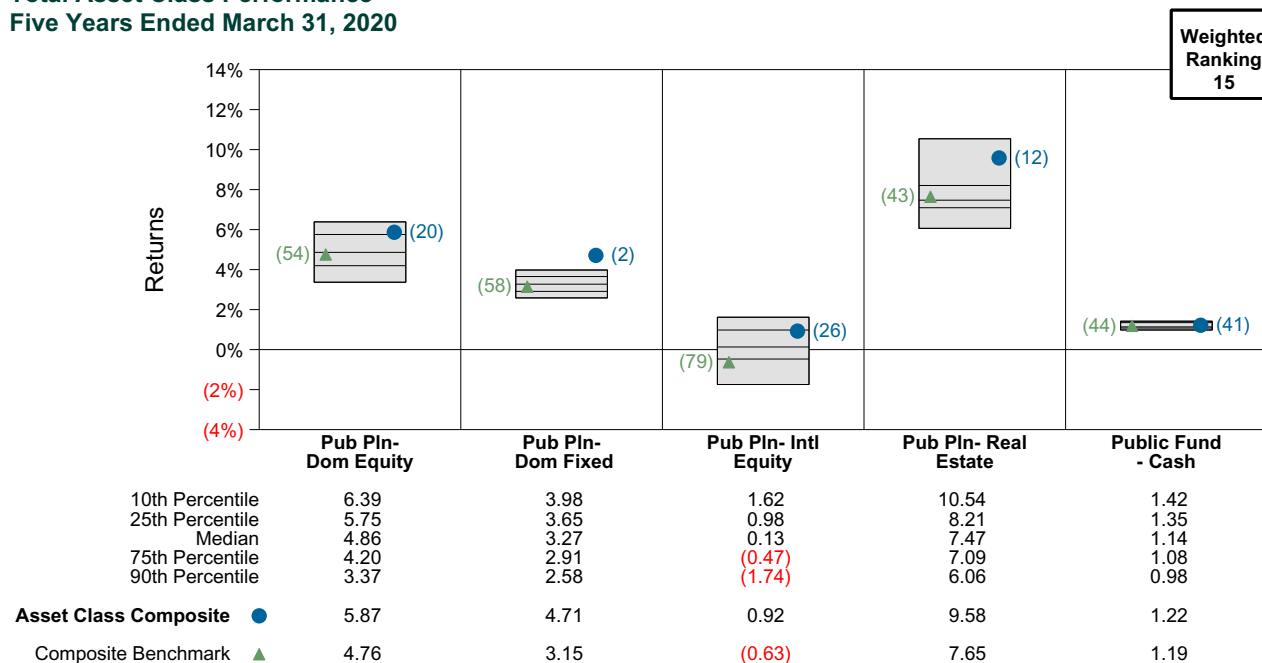
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended March 31, 2020



Total Asset Class Performance Five Years Ended March 31, 2020



* Current Quarter Target = 16.3% Bimbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Bimbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	March 31, 2020				December 31, 2019	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Equities	\$2,825,480,681	51.65%	\$(87,848,308)	\$(769,678,010)	\$3,683,006,999	59.06%
Public Equities	\$2,555,530,003	46.72%	\$(87,844,054)	\$(779,054,261)	\$3,422,428,318	54.88%
World Equities	\$752,242,703	13.75%	\$(5,910,599)	\$(281,000,747)	\$1,039,154,049	16.66%
EPOCH Investment Partners	370,088,067	6.77%	(5,772,087)	(114,628,158)	490,488,312	7.87%
LSV Asset Management	382,154,636	6.99%	(138,512)	(166,372,589)	548,665,737	8.80%
Domestic Equities	\$1,082,194,690	19.78%	\$(27,547,141)	\$(278,225,485)	\$1,387,967,316	22.26%
Large Cap	\$854,499,377	15.62%	\$(15,272,854)	\$(189,747,066)	\$1,059,519,297	16.99%
L.A. Capital	364,579,629	6.66%	(214,793)	(60,546,869)	425,341,292	6.82%
LACM Enhanced Index	170,333,596	3.11%	(58,060)	(39,698,645)	210,090,302	3.37%
Northern Trust AM Enh S&P 500	164,044,263	3.00%	0	(45,086,377)	209,130,640	3.35%
Parametric Clifton Enh S&P 500	155,541,888	2.84%	(15,000,000)	(44,415,175)	214,957,063	3.45%
Small Cap	\$227,695,314	4.16%	\$(12,274,287)	\$(88,478,418)	\$328,448,019	5.27%
Atlanta Capital	121,126,757	2.21%	(274,287)	(38,075,874)	159,476,918	2.56%
Parametric Clifton Enh Small Cap	106,568,556	1.95%	(12,000,000)	(50,402,544)	168,971,101	2.71%
International Equities	\$721,092,610	13.18%	\$(54,386,315)	\$(219,828,029)	\$995,306,954	15.96%
Developed	\$559,892,637	10.24%	\$(30,386,575)	\$(168,259,492)	\$758,538,704	12.16%
DFA Int'l Small Cap	50,217,289	0.92%	(8,000,000)	(25,594,737)	83,812,026	1.34%
Northern Trust AM World Ex US	275,255,010	5.03%	(7,027,579)	(81,464,972)	363,747,562	5.83%
Wellington Management Co.	58,630,039	1.07%	(165,816)	(22,589,622)	81,385,478	1.31%
William Blair	175,790,299	3.21%	(15,193,179)	(38,610,161)	229,593,638	3.68%
Emerging Markets	\$161,199,973	2.95%	\$(23,999,740)	\$(51,568,537)	\$236,768,250	3.80%
Axiom	122,522,751	2.24%	(17,999,740)	(33,819,297)	174,341,788	2.80%
DFA	38,677,222	0.71%	(6,000,000)	(17,749,240)	62,426,462	1.00%

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	March 31, 2020		Net New Inv.	Inv. Return	December 31, 2019	
	Market Value	Weight			Market Value	Weight
Private Equities	\$269,950,678	4.93%	\$(4,254)	\$9,376,251	\$260,578,681	4.18%
Adams Street Direct Co-Invest Fd	493,722	0.01%	(278,872)	34,371	738,223	0.01%
Adams Street Direct Fund 2010	869,922	0.02%	0	66,493	803,429	0.01%
Adams Street 1998 Partnership	13,402	0.00%	0	0	13,402	0.00%
Adams Street 1999 Partnership	122,827	0.00%	0	1,475	121,352	0.00%
Adams Street 2000 Partnership	321,529	0.01%	0	(2,784)	324,313	0.01%
Adams Street 2001 Partnership	530,795	0.01%	0	3,960	526,835	0.01%
Adams Street 2002 Partnership	136,323	0.00%	0	767	135,556	0.00%
Adams Street 2003 Partnership	155,870	0.00%	0	1,708	154,162	0.00%
Adams Street 2010 Partnership	5,913,209	0.11%	(491,843)	291,325	6,113,727	0.10%
Adams Street 2008 Fund	6,785,333	0.12%	0	400,113	6,385,220	0.10%
Adams Street 1999 Non-US	72,771	0.00%	0	293	72,478	0.00%
Adams Street 2000 Non-US	329,574	0.01%	0	(11,230)	340,804	0.01%
Adams Street 2001 Non-US	95,790	0.00%	0	2,360	93,430	0.00%
Adams Street 2002 Non-US	89,154	0.00%	0	430	88,724	0.00%
Adams Street 2003 Non-US	160,210	0.00%	0	(14,241)	174,451	0.00%
Adams Street 2004 Non-US	184,096	0.00%	0	5,791	178,305	0.00%
Adams Street 2010 Non-US	2,988,088	0.05%	0	208,977	2,779,111	0.04%
Adams Street 2010 Non-US Emg	1,827,027	0.03%	(38,390)	83,869	1,781,548	0.03%
Adams Street 2015 Global Fd	25,563,772	0.47%	0	1,720,166	23,843,606	0.38%
Adams Street 2016 Global Fd	18,968,517	0.35%	0	1,434,800	17,533,717	0.28%
Adams Street 2017 Global Fd	35,090,897	0.64%	4,800,000	2,149,809	28,141,088	0.45%
Adams Street 2018 Global Fd	18,481,903	0.34%	5,525,000	1,381,495	11,575,408	0.19%
Adams Street 2019 Global Fd	2,591,857	0.05%	0	739,357	1,852,500	0.03%
Adams Street BVCF IV Fund	5,894	0.00%	0	(1,103,798)	1,109,692	0.02%
BlackRock	88,192,128	1.61%	(3,271,050)	(350,060)	91,813,238	1.47%
Capital International V	737,204	0.01%	0	14,929	722,275	0.01%
Capital International VI	23,883,476	0.44%	(6,173,349)	1,001,842	29,054,983	0.47%
CorsAir III	12,927,580	0.24%	53,291	1,335,613	11,538,676	0.19%
EIG Energy Fund XIV	3,166,513	0.06%	(129,041)	(890,674)	4,186,228	0.07%
Hearthstone Advisors MS II	3,678	0.00%	0	3,677	1	0.00%
Hearthstone Advisors MS III	124,865	0.00%	0	(4,460)	129,325	0.00%
Lewis & Clark, LP	1,259,329	0.02%	0	121,011	1,138,318	0.02%
Lewis & Clark II	5,238,713	0.10%	0	748,867	4,489,846	0.07%
Matlin Patterson II	1,175,164	0.02%	0	0	1,175,164	0.02%
Matlin Patterson III	10,276,667	0.19%	0	0	10,276,667	0.16%
Quantum Energy Partners	1,172,879	0.02%	0	0	1,172,879	0.02%

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	March 31, 2020				December 31, 2019	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Fixed Income	\$1,459,383,567	26.68%	\$79,978,636	\$390,644	\$1,379,014,287	22.11%
Domestic Fixed Income	\$1,459,383,567	26.68%	\$79,978,636	\$390,644	\$1,379,014,287	22.11%
Investment Grade	\$1,048,331,573	19.16%	\$55,738,607	\$16,198,277	\$976,394,689	15.66%
Declaration Total Return	114,246,655	2.09%	6,933,049	(8,508,569)	115,822,175	1.86%
PIMCO DiSCO II	90,947,394	1.66%	0	(6,253,907)	97,201,301	1.56%
PIMCO Core Plus Constrained	376,552,913	6.88%	35,902,069	6,696,148	333,954,695	5.36%
Prudential Core	368,111,837	6.73%	35,906,991	(428,650)	332,633,496	5.33%
SSgA Long US Treas Index	98,472,774	1.80%	(23,003,503)	24,693,254	96,783,022	1.55%
Below Investment Grade	\$411,051,994	7.51%	\$24,240,029	\$(15,807,633)	\$402,619,598	6.46%
Ares ND Credit Strategies Fd	119,869,542	2.19%	15,000,000	2,050,951	102,818,591	1.65%
Cerberus ND Private Credit Fd	119,098,480	2.18%	11,000,000	2,537,944	105,560,536	1.69%
Goldman Sachs 2006 Offshore	64,436	0.00%	0	2,066	62,370	0.00%
Goldman Sachs Offshore V	493,717	0.01%	0	74,526	419,191	0.01%
Loomis Sayles	148,818,966	2.72%	(213,057)	(21,413,918)	170,445,942	2.73%
PIMCO Bravo II Fund	22,706,853	0.42%	(1,546,914)	940,799	23,312,968	0.37%
Global Real Assets	\$1,135,435,661	20.76%	\$(13,980,699)	\$26,879,672	\$1,122,536,688	18.00%
Real Estate	\$669,430,317	12.24%	\$(15,623,428)	\$17,492,357	\$667,561,389	10.71%
Invesco Core Real Estate	336,934,688	6.16%	(293,316)	7,537,713	329,690,291	5.29%
Invesco Fund III	2,935,682	0.05%	0	895,947	2,039,735	0.03%
Invesco Asia RE Feeder	1	0.00%	0	0	1	0.00%
Invesco Asia RE Fund III	23,852,911	0.44%	(3,492,012)	2,847,029	24,497,894	0.39%
Invesco Value Added Fd IV	33,939,343	0.62%	0	1,552,365	32,386,978	0.52%
Invesco Value Added Fd V	21,388,547	0.39%	3,168,622	1,039,176	17,180,749	0.28%
JP Morgan	249,752,784	4.57%	(15,006,525)	3,727,870	261,031,439	4.19%
JP Morgan Greater European Opp Fd	626,361	0.01%	(197)	(107,743)	734,301	0.01%
Other Real Assets	\$466,005,344	8.52%	\$1,642,729	\$9,387,316	\$454,975,299	7.30%
Infrastructure	\$338,608,103	6.19%	\$4,742,729	\$10,211,762	\$323,653,612	5.19%
ISQ Global Infrastructure II	39,942,773	0.73%	12,735,978	(706,069)	27,912,864	0.45%
The Rohatyn Group	18,072,424	0.33%	252,877	(447,497)	18,267,044	0.29%
JP Morgan IIF	179,428,463	3.28%	(8,246,606)	8,412,108	179,262,960	2.87%
Grosvenor Cust. Infrastructure	22,619,559	0.41%	(1,369,424)	579,155	23,409,828	0.38%
Grosvenor Cust. Infrastructure II	18,714,110	0.34%	(575,843)	773,436	18,516,517	0.30%
Macquarie Infrac. Partners IV	59,830,774	1.09%	1,945,746	1,600,629	56,284,399	0.90%
Timber	\$127,397,241	2.33%	\$(3,100,000)	\$(824,446)	\$131,321,687	2.11%
TIR Teredo	30,294,799	0.55%	(1,200,000)	103,494	31,391,305	0.50%
TIR Springbank	97,102,442	1.78%	(1,900,000)	(927,940)	99,930,382	1.60%
Cash	\$50,071,944	0.92%	\$(1,367,914)	\$217,910	\$51,221,948	0.82%
Northern Trust Cash Account	39,500,080	0.72%	(1,367,914)	176,566	40,691,428	0.65%
Bank of ND	10,571,865	0.19%	0	41,344	10,530,521	0.17%
Securities Lending Income	\$0	0.00%	\$(51,238)	\$51,238	-	-
Total Fund	\$5,470,371,853	100.0%	\$(23,269,523)	\$(742,138,546)	\$6,235,779,923	100.0%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Global Equities					
Gross	(21.50%)	(11.23%)	1.73%	3.07%	-
Net	(21.54%)	(11.41%)	1.51%	2.83%	-
Weighted Benchmark	(19.59%)	(9.76%)	2.07%	3.09%	-
Public Equities					
Gross	(23.37%)	(12.99%)	-	-	-
Net	(23.42%)	(13.18%)	-	-	-
Weighted Benchmark	(22.36%)	(12.44%)	-	-	-
World Equities					
Gross	(27.19%)	(17.61%)	(1.49%)	0.78%	-
Net	(27.26%)	(17.89%)	(1.83%)	0.34%	-
MSCI World	(21.05%)	(10.39%)	1.92%	3.25%	6.57%
EPOCH Investment - Gross(1)	(23.64%)	(13.55%)	2.46%	2.34%	-
EPOCH Investment - Net	(23.77%)	(14.09%)	1.82%	1.70%	-
MSCI World	(21.05%)	(10.39%)	1.92%	3.25%	6.57%
LSV Asset Management - Gross(2)	(30.33%)	(21.07%)	(4.67%)	(0.58%)	-
LSV Asset Management - Net	(30.35%)	(21.15%)	(4.80%)	(0.86%)	-
Benchmark(4)	(22.44%)	(12.36%)	1.44%	3.04%	-
Domestic Equities					
Gross	(20.48%)	(8.91%)	4.47%	5.87%	10.38%
Net	(20.51%)	(9.06%)	4.29%	5.69%	10.14%
Weighted Benchmark	(22.70%)	(11.93%)	2.48%	4.76%	9.64%
Large Cap					
Gross	(18.20%)	(5.63%)	6.09%	7.19%	10.97%
Net	(18.22%)	(5.72%)	5.98%	7.06%	10.80%
Large Cap Benchmark(3)	(20.22%)	(8.03%)	4.64%	6.22%	10.39%
L.A. Capital - Gross	(14.25%)	(0.03%)	9.94%	9.53%	12.77%
L.A. Capital - Net	(14.29%)	(0.23%)	9.72%	9.31%	12.53%
Russell 1000 Growth Index	(14.10%)	0.91%	11.32%	10.36%	12.97%
LACM Enhanced Index - Gross	(18.90%)	(7.21%)	4.36%	6.28%	10.57%
LACM Enhanced Index - Net	(18.92%)	(7.31%)	4.25%	6.16%	10.42%
Russell 1000 Index	(20.22%)	(8.03%)	4.64%	6.22%	10.39%
Northern Tr AM Enh S&P500 - Gross	(21.56%)	(11.39%)	2.44%	4.45%	9.84%
Northern Tr AM Enh S&P500 - Net	(21.56%)	(11.39%)	2.44%	4.45%	9.66%
S&P 500 Index	(19.60%)	(6.98%)	5.10%	6.73%	10.53%
Parametric Clifton Enh S&P500 - Gross	(22.32%)	(9.50%)	3.81%	5.99%	-
Parametric Clifton Enh S&P500 - Net	(22.32%)	(9.50%)	3.81%	5.95%	-
S&P 500 Index	(19.60%)	(6.98%)	5.10%	6.73%	10.53%
Small Cap					
Gross	(28.01%)	(19.38%)	(0.81%)	1.46%	8.30%
Net	(28.07%)	(19.65%)	(1.17%)	1.10%	7.84%
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	6.90%
Atlanta Capital - Gross	(23.92%)	(13.54%)	3.49%	-	-
Atlanta Capital - Net	(24.05%)	(14.13%)	2.78%	-	-
S&P 600 Small Cap Index	(32.64%)	(25.89%)	(5.34%)	0.45%	8.06%
Parametric Clifton Enh SmCap - Gross	(32.12%)	(25.15%)	(5.21%)	(0.19%)	7.56%
Parametric Clifton Enh SmCap - Net	(32.12%)	(25.15%)	(5.25%)	(0.37%)	7.24%
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	6.90%

(1) EPOCH Investment was removed from the Domestic Equities Composite to the World Equities Composite as of 1/1/2012.

(3) LSV Asset Management was removed from the Domestic Equities and Intl Equities Composites to the World Equities Composite as of February 1, 2013.

(3) S&P 500 Index through 12/31/2011 and Russell 1000 Index thereafter.

(4) MSCI ACWI Gross through 6/30/2019 and MSCI ACWI IMI thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Returns for Periods Ended March 31, 2020				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
International Equities					
Gross	(23.35%)	(13.72%)	(0.84%)	0.92%	3.66%
Net	(23.38%)	(13.86%)	(1.00%)	0.75%	3.38%
Weighted Benchmark	(23.32%)	(15.47%)	(1.93%)	(0.63%)	2.03%
Developed					
Gross	(23.11%)	(13.05%)	(0.71%)	1.01%	3.75%
Net	(23.16%)	(13.24%)	(0.92%)	0.78%	3.47%
Benchmark(1)	(23.26%)	(14.89%)	(2.07%)	(0.81%)	2.28%
DFA Int'l Small Cap Value - Net	(33.70%)	(26.16%)	(9.92%)	(3.32%)	2.35%
World ex US SC Value	(31.70%)	(23.16%)	(6.39%)	(1.63%)	2.74%
Northern Tr AM World ex US - Gross	(22.85%)	(14.26%)	(1.61%)	(0.33%)	-
Northern Tr AM World ex US - Net	(22.85%)	(14.29%)	(1.64%)	(0.36%)	-
MSCI World ex US	(23.26%)	(14.89%)	(2.07%)	(0.76%)	2.43%
Wellington Management - Gross	(27.81%)	(17.66%)	(3.95%)	1.26%	6.64%
Wellington Management - Net	(27.96%)	(18.35%)	(4.76%)	0.41%	5.74%
BMI, EPAC, <\$2 B	(27.57%)	(20.52%)	(5.32%)	(0.43%)	3.44%
William Blair - Gross	(18.03%)	(4.43%)	5.82%	-	-
William Blair - Net	(18.12%)	(4.77%)	5.44%	-	-
MSCI ACWI ex US IMI	(24.11%)	(16.32%)	(2.34%)	(0.66%)	2.14%
Emerging Markets					
Gross	(24.09%)	(15.90%)	(1.35%)	0.28%	2.44%
Net	(24.09%)	(15.90%)	(1.35%)	0.28%	2.17%
Emerging Mkts - Net	(23.60%)	(17.69%)	(1.62%)	(0.36%)	0.69%
Axiom - Net	(21.39%)	(11.32%)	1.28%	1.47%	-
Emerging Mkts - Net	(23.60%)	(17.69%)	(1.62%)	(0.36%)	0.69%
DFA - Net	(31.56%)	(27.73%)	(8.60%)	(3.00%)	0.69%
Emerging Mkts - Net	(23.60%)	(17.69%)	(1.62%)	(0.36%)	0.69%

(1) MSCI EAFE through 12/31/1996; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again through 6/30/2016; MSCI World ex-US thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Private Equities*					
Net	3.81%	11.45%	8.40%	3.60%	4.48%
Adams Street Direct Co-Invest Fd	4.84%	(4.23%)	(15.22%)	(8.54%)	4.10%
Adams Street Direct Fund 2010	8.28%	12.50%	16.91%	12.71%	10.60%
Adams Street 1998 Partnership	0.00%	(0.21%)	2.75%	2.24%	2.11%
Adams Street 1999 Partnership	1.22%	(4.62%)	0.15%	1.38%	2.68%
Adams Street 2000 Partnership	(0.86%)	(2.13%)	5.19%	2.62%	4.00%
Adams Street 2001 Partnership	0.75%	(1.19%)	2.47%	(0.03%)	5.23%
Adams Street 2002 Partnership	0.57%	3.63%	(2.53%)	2.67%	6.22%
Adams Street 2003 Partnership	1.11%	1.32%	6.90%	5.70%	8.55%
Adams Street 2010 Partnership	5.18%	17.13%	16.06%	13.51%	13.86%
Adams Street 2008 Fund	6.27%	15.27%	16.66%	13.93%	11.13%
Adams Street 1999 Non-US	0.40%	1.30%	2.72%	3.23%	6.50%
Adams Street 2000 Non-US	(3.30%)	7.23%	4.85%	1.95%	2.87%
Adams Street 2001 Non-US	2.53%	3.47%	11.19%	8.91%	8.22%
Adams Street 2002 Non-US	0.48%	(2.51%)	1.87%	3.94%	4.83%
Adams Street 2003 Non-US	(8.16%)	(9.68%)	(5.43%)	3.99%	8.21%
Adams Street 2004 Non-US	3.25%	2.35%	7.29%	3.63%	5.84%
Adams Street 2010 Non-US	7.52%	20.33%	21.43%	16.43%	3.72%
Adams Street 2010 Non-US Emg	4.81%	10.95%	13.55%	12.37%	-
Adams Street 2015 Global Fd	7.21%	19.49%	17.99%	-	-
Adams Street 2016 Global Fd	8.18%	15.07%	12.50%	-	-
Adams Street 2017 Global Fd	7.56%	13.20%	-	-	-
Adams Street 2018 Global Fd	11.60%	20.00%	-	-	-
Adams Street 2019 Global Fd	39.91%	-	-	-	-
Adams Street BVCF IV Fund	(99.47%)	(99.82%)	(87.83%)	(70.21%)	(31.55%)
BlackRock	(0.41%)	9.99%	3.38%	-	-
Capital International V	2.07%	(18.87%)	(42.43%)	(36.08%)	(17.86%)
Capital International VI	4.47%	3.83%	8.53%	5.22%	-
CorsAir III	11.52%	88.75%	6.17%	8.76%	3.26%
EIG Energy Fund XIV	(21.56%)	(34.96%)	(7.83%)	(27.18%)	(13.64%)
Lewis & Clark, LP	10.63%	(26.85%)	14.60%	(12.99%)	(3.91%)
Lewis & Clark II	16.68%	7.63%	12.71%	5.10%	(2.03%)
Matlin Patterson II	0.00%	(1.50%)	(3.14%)	(0.71%)	(22.93%)
Matlin Patterson III	0.00%	24.44%	8.00%	5.80%	11.41%
Quantum Energy Partners	0.00%	(46.06%)	(31.81%)	(28.32%)	(5.39%)

* Corsair III was taken out from the Private Equity Composite on July 1, 2009. It was then added back into the Private Equity Composite on October 1, 2011. At this time Corsair IV, Capital Intl and EIG were also added to this composite.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Global Fixed Income					
Gross	0.12%	6.27%	5.82%	4.74%	-
Net	0.08%	6.12%	5.64%	4.53%	-
Weighted Benchmark	(1.75%)	4.07%	4.30%	3.47%	-
Domestic Fixed Income					
Gross	0.12%	6.27%	5.40%	4.71%	5.94%
Net	0.08%	6.12%	5.24%	4.52%	5.74%
Weighted Benchmark	(1.75%)	4.07%	3.61%	3.15%	4.36%
Investment Grade					
Gross	1.65%	8.09%	5.63%	4.44%	5.20%
Net	1.61%	7.97%	5.52%	4.32%	5.05%
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
Declaration Total Return - Net	(6.84%)	(2.43%)	2.23%	2.49%	-
Libor-3 Month	0.40%	2.09%	2.04%	1.47%	0.90%
PIMCO Core Plus Cons. - Gross(1)	1.89%	8.07%	5.54%	4.78%	-
PIMCO Core Plus Cons. - Net	1.87%	7.91%	5.36%	4.51%	-
Blended Benchmark(2)	3.15%	8.93%	5.17%	3.33%	-
PIMCO DiSCO II - Net	(6.43%)	(1.61%)	5.63%	6.97%	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
Prudential Core - Gross	(0.03%)	6.15%	-	-	-
Prudential Core - Net	(0.06%)	6.01%	-	-	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
SSgA Long US Treas Idx - Gross	20.92%	32.72%	13.43%	7.33%	-
SSgA Long US Treas Idx - Net	20.92%	32.70%	13.40%	7.30%	-
Blmbg Long Treas	20.90%	32.64%	13.41%	7.33%	8.96%
Below Investment Grade					
Gross	(4.00%)	1.52%	4.62%	5.24%	7.88%
Net	(4.05%)	1.28%	4.33%	4.90%	7.56%
Blmbg HY Corp 2% Issue	(12.68%)	(6.94%)	0.76%	2.78%	5.64%
Ares ND Credit Strategies Fd - Net	1.99%	8.53%	-	-	-
Cerberus ND Private Credit Fd - Net	2.39%	8.50%	-	-	-
S&P/LSTA Leveraged Loan B	(13.72%)	(9.50%)	(0.75%)	1.23%	3.40%
Goldman Sachs 2006 Offshore - Net	3.31%	6.01%	12.10%	17.20%	17.32%
Goldman Sachs Offshore V - Net	17.78%	76.50%	25.53%	16.39%	15.48%
PIMCO Bravo II Fund - Net	4.04%	12.65%	5.92%	7.70%	-
Blmbg HY Corp 2% Issue	(12.68%)	(6.94%)	0.76%	2.78%	5.64%
Loomis Sayles - Gross	(12.58%)	(8.47%)	0.41%	2.45%	5.76%
Loomis Sayles - Net	(12.69%)	(8.94%)	(0.10%)	1.93%	5.34%
Blmbg HY Corp 2% Issue	(12.68%)	(6.94%)	0.76%	2.78%	5.64%

(1) The product changed from Commingled Fund to Separate Account in March 2014.

(2) Libor-3 month through Feb. 28, 2014; Fund's performance through March 31, 2014; Libor-3 month through June 30, 2018; Blmbg Aggregate thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Global Real Assets					
Gross	2.43%	7.54%	6.99%	7.09%	-
Net	2.26%	7.02%	6.55%	6.65%	-
Weighted Benchmark	0.54%	4.19%	4.94%	5.34%	-
Real Estate					
Gross	2.67%	7.23%	7.83%	9.58%	12.47%
Net	2.43%	6.56%	7.30%	9.05%	11.77%
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.17%
Invesco Core Real Estate - Gross	2.29%	6.59%	7.20%	8.92%	11.71%
Invesco Core Real Estate - Net	2.20%	6.22%	6.87%	8.56%	11.30%
Invesco Fund III - Net	43.92%	6.68%	(0.15%)	6.36%	-
Invesco Asia RE Fund III - Net	12.33%	39.48%	45.40%	-	-
Invesco Value Added Fd IV - Net	4.79%	16.02%	12.96%	-	-
Invesco Value Added Fd V - Net	6.05%	7.72%	-	-	-
JP Morgan - Gross	1.51%	5.75%	7.16%	8.88%	12.16%
JP Morgan - Net	1.01%	4.49%	6.19%	7.89%	11.15%
JPM Greater European Opp Fd - Net	(14.68%)	(0.95%)	(22.69%)	(8.33%)	(*****%)
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.17%
Other Real Assets					
Gross	2.08%	8.09%	-	-	-
Net	2.01%	7.81%	-	-	-
Weighted Benchmark	0.32%	2.78%	-	-	-
Infrastructure					
Gross	3.17%	8.13%	7.89%	5.80%	-
Net	3.07%	7.73%	7.42%	5.28%	-
ISQ Global Infrastructure II - Net	(2.46%)	23.37%	-	-	-
The Rohatyn Group - Net	(2.44%)	(5.00%)	(9.27%)	(2.21%)	1.20%
JP Morgan IIF - Gross	4.70%	9.30%	10.20%	6.70%	6.69%
JP Morgan IIF - Net	4.53%	8.63%	9.50%	5.93%	5.69%
Grosvenor Cust. Infrastructure - Net	2.49%	3.21%	6.55%	5.85%	-
Grosvenor Cust. Infrastructure II - Net	4.18%	10.00%	11.05%	5.28%	-
Benchmark(1)	0.39%	3.33%	3.21%	2.49%	2.04%
Macquarie Infrs. Partners IV - Net	2.85%	4.42%	-	-	-
Benchmark(2)	0.39%	3.33%	-	-	-
Timber					
Net	(0.64%)	8.03%	2.02%	0.42%	-
TIR Teredo - Net	0.34%	4.13%	0.62%	1.32%	4.51%
TIR Springbank - Net	(0.94%)	9.33%	2.47%	0.15%	(1.22%)
NCREIF Timberland Index	0.11%	1.30%	2.48%	2.80%	4.49%
Cash & Cash Equivalents - Net					
	0.36%	1.91%	1.77%	1.22%	0.66%
Cash Account - Net	0.35%	1.88%	1.75%	1.21%	0.65%
Bank of ND - Net	0.39%	1.98%	1.76%	-	-
3-month Treasury Bill	0.57%	2.25%	1.83%	1.19%	0.64%
Total Fund					
Gross	(11.93%)	(3.16%)	4.01%	4.44%	7.01%
Net	(11.99%)	(3.39%)	3.76%	4.17%	6.66%
Target*	(11.89%)	(3.79%)	3.31%	3.77%	6.21%

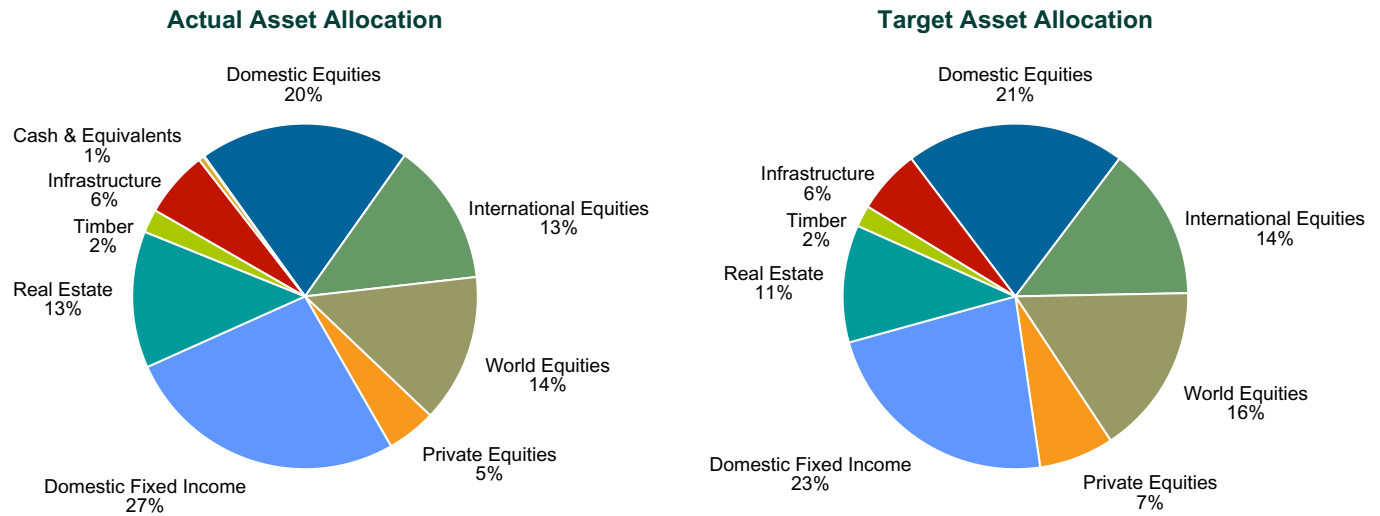
* Current Quarter Target = 16.3% Blmbg Aggregate, 16.0% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 2.8% NCREIF NFI-ODCE Eq Wt Net, 2.8% CPI All Urban Cons lagged 3 months, 2.3% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

(1) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

(2) 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.

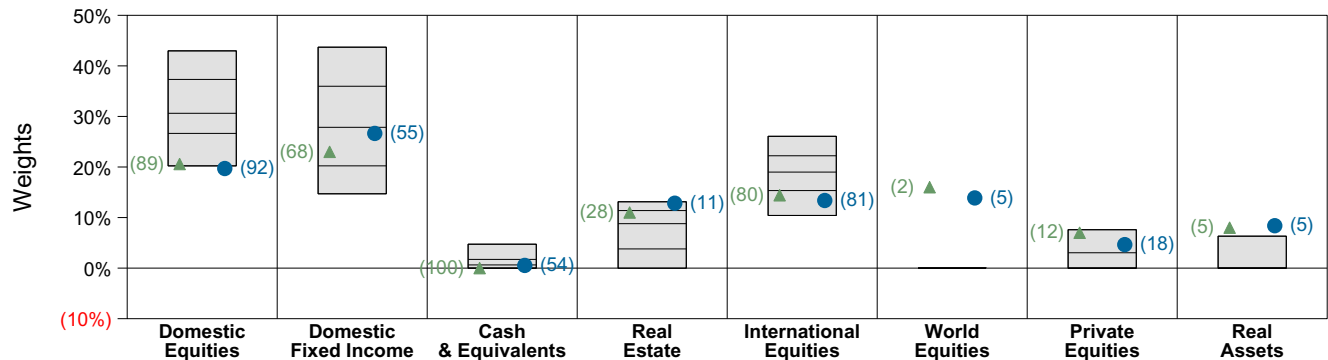
Actual vs Target Asset Allocation As of March 31, 2020

The top left chart shows the Fund's asset allocation as of March 31, 2020. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	573,163	19.7%	20.6%	(0.9%)	(25,858)
International Equities	389,181	13.4%	14.4%	(1.0%)	(30,133)
World Equities	403,965	13.9%	16.0%	(2.1%)	(61,559)
Private Equities	135,219	4.6%	7.0%	(2.4%)	(68,448)
Domestic Fixed Income	775,054	26.6%	23.0%	3.6%	105,863
Real Estate	373,516	12.8%	11.0%	1.8%	53,468
Timber	64,424	2.2%	2.0%	0.2%	6,221
Infrastructure	179,520	6.2%	6.0%	0.2%	4,961
Cash & Equivalents	15,486	0.5%	0.0%	0.5%	15,486
Total	2,909,528	100.0%	100.0%		

Asset Class Weights vs Callan Public Fund Sponsor Database



	Domestic Equities	Domestic Fixed Income	Cash & Equivalents	Real Estate	International Equities	World Equities	Private Equities	Real Assets
10th Percentile	42.97	43.70	4.73	13.12	26.07	0.00	7.60	6.32
25th Percentile	37.32	35.97	1.72	11.38	22.22	0.00	3.04	0.00
Median	30.62	27.85	0.64	8.79	18.99	0.00	0.00	0.00
75th Percentile	26.64	20.23	0.01	3.80	15.34	0.00	0.00	0.00
90th Percentile	20.22	14.70	0.00	0.00	10.42	0.00	0.00	0.00
Fund ●	19.70	26.64	0.53	12.84	13.38	13.88	4.65	8.38
Target ▲	20.59	23.00	0.00	11.00	14.41	16.00	7.00	8.00
% Group Invested	96.50%	98.60%	76.92%	80.42%	94.41%	9.79%	31.47%	23.78%

* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

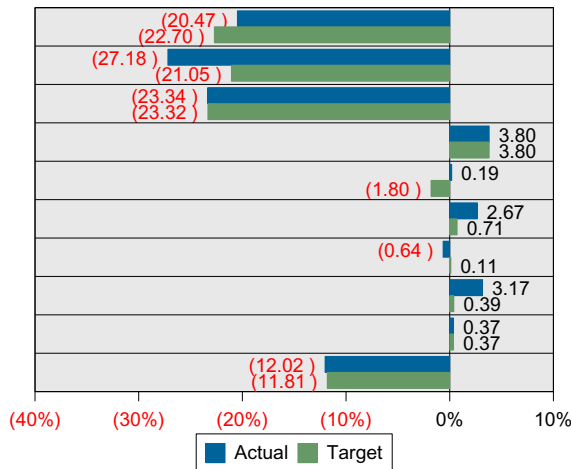
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

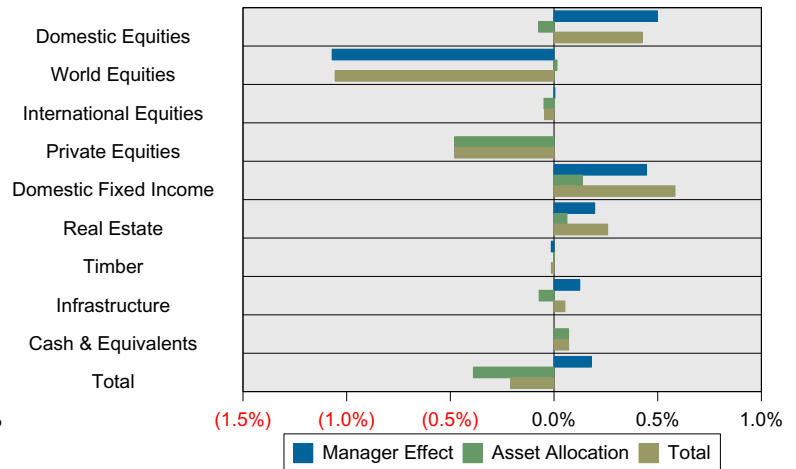
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

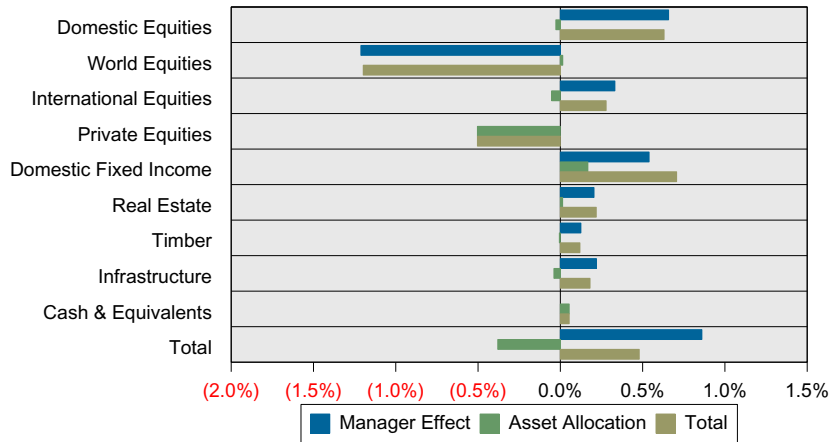
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(20.47%)	(22.70%)	0.50%	(0.07%)	0.42%
World Equities	16%	16%	(27.18%)	(21.05%)	(1.07%)	0.01%	(1.06%)
International Equities	15%	14%	(23.34%)	(23.32%)	0.00%	(0.05%)	(0.04%)
Private Equities	4%	7%	3.80%	3.80%	0.00%	(0.48%)	(0.48%)
Domestic Fixed Income	24%	23%	0.19%	(1.80%)	0.45%	0.14%	0.58%
Real Estate	11%	11%	2.67%	0.71%	0.20%	0.06%	0.26%
Timber	2%	2%	(0.64%)	0.11%	(0.01%)	0.00%	(0.01%)
Infrastructure	5%	6%	3.17%	0.39%	0.12%	(0.07%)	0.05%
Cash & Equivalents	1%	0%	0.37%	0.37%	0.00%	0.07%	0.07%
Total			(12.02%)	(11.81%)	+ 0.18%	+ (0.39%)	(0.21%)

* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

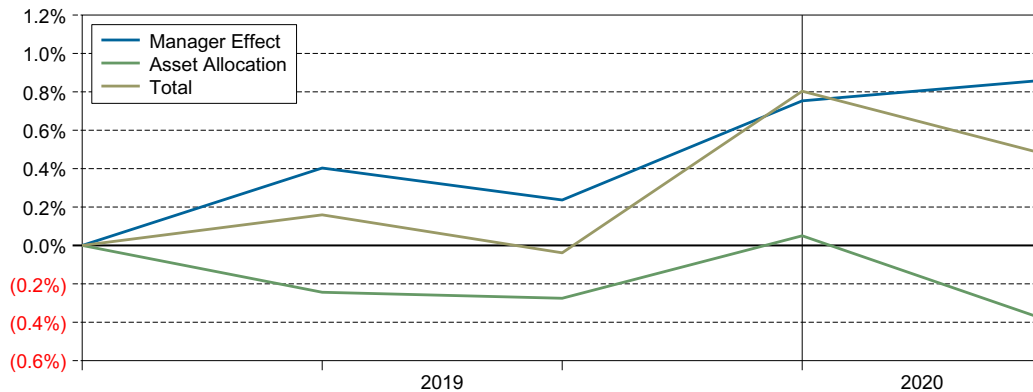
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

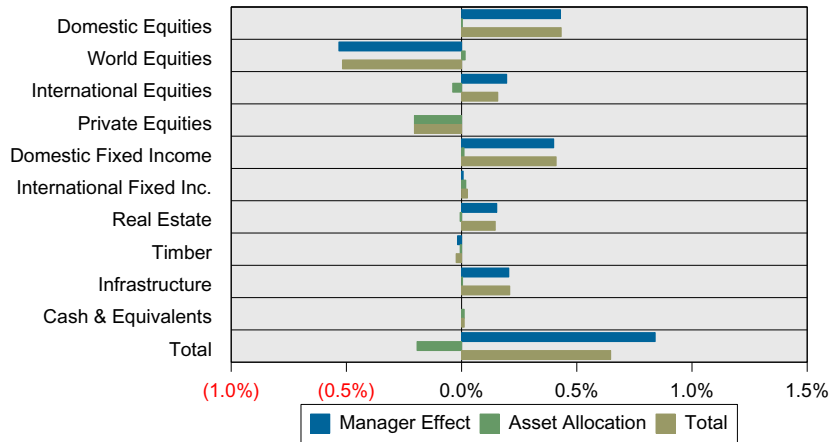
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(8.91%)	(11.93%)	0.66%	(0.03%)	0.63%
World Equities	16%	16%	(17.59%)	(10.39%)	(1.21%)	0.01%	(1.20%)
International Equities	16%	14%	(13.73%)	(15.52%)	0.33%	(0.05%)	0.28%
Private Equities	4%	7%	11.46%	11.46%	0.00%	(0.50%)	(0.50%)
Domestic Fixed Income	23%	23%	6.35%	4.02%	0.54%	0.17%	0.71%
Real Estate	12%	11%	7.22%	5.28%	0.20%	0.01%	0.22%
Timber	2%	2%	8.03%	1.30%	0.12%	(0.01%)	0.12%
Infrastructure	5%	6%	8.13%	3.33%	0.22%	(0.04%)	0.18%
Cash & Equivalents	0%	0%	1.97%	1.97%	0.00%	0.05%	0.05%
Total			(3.23%)	(3.71%)	+ 0.86%	+ (0.38%)	0.48%

* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

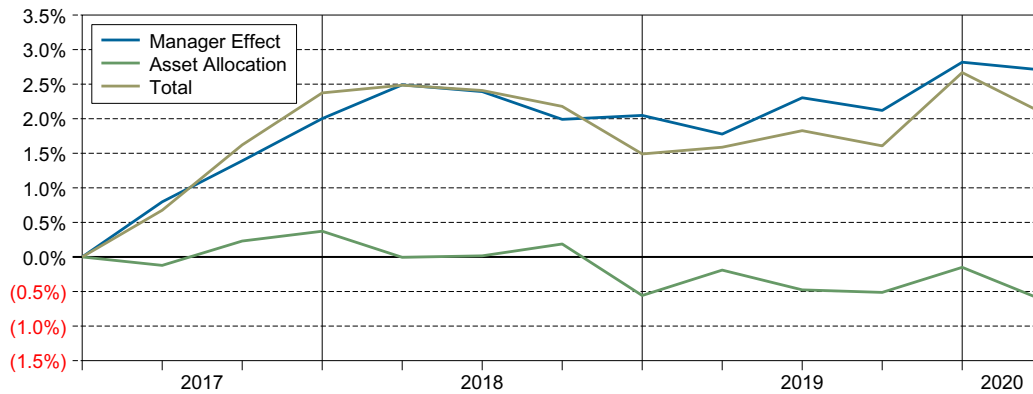
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

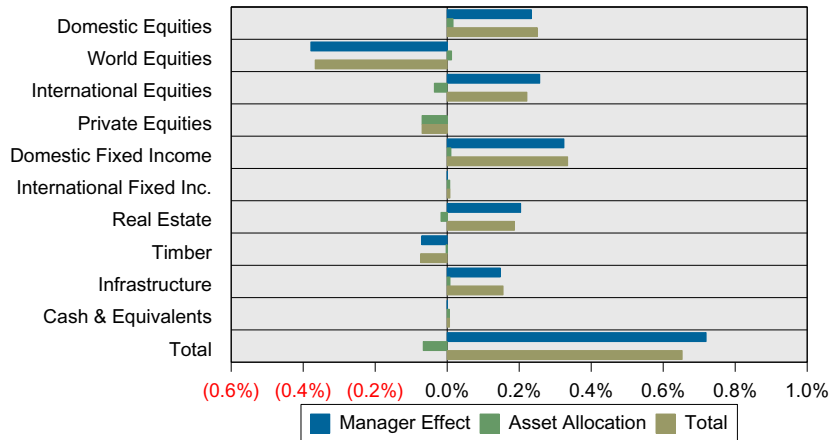
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	4.48%	2.48%	0.43%	0.00%	0.43%
World Equities	17%	16%	(1.49%)	1.92%	(0.53%)	0.02%	(0.52%)
International Equities	16%	14%	(0.83%)	(1.92%)	0.20%	(0.04%)	0.16%
Private Equities	3%	7%	8.41%	8.41%	0.00%	(0.20%)	(0.20%)
Domestic Fixed Income	22%	22%	5.45%	3.62%	0.40%	0.01%	0.41%
International Fixed Inc.	1%	1%	-	-	0.01%	0.02%	0.03%
Real Estate	11%	11%	7.83%	6.41%	0.15%	(0.01%)	0.15%
Timber	2%	2%	2.02%	2.48%	(0.02%)	(0.01%)	(0.02%)
Infrastructure	5%	6%	7.89%	3.21%	0.20%	0.00%	0.21%
Cash & Equivalents	1%	0%	1.81%	1.81%	0.00%	0.01%	0.01%
Total			4.00%	3.35%	+ 0.84%	+ (0.19%)	0.65%

* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

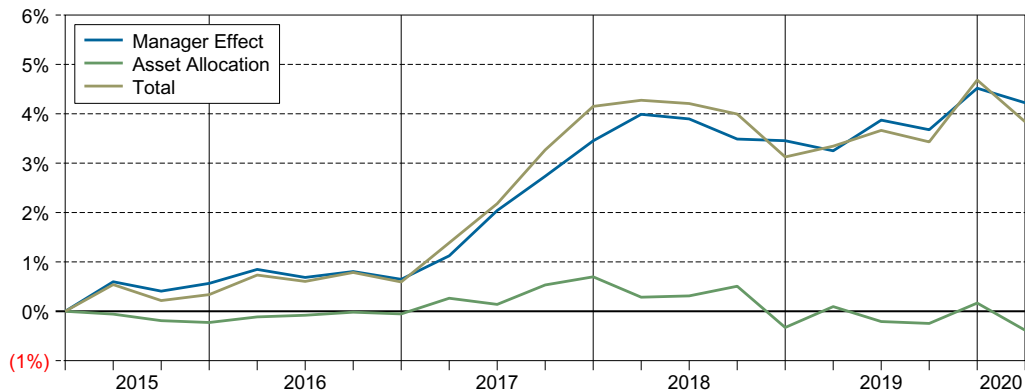
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

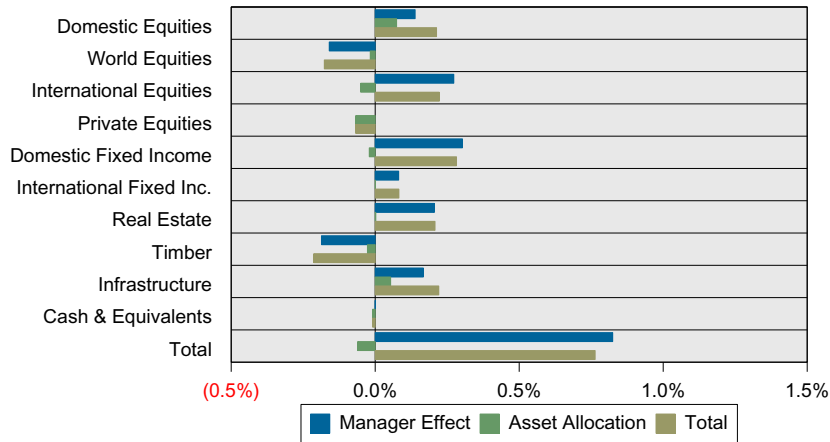
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	5.88%	4.76%	0.23%	0.02%	0.25%
World Equities	16%	16%	0.79%	3.25%	(0.38%)	0.01%	(0.37%)
International Equities	16%	14%	0.93%	(0.63%)	0.26%	(0.04%)	0.22%
Private Equities	3%	6%	3.61%	3.61%	0.00%	(0.07%)	(0.07%)
Domestic Fixed Income	20%	20%	4.76%	3.19%	0.32%	0.01%	0.33%
International Fixed Inc.	3%	3%	-	-	0.00%	0.01%	0.01%
Real Estate	11%	11%	9.60%	7.65%	0.20%	(0.02%)	0.19%
Timber	3%	3%	0.42%	2.80%	(0.07%)	(0.00%)	(0.07%)
Infrastructure	5%	5%	5.80%	2.49%	0.15%	0.01%	0.16%
Cash & Equivalents	1%	0%	1.24%	1.21%	0.00%	0.01%	0.01%
Total			4.45%	3.80%	+ 0.72%	+ (0.07%)	0.65%

* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

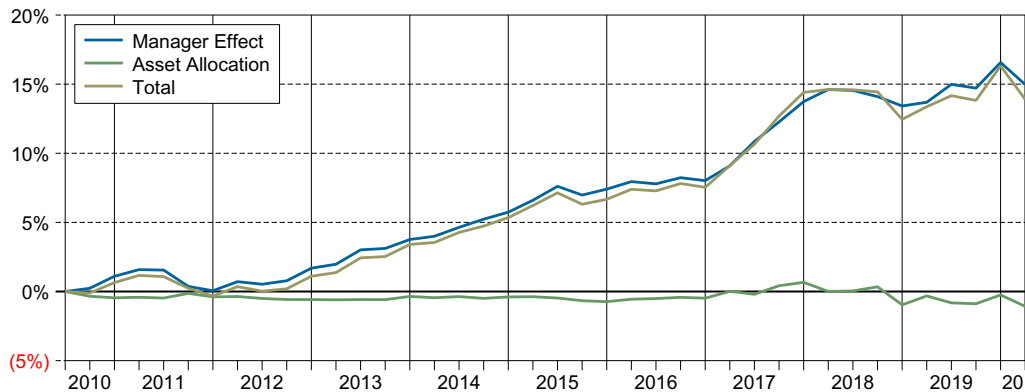
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Nine and Three-Quarter Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Nine and Three-Quarter Year Annualized Relative Attribution Effects

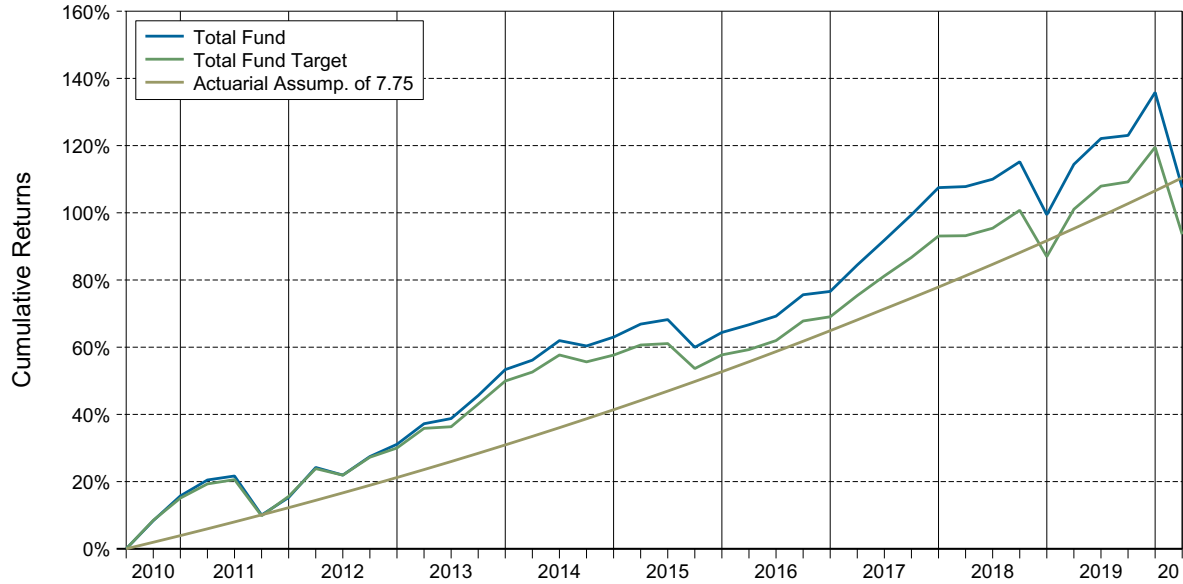
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	24%	12.02%	11.22%	0.14%	0.07%	0.21%
World Equities	13%	12%	-	-	(0.16%)	(0.02%)	(0.18%)
International Equities	16%	15%	5.03%	3.29%	0.27%	(0.05%)	0.22%
Private Equities	4%	6%	4.58%	4.58%	0.00%	(0.07%)	(0.07%)
Domestic Fixed Income	20%	20%	5.89%	4.26%	0.30%	(0.02%)	0.28%
International Fixed Inc.	4%	4%	-	-	0.08%	0.00%	0.08%
Real Estate	10%	10%	12.50%	10.08%	0.21%	0.00%	0.21%
Timber	3%	3%	-	-	(0.19%)	(0.03%)	(0.21%)
Infrastructure	4%	5%	-	-	0.17%	0.05%	0.22%
Cash & Equivalents	1%	1%	0.68%	0.66%	0.00%	(0.01%)	(0.01%)
Total			7.77%	7.01%	+ 0.82%	+ (0.06%)	0.76%

* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

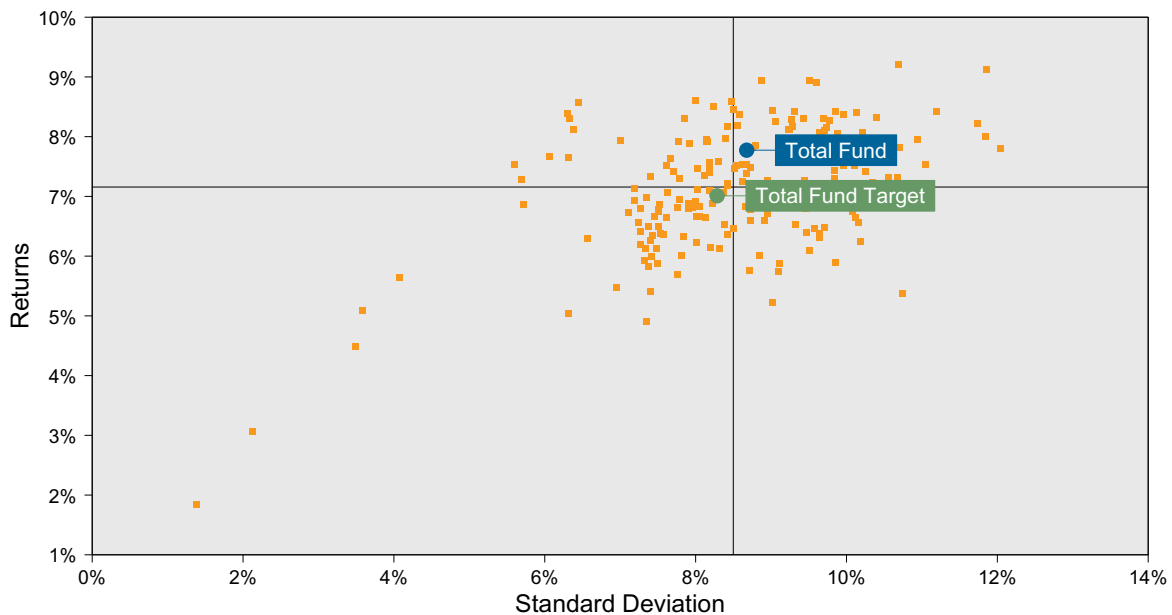
Cumulative Performance Relative to Target

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Nine and Three-Quarter Year Annualized Risk vs Return



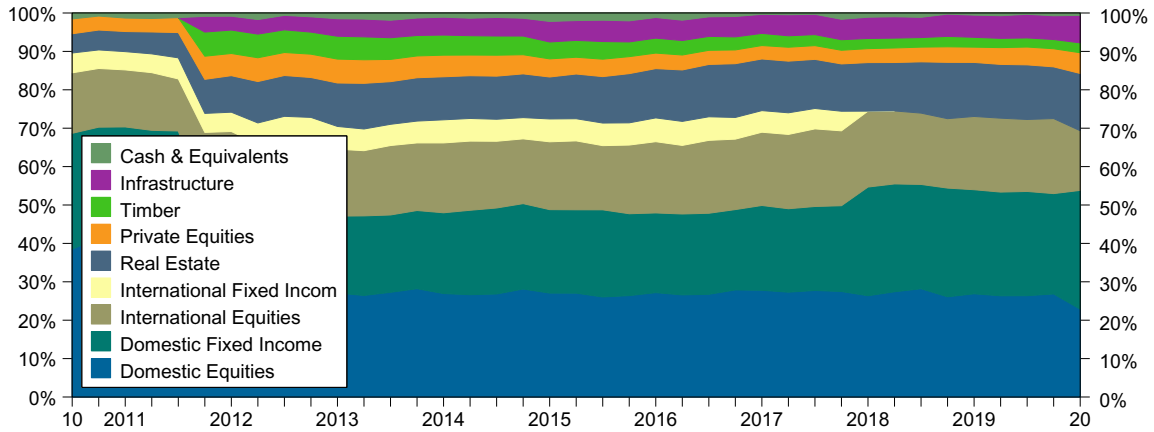
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

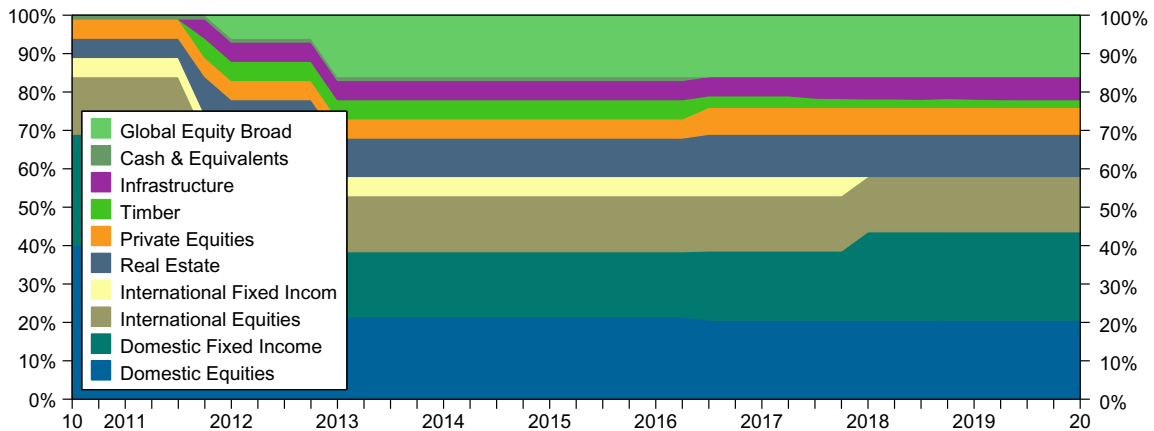
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

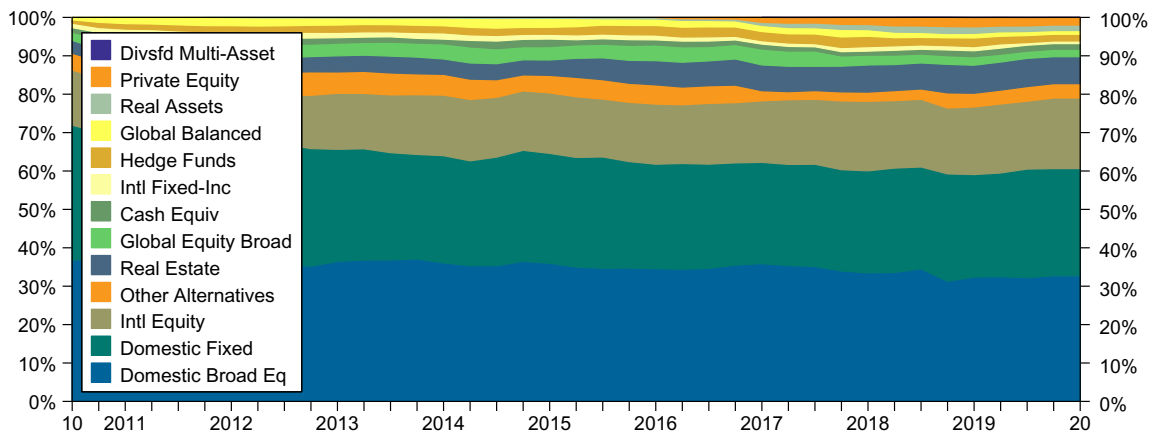
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation

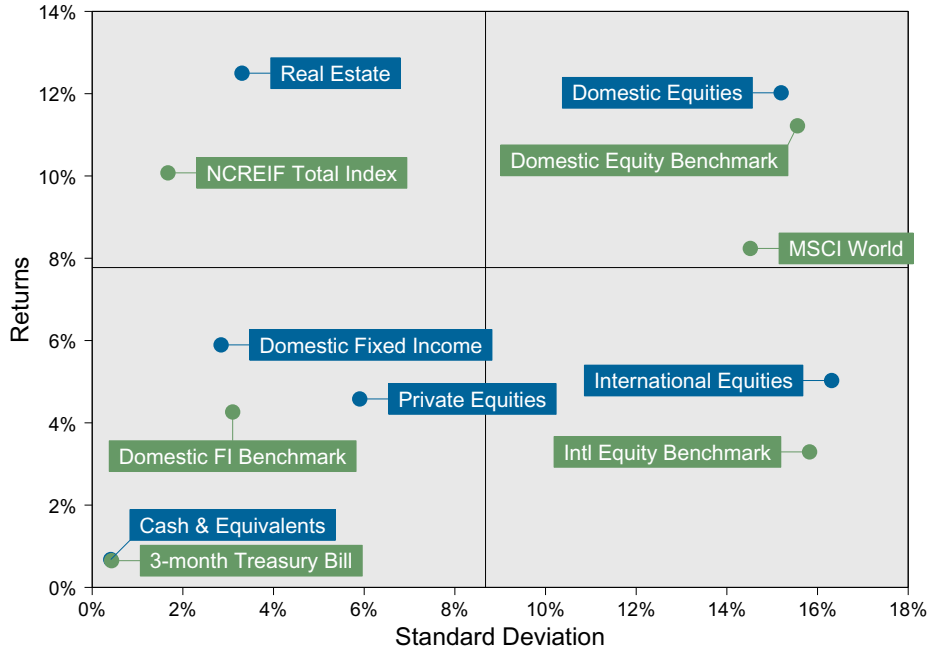


* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

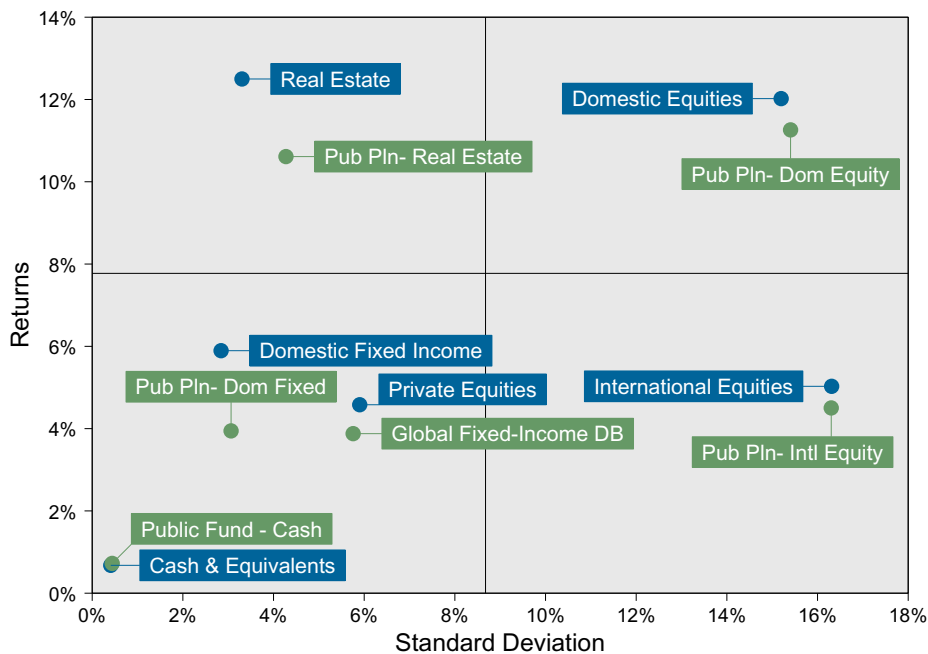
Asset Class Risk and Return

The charts below show the nine and three-quarter year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

**Nine and Three-Quarter Year Annualized Risk vs Return
Asset Classes vs Benchmark Indices**



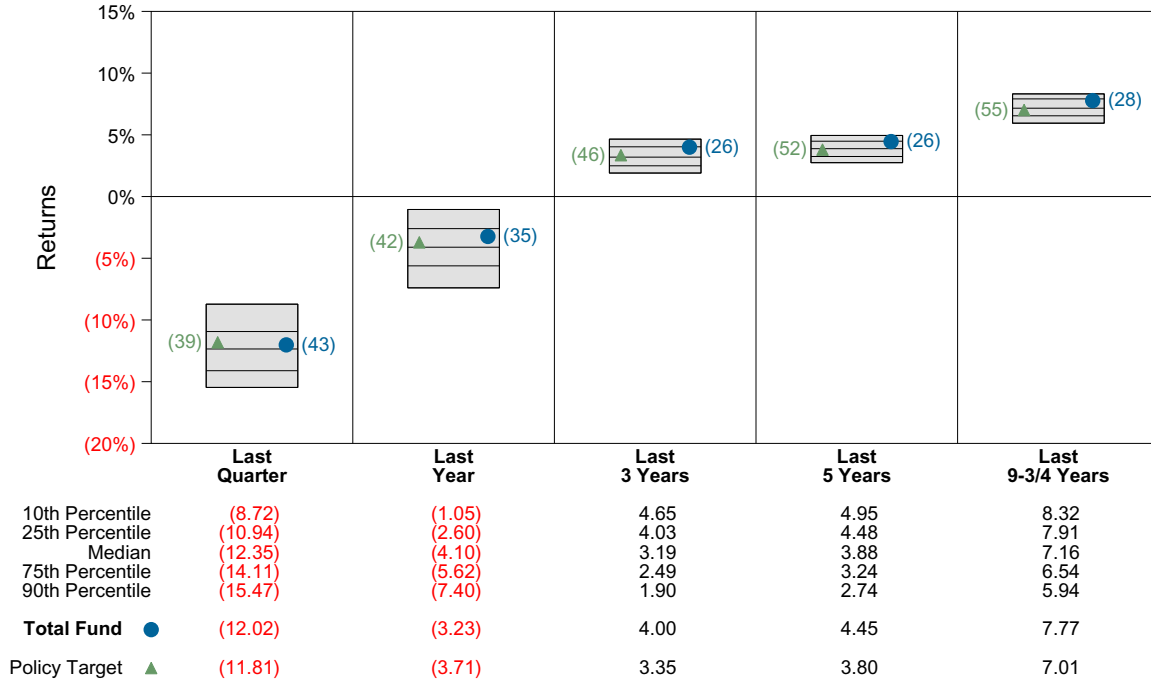
**Nine and Three-Quarter Year Annualized Risk vs Return
Asset Classes vs Asset Class Median**



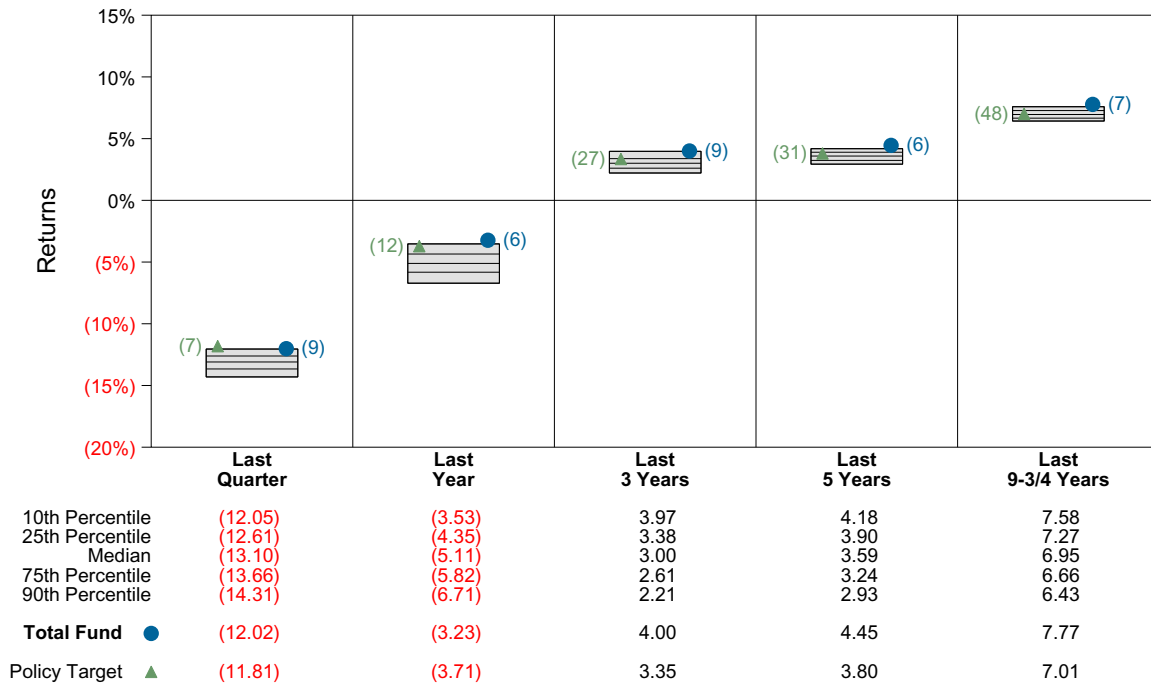
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended March 31, 2020. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

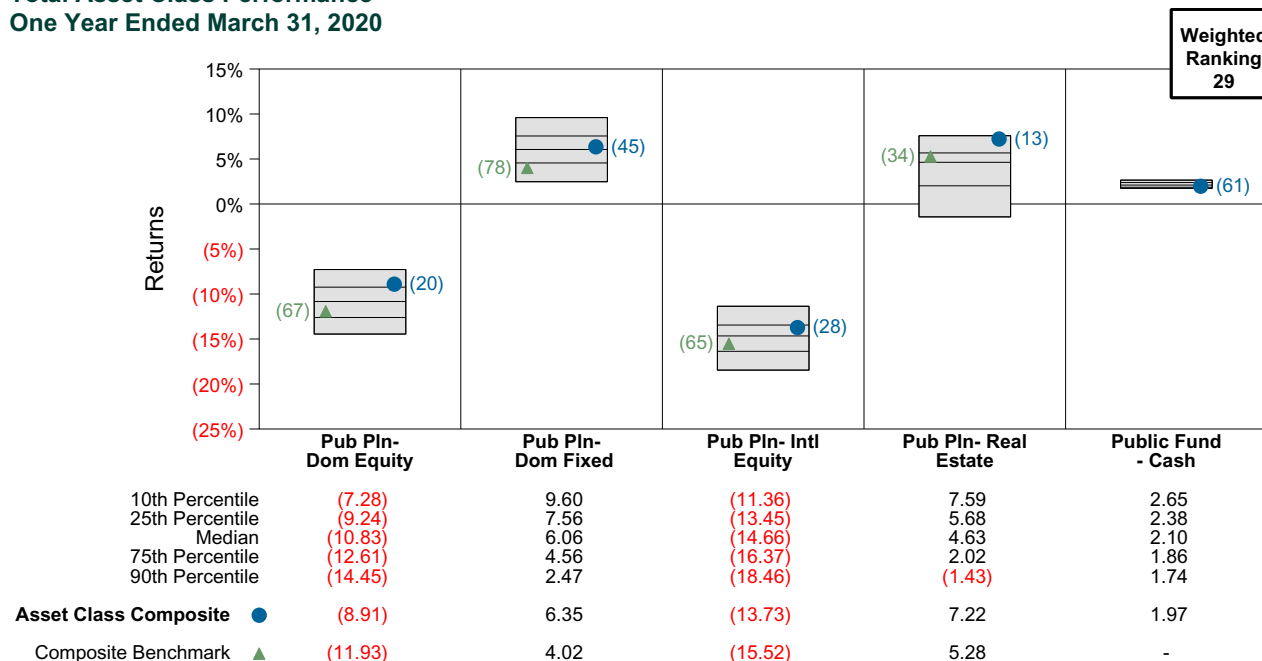


* Current Quarter Target = 16.0% Bimbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Bimbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

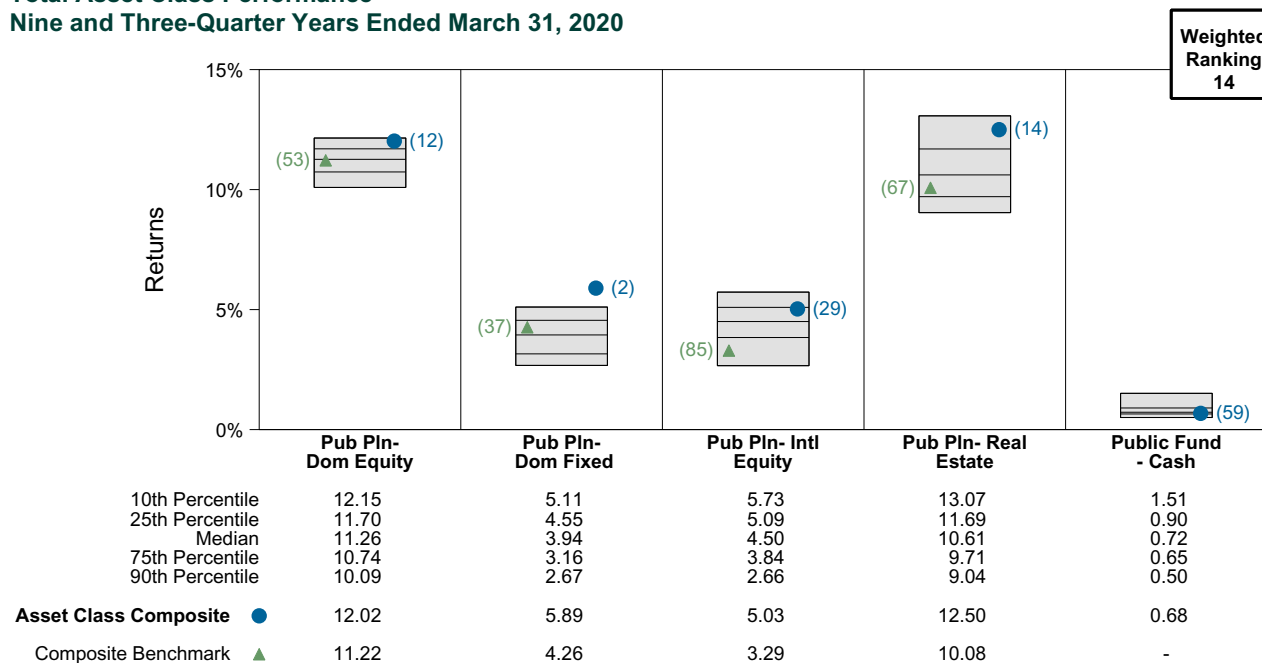
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended March 31, 2020



Total Asset Class Performance Nine and Three-Quarter Years Ended March 31, 2020



* Current Quarter Target = 16.0% Bimbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Bimbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Class Allocation

	March 31, 2020		Net New Inv.	Inv. Return	December 31, 2019	
	Market Value	Weight			Market Value	Weight
Global Equities	\$1,501,528,588	51.61%	\$(54,085,279)	\$(413,395,603)	\$1,969,009,470	59.31%
Public Equities	\$1,366,309,213	46.96%	\$(54,503,067)	\$(418,069,358)	\$1,838,881,637	55.39%
World Equities	\$403,965,067	13.88%	\$(2,760,678)	\$(151,341,094)	\$558,066,839	16.81%
Domestic Equities	\$573,162,711	19.70%	\$(20,320,136)	\$(147,691,203)	\$741,174,049	22.33%
Large Cap	453,137,653	15.57%	(10,715,912)	(100,716,472)	564,570,037	17.01%
Small Cap	120,025,058	4.13%	(9,604,224)	(46,974,730)	176,604,012	5.32%
International Equities	\$389,181,435	13.38%	\$(31,422,253)	\$(119,037,062)	\$539,640,749	16.26%
Developed	294,815,826	10.13%	(15,914,405)	(88,741,620)	399,471,851	12.03%
Emerging Markets	94,365,608	3.24%	(15,507,848)	(30,295,442)	140,168,898	4.22%
Private Equities	\$135,219,375	4.65%	\$417,788	\$4,673,755	\$130,127,832	3.92%
Global Fixed Income	\$775,054,010	26.64%	\$52,921,984	\$543,012	\$721,589,014	21.74%
Domestic Fixed Income	\$775,054,010	26.64%	\$52,921,984	\$543,012	\$721,589,014	21.74%
Investment Grade	555,204,942	19.08%	38,462,536	8,394,072	508,348,334	15.31%
Below Investment Grade	219,849,068	7.56%	14,459,448	(7,851,060)	213,240,681	6.42%
Global Real Assets	\$617,459,703	21.22%	\$(6,324,679)	\$14,705,367	\$609,079,014	18.35%
Real Estate	\$373,516,049	12.84%	\$(8,150,362)	\$9,736,920	\$371,929,490	11.20%
Other Real Assets	\$243,943,654	8.38%	\$1,825,683	\$4,968,447	\$237,149,524	7.14%
Infrastructure	179,520,075	6.17%	3,393,323	5,385,362	170,741,390	5.14%
Timber	64,423,579	2.21%	(1,567,641)	(416,915)	66,408,134	2.00%
Cash	\$15,485,913	0.53%	\$(4,624,712)	\$80,337	\$20,030,288	0.60%
Securities Lending Income	\$0	0.00%	\$(27,280)	\$27,280	-	-
Total Fund	\$2,909,528,213	100.0%	\$(12,139,967)	\$(398,039,607)	\$3,319,707,786	100.0%

PLEASE REFER TO PAGES 29-31 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 9-3/4 Years
Global Equities					
Gross	(21.62%)	(11.36%)	1.67%	3.05%	-
Net	(21.66%)	(11.53%)	1.46%	2.80%	-
Weighted Benchmark	(19.36%)	(9.51%)	2.23%	3.15%	-
Public Equities					
Gross	(23.38%)	(13.01%)	-	-	-
Net	(23.43%)	(13.20%)	-	-	-
Weighted Benchmark	(22.36%)	(12.46%)	-	-	-
World Equities					
Gross	(27.18%)	(17.59%)	(1.49%)	0.79%	-
Net	(27.25%)	(17.88%)	(1.83%)	0.35%	-
MSCI World	(21.05%)	(10.39%)	1.92%	3.25%	8.24%
Domestic Equities					
Gross	(20.47%)	(8.91%)	4.48%	5.88%	12.02%
Net	(20.51%)	(9.06%)	4.30%	5.70%	11.79%
Weighted Benchmark	(22.70%)	(11.93%)	2.48%	4.76%	11.22%
Large Cap					
Gross	(18.19%)	(5.62%)	6.11%	7.19%	12.77%
Net	(18.21%)	(5.72%)	6.00%	7.07%	12.57%
Benchmark(1)	(20.22%)	(8.03%)	4.64%	6.22%	12.06%
Small Cap Equity					
Gross	(27.97%)	(19.31%)	(0.80%)	1.47%	9.47%
Net	(28.03%)	(19.59%)	(1.15%)	1.11%	9.16%
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	8.24%
International Equities					
Gross	(23.34%)	(13.73%)	(0.83%)	0.93%	5.03%
Net	(23.38%)	(13.87%)	(0.99%)	0.76%	4.76%
Weighted Benchmark	(23.32%)	(15.52%)	(1.92%)	(0.63%)	3.29%
Developed					
Gross	(23.09%)	(13.01%)	(0.70%)	1.02%	5.49%
Net	(23.14%)	(13.20%)	(0.92%)	0.79%	5.21%
Benchmark(2)	(23.26%)	(14.89%)	(2.07%)	(0.81%)	3.71%
Emerging Markets					
Gross	(24.07%)	(15.89%)	(1.33%)	0.30%	3.18%
Net	(24.07%)	(15.89%)	(1.33%)	0.30%	2.98%
Benchmark(3)	(23.60%)	(17.69%)	(1.62%)	(0.36%)	1.64%
Private Equities					
Net	3.80%	11.46%	8.41%	3.61%	4.52%

(1) S&P 500 Index through 12/31/2011 and the Russell 1000 Index thereafter.

(2) 50% Hedged EAFE through 3/31/2011, MSCI EAFE through 6/30/2016; MSCI World ex-US thereafter.

(3) MSCI Emerging Mkts Idx (Gross) through 6/30/2011 and MSCI Emerging Mkts Idx Net thereafter.

PLEASE REFER TO PAGES 32-36 FOR INVESTMENT MANAGER LEVEL RETURNS.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 9-3/4 Years
Global Fixed Income					
Gross	0.19%	6.35%	5.86%	4.78%	-
Net	0.16%	6.20%	5.69%	4.57%	-
Weighted Benchmark	(1.80%)	4.02%	4.23%	3.46%	-
Domestic Fixed Income					
Gross	0.19%	6.35%	5.45%	4.76%	5.89%
Net	0.16%	6.20%	5.29%	4.57%	5.67%
Weighted Benchmark	(1.80%)	4.02%	3.62%	3.19%	4.26%
Inv. Grade Fixed Income					
Gross	1.64%	8.07%	5.62%	4.44%	5.15%
Net	1.62%	7.97%	5.52%	4.32%	5.00%
Blmbg Aggregate Index	3.15%	8.93%	4.82%	3.36%	3.62%
Below Inv. Grade Fixed Income					
Gross	(3.86%)	1.69%	4.70%	5.28%	7.75%
Net	(3.91%)	1.46%	4.42%	4.95%	7.36%
Blmbg HY Corp 2% Issue	(12.68%)	(6.94%)	0.76%	2.78%	5.79%
Global Real Assets					
Gross	2.45%	7.53%	7.02%	7.18%	-
Net	2.28%	7.01%	6.58%	6.74%	-
Weighted Benchmark	0.55%	4.24%	4.98%	5.37%	-
Real Estate					
Gross	2.67%	7.22%	7.83%	9.60%	12.50%
Net	2.43%	6.56%	7.30%	9.07%	11.94%
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.08%
Other Real Assets					
Gross	2.11%	8.10%	-	-	-
Net	2.04%	7.81%	-	-	-
Weighted Benchmark	0.32%	2.81%	-	-	-
Infrastructure					
Gross	3.17%	8.13%	7.89%	5.80%	-
Net	3.07%	7.73%	7.42%	5.28%	-
Benchmark(1)	0.39%	3.33%	3.21%	2.49%	-
Timber					
Net	(0.64%)	8.03%	2.02%	0.42%	-
NCREIF Timberland Index	0.11%	1.30%	2.48%	2.80%	4.50%
Cash & Equivalents - Net	0.37%	1.97%	1.81%	1.24%	0.68%
3-month Treasury Bill	0.57%	2.25%	1.83%	1.19%	0.65%
Total Fund					
Gross	(12.02%)	(3.23%)	4.00%	4.45%	7.77%
Net	(12.08%)	(3.47%)	3.76%	4.18%	7.46%
Target*	(11.81%)	(3.71%)	3.35%	3.80%	7.01%

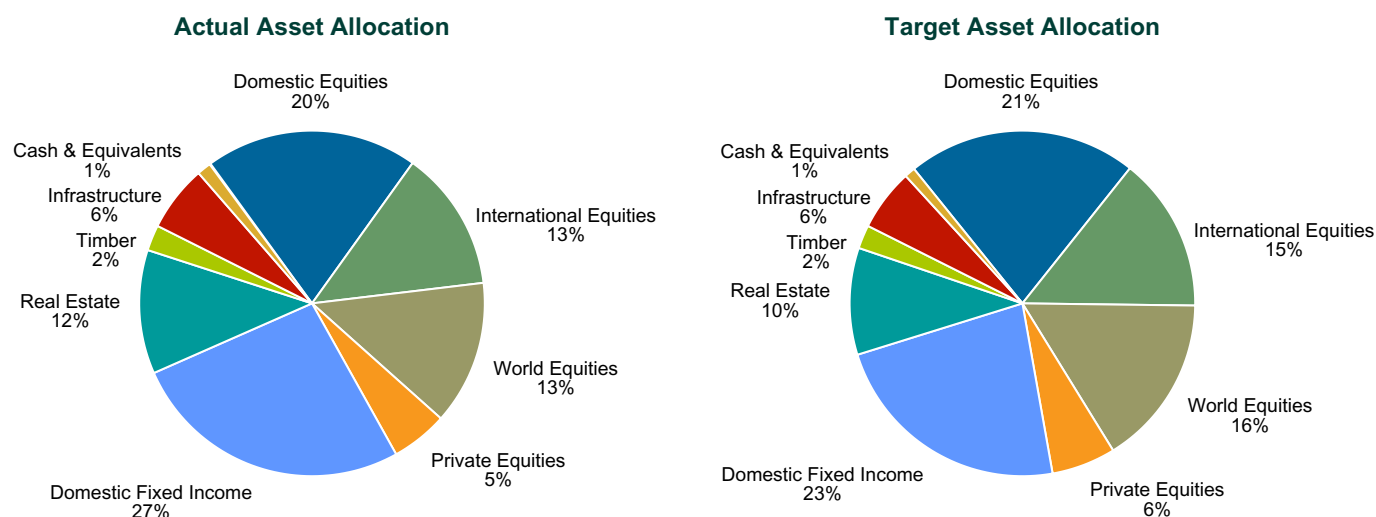
* Current Quarter Target = 16.0% Blmbg Aggregate, 16.0% MSCI World, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% Blmbg:HY Corp 2% Iss Cap, 7.0% NDSIB PERS - Private Equity, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% NCREIF NFI-ODCE Eq Wt Net, 3.0% CPI All Urban Cons lagged 3 months and 2.0% NCREIF Timberland Index.

(1) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

PLEASE REFER TO PAGES 32-36 FOR INVESTMENT MANAGER LEVEL RETURNS.

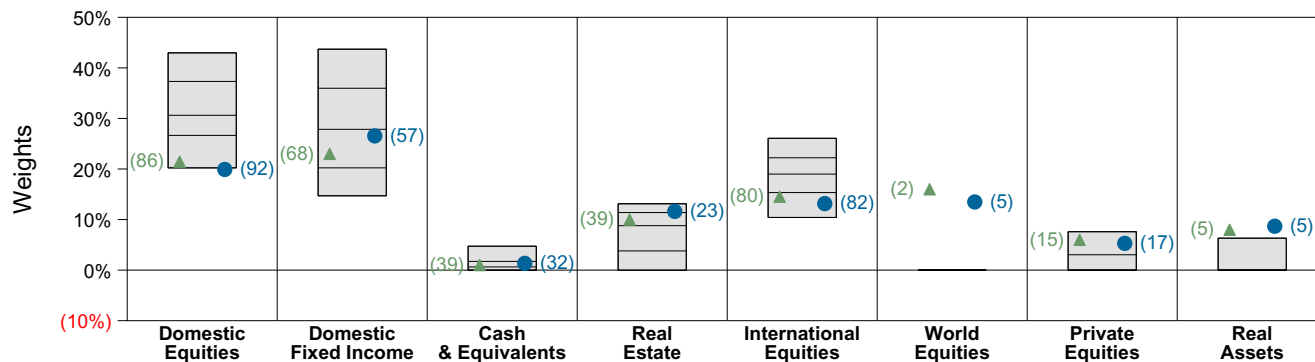
Actual vs Target Asset Allocation As of March 31, 2020

The top left chart shows the Fund's asset allocation as of March 31, 2020. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	469,664	19.9%	21.5%	(1.6%)	(36,569)
International Equities	310,218	13.2%	14.5%	(1.4%)	(32,714)
World Equities	317,895	13.5%	16.0%	(2.5%)	(59,512)
Private Equities	124,891	5.3%	6.0%	(0.7%)	(16,637)
Domestic Fixed Income	626,107	26.5%	23.0%	3.5%	83,585
Real Estate	273,833	11.6%	10.0%	1.6%	37,954
Timber	57,506	2.4%	2.2%	0.2%	5,474
Infrastructure	147,247	6.2%	5.8%	0.4%	10,576
Cash & Equivalents	31,431	1.3%	1.0%	0.3%	7,843
Total	2,358,793	100.0%	100.0%		

Asset Class Weights vs Callan Public Fund Sponsor Database



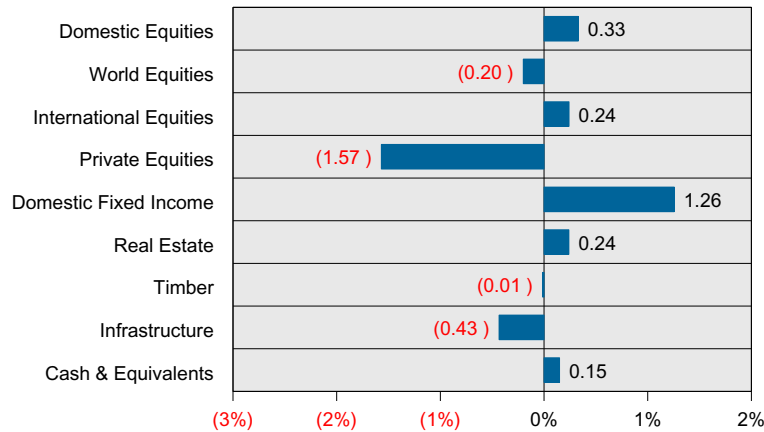
	Domestic Equities	Domestic Fixed Income	Cash & Equivalents	Real Estate	International Equities	World Equities	Private Equities	Real Assets
10th Percentile	42.97	43.70	4.73	13.12	26.07	0.00	7.60	6.32
25th Percentile	37.32	35.97	1.72	11.38	22.22	0.00	3.04	0.00
Median	30.62	27.85	0.64	8.79	18.99	0.00	0.00	0.00
75th Percentile	26.64	20.23	0.01	3.80	15.34	0.00	0.00	0.00
90th Percentile	20.22	14.70	0.00	0.00	10.42	0.00	0.00	0.00
Fund ●	19.91	26.54	1.33	11.61	13.15	13.48	5.29	8.68
Target ▲	21.46	23.00	1.00	10.00	14.54	16.00	6.00	8.00
% Group Invested	96.50%	98.60%	76.92%	80.42%	94.41%	9.79%	31.47%	23.78%

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

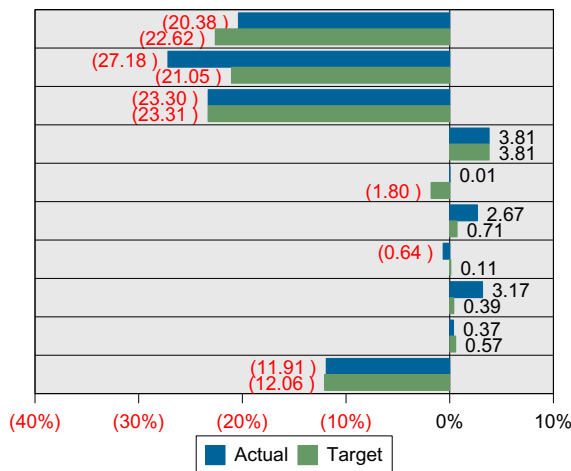
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

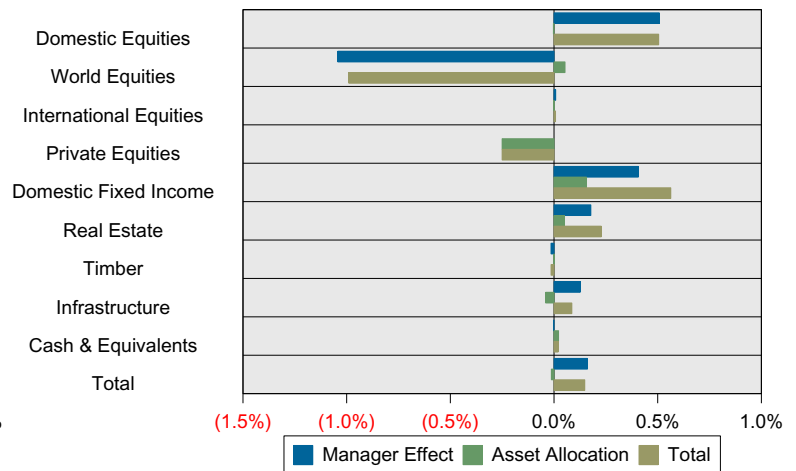
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

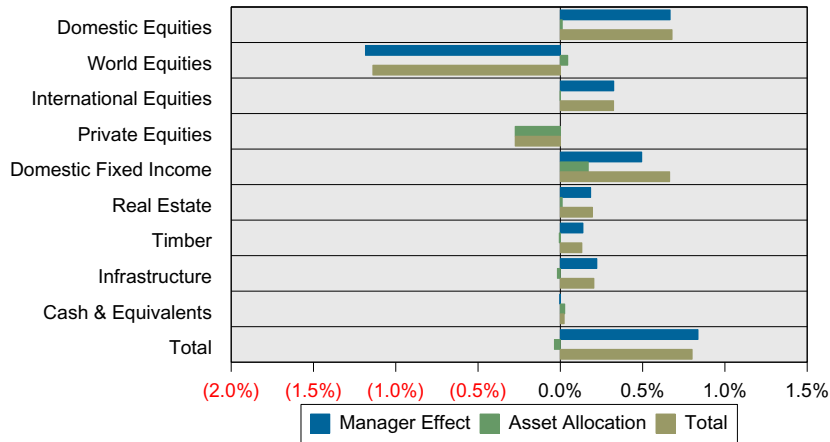
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(20.38%)	(22.62%)	0.51%	(0.00%)	0.50%
World Equities	16%	16%	(27.18%)	(21.05%)	(1.04%)	0.05%	(0.99%)
International Equities	15%	15%	(23.30%)	(23.31%)	0.01%	(0.00%)	0.01%
Private Equities	4%	6%	3.81%	3.81%	0.00%	(0.25%)	(0.25%)
Domestic Fixed Income	24%	23%	0.01%	(1.80%)	0.41%	0.16%	0.56%
Real Estate	10%	10%	2.67%	0.71%	0.18%	0.05%	0.23%
Timber	2%	2%	(0.64%)	0.11%	(0.01%)	0.00%	(0.01%)
Infrastructure	5%	6%	3.17%	0.39%	0.13%	(0.04%)	0.09%
Cash & Equivalents	1%	1%	0.37%	0.57%	(0.00%)	0.02%	0.02%
Total			(11.91%)	(12.06%)	+ 0.16%	+ (0.01%)	0.15%

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

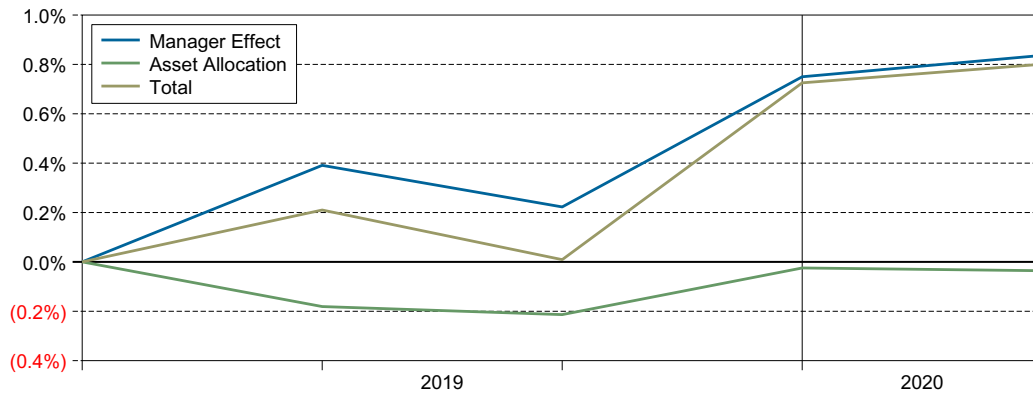
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

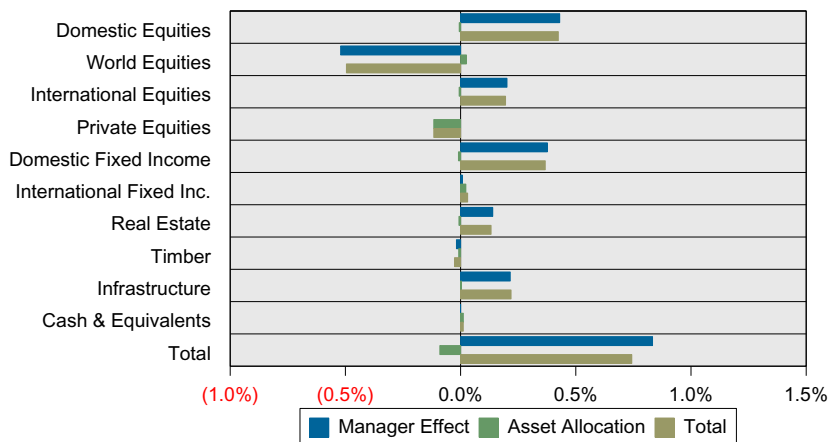
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	(8.77%)	(11.80%)	0.67%	0.01%	0.68%
World Equities	16%	16%	(17.59%)	(10.39%)	(1.18%)	0.04%	(1.14%)
International Equities	15%	15%	(13.61%)	(15.39%)	0.32%	(0.00%)	0.32%
Private Equities	4%	6%	11.44%	11.44%	0.00%	(0.27%)	(0.27%)
Domestic Fixed Income	23%	23%	6.15%	4.02%	0.49%	0.17%	0.66%
Real Estate	11%	10%	7.22%	5.28%	0.18%	0.01%	0.20%
Timber	2%	2%	8.03%	1.30%	0.14%	(0.01%)	0.13%
Infrastructure	5%	6%	8.13%	3.33%	0.22%	(0.02%)	0.20%
Cash & Equivalents	1%	1%	1.96%	2.25%	(0.00%)	0.03%	0.02%
Total			(3.13%)	(3.93%)	+ 0.84%	+ (0.04%)	0.80%

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

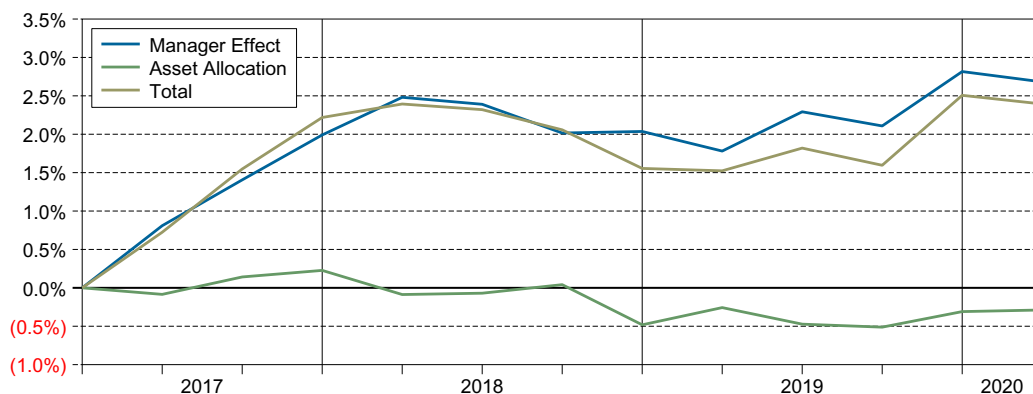
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

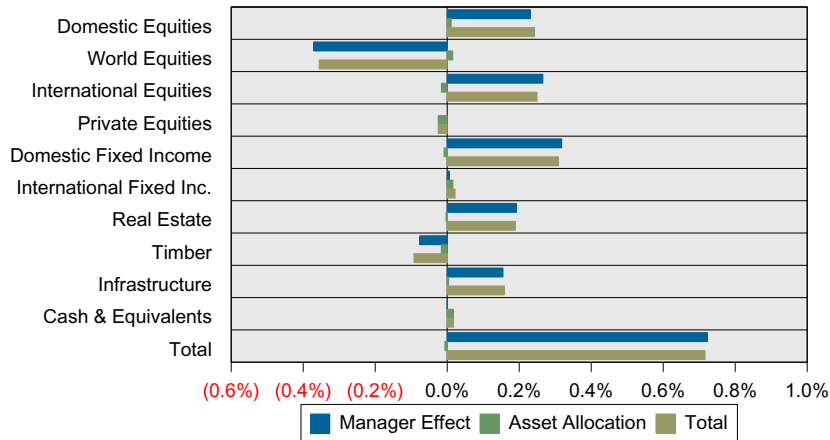
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	4.54%	2.55%	0.43%	(0.01%)	0.42%
World Equities	16%	16%	(1.48%)	1.92%	(0.52%)	0.03%	(0.50%)
International Equities	16%	15%	(0.82%)	(1.95%)	0.20%	(0.01%)	0.19%
Private Equities	4%	6%	8.41%	8.41%	0.00%	(0.12%)	(0.12%)
Domestic Fixed Income	21%	21%	5.32%	3.56%	0.38%	(0.01%)	0.37%
International Fixed Inc.	2%	2%	-	-	0.01%	0.02%	0.03%
Real Estate	10%	10%	7.83%	6.41%	0.14%	(0.01%)	0.13%
Timber	2%	2%	2.02%	2.48%	(0.02%)	(0.01%)	(0.03%)
Infrastructure	5%	6%	7.89%	3.21%	0.22%	0.00%	0.22%
Cash & Equivalents	1%	1%	1.81%	1.83%	(0.00%)	0.01%	0.01%
Total			4.01%	3.26%	+ 0.83%	+ (0.09%)	0.74%

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

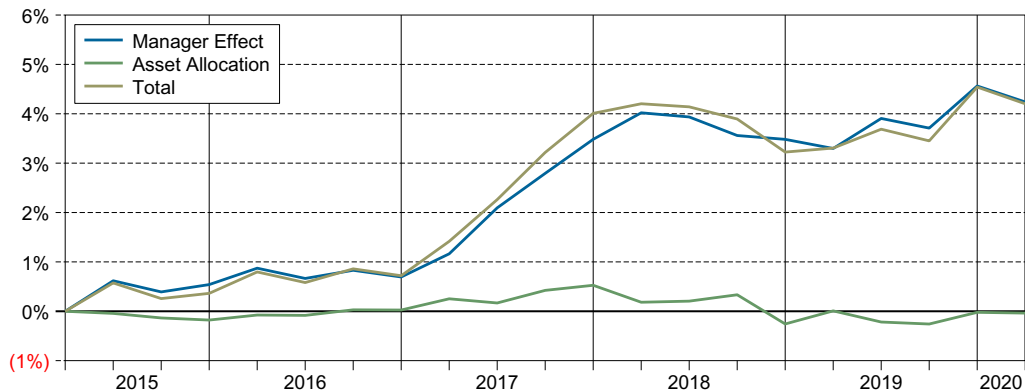
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

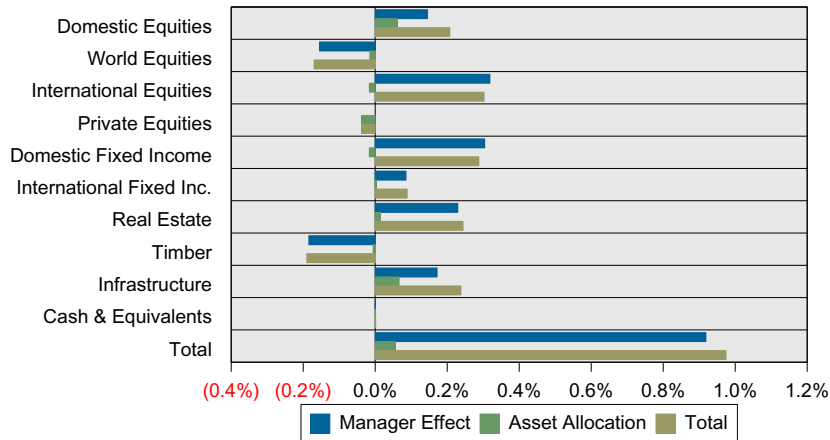
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	5.91%	4.80%	0.23%	0.01%	0.24%
World Equities	16%	16%	0.79%	3.25%	(0.37%)	0.02%	(0.36%)
International Equities	15%	15%	0.95%	(0.66%)	0.27%	(0.02%)	0.25%
Private Equities	4%	6%	3.61%	3.61%	0.00%	(0.02%)	(0.02%)
Domestic Fixed Income	20%	20%	4.63%	3.05%	0.32%	(0.01%)	0.31%
International Fixed Inc.	3%	3%	-	-	0.01%	0.02%	0.02%
Real Estate	10%	10%	9.60%	7.65%	0.19%	(0.00%)	0.19%
Timber	3%	3%	0.42%	2.80%	(0.08%)	(0.02%)	(0.09%)
Infrastructure	5%	5%	5.80%	2.49%	0.15%	0.00%	0.16%
Cash & Equivalents	1%	1%	1.24%	1.19%	0.00%	0.02%	0.02%
Total			4.44%	3.72%	+ 0.72%	+ (0.01%)	0.72%

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

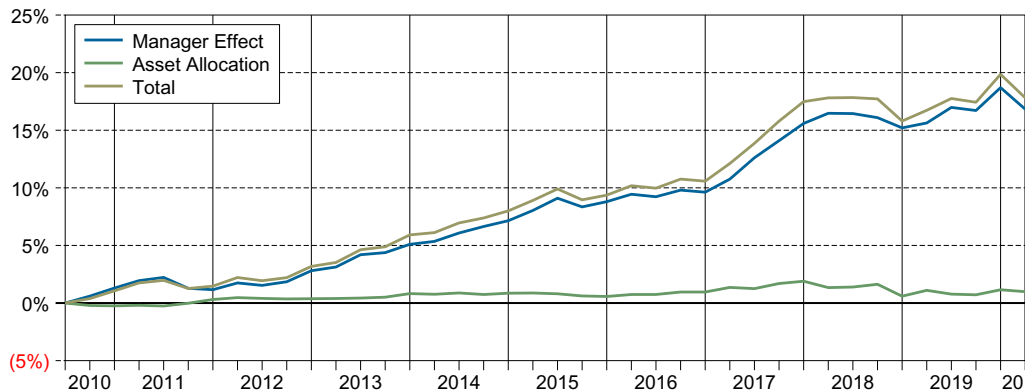
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Nine and Three-Quarter Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Nine and Three-Quarter Year Annualized Relative Attribution Effects

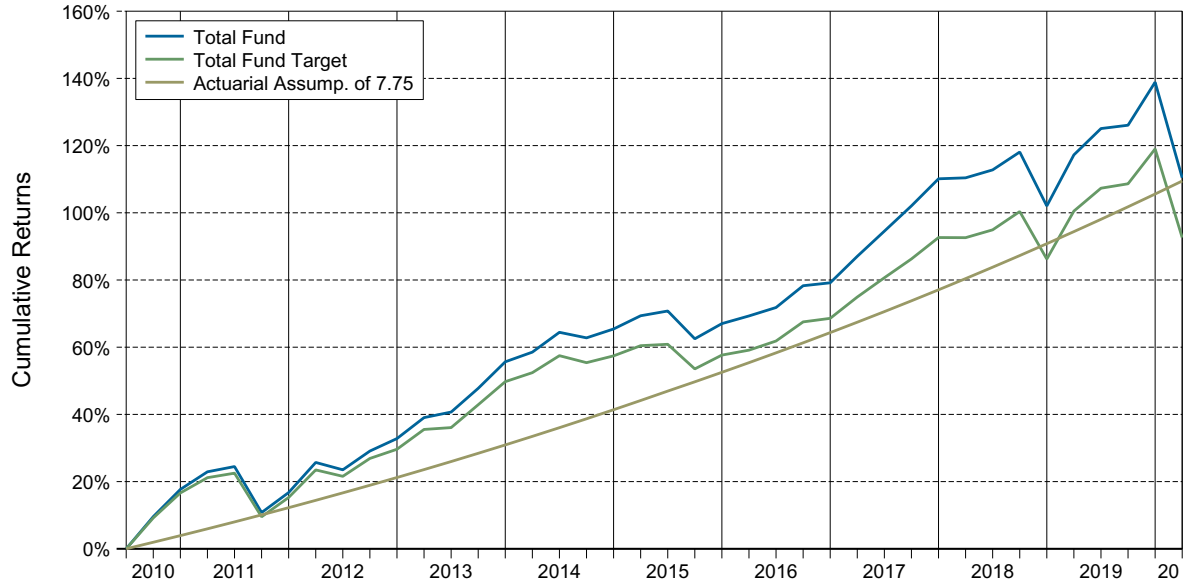
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	24%	12.04%	11.23%	0.15%	0.06%	0.21%
World Equities	13%	12%	-	-	(0.15%)	(0.01%)	(0.17%)
International Equities	17%	16%	5.13%	3.38%	0.32%	0.02%	0.30%
Private Equities	4%	5%	4.60%	4.60%	0.00%	(0.04%)	(0.04%)
Domestic Fixed Income	19%	19%	5.84%	4.21%	0.30%	(0.02%)	0.29%
International Fixed Inc.	4%	4%	-	-	0.09%	0.00%	0.09%
Real Estate	10%	10%	12.50%	10.08%	0.23%	0.01%	0.24%
Timber	3%	3%	-	-	(0.18%)	(0.01%)	(0.19%)
Infrastructure	4%	5%	-	-	0.17%	0.07%	0.24%
Cash & Equivalents	1%	1%	0.68%	0.65%	0.00%	0.00%	0.00%
Total			7.93%	6.95%	+ 0.92%	+ 0.06%	0.97%

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

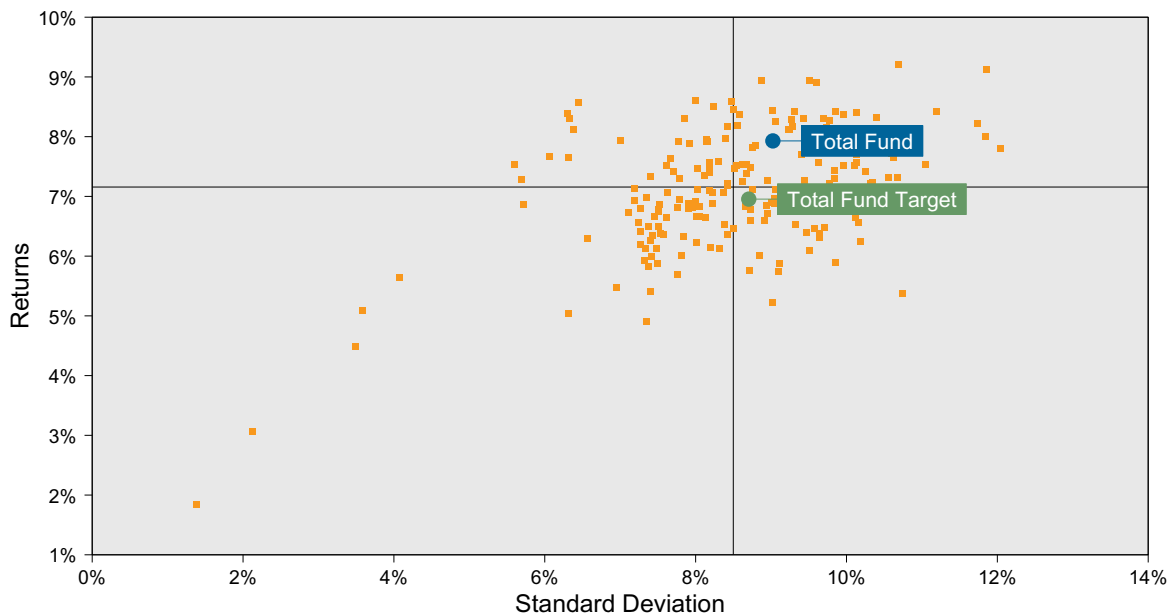
Cumulative Performance Relative to Target

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Nine and Three-Quarter Year Annualized Risk vs Return



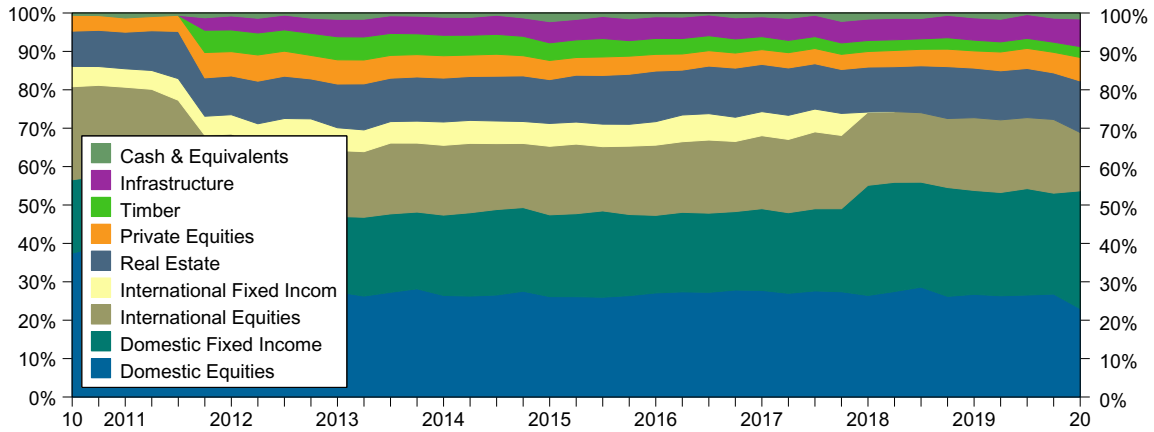
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

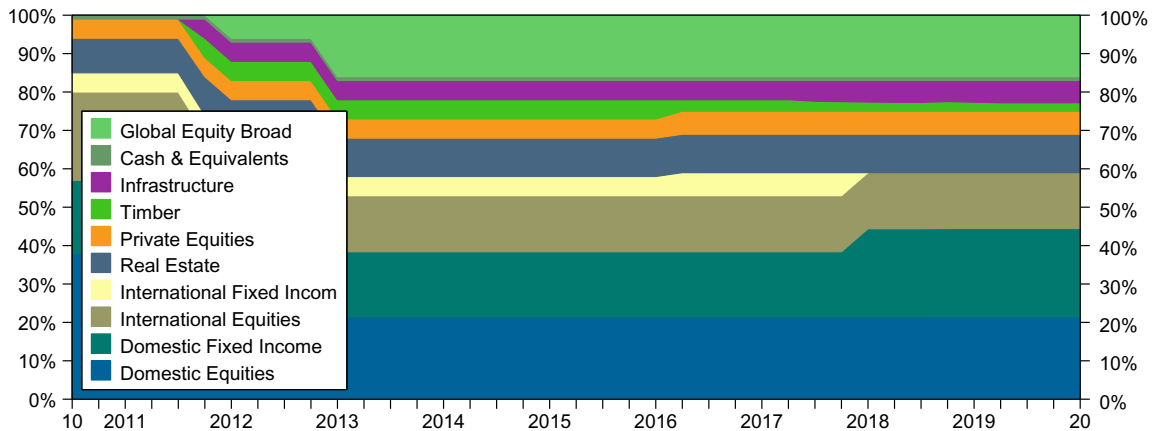
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

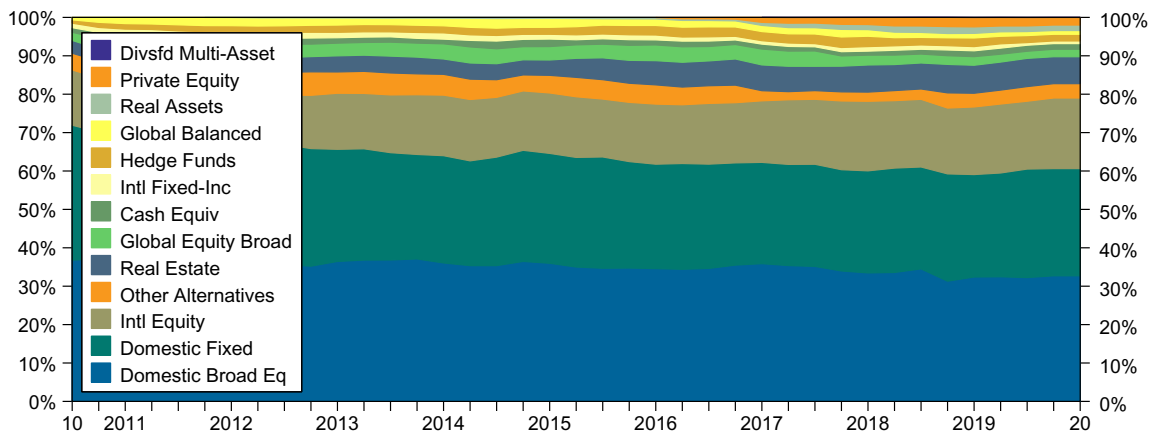
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation

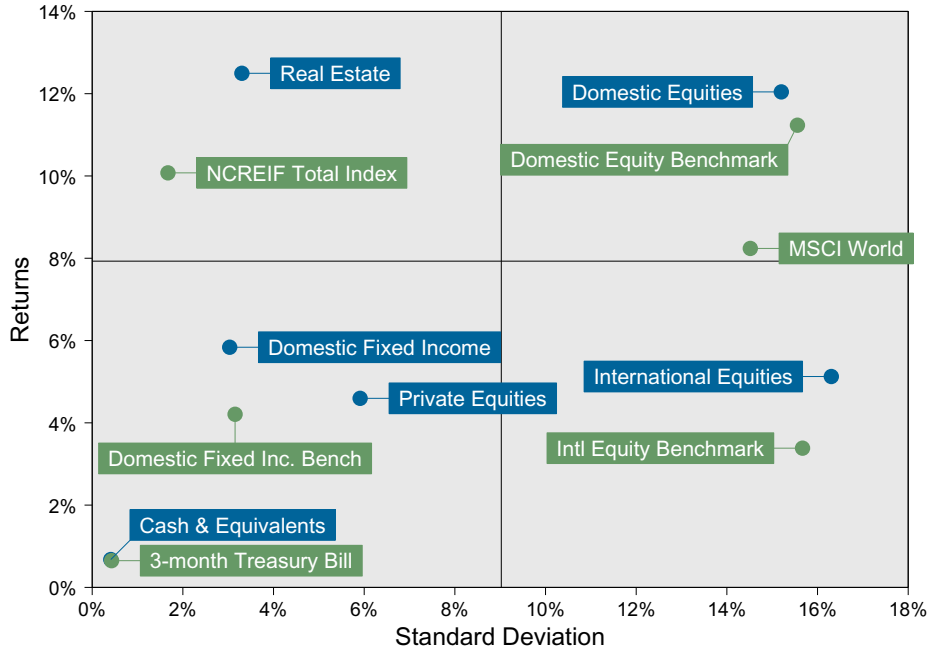


* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

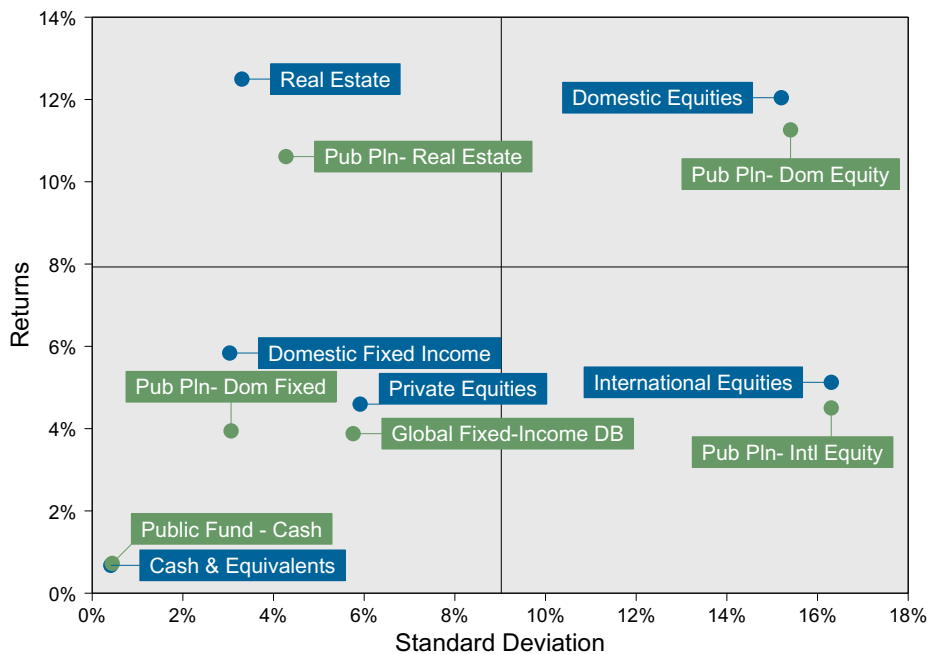
Asset Class Risk and Return

The charts below show the nine and three-quarter year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

Nine and Three-Quarter Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



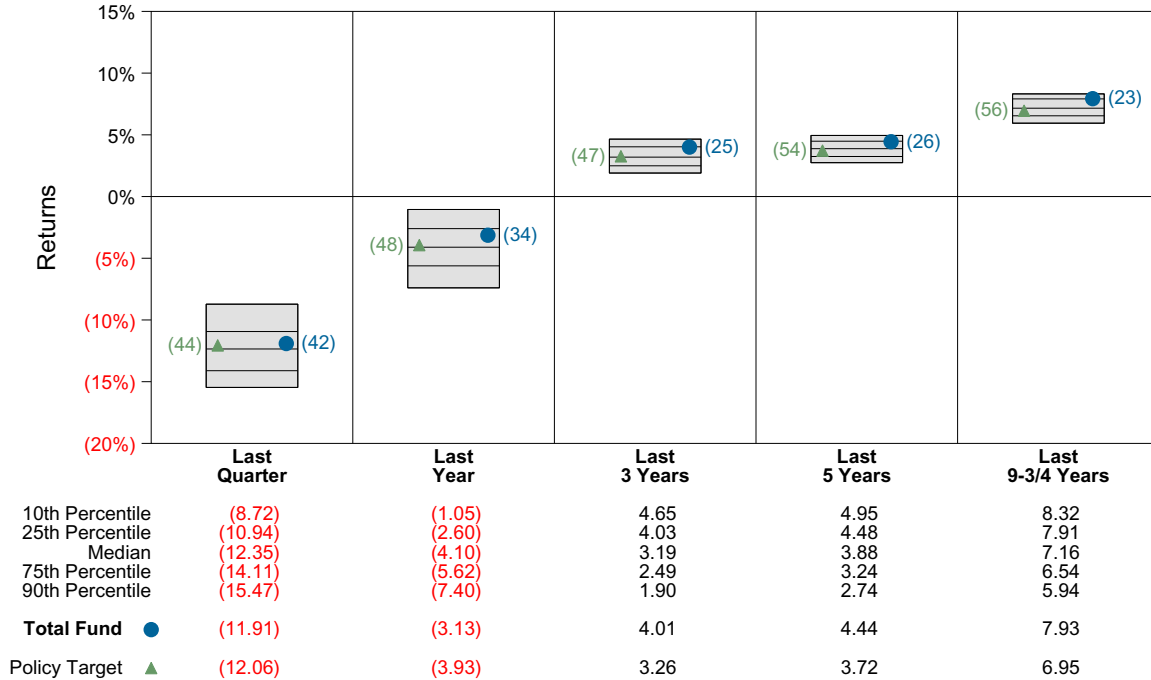
Nine and Three-Quarter Year Annualized Risk vs Return Asset Classes vs Asset Class Median



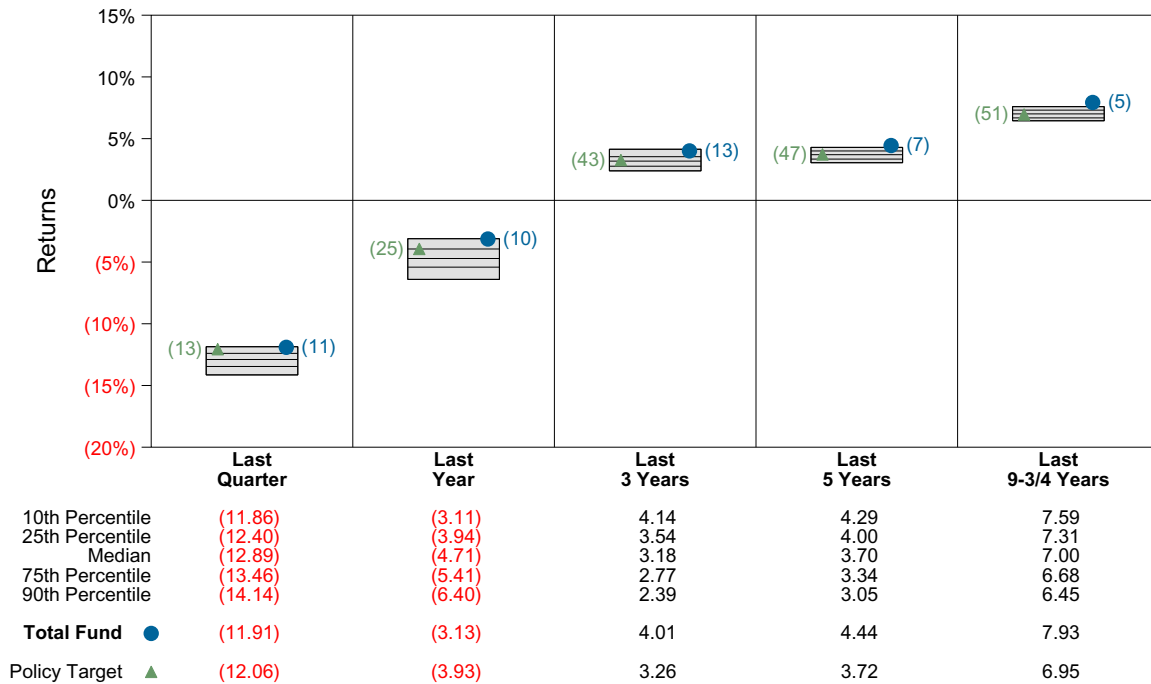
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended March 31, 2020. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

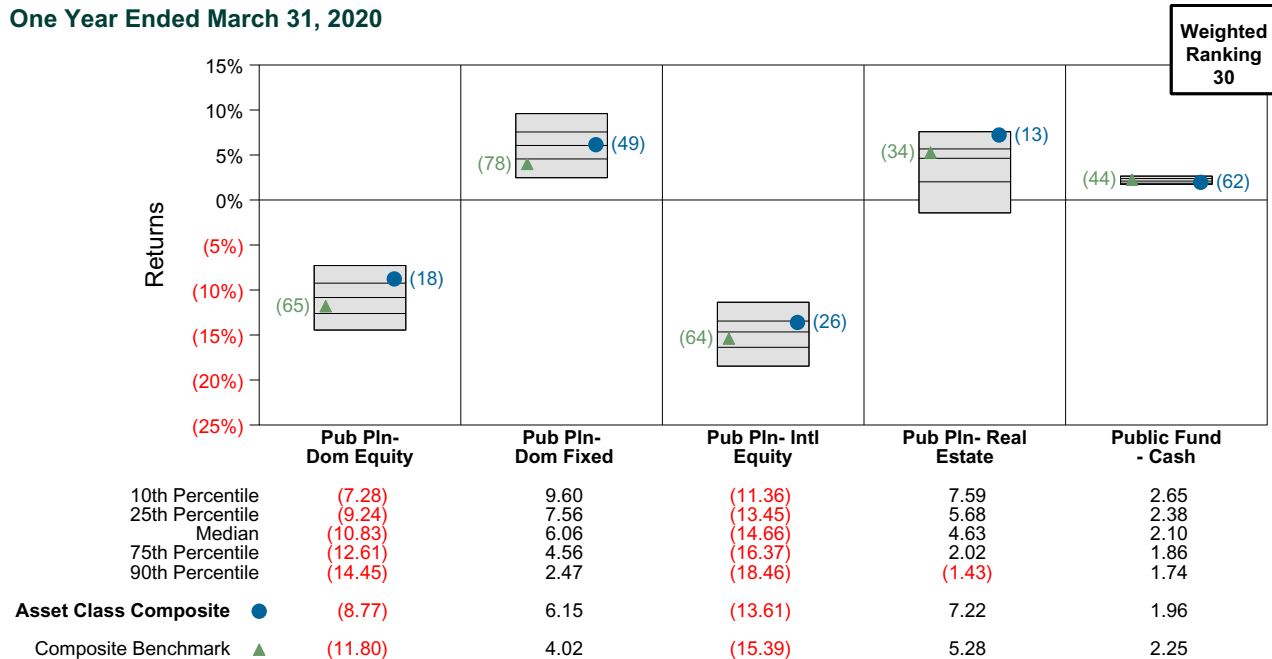


* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

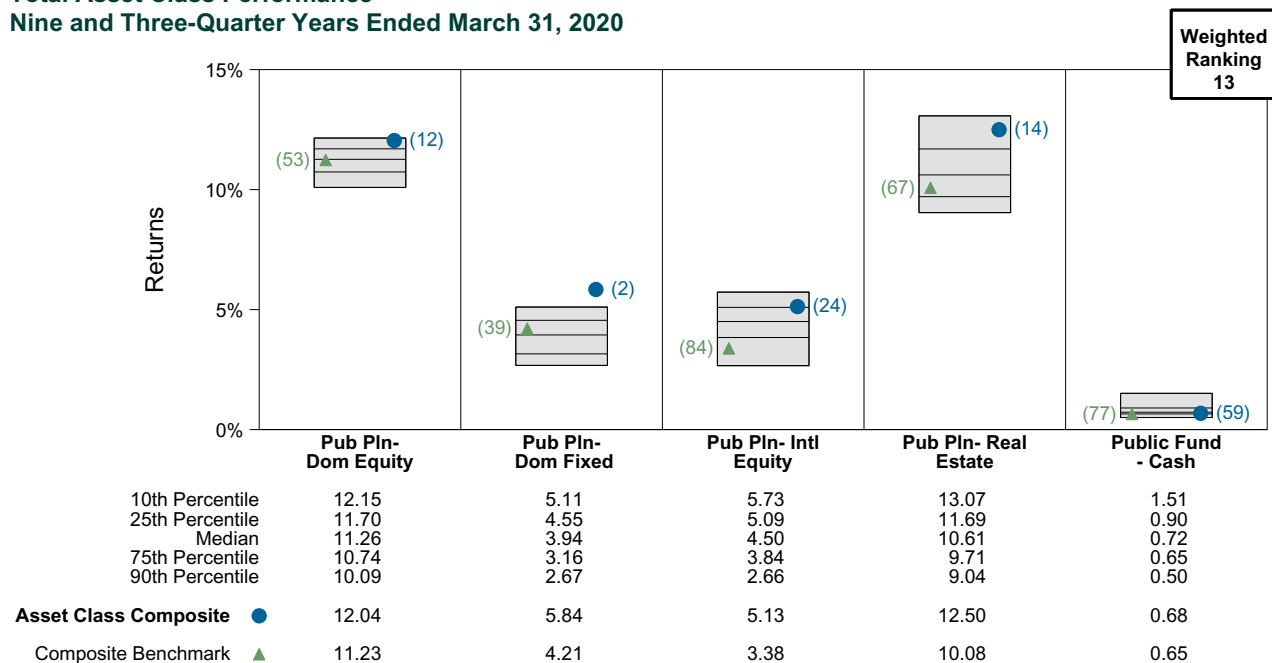
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended March 31, 2020



Total Asset Class Performance Nine and Three-Quarter Years Ended March 31, 2020



* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Class Allocation

	March 31, 2020				December 31, 2019	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Equities	\$1,222,668,258	51.83%	\$(43,844,910)	\$(329,996,989)	\$1,596,510,157	59.41%
Public Equities	\$1,097,777,611	46.54%	\$(44,322,611)	\$(334,313,103)	\$1,476,413,325	54.94%
World Equities	\$317,895,305	13.48%	\$(7,432,490)	\$(119,249,214)	\$444,577,009	16.54%
Domestic Equities	\$469,663,822	19.91%	\$(11,244,636)	\$(120,457,574)	\$601,366,032	22.38%
Large Cap	375,011,335	15.90%	(6,114,977)	(83,379,316)	464,505,628	17.29%
Small Cap	94,652,487	4.01%	(5,129,659)	(37,078,258)	136,860,404	5.09%
International Equities	\$310,218,484	13.15%	\$(25,645,485)	\$(94,606,315)	\$430,470,284	16.02%
Developed	250,118,265	10.60%	(16,460,582)	(75,333,685)	341,912,532	12.72%
Emerging Markets	60,100,219	2.55%	(9,184,903)	(19,272,630)	88,557,752	3.30%
Private Equities	\$124,890,647	5.29%	\$477,700	\$4,316,114	\$120,096,832	4.47%
Global Fixed Income	\$626,107,371	26.54%	\$37,489,062	\$(553,480)	\$589,171,790	21.92%
Domestic Fixed Income	\$626,107,371	26.54%	\$37,489,062	\$(553,480)	\$589,171,790	21.92%
Investment Grade	449,305,234	19.05%	26,514,855	6,877,168	415,913,211	15.48%
Below Investment Grade	176,802,137	7.50%	10,974,207	(7,430,649)	173,258,579	6.45%
Global Real Assets	\$478,586,482	20.29%	\$(4,172,772)	\$11,184,282	\$471,574,972	17.55%
Real Estate	\$273,832,939	11.61%	\$(5,123,468)	\$7,129,850	\$271,826,557	10.12%
Other Real Assets	\$204,753,543	8.68%	\$950,696	\$4,054,432	\$199,748,415	7.43%
Infrastructure	147,247,211	6.24%	2,350,017	4,426,582	140,470,612	5.23%
Timber	57,506,332	2.44%	(1,399,321)	(372,150)	59,277,803	2.21%
Cash	\$31,430,722	1.33%	\$1,304,934	\$132,941	\$29,992,847	1.12%
Securities Lending Income	\$0	0.00%	\$(22,061)	\$22,061	-	-
Total Fund	\$2,358,792,833	100.0%	\$(9,245,747)	\$(319,211,186)	\$2,687,249,766	100.0%

PLEASE REFER TO PAGES 29-31 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 9-3/4 Years
Global Equities					
Gross	(21.29%)	(11.00%)	1.83%	3.13%	-
Net	(21.33%)	(11.17%)	1.62%	2.89%	-
Weighted Benchmark	(19.78%)	(9.91%)	2.01%	3.02%	-
Public Equities					
Gross	(23.29%)	(12.87%)	-	-	-
Net	(23.33%)	(13.06%)	-	-	-
Weighted Benchmark	(22.33%)	(12.37%)	-	-	-
World Equities					
Gross	(27.18%)	(17.59%)	(1.48%)	0.79%	-
Net	(27.25%)	(17.88%)	(1.83%)	0.35%	-
MSCI World	(21.05%)	(10.39%)	1.92%	3.25%	8.24%
Domestic Equities					
Gross	(20.38%)	(8.77%)	4.54%	5.91%	12.04%
Net	(20.41%)	(8.92%)	4.37%	5.74%	11.82%
Weighted Benchmark	(22.62%)	(11.80%)	2.55%	4.80%	11.23%
Large Cap					
Gross	(18.18%)	(5.60%)	6.11%	7.19%	12.76%
Net	(18.20%)	(5.70%)	6.00%	7.07%	12.56%
Benchmark(1)	(20.22%)	(8.03%)	4.64%	6.22%	12.06%
Small Cap					
Gross	(27.98%)	(19.33%)	(0.80%)	1.46%	9.49%
Net	(28.04%)	(19.60%)	(1.16%)	1.11%	9.17%
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	8.24%
International Equities					
Gross	(23.30%)	(13.61%)	(0.82%)	0.95%	5.13%
Net	(23.34%)	(13.76%)	(0.99%)	0.77%	4.86%
Weighted Benchmark	(23.31%)	(15.39%)	(1.95%)	(0.66%)	3.38%
Developed					
Gross	(23.10%)	(13.02%)	(0.71%)	1.02%	5.52%
Net	(23.15%)	(13.21%)	(0.92%)	0.79%	5.24%
Benchmark(2)	(23.26%)	(14.89%)	(2.07%)	(0.81%)	3.71%
Emerging Markets					
Gross	(24.07%)	(15.89%)	(1.33%)	0.30%	3.16%
Net	(24.07%)	(15.89%)	(1.33%)	0.30%	2.95%
Benchmark(3)	(23.60%)	(17.69%)	(1.62%)	(0.36%)	1.64%
Private Equities					
Net	3.81%	11.44%	8.41%	3.61%	4.54%

(1) S&P 500 Index through 12/31/2011 and the Russell 1000 Index thereafter.

(2) 50% Hedged EAFE through 3/31/2011; MSCI EAFE through 6/30/16; MSCI World ex-US thereafter.

(3) MSCI Emerging Mkts Idx (Gross) through 6/30/2011 and MSCI Emerging Mkts Idx Net thereafter.

PLEASE REFER TO PAGES 32-36 FOR INVESTMENT MANAGER LEVEL RETURNS.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 9-3/4 Years
Global Fixed Income					
Gross	0.01%	6.15%	5.78%	4.66%	-
Net	(0.02%)	6.00%	5.61%	4.45%	-
Weighted Benchmark	(1.80%)	4.02%	4.31%	3.37%	-
Domestic Fixed Income					
Gross	0.01%	6.15%	5.32%	4.63%	5.84%
Net	(0.02%)	6.00%	5.16%	4.44%	5.69%
Weighted Benchmark	(1.80%)	4.02%	3.56%	3.05%	4.21%
Inv. Grade Fixed Income					
Gross	1.65%	8.08%	5.62%	4.44%	5.16%
Net	1.63%	7.98%	5.52%	4.32%	5.01%
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.62%
Below Inv. Grade Fixed Income					
Gross	(4.27%)	1.31%	4.54%	5.19%	7.69%
Net	(4.33%)	1.05%	4.25%	4.84%	7.30%
Blmbg HY Corp 2% Issue	(12.68%)	(6.94%)	0.76%	2.78%	5.79%
Global Real Assets					
Gross	2.40%	7.55%	6.95%	7.03%	-
Net	2.24%	7.04%	6.51%	6.60%	-
Weighted Benchmark	0.54%	4.16%	4.89%	5.31%	-
Real Estate					
Gross	2.67%	7.22%	7.83%	9.60%	12.50%
Net	2.43%	6.56%	7.30%	9.07%	11.94%
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.08%
Other Real Assets					
Gross	2.05%	8.09%	-	-	-
Net	1.98%	7.81%	-	-	-
Weighted Benchmark	0.32%	2.76%	-	-	-
Infrastructure					
Gross	3.17%	8.13%	7.89%	5.80%	-
Net	3.07%	7.73%	7.42%	5.28%	-
Benchmark(1)	0.39%	3.33%	3.21%	2.49%	-
Timber					
Net	(0.64%)	8.03%	2.02%	0.42%	-
NCREIF Timberland Index	0.11%	1.30%	2.48%	2.80%	4.50%
Cash & Equivalents - Net					
3-month Treasury Bill	0.37%	1.96%	1.81%	1.24%	0.68%
	0.57%	2.25%	1.83%	1.19%	0.65%
Total Fund					
Gross	(11.91%)	(3.13%)	4.01%	4.44%	7.93%
Net	(11.96%)	(3.36%)	3.77%	4.17%	7.62%
Target*	(12.06%)	(3.93%)	3.26%	3.72%	6.95%

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months, 2.8% MSCI EM, 2.2% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

(1) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

PLEASE REFER TO PAGES 32-36 FOR INVESTMENT MANAGER LEVEL RETURNS.

Domestic Equities

Period Ended March 31, 2020

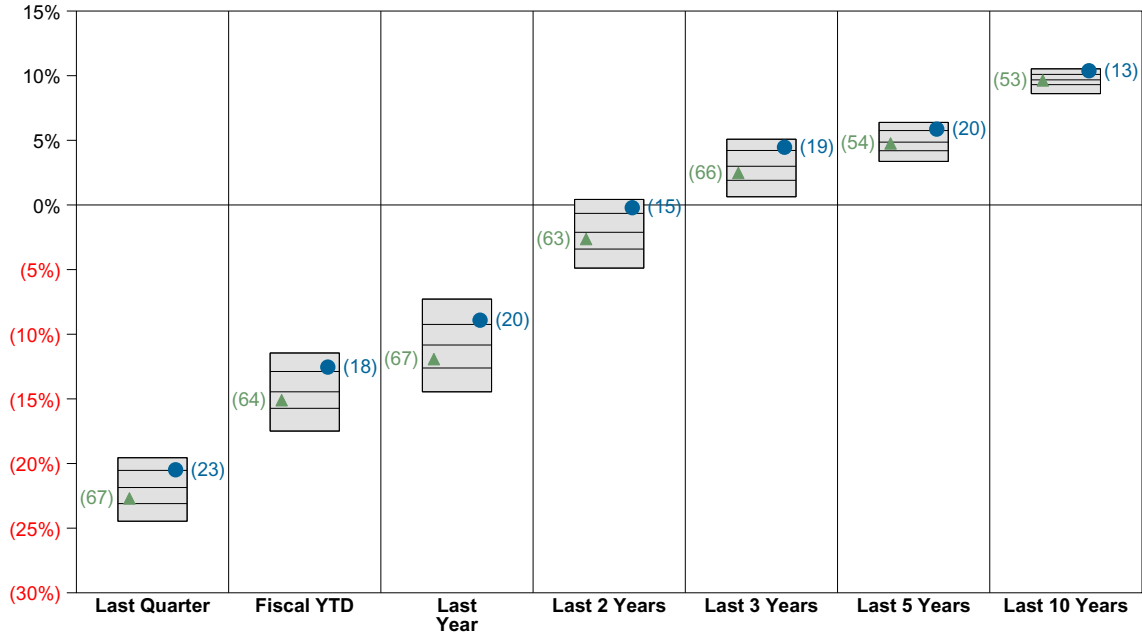
Quarterly Summary and Highlights

- Domestic Equities's portfolio posted a (20.48)% return for the quarter placing it in the 23 percentile of the Public Fund - Domestic Equity group for the quarter and in the 20 percentile for the last year.
- Domestic Equities's portfolio outperformed the Domestic Equity Target by 2.21% for the quarter and outperformed the Domestic Equity Target for the year by 3.01%.

Quarterly Asset Growth

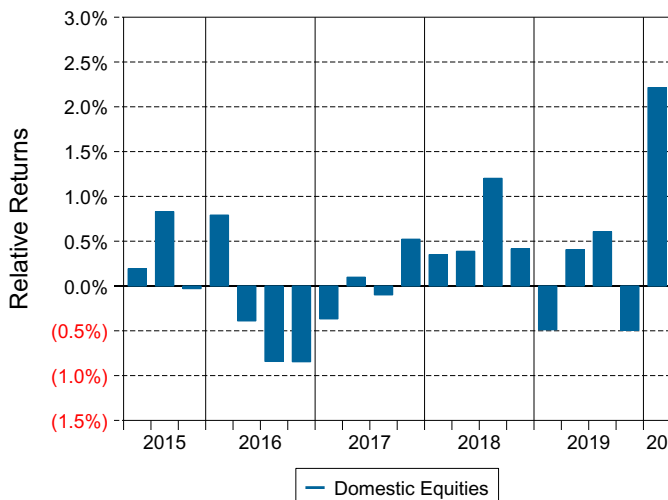
Beginning Market Value	\$1,387,967,316
Net New Investment	\$-27,547,141
Investment Gains/(Losses)	\$-278,225,485
Ending Market Value	\$1,082,194,690

Performance vs Public Fund - Domestic Equity (Gross)

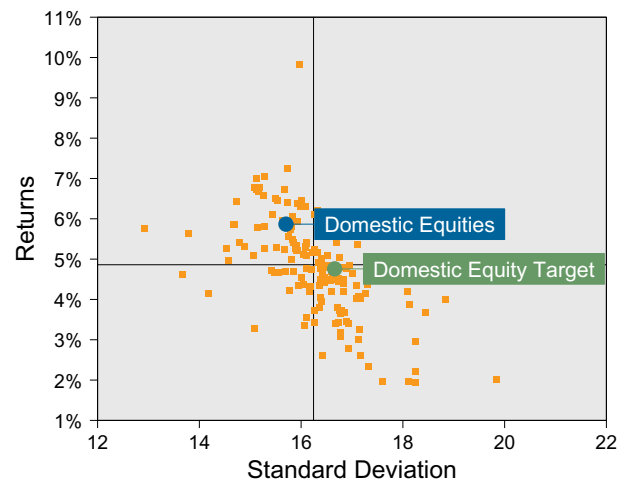


10th Percentile	(19.55)	(11.45)	(7.28)	0.43	5.08	6.39	10.53
25th Percentile	(20.53)	(12.88)	(9.24)	(0.65)	4.21	5.75	10.10
Median	(21.86)	(14.45)	(10.83)	(2.11)	2.99	4.86	9.68
75th Percentile	(23.10)	(15.73)	(12.61)	(3.41)	1.91	4.20	9.31
90th Percentile	(24.46)	(17.49)	(14.45)	(4.88)	0.63	3.37	8.61
Domestic Equities ●	(20.48)	(12.54)	(8.91)	(0.21)	4.47	5.87	10.38
Domestic Equity Target ▲	(22.70)	(15.10)	(11.93)	(2.64)	2.48	4.76	9.64

Relative Return vs Domestic Equity Target



Public Fund - Domestic Equity (Gross) Annualized Five Year Risk vs Return



L.A. Capital Period Ended March 31, 2020

Investment Philosophy

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

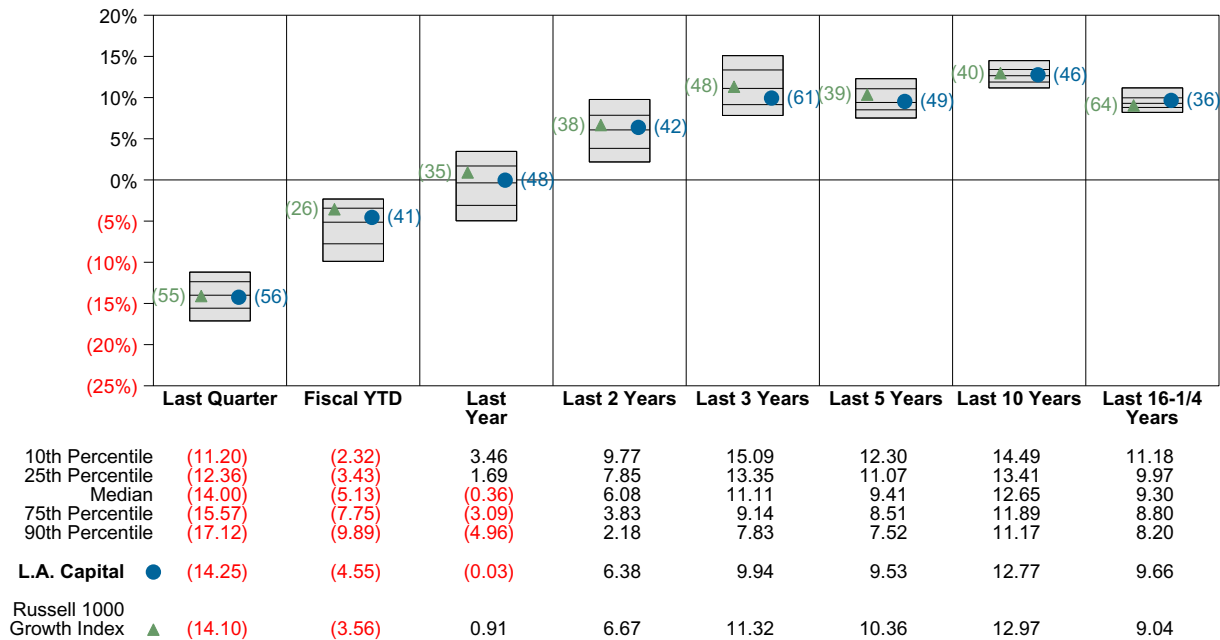
Quarterly Summary and Highlights

- L.A. Capital's portfolio posted a (14.25)% return for the quarter placing it in the 56 percentile of the Callan Large Cap Growth group for the quarter and in the 48 percentile for the last year.
- L.A. Capital's portfolio underperformed the Russell 1000 Growth Index by 0.15% for the quarter and underperformed the Russell 1000 Growth Index for the year by 0.94%.

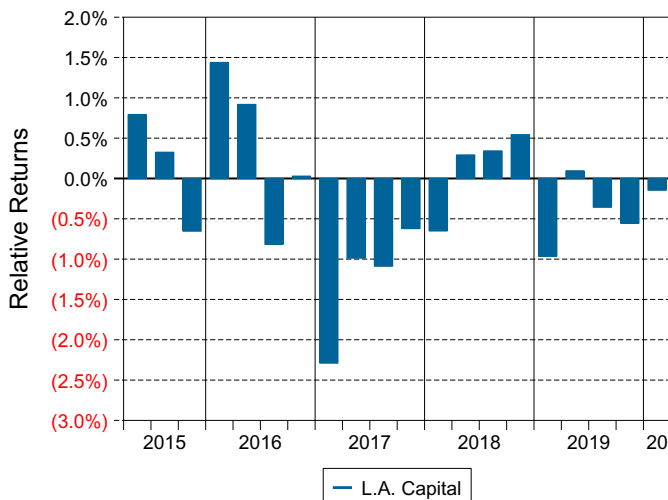
Quarterly Asset Growth

Beginning Market Value	\$425,341,292
Net New Investment	\$-214,793
Investment Gains/(Losses)	\$-60,546,869
Ending Market Value	\$364,579,629

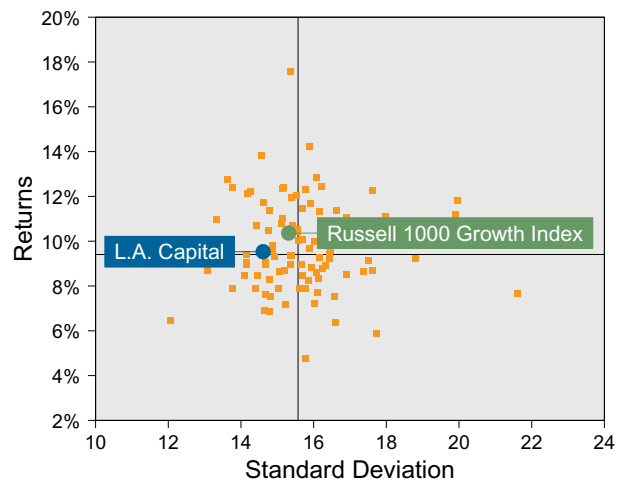
Performance vs Callan Large Cap Growth (Gross)



Relative Return vs Russell 1000 Growth Index



Callan Large Cap Growth (Gross) Annualized Five Year Risk vs Return



L.A. Capital Management Enhanced Index Period Ended March 31, 2020

Investment Philosophy

The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in April of 2004. Since October of 2006 a small portion of each of the two core accounts was allocated into the Large Cap Alpha Fund with intent to add incremental alpha to the assignment given that the information ratio was expected to be higher.

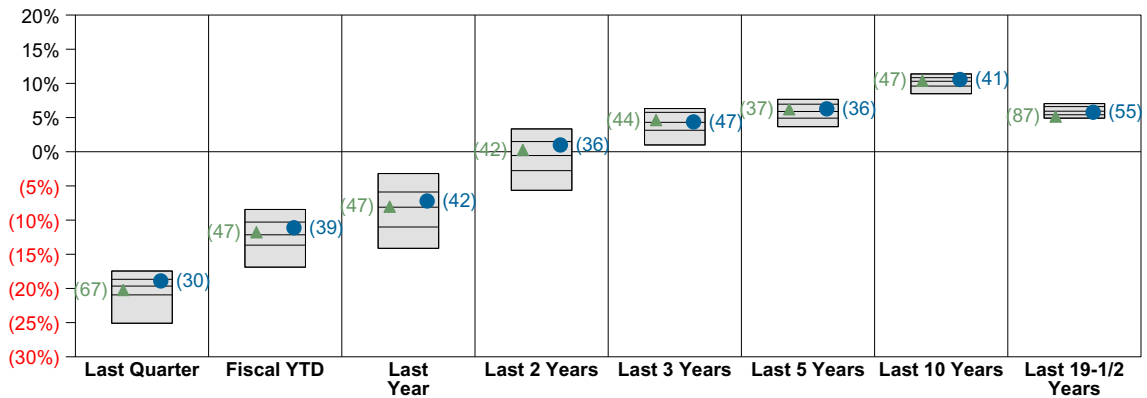
Quarterly Summary and Highlights

- LACM Enhanced Index's portfolio posted a (18.90)% return for the quarter placing it in the 30 percentile of the Callan Large Cap Core group for the quarter and in the 42 percentile for the last year.
- LACM Enhanced Index's portfolio outperformed the Russell 1000 Index by 1.32% for the quarter and outperformed the Russell 1000 Index for the year by 0.82%.

Quarterly Asset Growth

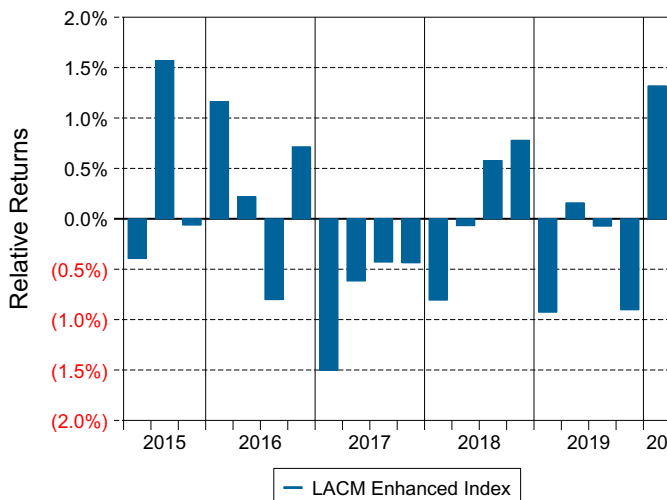
Beginning Market Value	\$210,090,302
Net New Investment	\$-58,060
Investment Gains/(Losses)	\$-39,698,645
Ending Market Value	\$170,333,596

Performance vs Callan Large Cap Core (Gross)

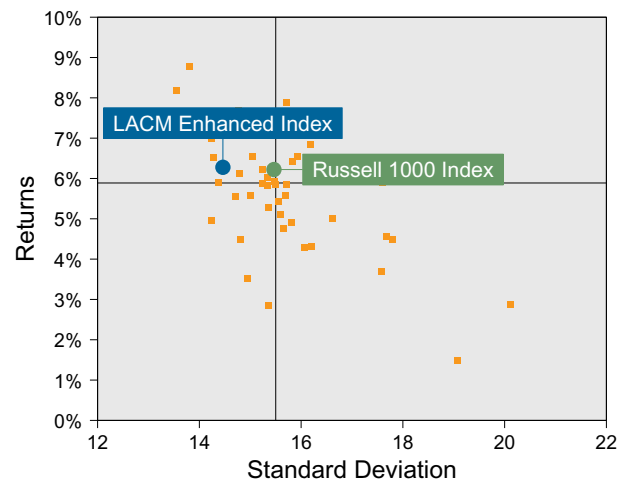


10th Percentile	(17.45)	(8.44)	(3.19)	3.34	6.32	7.66	11.39	7.05
25th Percentile	(18.66)	(10.29)	(5.89)	1.49	5.76	6.96	10.83	6.61
Median	(19.66)	(12.15)	(8.11)	(0.56)	4.30	5.89	10.31	5.93
75th Percentile	(20.94)	(13.66)	(11.01)	(2.76)	3.14	4.92	9.61	5.41
90th Percentile	(25.09)	(16.89)	(14.13)	(5.64)	0.99	3.67	8.49	4.91
LACM Enhanced Index	● (18.90)	(11.12)	(7.21)	0.99	4.36	6.28	10.57	5.78
Russell 1000 Index	▲ (20.22)	(11.77)	(8.03)	0.26	4.64	6.22	10.39	5.15

Relative Return vs Russell 1000 Index



Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return



Northern Trust AM Enh S&P500 Period Ended March 31, 2020

Investment Philosophy

Northern Trust AM Enhanced S&P 500 employs a quantitative investment approach, focusing on the stock selection process as the principal source of value added. The account invests primarily in a broadly diversified portfolio of equity securities that include securities convertible into equity securities (including common stock), warrants, rights and units or shares in trusts, exchange traded funds and investment companies. The Investment Manager intends to use futures and options to manage market risk associated with the account's investments.

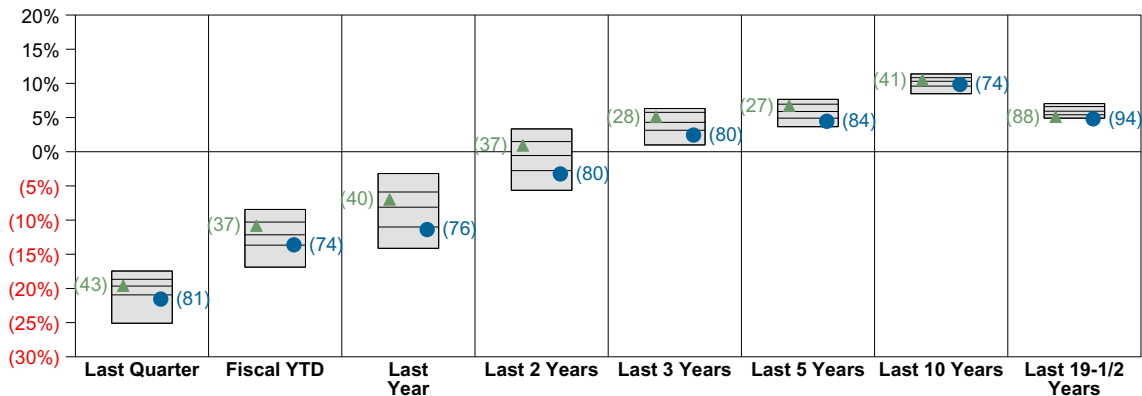
Quarterly Summary and Highlights

- Northern Trust AM Enh S&P500's portfolio posted a (21.56)% return for the quarter placing it in the 81 percentile of the Callan Large Cap Core group for the quarter and in the 76 percentile for the last year.
- Northern Trust AM Enh S&P500's portfolio underperformed the S&P 500 Index by 1.96% for the quarter and underperformed the S&P 500 Index for the year by 4.41%.

Quarterly Asset Growth

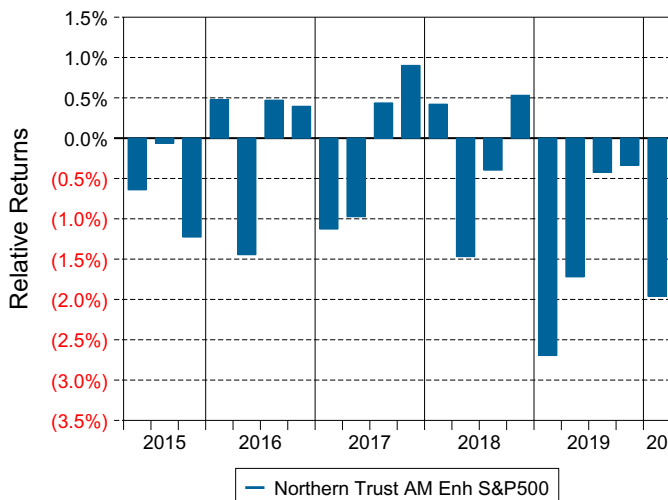
Beginning Market Value	\$209,130,640
Net New Investment	\$0
Investment Gains/(Losses)	\$-45,086,377
Ending Market Value	\$164,044,263

Performance vs Callan Large Cap Core (Gross)

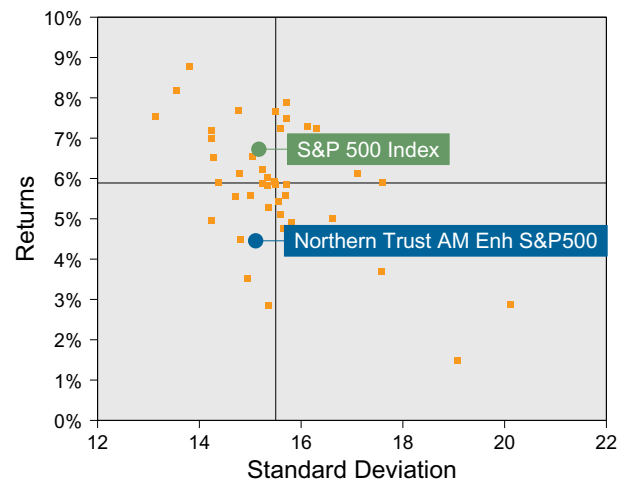


10th Percentile	(17.45)	(8.44)	(3.19)	3.34	6.32	7.66	11.39	7.05
25th Percentile	(18.66)	(10.29)	(5.89)	1.49	5.76	6.96	10.83	6.61
Median	(19.66)	(12.15)	(8.11)	(0.56)	4.30	5.89	10.31	5.93
75th Percentile	(20.94)	(13.66)	(11.01)	(2.76)	3.14	4.92	9.61	5.41
90th Percentile	(25.09)	(16.89)	(14.13)	(5.64)	0.99	3.67	8.49	4.91
Northern Trust AM Enh S&P500	● (21.56)	(13.62)	(11.39)	(3.25)	2.44	4.45	9.84	4.81
S&P 500 Index	▲ (19.60)	(10.82)	(6.98)	0.92	5.10	6.73	10.53	5.11

Relative Return vs S&P 500 Index



Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return



Parametric Clifton Enh S&P Period Ended March 31, 2020

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

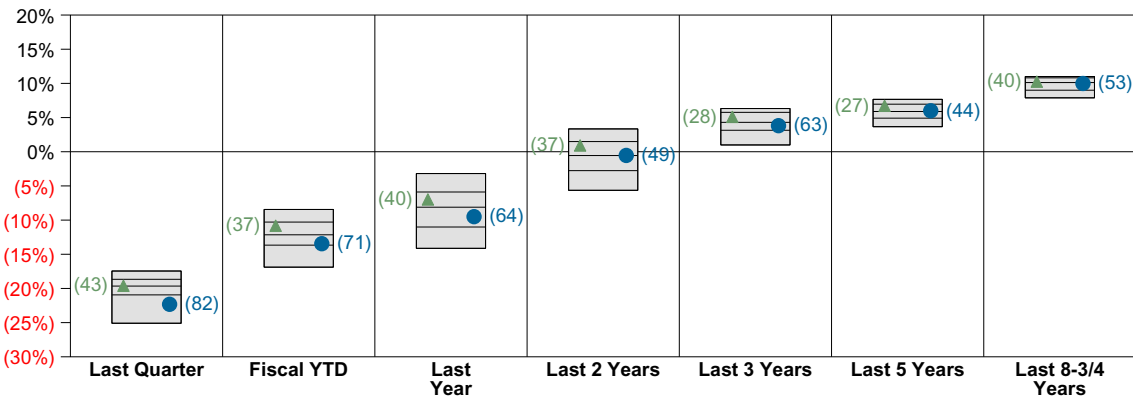
Quarterly Summary and Highlights

- Parametric Clifton Enh S&P's portfolio posted a (22.32)% return for the quarter placing it in the 82 percentile of the Callan Large Cap Core group for the quarter and in the 64 percentile for the last year.
- Parametric Clifton Enh S&P's portfolio underperformed the S&P 500 Index by 2.72% for the quarter and underperformed the S&P 500 Index for the year by 2.52%.

Quarterly Asset Growth

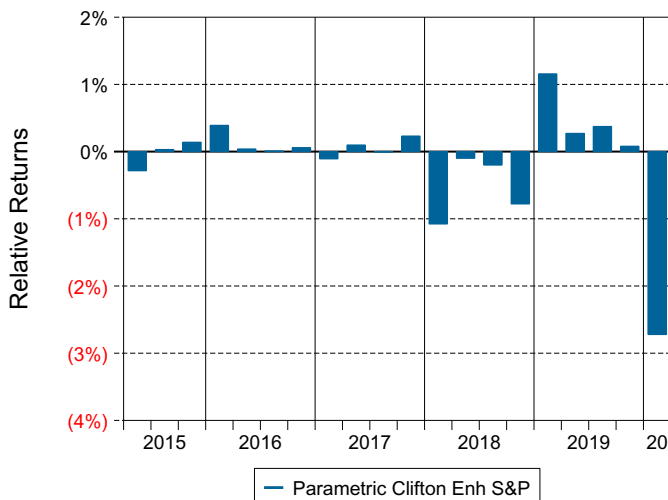
Beginning Market Value	\$214,957,063
Net New Investment	\$-15,000,000
Investment Gains/(Losses)	\$-44,415,175
Ending Market Value	\$155,541,888

Performance vs Callan Large Cap Core (Gross)

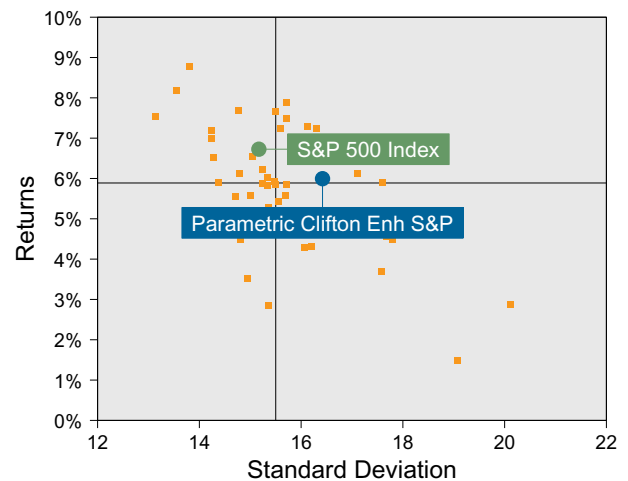


10th Percentile	(17.45)	(8.44)	(3.19)	3.34	6.32	7.66	11.00
25th Percentile	(18.66)	(10.29)	(5.89)	1.49	5.76	6.96	10.81
Median	(19.66)	(12.15)	(8.11)	(0.56)	4.30	5.89	10.12
75th Percentile	(20.94)	(13.66)	(11.01)	(2.76)	3.14	4.92	9.00
90th Percentile	(25.09)	(16.89)	(14.13)	(5.64)	0.99	3.67	7.89
Parametric Clifton Enh S&P	● (22.32)	(13.46)	(9.50)	(0.54)	3.81	5.99	9.98
S&P 500 Index	▲ (19.60)	(10.82)	(6.98)	0.92	5.10	6.73	10.26

Relative Return vs S&P 500 Index



Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return



Atlanta Capital Period Ended March 31, 2020

Investment Philosophy

Atlanta believes that high quality companies produce consistently increasing earnings and dividends, thereby providing attractive returns with moderate risk over the long-term.

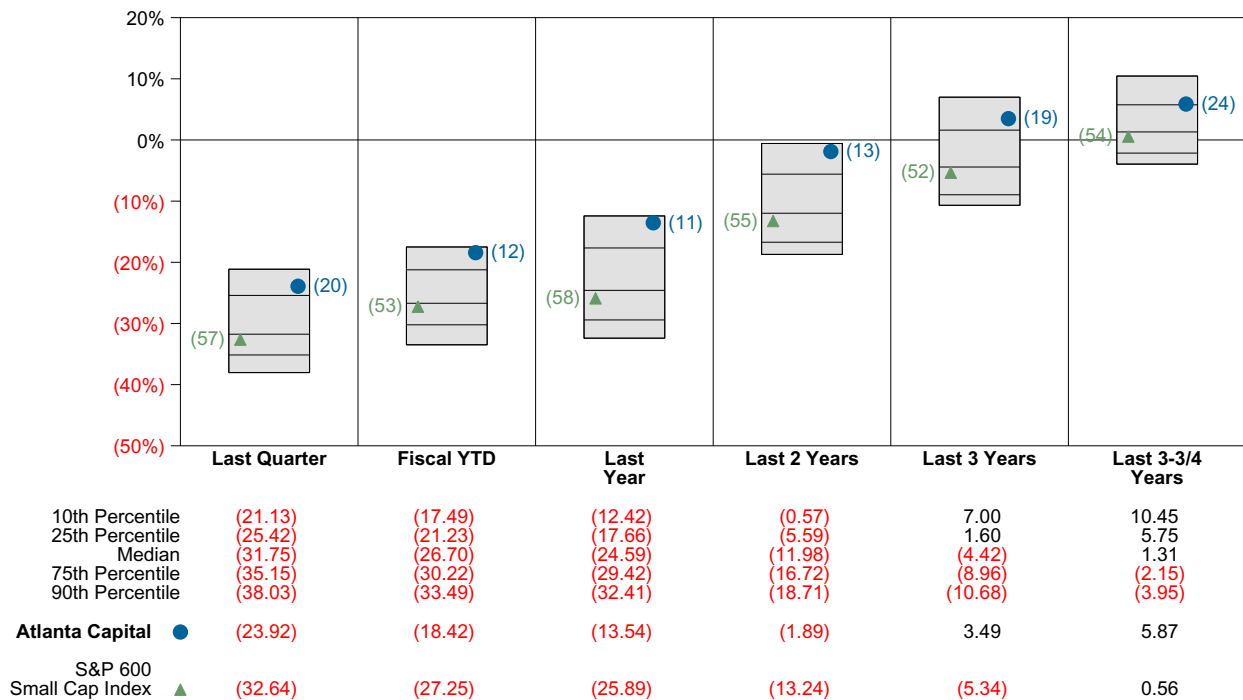
Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a (23.92)% return for the quarter placing it in the 20 percentile of the Callan Small Capitalization group for the quarter and in the 11 percentile for the last year.
- Atlanta Capital's portfolio outperformed the S&P 600 Small Cap Index by 8.72% for the quarter and outperformed the S&P 600 Small Cap Index for the year by 12.35%.

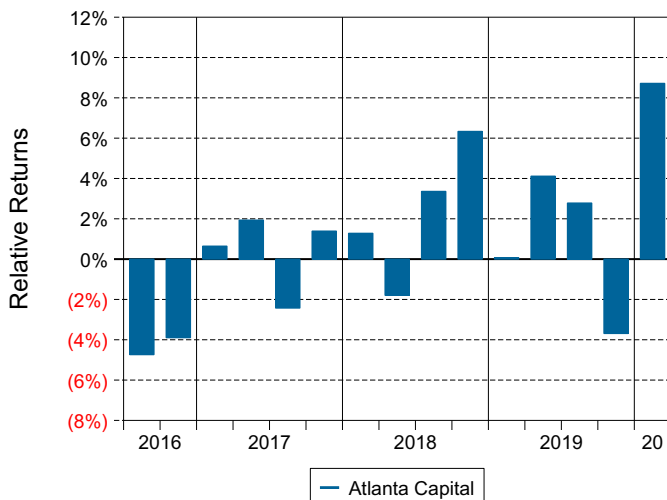
Quarterly Asset Growth

Beginning Market Value	\$159,476,918
Net New Investment	\$-274,287
Investment Gains/(Losses)	\$-38,075,874
Ending Market Value	\$121,126,757

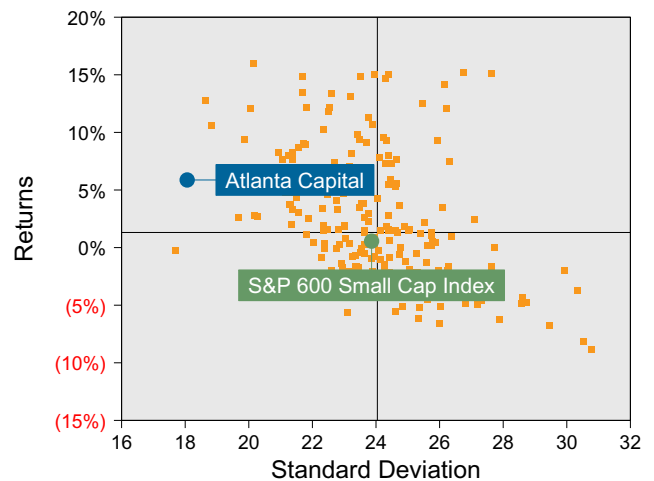
Performance vs Callan Small Capitalization (Gross)



Relative Return vs S&P 600 Small Cap Index



Callan Small Capitalization (Gross) Annualized Three and Three-Quarter Year Risk vs Return



Parametric Clifton Enh SmCap Period Ended March 31, 2020

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

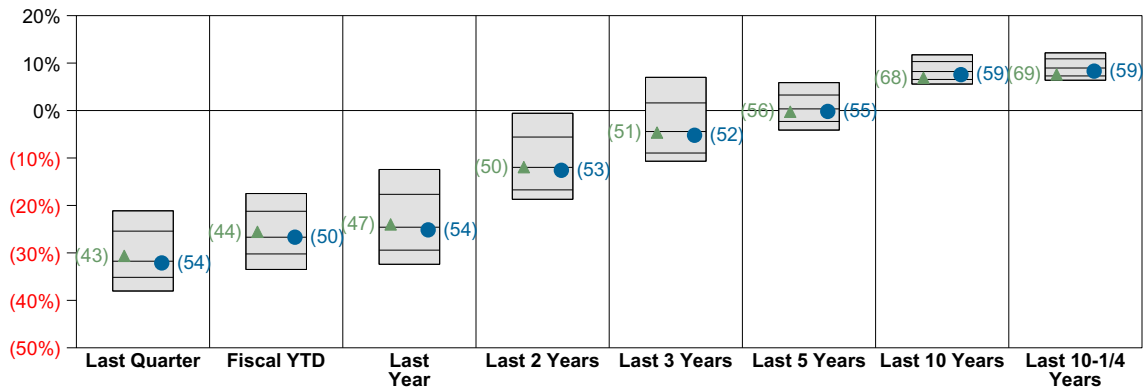
Quarterly Summary and Highlights

- Parametric Clifton Enh SmCap's portfolio posted a (32.12)% return for the quarter placing it in the 54 percentile of the Callan Small Capitalization group for the quarter and in the 54 percentile for the last year.
- Parametric Clifton Enh SmCap's portfolio underperformed the Russell 2000 Index by 1.50% for the quarter and underperformed the Russell 2000 Index for the year by 1.16%.

Quarterly Asset Growth

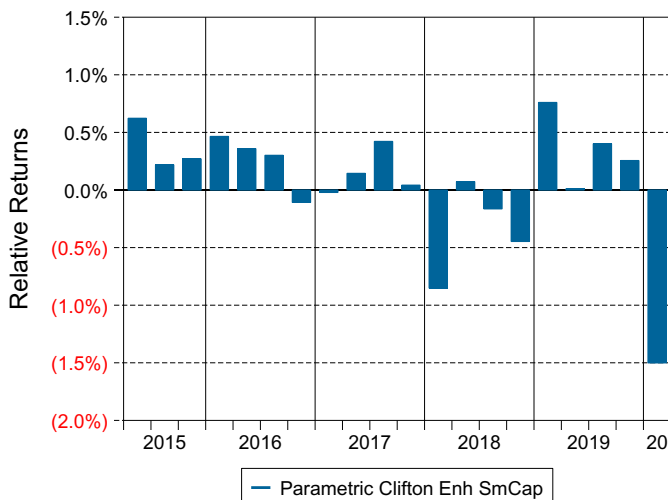
Beginning Market Value	\$168,971,101
Net New Investment	\$-12,000,000
Investment Gains/(Losses)	\$-50,402,544
Ending Market Value	\$106,568,556

Performance vs Callan Small Capitalization (Gross)

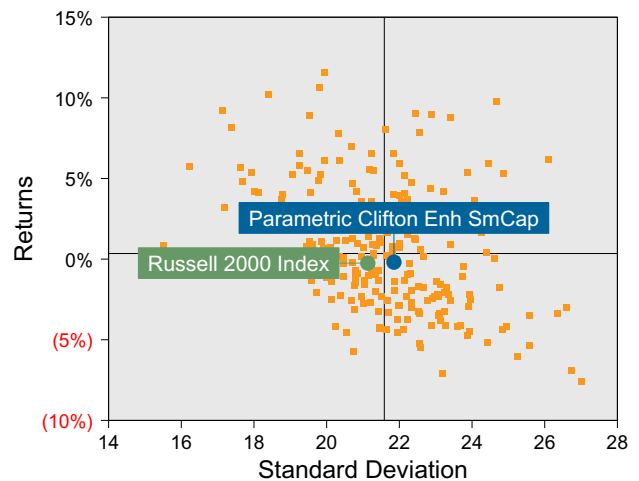


10th Percentile	(21.13)	(17.49)	(12.42)	(0.57)	7.00	5.88	11.74	12.16
25th Percentile	(25.42)	(21.23)	(17.66)	(5.59)	1.60	3.27	10.32	10.89
Median	(31.75)	(26.70)	(24.59)	(11.98)	(4.42)	0.35	8.22	8.96
75th Percentile	(35.15)	(30.22)	(29.42)	(16.72)	(8.96)	(2.30)	6.55	7.29
90th Percentile	(38.03)	(33.49)	(32.41)	(18.71)	(10.68)	(4.12)	5.58	6.38
Parametric Clifton Enh SmCap	● (32.12)	(26.69)	(25.15)	(12.60)	(5.21)	(0.19)	7.56	8.30
Russell 2000 Index	▲ (30.61)	(25.55)	(23.99)	(11.93)	(4.64)	(0.25)	6.90	7.62

Relative Return vs Russell 2000 Index



Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return



International Equities

Period Ended March 31, 2020

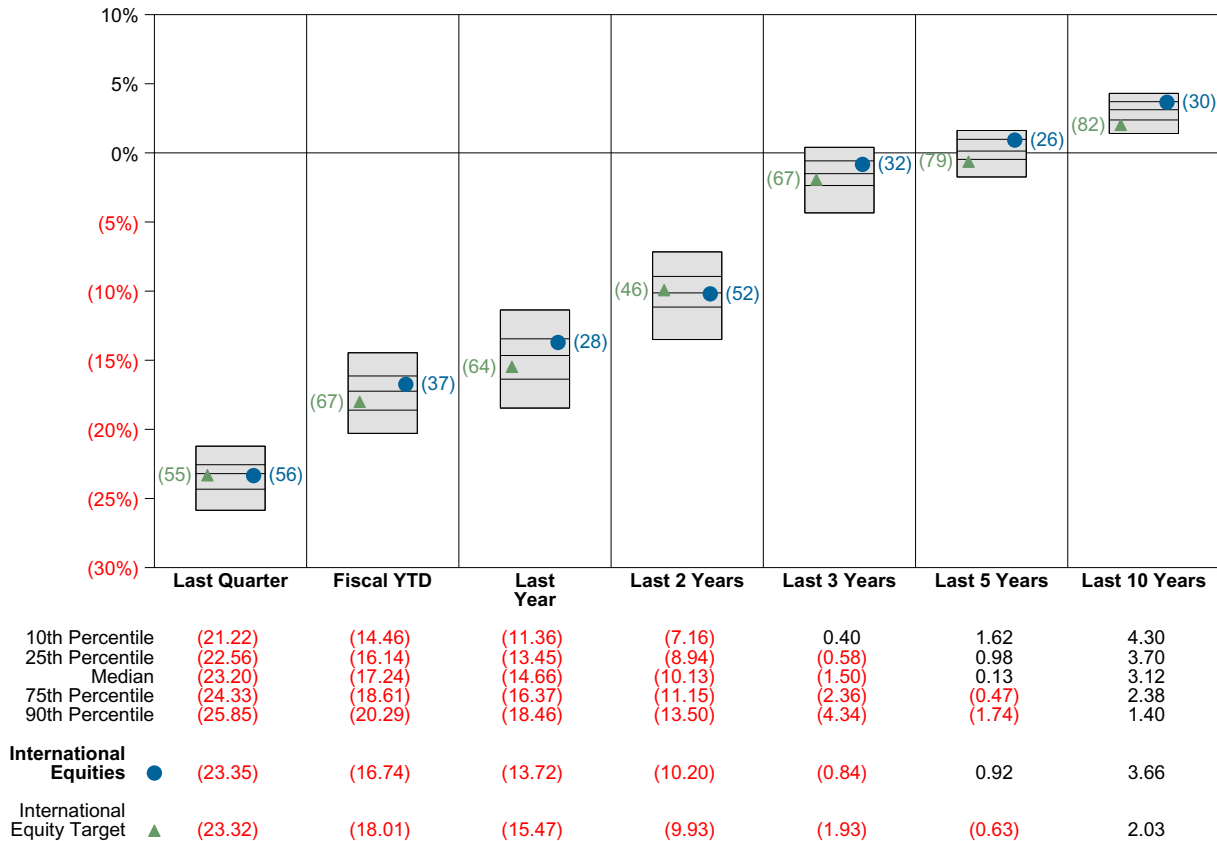
Quarterly Summary and Highlights

- International Equities's portfolio posted a (23.35)% return for the quarter placing it in the 56 percentile of the Public Fund - International Equity group for the quarter and in the 28 percentile for the last year.
- International Equities's portfolio underperformed the International Equity Target by 0.03% for the quarter and outperformed the International Equity Target for the year by 1.76%.

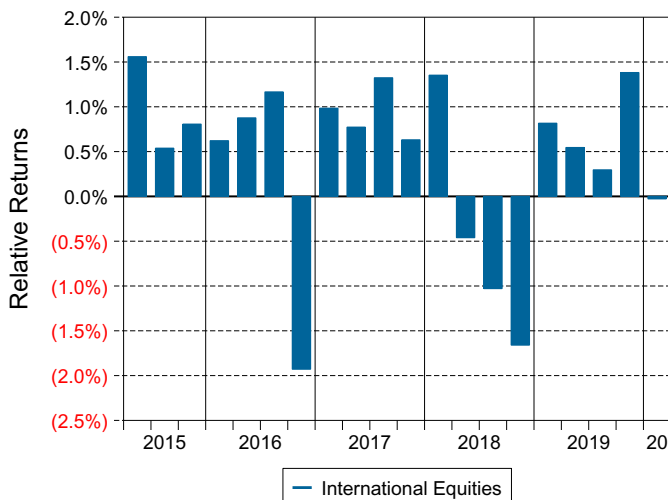
Quarterly Asset Growth

Beginning Market Value	\$995,306,954
Net New Investment	\$-54,386,315
Investment Gains/(Losses)	\$-219,828,029
Ending Market Value	\$721,092,610

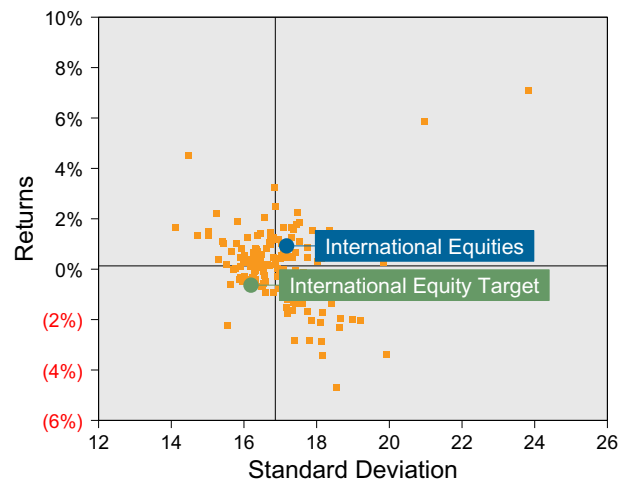
Performance vs Public Fund - International Equity (Gross)



Relative Return vs International Equity Target



Public Fund - International Equity (Gross) Annualized Five Year Risk vs Return



DFA International Small Cap Value Fund

Period Ended March 31, 2020

Investment Philosophy

The International Small Cap Value Portfolio invests in the stocks of small, non-US developed markets companies that Dimensional believes to be value stocks at the time of purchase. Specifically, it looks at companies that fall within the smallest 8-10% of each country's market capitalization, and who's shares have a high book value in relation to their market value (BtM). It does not invest in emerging markets.

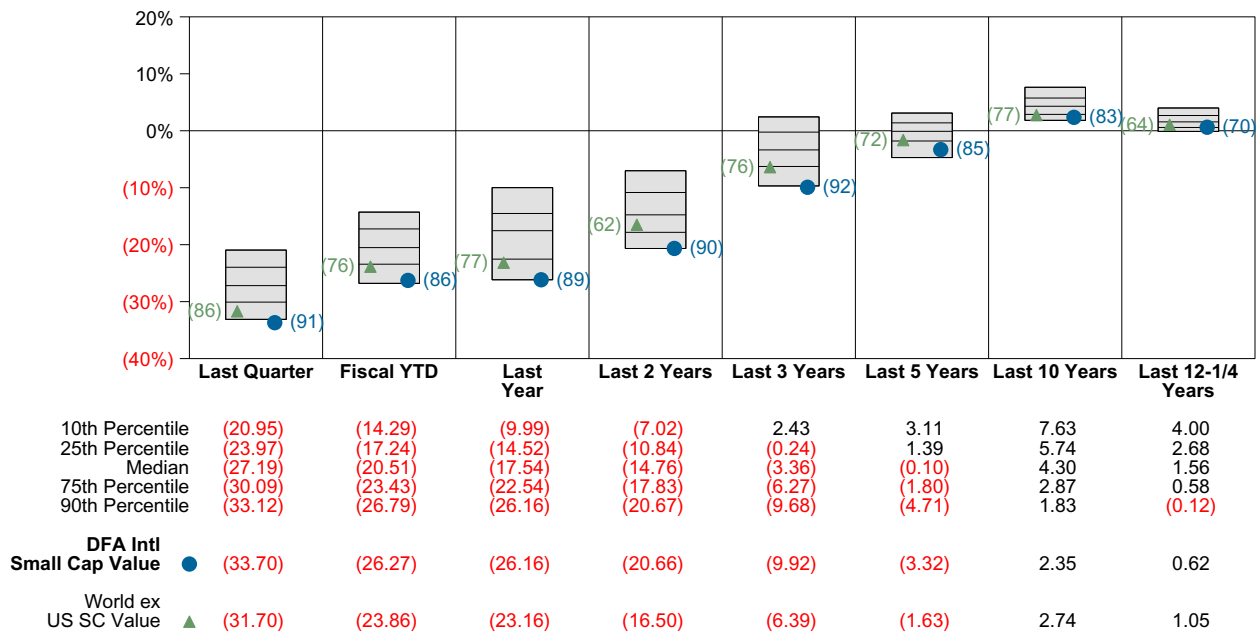
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a (33.70)% return for the quarter placing it in the 91 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 89 percentile for the last year.
- DFA Intl Small Cap Value's portfolio underperformed the World ex US SC Value by 2.00% for the quarter and underperformed the World ex US SC Value for the year by 3.00%.

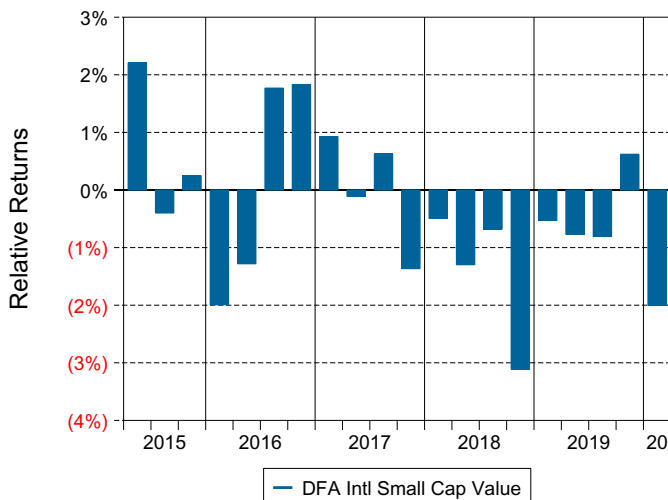
Quarterly Asset Growth

Beginning Market Value	\$83,812,026
Net New Investment	\$-8,000,000
Investment Gains/(Losses)	\$-25,594,737
Ending Market Value	\$50,217,289

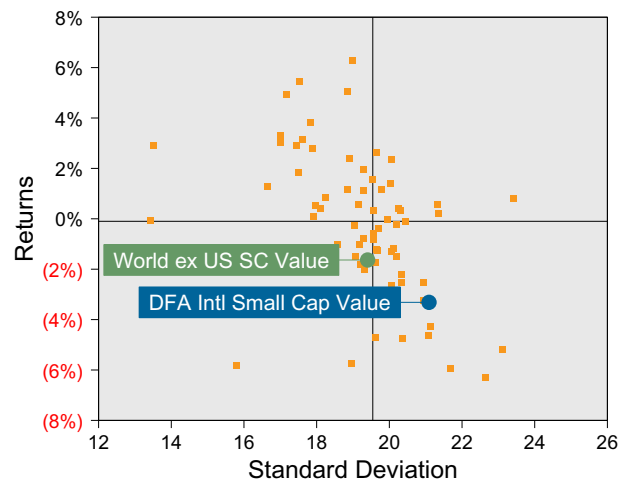
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Return vs World ex US SC Value



Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return



Northern Tr AM Wrld ex US Period Ended March 31, 2020

Investment Philosophy

The Fund's objective is to provide investment results that approximate the overall performance of the MSCI World ex-US Equity Index.

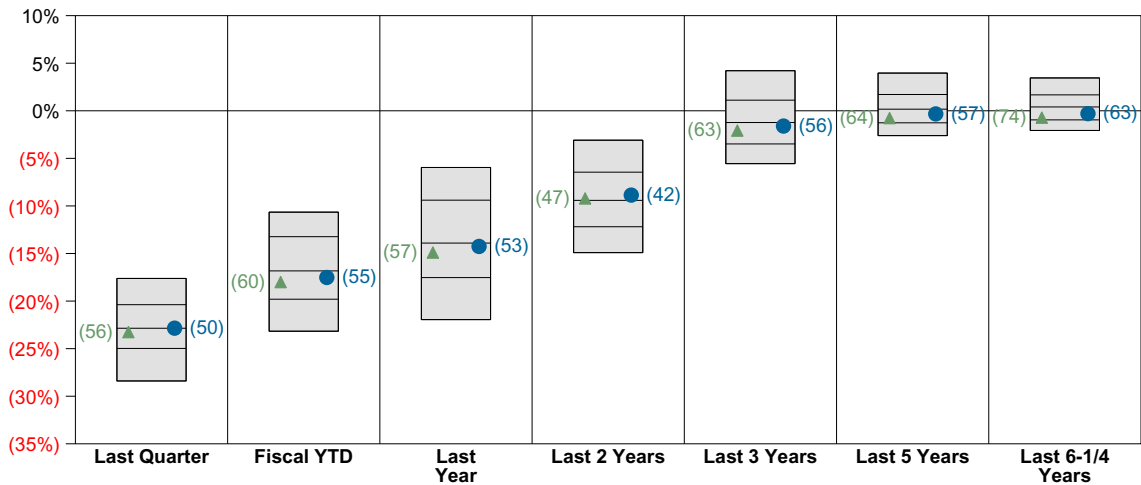
Quarterly Summary and Highlights

- Northern Tr AM Wrld ex US's portfolio posted a (22.85)% return for the quarter placing it in the 50 percentile of the Callan Non-US Equity group for the quarter and in the 53 percentile for the last year.
- Northern Tr AM Wrld ex US's portfolio outperformed the MSCI World ex US by 0.41% for the quarter and outperformed the MSCI World ex US for the year by 0.64%.

Quarterly Asset Growth

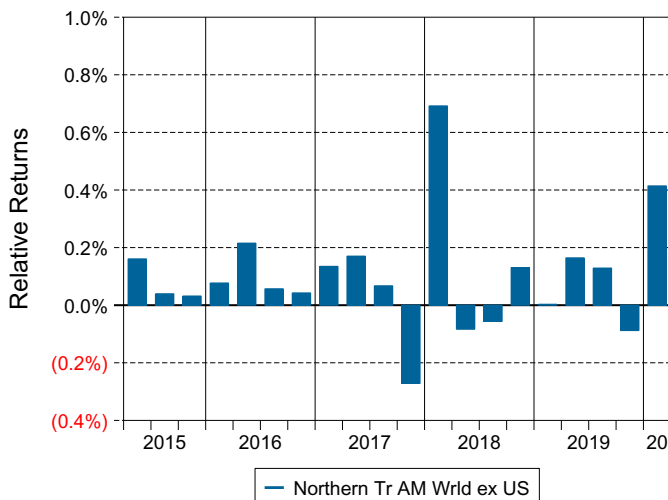
Beginning Market Value	\$363,747,562
Net New Investment	\$-7,027,579
Investment Gains/(Losses)	\$-81,464,972
Ending Market Value	\$275,255,010

Performance vs Callan Non-US Equity (Gross)

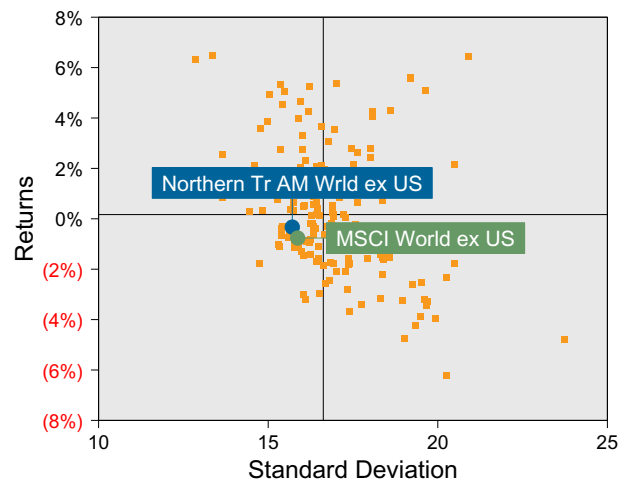


10th Percentile	(17.62)	(10.65)	(5.96)	(3.09)	4.21	3.96	3.45
25th Percentile	(20.38)	(13.23)	(9.39)	(6.45)	1.12	1.71	1.67
Median	(22.85)	(16.83)	(13.90)	(9.42)	(1.23)	0.17	0.40
75th Percentile	(24.98)	(19.80)	(17.53)	(12.19)	(3.48)	(1.27)	(0.96)
90th Percentile	(28.40)	(23.17)	(21.95)	(14.91)	(5.56)	(2.61)	(2.07)
Northern Tr AM Wrld ex US	● (22.85)	(17.52)	(14.26)	(8.86)	(1.61)	(0.33)	(0.30)
MSCI World ex US	▲ (23.26)	(18.00)	(14.89)	(9.21)	(2.07)	(0.76)	(0.72)

Relative Return vs MSCI World ex US



Callan Non-US Equity (Gross) Annualized Five Year Risk vs Return



Wellington Management Period Ended March 31, 2020

Investment Philosophy

The International Small Cap Opportunities investment approach is bottom-up focused, and leverages the global research resources at Wellington Management. In implementing purchase decisions, consideration is given to the size, liquidity, and volatility of these prospects. Sell decisions are based on changing fundamentals or valuations, or on finding better opportunities elsewhere. The assets are not hedged.

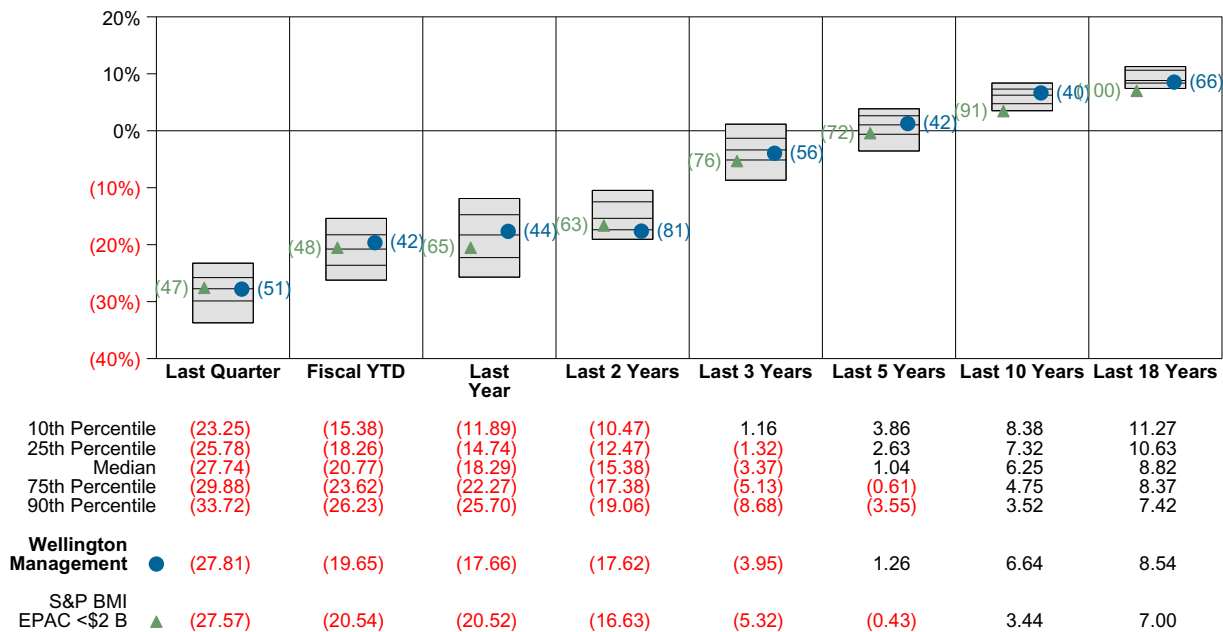
Quarterly Summary and Highlights

- Wellington Management's portfolio posted a (27.81)% return for the quarter placing it in the 51 percentile of the Callan International Small Cap group for the quarter and in the 44 percentile for the last year.
- Wellington Management's portfolio underperformed the S&P BMI EPAC <\$2 B by 0.23% for the quarter and outperformed the S&P BMI EPAC <\$2 B for the year by 2.86%.

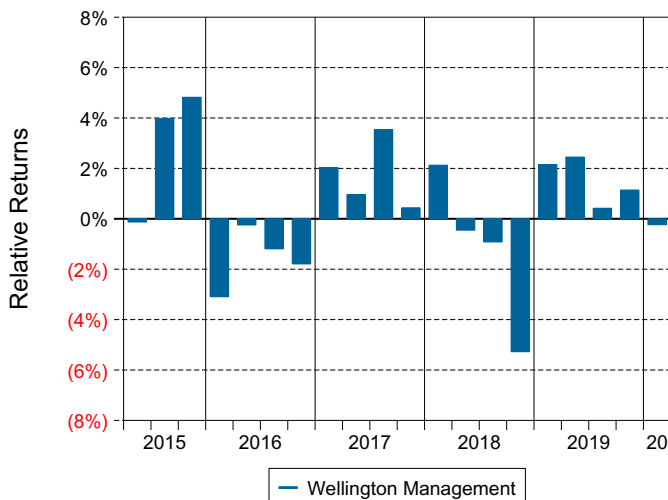
Quarterly Asset Growth

Beginning Market Value	\$81,385,478
Net New Investment	\$-165,816
Investment Gains/(Losses)	\$-22,589,622
Ending Market Value	\$58,630,039

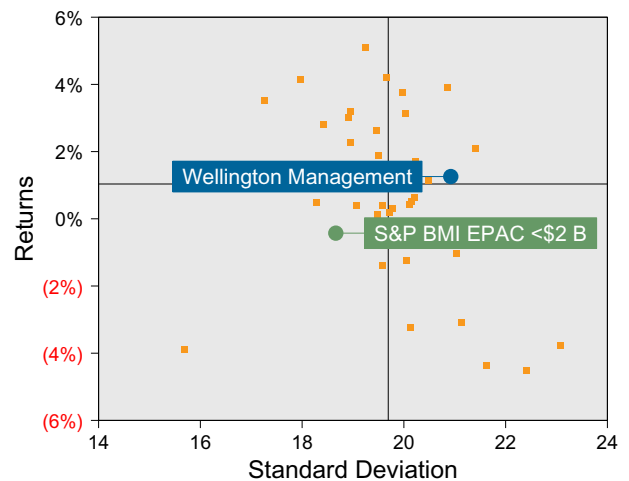
Performance vs Callan International Small Cap (Gross)



Relative Return vs S&P BMI EPAC <\$2 B



Callan International Small Cap (Gross) Annualized Five Year Risk vs Return



William Blair Period Ended March 31, 2020

Investment Philosophy

One of the basic investment tenets of William Blair & Company has been its focus on quality growth companies. They believe that investing in quality growth companies will generate above average results with generally less risk than the market. This opportunity exists because they believe the market underestimates the durability and rate of growth in companies that have the following characteristics: strong management with a unique vision, competitive advantages that prolong the duration and size of earnings growth, and conservative financing. Internationally, they believe that this philosophy can be combined with strategic flexibility in managing geographic exposure, capitalization, sector emphasis, and relative growth and valuation at the portfolio level in order to provide an appropriate degree of adaptability to cyclical conditions.

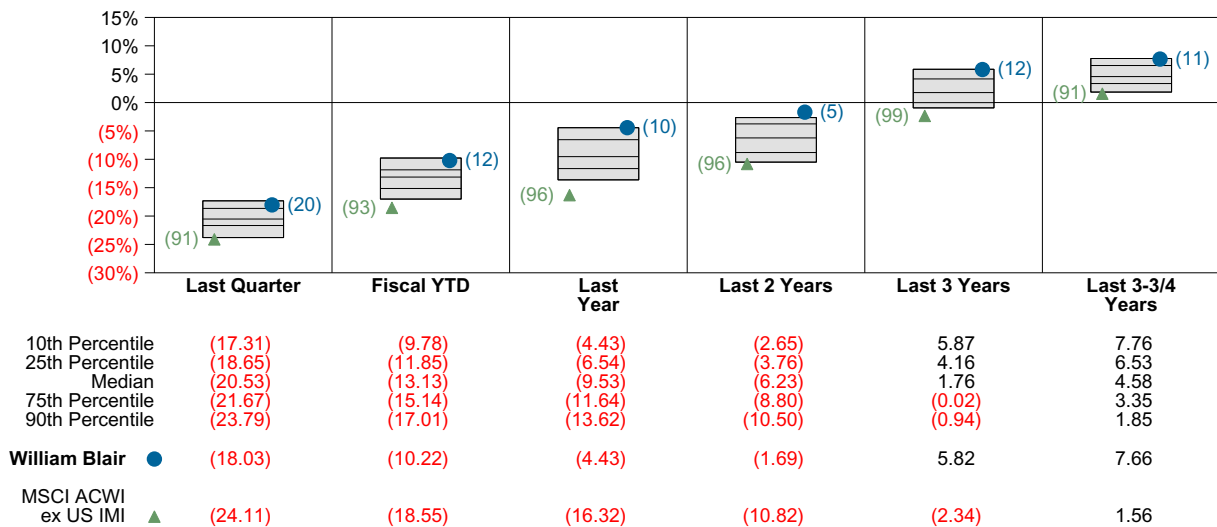
Quarterly Summary and Highlights

- William Blair's portfolio posted a (18.03)% return for the quarter placing it in the 20 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 10 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 6.08% for the quarter and outperformed the MSCI ACWI ex US IMI for the year by 11.89%.

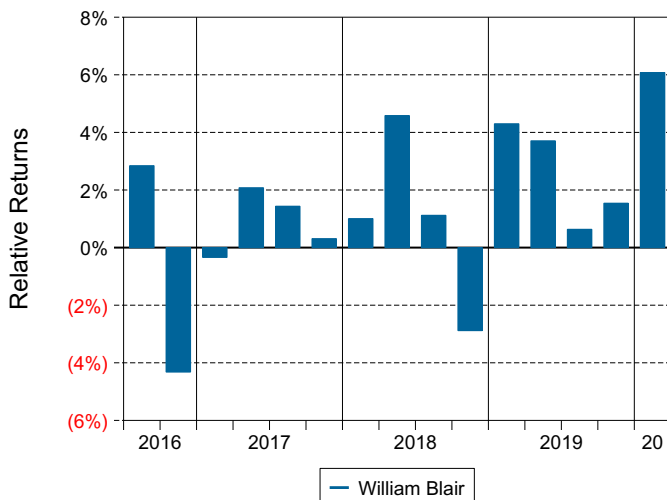
Quarterly Asset Growth

Beginning Market Value	\$229,593,638
Net New Investment	\$-15,193,179
Investment Gains/(Losses)	\$-38,610,160
Ending Market Value	\$175,790,299

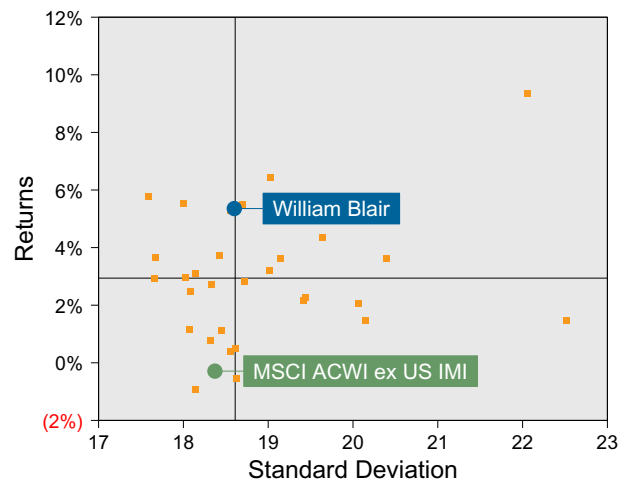
Performance vs Callan Non-US All Country Growth Equity (Gross)



Relative Return vs MSCI ACWI ex US IMI



Callan Non-US All Country Growth Equity (Gross) Annualized Three and One-Half Year Risk vs Return



Axiom Emerging Markets Period Ended March 31, 2020

Investment Philosophy

The Emerging Markets Equity strategy seeks to invest in emerging market securities issued by companies whose key business drivers are both improving and exceeding expectations, as determined by Axiom's stock selection techniques focused on fundamental company analysis. The strategy considers companies either (i) located in countries that are not included in the MSCI Developed Markets Index series or (ii) that derive a majority of their revenues or assets from a country or countries not included in the MSCI Developed Markets Index series, in each case at the time of investment. Although the Manager generally expects the strategy's investment portfolio to be geographically diverse, there are no prescribed limits on geographic distribution of the strategy's investments and the strategy has the authority to invest in securities traded in securities markets or any country in the world.

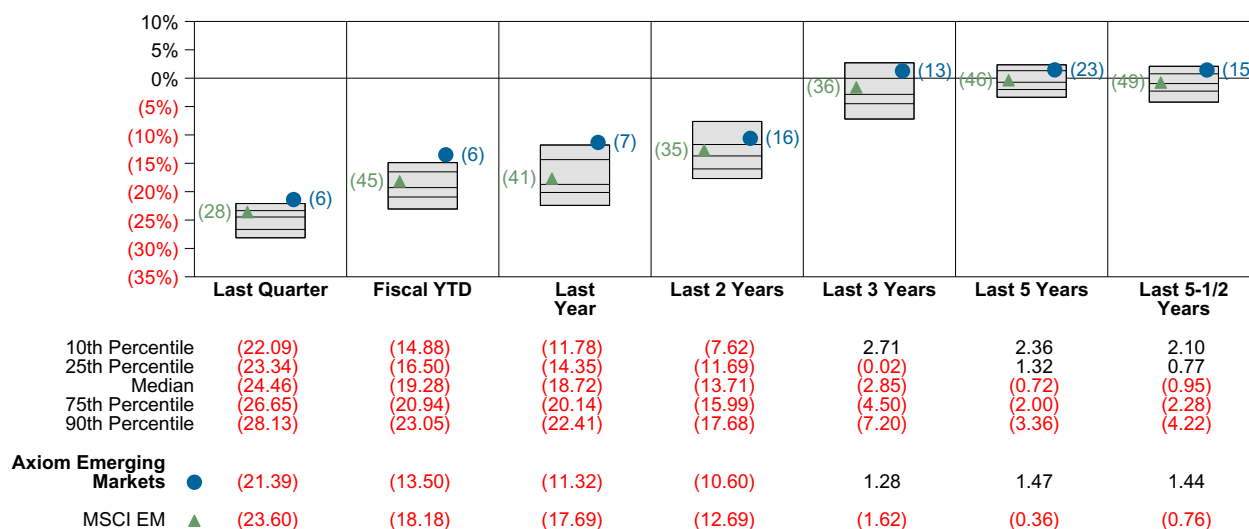
Quarterly Summary and Highlights

- Axiom Emerging Markets's portfolio posted a (21.39)% return for the quarter placing it in the 6 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter and in the 7 percentile for the last year.
- Axiom Emerging Markets's portfolio outperformed the MSCI EM by 2.21% for the quarter and outperformed the MSCI EM for the year by 6.36%.

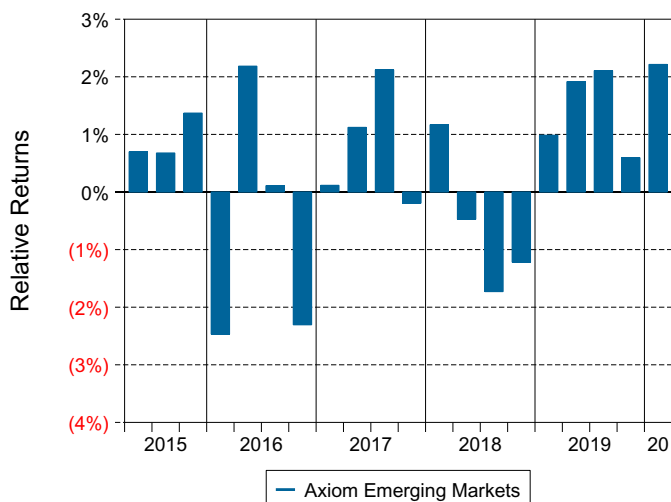
Quarterly Asset Growth

Beginning Market Value	\$174,341,788
Net New Investment	\$-17,999,740
Investment Gains/(Losses)	\$-33,819,297
Ending Market Value	\$122,522,751

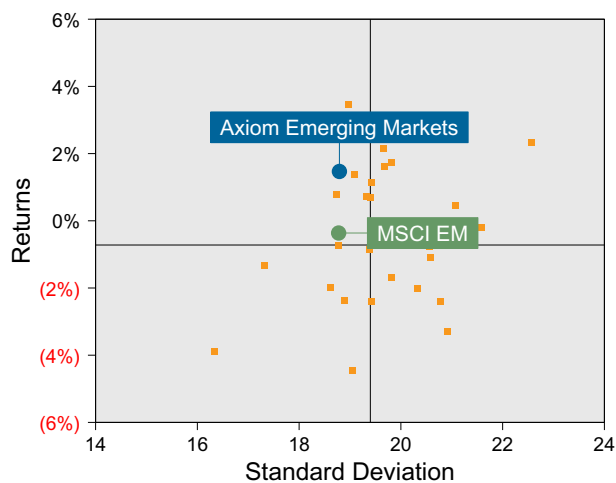
Performance vs Callan Emerging Markets Equity Mut Funds (Net)



Relative Return vs MSCI EM



Callan Emerging Markets Equity Mut Funds (Net) Annualized Five Year Risk vs Return



DFA Emerging Markets Period Ended March 31, 2020

Investment Philosophy

The Emerging Markets Small Cap Portfolio invests in small cap emerging markets companies. Presently, this means investment in companies whose market capitalization is less than \$2.3 billion at the time of purchase. Dimensional considers, among other things, information disseminated by the International Finance Corporation in determining and approving emerging market countries.

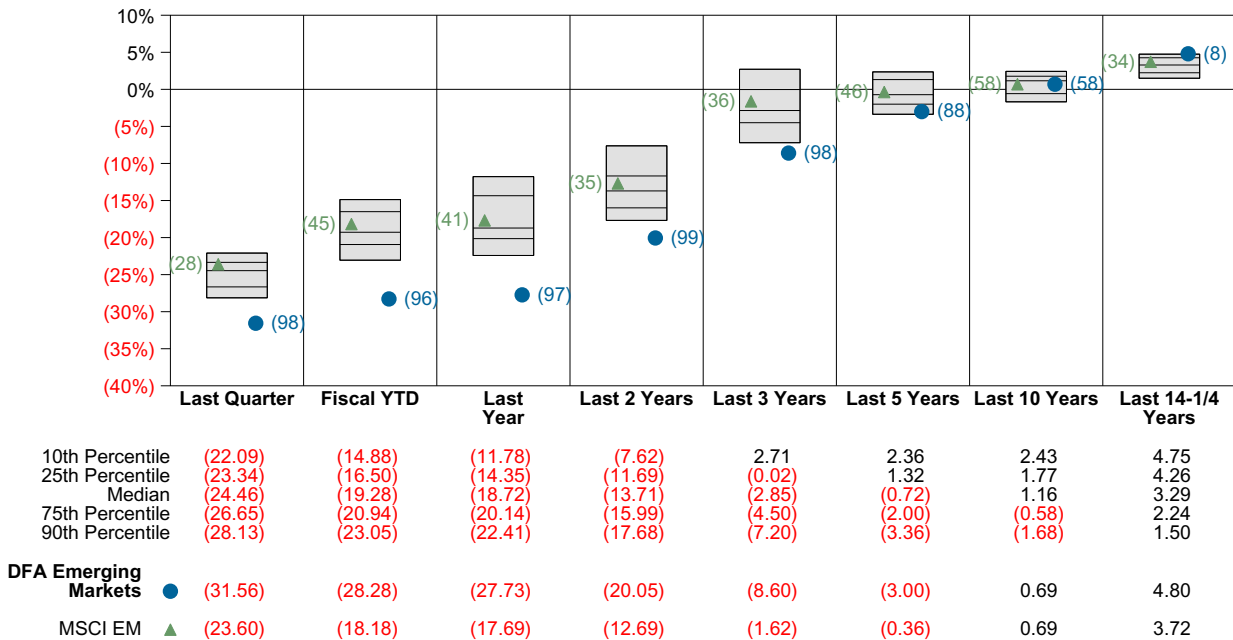
Quarterly Summary and Highlights

- DFA Emerging Markets's portfolio posted a (31.56)% return for the quarter placing it in the 98 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter and in the 97 percentile for the last year.
- DFA Emerging Markets's portfolio underperformed the MSCI EM by 7.96% for the quarter and underperformed the MSCI EM for the year by 10.04%.

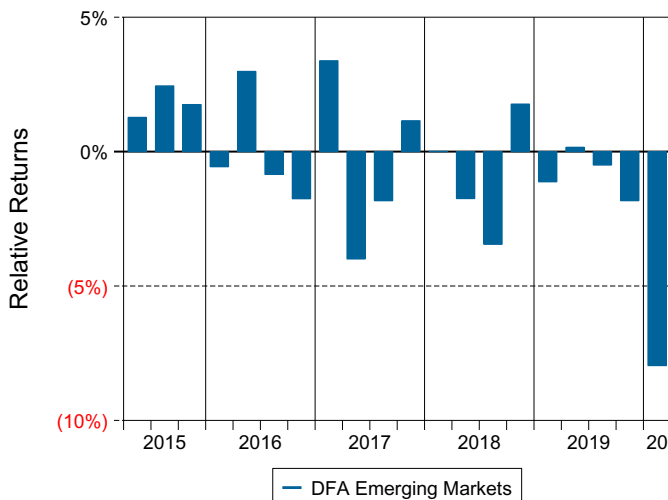
Quarterly Asset Growth

Beginning Market Value	\$62,426,462
Net New Investment	\$-6,000,000
Investment Gains/(Losses)	\$-17,749,240
Ending Market Value	\$38,677,222

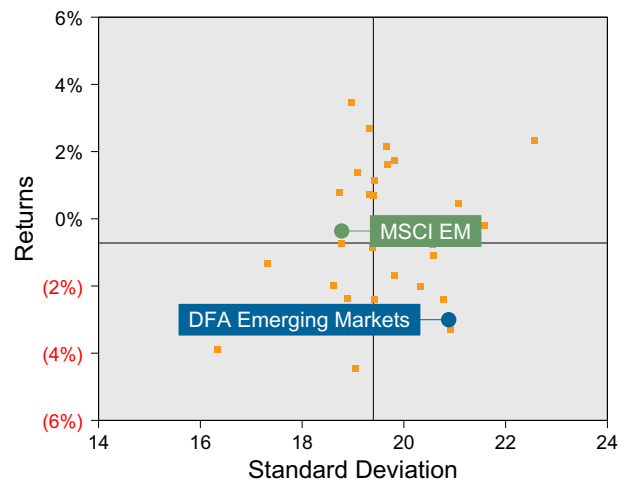
Performance vs Callan Emerging Markets Equity Mut Funds (Net)



Relative Return vs MSCI EM



Callan Emerging Markets Equity Mut Funds (Net) Annualized Five Year Risk vs Return



EPOCH Investment Period Ended March 31, 2020

Investment Philosophy

Epoch seeks to produce superior risk adjusted returns by building portfolios of businesses with outstanding risk/reward profiles without running a high degree of capital risk. They analyze businesses in the same manner private investors would in looking to purchase the entire company. The strategy only invests in businesses that are understood and where they have confidence in the financial statements. They seek businesses that generate "free cash flow" and securities that have unrecognized potential yet possess a combination of above average yield, above average free cash flow growth, and/or below average valuation. Global Choice is a "best ideas" portfolio at Epoch with every stock held in other strategies managed by the firm.

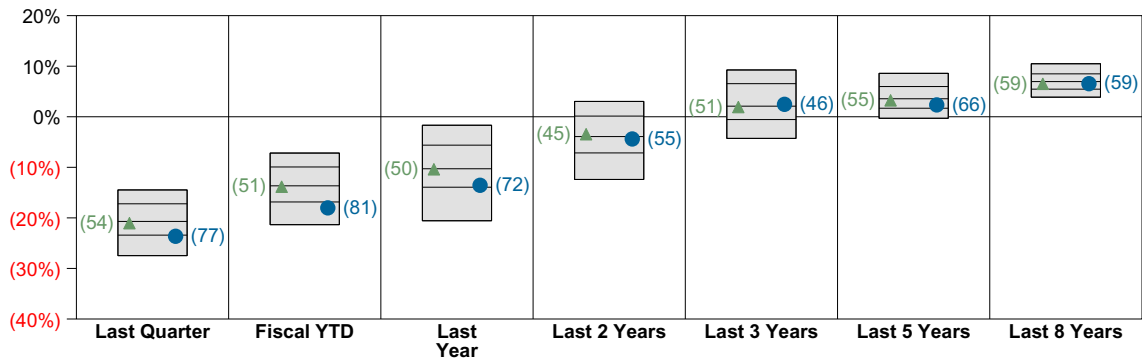
Quarterly Summary and Highlights

- EPOCH Investment's portfolio posted a (23.64)% return for the quarter placing it in the 77 percentile of the Callan Global Equity group for the quarter and in the 72 percentile for the last year.
- EPOCH Investment's portfolio underperformed the MSCI World by 2.59% for the quarter and underperformed the MSCI World for the year by 3.16%.

Quarterly Asset Growth

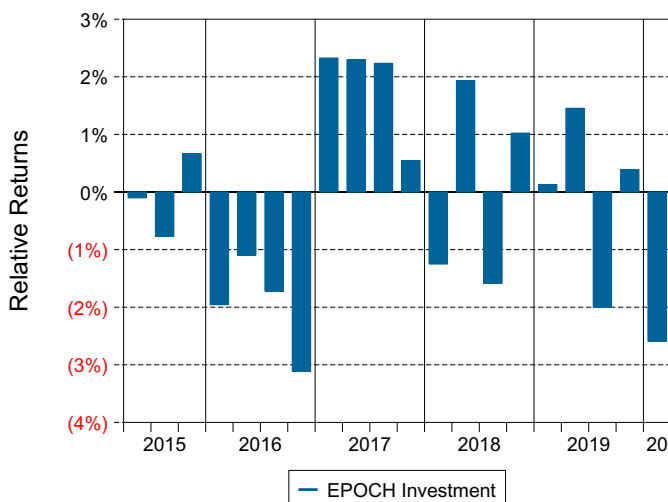
Beginning Market Value	\$490,488,312
Net New Investment	\$-5,772,087
Investment Gains/(Losses)	\$-114,628,158
Ending Market Value	\$370,088,067

Performance vs Callan Global Equity (Gross)

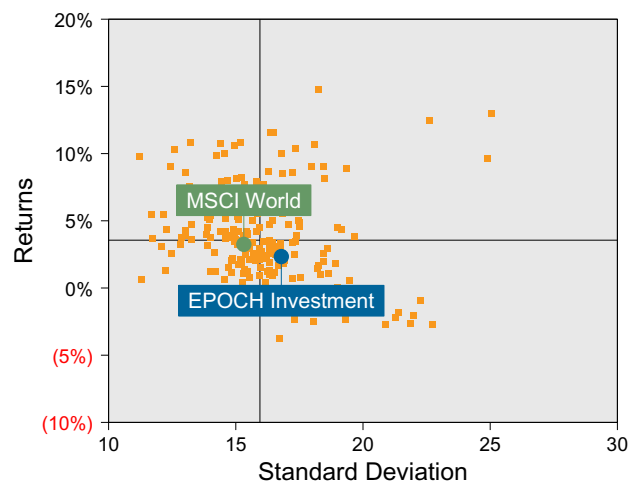


10th Percentile	(14.47)	(7.18)	(1.68)	3.03	9.25	8.59	10.49
25th Percentile	(17.22)	(9.93)	(5.62)	0.13	6.55	5.97	8.49
Median	(20.70)	(13.66)	(10.28)	(3.92)	2.09	3.56	6.96
75th Percentile	(23.41)	(16.85)	(13.94)	(7.15)	(0.55)	1.69	5.46
90th Percentile	(27.47)	(21.35)	(20.57)	(12.40)	(4.27)	(0.30)	3.87
EPOCH Investment	(23.64)	(18.02)	(13.55)	(4.39)	2.46	2.34	6.54
MSCI World	(21.05)	(13.84)	(10.39)	(3.46)	1.92	3.25	6.51

Relative Return vs MSCI World



Callan Global Equity (Gross) Annualized Five Year Risk vs Return



LSV Asset Management

Period Ended March 31, 2020

Investment Philosophy

The Global Value (ACWI) Equity strategy is managed using quantitative techniques to select individual securities in a risk-controlled, bottom-up approach. Value factors and security selection dominate sector/industry factors as explanators of performance. **The Benchmark is comprised of MSCI ACWI through June 30, 2019; MSCI ACWI IMI Index thereafter.**

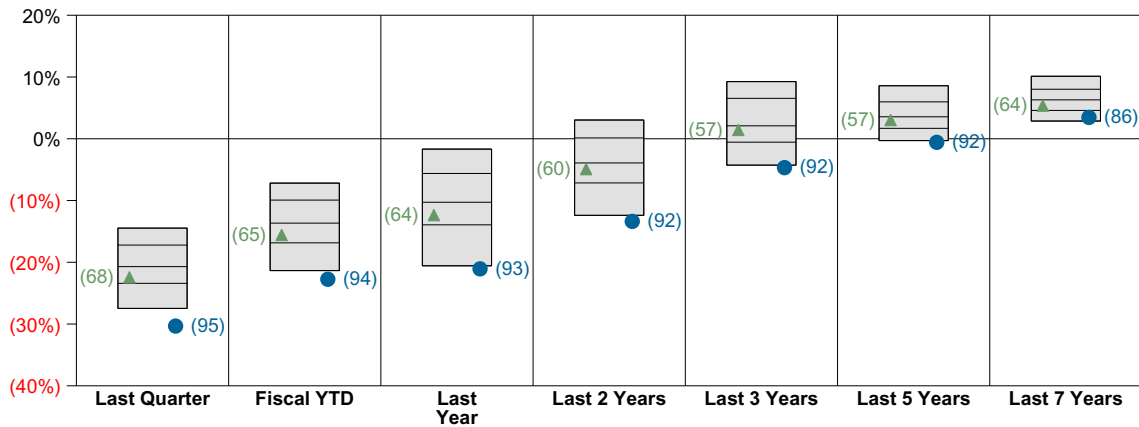
Quarterly Summary and Highlights

- LSV Asset Management's portfolio posted a (30.33)% return for the quarter placing it in the 95 percentile of the Callan Global Equity group for the quarter and in the 93 percentile for the last year.
- LSV Asset Management's portfolio underperformed the Benchmark by 7.89% for the quarter and underperformed the Benchmark for the year by 8.71%.

Quarterly Asset Growth

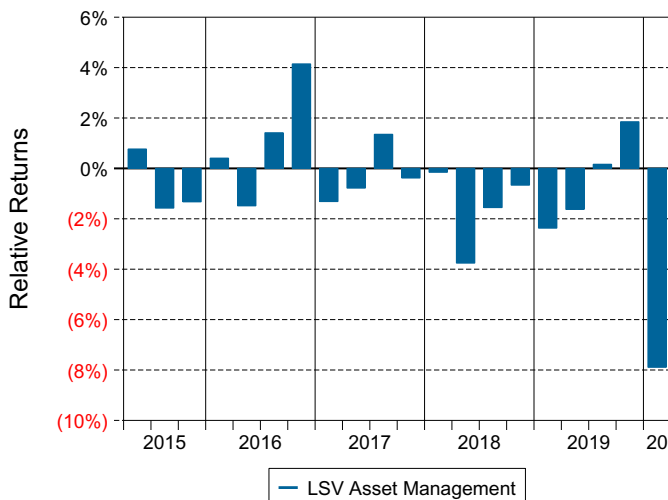
Beginning Market Value	\$548,665,737
Net New Investment	\$-138,512
Investment Gains/(Losses)	\$-166,372,589
Ending Market Value	\$382,154,636

Performance vs Callan Global Equity (Gross)

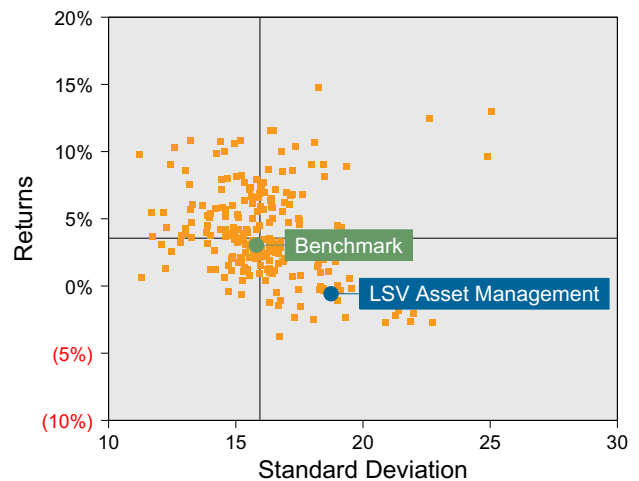


10th Percentile	(14.47)	(7.18)	(1.68)	3.03	9.25	8.59	10.12
25th Percentile	(17.22)	(9.93)	(5.62)	0.13	6.55	5.97	8.02
Median	(20.70)	(13.66)	(10.28)	(3.92)	2.09	3.56	6.30
75th Percentile	(23.41)	(16.85)	(13.94)	(7.15)	(0.55)	1.69	4.58
90th Percentile	(27.47)	(21.35)	(20.57)	(12.40)	(4.27)	(0.30)	2.87
LSV Asset Management	● (30.33)	(22.75)	(21.07)	(13.38)	(4.67)	(0.58)	3.46
Benchmark	▲ (22.44)	(15.57)	(12.36)	(4.91)	1.44	3.04	5.37

Relative Return vs Benchmark



Callan Global Equity (Gross) Annualized Five Year Risk vs Return



Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 19-1/4 Years
Private Equity	3.81%	11.45%	8.40%	3.60%	2.92%
Adams Street Direct Co-Invest Fd	4.84%	(4.23%)	(15.22%)	(8.54%)	-
Adams Street Direct Fd 2010	8.28%	12.50%	16.91%	12.71%	-
Adams Street 1998 Partnership	0.00%	(0.21%)	2.75%	2.24%	1.82%
Adams Street 1999 Partnership	1.22%	(4.62%)	0.15%	1.38%	2.18%
Adams Street 2000 Partnership	(0.86%)	(2.13%)	5.19%	2.62%	3.41%
Adams Street 2001 Partnership	0.75%	(1.19%)	2.47%	(0.03%)	3.33%
Adams Street 2002 Partnership	0.57%	3.63%	(2.53%)	2.67%	-
Adams Street 2003 Partnership	1.11%	1.32%	6.90%	5.70%	-
Adams Street 2010 Partnership	5.18%	17.13%	16.06%	13.51%	-
Adams Street 2008 Fund	6.27%	15.27%	16.66%	13.93%	-
Adams Street 1999 Non-US	0.40%	1.30%	2.72%	3.23%	5.55%
Adams Street 2000 Non-US	(3.30%)	7.23%	4.85%	1.95%	3.20%
Adams Street 2001 Non-US	2.53%	3.47%	11.19%	8.91%	-
Adams Street 2002 Non-US	0.48%	(2.51%)	1.87%	3.94%	-
Adams Street 2003 Non-US	(8.16%)	(9.68%)	(5.43%)	3.99%	-
Adams Street 2004 Non-US	3.25%	2.35%	7.29%	3.63%	-
Adams Street 2010 Non-US	7.52%	20.33%	21.43%	16.43%	-
Adams Street 2010 NonUS Emg	4.81%	10.95%	13.55%	12.37%	-
Adams Street 2015 Global Fd	7.21%	19.49%	17.99%	-	-
Adams Street 2016 Global Fd	8.18%	15.07%	12.50%	-	-
Adams Street 2017 Global Fd	7.56%	13.20%	-	-	-
Adams Street 2018 Global Fd	11.60%	20.00%	-	-	-
Adams Street 2019 Global Fd	39.91%	-	-	-	-
Adams Street BVCF IV Fund	(99.47%)	(99.82%)	(87.83%)	(70.21%)	(17.24%)
BlackRock	(0.41%)	9.99%	3.38%	-	-
Capital International V	2.07%	(18.87%)	(42.43%)	(36.08%)	-
Capital International VI	4.47%	3.83%	8.53%	5.22%	-
CorsAir III	11.52%	88.75%	6.17%	8.76%	-
EIG Energy Fund XIV	(21.56%)	(34.96%)	(7.83%)	(27.18%)	-
Lewis & Clark	10.63%	(26.85%)	14.60%	(12.99%)	-
Lewis & Clark II	16.68%	7.63%	12.71%	5.10%	-
Matlin Patterson II	0.00%	(1.50%)	(3.14%)	(0.71%)	-
Matlin Patterson III	0.00%	24.44%	8.00%	5.80%	-
Quantum Energy Partners	0.00%	(46.06%)	(31.81%)	(28.32%)	-
Russell 1000 Index	(20.22%)	(8.03%)	4.64%	6.22%	5.75%
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	6.04%

Domestic Fixed Income Period Ended March 31, 2020

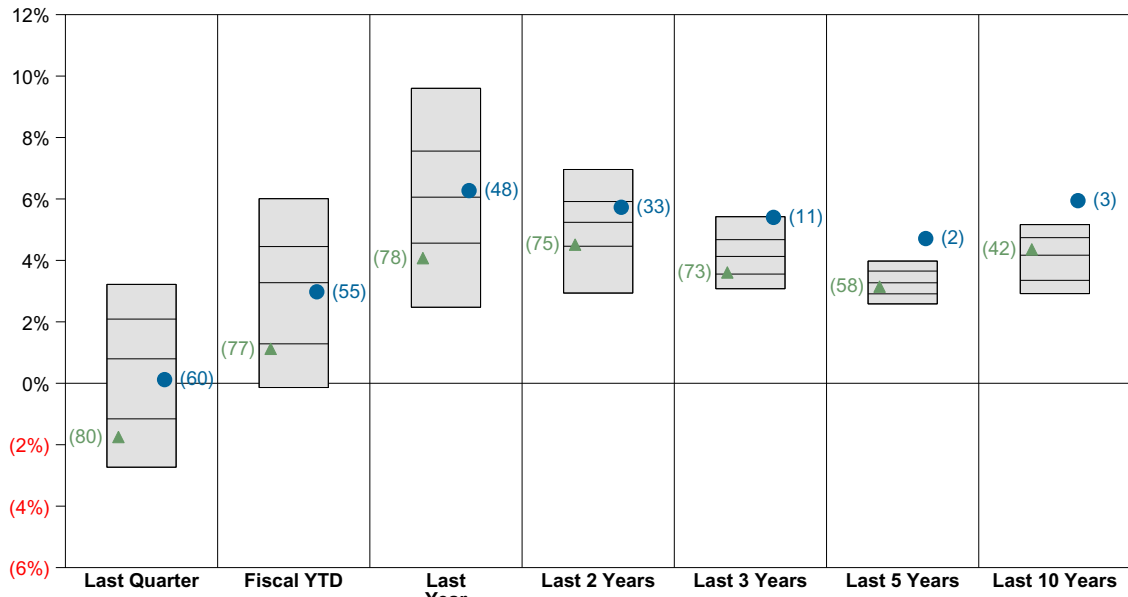
Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 0.12% return for the quarter placing it in the 60 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 48 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Income Target by 1.87% for the quarter and outperformed the Domestic Fixed Income Target for the year by 2.20%.

Quarterly Asset Growth

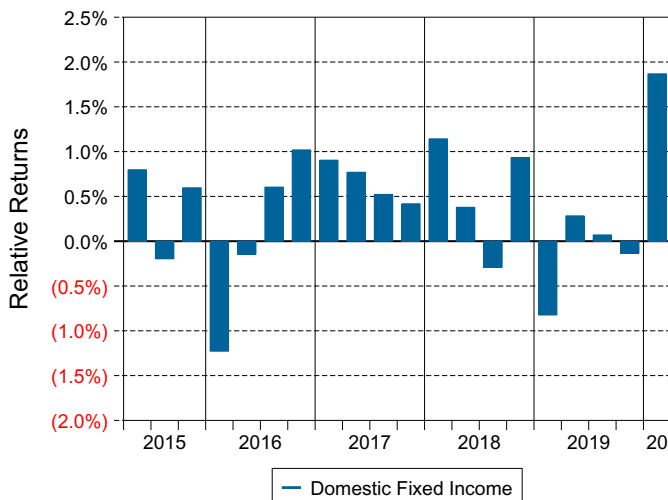
Beginning Market Value	\$1,379,014,287
Net New Investment	\$79,978,636
Investment Gains/(Losses)	\$390,644
Ending Market Value	\$1,459,383,567

Performance vs Public Fund - Domestic Fixed (Gross)

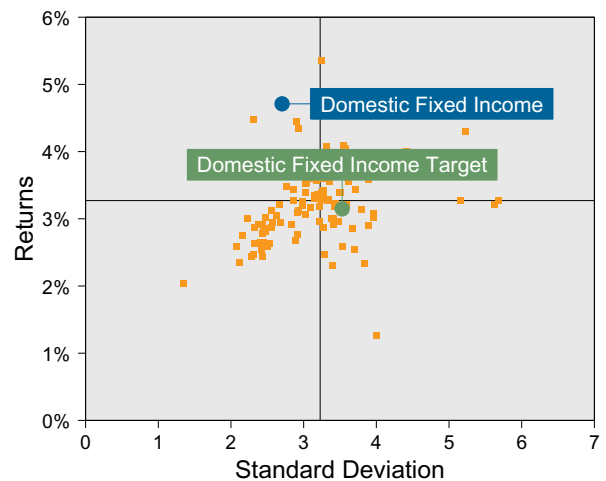


10th Percentile	3.22	6.01	9.60	6.96	5.42	3.98	5.17
25th Percentile	2.09	4.45	7.56	5.92	4.68	3.65	4.74
Median	0.80	3.27	6.06	5.24	4.13	3.27	4.17
75th Percentile	(1.16)	1.28	4.56	4.46	3.55	2.91	3.35
90th Percentile	(2.73)	(0.14)	2.47	2.94	3.08	2.58	2.92
Domestic Fixed Income	● 0.12	2.98	6.27	5.73	5.40	4.71	5.94
Domestic Fixed Income Target	▲ (1.75)	1.12	4.07	4.51	3.61	3.15	4.36

Relative Returns vs Domestic Fixed Income Target



Public Fund - Domestic Fixed (Gross) Annualized Five Year Risk vs Return



Declaration Total Return Period Ended March 31, 2020

Investment Philosophy

The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). Portfolio holdings may range from short tenure senior classes to stressed issues or subordinated securities with substantial risk of non-payment and correspondingly higher yields. Smaller portfolio allocations may include consumer asset-backed securities (ABS), or other structured credit securities and corporate bonds. As a diversification strategy and a potential hedge to credit risk, the Fund may invest in securities which tend to benefit from slow mortgage prepayments and economic growth, such as interest only (IO) MBS.

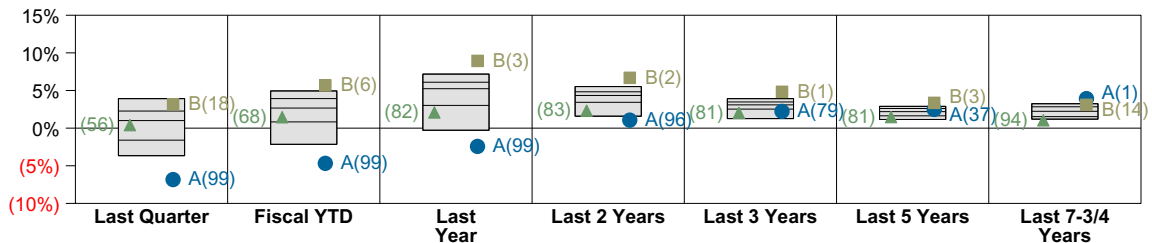
Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a (6.84)% return for the quarter placing it in the 99 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 99 percentile for the last year.
- Declaration Total Return's portfolio underperformed the LIBOR - 3 Month by 7.24% for the quarter and underperformed the LIBOR - 3 Month for the year by 4.52%.

Quarterly Asset Growth

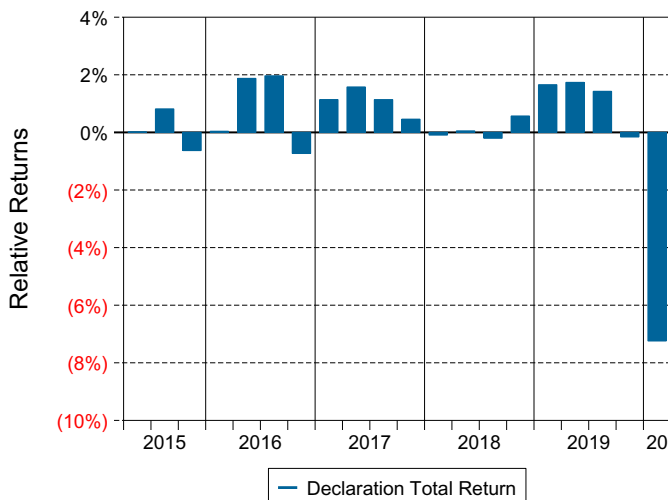
Beginning Market Value	\$115,822,175
Net New Investment	\$6,933,049
Investment Gains/(Losses)	\$-8,508,569
Ending Market Value	\$114,246,655

Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)

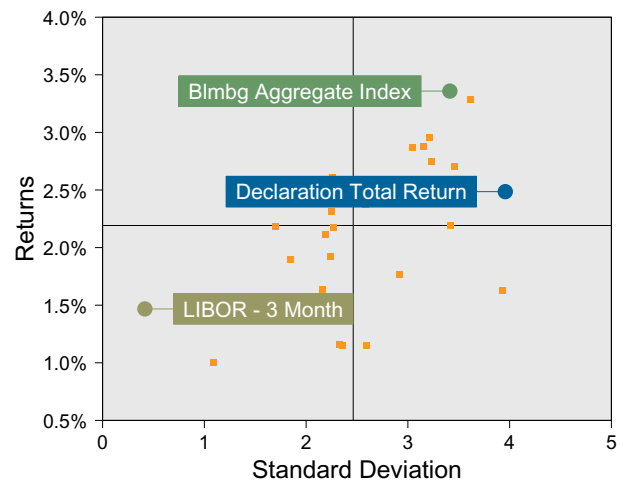


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7-3/4 Years
10th Percentile	3.92	4.94	7.18	5.52	3.92	2.89	3.24
25th Percentile	2.27	3.92	6.10	4.83	3.48	2.61	2.84
Median	1.00	2.67	5.24	4.34	3.09	2.19	2.24
75th Percentile	(1.60)	0.83	3.02	3.43	2.53	1.64	1.53
90th Percentile	(3.66)	(2.15)	(0.28)	1.58	1.27	1.15	1.19
Declaration Total Return	● A (6.84)	(4.68)	(2.43)	1.06	2.23	2.49	3.92
Aggregate Index	■ B 3.15	5.68	8.93	6.68	4.82	3.36	3.10
LIBOR - 3 Month	▲ 0.40	1.45	2.09	2.33	2.04	1.47	1.04

Relative Return vs LIBOR - 3 Month



Callan Intermediate Fixed Inc Mut Funds (Net) Annualized Five Year Risk vs Return



PIMCO DiSCO II

Period Ended March 31, 2020

Investment Philosophy

The PIMCO Distressed Senior Credit Opportunities Fund is an opportunistic private-equity style Fund which seeks to provide investors enhanced returns principally through long-biased investments in undervalued senior and super senior structured credit securities that are expected to produce attractive levels of current income and that may also appreciate in value over the long term. The fund will look to capitalize on forced sales by liquidity constrained investors.

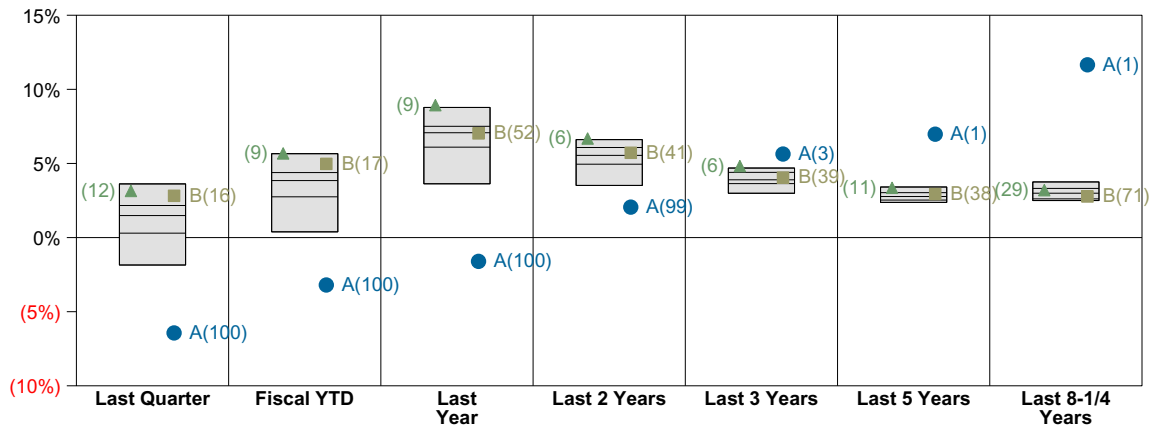
Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a (6.43)% return for the quarter placing it in the 100 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 100 percentile for the last year.
- PIMCO DiSCO II's portfolio underperformed the Blmbg Aggregate by 9.58% for the quarter and underperformed the Blmbg Aggregate for the year by 10.54%.

Quarterly Asset Growth

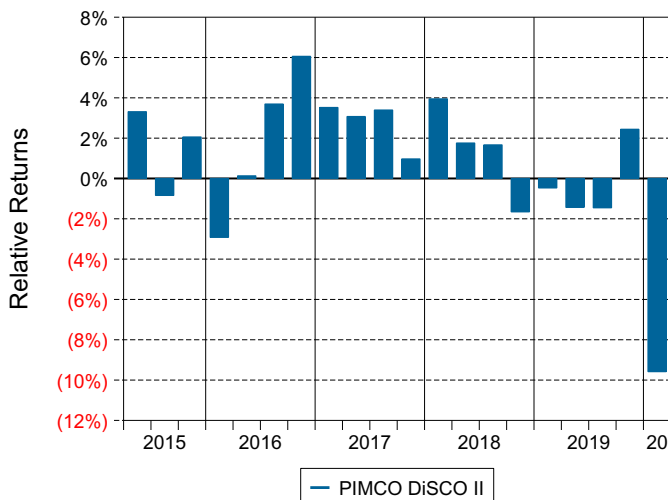
Beginning Market Value	\$97,201,301
Net New Investment	\$0
Investment Gains/(Losses)	\$-6,253,907
Ending Market Value	\$90,947,394

Performance vs Callan Core Bond Mutual Funds (Net)

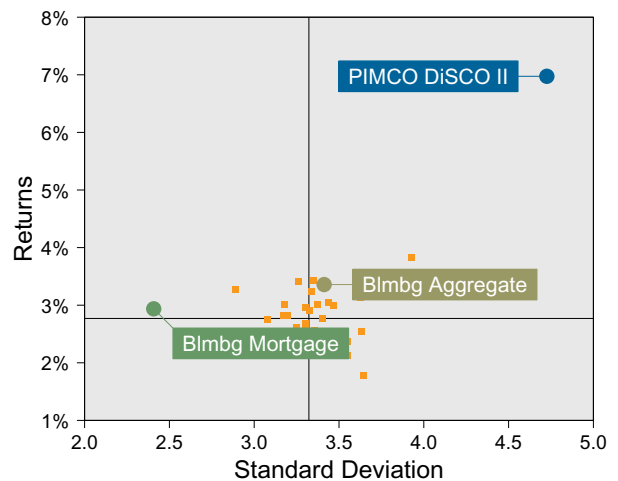


10th Percentile	3.62	5.66	8.78	6.61	4.69	3.41	3.75
25th Percentile	2.16	4.38	7.51	6.08	4.40	3.03	3.32
Median	1.49	3.85	7.07	5.55	3.90	2.77	2.99
75th Percentile	0.30	2.75	6.10	4.95	3.64	2.53	2.61
90th Percentile	(1.85)	0.39	3.63	3.52	2.99	2.37	2.50
PIMCO DiSCO II	● A (6.43)	(3.20)	(1.61)	2.05	5.63	6.97	11.65
Blmbg Mortgage	■ B 2.82	4.97	7.03	5.72	4.04	2.94	2.77
Blmbg Aggregate	▲ 3.15	5.68	8.93	6.68	4.82	3.36	3.20

Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



PIMCO Core Plus Constrained Period Ended March 31, 2020

Investment Philosophy

PIMCO's investment process utilizes both "top-down" and "bottom-up" strategies. Top-down strategies focus on duration, yield curve positioning, volatility, and sector rotation. These strategies are deployed from a macro view of the portfolio driven by their secular outlook of the forces likely to influence the economy and financial markets over the next three to five years and their cyclical views of two- to four-quarter trends. Implementation in portfolios is effected by selecting securities that achieve the designated objectives. Bottom-up strategies drive their security selection process and facilitate the identification and analysis of undervalued securities. **The product changed from Commingled Fund to Separate Account in March 2014. *Libor-3 month through February 28, 2017; Fund's performance through March 31, 2014; Libor-3 month through June 30, 2018; Bloomberg Aggregate thereafter.**

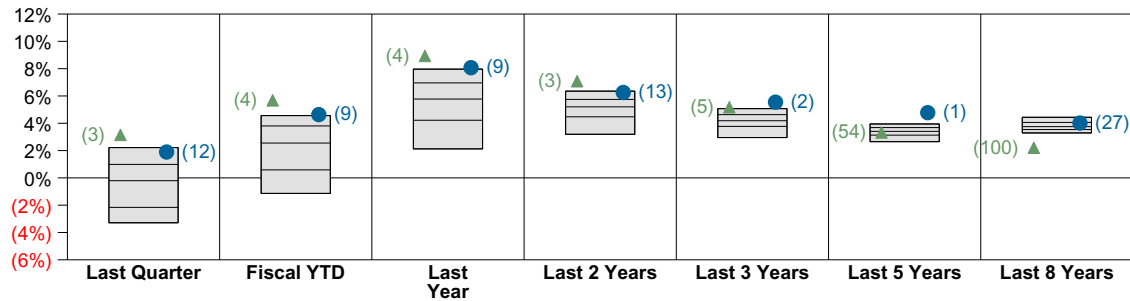
Quarterly Summary and Highlights

- PIMCO Core Plus Constrained's portfolio posted a 1.89% return for the quarter placing it in the 12 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 9 percentile for the last year.
- PIMCO Core Plus Constrained's portfolio underperformed the Blended Benchmark* by 1.26% for the quarter and underperformed the Blended Benchmark* for the year by 0.86%.

Quarterly Asset Growth

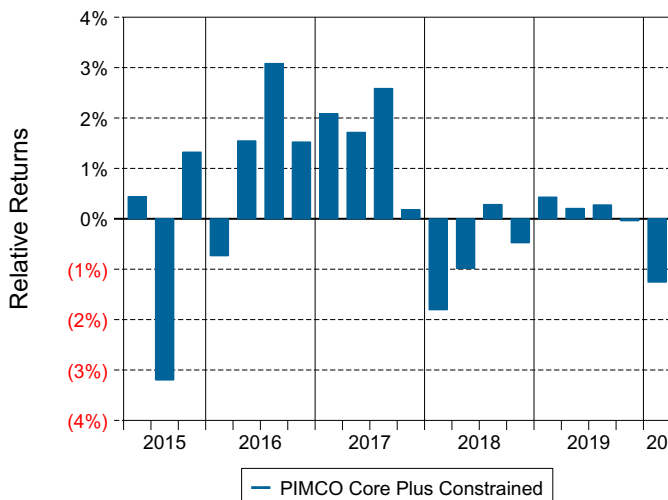
Beginning Market Value	\$333,954,695
Net New Investment	\$35,902,069
Investment Gains/(Losses)	\$6,696,148
Ending Market Value	\$376,552,913

Performance vs Callan Core Plus Fixed Income (Gross)

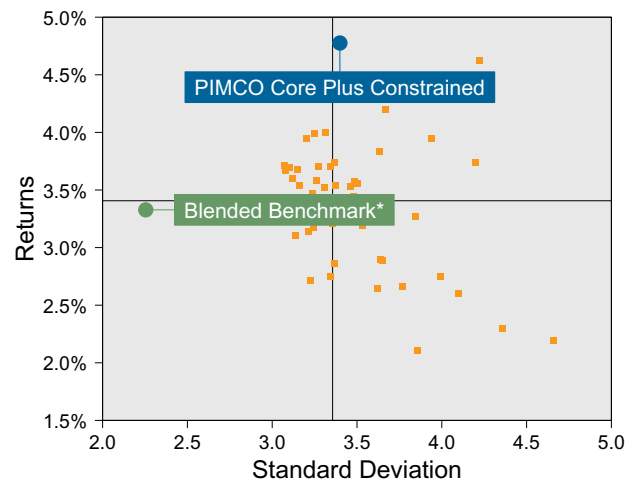


10th Percentile	2.22	4.56	7.97	6.35	5.07	3.95	4.44
25th Percentile	0.99	3.80	6.96	5.75	4.63	3.68	4.06
Median	(0.21)	2.55	5.77	5.20	4.18	3.41	3.75
75th Percentile	(2.16)	0.59	4.22	4.47	3.77	3.13	3.54
90th Percentile	(3.29)	(1.14)	2.12	3.19	2.95	2.65	3.29
PIMCO Core Plus Constrained	● 1.89	4.63	8.07	6.25	5.54	4.78	4.01
Blended Benchmark*	▲ 3.15	5.68	8.93	7.08	5.17	3.33	2.21

Relative Return vs Blended Benchmark*



Callan Core Plus Fixed Income (Gross) Annualized Five Year Risk vs Return



Prudential Core Period Ended March 31, 2020

Investment Philosophy

The PGIM Fixed Income Core Fixed Income strategy seeks to provide +60 bps over the Bloomberg Barclays Aggregate Index over a market cycle. The strategy tends to generate its excess return from fairly equal increments of both sector allocation and subsector/security allocation. Duration and yield curve positioning is generally de-emphasized, but will be considered when market opportunities dictate. The primary way they add value is through intensive research-based sector, industry, and security selection. The strategy is predominately investment grade, but may also invest nominally in crossover/high yield bonds and emerging markets debt, when guidelines permit.

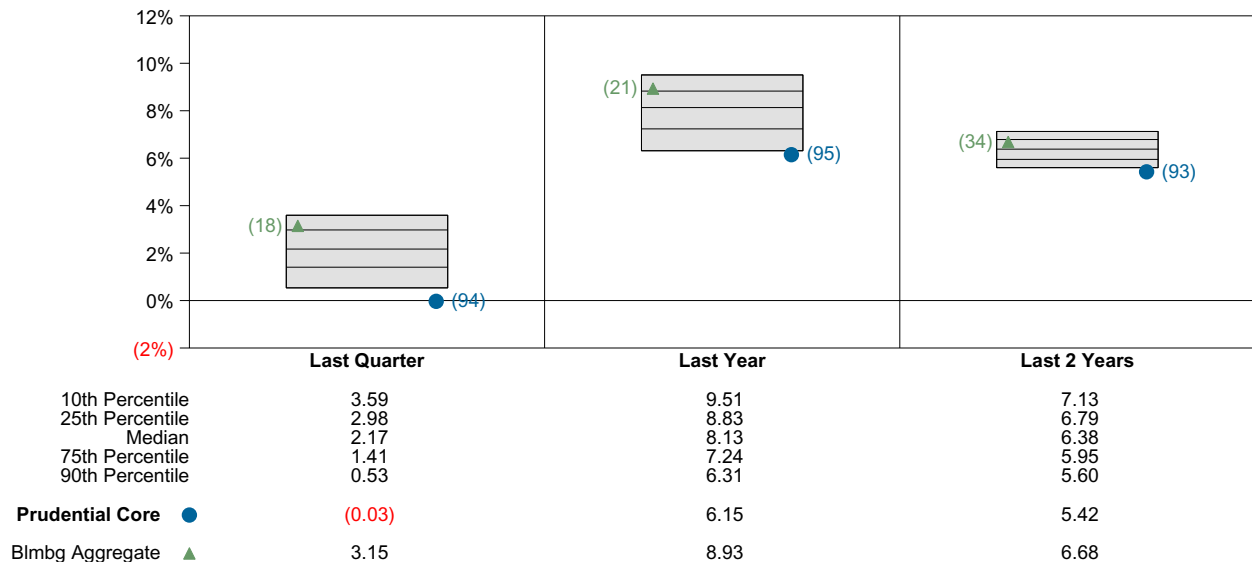
Quarterly Summary and Highlights

- Prudential Core's portfolio posted a (0.03)% return for the quarter placing it in the 94 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 95 percentile for the last year.
- Prudential Core's portfolio underperformed the Blmbg Aggregate by 3.18% for the quarter and underperformed the Blmbg Aggregate for the year by 2.79%.

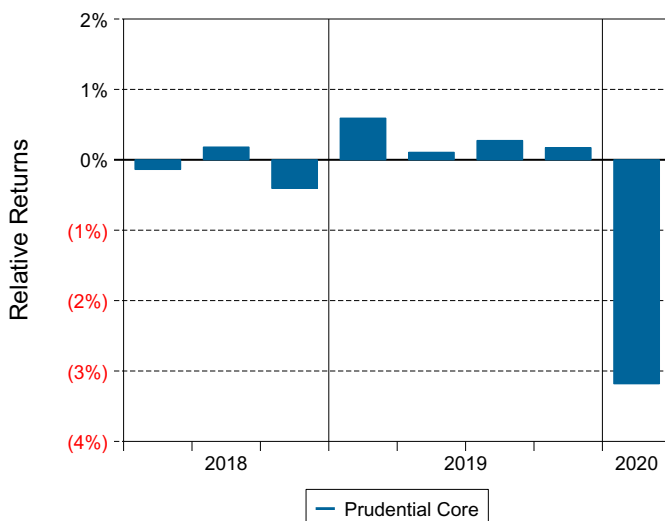
Quarterly Asset Growth

Beginning Market Value	\$332,633,496
Net New Investment	\$35,906,991
Investment Gains/(Losses)	\$-428,650
Ending Market Value	\$368,111,837

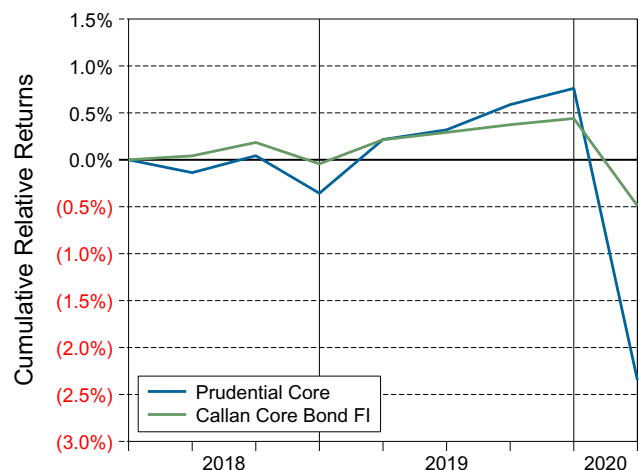
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



Cumulative Returns vs Blmbg Aggregate



SSgA Long US Treas Index Period Ended March 31, 2020

Investment Philosophy

The Fund seeks an investment return that approximates as closely as practicable, before expenses, the performance of the Barclays Capital U.S. Long Treasury Bond Index over the long term.

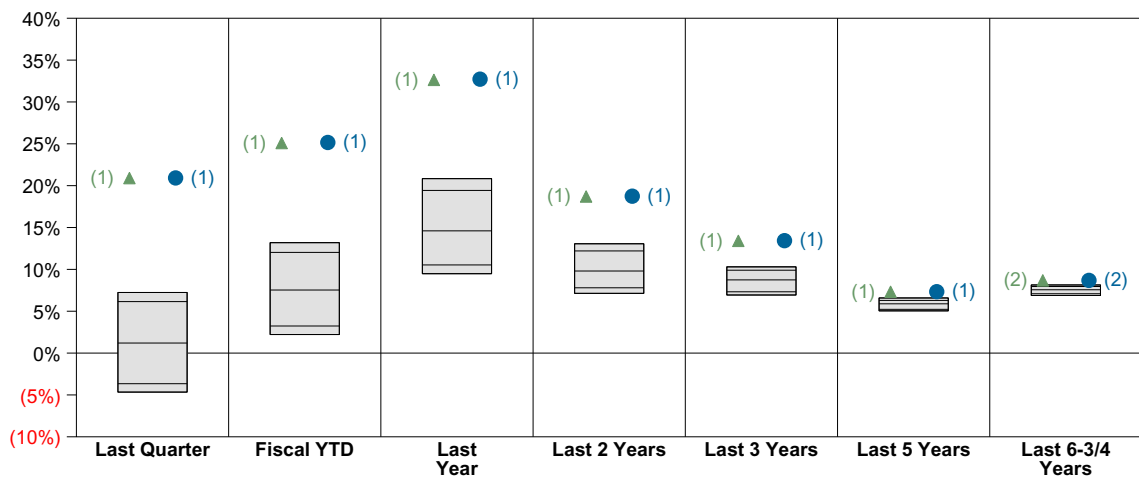
Quarterly Summary and Highlights

- SSgA Long US Treas Index's portfolio posted a 20.92% return for the quarter placing it in the 1 percentile of the Callan Extended Maturity Fixed Income group for the quarter and in the 1 percentile for the last year.
- SSgA Long US Treas Index's portfolio outperformed the Blmbg:Long Treasury by 0.02% for the quarter and outperformed the Blmbg:Long Treasury for the year by 0.08%.

Quarterly Asset Growth

Beginning Market Value	\$96,783,022
Net New Investment	\$-23,003,503
Investment Gains/(Losses)	\$24,693,254
Ending Market Value	\$98,472,774

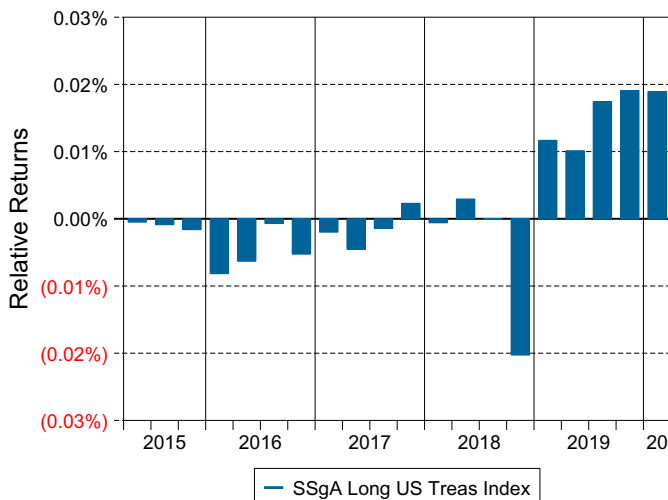
Performance vs Callan Extended Maturity Fixed Income (Gross)



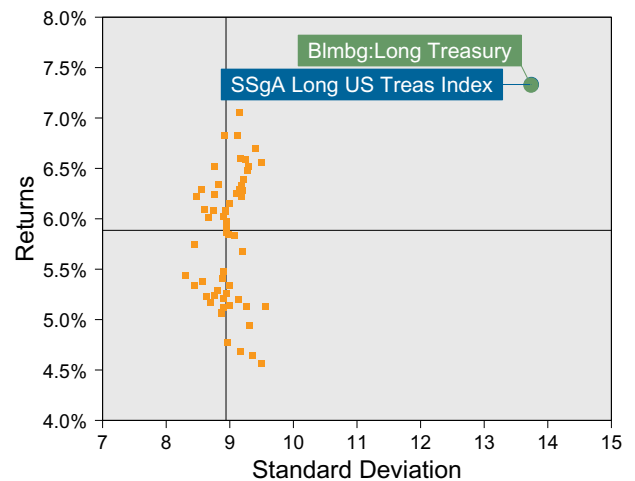
10th Percentile	7.24	13.19	20.84	13.06	10.30	6.59	8.14
25th Percentile	6.15	12.03	19.43	12.20	9.90	6.29	7.95
Median	1.20	7.53	14.60	9.80	8.74	5.89	7.57
75th Percentile	(3.66)	3.24	10.53	7.80	7.32	5.23	7.09
90th Percentile	(4.66)	2.22	9.48	7.13	6.94	5.05	6.88

SSgA Long US Treas Index ●	20.92	25.16	32.72	18.74	13.43	7.33	8.68
Blmbg:Long Treasury ▲	20.90	25.09	32.64	18.71	13.41	7.33	8.69

Relative Return vs Blmbg:Long Treasury



Callan Extended Maturity Fixed Income (Gross) Annualized Five Year Risk vs Return



Ares ND Credit Strategies Fd Period Ended March 31, 2020

Quarterly Summary and Highlights

- Ares ND Credit Strategies Fd's portfolio posted a 1.99% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Ares ND Credit Strategies Fd's portfolio outperformed the S&P/LSTA Leveraged Loan B Index by 15.70% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 18.04%.

Quarterly Asset Growth

Beginning Market Value	\$102,818,591
Net New Investment	\$15,000,000
Investment Gains/(Losses)	\$2,050,951
Ending Market Value	\$119,869,542

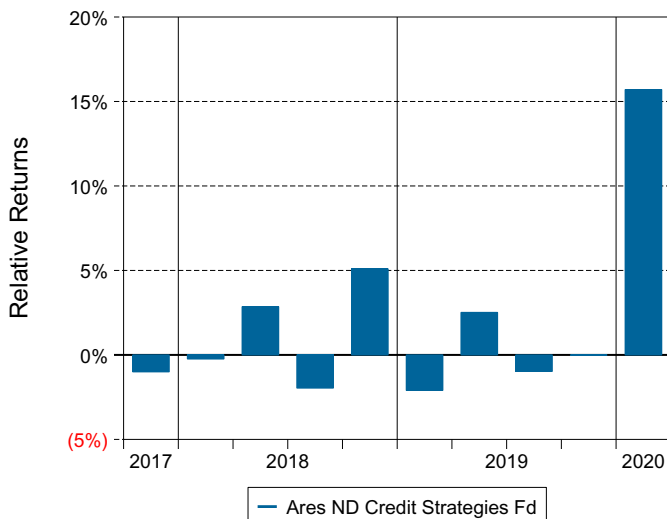
Performance vs Callan High Yield Mutual Funds (Net)



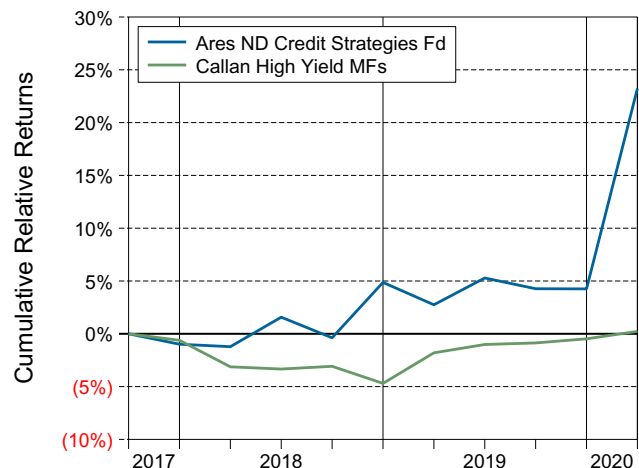
10th Percentile	(10.30)	(6.68)	(4.19)	0.14	0.06
25th Percentile	(11.73)	(8.26)	(5.67)	(0.43)	(0.83)
Median	(12.78)	(9.65)	(7.31)	(1.56)	(1.41)
75th Percentile	(14.30)	(10.96)	(8.78)	(2.30)	(2.04)
90th Percentile	(15.99)	(13.25)	(10.94)	(3.92)	(3.30)

Ares ND Credit Strategies Fd	● A	1.99	4.13	8.53	7.97	6.90
S&P/LSTA Leveraged Loan	■ B	(13.05)	(10.66)	(9.16)	(3.29)	(1.64)
S&P/LSTA Leveraged Loan B Index	▲	(13.72)	(11.03)	(9.50)	(3.33)	(1.67)

Relative Returns vs S&P/LSTA Leveraged Loan B Index



Cumulative Returns vs S&P/LSTA Leveraged Loan B Index



Cerberus ND Private Credit Fd Period Ended March 31, 2020

Investment Philosophy

The investment objective of the LLC is to achieve superior risk-adjusted rates of return primarily through origination of, and investment in, secured debt assets consistent with the Loan Opportunities Strategy of the Cerberus Business Finance lending platform ("CBF", "Cerberus Business Finance" or the "Cerberus Lending Platform"). The Cerberus Lending Platform is a direct origination and lending business focused on providing secured debt primarily to U.S. middle-market companies. The LLC expects to generate both current income and capital appreciation.

Quarterly Summary and Highlights

- Cerberus ND Private Credit Fd's portfolio posted a 2.39% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Cerberus ND Private Credit Fd's portfolio outperformed the S&P/LSTA Leveraged Loan B Index by 16.11% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 18.01%.

Quarterly Asset Growth

Beginning Market Value	\$105,560,536
Net New Investment	\$11,000,000
Investment Gains/(Losses)	\$2,537,944
Ending Market Value	\$119,098,480

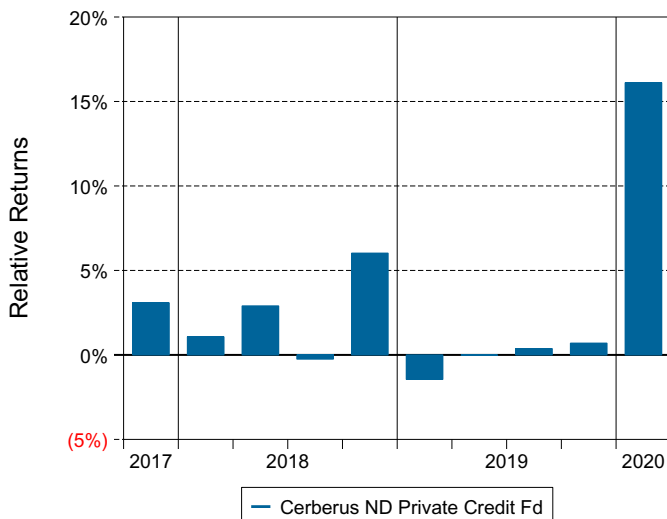
Performance vs Callan High Yield Mutual Funds (Net)



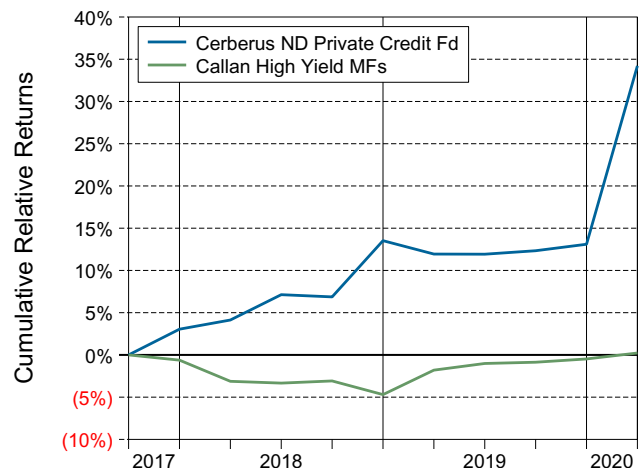
10th Percentile	(10.30)	(6.68)	(4.19)	0.14	0.06
25th Percentile	(11.73)	(8.26)	(5.67)	(0.43)	(0.83)
Median	(12.78)	(9.65)	(7.31)	(1.56)	(1.41)
75th Percentile	(14.30)	(10.96)	(8.78)	(2.30)	(2.04)
90th Percentile	(15.99)	(13.25)	(10.94)	(3.92)	(3.30)

Cerberus ND Private Credit Fd	● A	2.39	6.68	8.50	9.75	10.61
S&P/LSTA Leveraged Loan	■ B	(13.05)	(10.66)	(9.16)	(3.29)	(1.64)
S&P/LSTA Leveraged Loan B Index	▲	(13.72)	(11.03)	(9.50)	(3.33)	(1.67)

Relative Returns vs S&P/LSTA Leveraged Loan B Index



Cumulative Returns vs S&P/LSTA Leveraged Loan B Index



Goldman Sachs 2006 Offshore Period Ended March 31, 2020

Investment Philosophy

GS Mezzanine Partners seeks large-sized mezzanine investments comprised generally of fixed income securities and an associated equity component. They focus on providing "private high yield" capital for mid- to large-sized leveraged and management buyout transactions, recapitalizations, financings, re-financings, acquisitions and restructurings for private equity firms, private family companies and corporate issuers.

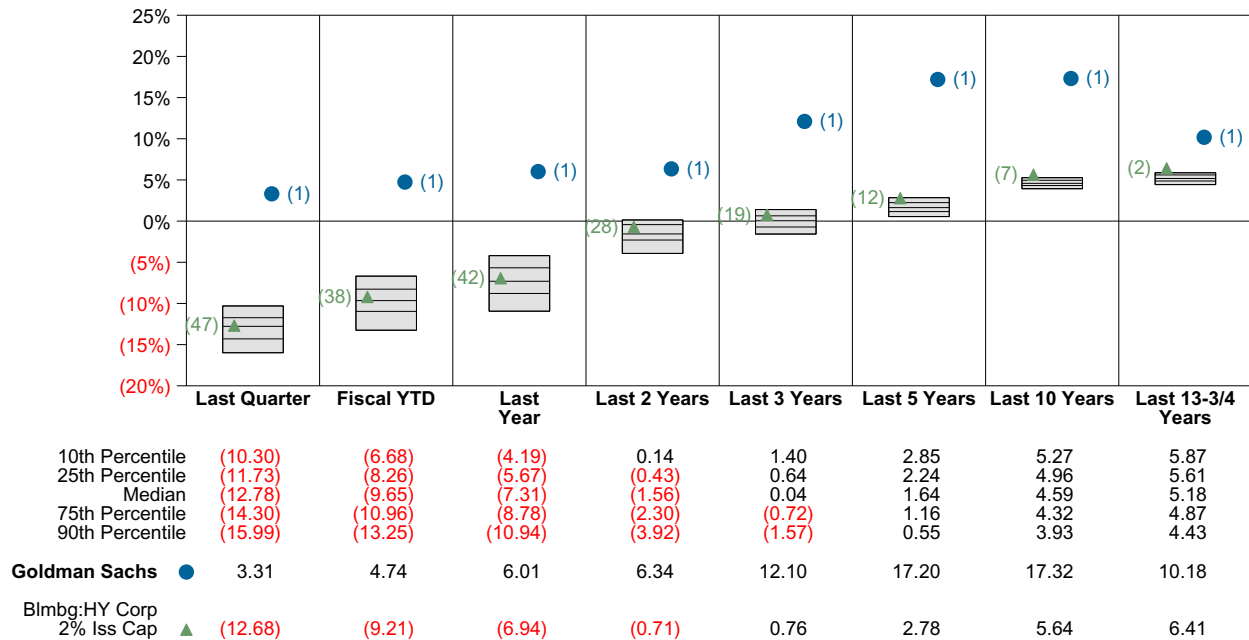
Quarterly Summary and Highlights

- Goldman Sachs's portfolio posted a 3.31% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Goldman Sachs's portfolio outperformed the Blmbg:HY Corp 2% Iss Cap by 16.00% for the quarter and outperformed the Blmbg:HY Corp 2% Iss Cap for the year by 12.95%.

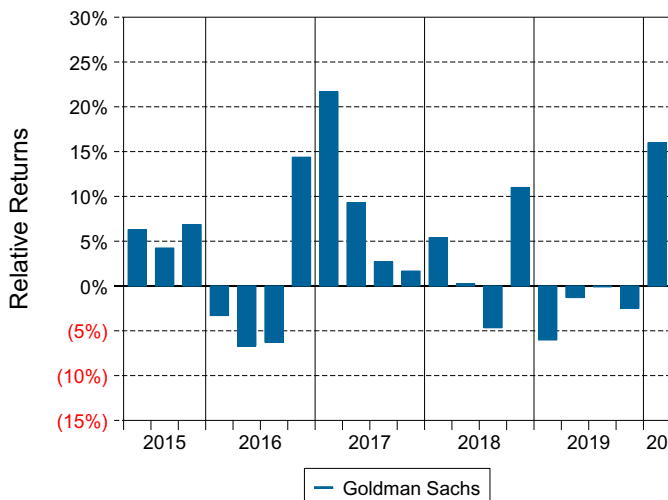
Quarterly Asset Growth

Beginning Market Value	\$62,370
Net New Investment	\$0
Investment Gains/(Losses)	\$2,066
Ending Market Value	\$64,436

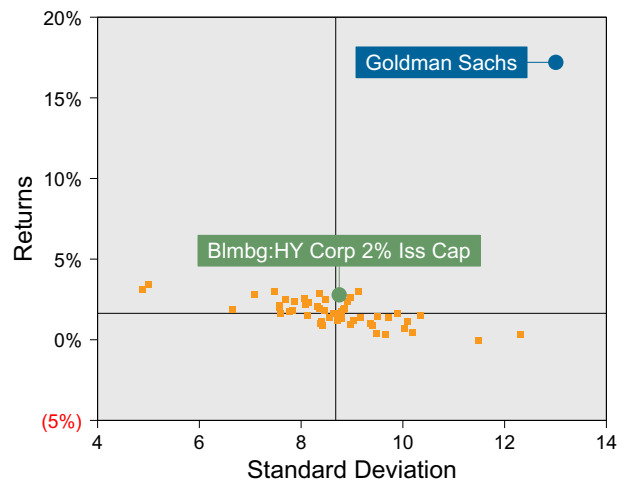
Performance vs Callan High Yield Mutual Funds (Net)



Relative Return vs Blmbg:HY Corp 2% Iss Cap



Callan High Yield Mutual Funds (Net) Annualized Five Year Risk vs Return



Goldman Sachs Offshore Fund V

Period Ended March 31, 2020

Investment Philosophy

GS Mezzanine Partners seeks large-sized mezzanine investments comprised generally of fixed income securities and an associated equity component. They focus on providing "private high yield" capital for mid- to large-sized leveraged and management buyout transactions, recapitalizations, financings, re-financings, acquisitions and restructurings for private equity firms, private family companies and corporate issuers.

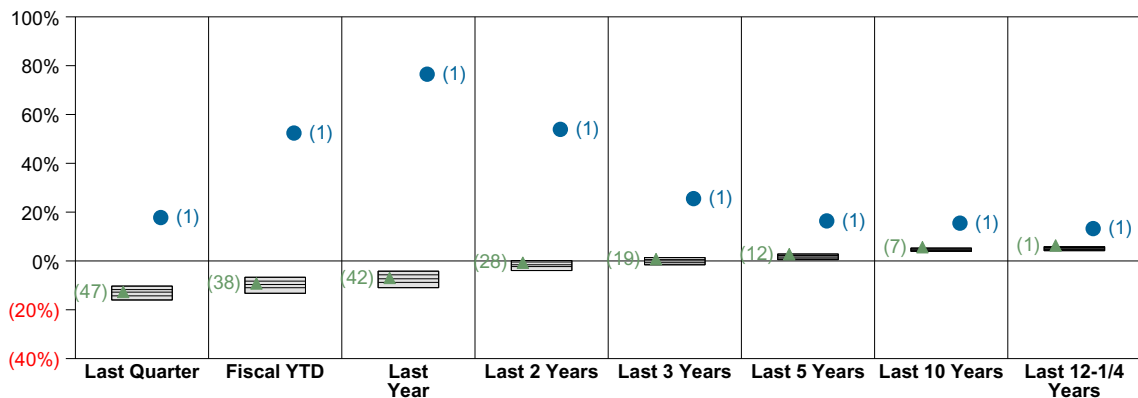
Quarterly Summary and Highlights

- Goldman Sachs Offshore V's portfolio posted a 17.78% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Goldman Sachs Offshore V's portfolio outperformed the Blmbg:HY Corp 2% Iss Cap by 30.46% for the quarter and outperformed the Blmbg:HY Corp 2% Iss Cap for the year by 83.44%.

Quarterly Asset Growth

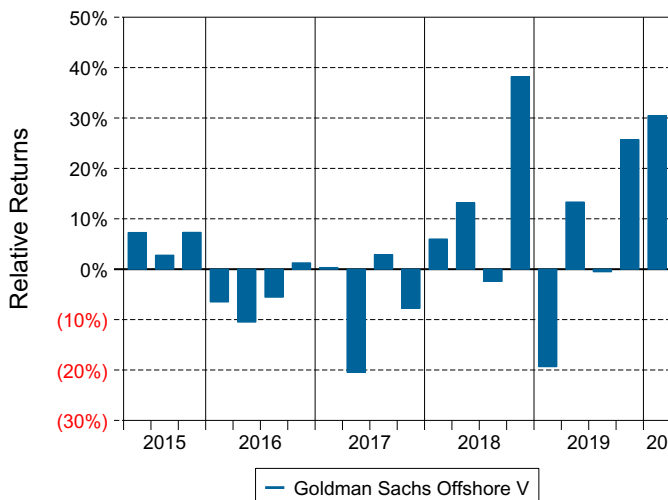
Beginning Market Value	\$419,191
Net New Investment	\$0
Investment Gains/(Losses)	\$74,526
Ending Market Value	\$493,717

Performance vs Callan High Yield Mutual Funds (Net)

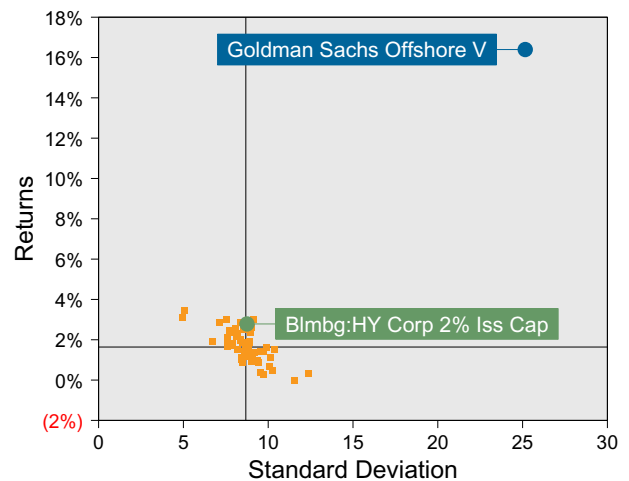


10th Percentile	(10.30)	(6.68)	(4.19)	0.14	1.40	2.85	5.27	5.84
25th Percentile	(11.73)	(8.26)	(5.67)	(0.43)	0.64	2.24	4.96	5.51
Median	(12.78)	(9.65)	(7.31)	(1.56)	0.04	1.64	4.59	5.01
75th Percentile	(14.30)	(10.96)	(8.78)	(2.30)	(0.72)	1.16	4.32	4.72
90th Percentile	(15.99)	(13.25)	(10.94)	(3.92)	(1.57)	0.55	3.93	4.21
Goldman Sachs Offshore V	17.78	52.40	76.50	53.90	25.53	16.39	15.48	13.25
Blmbg:HY Corp 2% Iss Cap	(12.68)	(9.21)	(6.94)	(0.71)	0.76	2.78	5.64	6.36

Relative Return vs Blmbg:HY Corp 2% Iss Cap



Callan High Yield Mutual Funds (Net) Annualized Five Year Risk vs Return



Loomis Sayles

Period Ended March 31, 2020

Investment Philosophy

The High Yield Full Discretion Strategy seeks to identify attractive sectors and specific investment opportunities primarily within the global fixed income market through a global economic and interest rate framework. Portfolio managers incorporate a long-term macroeconomic view along with a stringent bottom-up investment evaluation process that drives security selection and resulting sector allocations. Opportunistic investments in non-benchmark sectors including investment grade corporate, emerging market, and non-US dollar debt and convertible bonds help to manage overall portfolio risk and enhance total return potential.

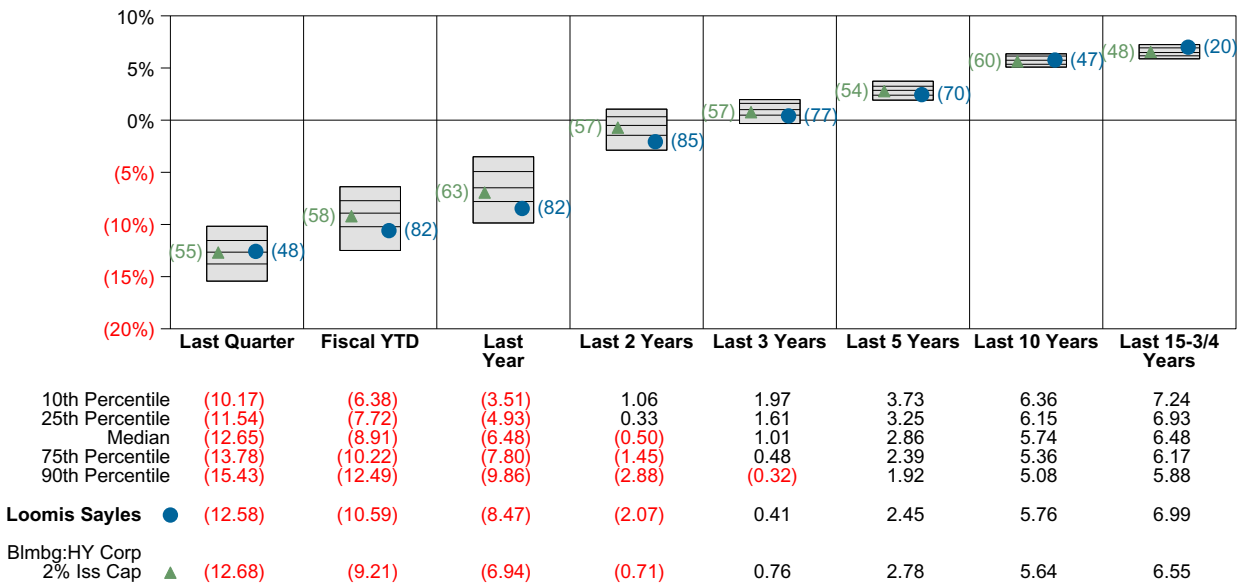
Quarterly Summary and Highlights

- Loomis Sayles's portfolio posted a (12.58)% return for the quarter placing it in the 48 percentile of the Callan High Yield Fixed Income group for the quarter and in the 82 percentile for the last year.
- Loomis Sayles's portfolio outperformed the Blmbg:HY Corp 2% Iss Cap by 0.11% for the quarter and underperformed the Blmbg:HY Corp 2% Iss Cap for the year by 1.53%.

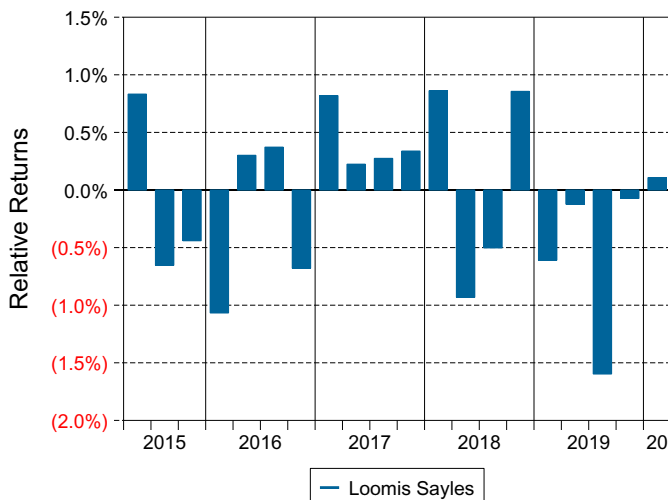
Quarterly Asset Growth

Beginning Market Value	\$170,445,942
Net New Investment	\$-213,057
Investment Gains/(Losses)	\$-21,413,918
Ending Market Value	\$148,818,966

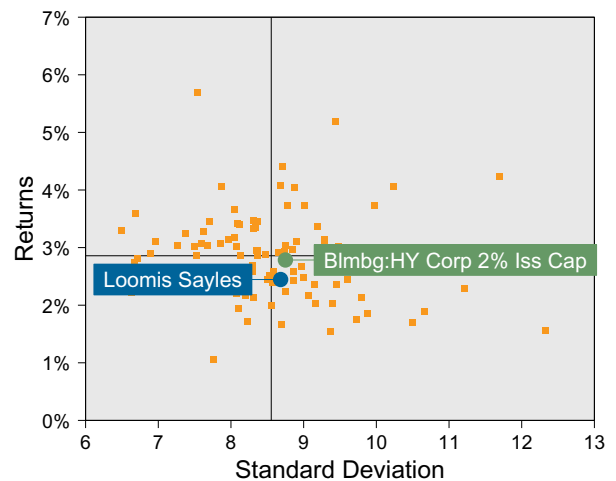
Performance vs Callan High Yield Fixed Income (Gross)



Relative Return vs Blmbg:HY Corp 2% Iss Cap



Callan High Yield Fixed Income (Gross) Annualized Five Year Risk vs Return



PIMCO Bravo II Fund

Period Ended March 31, 2020

Investment Philosophy

The BRAVO II Fund is a private equity style fund targeting an annualized IRR of 15-20% and multiple of 1.8-2x, net of fees and carried interest with an initial 5-year term. The fund will seek to capitalize on non-economic asset sale decisions by global financial institutions. The fund will have the flexibility to acquire attractively discounted, less liquid loans, structured credit and other assets tied to residential or commercial real estate markets in the U.S. and Europe.

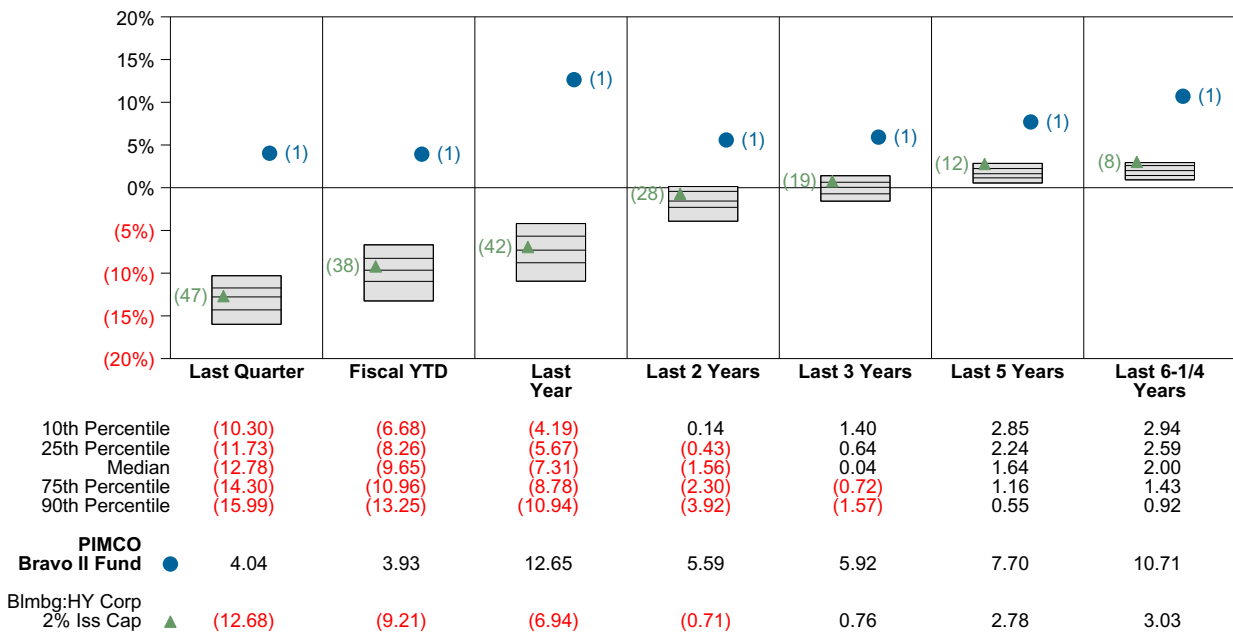
Quarterly Summary and Highlights

- PIMCO Bravo II Fund's portfolio posted a 4.04% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO Bravo II Fund's portfolio outperformed the Blmbg:HY Corp 2% Iss Cap by 16.72% for the quarter and outperformed the Blmbg:HY Corp 2% Iss Cap for the year by 19.58%.

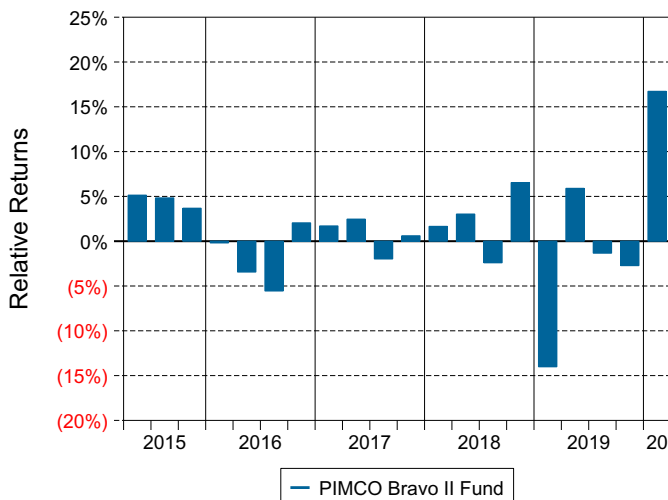
Quarterly Asset Growth

Beginning Market Value	\$23,312,968
Net New Investment	\$-1,546,914
Investment Gains/(Losses)	\$940,799
Ending Market Value	\$22,706,853

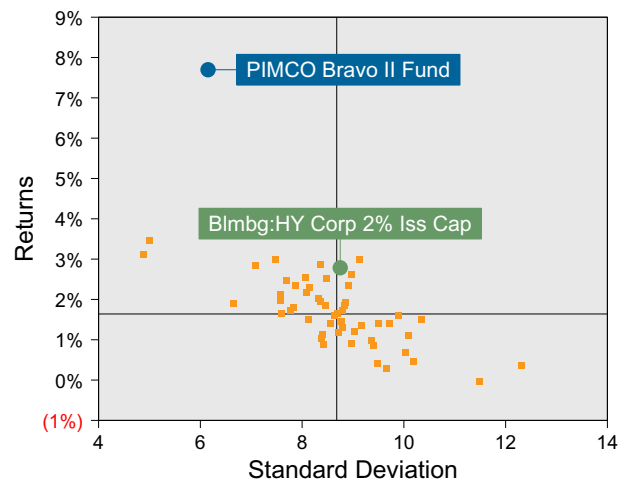
Performance vs Callan High Yield Mutual Funds (Net)



Relative Return vs Blmbg:HY Corp 2% Iss Cap



Callan High Yield Mutual Funds (Net) Annualized Five Year Risk vs Return



Real Estate Period Ended March 31, 2020

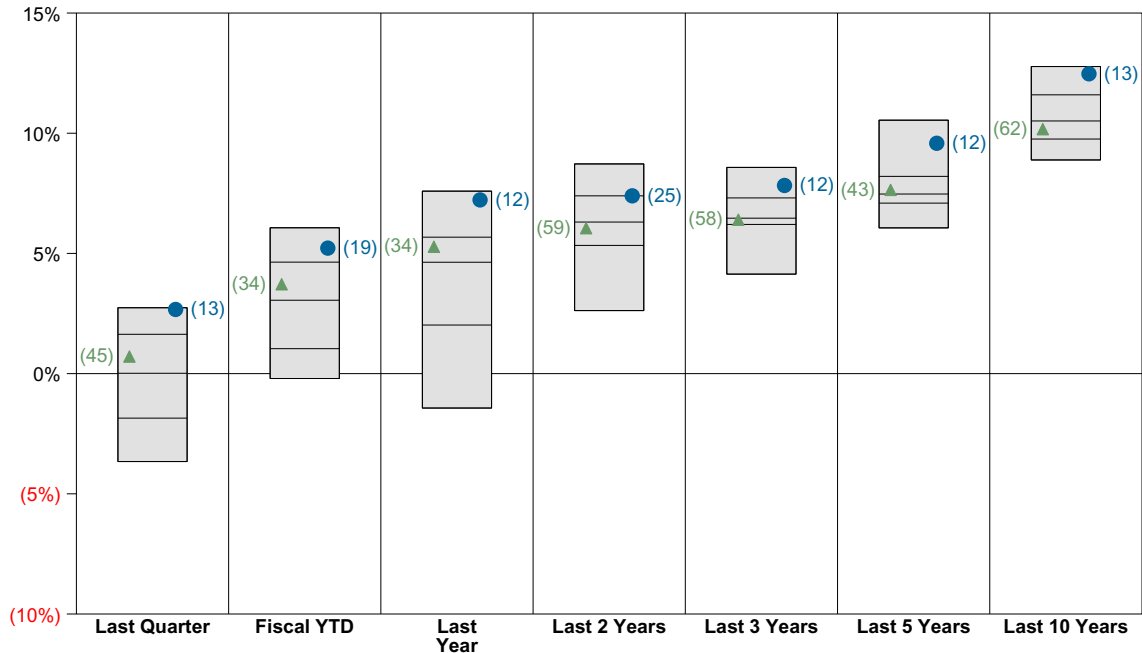
Quarterly Summary and Highlights

- Real Estate's portfolio posted a 2.67% return for the quarter placing it in the 13 percentile of the Public Fund - Real Estate group for the quarter and in the 12 percentile for the last year.
- Real Estate's portfolio outperformed the NCREIF Total Index by 1.96% for the quarter and outperformed the NCREIF Total Index for the year by 1.95%.

Quarterly Asset Growth

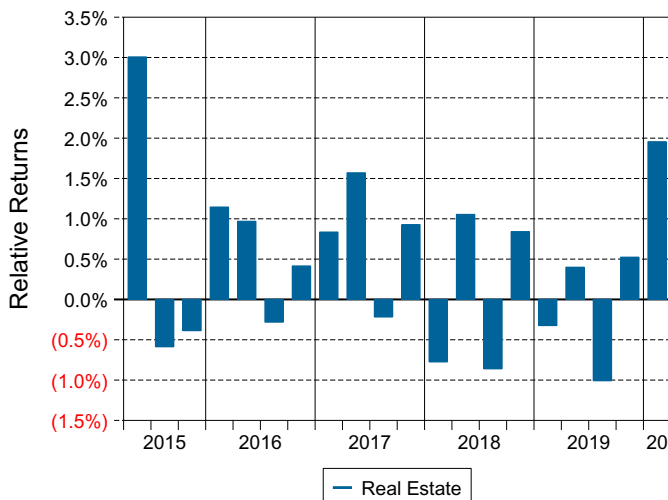
Beginning Market Value	\$667,561,389
Net New Investment	\$-15,623,428
Investment Gains/(Losses)	\$17,492,357
Ending Market Value	\$669,430,317

Performance vs Public Fund - Real Estate (Gross)

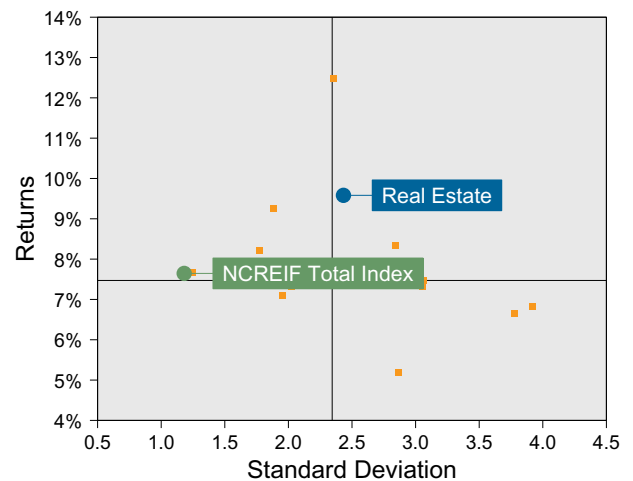


10th Percentile	2.74	6.07	7.59	8.72	8.58	10.54	12.78
25th Percentile	1.64	4.64	5.68	7.40	7.31	8.21	11.60
Median	0.01	3.05	4.63	6.30	6.47	7.47	10.51
75th Percentile	(1.85)	1.04	2.02	5.33	6.21	7.09	9.76
90th Percentile	(3.66)	(0.20)	(1.43)	2.62	4.14	6.06	8.89
Real Estate	● 2.67	5.22	7.23	7.40	7.83	9.58	12.47
NCREIF Total Index	▲ 0.71	3.72	5.28	6.05	6.41	7.65	10.17

Relative Return vs NCREIF Total Index



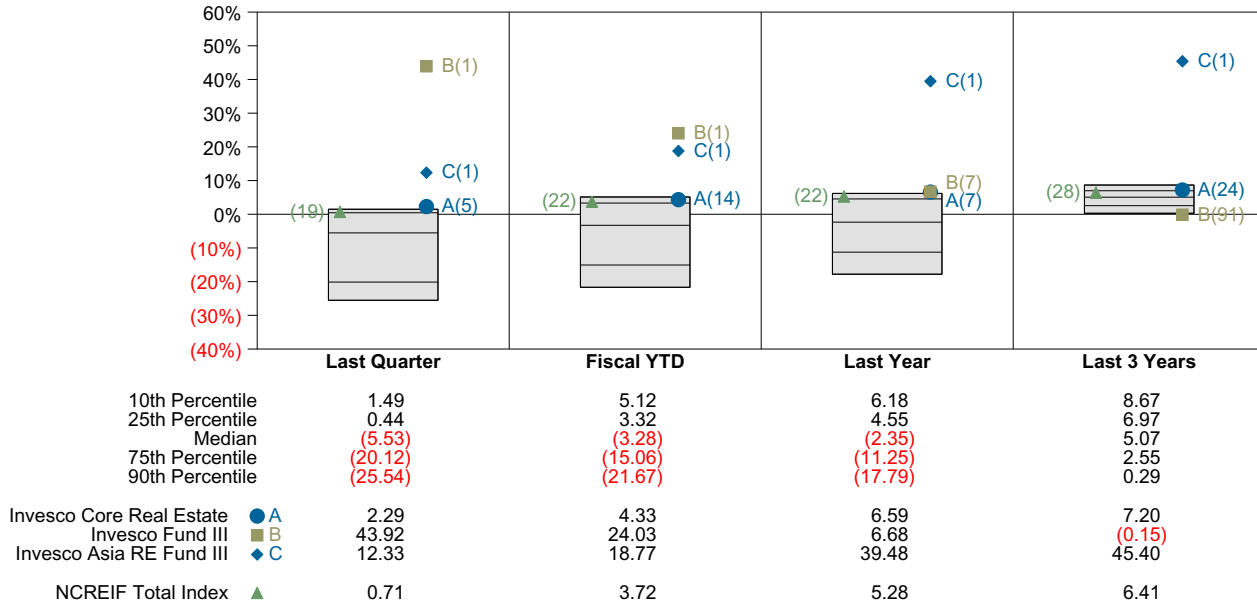
Public Fund - Real Estate (Gross) Annualized Five Year Risk vs Return



North Dakota State Investment Board Pension Funds Performance vs Callan Total Domestic Real Estate DB Periods Ended March 31, 2020

Return Ranking

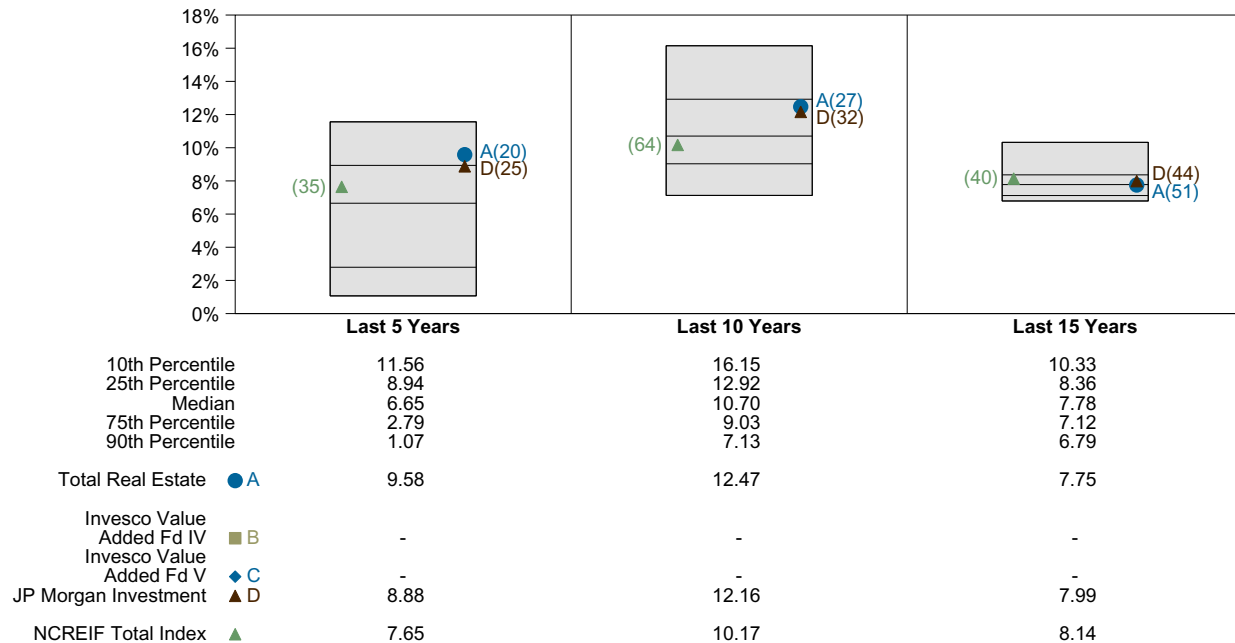
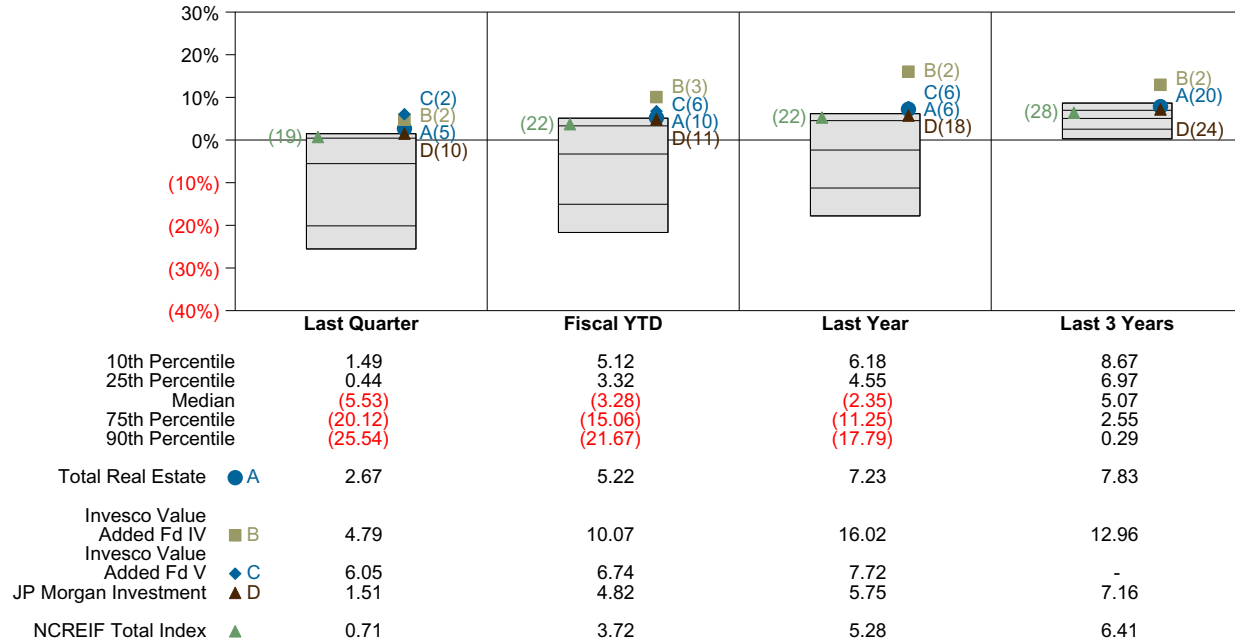
The chart below illustrates fund rankings over various periods versus the Callan Total Domestic Real Estate DB. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Total Domestic Real Estate DB. The numbers to the right of the bar represent the percentile rankings of the funds being analyzed. The table below the chart details the rates of return plotted in the graph above.



North Dakota State Investment Board Pension Funds Performance vs Callan Total Domestic Real Estate DB Periods Ended March 31, 2020

Return Ranking

The chart below illustrates fund rankings over various periods versus the Callan Total Domestic Real Estate DB. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Total Domestic Real Estate DB. The numbers to the right of the bar represent the percentile rankings of the funds being analyzed. The table below the chart details the rates of return plotted in the graph above.



TIR Teredo

Period Ended March 31, 2020

Investment Philosophy

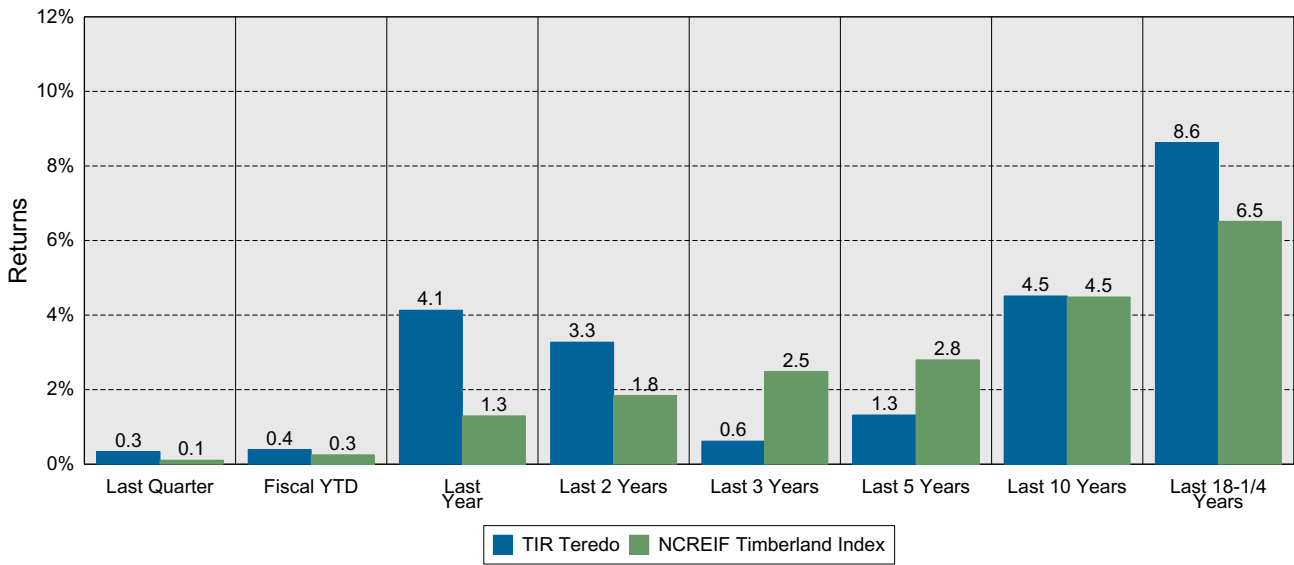
Teredo Timber LLC - The investment objective of Teredo is to provide competitive investment returns from increasing saw timber production through the 20 year term of the partnership. TIR's management strategy is to maximize saw timber volume by applying intensive forest management techniques which accelerate growth through the diameter class distribution. Periodic cash flows are produced from thinning and final harvests of the individual timber stands.

Quarterly Summary and Highlights

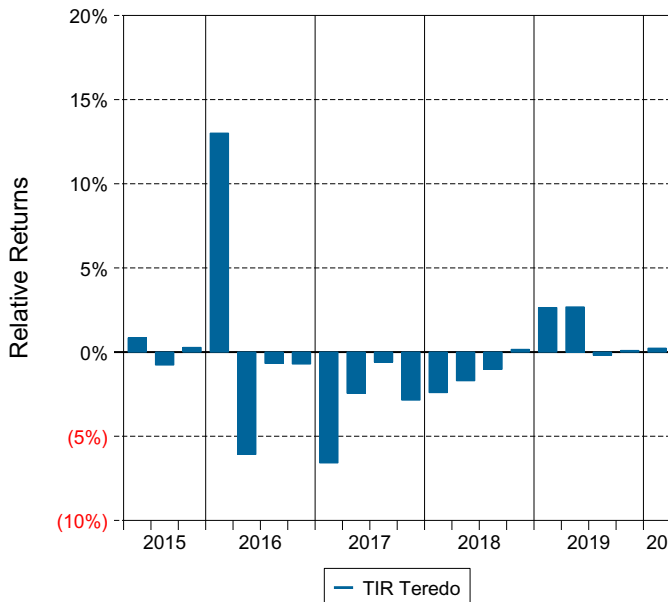
- TIR Teredo's portfolio outperformed the NCREIF Timberland Index by 0.23% for the quarter and outperformed the NCREIF Timberland Index for the year by 2.83%.

Quarterly Asset Growth

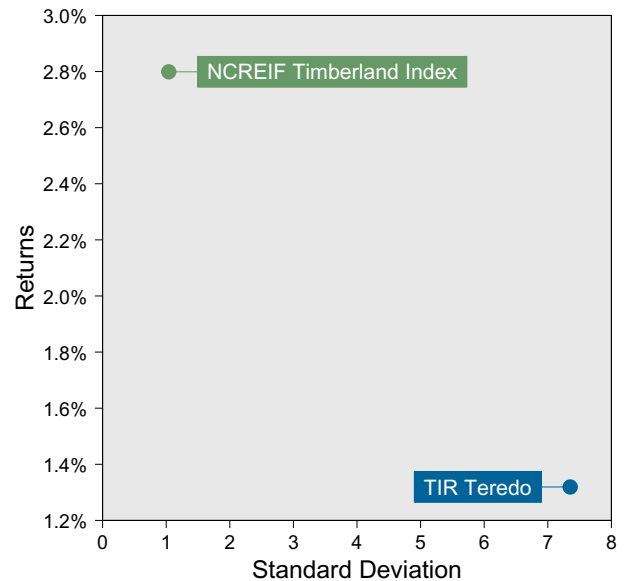
Beginning Market Value	\$31,391,305
Net New Investment	\$-1,200,000
Investment Gains/(Losses)	\$103,494
Ending Market Value	\$30,294,799



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



TIR Springbank

Period Ended March 31, 2020

Investment Philosophy

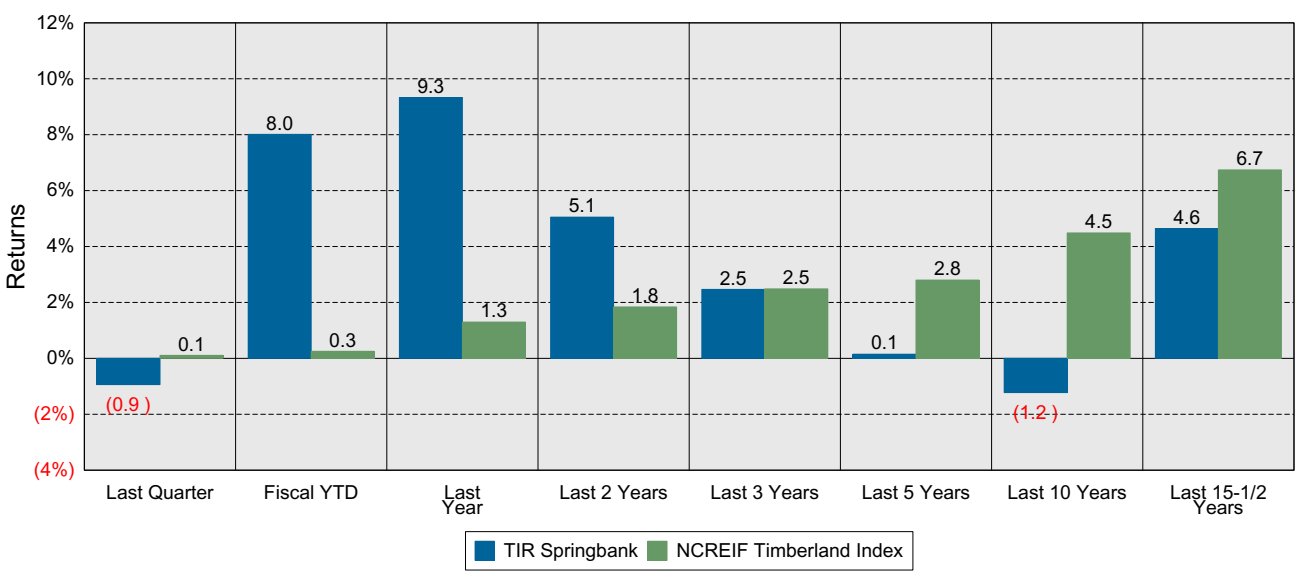
Springbank LLC - The investment objective of Springbank is to maximize long-term investment potential by means of the formation of a dedicated land management group, intensive timber management to increase timber production, the coordination of timber harvesting with land management activities and direct marketing and selective real estate partnerships.

Quarterly Summary and Highlights

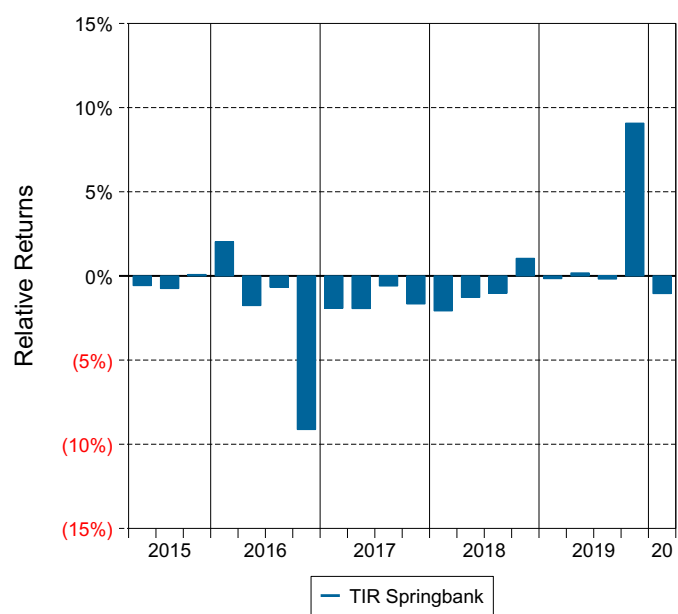
- TIR Springbank's portfolio underperformed the NCREIF Timberland Index by 1.05% for the quarter and outperformed the NCREIF Timberland Index for the year by 8.03%.

Quarterly Asset Growth

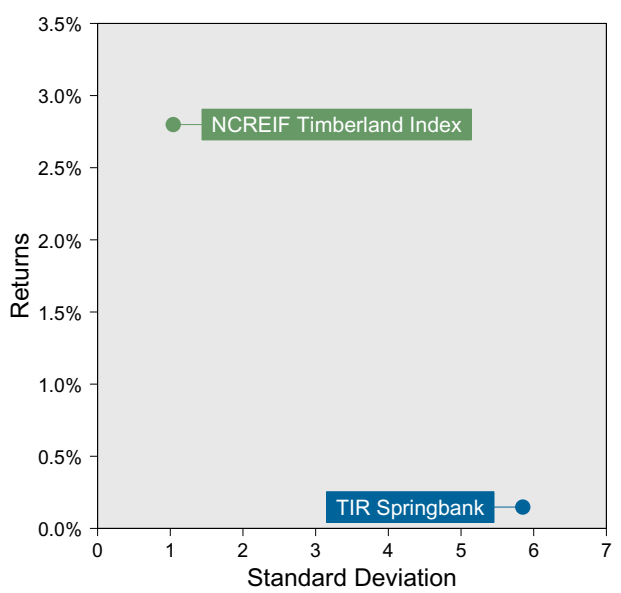
Beginning Market Value	\$99,930,382
Net New Investment	\$-1,900,000
Investment Gains/(Losses)	\$-927,940
Ending Market Value	\$97,102,442



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



ISQ Global Infrastructure II

Period Ended March 31, 2020

Investment Philosophy

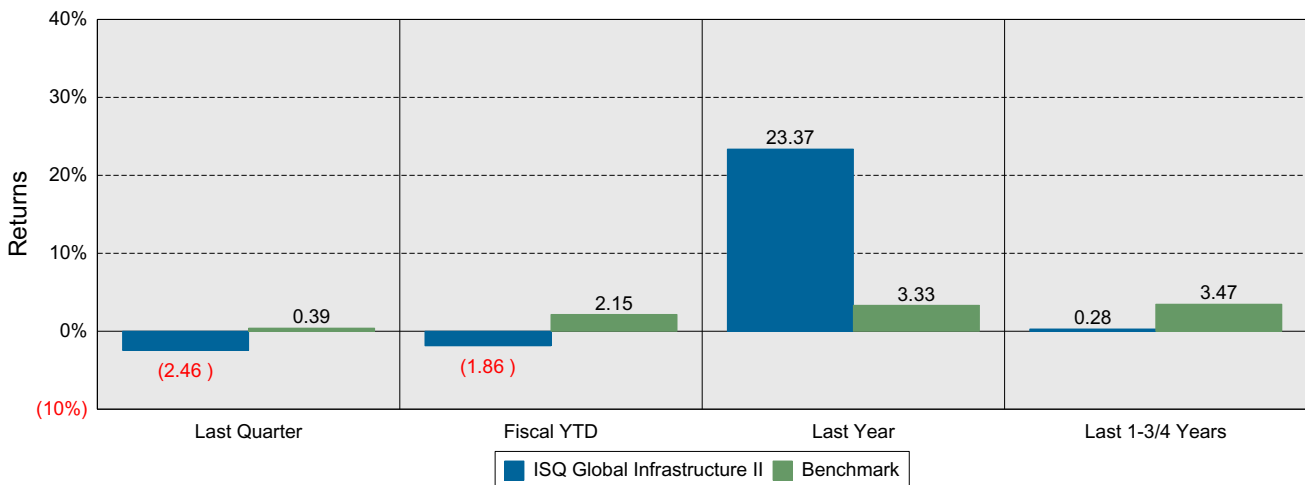
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia and Latin America. The Fund may also invest in debt Securities that have equity-like returns or an equity component, or are related to its equity investments, including without limitation convertible debt, bank loans and participations and other similar instruments. **The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.**

Quarterly Summary and Highlights

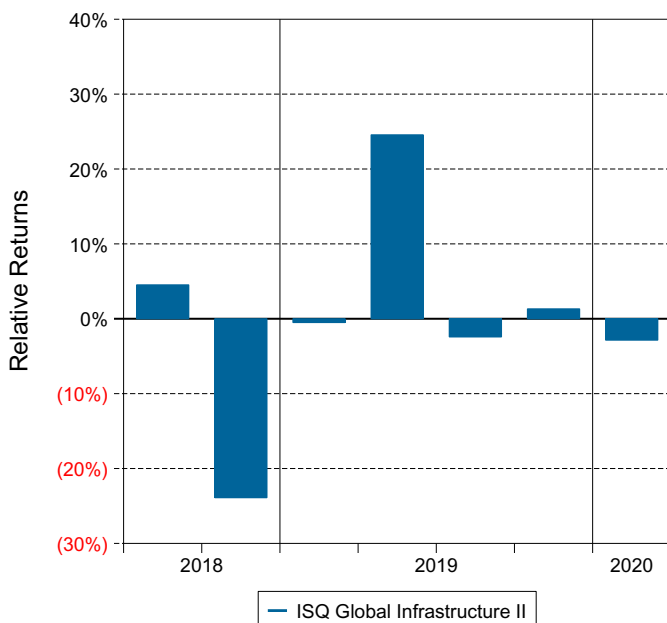
- ISQ Global Infrastructure II's portfolio underperformed the Benchmark by 2.85% for the quarter and outperformed the Benchmark for the year by 20.04%.

Quarterly Asset Growth

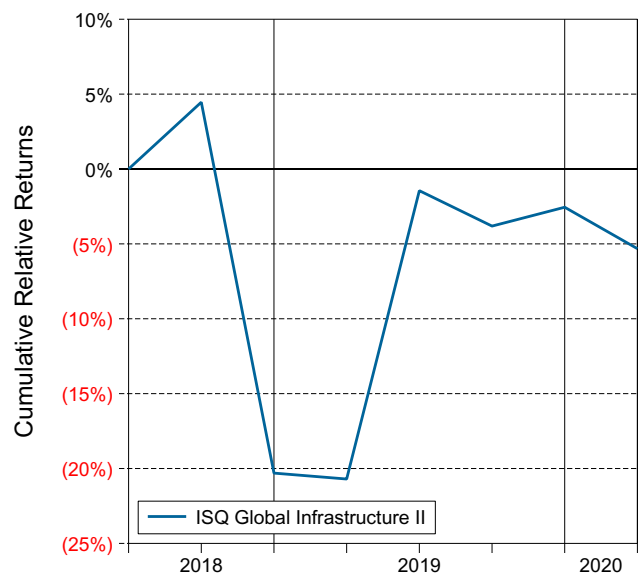
Beginning Market Value	\$27,912,864
Net New Investment	\$12,735,978
Investment Gains/(Losses)	\$-706,069
Ending Market Value	\$39,942,773



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



The Rohatyn Group

Period Ended March 31, 2020

Investment Philosophy

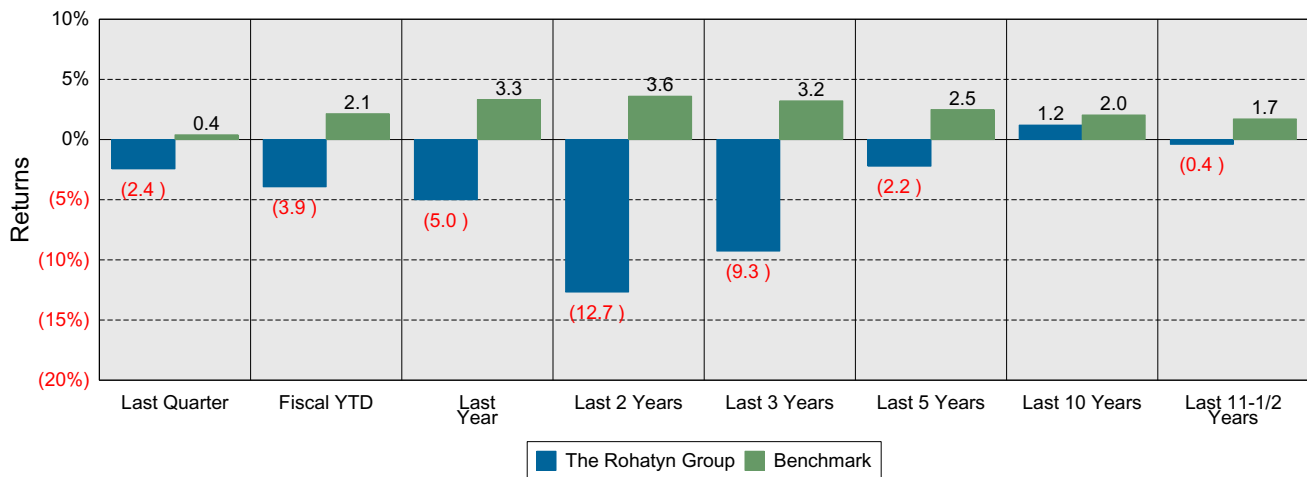
The Rohatyn Group's Asian Infrastructure & Related Resources Opportunity (AIRRO) Fund seeks to invest in infrastructure and related resources opportunities across the greater Asia Pacific region. The Fund seeks to invest in a broad range of assets, including: core infrastructure, power both from conventional and renewable sources, communications, water and waste-water, public works, urban development and other "social" infrastructure assets and related resources. The management of the AIRRO Fund was transferred from JP Morgan to The Rohatyn Group in May, 2018. **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

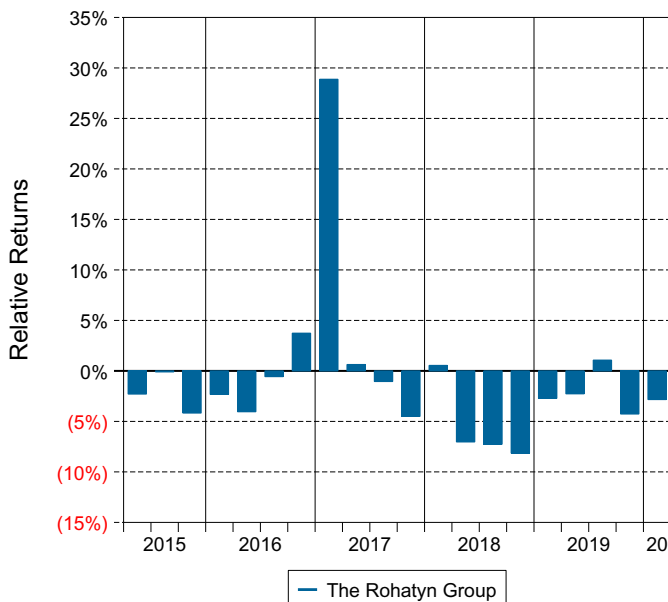
- The Rohatyn Group's portfolio underperformed the Benchmark by 2.83% for the quarter and underperformed the Benchmark for the year by 8.32%.

Quarterly Asset Growth

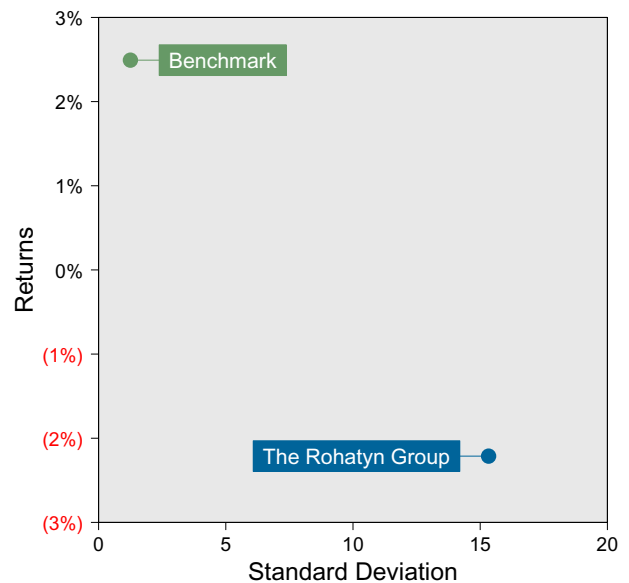
Beginning Market Value	\$18,267,044
Net New Investment	\$252,877
Investment Gains/(Losses)	\$-447,497
Ending Market Value	\$18,072,424



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



JPM Infrastructure Fund

Period Ended March 31, 2020

Investment Philosophy

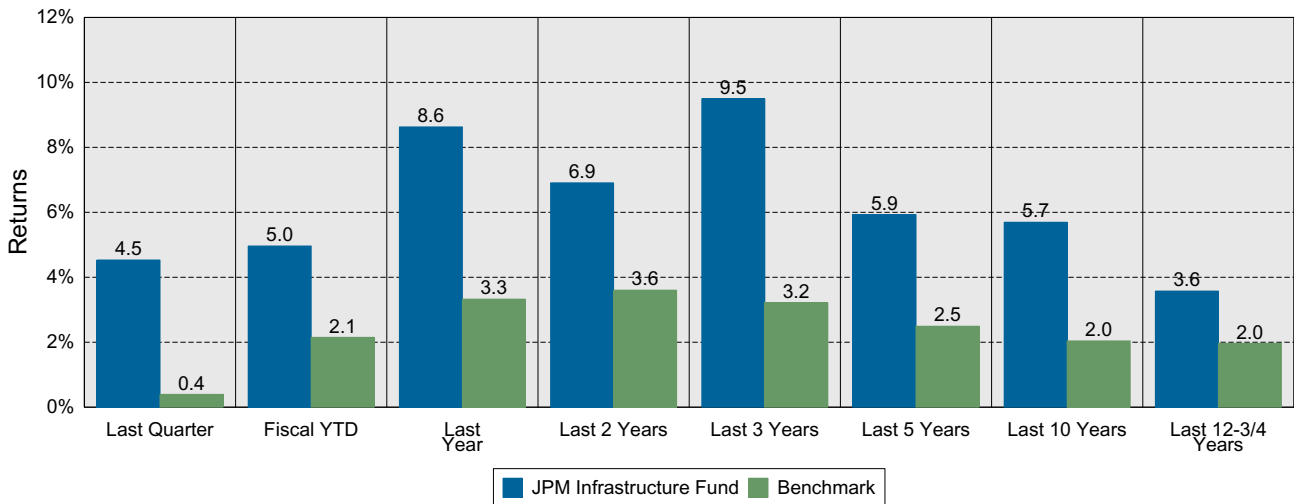
The only open-ended private commingled infrastructure fund in the U.S., the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas pipelines; electricity transmission and distribution facilities; contracted power generation assets; water distribution; waste-water collection and processing; railway lines and rapid rail links; and seaports and airports. **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

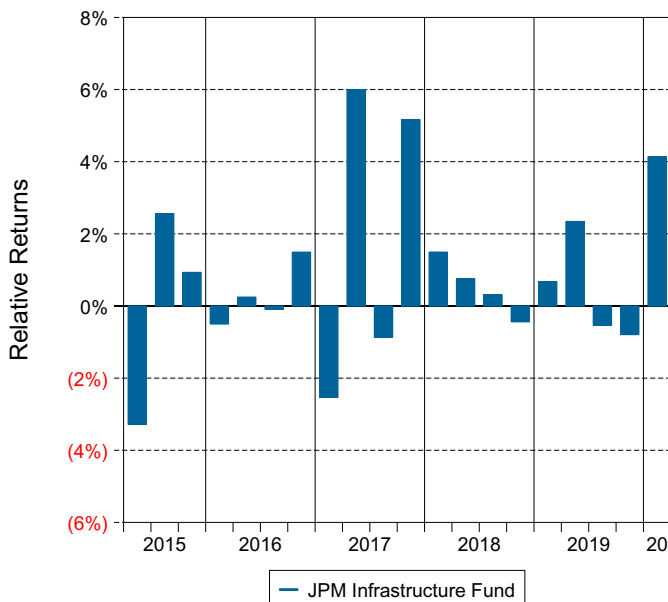
- JPM Infrastructure Fund's portfolio outperformed the Benchmark by 4.14% for the quarter and outperformed the Benchmark for the year by 5.30%.

Quarterly Asset Growth

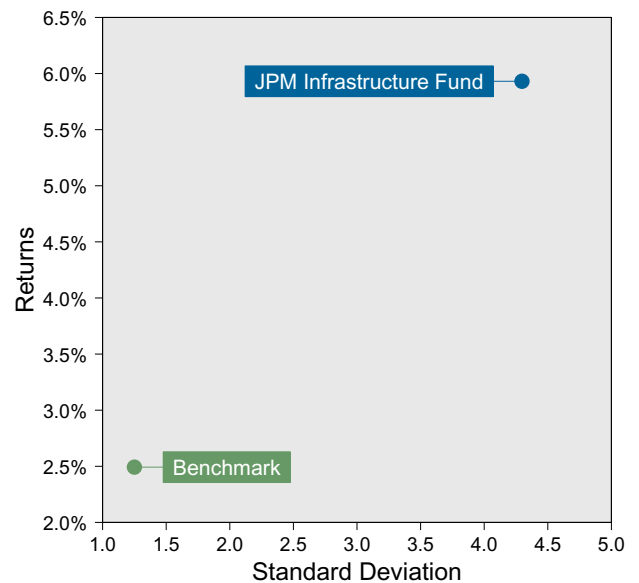
Beginning Market Value	\$179,262,960
Net New Investment	\$-7,947,236
Investment Gains/(Losses)	\$8,112,739
Ending Market Value	\$179,428,463



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Grosvenor Cust. Infrastructure Period Ended March 31, 2020

Investment Philosophy

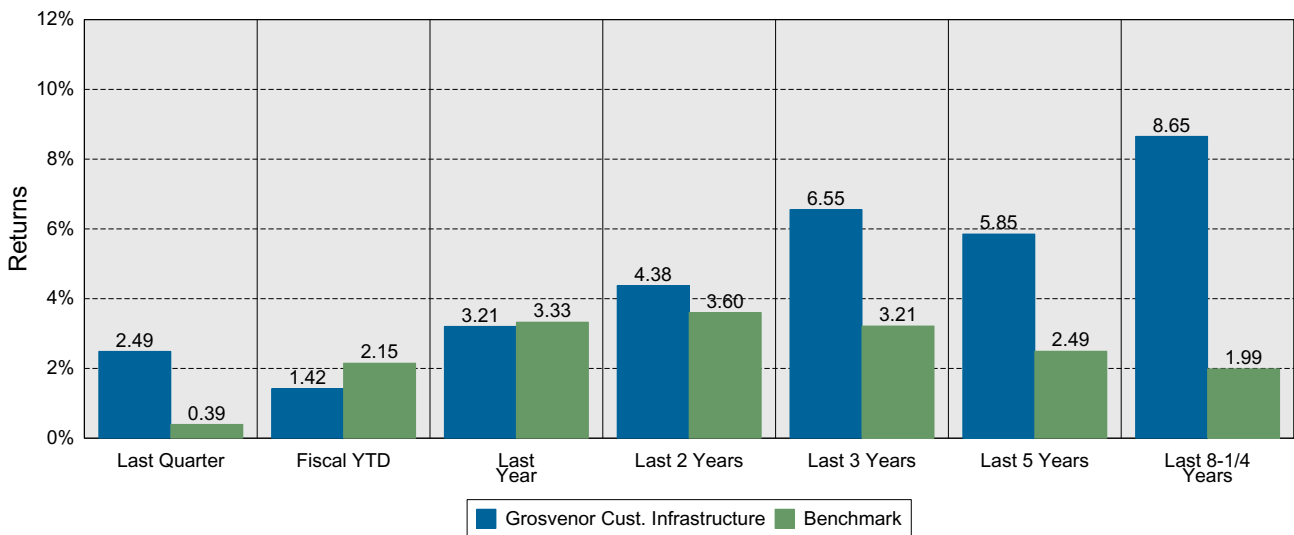
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%). **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

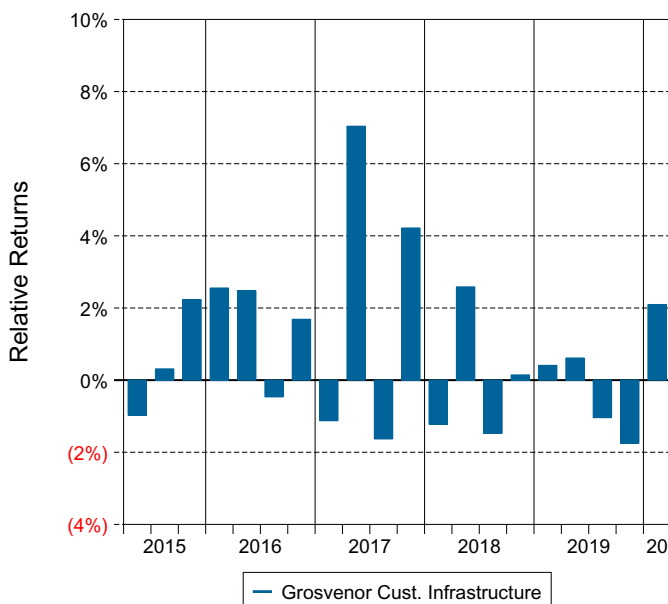
- Grosvenor Cust. Infrastructure's portfolio outperformed the Benchmark by 2.09% for the quarter and underperformed the Benchmark for the year by 0.12%.

Quarterly Asset Growth

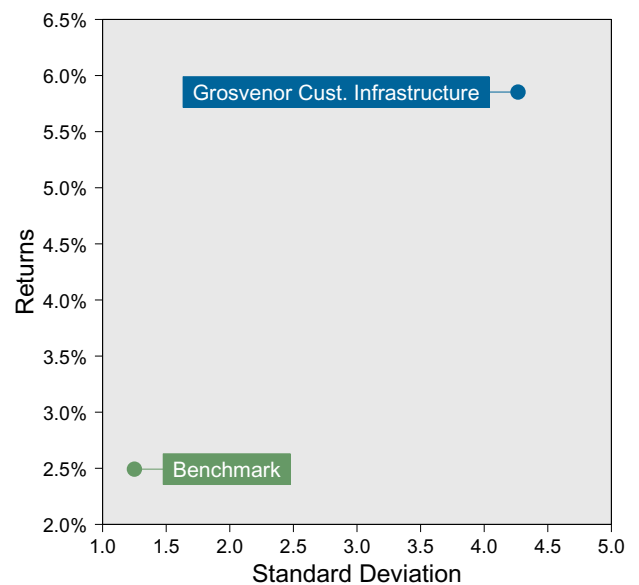
Beginning Market Value	\$23,409,828
Net New Investment	\$-1,369,424
Investment Gains/(Losses)	\$579,155
Ending Market Value	\$22,619,559



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Grosvenor Cust. Infrastructure II

Period Ended March 31, 2020

Investment Philosophy

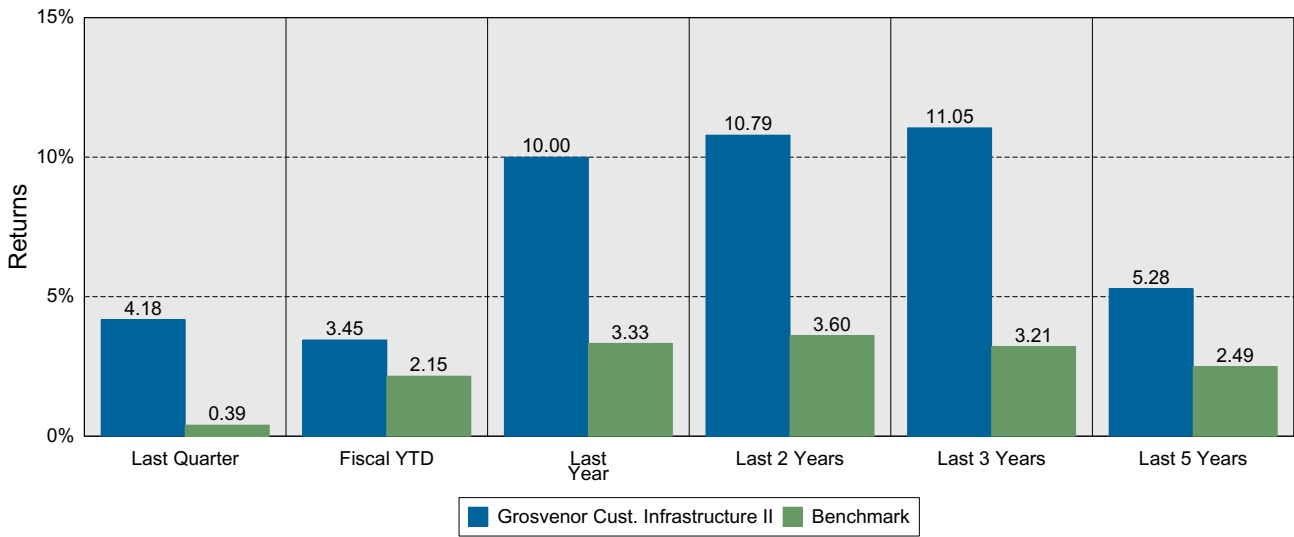
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%). **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

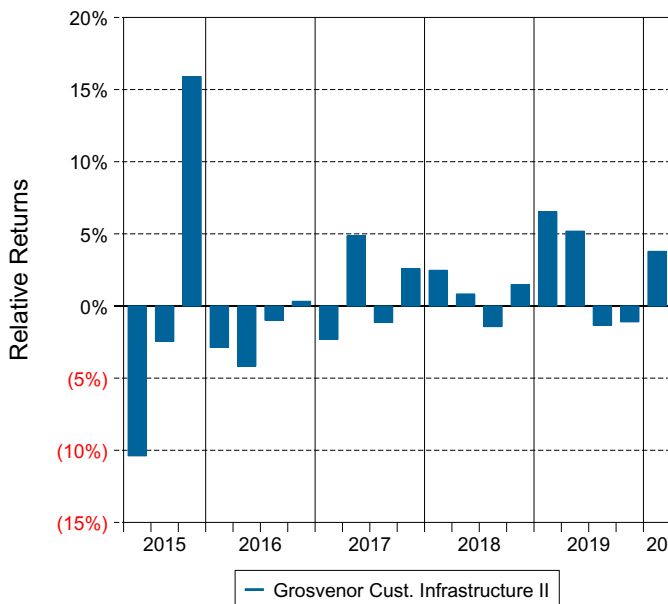
- Grosvenor Cust. Infrastructure II's portfolio outperformed the Benchmark by 3.78% for the quarter and outperformed the Benchmark for the year by 6.67%.

Quarterly Asset Growth

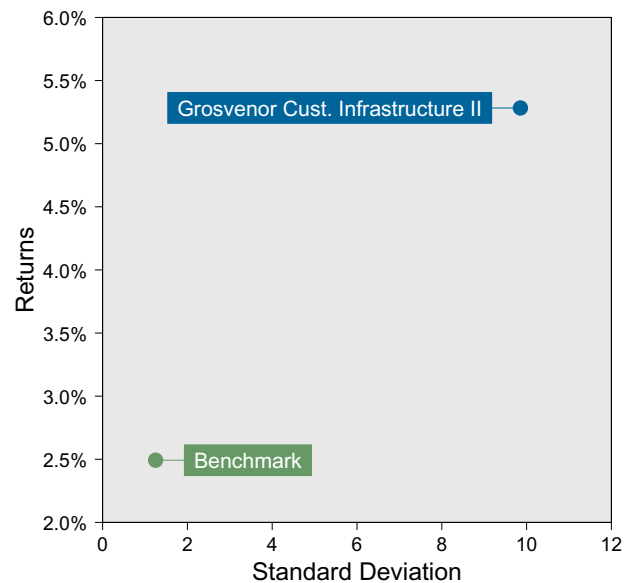
Beginning Market Value	\$18,516,517
Net New Investment	\$-575,843
Investment Gains/(Losses)	\$773,436
Ending Market Value	\$18,714,110



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Macquarie Infrac. Partners IV Period Ended March 31, 2020

Investment Philosophy

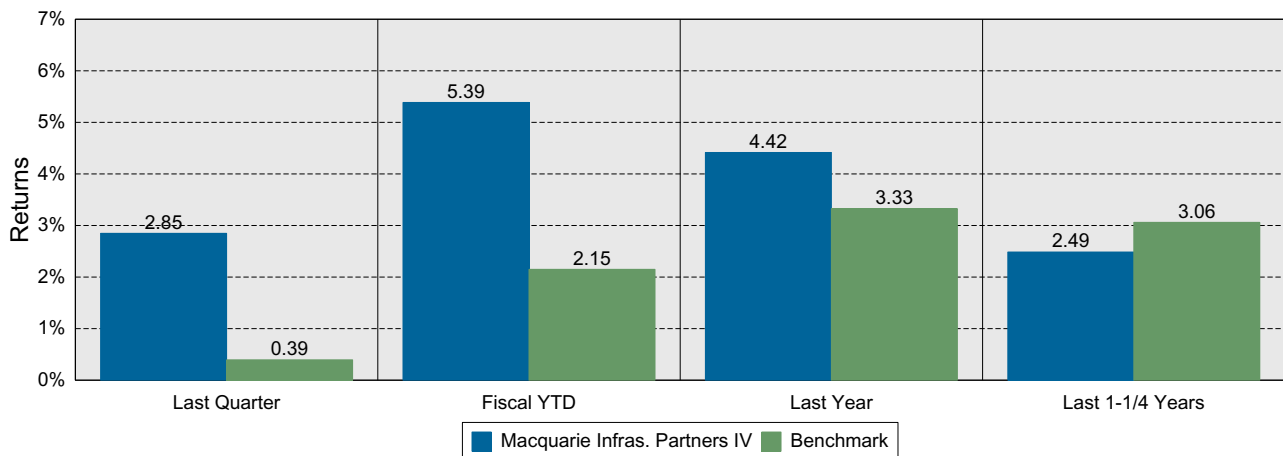
Macquarie’s principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team’s sector expertise and operating experience will provide a competitive advantage in sourcing and due diligence. Furthermore, the manager will also continue to focus on opportunities where its active management capabilities can add value for investors in terms of enhancing returns and the substantial mitigation and/or elimination of material operational risks. **The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.**

Quarterly Summary and Highlights

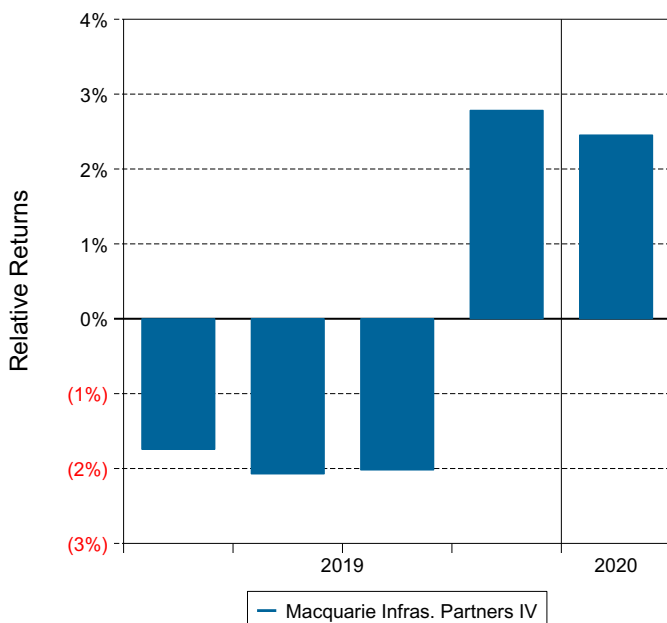
- Macquarie Infrac. Partners IV’s portfolio outperformed the Benchmark by 2.45% for the quarter and outperformed the Benchmark for the year by 1.09%.

Quarterly Asset Growth

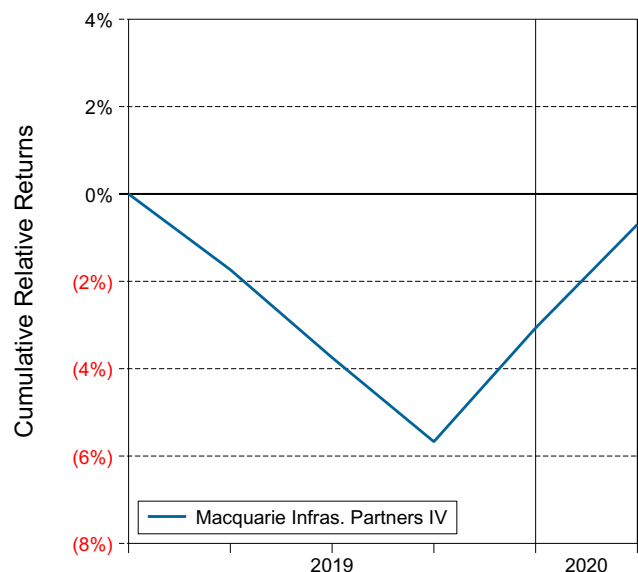
Beginning Market Value	\$56,284,399
Net New Investment	\$1,945,746
Investment Gains/(Losses)	\$1,600,629
Ending Market Value	\$59,830,774



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



Research and Educational Programs

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

[2020 National Workshop Summary: Turbocharging DC Plans](#)

In this workshop, Connie Lee, Jana Steele, and James Veneruso described ways in which defined contribution plan sponsors can improve participant outcomes, including plan design strategies and investment implementation steps.

[2019 Nuclear Decommissioning Funding Study](#) | Callan's annual study offers insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

[2020 National Workshop Summary: Diversifying Alternatives](#)

In this workshop, presenters Pete Keliuotis, Catherine Beard, and Ashley DeLuce discussed three lesser-known alternatives strategies: specialty lending, emerging market private equity, and insurance-linked strategies.

[2020 DC Trends Survey](#) | Callan's *2020 Defined Contribution Trends Survey* is designed to provide a benchmark for sponsors to evaluate their plans compared to peers, and to offer insights to help sponsors improve their plans and the outcomes for their participants.

[How Sponsors Can Harness DC Plan Data for Better Outcomes](#)

Defined contribution (DC) plans are designed to help participants achieve the most beneficial outcomes. But participants' choices may not necessarily reflect asset allocation best practices. Sponsors can help participants by analyzing how investment options are used and make adjustments based on those observations.

[The Callan Periodic Table of Investment Returns](#) | We offer our Periodic Table Collection and the Callan Periodic Table of Investment Returns (Key Indices: 2000-2019).

[Callan's 2020-2029 Capital Market Assumptions](#) | Callan develops capital market assumptions to help clients with their long-term strategic planning. This year, we reduced our fixed income

assumptions to reflect lower starting yields following the Fed pivot in policy, but we held constant our real equity return over inflation.

[2020 National Workshop Summary: Fee Study](#) | In this 2020 workshop, presenters Butch Cliff, Mark Stahl, and Brady O'Connell discussed the major themes of our *2019 Investment Management Fee Study* and their impact on the institutional investor community.

[An Introduction to Our New Hedge Fund Peer Group](#) | The Callan Institutional Hedge Fund Peer Group is designed to help institutional investors better understand alpha-oriented solutions that can diversify their existing stock and bond exposures, and it represents the available pool of hedge fund talent that investors will want to consider, or at least compare with their existing hedge fund portfolios.

Quarterly Periodicals

[Private Equity Trends, 4Q19](#) | A high-level summary of private equity activity in the quarter through all the investment stages

[Active vs. Passive Charts, 4Q19](#) | A comparison of active managers alongside relevant benchmarks over the long term

[Market Pulse Flipbook, 4Q19](#) | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

[Capital Market Review, 4Q19](#) | Analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes

[Hedge Fund Quarterly, 4Q19](#) | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

[Real Assets Reporter, 4Q19](#) | Data and insights on real estate and other real assets investment topics.

Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: www.callan.com/library/

Please mark your calendar and look forward to upcoming invitations:

Upcoming Webinars

May 21 – Hedge Fund Overview

July 8 – China Update

For more information about events, please contact **Barb Gerraty**: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

50+

Unique pieces of research the Institute generates each year

525

Attendees (on average) of the Institute's annual National Conference

3,700

Total attendees of the "Callan College" since 1994

Education

Through the "Callan College," the Callan Institute offers educational sessions for industry professionals involved in the investment decision-making process. It was founded in 1994 to provide both clients and non-clients with basic- to intermediate-level instruction.

Introduction to Investments for Institutional Investors

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including dates and registration can be found at: www.callan.com/callan-college-intro-2/

Alternative Investments for Institutional Investors

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In this one-day session, Callan experts will provide instruction about the importance of allocations to alternatives, and how to integrate, evaluate, and monitor them.

Learn from some of Callan's senior consultants and experts, including Pete Keliuotis, the head of Alternatives Consulting. The session will cover private equity, private credit, hedge funds, real estate, and real assets; why invest in alternatives; risk/return characteristics and liquidity; designing and implementing an alternatives program; and trends and case studies.

Tuition is \$2,000 per person and includes instruction, all materials, and breakfast and lunch with the instructors.

Additional information including dates and registration can be found at: <https://www.callan.com/callan-college-alternatives-2/>



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance Department.

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
CapFinancial Partners, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Chartwell Investment Partners
ClearBridge Investments, LLC

Manager Name
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
D.E. Shaw Investment Management, L.L.C.
DePrince, Race & Zollo, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
GCM Grosvenor
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Green Square Capital Advisors, LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
Income Research + Management, Inc.

Manager Name
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MetLife Investment Management
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Nile Capital Group LLC
Northern Trust Asset Management
Nuveen
P/E Investments
Pacific Investment Management Company
Parametric Portfolio Associates LLC

Manager Name
Pathway Capital Management
Peregrine Capital Management, LLC.
Perkins Investment Management
PFM Asset Management LLC
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Polen Capital Management
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rothschild & Co. Asset Management US
S&P Dow Jones Indices
Schroder Investment Management North America Inc.
SLC Management
Smith Graham & Co. Investment Advisors, L.P.
State Street Global Advisors
Stone Harbor Investment Partners L.P.
Strategic Global Advisors
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
USAA Real Estate
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
WCM Investment Management
WEDGE Capital Management
Wellington Management Company LLP
Wells Fargo Asset Management
Western Asset Management Company LLC
Westfield Capital Management Company, LP
William Blair & Company LLC

March 31, 2020



**North Dakota State Investment
Board Insurance Trust**

**Investment Measurement Service
Quarterly Review**

Information contained herein includes confidential, trade secret and proprietary information. Neither this Report nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose or disseminated to any other person without Callan's permission. Certain information herein has been compiled by Callan and is based on information provided by a variety of sources believed to be reliable for which Callan has not necessarily verified the accuracy or completeness of or updated. This content may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. This content is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation. Past performance is no guarantee of future results. For further information, please see Appendix for Important Information and Disclosures.

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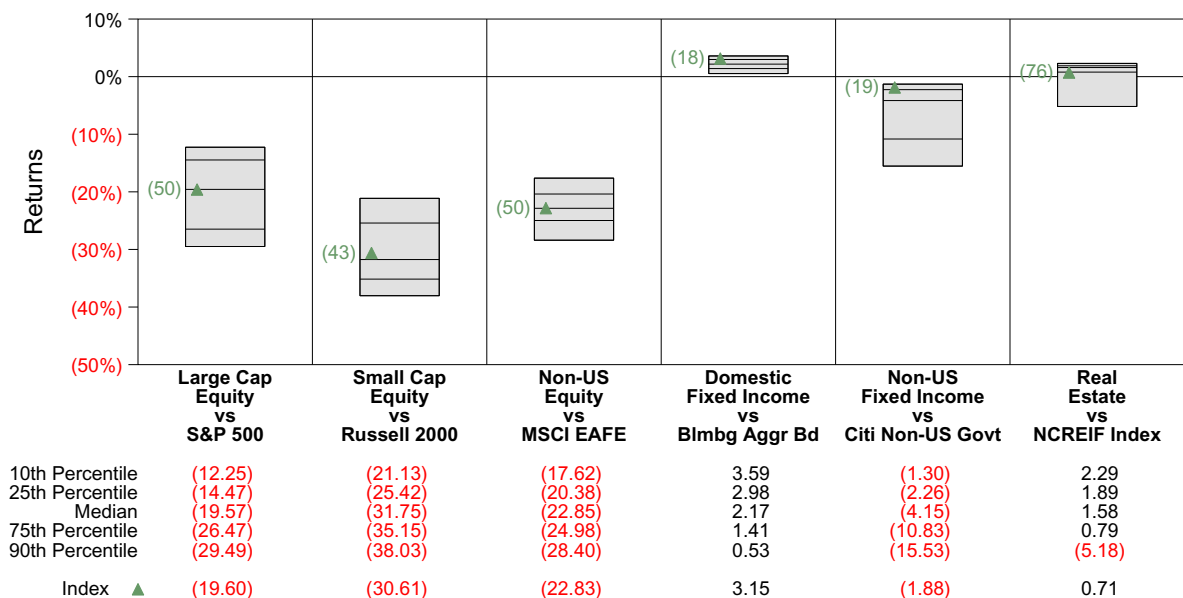
Market Overview

Active Management vs Index Returns

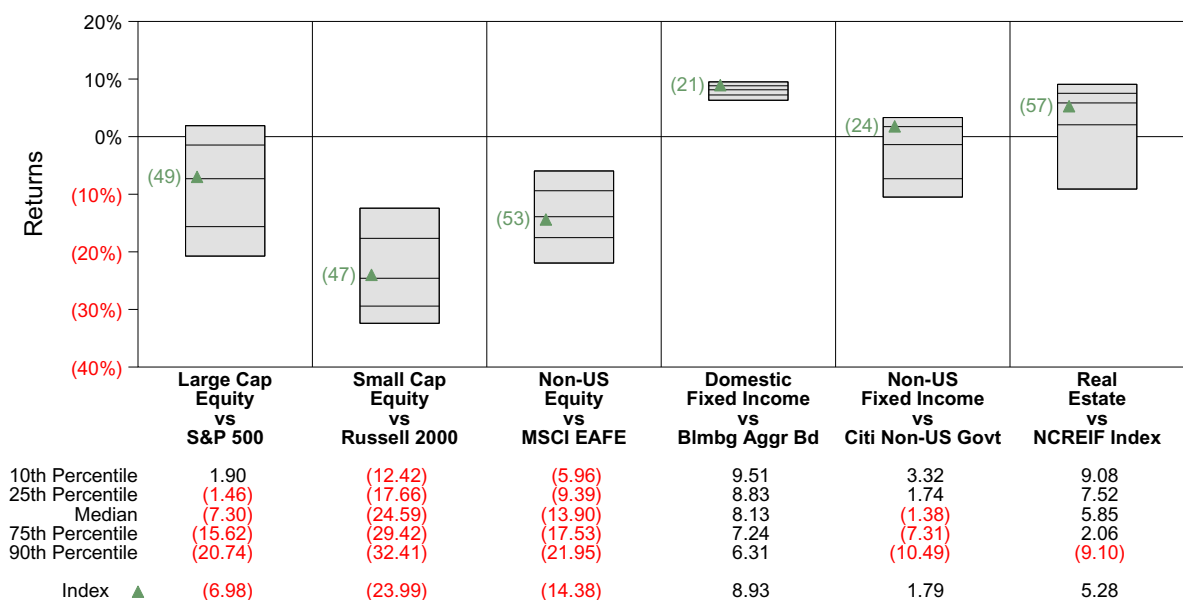
Market Overview

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class One Quarter Ended March 31, 2020



Range of Separate Account Manager Returns by Asset Class One Year Ended March 31, 2020





Pandemic Impact: What Happened?

ECONOMY

2 PAGE The speed at which the response to the pandemic shut down the economy and affected the capital markets was unprecedented. We hit bear market territory for the U.S. stock market in 16 days. The sudden drop in economic activity matched the depth and speed of the market drop.

Results Reflect Initial Impact of COVID-19

INSTITUTIONAL INVESTORS

4 PAGE All four primary types of institutional investors experienced sharp declines in the first quarter and smaller drops for the 12 months ending March 31. Over the last 20 years, all plan types have produced returns in a narrow range of 5.1%-5.3%.

Record Plunge Amid Extreme Volatility

EQUITY

6 PAGE U.S. equities experienced extreme volatility and near-record declines, in terms of speed. Large caps did relatively better; the Russell 2000 experienced its worst quarter ever. Growth continued to perform better vs. value across all market capitalizations.

Market Driven by Search for Safety

FIXED INCOME

8 PAGE Treasuries rallied as investors sought safety. The yield curve steepened as the Fed cut rates. Investment grade and high yield bonds saw record outflows. Global fixed income fell across the board, with the pain especially intense for emerging market debt.

Private RE Positive; Real Assets Hammered

REAL ESTATE/REAL ASSETS

10 PAGE Private real estate rose, due to income gains. Returns are expected to fall in 2Q20 and beyond. Global REITs underperformed equities and bonds. Infrastructure saw record fundraising. Almost all real assets saw GFC-level drops, especially energy-related sectors.

Activity Declines as Public Equity Drops

PRIVATE EQUITY

12 PAGE The public equity market decline slowed every aspect of private equity transaction activity. Valuations are likely to decline when first quarter numbers become available in early July. But historically, private equity has proven resilient in weathering downturns.

Notable Losses Amid Wider Market Plunge

HEDGE FUNDS/MACs

13 PAGE The Credit Suisse Hedge Fund Index lost 9.0% in the first quarter. The Callan Hedge Fund-of-Funds Peer Group slumped 8.1%, net of all fees and expenses. And representing 50 of the largest, broadly diversified hedge funds, the Callan Institutional Hedge Fund Peer Group fell 6.3%.

Index Posts Highest Return Since 2009

DEFINED CONTRIBUTION

15 PAGE The Callan DC Index gained 21.9% in 2019, while the Age 45 Target Date Fund rose 24.0%. TDFs saw the biggest inflows for the quarter, while U.S. large cap equity saw the largest outflows. The allocation to equity hit 70.2%, the highest since the third quarter of 2018.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000



Global ex-U.S. Equity
MSCI ACWI ex USA



U.S. Fixed Income
Bloomberg Barclays Agg



Global ex-U.S. Fixed Income
Bloomberg Barclays Gbl ex US



Sources: Bloomberg Barclays, FTSE Russell, MSCI

What Just Happened?

ECONOMY | Jay Kloepfer

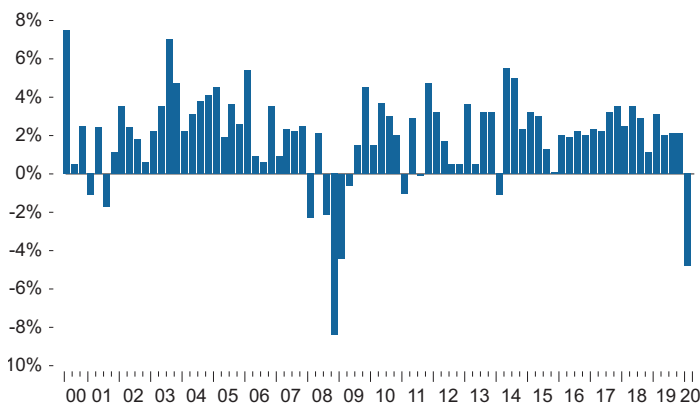
The unprecedented response to the COVID-19 pandemic touched every actor in the global economy: consumers, workers, businesses, shareholders and business owners, renters, property owners, nonprofits, and governments at every level. The worldwide lockdown hit travel, transportation, and retail first, and spending collapsed in March as shelter-in-place orders and steep job losses restricted expenditures. Tax revenues plunged across all levels of government while demand for (and supply of) certain services ballooned. The Federal Reserve and central banks around the globe stepped in at record speed to revive and expand many of the policies developed during the Global Financial Crisis, to provide liquidity and support for financial markets that were seizing up in uncertainty. Governments rushed to offer massive fiscal stimulus to backstop the economy.

All these actions were taken to address the economic impact of the shutdown. However, these policies can only address the symptoms of the economic dislocation. At its core, this event is a global health crisis, and its resolution depends on the containment of the spread of the virus and a vaccine. The full return of the economy depends on the confidence that we are safe to resume jobs, travel, consumption, and daily interaction. Until then, the global economy will be hampered in ways we can only partly anticipate; the unmeasurable risk of the global health crisis will dominate for some time.

The speed with which the response to the pandemic shut down the economy and devastated confidence in the capital markets was remarkable. We hit bear market territory for the U.S. stock market—defined as a decline of 20%—in 16 days, the second-fastest drop in history (dating back to the Great Depression), only missing the record by a day. We hit a bottom on March 23, when the U.S. market was down almost 34%. Equity markets around the globe were down by at least the same amount.

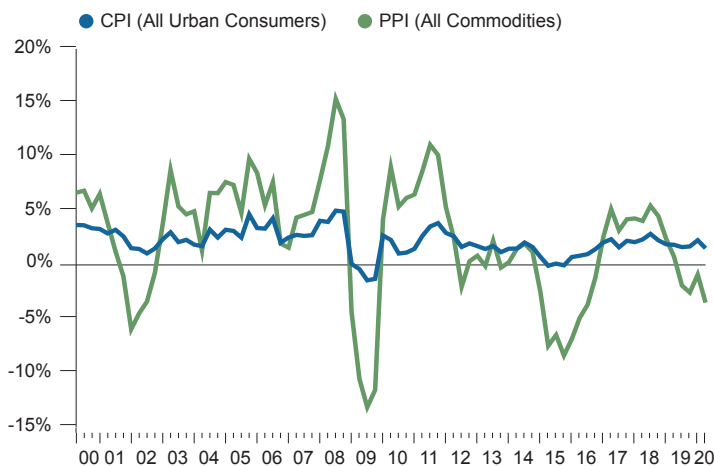
The U.S. economy finished February in pretty good shape, trending to a GDP growth rate for the first quarter of just above 2% annualized, with unemployment at a generational low of

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

3.5%. In a matter of weeks, as efforts to address the spread of the virus were enacted quickly, the sudden drop in economic activity matched the depth and speed of the stock market drop. The national emergency was declared March 13, most shelter-in-place orders came over the next couple of weeks, and the economic impact was sudden and severe.

Initial unemployment claims came in at 211,000 the first week of March, at trend for the year, and moved up to 282,000 in the second week, normally an alarming increase of 34%. However,

claims then shot up to 3.3 million the next week and doubled again to 6.9 million the following week. While my commentary is focused on the first quarter, it is important to note that through the fourth week of April, claims have reached almost 30 million in just six weeks. Economic activity hit a serious bump after March 13, with 2½ weeks left in the quarter. The loss in this short period to GDP pulled growth from 2% as March began to a fall of 4.8% for the first quarter, a swing of almost 7% in less than three weeks. This was the largest quarterly decline since the fourth quarter of 2008.

As large and surprising as the first quarter drop may be, a much steeper plunge is in store for the U.S. and the rest of the global economy in the second quarter. Consensus projections are for second quarter GDP to fall by up to 35% (annual rate), and for consumption to fall by more than 40%. These numbers would be cartoonish, if they weren't so dire.

The pullback in business activity, employment, labor income, and subsequently in consumption is without modern parallel, and the usual measures of gauging economic activity must be viewed through a new lens to gain meaning. Percent changes in GDP around a cataclysmic event like this are difficult to grasp and not very helpful; a more useful approach will be to compare levels now and in the future versus pre-COVID. Percent change is more useful in describing an economy moving smoothly through normal cycles of expansion and recession.

On a hopeful note, in the words of Dr. Anthony Fauci, “this pandemic will be over, I promise.” The monetary and fiscal response is massive and is keeping markets liquid. The S&P 500 was down 20% through March, but has retreated to a loss

The Long-Term View

Index	2020 1st Qtr	Periods Ended 3/31/20			
		Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	-20.9	-9.1	5.8	10.1	8.8
S&P 500	-19.6	-7.0	6.7	10.5	8.9
Russell 2000	-30.6	-24.0	-0.2	6.9	7.6
Global ex-U.S. Equity					
MSCI EAFE	-22.8	-14.4	-0.6	2.7	4.0
MSCI ACWI ex USA	-23.4	-15.6	-0.6	2.1	--
MSCI Emerging Markets	-23.6	-17.7	-0.4	0.7	--
MSCI ACWI ex USA Small Cap	-29.0	-21.2	-0.8	2.8	4.6
Fixed Income					
Bloomberg Barclays Agg	3.1	8.9	3.4	3.9	5.5
90-Day T-Bill	0.6	2.3	1.2	0.6	2.4
Bloomberg Barclays Long G/C	6.2	19.3	6.0	8.1	7.9
Bloomberg Barclays GI Agg ex US	-2.7	0.7	2.0	1.4	3.8
Real Estate					
NCREIF Property	0.7	5.3	7.6	10.2	9.3
FTSE Nareit Equity	-27.3	-21.3	-0.3	7.4	9.2
Alternatives					
CS Hedge Fund	-9.0	-4.3	0.2	3.0	7.4
Cambridge PE*	5.7	16.6	12.8	13.7	15.3
Bloomberg Commodity	-23.3	-22.3	-7.8	-6.7	0.6
Gold Spot Price	4.8	23.0	6.2	3.7	5.8
Inflation – CPI-U	0.4	1.5	1.8	1.7	2.2

*Data for most recent period lags by a quarter. Data as of Dec. 31, 2019.
Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices, Refinitiv/Cambridge

of 12% year-to-date through April, and the index is now at a level comparable to both September 2019 and one year ago. Finally, we will adapt and learn to live and work safely, just as we learned to fly safely after 9/11.

Recent Quarterly Economic Indicators

	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18
Employment Cost–Total Compensation Growth	2.8%	2.7%	2.8%	2.7%	2.8%	2.9%	2.8%	2.8%
Nonfarm Business–Productivity Growth	-2.5%	1.2%	-0.3%	2.6%	3.8%	0.5%	1.6%	2.0%
GDP Growth	-4.8%	2.1%	2.1%	2.0%	3.1%	1.1%	2.9%	3.5%
Manufacturing Capacity Utilization	73.5%	75.0%	75.4%	75.5%	76.4%	77.0%	76.9%	76.4%
Consumer Sentiment Index (1966=100)	96.4	97.2	93.8	98.4	94.5	98.2	98.1	98.3

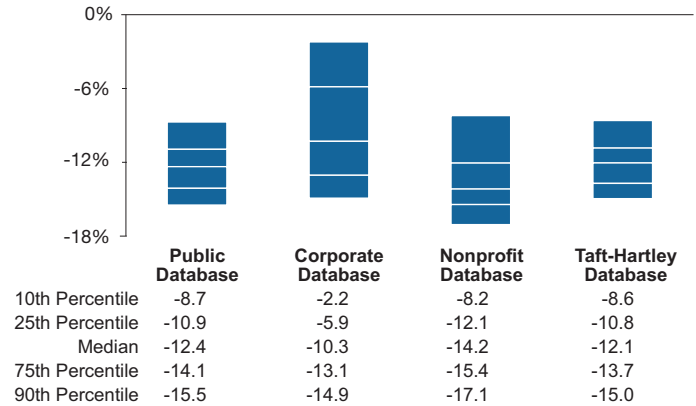
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Results Reflect the Initial Impact of the Pandemic

INSTITUTIONAL INVESTORS

- All four primary types of institutional investors experienced sharp declines in the first quarter and smaller drops for the 12 months ending March 31. A quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio declined 10.9% during the quarter and 0.4% over the year. Equities, represented by the S&P 500 Index, experienced a much-sharper decline of 19.6%.
- Over the one-year period, corporate defined benefit (DB) plans showed the smallest decline, nonprofits the sharpest.
- Over longer time periods, corporate DB plans have been the best performers. But over the last 20 years, all plan types have produced returns in a narrow range of 5.1%-5.3%, in line with the performance of the blended equities/ fixed income benchmark.
- Entering the year, the primary fear for institutional investors was an equity market downturn. Those fears were of course realized.
- In the wake of the pandemic-induced bear market, investors are turning their attention to rebalancing their portfolios and managing liquidity needs.

Quarterly Returns, Callan Database Groups



Source: Callan

- Investors are also reevaluating the purpose and implementation of all diversifiers, including real assets, hedge funds and liquid alternatives, fixed income, and private assets.
- At this point, the depth and magnitude of the downturn and the recession remain unknown.

Callan Database Median and Index Returns* for Periods Ended 3/31/20

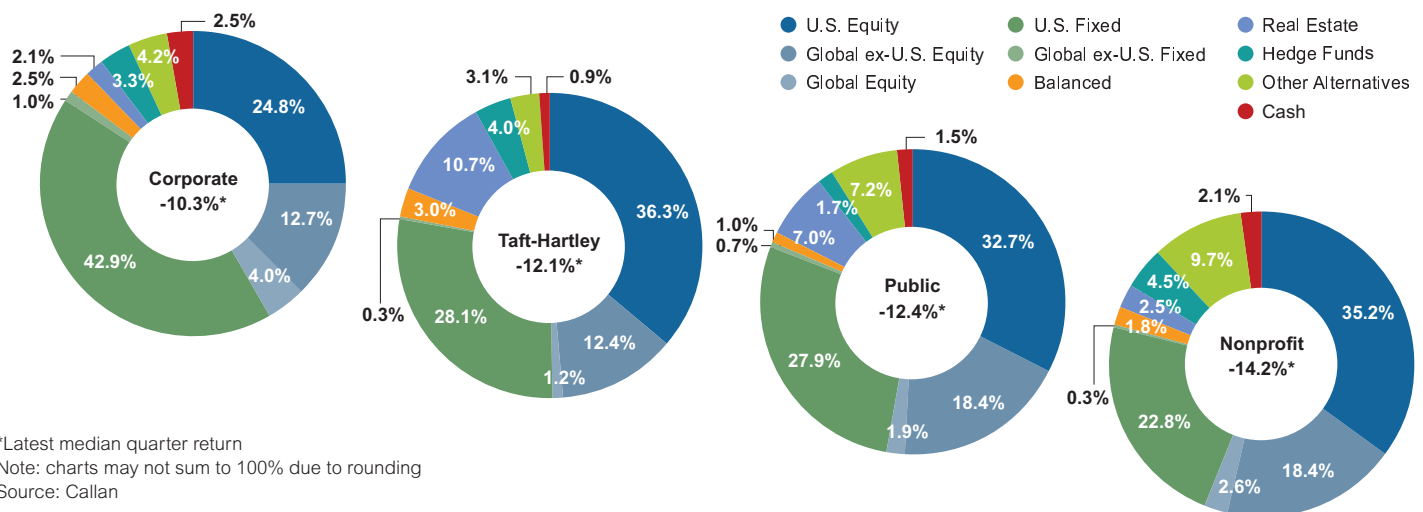
Database Group	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Public Database	-12.35	-4.10	3.19	3.88	6.41	5.77
Corporate Database	-10.29	-0.77	4.24	4.29	6.88	6.08
Nonprofit Database	-14.17	-5.81	2.50	3.21	6.08	5.67
Taft-Hartley Database	-12.05	-4.07	3.36	4.23	6.83	5.68
All Institutional Investors	-12.53	-4.24	3.20	3.81	6.55	5.80
Large (>\$1 billion)	-10.98	-2.61	3.88	4.25	6.89	6.06
Medium (\$100mm - \$1bn)	-12.48	-4.31	3.31	3.94	6.52	5.77
Small (<\$100 million)	-13.48	-5.01	2.78	3.36	6.21	5.66

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

- Our counsel to investors: stay the course, rebalance, manage liquidity, evaluate portfolio segments and strategies for impairment or unexpected performance, and watch for opportunities, both inside your portfolio and across the markets.
- Not surprisingly, the coronavirus pandemic and related market upheaval dominated the attention of investors:
 - Risk management and volatility were common concerns for all institutional investors.
 - **Public DB plans:** Rebalancing was a recurring theme, as was the related issue of liquidity. Across nearly all asset classes, plans showed limited interest in making changes to their strategic allocations.
 - **Corporate DB plans:** Many were trying to address the challenges caused by changes in their funded status. A large share of plans continued to implement the process of de-risking. The decline in rates since October 2018 demonstrated the benefit to de-risking with respect to matching interest rate risk. The plunge in rates through March 2020 obscures the impact of spread widening; the effect on funded status and LDI match is uncertain and variable.
- **DC plans:** Sponsors focused on communication to help participants affected by the economic shutdown. They were also trying to determine the effects of the SECURE and CARES Acts. Both make major changes to the regulatory environment for DC plans. While fees continued to be the top issue, concerns about plans' investment structures climbed. The active/passive debate continues, but it is more muted and likely to stay that way as plans focus on the impact of the coronavirus pandemic.
- **Nonprofits:** A key concern for some of these organizations was the impact of an economic slowdown on the organization: less tuition for colleges and fewer donations for churches. Nonprofits also had little interest in changing their strategic allocations, although there was interest in alternative beta/enhanced index products and unconstrained fixed income.
- Investors are already discussing opportunities in fixed income coming from the market dislocation and the policy response around the globe. The biggest question to answer: If opportunistic fixed income is to be pursued, from where do you fund it? Do you expect it to outperform equity? Do you risk up your fixed income in response to a zero interest rate policy that is back in place?

Average Asset Allocation, Callan Database Groups



Equity

U.S. Equities

During the 1st quarter of 2020, the COVID-19 pandemic coupled with an oil price war between Saudi Arabia and Russia spurred extreme global market volatility, which was further exacerbated by the realization that a shelter-in-place mandate was required to overcome the spread of the disease, subsequently inducing an all-but-certain global recession.

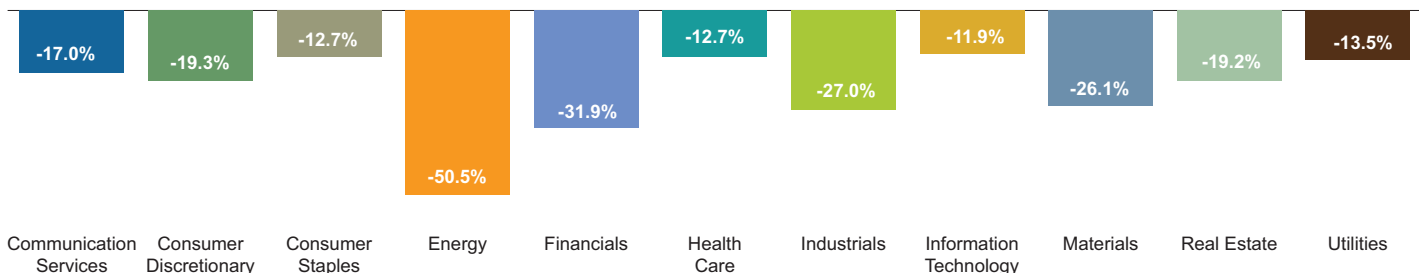
Large cap ► Russell 2000: -30.6% | Russell 1000: -20.2%

- Cyclical were punished while Technology, Staples, and Health Care were more resilient.
- Energy (-50.5%) plunged as demand declined and OPEC and Russia refused to cut production, driving down oil prices globally.
- Financials (-31.9%) and Industrials (-27.0%) fell sharply as interest rates were cut by the Fed in an emergency session, combined with expectations of a steep GDP decline because of COVID-19.
- Technology fared the best (-11.9%). The FAAMG stocks had an average return of -7.9% in 1Q, led by Amazon (+5.5%) and Microsoft (+0.3%); Health Care (-12.7%) and Consumer Staples (-12.7%) also held up better than the index average.

Large cap outpaced small cap for the quarter

- The Russell 2000 (-30.6%) experienced its worst quarter on record.
- The perceived safety of larger companies combined with more acute exposure to COVID-19 impact (e.g., restaurants, hotels, airlines, REITs) drove the sell-off.

Quarterly Performance of Industry Sectors



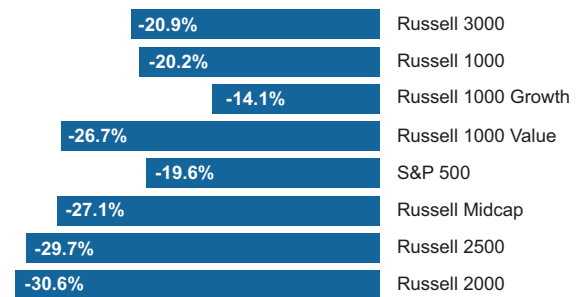
Source: S&P Dow Jones Indices

- The performance of the Russell 2000 Value (-35.7%) was driven by its exposure to Energy (especially exploration and production companies) and Financials (banks).

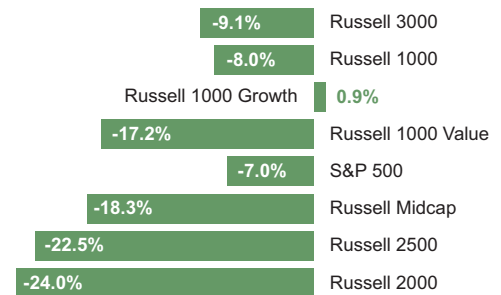
Growth outpaces value across market capitalizations

- The spread between Russell 1000 Growth (-14.1%) and Russell 2000 Value (-35.7%) was one of the widest ever.
- Russell MidCap Value (-0.8%) and Russell 2000 Value (-2.4%) now have negative annualized returns over a trailing five-year time period.

U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



Sources: FTSE Russell and S&P Dow Jones Indices

Global/Global ex-U.S. Equity

The COVID-19 pandemic coupled with the oil price war between Saudi Arabia and Russia injected significant volatility into the global equity markets, with most major indices entering bear market territory.

Global/Developed ex-U.S. ► *MSCI EAFE: -22.8% | MSCI World ex USA: -23.3% | MSCI ACWI ex USA: -23.4% | MSCI Japan: -16.8% | MSCI Pacific ex Japan: -27.6%*

- Fears of the pandemic and a global recession stoked the worst quarterly sell off since 2008 as economic activity halted worldwide.
- The oil price war further exacerbated the market meltdown, bidding up safe-haven assets and currencies.
- The U.S. dollar outperformed the euro, the British pound, and other major currencies, while underperforming the Swiss franc and Japanese yen.
- Every sector posted negative returns, led by cyclicals like travel-related industries, Energy, and Financials given the state of the economy and oil prices.
- Defensive sectors generally were under less pressure as demand for basic necessities to function (i.e., e-commerce and mobility) and combat the pandemic (i.e., diagnostics and treatment) helped stabilize Health Care, Consumer Staples, and Information Technology.
- Factor performance in developed ex-U.S. markets reflected risk aversion, including beta, size, and volatility.

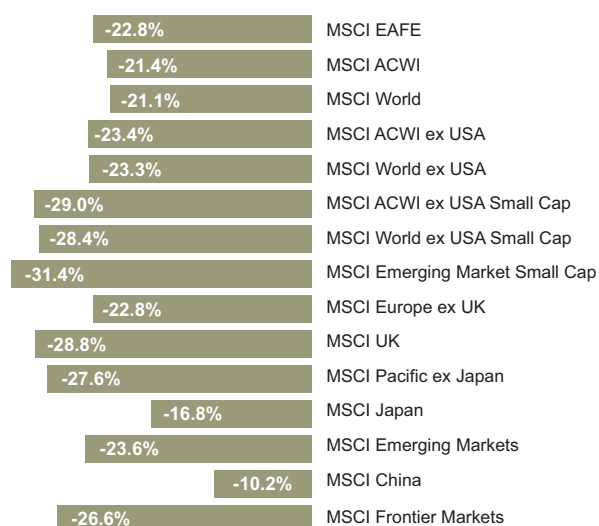
Emerging Markets ► *MSCI Emerging Markets Index: -23.6%*

- Decisive actions to contain the pandemic and stimulate the economy allowed China to outperform every developed and developing country.
- A looming global recession and the collapse in oil prices decimated commodities-levered economies like Brazil, South Africa, and Russia.
- Every sector posted negative returns, led by cyclicals such as travel-related industries, Energy, and Financials.
- Defensive sectors generally were under less pressure as demand for basic necessities and for diagnostics and treatment helped stabilize Health Care, Consumer Staples, and Information Technology.

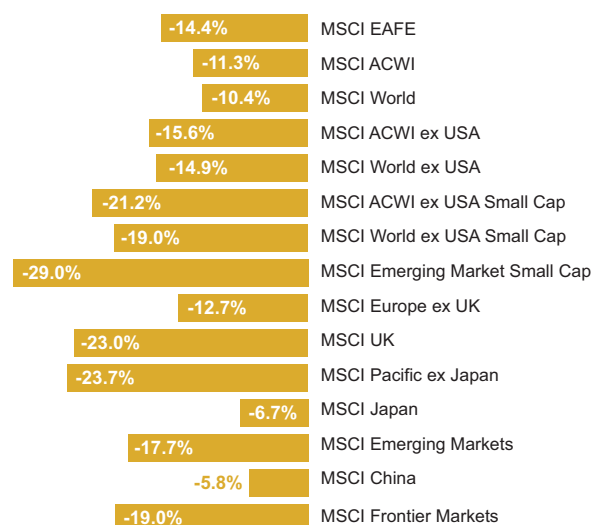
Global ex-U.S. Small Cap ► *MSCI World ex USA Small Cap: -28.4% | MSCI EM Small Cap: -31.4%*

- “Risk-off” market environment challenged small cap relative to large cap in both developed and emerging markets.
- Growth significantly outperformed value both within developed and emerging markets, supported by strong performance in Health Care, Consumer Staples, and Information Technology.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar)



Source: MSCI

Fixed Income

U.S. Fixed Income

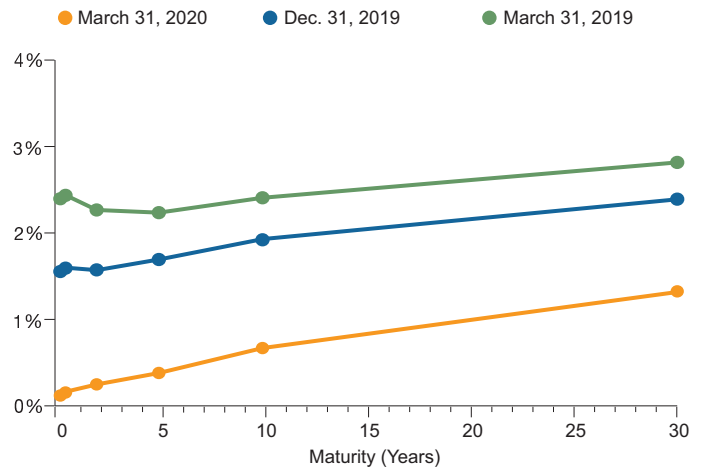
Treasuries rallied as investors sought safety

- The 10-year U.S. Treasury yield reached a low in March of 0.31% before closing the quarter at 0.70%, down sharply from the 2019 year-end level of 1.92%.
- The Treasury yield curve steepened as the Fed cut rates to 0%-0.25%.
- TIPS underperformed nominal Treasuries as expectations for inflation sank. The 10-year breakeven spread ended the quarter at 87 basis points, down sharply from 177 bps at year-end.

Investors spurned credit risk

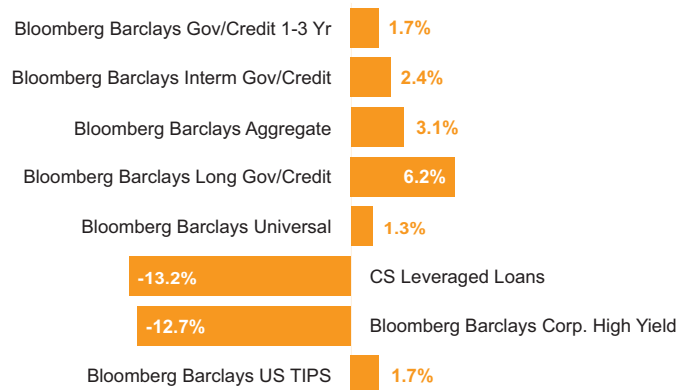
- Investment grade and high yield bond funds experienced record outflows as investors flocked to cash.
- Investment grade corporate spreads widened by 149 bps to 272 bps, representing the hardest hit sector in the Bloomberg Barclays US Aggregate Bond Index, particularly within Industrials, where several well-known issuers were downgraded to below investment grade, including Occidental Petroleum and Ford.
- The quality bias was evident as BBB-rated credit (-7.4%) underperformed single A or higher (+0.5%).
- CCC-rated high yield corporates (-20.6%) lagged BB-rated corporates (-10.2%).
- Energy (-38.9%) was the lowest-performing high yield bond sub-sector as oil prices collapsed.
- Most securitized sectors underperformed U.S. Treasuries.
- Bloomberg Barclays CMBS (+1.2%) and Bloomberg Barclays MBS (+2.8%) gained, while Bloomberg Barclays ABS declined (-0.2%).

U.S. Treasury Yield Curves



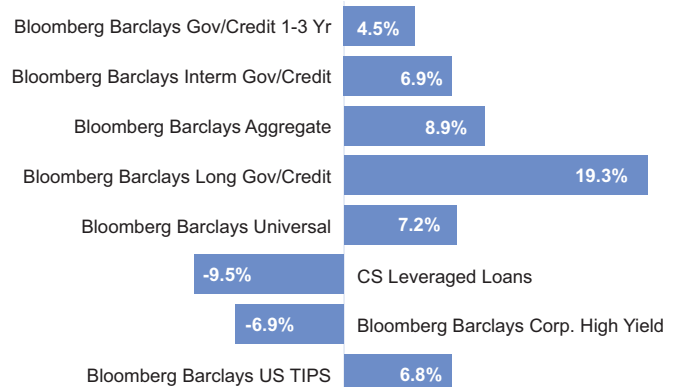
Source: Bloomberg

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

Global Fixed Income

Most indices fell by double digits

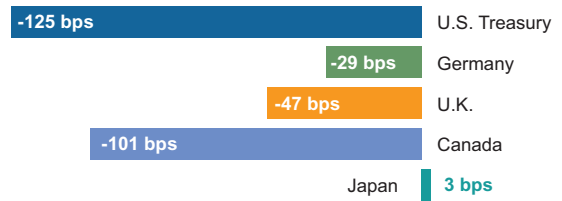
- Developed market sovereign bond yields ended the quarter slightly higher even as central banks stepped in to provide support to their economies; the European Central Bank launched a €750 billion stimulus program and the Bank of England cut interest rates.
- The U.S. dollar rose against the Australian dollar, British pound, and euro as investors sought safety within the greenback.

EM debt plummeted in the risk-off environment

- Within the dollar-denominated benchmark, returns were mixed amongst its 60+ constituents.
- Within the local currency-denominated benchmark, several local market returns in Latin America dropped about 20% (Brazil, Mexico, and Colombia), and South Africa plunged 29% as oil-sensitive economies suffered from the fall in oil prices.

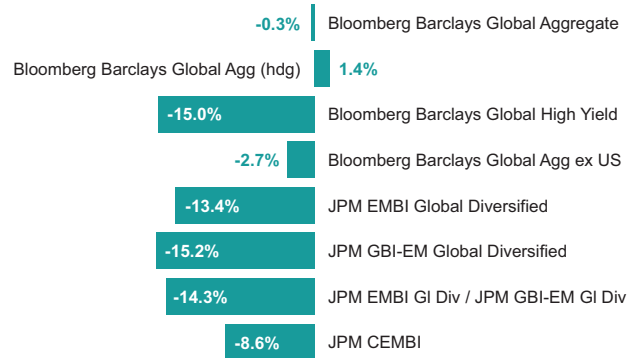
Change in 10-Year Global Government Bond Yields

4Q19 to 1Q20



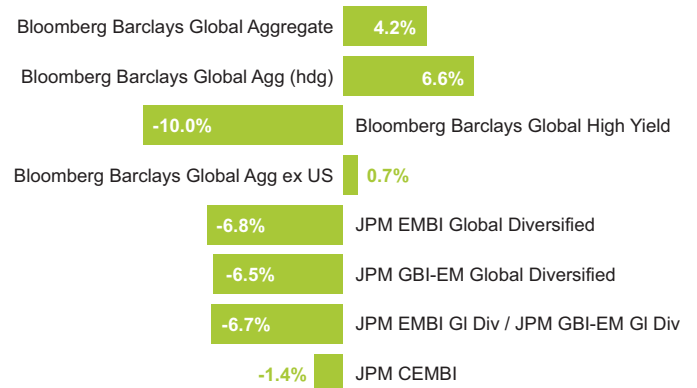
Source: Bloomberg Barclays

Global ex-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Global ex-U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Private RE Returns Positive, but Likely to Change; Real Assets Hammered

REAL ESTATE/REAL ASSETS | Sally Haskins and David Welsch

Private real estate results positive due to income

- Initial impact of pandemic reflected in 1Q20 results
- Positive return due to income
- Industrial real estate performed well.
- Retail depreciation accelerated this quarter.
- The dispersion of returns by manager within the NCREIF ODCE Index was due to the composition of underlying portfolios but also valuation methodologies and approaches.
- Negative returns expected for the second quarter and beyond.

How the pandemic is affecting fundamentals

- Vacancy rates for all property types in the U.S. are or will be impacted.
- There has been limited change in net operating income, but the second quarter will show declines.
- April rent collections show malls severely impacted followed by other types of retail. Class A/B urban apartments are relatively strong, followed by certain types of industrial and office.
- Supply was in check prior to the pandemic.
- Construction is limited to finishing up existing projects but has been hampered by shelter-in-place orders and material shortages.
- New construction will be basically halted in future quarters except for pre-leased properties.
- Transaction volumes were healthy in the first part of the quarter, but dropped off at quarter end and ground to a halt thereafter, with deals being canceled even when there were material non-refundable deposits.
- Cap rates remained steady during the quarter. The spread between cap rates and 10-year Treasuries is relatively high, leading some market participants to speculate that cap rates will not adjust much. Price discovery is happening and there are limited transactions.
- Callan believes the pandemic may cause a permanent repricing of risk across property types. Property types with more reliable cash flows will experience less of a change in cap rates; however, those with less reliable cash flows will see greater adjustments.

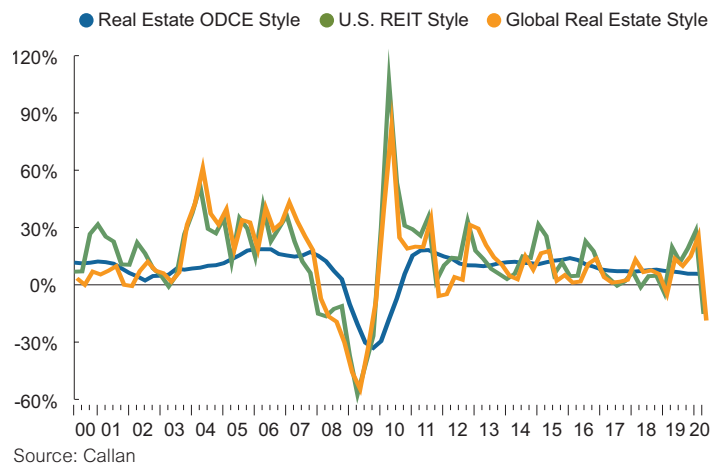
Global REITs underperformed vs. equities and bonds

- Global REITs plunged 28.5% in 1Q20 compared to a 21% drop for global equities (MSCI World).
- U.S. REITs fell 27.3% in 1Q20, lagging the S&P 500 Index, which was off 19.6%.
- Globally REITs are trading at a significant discount to NAV; in most regions the discount is at a five-year low.
- All property types except for data centers, cell towers, and life science are trading at the bottom of their range.

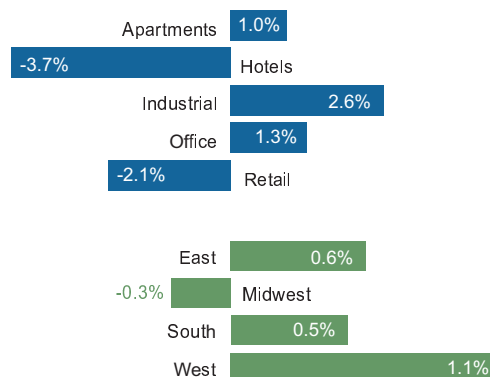
Infrastructure sees near-record fundraising

- 1Q20 was the third-largest quarter for closed-end infrastructure fundraising. The closed-end fund market continues to expand, with infrastructure debt, emerging markets, and

Rolling One-Year Returns



Sector Quarterly Returns by Property Type and Region



Source: NCREIF

REAL ESTATE/REAL ASSETS (Continued)

sector-specific strategies (e.g., communications and renewables). Investor interest in mezzanine or debt-focused funds has increased.

- Open-end funds raised significant capital in 2019, and the universe of investable funds continues to increase as the sector matures.
- In 2020 assets with guaranteed/contracted revenue or more inelastic demand patterns (e.g., renewables, telecoms, utilities) fared better than assets with GDP/demand-based revenue (e.g., airports, seaports, midstream-related).

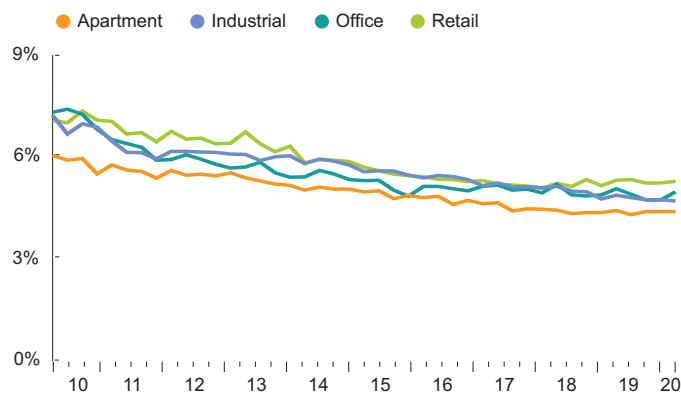
Real assets buffeted by COVID-19

- Real asset returns were significantly challenged during the first quarter of 2020 as almost the entire space (except gold

and TIPS) experienced performance not seen since the Global Financial Crisis.

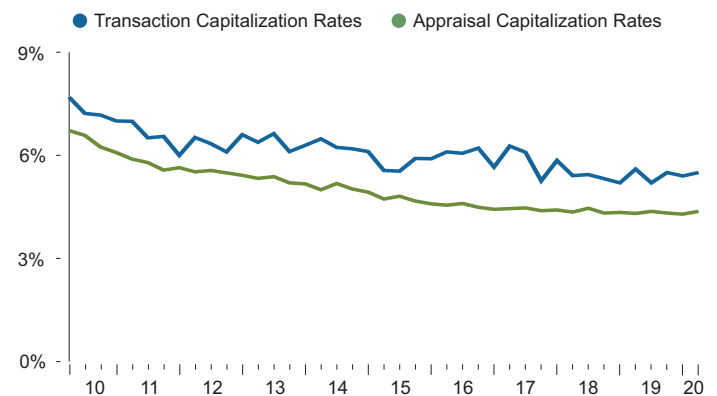
- The MLP space (Alerian MLP Index: -57%) and energy-related stocks (S&P 1200 Energy Index: -44%) were among the worst hit as Russia and Saudi Arabia engaged in an oil price war smack in the middle of a global pandemic that was already poised to cripple near-term energy demand.
- One silver lining, pun intended, was gold, which served its usual safe-haven role during the depths of March and throughout the first quarter; the Bloomberg Gold sub-Index rose 4.5% in the first quarter while equities of most companies tasked with mining the shiny metal were not so fortunate (GDX-Van Eck Gold Miners ETF: -14.5%).

NCREIF Capitalization Rates by Property Type



Source: NCREIF. Capitalization rates (net operating income / current market value (or sale price)) are appraisal-based.

NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF
Note: Transaction capitalization rate is equal weighted.

Callan Database Median and Index Returns* for Periods Ended 3/31/20

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	1.5	1.5	5.6	6.7	8.2	10.6	6.5
NFI-ODCE (value wt net)	0.8	0.8	3.9	5.9	7.5	10.4	6.5
NCREIF Property	0.7	0.7	5.3	6.4	7.6	10.2	8.1
NCREIF Farmland	-0.1	-0.1	2.6	5.2	6.3	10.7	13.1
NCREIF Timberland	0.1	0.1	1.3	2.5	2.8	4.5	6.4
Public Real Estate							
Global Real Estate Style	-25.2	-25.2	-18.7	-0.4	0.5	6.4	5.7
FTSE EPRA Nareit Developed	-28.5	-28.5	-24.0	-3.8	-2.1	4.4	--
Global ex-U.S. Real Estate Style	-24.8	-24.8	-18.0	0.6	0.1	5.4	5.3
FTSE EPRA Nareit Dev ex US	-27.7	-27.7	-23.0	-2.1	-1.5	3.4	--
U.S. REIT Style	-23.1	-23.1	-15.2	-0.4	1.4	8.6	7.2
EPRA Nareit Equity REITs	-27.3	-27.3	-21.3	-3.1	-0.3	7.4	6.2

*Returns less than one year are not annualized.
Sources: Callan, FTSE Russell, NCREIF

Over the Cliff

PRIVATE EQUITY | Gary Robertson

The impact of the COVID-19 virus on the capital markets in late February has introduced a period of price uncertainty and a pull-back in lending. Transaction activity is expected to slow for the remainder of 2020. New fundraising is also being delayed. General partners are focused more on existing portfolio company health and less on starting new company platforms.

Fundraising ► Based on preliminary data, first quarter private equity partnerships holding final closes totaled \$119 billion, down 37% from the fourth quarter. New partnerships formed totaled 223, off 28%. Callan expects fundraising to continue to slow as 2020 progresses. (Unless otherwise noted, all data come from PitchBook.)

Buyouts ► New buyout transactions declined notably, albeit from strong levels. Funds closed 1,677 investments with \$103 billion in disclosed deal value, a 27% decline in count and a 41% dip in dollar value from the fourth quarter. The largest investment was the \$14.3 billion take-private of Zayo Group, a digital communications infrastructure and services provider, by Digital Colony and EQT, along with a consortium of co-investors.

VC Investments ► New investments in venture capital companies totaled 5,868 rounds of financing, down 16%, with \$64 billion of announced value, off just 2%. The largest investment

Funds Closed 1/1/2020 to 3/31/2020

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	119	30,155	25%
Growth Equity	20	14,289	12%
Buyouts	56	52,736	44%
Mezzanine Debt	1	434	0%
Distressed	0	0	0%
Energy	2	4,475	4%
Secondary and Other	14	8,053	7%
Fund-of-Funds	11	8,836	7%
Totals	223	118,978	100%

Source: PitchBook (Figures may not total due to rounding.)

was a \$3 billion round in Gojek, a ride-hailing and personal courier company serving Southeast Asia.

Exits ► There were 422 private M&A exits of private equity-backed companies, a drop of 23%. Disclosed values plunged 69% to \$55 billion. There were 11 private equity-backed IPOs in the first quarter, down 67%, which raised an aggregate \$6 billion, lower by 14%.

Venture-backed M&A exits totaled 354 with disclosed value of \$23 billion. The number of sales declined 12% from the fourth quarter, and announced value was unchanged. There were 50 VC-backed IPOs, lower by 34%, and the combined float totaled \$6 billion, a drop of 14%.

Private Equity Performance (%) (Pooled Horizon IRRs through 9/30/2019*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	-0.37	13.01	14.56	14.39	14.83	11.41	11.02
Growth Equity	1.32	12.76	16.02	12.77	14.03	13.41	13.13
All Buyouts	1.43	8.85	15.32	12.83	14.59	13.65	12.04
Mezzanine	0.87	6.02	10.86	10.00	10.85	10.58	8.60
Credit Opportunities	-0.36	0.61	7.73	5.49	10.47	9.28	9.90
Control Distressed	1.05	4.38	8.86	7.83	11.17	10.52	10.58
All Private Equity	0.92	9.59	14.41	12.33	14.03	12.72	11.72
S&P 500	1.70	4.25	13.39	10.84	13.24	9.01	6.33
Russell 3000	1.16	2.92	12.83	10.44	13.08	9.10	6.72

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices

*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of *Capital Market Review* and other Callan publications.

Breaking Bad

HEDGE FUNDS/MACs | Jim McKee

Crushing fragile hopes of continuing economic strength coming into 2020, the COVID-19 pandemic coupled with a sudden oil market collapse forced investors to recalibrate their measures of risk across all capital markets. As investors ran for safe havens, Treasuries soared while equities cratered.

Representing a paper portfolio of hedge fund interests without implementation costs, the **Credit Suisse Hedge Fund Index (CS HFI)** lost 9.0% in the first quarter. As a proxy for live hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Peer Group** slumped 8.1%, net of all fees and expenses. Representing 50 of the largest, broadly diversified hedge funds with low-beta exposure to equity markets, the median manager in the **Callan Institutional Hedge Fund Peer Group** fell 6.3%.

Hedge Fund-of-Funds Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

Callan Peer Group Median and Index Returns* for Periods Ended 3/31/2020

Hedge Fund Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Fund-of-Funds Peer Group	-8.1	-4.9	0.5	0.7	3.1	3.8
Callan Absolute Return FOF Style	-8.5	-6.7	0.1	0.8	3.1	3.3
Callan Core Diversified FOF Style	-7.3	-4.3	0.4	0.4	3.0	3.5
Callan Long/Short Equity FOF Style	-10.8	-6.5	0.4	0.8	3.6	4.6
Credit Suisse Hedge Fund	-9.0	-4.3	0.4	0.2	3.0	4.0
CS Convertible Arbitrage	-5.3	-1.3	0.9	2.4	3.2	3.7
CS Distressed	-10.8	-11.5	-2.2	-0.8	2.5	3.9
CS Emerging Markets	-10.5	-6.2	0.7	1.8	3.2	5.1
CS Equity Market Neutral	-5.3	-6.2	-1.0	-0.3	0.9	-1.1
CS Event-Driven Multi	-18.8	-14.9	-4.1	-3.4	0.6	3.1
CS Fixed Income Arb	-5.8	-2.2	1.7	2.5	4.4	3.3
CS Global Macro	-8.1	-1.1	1.1	0.6	3.6	5.4
CS Long/Short Equity	-11.2	-5.4	1.4	1.1	3.6	4.8
CS Managed Futures	0.0	5.7	2.0	-2.0	1.4	3.0
CS Multi-Strategy	-6.5	-2.6	1.0	2.2	5.0	5.2
CS Risk Arbitrage	-6.8	-4.1	0.8	1.8	1.9	3.2
HFRI Asset Wtd Composite	-10.0	-6.1	0.2	0.4	3.1	--
90-Day T-Bill + 5%	1.8	7.3	6.8	6.2	5.6	6.4

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

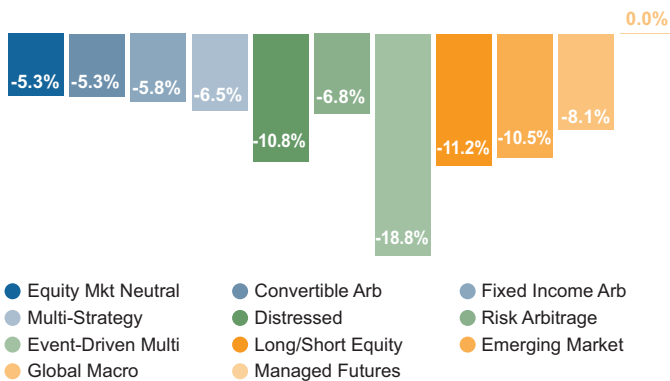
Within CS HFI, the worst-performing index was *Event-Driven Multi-Strategy* (-18.8%), reflecting its material exposure to soft deals particularly vulnerable to shifting market sentiments and crowded trades. The next group of poorly performing strategies included *Long/Short Equity* (-11.2%), *Distressed* (-10.8%), and *Emerging Markets* (-10.5%). Despite low net exposures, risk-on arbitrage strategies like *Equity Market Neutral* (-5.3%), *Convertible Arbitrage* (-5.3%), and *Fixed-Income Arbitrage* (-5.8%) suffered the next level of losses due to widened spreads from derisking or being net long with illiquidity. The best-performing strategy last quarter was *Managed Futures* (+0.0%).

Within the Callan Hedge FOF Group, net exposures to illiquidity and equity-related risks primarily determined performance in the first quarter. The median *Callan Long/Short Equity FOF* dropped 10.8%, with its net equity exposure driving the loss. Similarly, the median *Callan Absolute Return FOF* sank 8.5%.

The *Core Diversified FOF* (-7.3%) suffered the least of the FOF style groups.

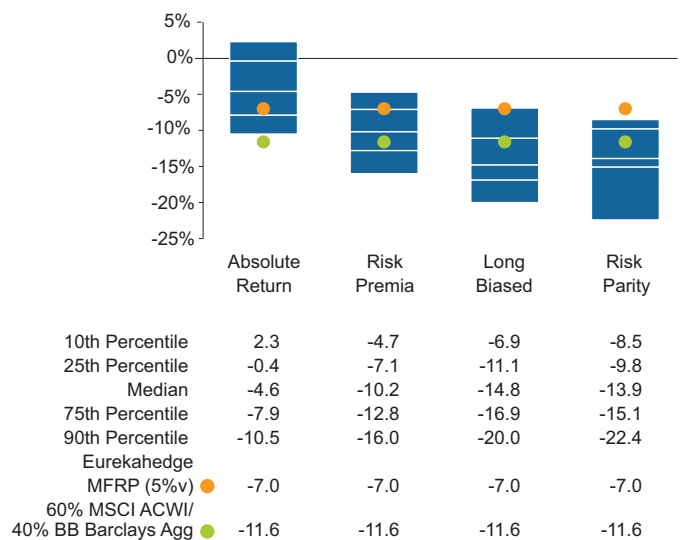
Within Callan’s database of liquid alternative solutions, the median managers of Callan Multi-Asset Class (MAC) style groups were all negative, gross of fees. The median *Callan Risk Premia MAC* dropped 10.2% as managers reduced gross exposures to their factors to keep within volatility targets. Targeting equal risk-weighted allocations to major asset classes with leverage, the *Callan Risk Parity MAC* fell 13.9%, trailing its 60% MSCI ACWI/40% Bloomberg Barclays US Aggregate Bond Index (-12.0%). Given a usually long equity bias within its dynamic asset allocation mandate, the *Callan Long-Biased MAC* (-14.8%) also trailed the 60%/40% benchmark. As the most conservative MAC style focused on non-directional strategies of long and short asset class exposures, *Callan Absolute Return MAC* slipped 4.6%.

Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

MAC Style Group Returns



Sources: Bloomberg Barclays, Callan, Eurekahedge, S&P Dow Jones Indices

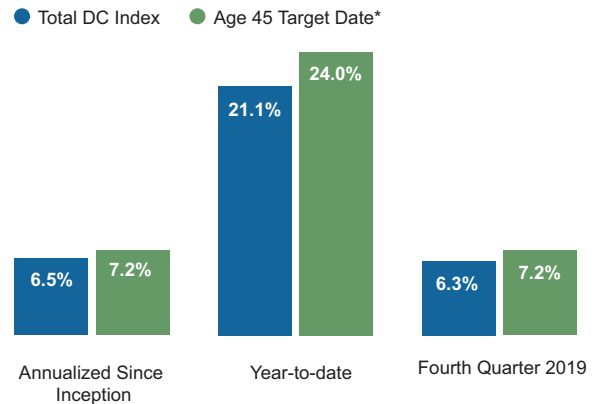
Index Posts Highest Return Since 2009

DEFINED CONTRIBUTION | Patrick Wisdom

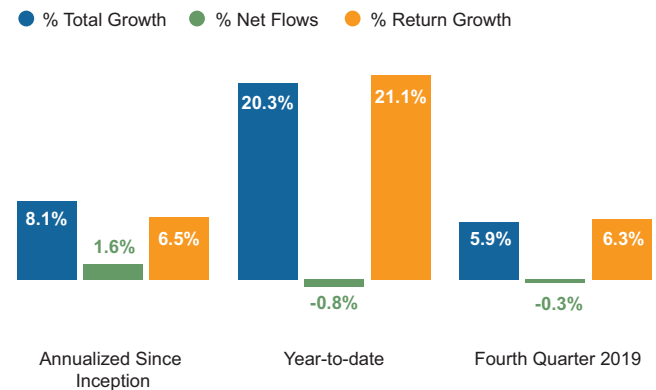
- The **Callan DC Index™** rose 6.3% in the final quarter of 2019, the fourth consecutive quarter of gains, and jumped 21.1% for the year, the highest since 2009. The Age 45 Target Date Fund had a larger fourth-quarter (7.2%) and full-year gain (24.0%).
- The Index's growth in balances in the fourth quarter (5.9%) marked the fourth straight quarter of growth. Investment returns (6.3%) drove the growth, while net flows (-0.3%) detracted.
- Target date funds (TDFs) experienced the largest inflows (53.8%). After garnering the most flows in the previous quarter, U.S. fixed income again saw significant inflows (36.5%). U.S. large cap equity (-38.5%) had the largest outflows.
- Fourth-quarter turnover (i.e., net transfer activity) increased to 0.38% from the previous quarter's 0.35%, well below the historical average (0.60%).
- The allocation to equity within the Index increased to 70.2%, the highest since the third quarter of 2018.
- The share of assets allocated to stable value decreased to 9.8%. The allocation to U.S. fixed income (6.1%) also fell despite positive flows; the asset class's relative underperformance was the primary driver of the decrease.
- TDFs experienced the largest increase in asset allocation (30.4%), due to large inflows and solid performance.
- The prevalence of real return/TIPS within DC plans increased by 3.4 percentage points from the previous quarter to 38.5%.
- The presence of company stock (21.5%) remains near historic lows. Brokerage window prevalence (41.4%) remains near all-time highs.
- For plans with more than \$1 billion in assets, the average asset-weighted fee decreased by 4 basis points to 0.29%. Plans with less than \$500 million in assets saw a fee decrease of 2 bps, while the fee for plans with assets between \$500 million and \$1 billion remained steady at 0.36%.

The Callan DC Index is an equally weighted index tracking the cash flows and performance of over 100 plans, representing nearly \$300 billion in assets. The Index is updated quarterly and is available on Callan's website.

Investment Performance



Growth Sources



Net Cash Flow Analysis (Fourth Quarter 2019) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	53.80%
U.S. Fixed Income	36.52%
U.S. Smid Cap	-18.02%
U.S. Large Cap	-38.48%
Total Turnover**	0.38%

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

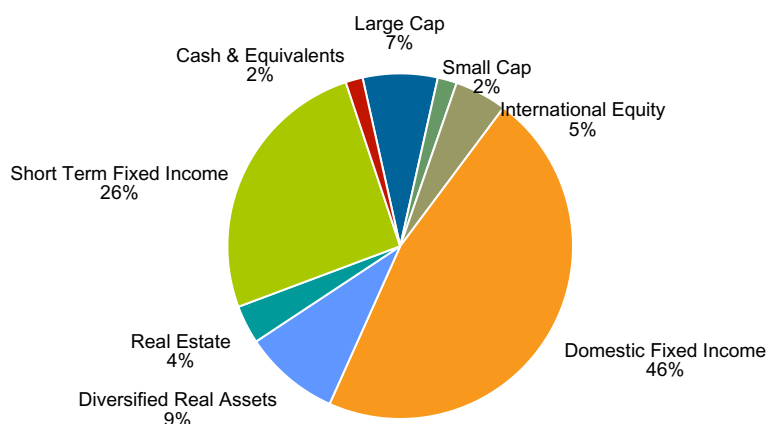
* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

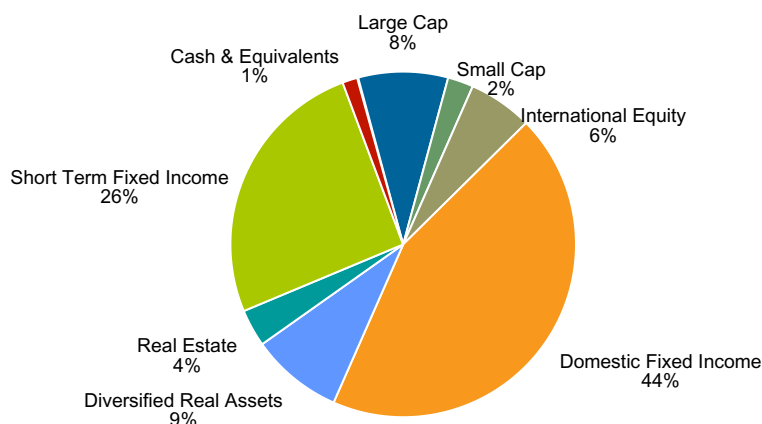
Actual vs Target Asset Allocation As of March 31, 2020

The first chart below shows the Fund's asset allocation as of March 31, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



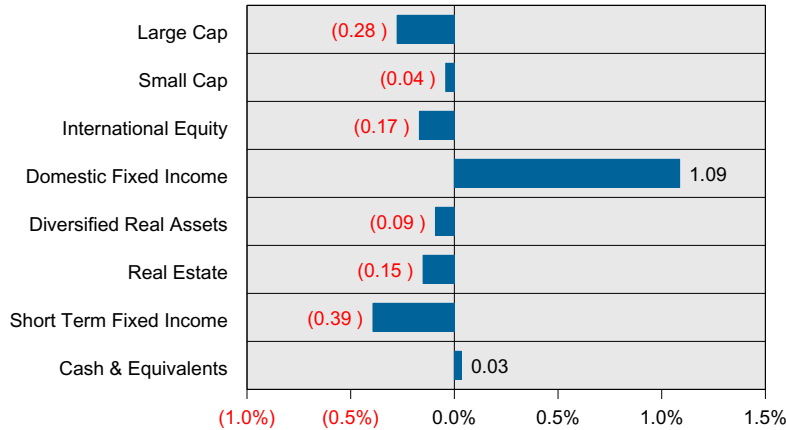
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	195,544	7.0%	8.4%	(1.4%)	(39,691)
Small Cap	50,486	1.8%	2.4%	(0.6%)	(16,269)
International Equity	136,940	4.9%	6.0%	(1.1%)	(30,835)
Domestic Fixed Income	1,301,895	46.5%	44.0%	2.4%	68,104
Diversified Real Assets	252,364	9.0%	8.6%	0.4%	10,493
Real Estate	101,299	3.6%	3.5%	0.1%	1,965
Short Term Fixed Income	717,314	25.6%	25.6%	(0.0%)	(1)
Cash & Equivalents	45,499	1.6%	1.4%	0.2%	6,234
Total	2,801,341	100.0%	100.0%		

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

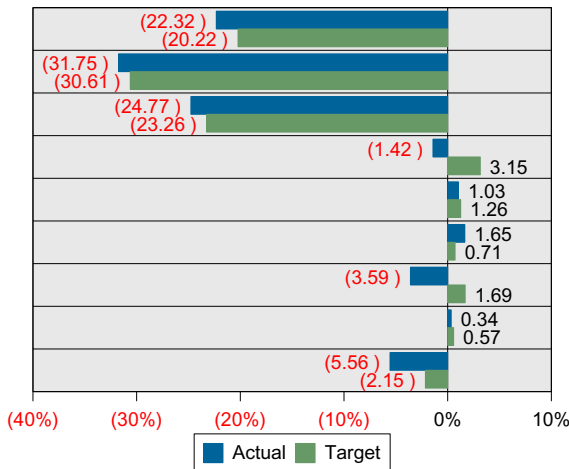
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

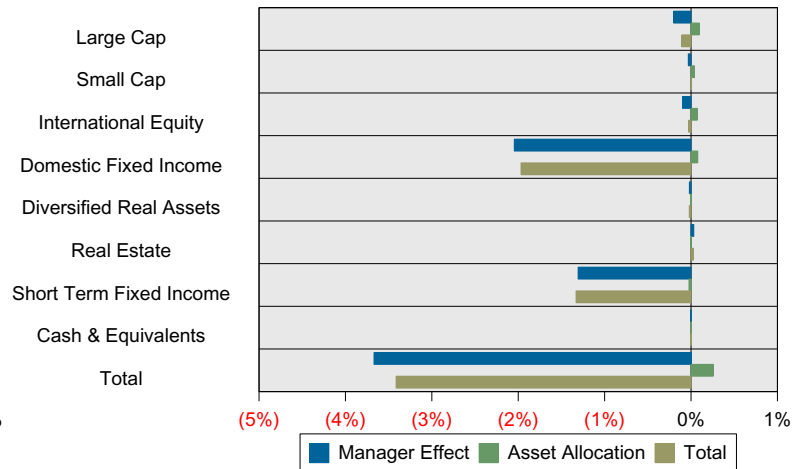
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

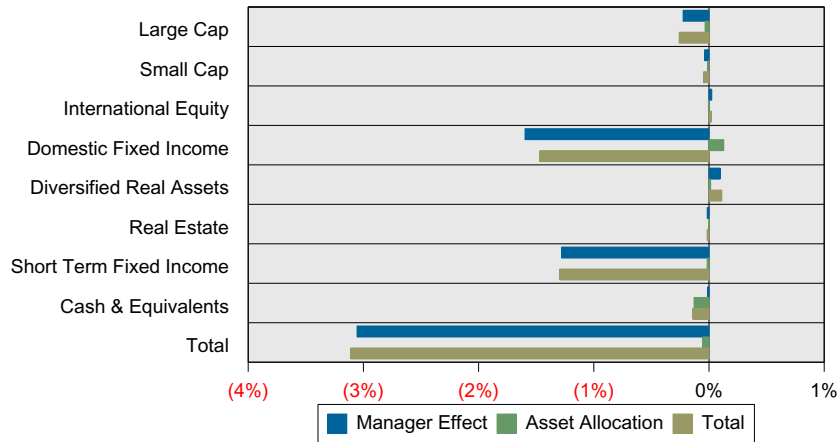
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	8%	9%	(22.32%)	(20.22%)	(0.20%)	0.09%	(0.11%)
Small Cap	2%	2%	(31.75%)	(30.61%)	(0.03%)	0.04%	0.01%
International Equity	6%	6%	(24.77%)	(23.26%)	(0.10%)	0.07%	(0.03%)
Domestic Fixed Income	46%	45%	(1.42%)	3.15%	(2.05%)	0.08%	(1.97%)
Diversified Real Assets	9%	9%	1.03%	1.26%	(0.02%)	(0.00%)	(0.02%)
Real Estate	3%	4%	1.65%	0.71%	0.03%	(0.00%)	0.03%
Short Term Fixed Income	24%	25%	(3.59%)	1.69%	(1.31%)	(0.02%)	(1.33%)
Cash & Equivalents	1%	1%	0.34%	0.57%	(0.00%)	0.00%	0.00%
Total			(5.56%)	(2.15%)	(3.67%)	0.26%	(3.41%)

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

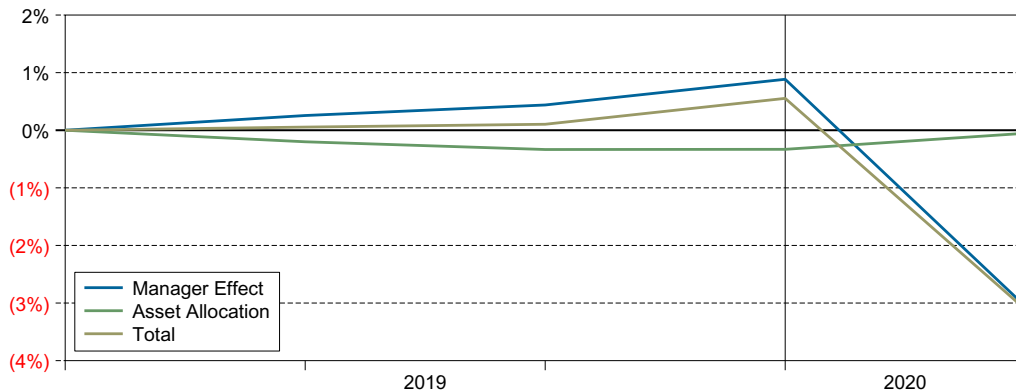
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

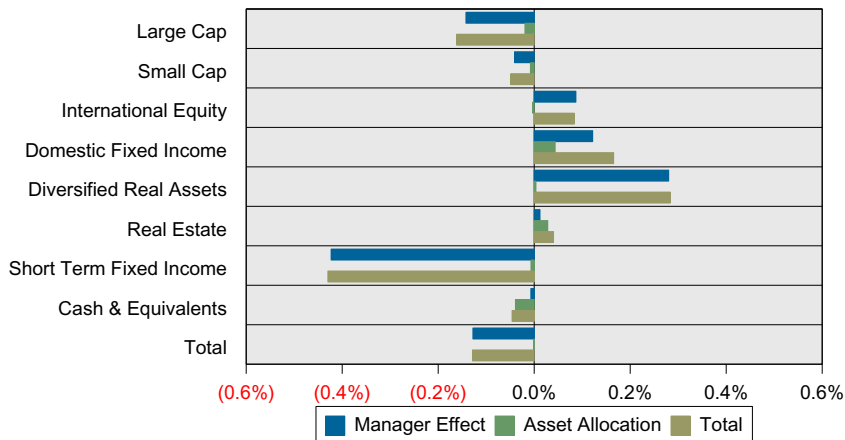
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return	
Large Cap	9%	9%	(10.52%)	(8.03%)	(0.22%)	(0.03%)	(0.26%)	
Small Cap	3%	3%	(25.36%)	(23.99%)	(0.04%)	(0.01%)	(0.05%)	
International Equity	6%	6%	(15.00%)	(14.89%)	0.02%	(0.01%)	0.02%	
Domestic Fixed Income	49%	48%	5.28%	8.93%	(1.60%)	0.13%	(1.47%)	
Diversified Real Assets	9%	9%	6.16%	5.13%	0.10%	0.01%	0.11%	
Real Estate	4%	4%	4.95%	5.28%	(0.02%)	(0.00%)	(0.02%)	
Short Term Fixed Income	17%	18%	(0.26%)	4.53%	(1.28%)	(0.02%)	(1.30%)	
Cash & Equivalents	3%	3%	1.88%	2.25%	(0.01%)	(0.13%)	(0.14%)	
Total					0.96%	4.07%	(3.05%) + (0.05%)	(3.11%)

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

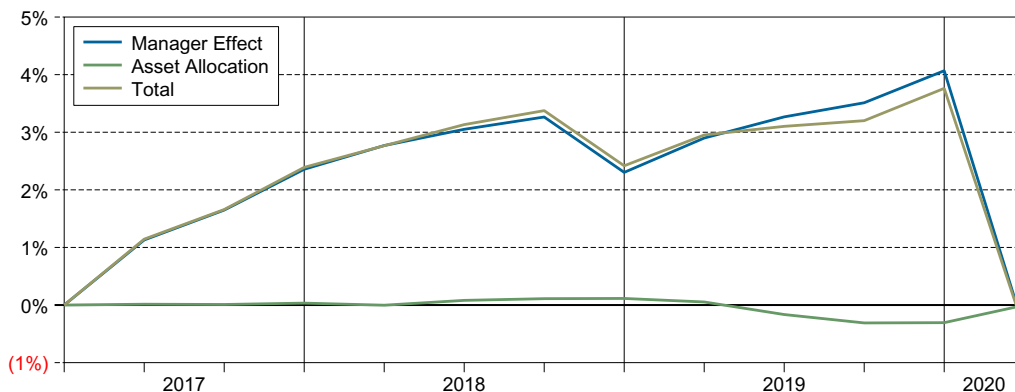
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

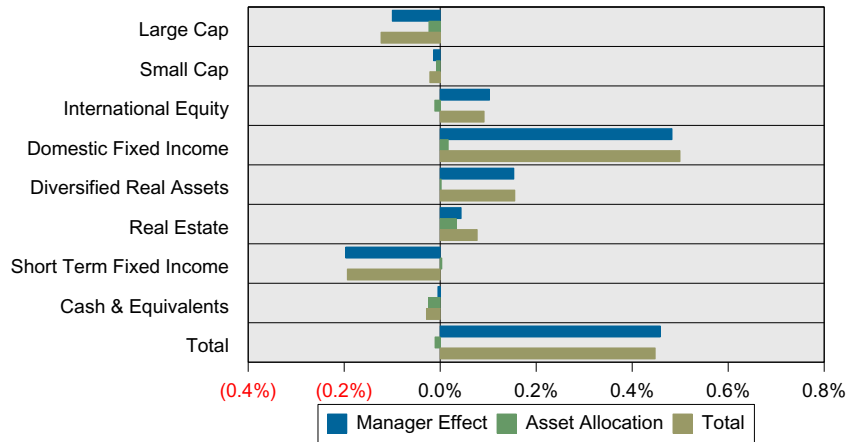
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	10%	3.04%	4.64%	(0.14%)	(0.02%)	(0.16%)
Small Cap	3%	3%	(5.98%)	(4.64%)	(0.04%)	(0.01%)	(0.05%)
International Equity	7%	7%	(1.51%)	(2.07%)	0.09%	(0.00%)	0.08%
Domestic Fixed Income	51%	51%	4.92%	4.82%	0.12%	0.04%	0.17%
Diversified Real Assets	11%	11%	6.37%	4.03%	0.28%	0.00%	0.28%
Real Estate	5%	5%	6.43%	6.41%	0.01%	0.03%	0.04%
Short Term Fixed Income	9%	9%	1.15%	2.58%	(0.42%)	(0.01%)	(0.43%)
Cash & Equivalents	3%	3%	1.61%	1.83%	(0.01%)	(0.04%)	(0.05%)
Total			4.30%	4.43%	(0.13%)	(0.00%)	(0.13%)

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

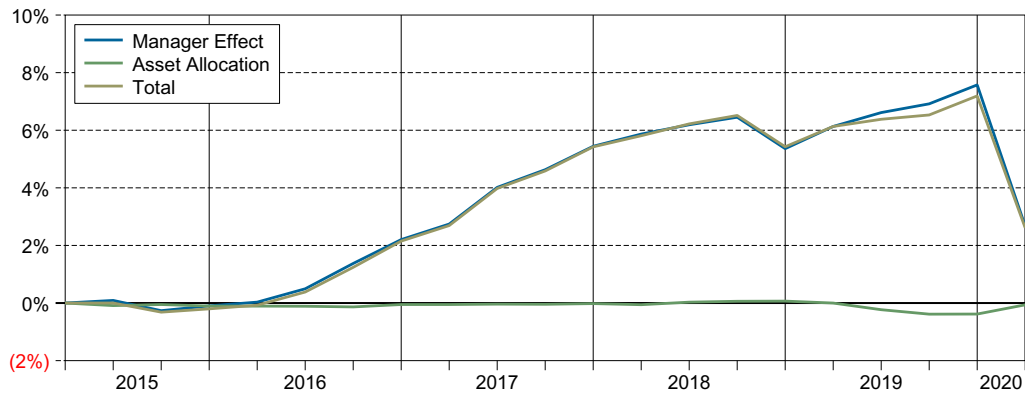
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

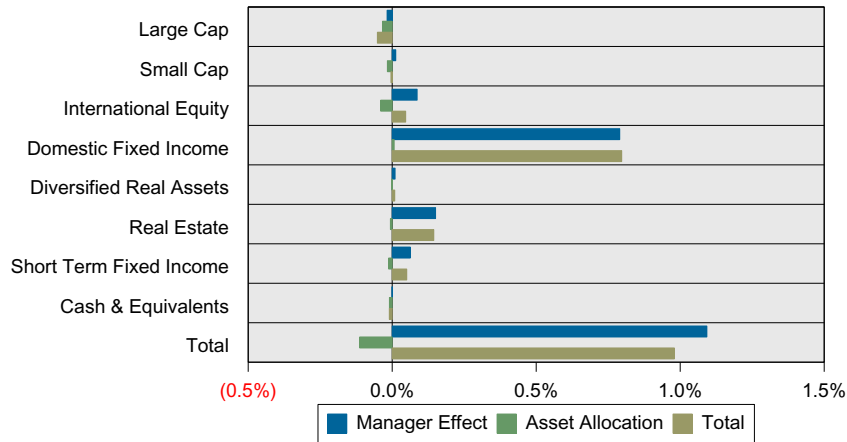
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	10%	5.32%	6.22%	(0.10%)	(0.02%)	(0.12%)
Small Cap	3%	3%	(0.71%)	(0.25%)	(0.01%)	(0.01%)	(0.02%)
International Equity	7%	7%	0.32%	(0.81%)	0.10%	(0.01%)	0.09%
Domestic Fixed Income	48%	48%	4.32%	3.36%	0.48%	0.02%	0.50%
Diversified Real Assets	11%	11%	4.22%	3.03%	0.15%	0.00%	0.16%
Real Estate	5%	5%	8.34%	7.65%	0.04%	0.03%	0.08%
Short Term Fixed Income	12%	12%	1.23%	1.78%	(0.20%)	0.00%	(0.19%)
Cash & Equivalents	3%	3%	1.04%	1.19%	(0.00%)	(0.02%)	(0.03%)
Total			4.14%	3.69%	+ 0.46%	+ (0.01%)	0.45%

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

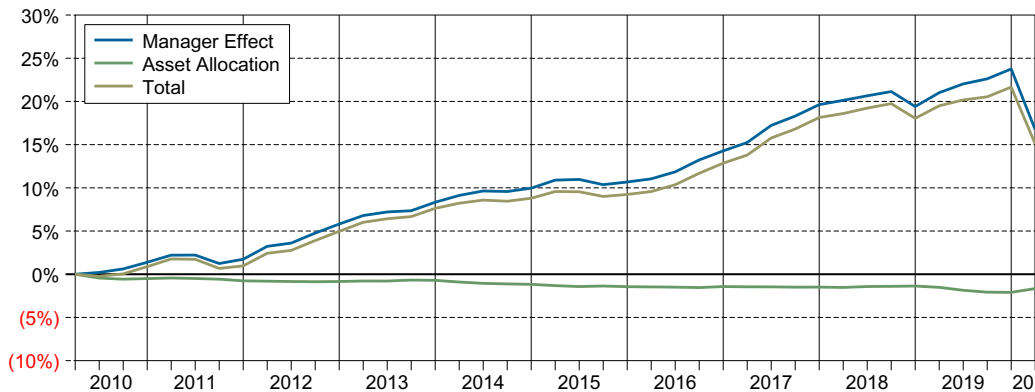
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Ten Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Ten Year Annualized Relative Attribution Effects

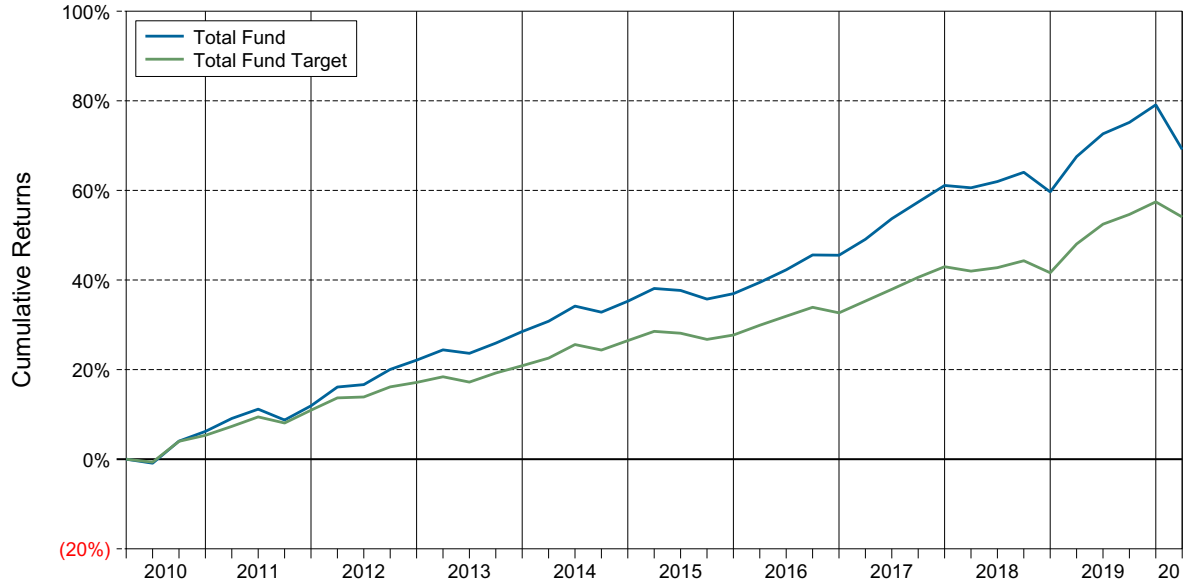
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	10%	10.22%	10.39%	(0.02%)	(0.03%)	(0.05%)
Small Cap	3%	3%	7.32%	6.90%	0.01%	(0.02%)	(0.00%)
International Equity	7%	7%	3.63%	2.28%	0.09%	(0.04%)	0.05%
Domestic Fixed Income	42%	42%	5.93%	3.88%	0.79%	0.01%	0.80%
Diversified Real Assets	12%	12%	4.38%	3.89%	0.01%	(0.00%)	0.01%
Real Estate	5%	4%	13.04%	10.17%	0.15%	(0.01%)	0.14%
Short Term Fixed Income	18%	18%	1.59%	1.14%	0.06%	(0.01%)	0.05%
Cash & Equivalents	3%	3%	0.61%	0.64%	(0.00%)	(0.01%)	(0.01%)
Total			5.40%	4.42%	+ 1.09%	+ (0.11%)	0.98%

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

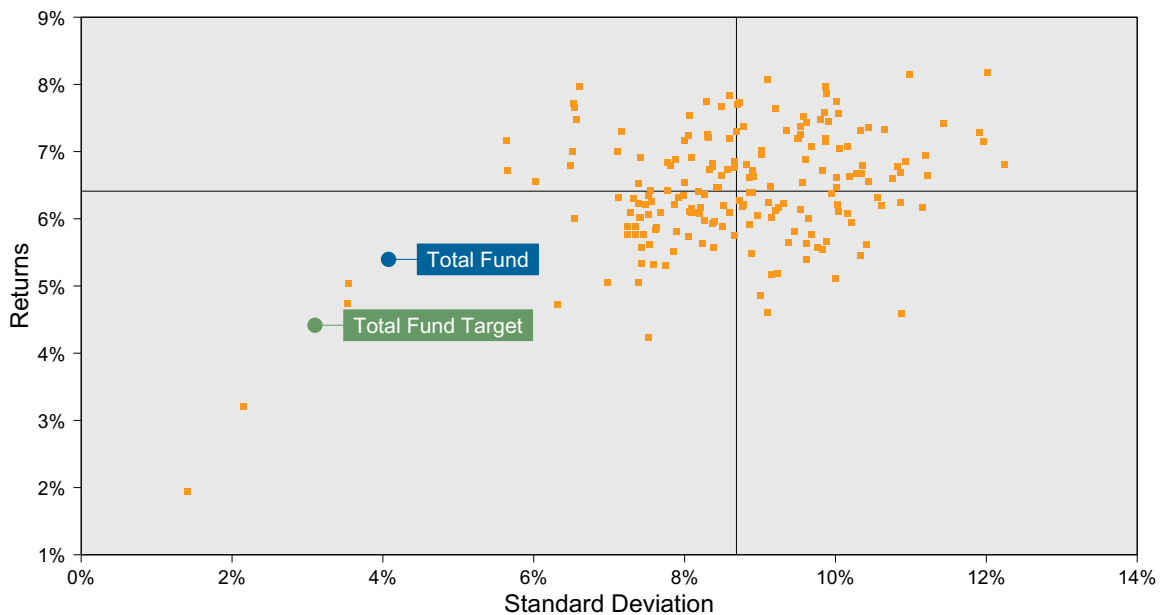
Cumulative Performance Relative to Target

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Ten Year Annualized Risk vs Return



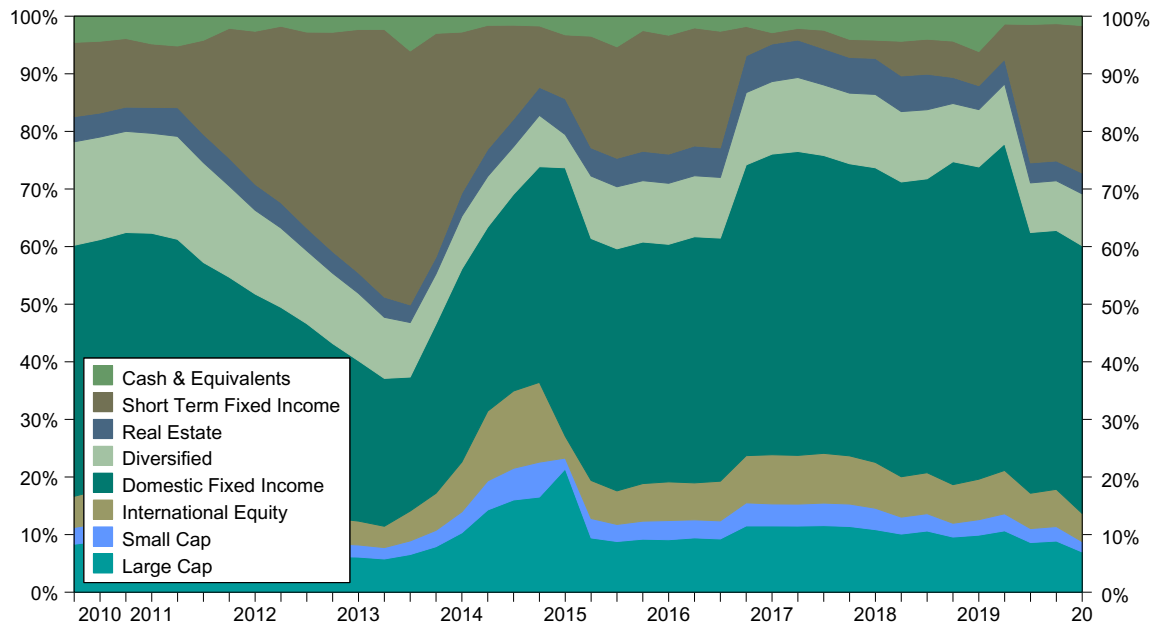
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

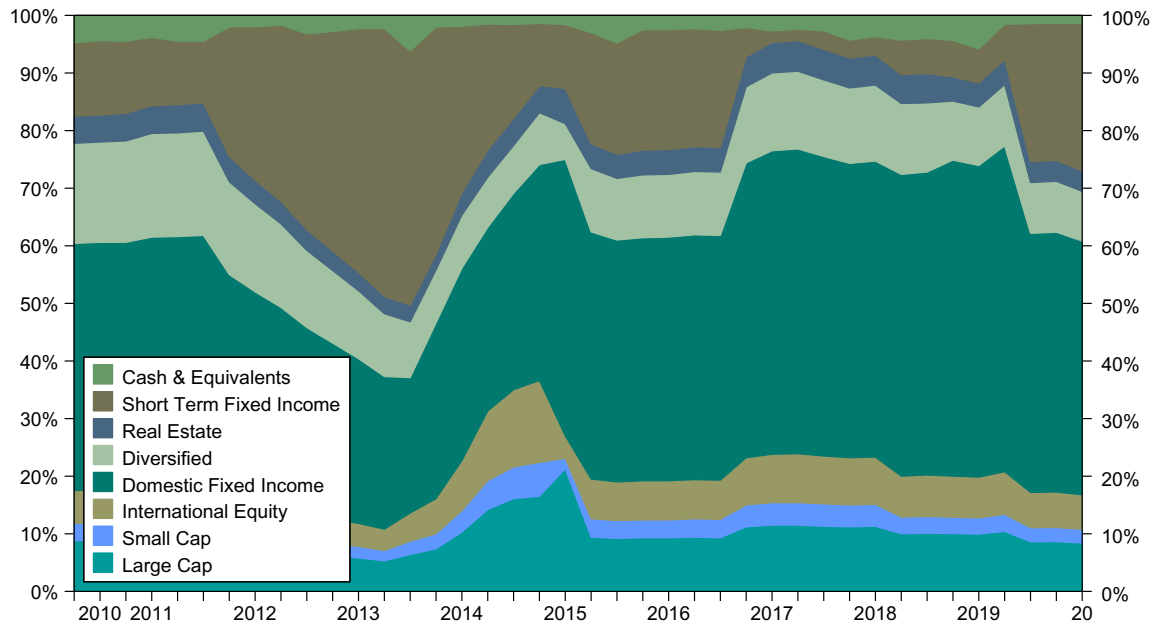
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, and the fund's historical target asset allocation.

Actual Historical Asset Allocation



Target Historical Asset Allocation

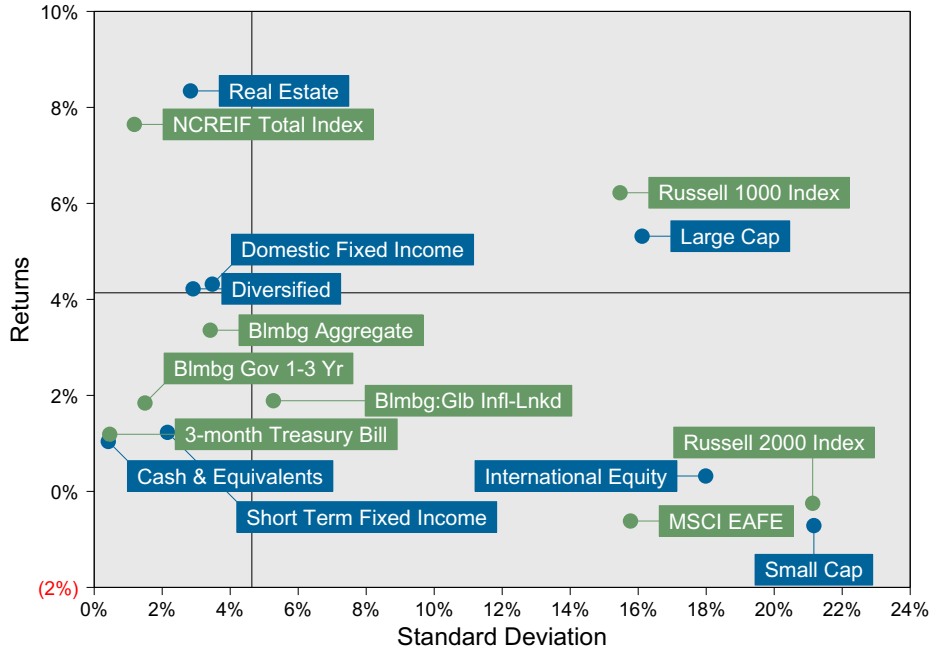


* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

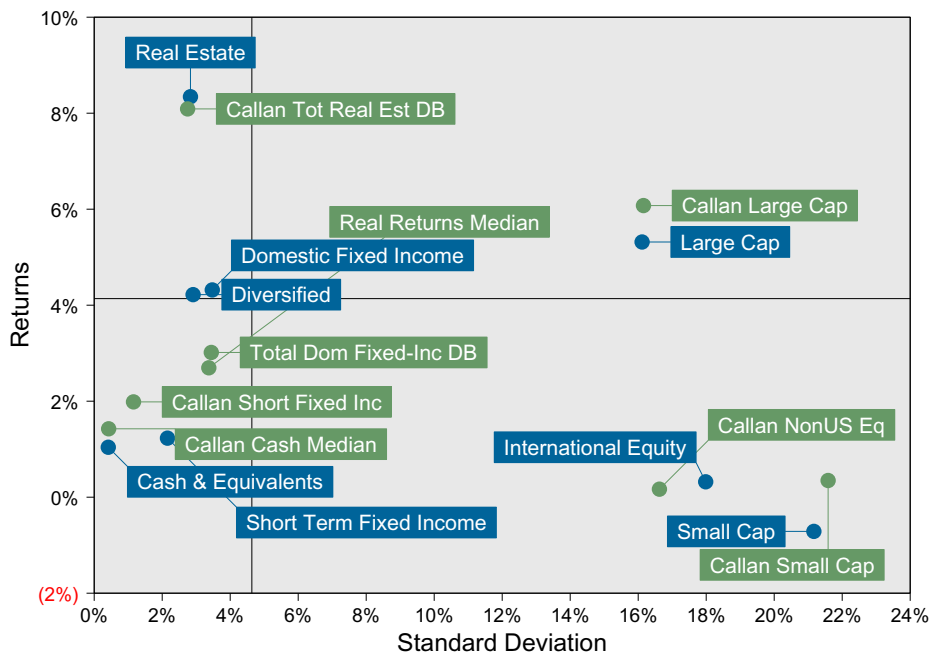
Asset Class Risk and Return

The charts below show the five year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

Five Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



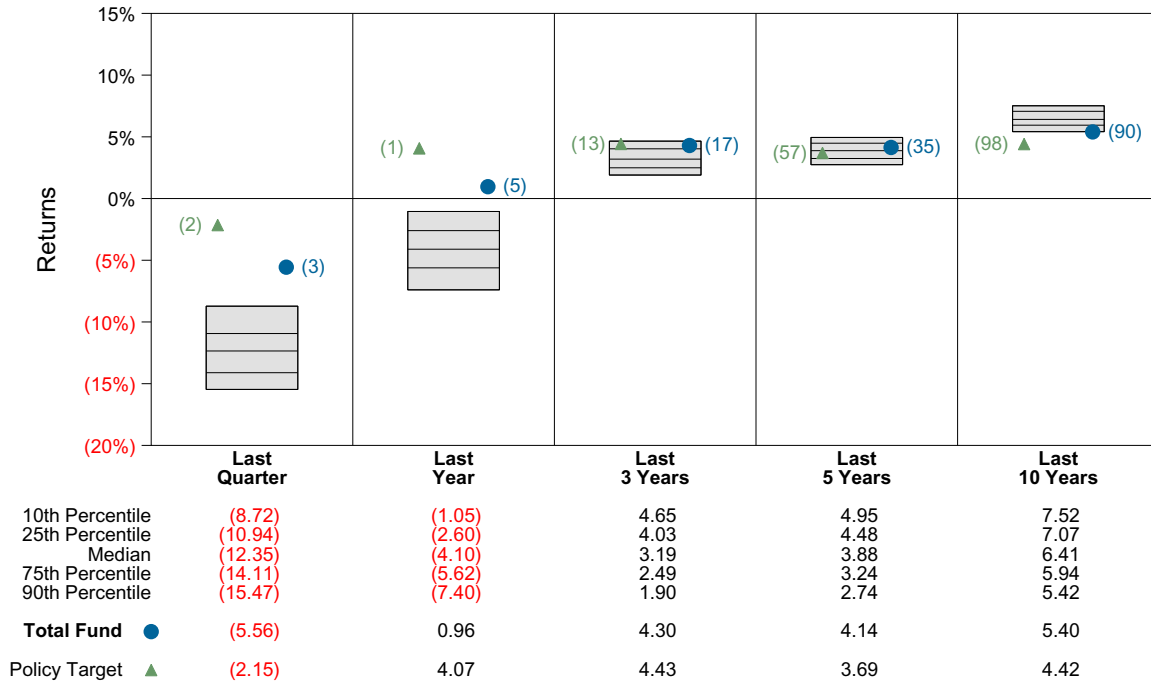
Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median



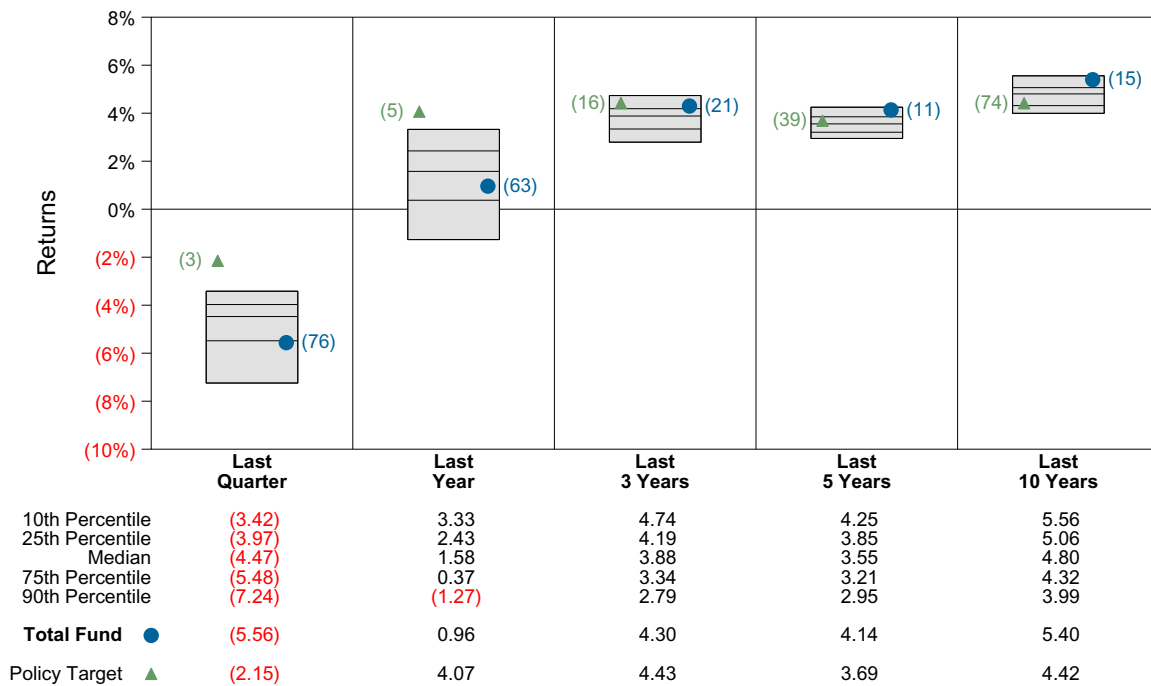
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended March 31, 2020. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

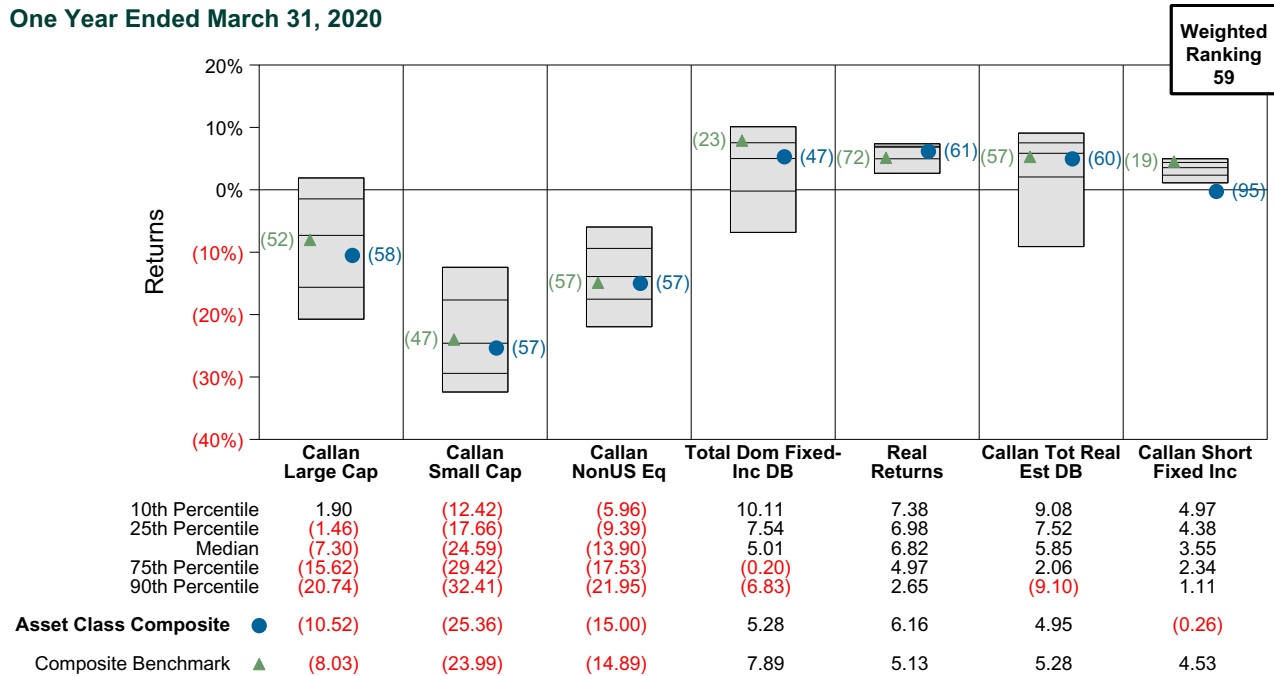


* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

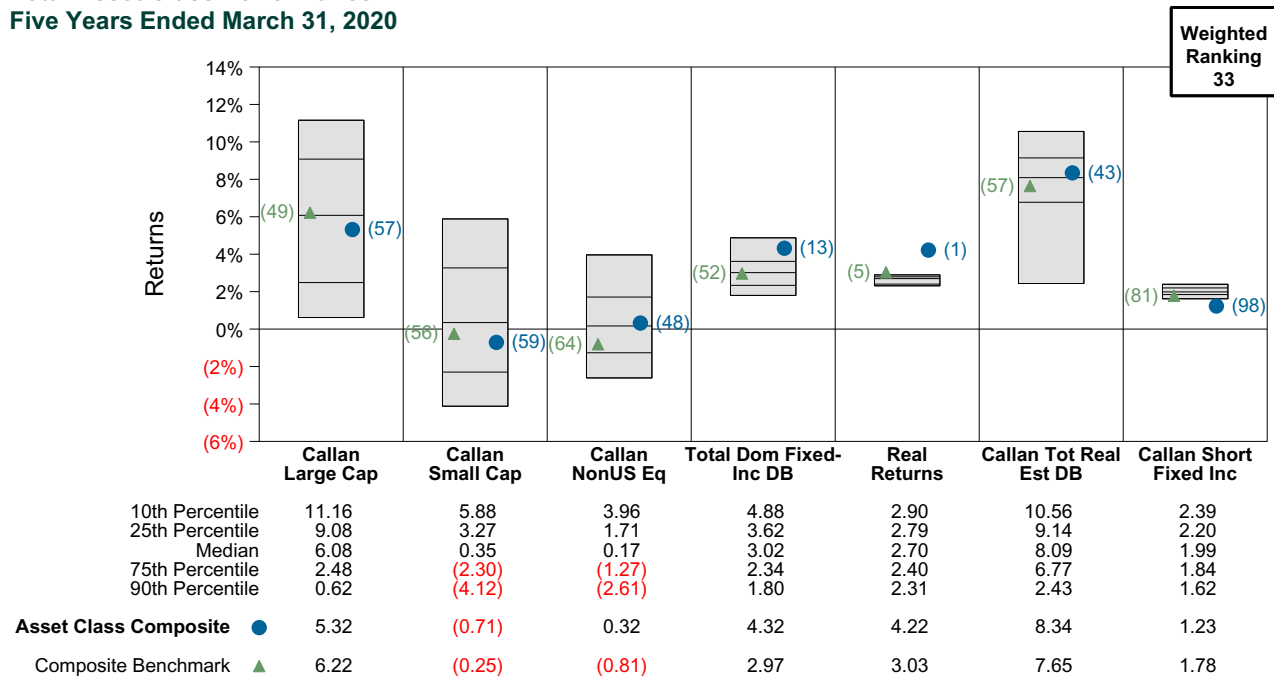
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended March 31, 2020



Total Asset Class Performance Five Years Ended March 31, 2020



* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	March 31, 2020		Net New Inv.	Inv. Return	December 31, 2019	
	Market Value	Weight			Market Value	Weight
Global Equity	\$382,970,364	13.67%	\$(15,274,768)	\$(124,470,830)	\$522,715,961	17.87%
Domestic Equity	\$246,030,740	8.78%	\$(8,132,641)	\$(79,371,889)	\$333,535,270	11.40%
Large Cap	\$195,544,300	6.98%	\$(8,109,863)	\$(56,120,846)	\$259,775,009	8.88%
Parametric Clifton Large Cap	38,964,373	1.39%	(2,000,000)	(11,114,533)	52,078,906	1.78%
L.A. Capital Large Cap Growth	64,483,800	2.30%	(3,040,147)	(10,546,130)	78,070,077	2.67%
L.A. Capital Enhanced	42,217,617	1.51%	(13,888)	(9,755,012)	51,986,517	1.78%
LSV Large Cap Value	49,878,509	1.78%	(3,055,829)	(24,705,171)	77,639,510	2.65%
Small Cap	\$50,486,440	1.80%	\$(22,777)	\$(23,251,043)	\$73,760,261	2.52%
Atlanta Capital	14,144,414	0.50%	11,998,701	(3,831,039)	5,976,752	0.20%
Parametric Clifton Small Cap	24,319,799	0.87%	0	(11,803,992)	36,123,792	1.23%
PIMCO RAE	12,022,228	0.43%	(12,021,478)	(7,616,011)	31,659,717	1.08%
International Equity	\$136,939,624	4.89%	\$(7,142,127)	\$(45,098,941)	\$189,180,692	6.47%
DFA Int'l Small Cap Value	13,138,682	0.47%	0	(6,676,867)	19,815,549	0.68%
LSV Intl Value	52,319,944	1.87%	(71,013)	(20,430,792)	72,821,749	2.49%
Vanguard Intl Explorer Fund	12,890,325	0.46%	(2,000,000)	(5,091,021)	19,981,346	0.68%
William Blair	58,590,673	2.09%	(5,071,114)	(12,900,261)	76,562,048	2.62%
Domestic Fixed Income	\$1,301,895,054	46.47%	\$5,757,548	\$(18,729,146)	\$1,314,866,652	44.94%
Declaration Total Return	87,497,636	3.12%	(54,320)	(6,418,781)	93,970,737	3.21%
PIMCO Core Plus Constrained	172,957,202	6.17%	6,952,717	3,761,065	162,243,420	5.55%
PIMCO DiSCO II	41,772,018	1.49%	0	(2,872,411)	44,644,429	1.53%
PIMCO Bravo II Fund	11,600,856	0.41%	(790,314)	480,633	11,910,537	0.41%
Prudential	335,912,012	11.99%	(183,360)	(7,164,403)	343,259,775	11.73%
SSgA US Govt Credit Bd Idx	191,834,485	6.85%	(6,875)	6,454,179	185,387,181	6.34%
Wells Capital	103,479,296	3.69%	(54,206)	(8,441,916)	111,975,417	3.83%
Western Asset Management	356,841,550	12.74%	(106,095)	(4,527,512)	361,475,156	12.35%
Global Real Assets	\$353,662,625	12.62%	\$(3,725,790)	\$4,293,940	\$353,094,475	12.07%
Real Estate	\$101,298,848	3.62%	\$(1,051,978)	\$1,660,695	\$100,690,131	3.44%
Invesco Core Real Estate	53,475,262	1.91%	(484,644)	1,206,047	52,753,858	1.80%
JP Morgan RE Inc & Growth	47,823,586	1.71%	(567,335)	454,648	47,936,273	1.64%
Diversified	\$252,363,778	9.01%	\$(2,673,811)	\$2,633,246	\$252,404,344	8.63%
Western Asset TIPS	143,729,808	5.13%	(41,147)	561,665	143,209,289	4.89%
JP Morgan Infrastructure	42,368,844	1.51%	(1,947,953)	1,987,033	42,329,763	1.45%
Eastern Timber Opportunities	54,955,356	1.96%	0	(205,032)	55,160,388	1.89%
Grosvenor Cust. Infrastructure	11,309,770	0.40%	(684,712)	289,579	11,704,903	0.40%
Short Term Fixed Income	\$717,313,967	25.61%	\$46,723,351	\$(26,682,929)	\$697,273,545	23.83%
Barings Active Short Duration	344,089,762	12.28%	23,487,780	(29,598,645)	350,200,626	11.97%
JP Morgan Short Term Bonds	373,224,205	13.32%	23,235,571	2,915,715	347,072,919	11.86%
Cash	\$45,499,307	1.62%	\$7,379,904	\$167,999	\$37,951,405	1.30%
Northern Trust Cash Account	25,261,390	0.90%	7,379,904	88,853	17,792,633	0.61%
Bank of ND	20,237,917	0.72%	0	79,146	20,158,771	0.69%
Securities Lending Income	\$0	0.00%	\$(26,739)	\$26,739	-	-
Total Fund	\$2,801,341,318	100.0%	\$40,833,506	\$(165,394,227)	\$2,925,902,039	100.0%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Global Equity					
Gross	(24.57%)	(14.32%)	-	-	-
Net	(24.61%)	(14.50%)	-	-	-
Weighted Benchmark	(22.81%)	(12.84%)	-	-	-
Domestic Equity					
Gross	(24.46%)	(13.96%)	1.06%	4.08%	9.59%
Net	(24.49%)	(14.10%)	0.89%	3.87%	9.30%
Weighted Benchmark	(22.57%)	(11.73%)	-	-	-
Large Cap					
Gross	(22.32%)	(10.52%)	3.04%	5.32%	10.22%
Net	(22.35%)	(10.67%)	2.86%	5.12%	9.98%
Benchmark(1)	(20.22%)	(8.03%)	4.64%	6.22%	10.39%
Parametric Clifton Large Cap - Gross	(22.20%)	(9.48%)	3.90%	6.11%	10.50%
Parametric Clifton Large Cap - Net	(22.20%)	(9.48%)	3.90%	6.05%	10.29%
S&P 500 Index	(19.60%)	(6.98%)	5.10%	6.73%	10.53%
L.A. Capital - Gross	(14.14%)	0.38%	9.72%	9.30%	12.77%
L.A. Capital - Net	(14.18%)	0.18%	9.49%	9.08%	12.54%
Russell 1000 Growth Index	(14.10%)	0.91%	11.32%	10.36%	12.97%
L.A. Capital Enhanced - Gross	(18.77%)	(7.65%)	4.35%	6.33%	10.65%
L.A. Capital Enhanced - Net	(18.79%)	(7.75%)	4.23%	6.20%	10.49%
Russell 1000 Index	(20.22%)	(8.03%)	4.64%	6.22%	10.39%
LSV Asset Management - Gross	(33.09%)	(23.99%)	(5.54%)	(0.31%)	7.46%
LSV Asset Management - Net	(33.15%)	(24.20%)	(5.81%)	(0.60%)	7.14%
Russell 1000 Value Index	(26.73%)	(17.17%)	(2.18%)	1.90%	7.67%
Small Cap					
Gross	(31.75%)	(25.36%)	(5.98%)	(0.71%)	7.32%
Net	(31.77%)	(25.45%)	(6.13%)	(0.98%)	6.89%
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	6.90%
Atlanta Capital - Gross	(23.35%)	-	-	-	-
Atlanta Capital - Net	(23.35%)	-	-	-	-
S&P 600 Small Cap Index	(32.64%)	(25.89%)	(5.34%)	0.45%	8.06%
Parametric Clifton Small Cap - Gross	(32.68%)	(25.73%)	(5.50%)	(0.42%)	7.51%
Parametric Clifton SmallCap - Net	(32.68%)	(25.73%)	(5.57%)	(0.67%)	7.03%
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	6.90%
PIMCO RAE - Gross	(36.34%)	(30.96%)	(9.08%)	(2.63%)	6.15%
PIMCO RAE - Net	(36.40%)	(31.14%)	(9.31%)	(2.89%)	5.79%
Russell 2000	(30.61%)	(23.99%)	(4.64%)	(0.25%)	6.90%
International Equity					
Gross	(24.77%)	(15.00%)	(1.51%)	0.32%	3.63%
Net	(24.83%)	(15.25%)	(1.82%)	0.01%	3.31%
Benchmark(2)	(23.26%)	(14.89%)	(2.07%)	(0.81%)	2.28%
DFA Intl Small Cap Value - Net	(33.70%)	(26.16%)	(9.92%)	(3.32%)	2.35%
World ex US SC Va	(31.70%)	(23.16%)	(6.39%)	(1.63%)	2.74%
LSV Asset Management - Gross	(28.08%)	(20.66%)	(5.57%)	(1.94%)	2.09%
LSV Asset Management - Net	(28.15%)	(20.97%)	(5.93%)	(2.32%)	1.71%
Benchmark(3)	(22.83%)	(14.38%)	(1.82%)	(0.62%)	2.38%
Vanguard Intl Explorer Fund - Net	(28.35%)	(20.84%)	(5.42%)	(1.49%)	3.44%
BMI, EPAC, <\$2 B	(27.57%)	(20.52%)	(5.32%)	(0.43%)	3.44%
William Blair - Gross	(18.07%)	(4.52%)	5.78%	-	-
William Blair - Net	(18.16%)	(4.89%)	5.37%	-	-
MSCI ACWI ex US IMI	(24.11%)	(16.32%)	(2.34%)	(0.66%)	2.14%

(1) S&P 500 Index through 12/31/2011 and Russell 1000 Index thereafter.

(2) MSCI EAFE through 9/30/2000; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again through 6/30/2016; MSCI World ex-US thereafter.

(3) MSCI EAFE through 9/30/2000; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Fixed Income					
Gross	(1.42%)	5.28%	4.92%	4.32%	5.93%
Net	(1.45%)	5.16%	4.80%	4.20%	5.79%
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
Declaration Total Return - Net	(6.83%)	(2.43%)	2.23%	2.49%	-
Libor-3 Month	0.40%	2.09%	2.04%	1.47%	0.90%
PIMCO Core Plus Cons. - Gross	2.24%	-	-	-	-
PIMCO Core Plus Cons. - Net	2.22%	-	-	-	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
PIMCO DiSCO II - Net	(6.43%)	(1.61%)	5.63%	6.97%	-
PIMCO Bravo II Fund - Net	4.04%	12.65%	5.92%	7.70%	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
Prudential - Gross	(2.09%)	4.76%	4.56%	3.82%	5.21%
Prudential - Net	(2.14%)	4.54%	4.31%	3.57%	5.01%
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
Wells Capital - Gross	(7.54%)	2.37%	3.93%	3.61%	5.73%
Wells Capital - Net	(7.59%)	2.18%	3.76%	3.43%	5.53%
Blmbg Credit Baa	(7.39%)	1.92%	3.42%	2.90%	4.84%
Western Asset - Gross	(1.25%)	5.31%	4.55%	3.88%	5.28%
Western Asset - Net	(1.28%)	5.18%	4.42%	3.75%	5.12%
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
SSgA US Govt Cr Bd Idx - Gross	3.48%	9.99%	5.24%	3.58%	-
SSgA US Govt Cr Bd Idx - Net	3.48%	9.97%	5.22%	3.55%	-
Blmbg Govt/Credit Bd	3.37%	9.82%	5.17%	3.54%	4.15%
Global Real Assets					
Gross	1.21%	5.81%	-	-	-
Net	1.15%	5.52%	-	-	-
Weighted Benchmark	1.10%	5.18%	-	-	-
Real Estate					
Gross	1.65%	4.95%	6.43%	8.34%	13.04%
Net	1.54%	4.43%	5.88%	7.73%	12.13%
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.17%
Invesco Core Real Estate - Gross	2.29%	6.60%	7.22%	8.93%	-
Invesco Core Real Estate - Net	2.20%	6.23%	6.87%	8.57%	-
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.17%
JP Morgan - Gross	0.95%	3.18%	5.53%	7.69%	13.05%
JP Morgan - Net	0.81%	2.50%	4.78%	6.86%	11.92%
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.17%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Returns for Periods Ended March 31, 2020				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Diversified					
Gross	1.03%	6.16%	6.37%	4.22%	4.38%
Net	0.99%	5.98%	6.12%	3.95%	4.07%
Weighted Benchmark	1.26%	5.13%	4.03%	3.03%	3.89%
Western Asset TIPS - Gross	0.39%	6.49%	4.08%	2.54%	3.21%
Western Asset TIPS - Net	0.36%	6.37%	3.95%	2.41%	3.06%
Benchmark(1)	1.93%	7.27%	4.74%	3.14%	3.69%
JP Morgan Infrastructure - Gross	4.70%	9.30%	10.21%	6.39%	6.57%
JP Morgan Infrastructure - Net	4.53%	8.64%	9.52%	5.62%	5.56%
Benchmark(2)	0.39%	3.33%	3.21%	2.49%	2.04%
Eastern Timber Opportunities - Net	(0.37%)	3.78%	5.52%	4.03%	3.49%
NCREIF Timberland Index	0.11%	1.30%	2.48%	2.80%	4.49%
Grosvenor Cust. Infrastructure - Net	2.49%	3.21%	6.55%	5.85%	-
Benchmark(2)	0.39%	3.33%	3.21%	2.49%	2.04%
Short Term Fixed Income					
Gross	(3.59%)	(0.26%)	1.15%	1.23%	1.59%
Net	(3.63%)	(0.39%)	1.03%	1.07%	1.47%
Benchmark(3)	1.69%	4.53%	2.58%	1.78%	1.14%
Barings Active Short Duration - Gross	(8.01%)	-	-	-	-
Barings Active Short Duration - Net	(8.04%)	-	-	-	-
Blmbg Gov/Cred 1-3 Yr	1.69%	4.53%	2.58%	1.90%	1.62%
JP Morgan Short Term Bds - Gross	0.87%	4.06%	2.59%	1.92%	-
JP Morgan Short Term Bds - Net	0.82%	3.92%	2.46%	1.78%	-
Blmbg Gov/Credit 1-3 Yr	1.69%	4.53%	2.58%	1.90%	1.62%
Cash & Equivalents - Net					
Cash Account- Net	0.30%	1.77%	1.51%	0.96%	0.58%
Bank of ND - Net	0.39%	1.98%	1.76%	-	-
90 Day Treasury Bills	0.57%	2.25%	1.83%	1.19%	0.64%
Total Fund					
Gross	(5.56%)	0.96%	4.30%	4.14%	5.40%
Net	(5.60%)	0.83%	4.13%	3.95%	5.18%
Target*	(2.15%)	4.07%	4.43%	3.69%	4.42%

* Current Quarter Target = 44.0% Blmbg Aggregate, 25.6% Blmbg Gov/Cred 1-3 Yr, 8.6% NDSIB INS DRA Weighted Benchmark, 8.4% Russell 1000 Index, 6.0% MSCI World ex US, 3.5% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

(1) Blmbg US TIPS through 12/31/2009; Blmbg Global Inflation-Linked through 10/31/18; Blmbg US Government Inflation Bond Index thereafter.

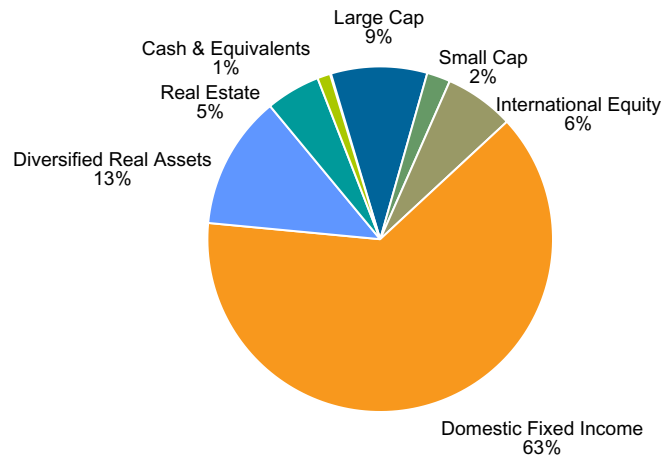
(2) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

(3) Blmbg Gov 1-3 Yr through March 31, 2017 and Blmbg Gov/Credit 1-3 Yr thereafter.

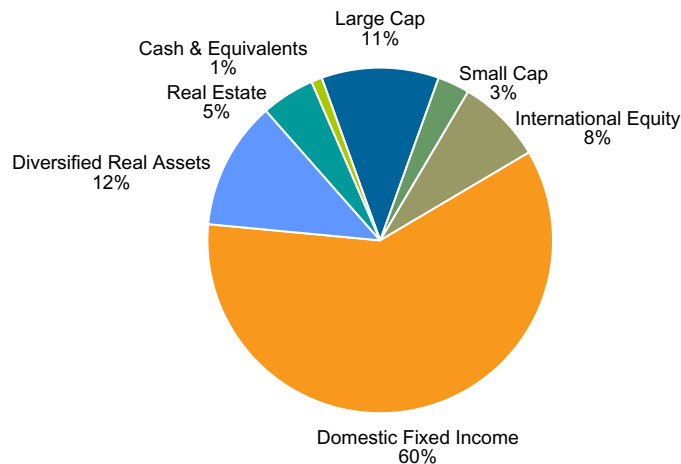
Actual vs Target Asset Allocation As of March 31, 2020

The first chart below shows the Fund's asset allocation as of March 31, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



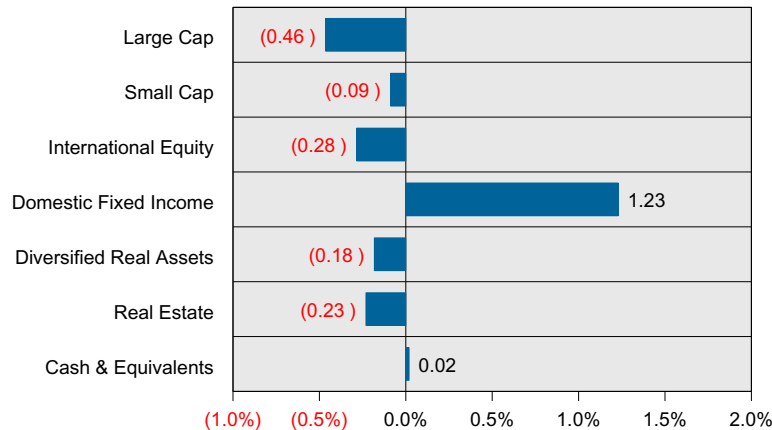
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	179,088	9.0%	11.0%	(2.0%)	(39,072)
Small Cap	44,147	2.2%	3.0%	(0.8%)	(15,351)
International Equity	128,196	6.5%	8.0%	(1.5%)	(30,466)
Domestic Fixed Income	1,257,584	63.4%	60.0%	3.4%	67,624
Diversified Real Assets	248,485	12.5%	12.0%	0.5%	10,493
Real Estate	101,115	5.1%	5.0%	0.1%	1,951
Cash & Equivalents	24,652	1.2%	1.0%	0.2%	4,819
Total	1,983,266	100.0%	100.0%		

* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

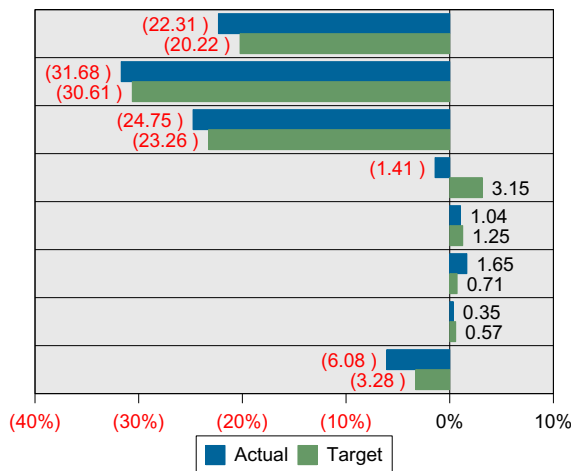
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

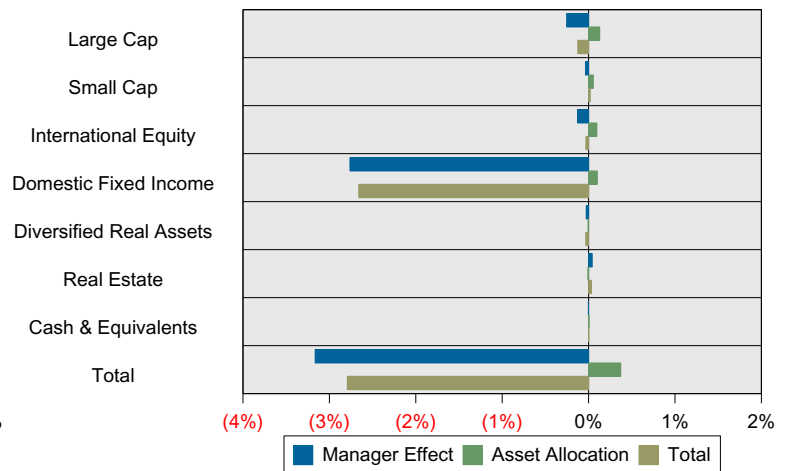
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

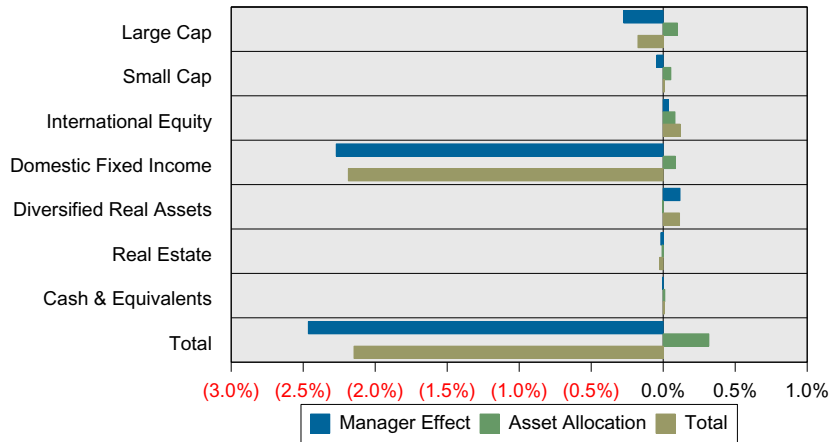
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return	
Large Cap	11%	11%	(22.31%)	(20.22%)	(0.25%)	0.13%	(0.13%)	
Small Cap	3%	3%	(31.68%)	(30.61%)	(0.04%)	0.06%	0.02%	
International Equity	8%	8%	(24.75%)	(23.26%)	(0.13%)	0.10%	(0.03%)	
Domestic Fixed Income	61%	60%	(1.41%)	3.15%	(2.76%)	0.10%	(2.66%)	
Diversified Real Assets	12%	12%	1.04%	1.25%	(0.03%)	(0.01%)	(0.03%)	
Real Estate	5%	5%	1.65%	0.71%	0.04%	(0.01%)	0.03%	
Cash & Equivalents	1%	1%	0.35%	0.57%	(0.00%)	0.01%	0.00%	
Total			(6.08%)		(3.28%)	(3.16%)	0.37%	(2.79%)

* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

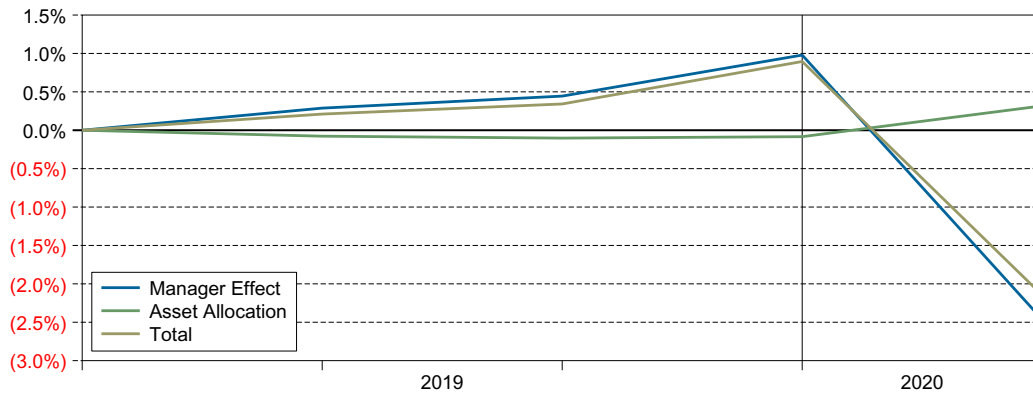
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

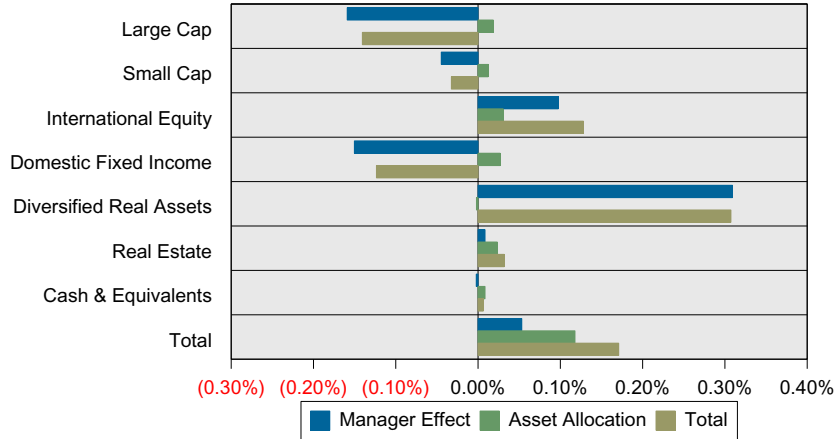
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	(10.50%)	(8.03%)	(0.27%)	0.10%	(0.18%)
Small Cap	3%	3%	(25.30%)	(23.99%)	(0.04%)	0.05%	0.01%
International Equity	8%	8%	(14.96%)	(14.89%)	0.04%	0.08%	0.12%
Domestic Fixed Income	61%	60%	5.30%	8.93%	(2.27%)	0.08%	(2.19%)
Diversified Real Assets	12%	12%	6.16%	5.12%	0.12%	(0.00%)	0.11%
Real Estate	5%	5%	4.95%	5.28%	(0.02%)	(0.01%)	(0.02%)
Cash & Equivalents	1%	1%	1.89%	2.25%	(0.00%)	0.01%	0.01%
Total			1.34%	3.49%	(2.46%)	0.32%	(2.15%)

* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

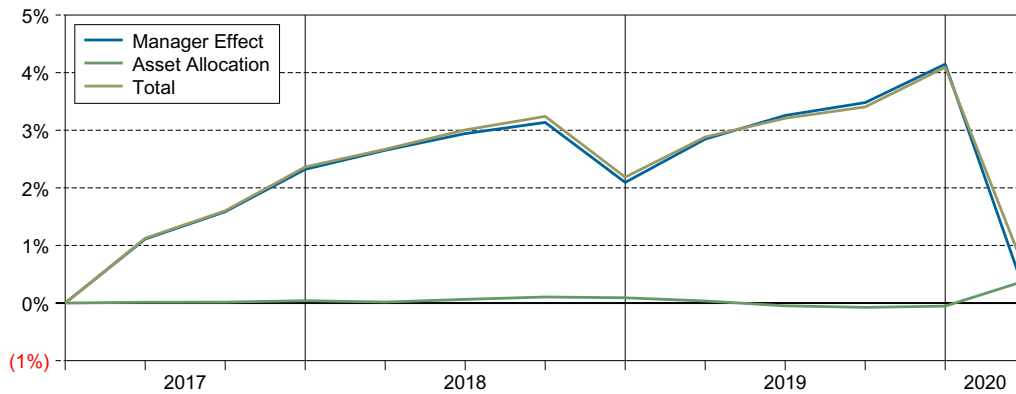
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

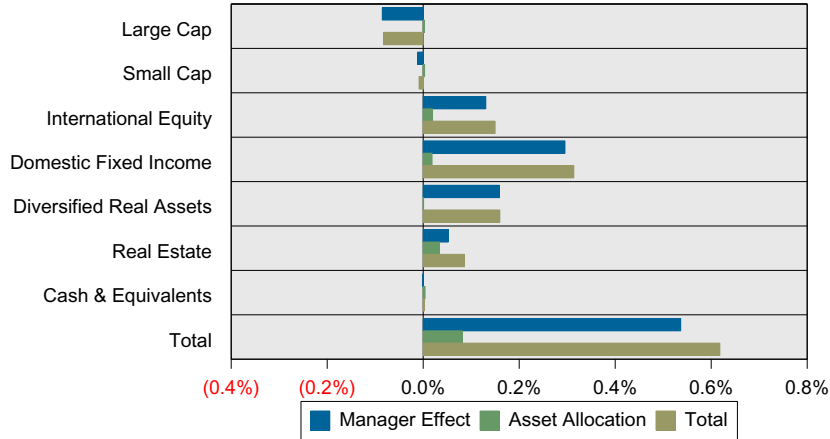
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	3.10%	4.64%	(0.16%)	0.02%	(0.14%)
Small Cap	3%	3%	(5.96%)	(4.64%)	(0.04%)	0.01%	(0.03%)
International Equity	8%	8%	(1.46%)	(2.07%)	0.10%	0.03%	0.13%
Domestic Fixed Income	57%	57%	4.81%	4.82%	(0.15%)	0.03%	(0.12%)
Diversified Real Assets	13%	13%	6.39%	4.11%	0.31%	(0.00%)	0.31%
Real Estate	6%	6%	6.43%	6.41%	0.01%	0.02%	0.03%
Cash & Equivalents	1%	1%	1.62%	1.83%	(0.00%)	0.01%	0.01%
Total			4.57%	4.39%	+ 0.05%	+ 0.12%	0.17%

* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

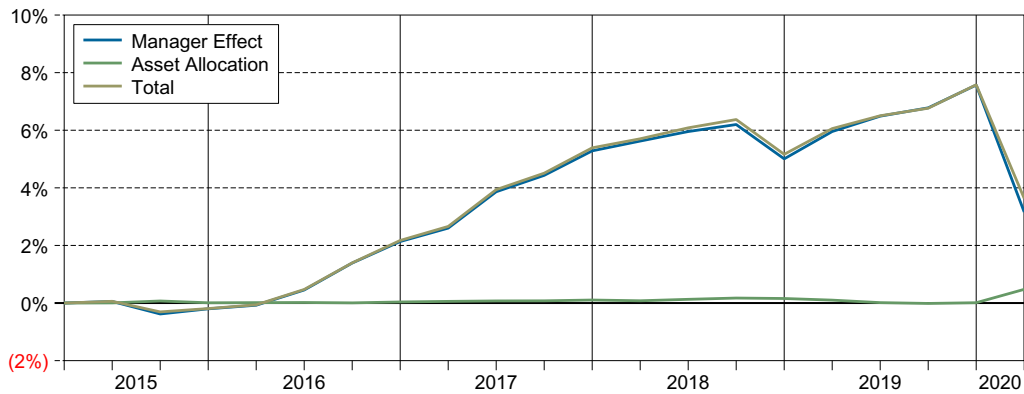
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

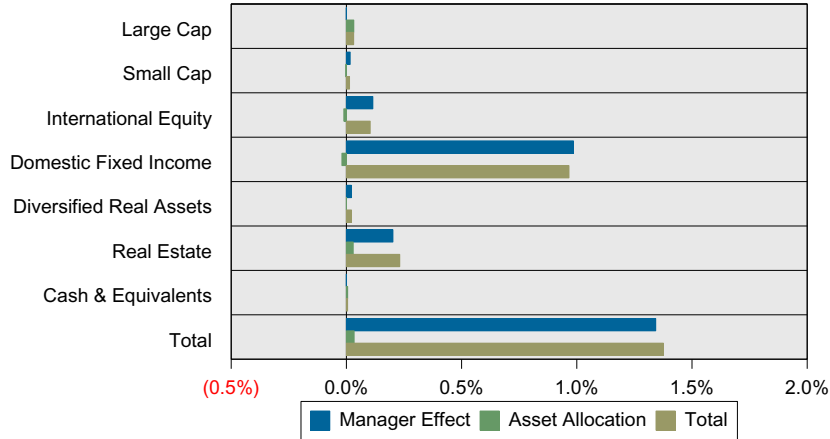
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	12%	12%	5.36%	6.22%	(0.09%)	0.00%	(0.08%)
Small Cap	4%	4%	(0.70%)	(0.25%)	(0.01%)	0.00%	(0.01%)
International Equity	9%	9%	0.35%	(0.81%)	0.13%	0.02%	0.15%
Domestic Fixed Income	55%	55%	4.09%	3.36%	0.30%	0.02%	0.31%
Diversified Real Assets	14%	14%	4.25%	3.10%	0.16%	0.00%	0.16%
Real Estate	6%	6%	8.35%	7.65%	0.05%	0.03%	0.09%
Cash & Equivalents	1%	1%	1.05%	1.19%	(0.00%)	0.00%	0.00%
Total			4.45%	3.83%	+ 0.54%	+ 0.08%	0.62%

* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

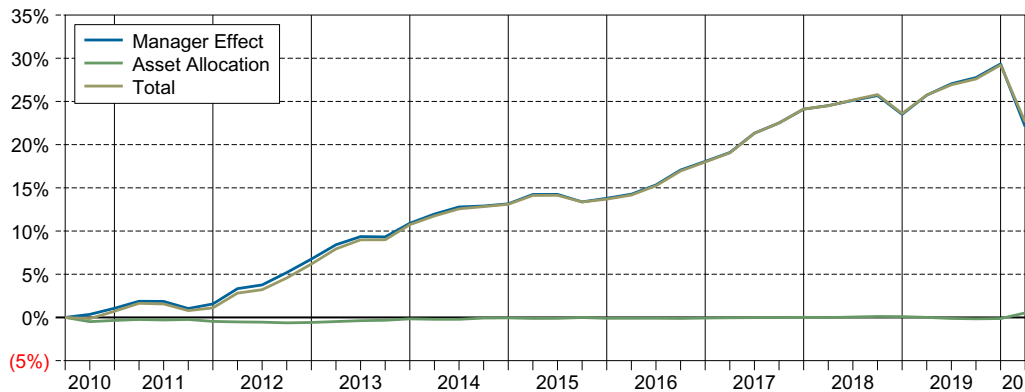
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Nine and Three-Quarter Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects

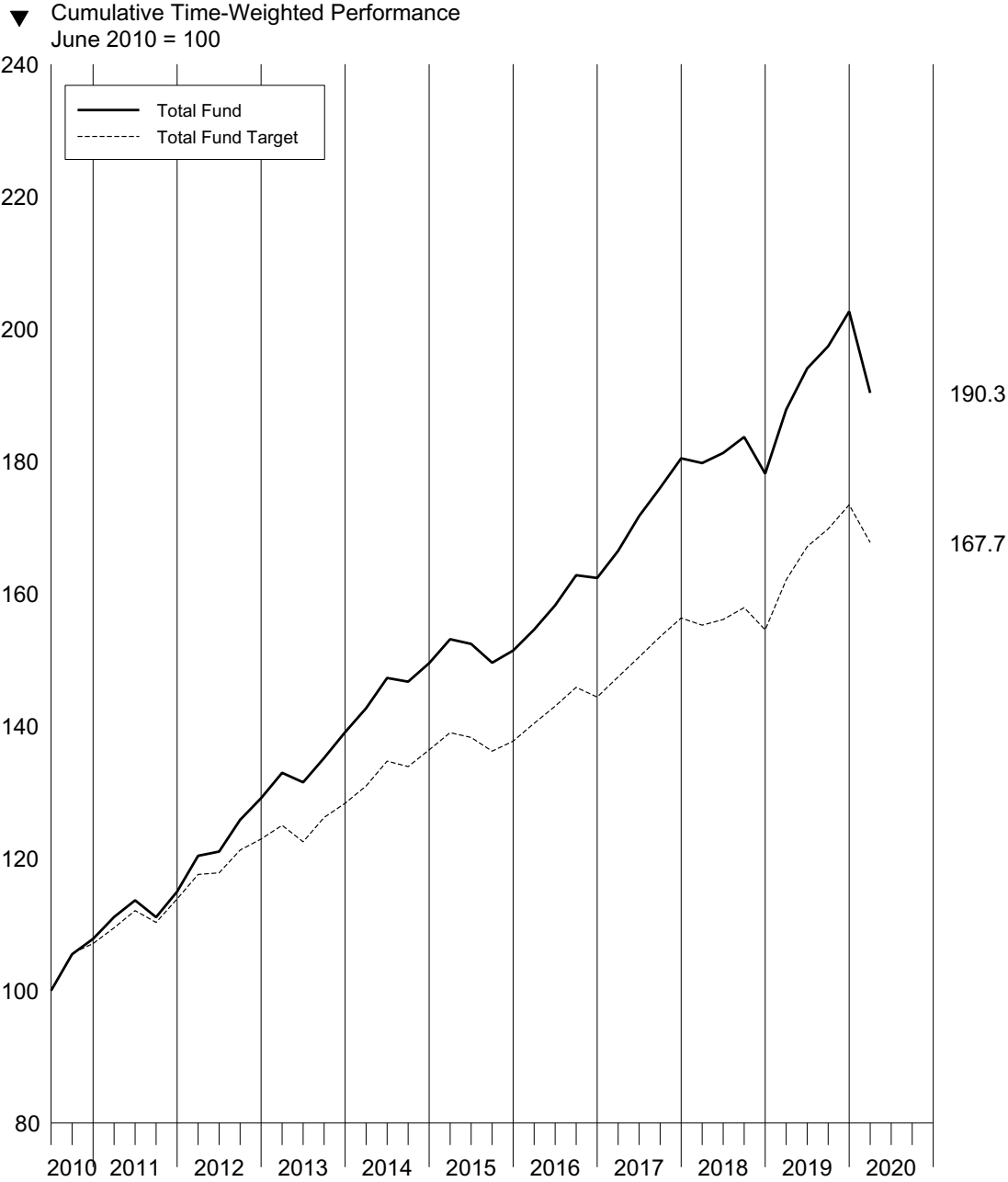


Nine and Three-Quarter Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	12.01%	12.06%	(0.00%)	0.03%	0.03%
Small Cap	4%	4%	8.64%	8.24%	0.02%	(0.00%)	0.01%
International Equity	8%	8%	4.96%	3.71%	0.11%	(0.01%)	0.10%
Domestic Fixed Income	53%	53%	5.60%	3.62%	0.99%	(0.02%)	0.97%
Diversified Real Assets	17%	17%	4.73%	4.43%	0.02%	0.00%	0.02%
Real Estate	6%	6%	13.39%	10.08%	0.20%	0.03%	0.23%
Cash & Equivalents	1%	1%	0.62%	0.65%	(0.00%)	0.01%	0.01%
Total			6.82%	5.45%	+ 1.34%	+ 0.03%	1.38%

* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

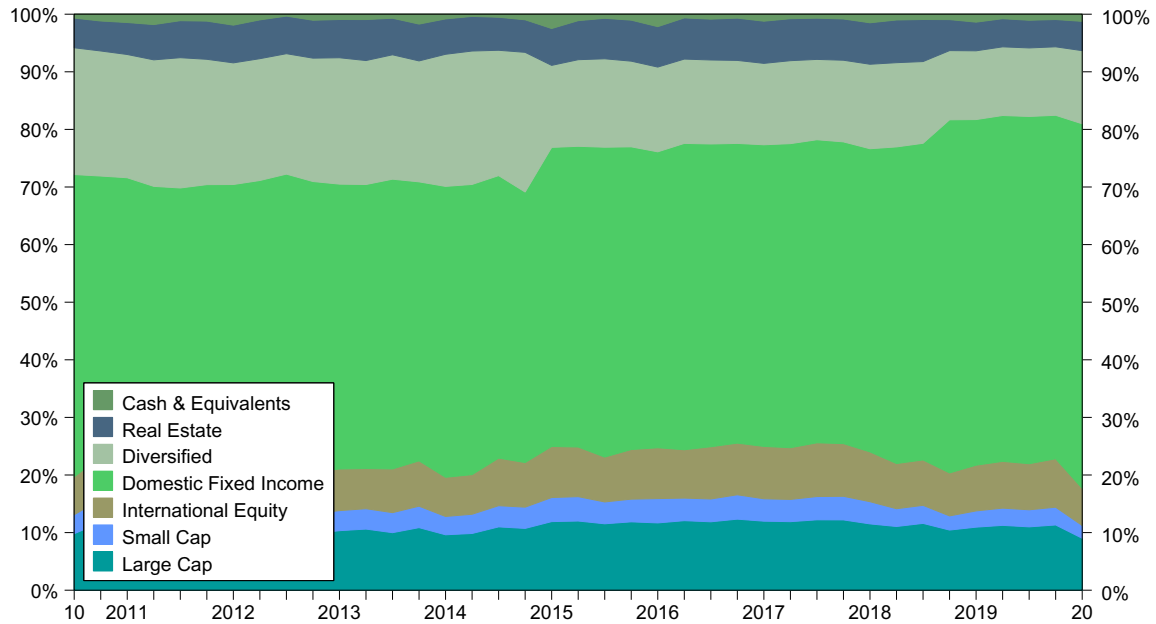
**NDSIB - Workforce Safety & Insurance
Cumulative Results**



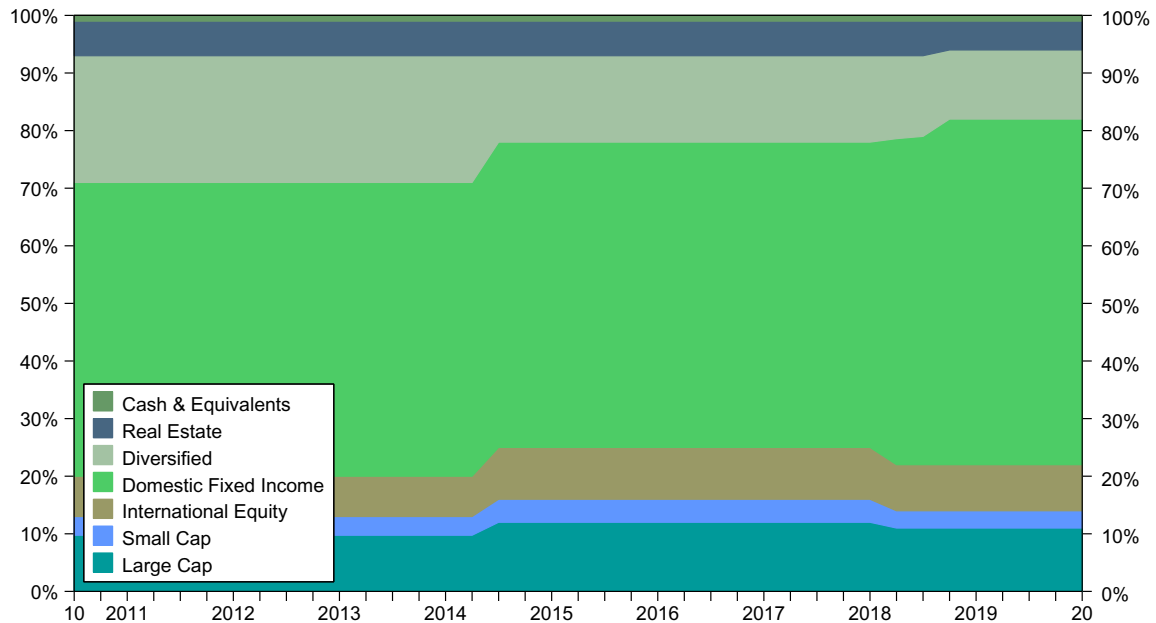
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, and the fund's historical target asset allocation.

Actual Historical Asset Allocation



Target Historical Asset Allocation

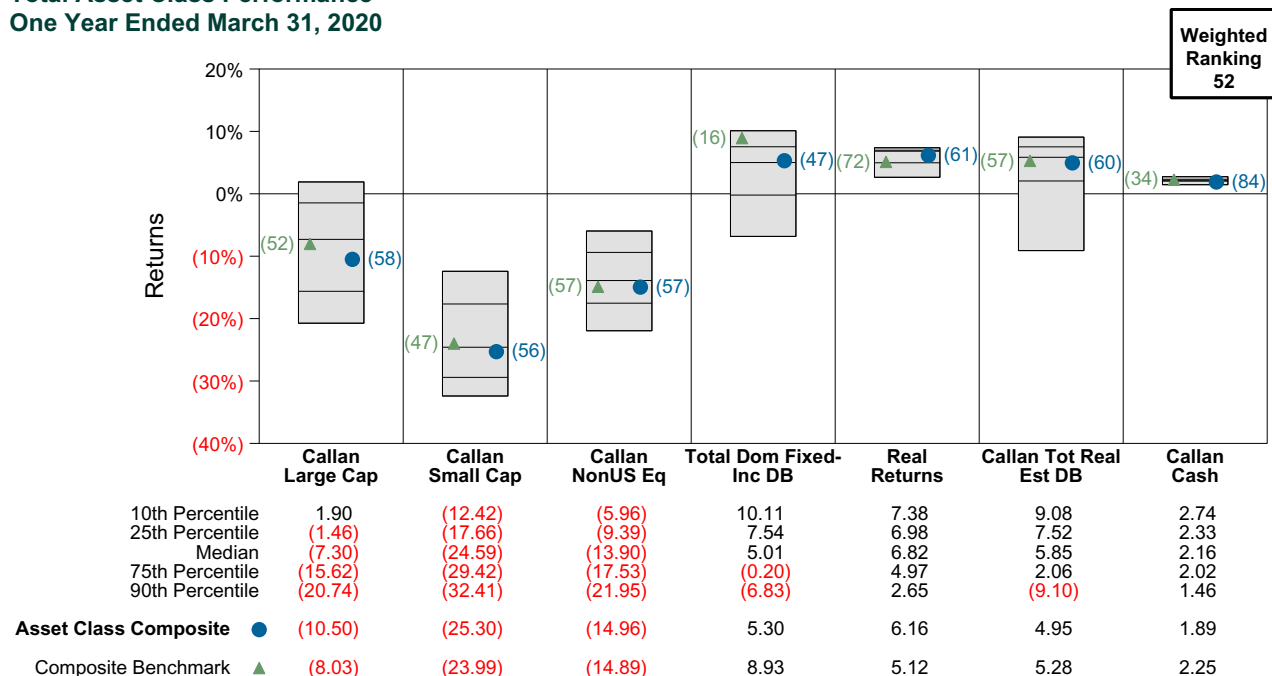


* Current Quarter Target = 60.0% Blmgb Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

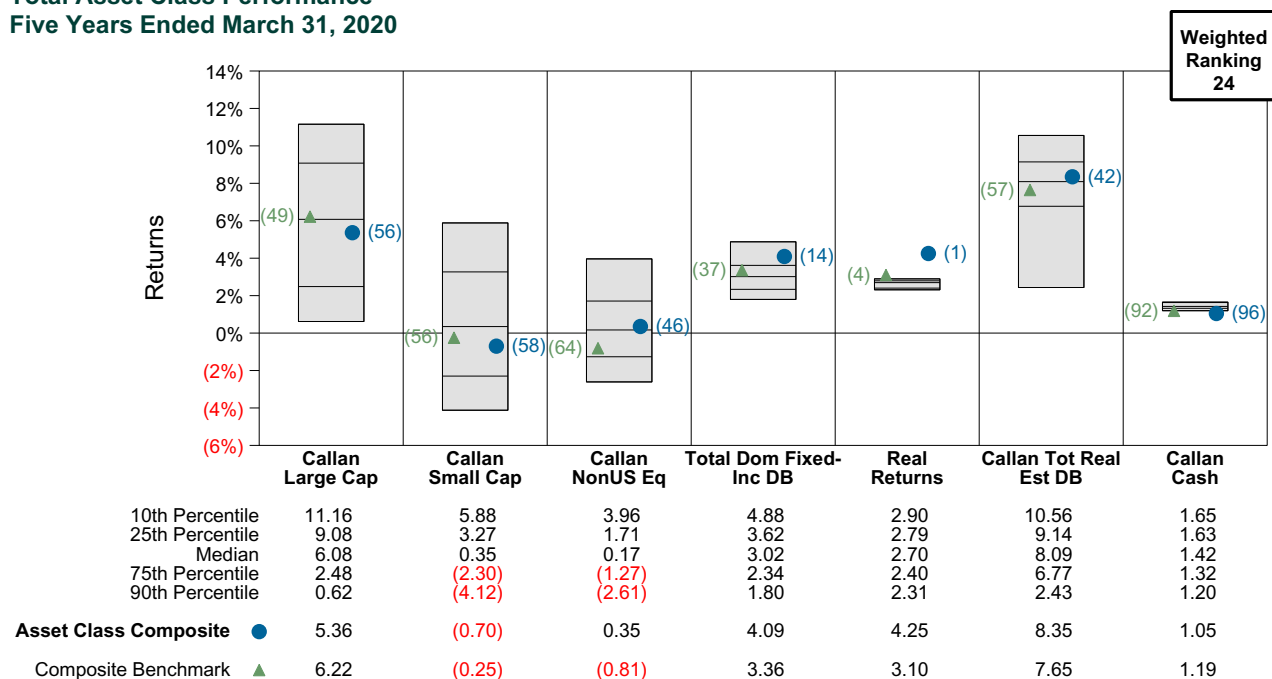
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended March 31, 2020



Total Asset Class Performance Five Years Ended March 31, 2020



* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Class Allocation

	March 31, 2020		Net New Inv.	Inv. Return	December 31, 2019	
	Market Value	Weight			Market Value	Weight
Global Equity	\$351,430,269	17.72%	\$(18,620,932)	\$(114,360,242)	\$484,411,443	22.87%
Domestic Equity	\$223,234,547	11.26%	\$(10,546,527)	\$(72,027,209)	\$305,808,283	14.44%
Large Cap	179,087,772	9.03%	(9,697,006)	(51,596,767)	240,381,545	11.35%
Small Cap	44,146,775	2.23%	(849,521)	(20,430,441)	65,426,737	3.09%
International Equity	\$128,195,723	6.46%	\$(8,074,405)	\$(42,333,033)	\$178,603,161	8.43%
Domestic Fixed Income	\$1,257,584,185	63.41%	\$9,887,390	\$(18,133,755)	\$1,265,830,550	59.76%
Global Real Assets	\$349,599,678	17.63%	\$(3,009,170)	\$4,243,756	\$348,365,092	16.45%
Real Estate	101,114,704	5.10%	(1,063,705)	1,657,894	100,520,515	4.75%
Diversified	248,484,974	12.53%	(1,945,465)	2,585,862	247,844,577	11.70%
Cash	\$24,652,073	1.24%	\$4,942,258	\$73,956	\$19,635,858	0.93%
Securities Lending Income	\$0	0.00%	\$(22,300)	\$22,300	-	-
Total Fund	\$1,983,266,205	100.0%	\$(6,822,754)	\$(128,153,984)	\$2,118,242,943	100.0%

PLEASE REFER TO PAGE 30 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Asset Class Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 9-3/4 Years
Global Equity					
Gross	(24.49%)	(14.19%)	-	-	-
Net	(24.54%)	(14.38%)	-	-	-
Weighted Benchmark	(22.77%)	(12.79%)	-	-	-
Domestic Equity					
Gross	(24.35%)	(13.79%)	1.16%	4.08%	11.29%
Net	(24.39%)	(13.93%)	0.99%	3.86%	11.00%
Weighted Benchmark	(22.50%)	(11.61%)	-	-	-
Large Cap					
Gross	(22.31%)	(10.50%)	3.10%	5.36%	12.01%
Net	(22.34%)	(10.65%)	2.92%	5.17%	11.77%
Benchmark(1)	(20.22%)	(8.03%)	4.64%	6.22%	12.06%
Small Cap					
Gross	(31.68%)	(25.30%)	(5.96%)	(0.70%)	8.64%
Net	(31.71%)	(25.39%)	(6.11%)	(0.96%)	8.19%
Russell 2000	(30.61%)	(23.99%)	(4.64%)	(0.25%)	8.24%
International Equity					
Gross	(24.75%)	(14.96%)	(1.46%)	0.35%	4.96%
Net	(24.82%)	(15.22%)	(1.77%)	0.04%	4.60%
Benchmark(2)	(23.26%)	(14.89%)	(2.07%)	(0.81%)	3.71%
Domestic Fixed Income					
Gross	(1.41%)	5.30%	4.81%	4.09%	5.60%
Net	(1.44%)	5.17%	4.68%	3.96%	5.44%
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.62%
Global Real Assets					
Gross	1.21%	5.80%	-	-	-
Net	1.15%	5.51%	-	-	-
Weighted Benchmark	1.10%	5.17%	-	-	-
Real Estate					
Gross	1.65%	4.95%	6.43%	8.35%	13.39%
Net	1.54%	4.43%	5.88%	7.74%	12.53%
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	10.08%
Diversified					
Gross	1.04%	6.16%	6.39%	4.25%	4.73%
Net	0.99%	5.97%	6.14%	3.98%	4.41%
Weighted Benchmark	1.25%	5.12%	4.11%	3.10%	4.43%
Cash & Equivalents - Net	0.35%	1.89%	1.62%	1.05%	0.62%
90 Day Treasury Bills	0.57%	2.25%	1.83%	1.19%	0.65%
Total Fund					
Gross	(6.08%)	1.34%	4.57%	4.45%	6.82%
Net	(6.11%)	1.18%	4.38%	4.24%	6.56%
Target*	(3.28%)	3.49%	4.39%	3.83%	5.45%

* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

(1) S&P 500 Index through 12/31/2011 and Russell 1000 Index thereafter.

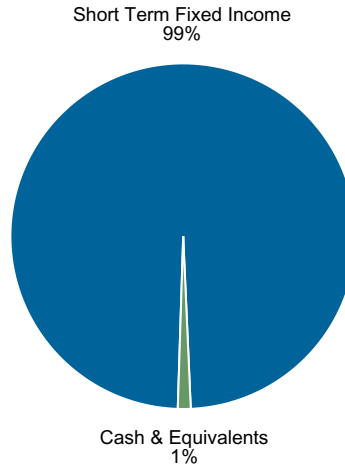
(2) MSCI EAFE through 9/30/2000; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again through 6/30/2016; MSCI World ex-US thereafter.

PLEASE REFER TO PAGE 31-33 FOR INVESTMENT MANAGER LEVEL RETURNS.

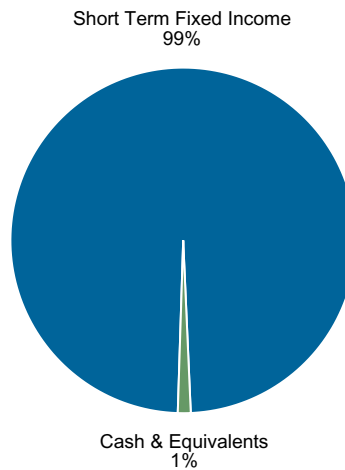
Actual vs Target Asset Allocation As of March 31, 2020

The first chart below shows the Fund's asset allocation as of March 31, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



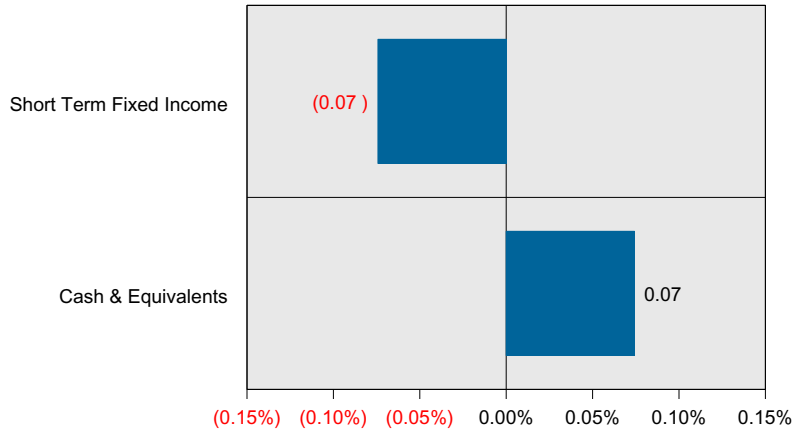
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Short Term Fixed Income	688,746	98.8%	98.8%	0.0%	192
Cash & Equivalents	8,030	1.2%	1.2%	(0.0%)	(192)
Total	696,776	100.0%	100.0%		

* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

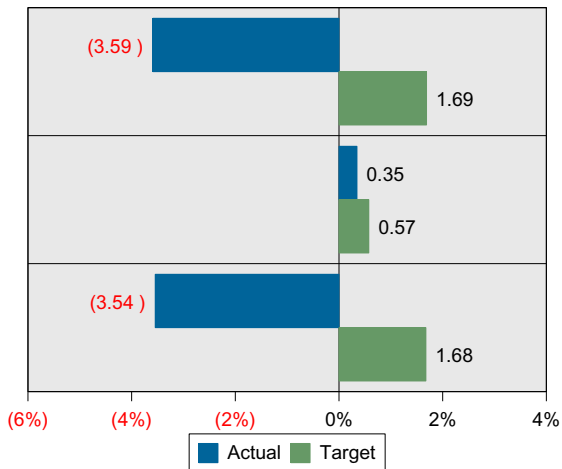
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

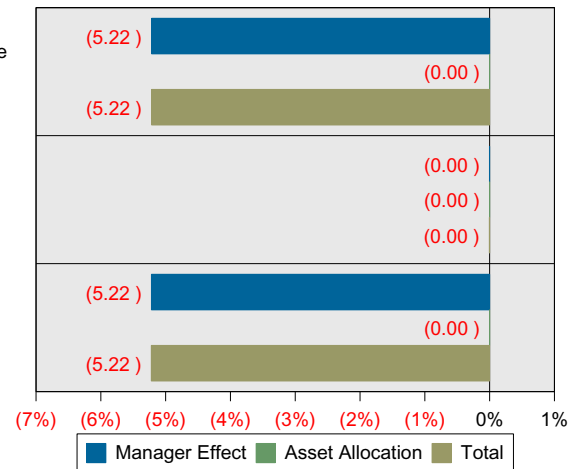
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

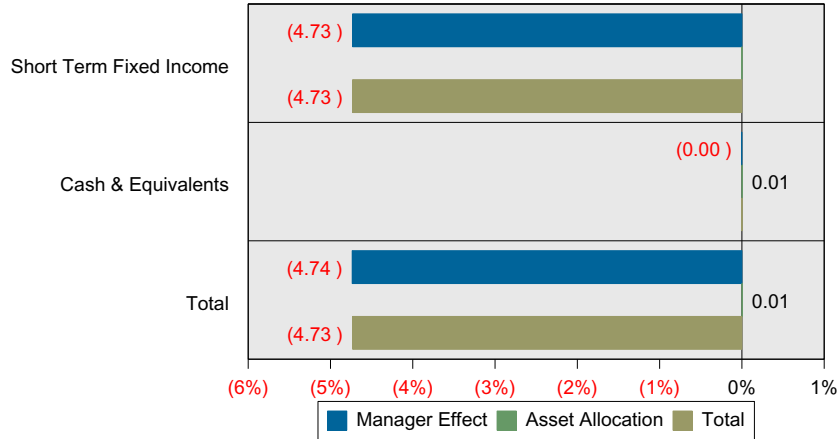
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	99%	99%	(3.59%)	1.69%	(5.22%)	(0.00%)	(5.22%)
Cash & Equivalents	1%	1%	0.35%	0.57%	(0.00%)	(0.00%)	(0.00%)
Total			(3.54%)	1.68%	(5.22%)	(0.00%)	(5.22%)

* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

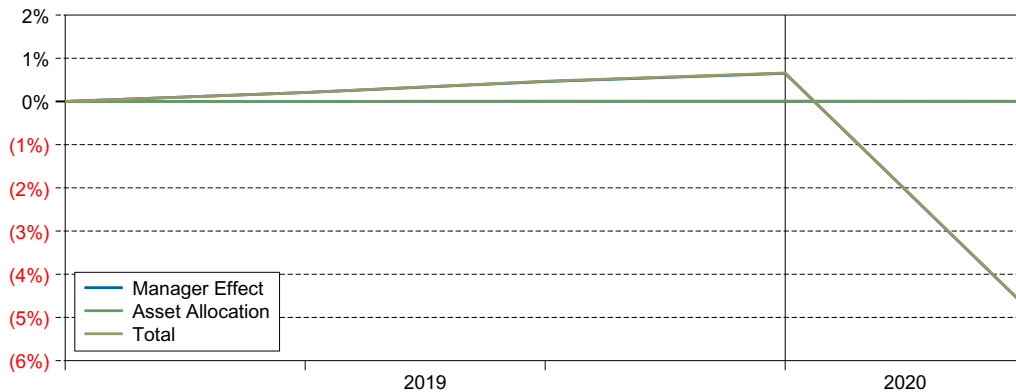
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

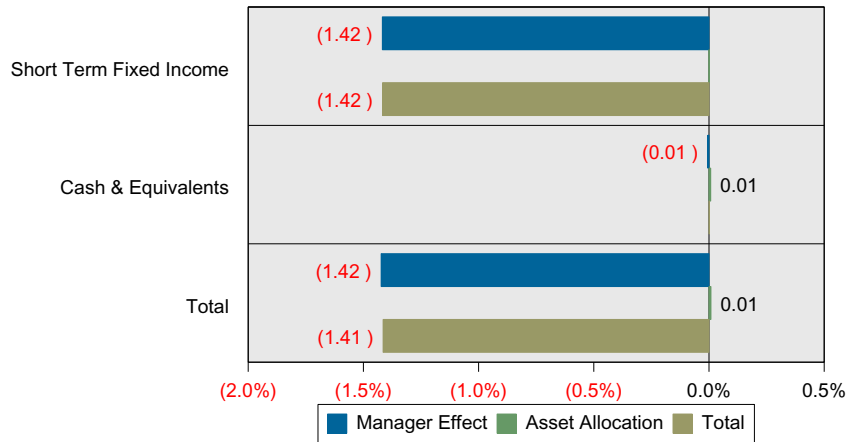
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	98%	98%	(0.26%)	4.53%	(4.73%)	0.00%	(4.73%)
Cash & Equivalents	2%	2%	1.89%	2.25%	(0.00%)	0.01%	0.00%
Total			(0.24%)	4.49%	+ (4.74%)	+ 0.01%	(4.73%)

* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

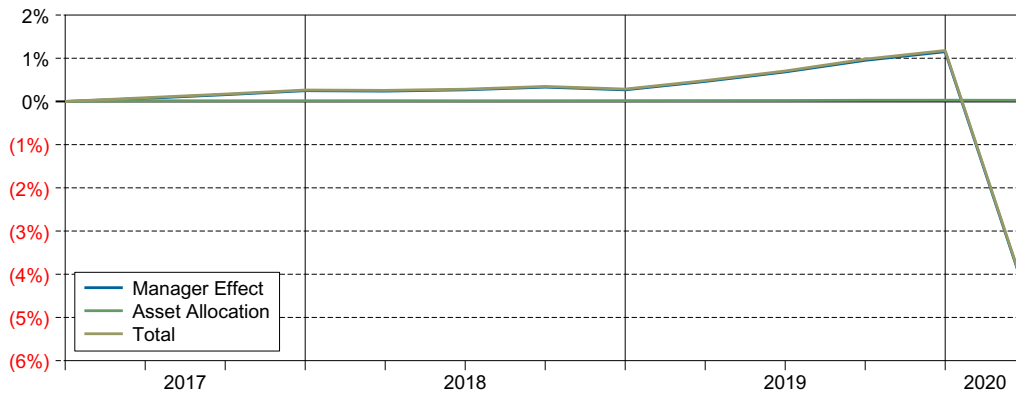
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

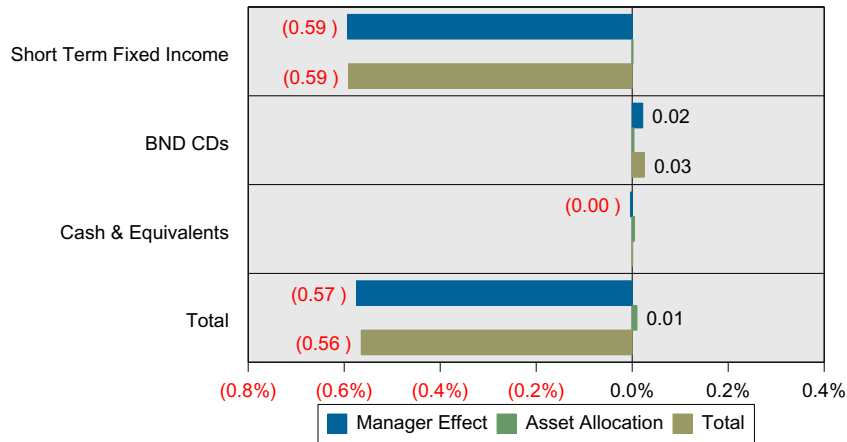
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	97%	97%	1.15%	2.58%	(1.42%)	0.00%	(1.42%)
Cash & Equivalents	3%	3%	1.62%	1.83%	(0.01%)	0.01%	0.00%
Total			1.15%	2.56%	+ (1.42%)	+ 0.01%	(1.41%)

* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

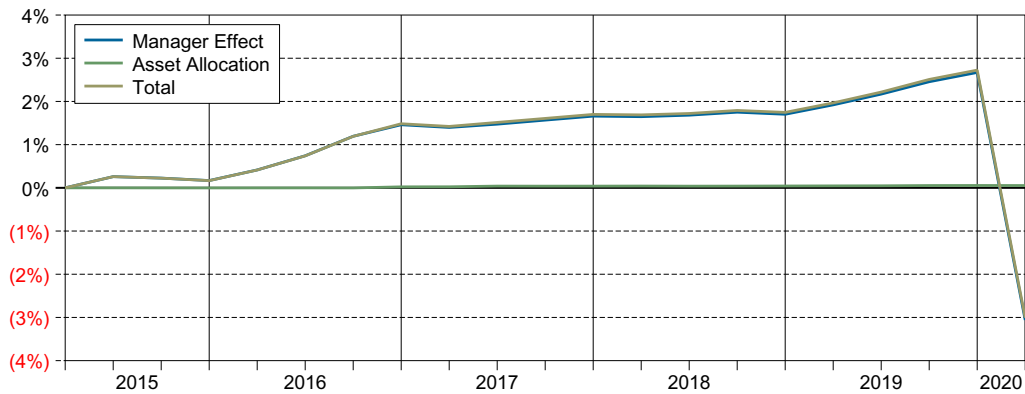
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

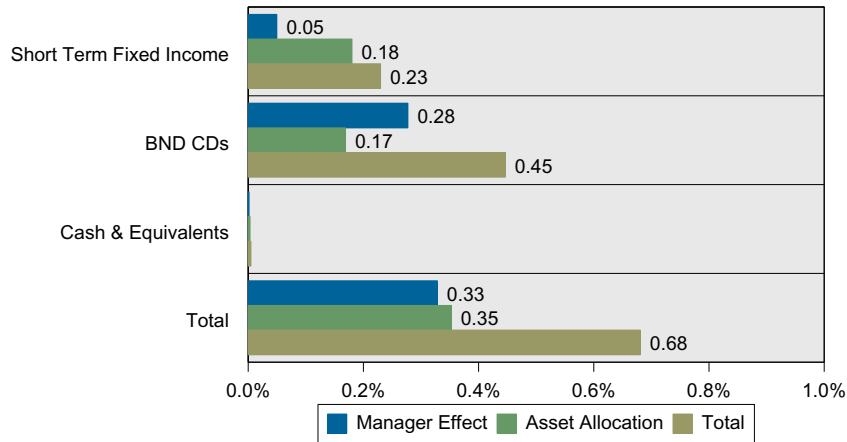
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	91%	91%	1.24%	1.78%	(0.59%)	0.00%	(0.59%)
BND CDs	6%	6%	-	-	0.02%	0.00%	0.03%
Cash & Equivalents	3%	3%	1.04%	1.19%	(0.00%)	0.00%	0.00%
Total			1.31%	1.88%	(0.57%)	0.01%	(0.56%)

* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

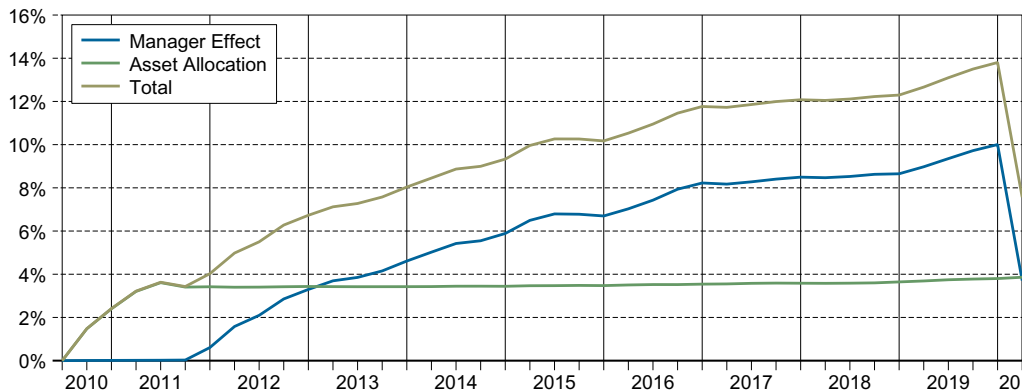
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Nine and Three-Quarter Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects

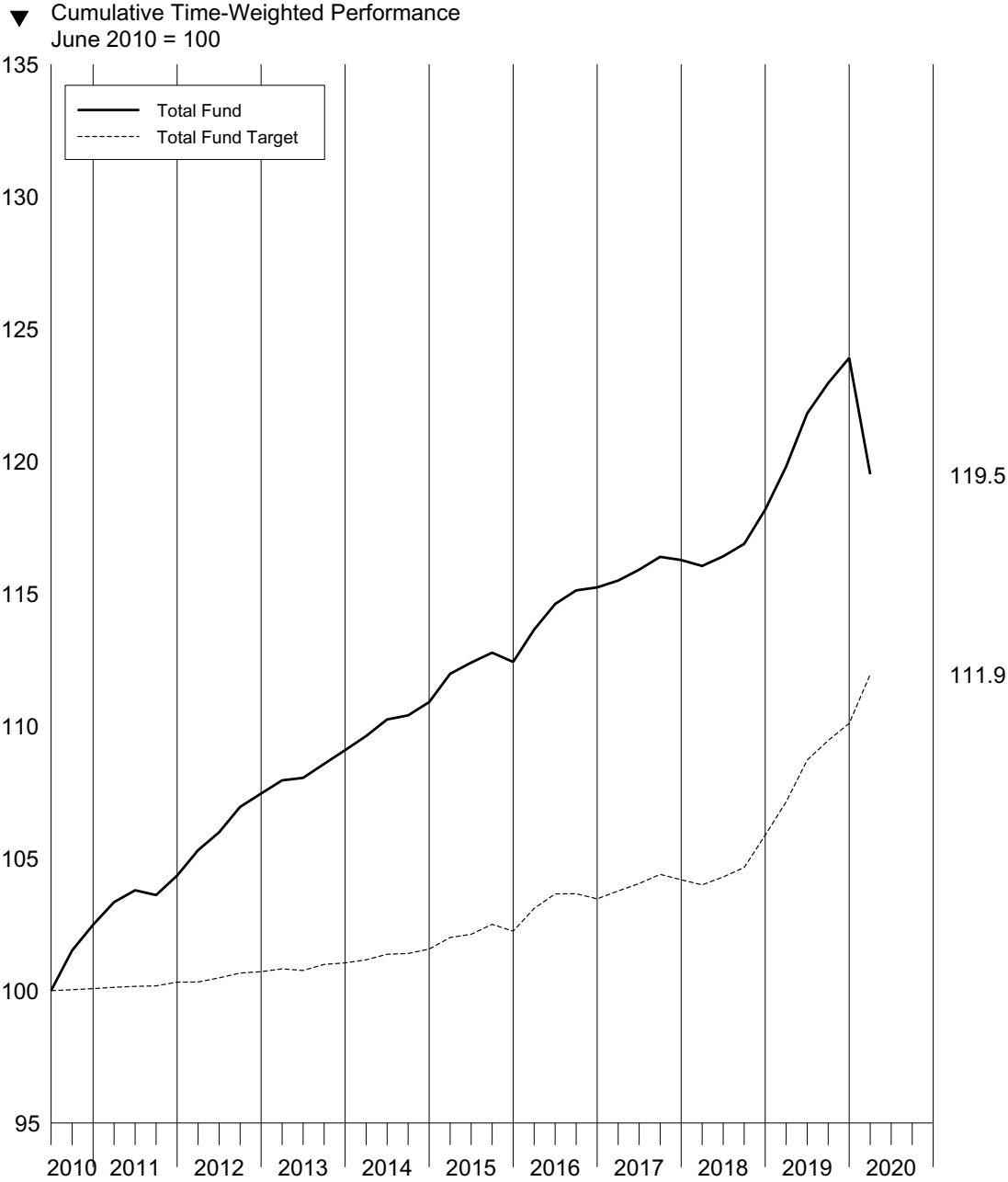


Nine and Three-Quarter Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	81%	74%	1.65%	1.46%	0.05%	0.18%	0.23%
BND CDs	15%	11%	-	-	0.28%	0.17%	0.45%
Cash & Equivalents	4%	15%	0.62%	0.65%	0.00%	0.00%	0.00%
Total			1.84%	1.16%	+ 0.33%	+ 0.35%	0.68%

* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

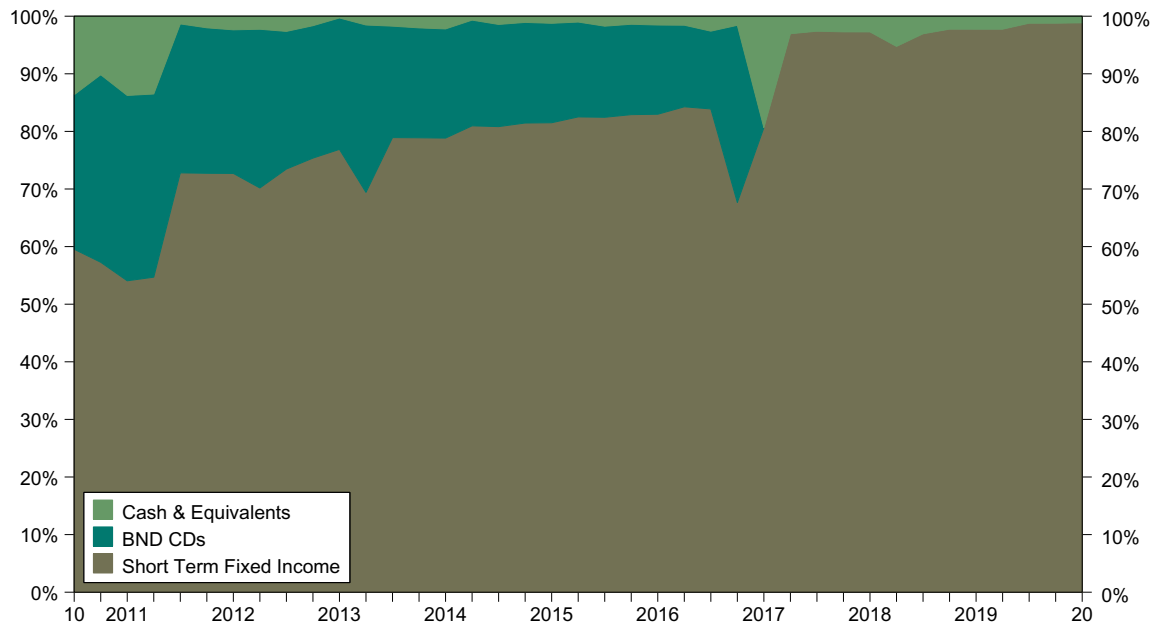
**NDSIB - Budget Stabilization Fund
Cumulative Results**



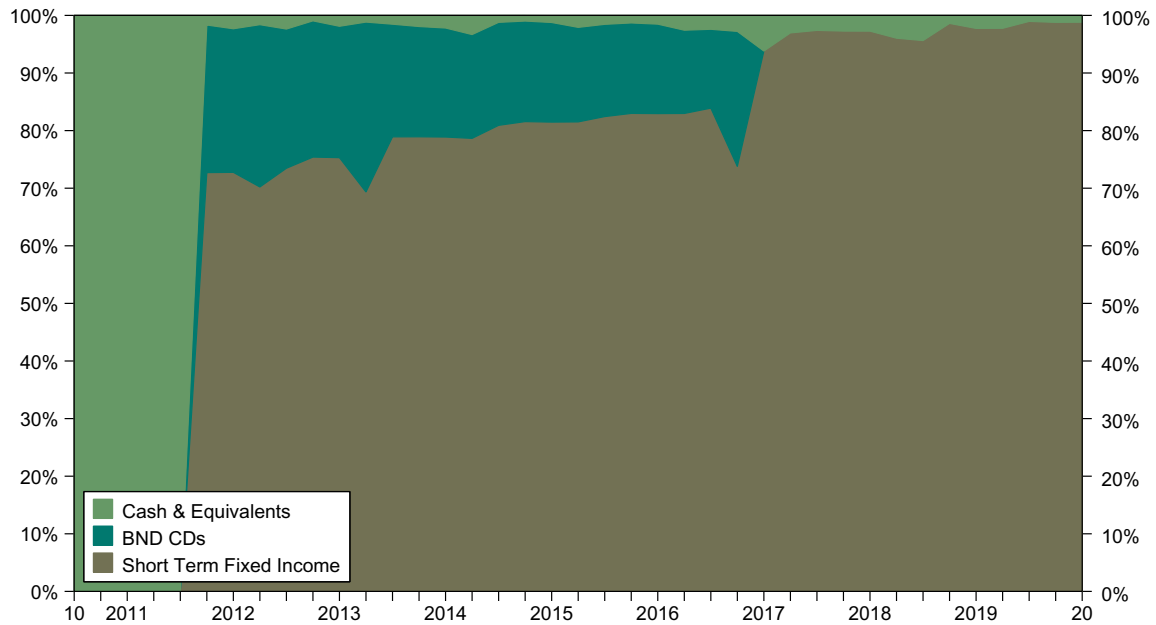
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, and the fund's historical target asset allocation.

Actual Historical Asset Allocation



Target Historical Asset Allocation



* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Class Allocation

	March 31, 2020		Net New Inv.	Inv. Return	December 31, 2019	
	Market Value	Weight			Market Value	Weight
Short Term Fixed Income	\$688,746,002	98.85%	\$48,320,090	\$(25,624,531)	\$666,050,443	98.79%
Cash & Equivalents	\$8,029,988	1.15%	\$(165,000)	\$30,678	\$8,164,310	1.21%
Securities Lending Income	\$0	0.00%	\$(2,817)	\$2,817	-	-
Total Fund	\$696,775,990	100.0%	\$48,152,273	\$(25,591,036)	\$674,214,754	100.0%

PLEASE REFER TO PAGE 30 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020					
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 9-3/4 Years
Short Term Fixed Income					
Gross	(3.59%)	(0.26%)	1.15%	1.24%	1.65%
Net	(3.63%)	(0.38%)	1.03%	1.06%	1.50%
Blended Benchmark(1)	1.69%	4.53%	2.58%	1.78%	-
Cash & Equivalents - Net					
3-month Treasury Bill	0.35%	1.89%	1.62%	1.04%	0.62%
	0.57%	2.25%	1.83%	1.19%	0.65%
Total Fund					
Gross	(3.54%)	(0.24%)	1.15%	1.31%	1.84%
Net	(3.59%)	(0.37%)	1.02%	1.15%	1.72%
Target*	1.68%	4.49%	2.56%	1.88%	1.16%

* Current Quarter Target = 98.8% Blmbg Gov/Cred 1-3 Yr and 1.2% 3-month Treasury Bill.

(1) Blmbg Gov 1-3 Yr through March 31, 2017 and Blmbg Gov/Credit 1-3 Yr thereafter.

PLEASE REFER TO PAGES 31-33 FOR INVESTMENT MANAGER LEVEL RETURNS.

Large Cap Period Ended March 31, 2020

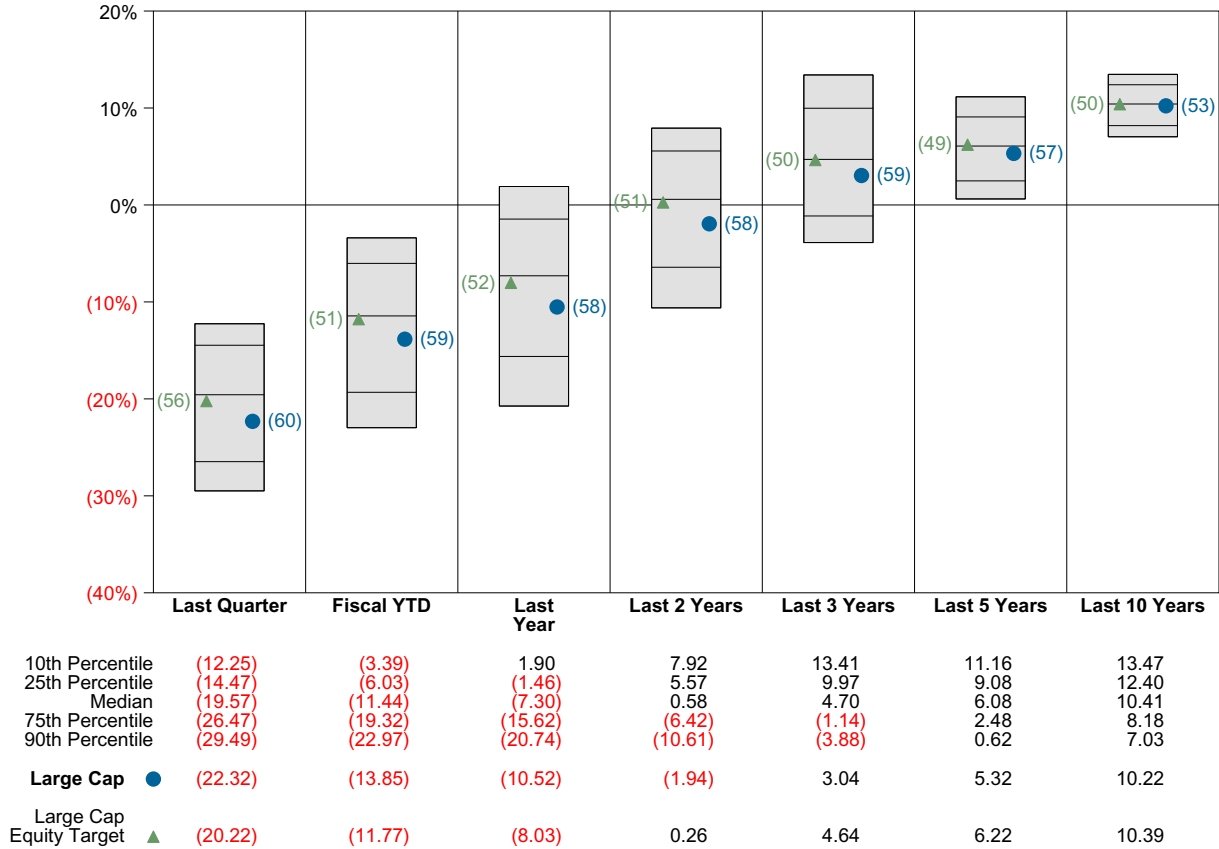
Quarterly Summary and Highlights

- Large Cap's portfolio posted a (22.32)% return for the quarter placing it in the 60 percentile of the Callan Large Capitalization group for the quarter and in the 58 percentile for the last year.
- Large Cap's portfolio underperformed the Large Cap Equity Target by 2.10% for the quarter and underperformed the Large Cap Equity Target for the year by 2.50%.

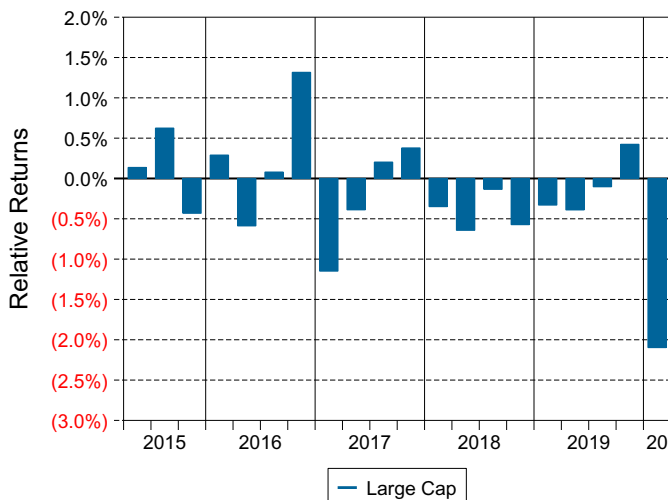
Quarterly Asset Growth

Beginning Market Value	\$259,775,009
Net New Investment	\$-8,109,863
Investment Gains/(Losses)	\$-56,120,846
Ending Market Value	\$195,544,300

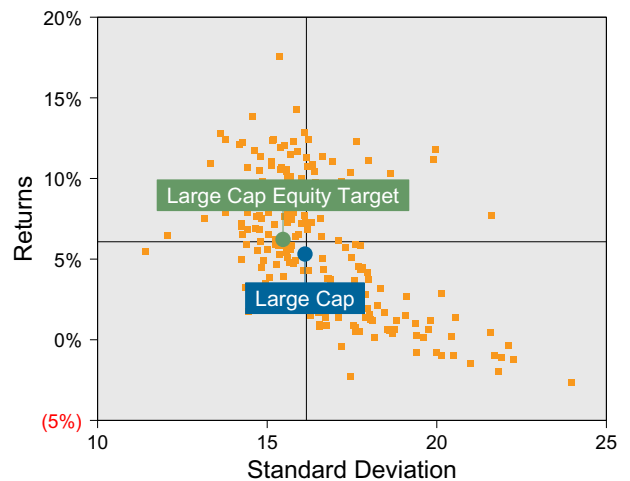
Performance vs Callan Large Capitalization (Gross)



Relative Return vs Large Cap Equity Target



Callan Large Capitalization (Gross) Annualized Five Year Risk vs Return



Parametric Clifton Large Cap Period Ended March 31, 2020

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

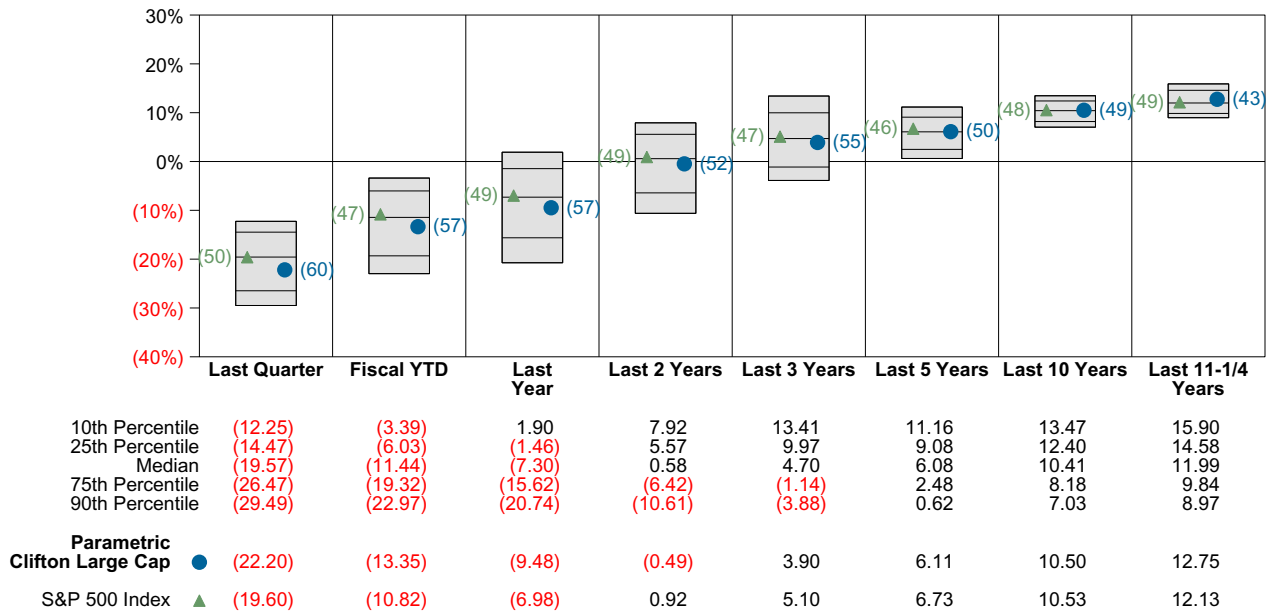
Quarterly Summary and Highlights

- Parametric Clifton Large Cap's portfolio posted a (22.20)% return for the quarter placing it in the 60 percentile of the Callan Large Capitalization group for the quarter and in the 57 percentile for the last year.
- Parametric Clifton Large Cap's portfolio underperformed the S&P 500 Index by 2.60% for the quarter and underperformed the S&P 500 Index for the year by 2.50%.

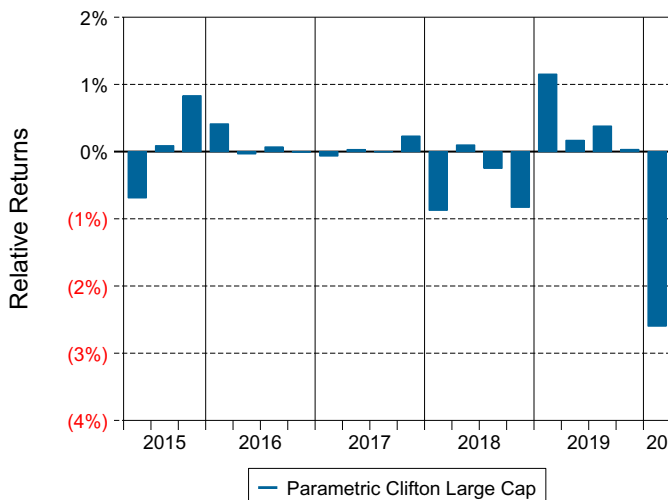
Quarterly Asset Growth

Beginning Market Value	\$52,078,906
Net New Investment	\$-2,000,000
Investment Gains/(Losses)	\$-11,114,533
Ending Market Value	\$38,964,373

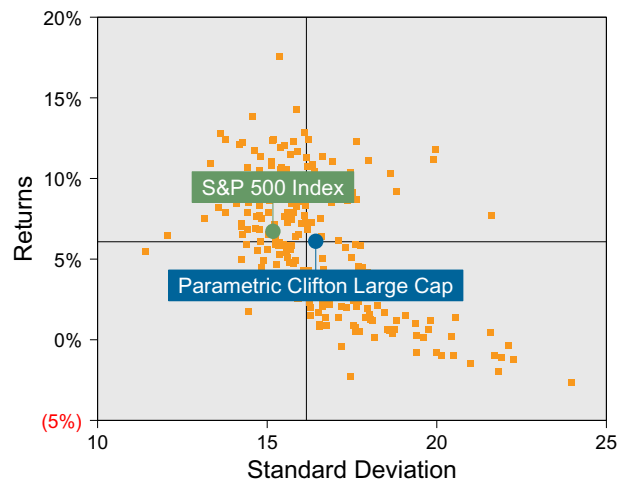
Performance vs Callan Large Capitalization (Gross)



Relative Return vs S&P 500 Index



Callan Large Capitalization (Gross) Annualized Five Year Risk vs Return



L.A. Capital Period Ended March 31, 2020

Investment Philosophy

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

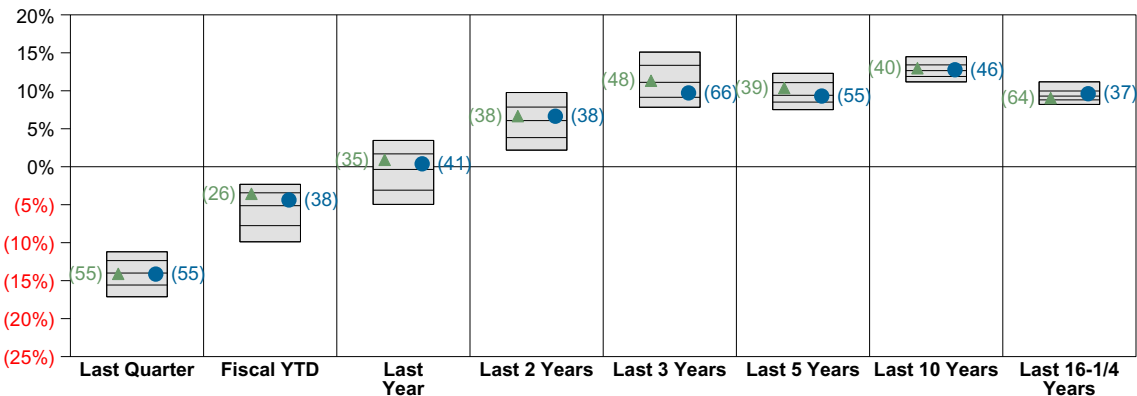
Quarterly Summary and Highlights

- L.A. Capital Large Cap Growth's portfolio posted a (14.14)% return for the quarter placing it in the 55 percentile of the Callan Large Cap Growth group for the quarter and in the 41 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio underperformed the Russell 1000 Growth Index by 0.04% for the quarter and underperformed the Russell 1000 Growth Index for the year by 0.53%.

Quarterly Asset Growth

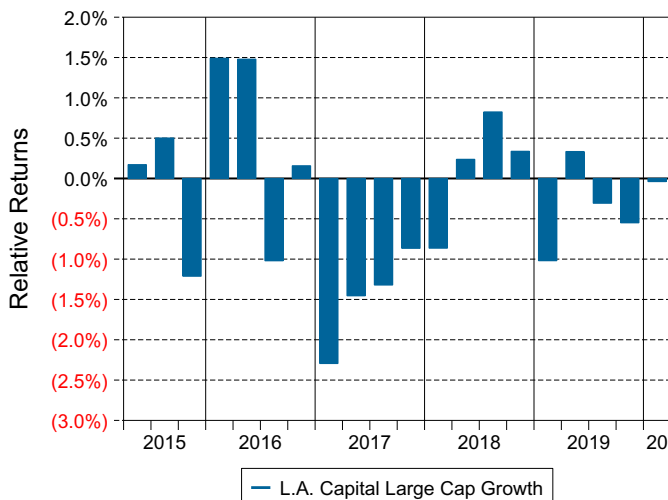
Beginning Market Value	\$78,070,077
Net New Investment	\$-3,040,147
Investment Gains/(Losses)	\$-10,546,130
Ending Market Value	\$64,483,800

Performance vs Callan Large Cap Growth (Gross)

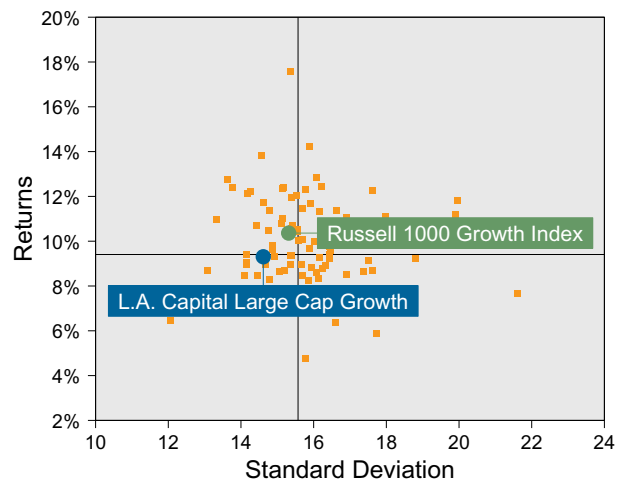


10th Percentile	(11.20)	(2.32)	3.46	9.77	15.09	12.30	14.49	11.18
25th Percentile	(12.36)	(3.43)	1.69	7.85	13.35	11.07	13.41	9.97
Median	(14.00)	(5.13)	(0.36)	6.08	11.11	9.41	12.65	9.30
75th Percentile	(15.57)	(7.75)	(3.09)	3.83	9.14	8.51	11.89	8.80
90th Percentile	(17.12)	(9.89)	(4.96)	2.18	7.83	7.52	11.17	8.20
L.A. Capital Large Cap Growth	● (14.14)	(4.37)	0.38	6.65	9.72	9.30	12.77	9.62
Russell 1000 Growth Index	▲ (14.10)	(3.56)	0.91	6.67	11.32	10.36	12.97	9.04

Relative Return vs Russell 1000 Growth Index



Callan Large Cap Growth (Gross) Annualized Five Year Risk vs Return



L.A. Capital Enhanced Period Ended March 31, 2020

Investment Philosophy

The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in April of 2004. Since October of 2006 a small portion of each of the two core accounts was allocated into the Large Cap Alpha Fund with intent to add incremental alpha to the assignment given that the information ratio was expected to be higher.

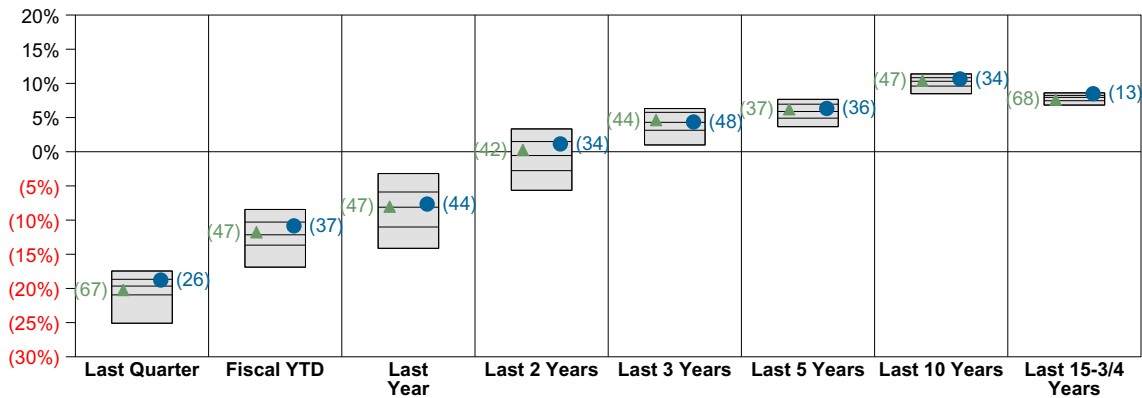
Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a (18.77)% return for the quarter placing it in the 26 percentile of the Callan Large Cap Core group for the quarter and in the 44 percentile for the last year.
- L.A. Capital Enhanced's portfolio outperformed the Russell 1000 Index by 1.45% for the quarter and outperformed the Russell 1000 Index for the year by 0.37%.

Quarterly Asset Growth

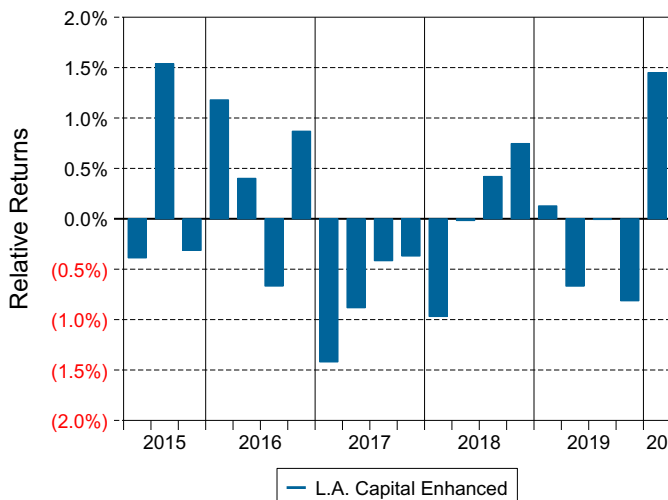
Beginning Market Value	\$51,986,517
Net New Investment	\$-13,888
Investment Gains/(Losses)	\$-9,755,012
Ending Market Value	\$42,217,617

Performance vs Callan Large Cap Core (Gross)

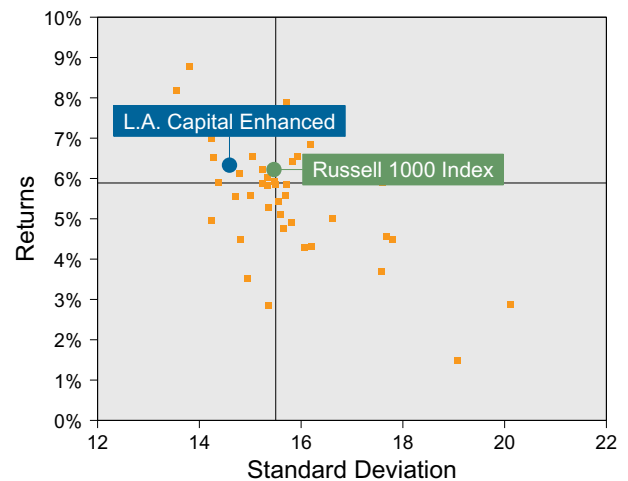


Percentile	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 15-3/4 Years
10th Percentile	(17.45)	(8.44)	(3.19)	3.34	6.32	7.66	11.39	8.61
25th Percentile	(18.66)	(10.29)	(5.89)	1.49	5.76	6.96	10.83	8.24
Median	(19.66)	(12.15)	(8.11)	(0.56)	4.30	5.89	10.31	7.95
75th Percentile	(20.94)	(13.66)	(11.01)	(2.76)	3.14	4.92	9.61	7.46
90th Percentile	(25.09)	(16.89)	(14.13)	(5.64)	0.99	3.67	8.49	6.82
L.A. Capital Enhanced	● (18.77)	(10.85)	(7.65)	1.15	4.35	6.33	10.65	8.49
Russell 1000 Index	▲ (20.22)	(11.77)	(8.03)	0.26	4.64	6.22	10.39	7.63

Relative Return vs Russell 1000 Index



Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return



LSV Asset Management

Period Ended March 31, 2020

Investment Philosophy

The objective of LSV Asset Management's Large Cap Value Equity (U.S.) strategy is to outperform the Russell 1000 Value by at least 200 basis points (gross of fees) per annum over a 3-5 year period with a tracking error of approximately 4%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 100 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested.

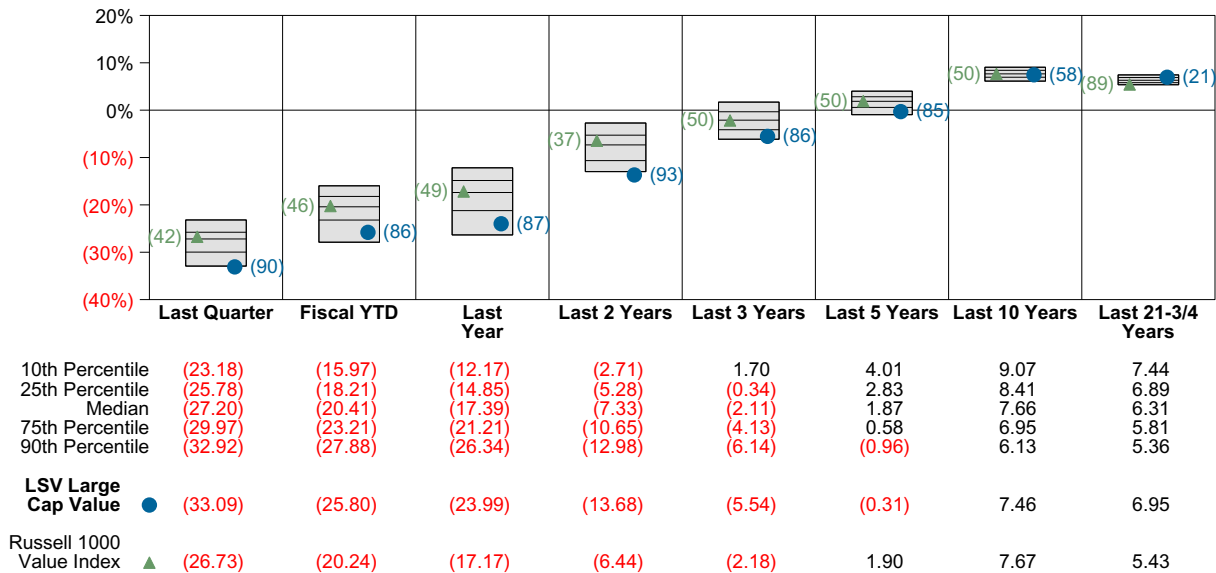
Quarterly Summary and Highlights

- LSV Large Cap Value's portfolio posted a (33.09)% return for the quarter placing it in the 90 percentile of the Callan Large Cap Value group for the quarter and in the 87 percentile for the last year.
- LSV Large Cap Value's portfolio underperformed the Russell 1000 Value Index by 6.36% for the quarter and underperformed the Russell 1000 Value Index for the year by 6.82%.

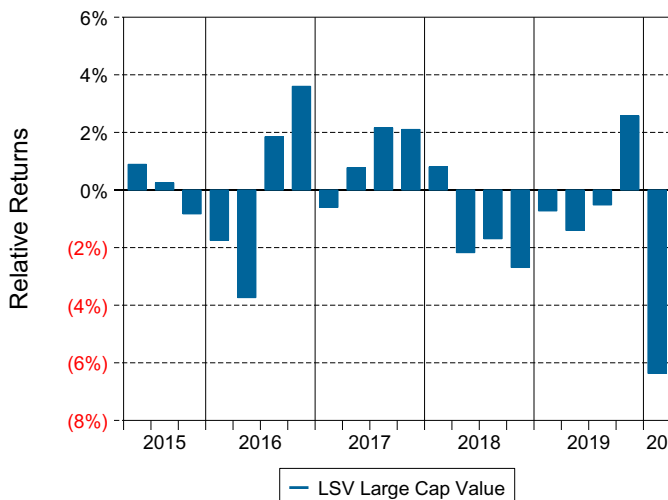
Quarterly Asset Growth

Beginning Market Value	\$77,639,510
Net New Investment	\$-3,055,829
Investment Gains/(Losses)	\$-24,705,171
Ending Market Value	\$49,878,509

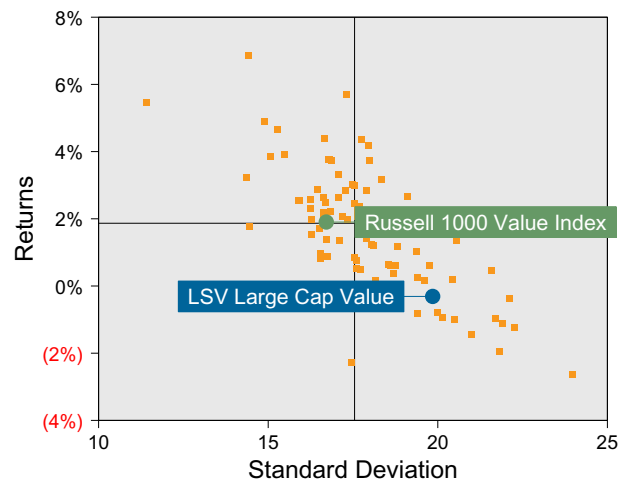
Performance vs Callan Large Cap Value (Gross)



Relative Return vs Russell 1000 Value Index



Callan Large Cap Value (Gross) Annualized Five Year Risk vs Return



Small Cap Period Ended March 31, 2020

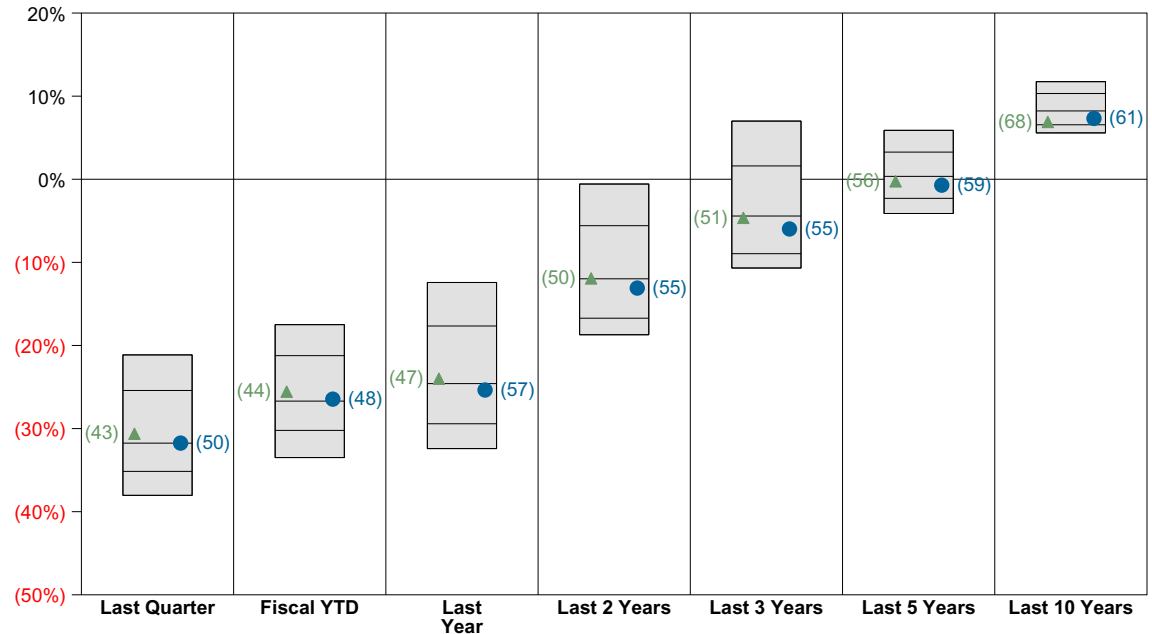
Quarterly Summary and Highlights

- Small Cap's portfolio posted a (31.75)% return for the quarter placing it in the 50 percentile of the Callan Small Capitalization group for the quarter and in the 57 percentile for the last year.
- Small Cap's portfolio underperformed the Small Cap Equity Target by 1.13% for the quarter and underperformed the Small Cap Equity Target for the year by 1.37%.

Quarterly Asset Growth

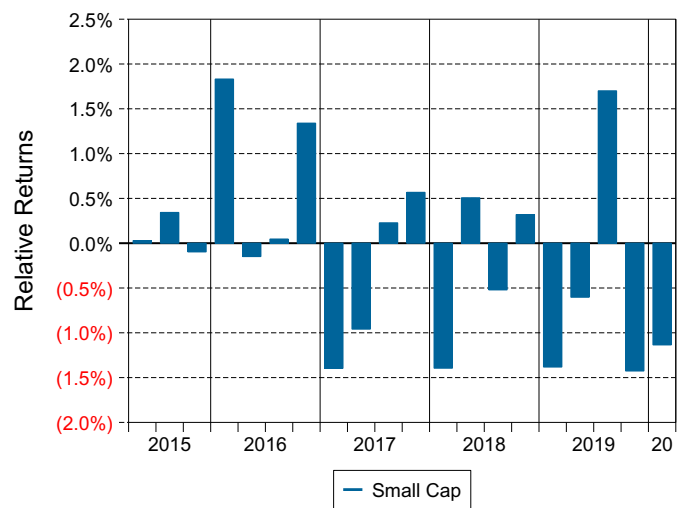
Beginning Market Value	\$73,760,261
Net New Investment	\$-22,777
Investment Gains/(Losses)	\$-23,251,043
Ending Market Value	\$50,486,440

Performance vs Callan Small Capitalization (Gross)

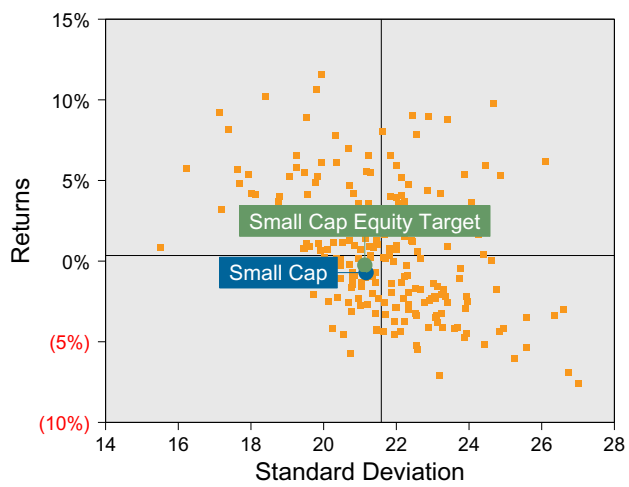


10th Percentile	(21.13)	(17.49)	(12.42)	(0.57)	7.00	5.88	11.74
25th Percentile	(25.42)	(21.23)	(17.66)	(5.59)	1.60	3.27	10.32
Median	(31.75)	(26.70)	(24.59)	(11.98)	(4.42)	0.35	8.22
75th Percentile	(35.15)	(30.22)	(29.42)	(16.72)	(8.96)	(2.30)	6.55
90th Percentile	(38.03)	(33.49)	(32.41)	(18.71)	(10.68)	(4.12)	5.58
Small Cap ●	(31.75)	(26.46)	(25.36)	(13.09)	(5.98)	(0.71)	7.32
Small Cap Equity Target ▲	(30.61)	(25.55)	(23.99)	(11.93)	(4.64)	(0.25)	6.90

Relative Return vs Small Cap Equity Target



Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return



Atlanta Capital Period Ended March 31, 2020

Investment Philosophy

Atlanta believes that high quality companies produce consistently increasing earnings and dividends, thereby providing attractive returns with moderate risk over the long-term.

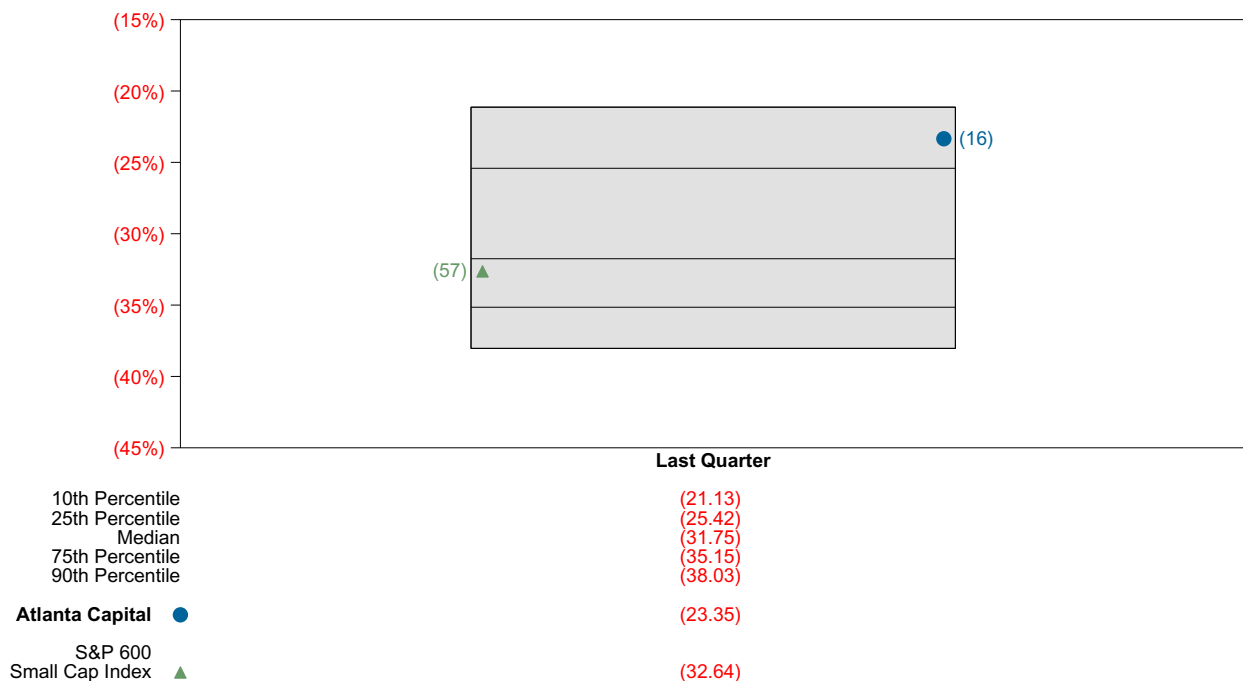
Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a (23.35)% return for the quarter placing it in the 16 percentile of the Callan Small Capitalization group for the quarter.
- Atlanta Capital's portfolio outperformed the S&P 600 Small Cap Index by 9.29% for the quarter.

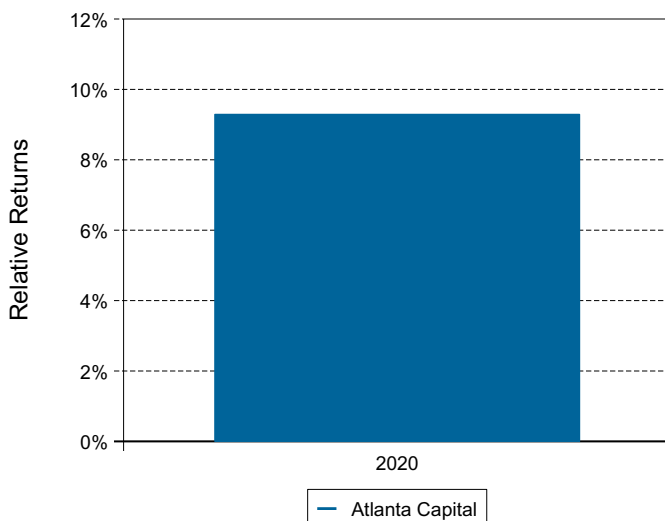
Quarterly Asset Growth

Beginning Market Value	\$5,976,752
Net New Investment	\$11,998,701
Investment Gains/(Losses)	\$-3,831,039
Ending Market Value	\$14,144,414

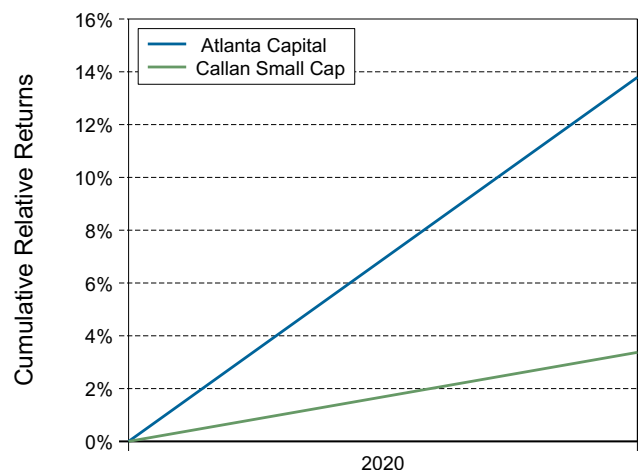
Performance vs Callan Small Capitalization (Gross)



Relative Return vs S&P 600 Small Cap Index



Cumulative Returns vs S&P 600 Small Cap Index



Parametric Clifton SmallCap Period Ended March 31, 2020

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

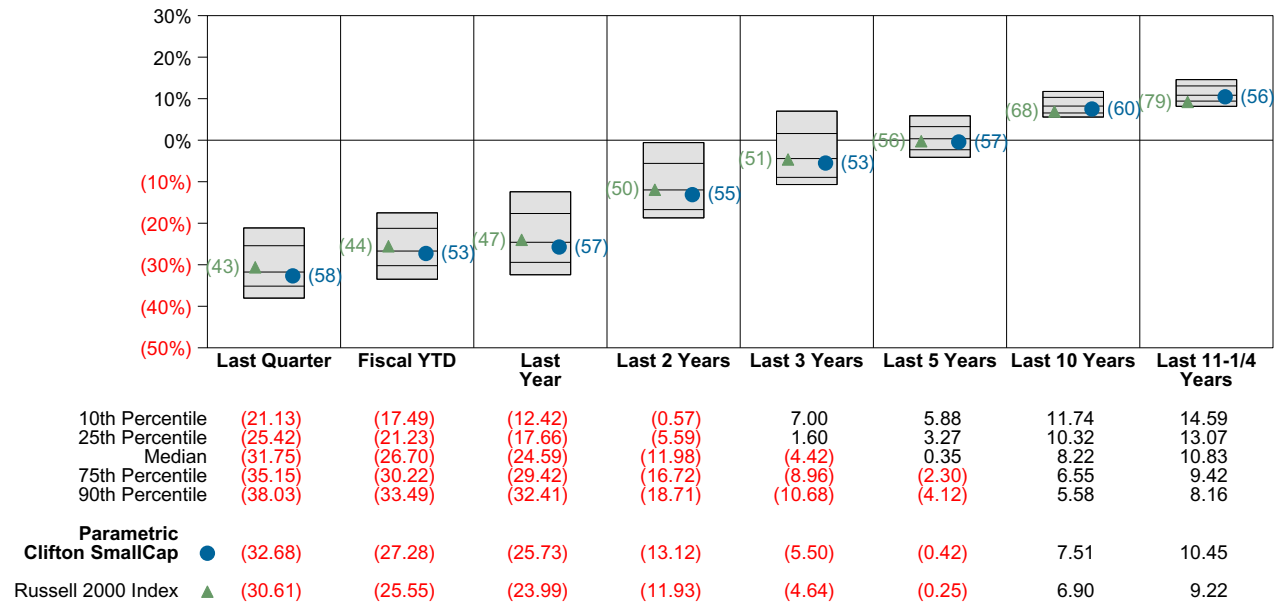
Quarterly Summary and Highlights

- Parametric Clifton SmallCap's portfolio posted a (32.68)% return for the quarter placing it in the 58 percentile of the Callan Small Capitalization group for the quarter and in the 57 percentile for the last year.
- Parametric Clifton SmallCap's portfolio underperformed the Russell 2000 Index by 2.06% for the quarter and underperformed the Russell 2000 Index for the year by 1.74%.

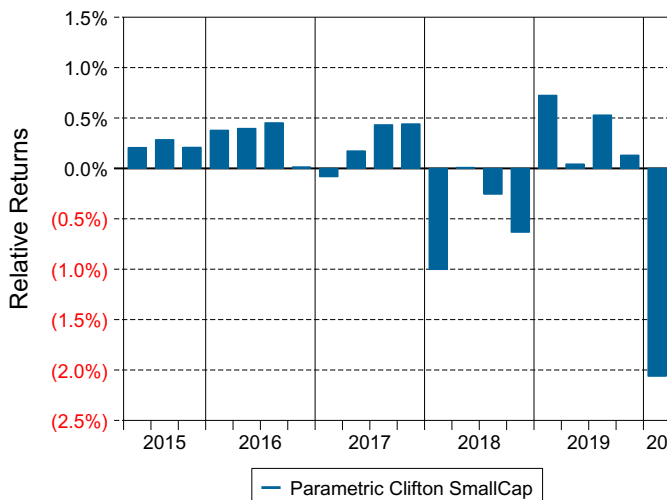
Quarterly Asset Growth

Beginning Market Value	\$36,123,792
Net New Investment	\$0
Investment Gains/(Losses)	\$-11,803,992
Ending Market Value	\$24,319,799

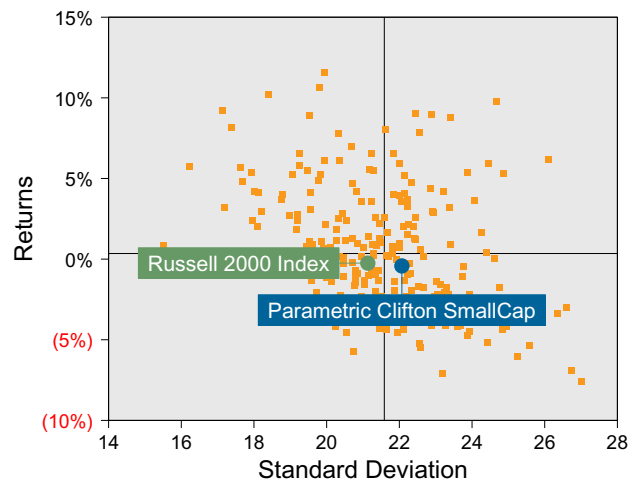
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return



PIMCO RAE

Period Ended March 31, 2020

Investment Philosophy

Small company value equity portfolio utilizing the index strategy and philosophy described as the Enhanced RAFI US Small strategy which relies on portfolio weights derived from firm fundamentals (free cash flow, book equity value, total sales and gross dividend), instead of market capitalization. Additionally, the enhanced portfolio strategy uses a quality of earnings screening and a financial distress screening to augment portfolio returns and reduce portfolio volatility.

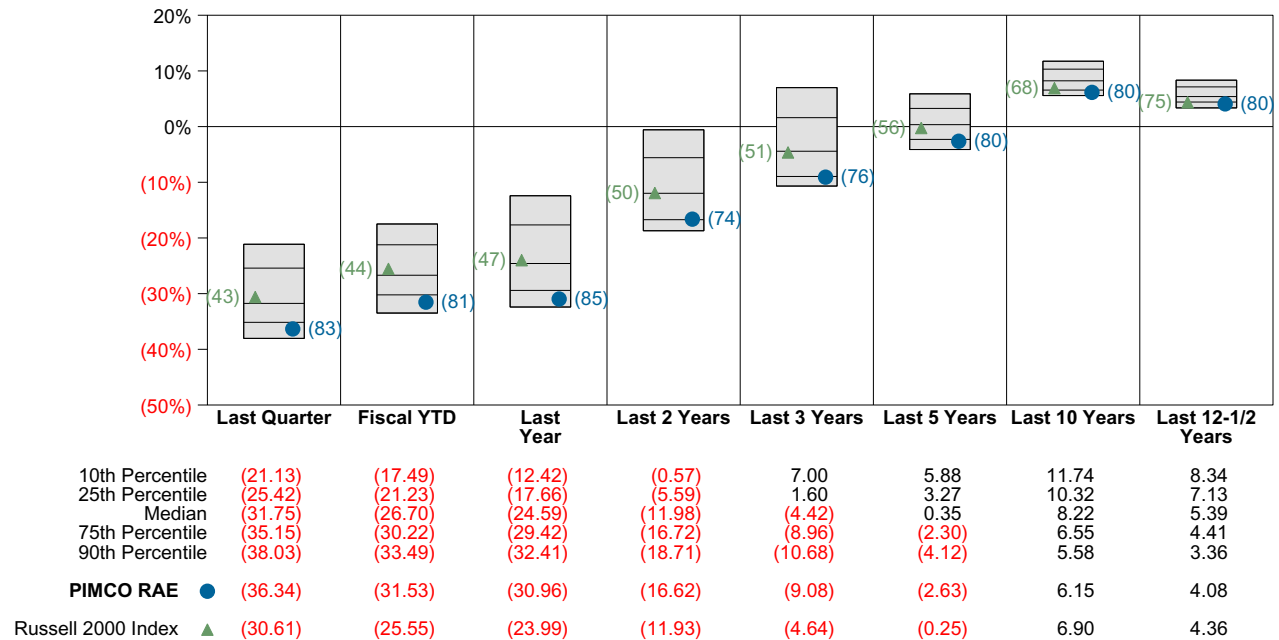
Quarterly Summary and Highlights

- PIMCO RAE's portfolio posted a (36.34)% return for the quarter placing it in the 83 percentile of the Callan Small Capitalization group for the quarter and in the 85 percentile for the last year.
- PIMCO RAE's portfolio underperformed the Russell 2000 Index by 5.73% for the quarter and underperformed the Russell 2000 Index for the year by 6.97%.

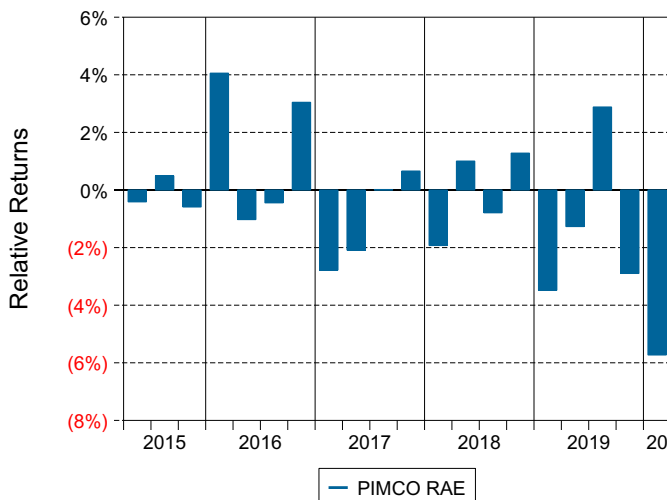
Quarterly Asset Growth

Beginning Market Value	\$31,659,717
Net New Investment	\$-12,021,478
Investment Gains/(Losses)	\$-7,616,011
Ending Market Value	\$12,022,228

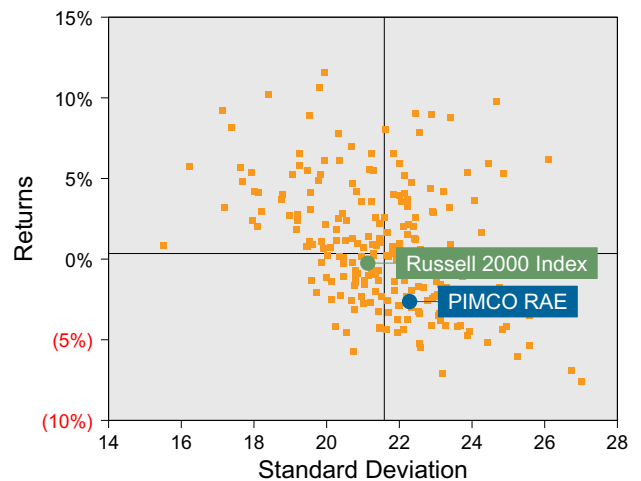
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return



International Equity Period Ended March 31, 2020

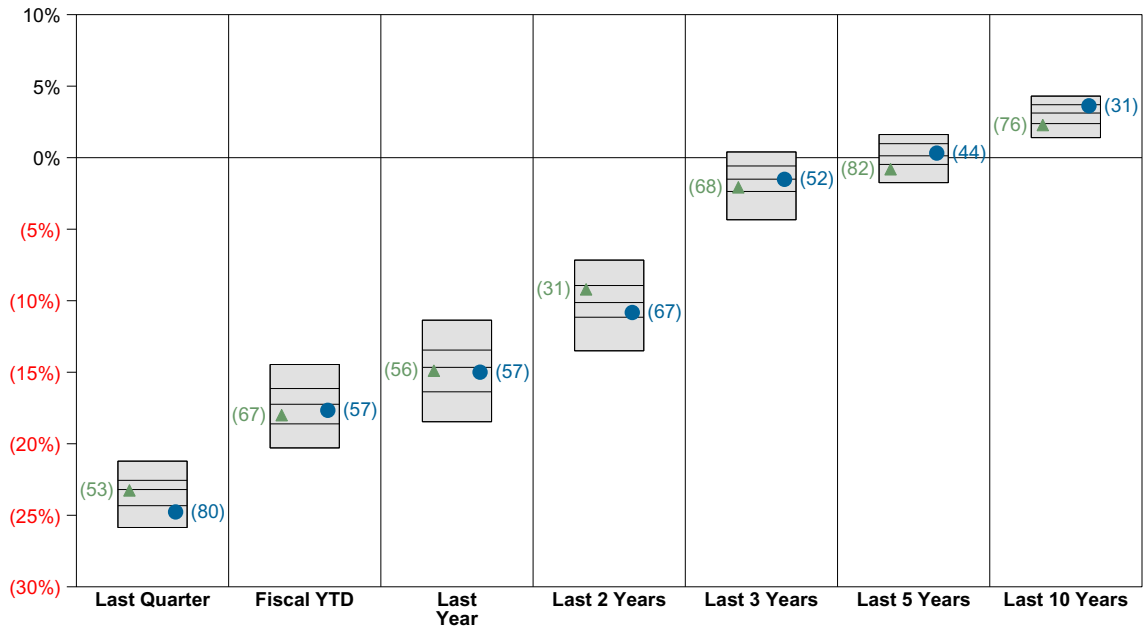
Quarterly Summary and Highlights

- International Equity's portfolio posted a (24.77)% return for the quarter placing it in the 80 percentile of the Public Fund - International Equity group for the quarter and in the 57 percentile for the last year.
- International Equity's portfolio underperformed the International Equity Target by 1.51% for the quarter and underperformed the International Equity Target for the year by 0.10%.

Quarterly Asset Growth

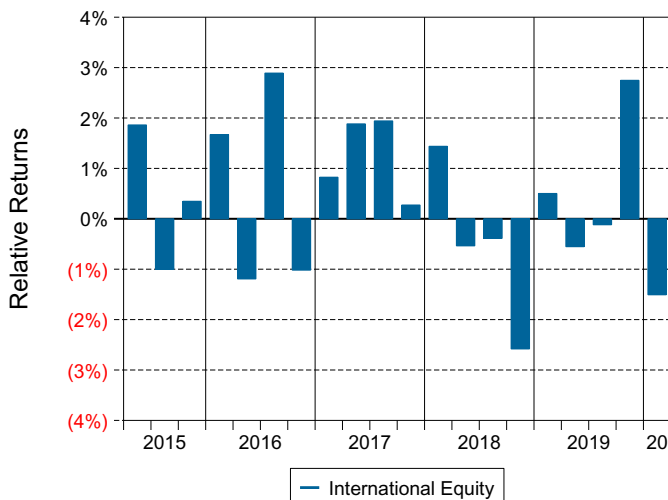
Beginning Market Value	\$189,180,692
Net New Investment	\$-7,142,127
Investment Gains/(Losses)	\$-45,098,941
Ending Market Value	\$136,939,624

Performance vs Public Fund - International Equity (Gross)

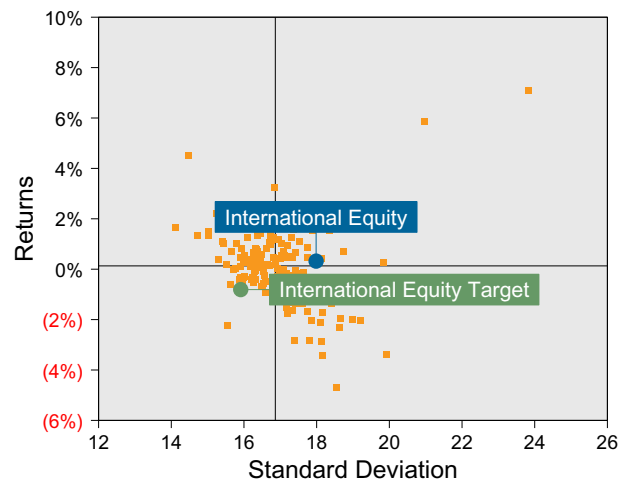


10th Percentile	(21.22)	(14.46)	(11.36)	(7.16)	0.40	1.62	4.30
25th Percentile	(22.56)	(16.14)	(13.45)	(8.94)	(0.58)	0.98	3.70
Median	(23.20)	(17.24)	(14.66)	(10.13)	(1.50)	0.13	3.12
75th Percentile	(24.33)	(18.61)	(16.37)	(11.15)	(2.36)	(0.47)	2.38
90th Percentile	(25.85)	(20.29)	(18.46)	(13.50)	(4.34)	(1.74)	1.40
International Equity	(24.77)	(17.66)	(15.00)	(10.82)	(1.51)	0.32	3.63
International Equity Target	(23.26)	(18.00)	(14.89)	(9.21)	(2.07)	(0.81)	2.28

Relative Return vs International Equity Target



Public Fund - International Equity (Gross) Annualized Five Year Risk vs Return



DFA Intl Small Cap Value Period Ended March 31, 2020

Investment Philosophy

The International Small Cap Value Portfolio invests in the stocks of small, non-US developed markets companies that Dimensional believes to be value stocks at the time of purchase. Specifically, it looks at companies that fall within the smallest 8-10% of each country's market capitalization, and who's shares have a high book value in relation to their market value (BtM). It does not invest in emerging markets.

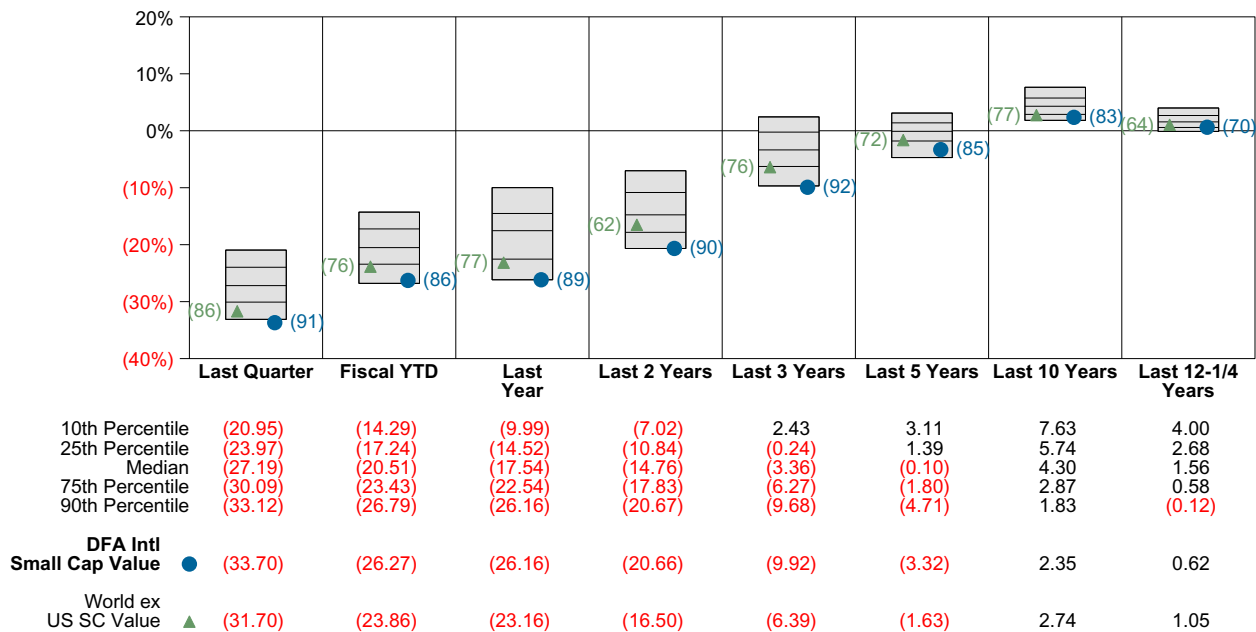
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a (33.70)% return for the quarter placing it in the 91 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 89 percentile for the last year.
- DFA Intl Small Cap Value's portfolio underperformed the World ex US SC Value by 2.00% for the quarter and underperformed the World ex US SC Value for the year by 3.00%.

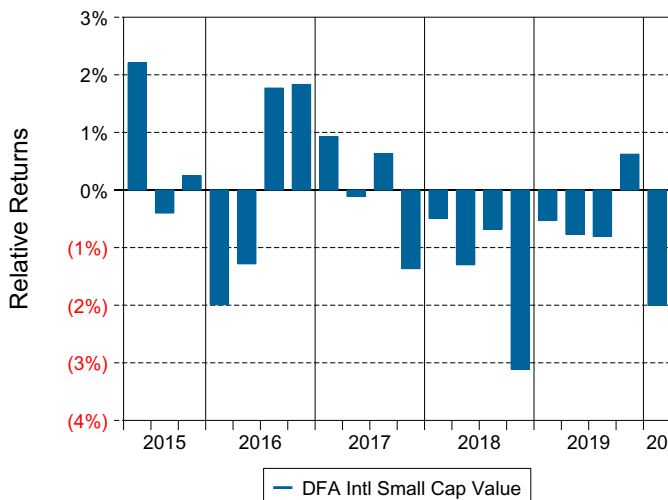
Quarterly Asset Growth

Beginning Market Value	\$19,815,549
Net New Investment	\$0
Investment Gains/(Losses)	\$-6,676,867
Ending Market Value	\$13,138,682

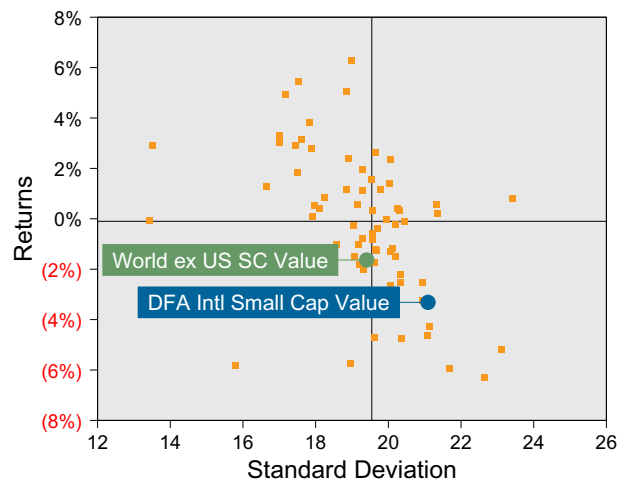
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Return vs World ex US SC Value



Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return



LSV Intl Value

Period Ended March 31, 2020

Investment Philosophy

The objective of LSV Asset Management's International Large Cap Value strategy is to outperform the MSCI EAFE Index by at least 250 basis points (gross of fees) per annum over an annualized 3-5 year period with a tracking error of approximately 5-6%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 150 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested. LSV weights countries at a neutral weight relative to the benchmark country weights. 50% of the portfolio is US dollar hedged. ***MSCI EAFE through 9/30/2000; 50% Hedged EAFE through 3/31/2011 and MSCI EAFE again thereafter.**

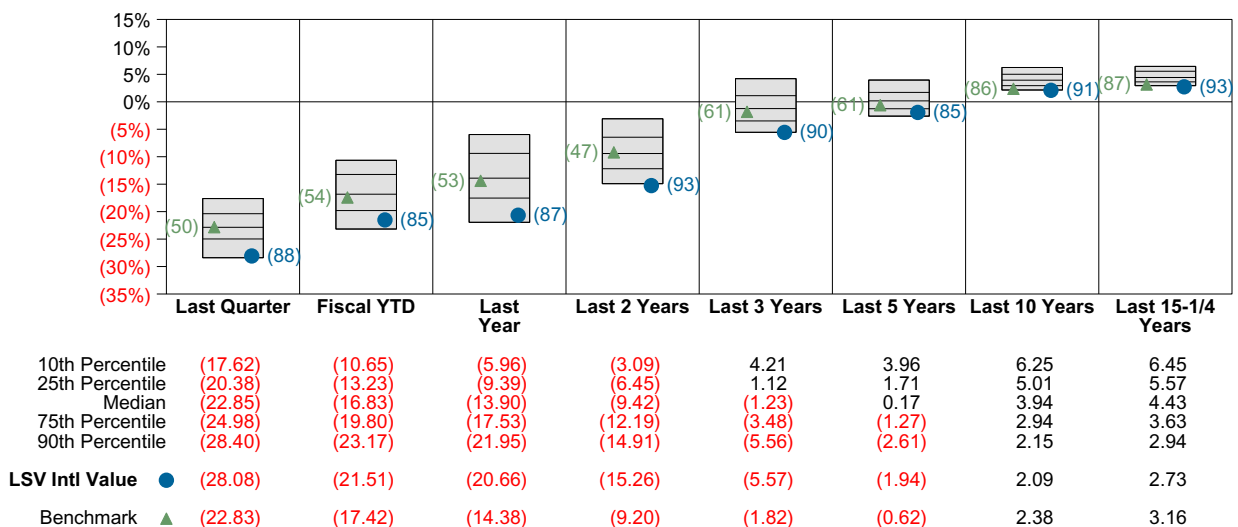
Quarterly Summary and Highlights

- LSV Intl Value's portfolio posted a (28.08)% return for the quarter placing it in the 88 percentile of the Callan Non-US Equity group for the quarter and in the 87 percentile for the last year.
- LSV Intl Value's portfolio underperformed the Benchmark by 5.25% for the quarter and underperformed the Benchmark for the year by 6.28%.

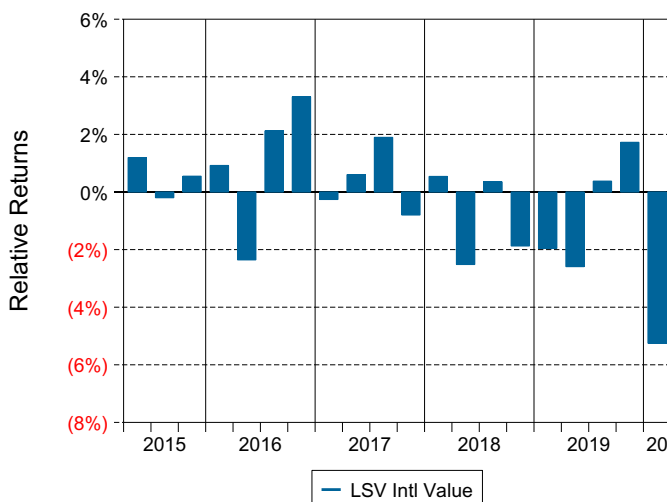
Quarterly Asset Growth

Beginning Market Value	\$72,821,749
Net New Investment	\$-71,013
Investment Gains/(Losses)	\$-20,430,792
Ending Market Value	\$52,319,944

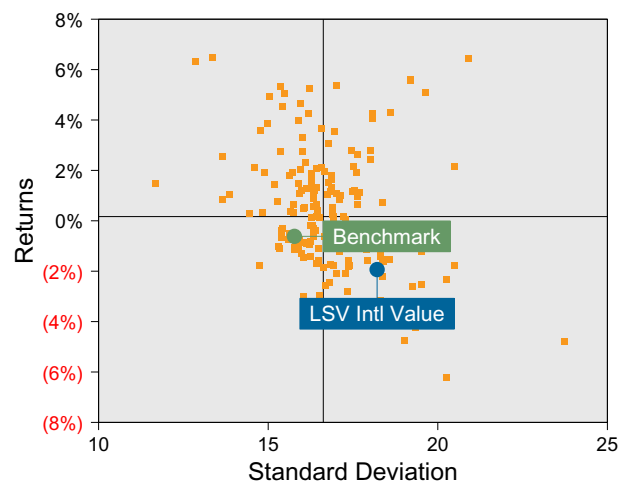
Performance vs Callan Non-US Equity (Gross)



Relative Return vs Benchmark



Callan Non-US Equity (Gross) Annualized Five Year Risk vs Return



Vanguard Intl Explorer Fund Period Ended March 31, 2020

Investment Philosophy

Vanguard International Explorer Fund invests primarily in the equity securities of small-capitalization companies located outside the United States that the advisor believes offer the potential for long-term capital appreciation. The advisor considers, among other things, whether a company is likely to have above-average earnings growth, whether the company's securities are attractively valued, and whether the company has any proprietary advantages.

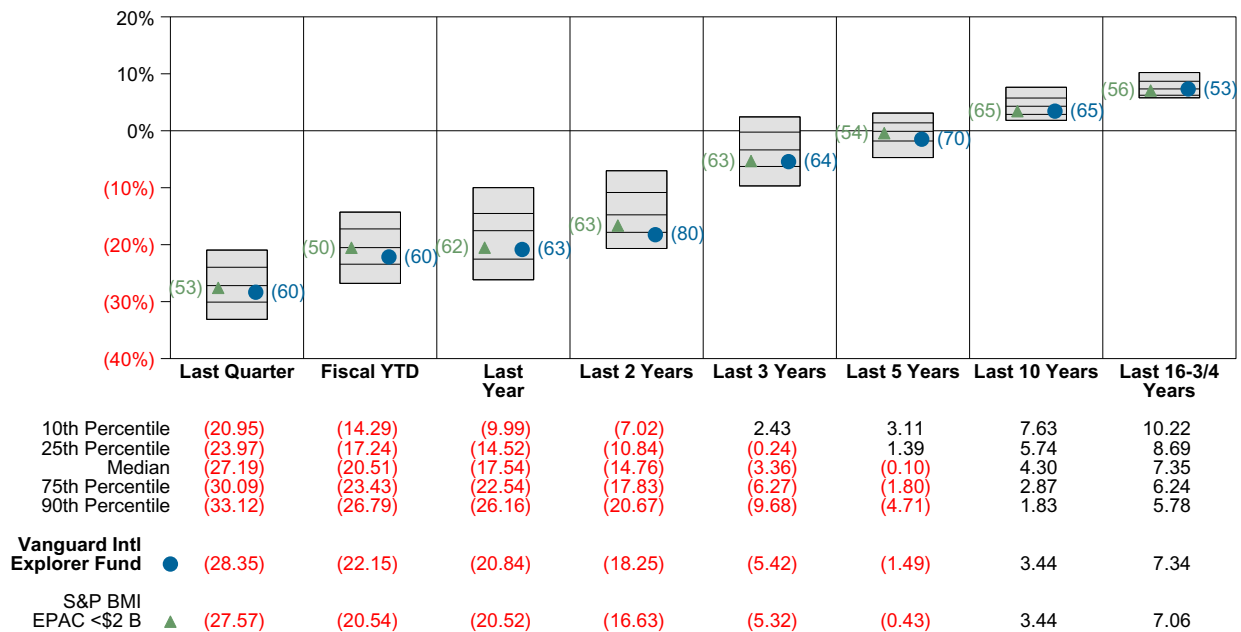
Quarterly Summary and Highlights

- Vanguard Intl Explorer Fund's portfolio posted a (28.35)% return for the quarter placing it in the 60 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 63 percentile for the last year.
- Vanguard Intl Explorer Fund's portfolio underperformed the S&P BMI EPAC <\$2 B by 0.77% for the quarter and underperformed the S&P BMI EPAC <\$2 B for the year by 0.32%.

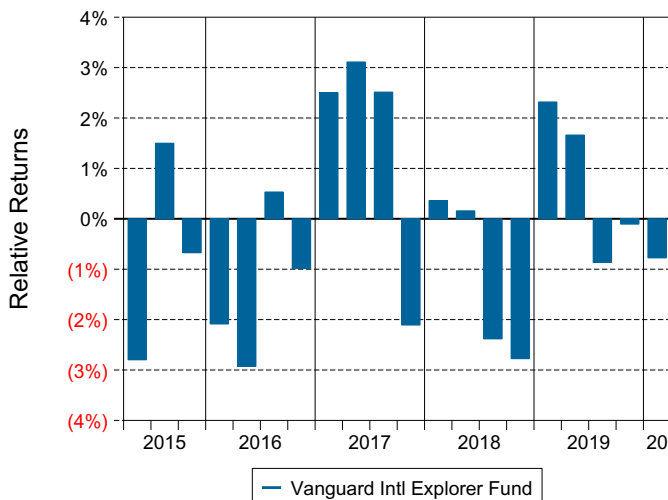
Quarterly Asset Growth

Beginning Market Value	\$19,981,346
Net New Investment	\$-2,000,000
Investment Gains/(Losses)	\$-5,091,021
Ending Market Value	\$12,890,325

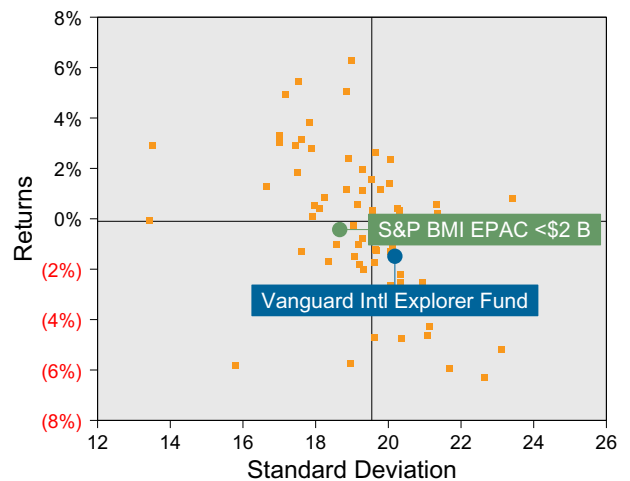
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Return vs S&P BMI EPAC <\$2 B



Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return



William Blair

Period Ended March 31, 2020

Investment Philosophy

One of the basic investment tenets of William Blair & Company has been its focus on quality growth companies. They believe that investing in quality growth companies will generate above average results with generally less risk than the market. This opportunity exists because they believe the market underestimates the durability and rate of growth in companies that have the following characteristics: strong management with a unique vision, competitive advantages that prolong the duration and size of earnings growth, and conservative financing. Internationally, they believe that this philosophy can be combined with strategic flexibility in managing geographic exposure, capitalization, sector emphasis, and relative growth and valuation at the portfolio level in order to provide an appropriate degree of adaptability to cyclical conditions.

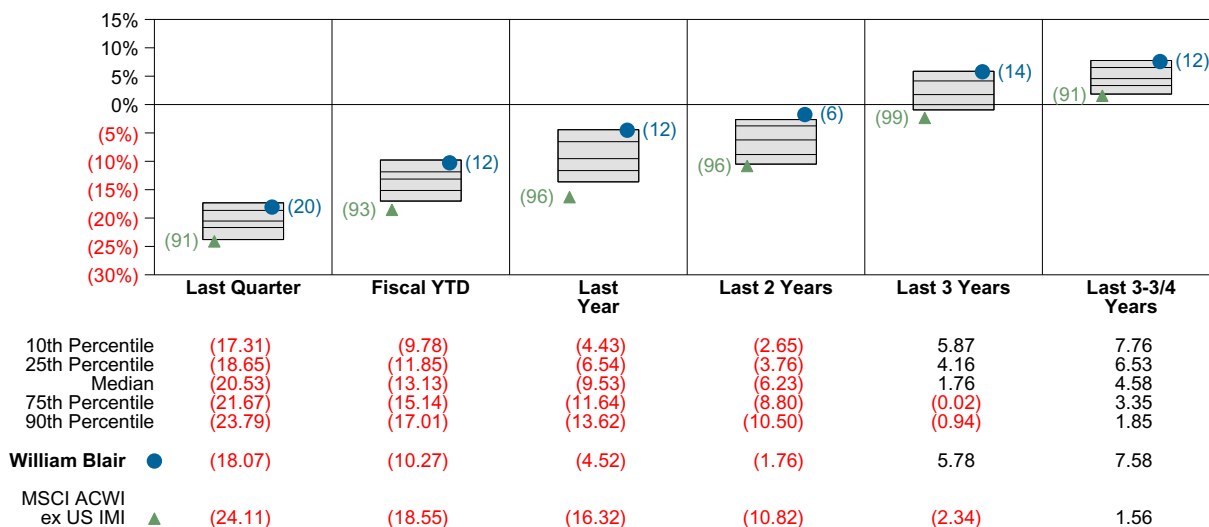
Quarterly Summary and Highlights

- William Blair's portfolio posted a (18.07)% return for the quarter placing it in the 20 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 12 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 6.04% for the quarter and outperformed the MSCI ACWI ex US IMI for the year by 11.79%.

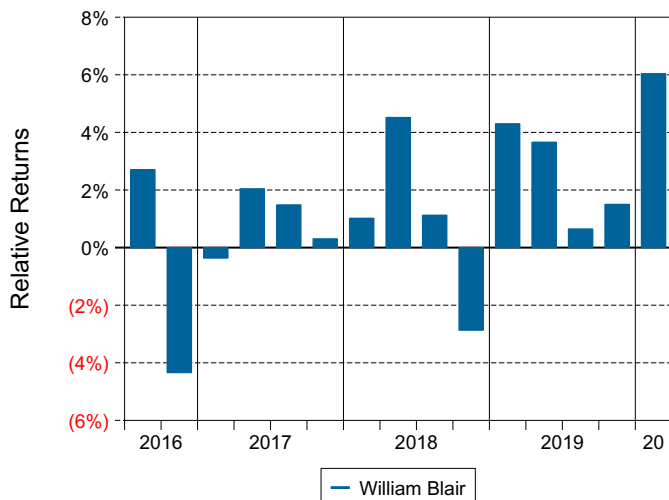
Quarterly Asset Growth

Beginning Market Value	\$76,562,048
Net New Investment	\$-5,071,114
Investment Gains/(Losses)	\$-12,900,261
Ending Market Value	\$58,590,673

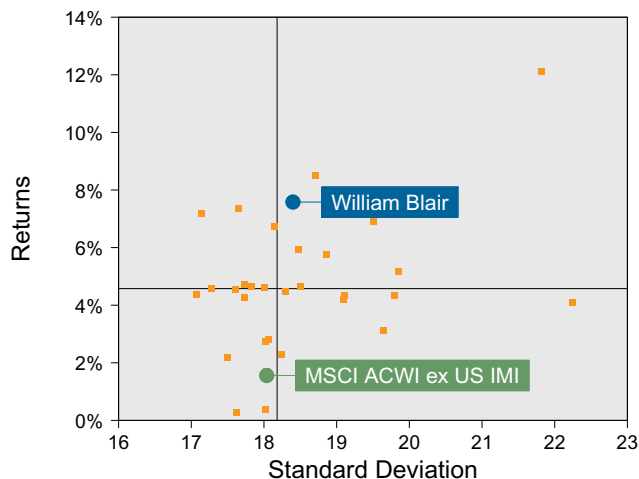
Performance vs Callan Non-US All Country Growth Equity (Gross)



Relative Return vs MSCI ACWI ex US IMI



Callan Non-US All Country Growth Equity (Gross) Annualized Three and Three-Quarter Year Risk vs Return



Domestic Fixed Income Period Ended March 31, 2020

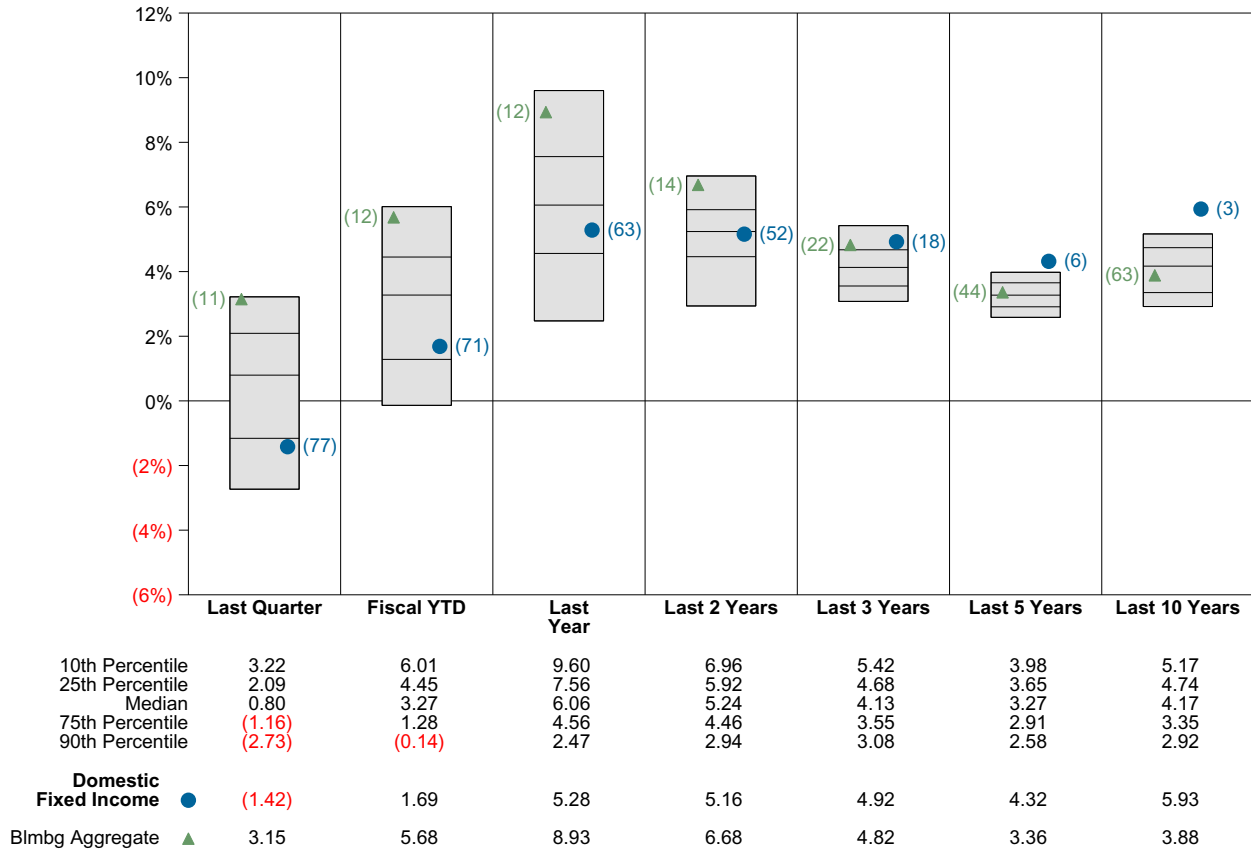
Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a (1.42)% return for the quarter placing it in the 77 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 63 percentile for the last year.
- Domestic Fixed Income's portfolio underperformed the Blmbg Aggregate by 4.57% for the quarter and underperformed the Blmbg Aggregate for the year by 3.65%.

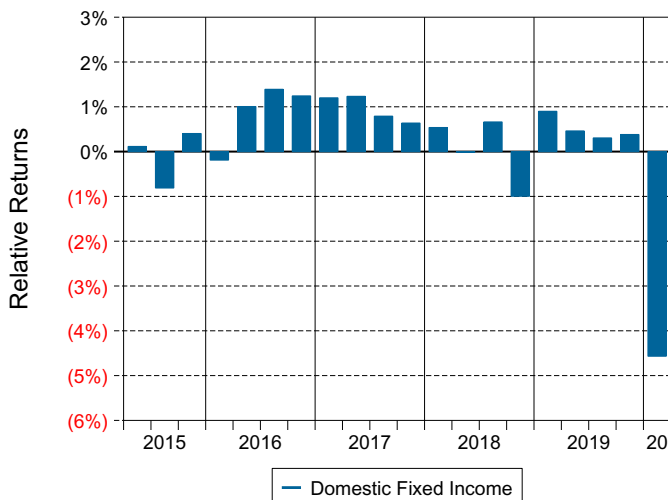
Quarterly Asset Growth

Beginning Market Value	\$1,314,866,652
Net New Investment	\$5,757,548
Investment Gains/(Losses)	\$-18,729,146
Ending Market Value	\$1,301,895,054

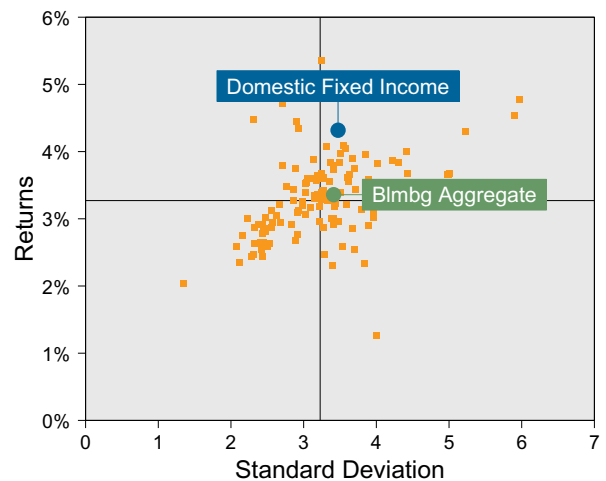
Performance vs Public Fund - Domestic Fixed (Gross)



Relative Return vs Blmbg Aggregate



Public Fund - Domestic Fixed (Gross) Annualized Five Year Risk vs Return



Declaration Total Return Period Ended March 31, 2020

Investment Philosophy

The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). Portfolio holdings may range from short tenure senior classes to stressed issues or subordinated securities with substantial risk of non-payment and correspondingly higher yields. Smaller portfolio allocations may include consumer asset-backed securities (ABS), or other structured credit securities and corporate bonds. As a diversification strategy and a potential hedge to credit risk, the Fund may invest in securities which tend to benefit from slow mortgage prepayments and economic growth, such as interest only (IO) MBS.

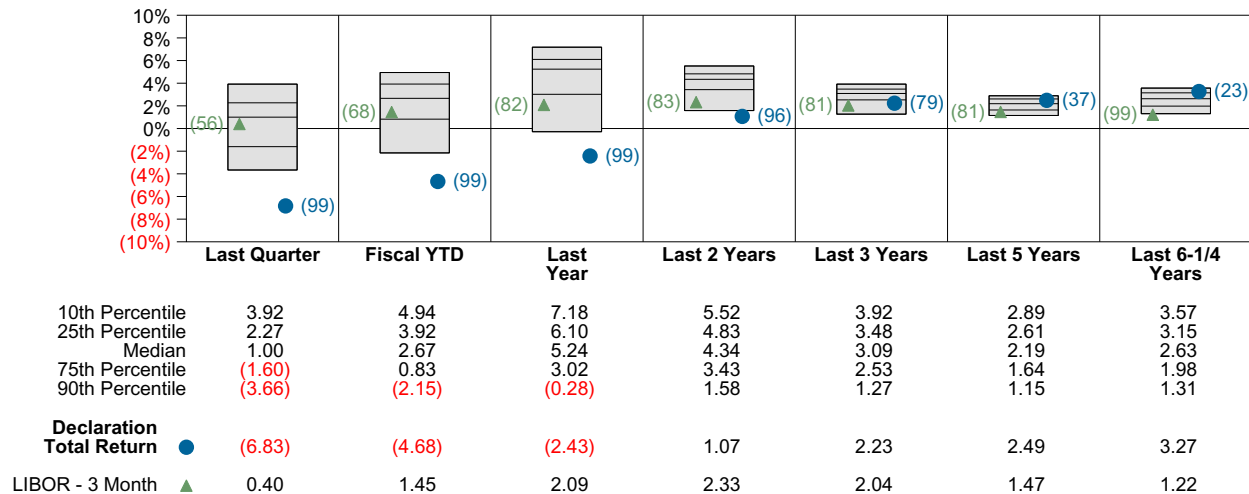
Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a (6.83)% return for the quarter placing it in the 99 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 99 percentile for the last year.
- Declaration Total Return's portfolio underperformed the LIBOR - 3 Month by 7.24% for the quarter and underperformed the LIBOR - 3 Month for the year by 4.51%.

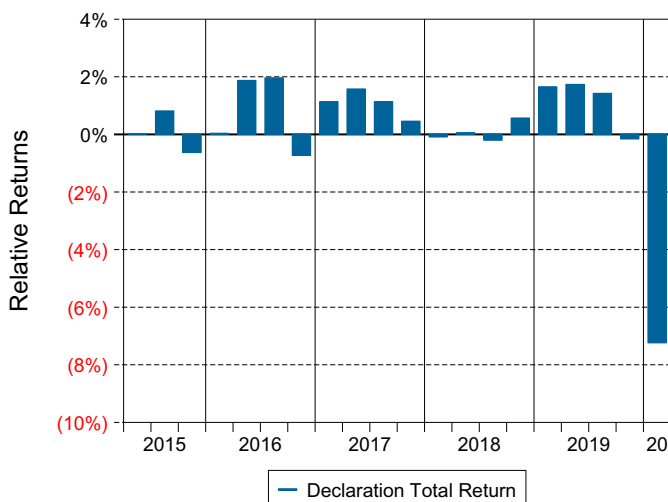
Quarterly Asset Growth

Beginning Market Value	\$93,970,737
Net New Investment	-\$54,320
Investment Gains/(Losses)	-\$6,418,781
Ending Market Value	\$87,497,636

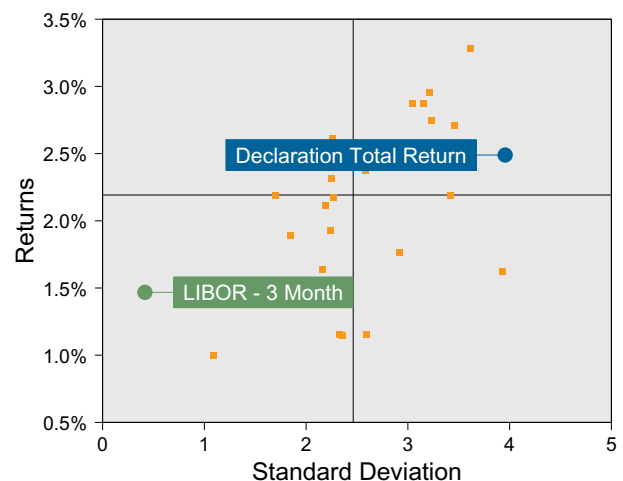
Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)



Relative Return vs LIBOR - 3 Month



Callan Intermediate Fixed Inc Mut Funds (Net) Annualized Five Year Risk vs Return



PIMCO Core Plus Constrained Period Ended March 31, 2020

Investment Philosophy

PIMCO's investment process utilizes both "top-down" and "bottom-up" strategies. Top-down strategies focus on duration, yield curve positioning, volatility, and sector rotation. These strategies are deployed from a macro view of the portfolio driven by their secular outlook of the forces likely to influence the economy and financial markets over the next three to five years and their cyclical views of two- to four-quarter trends. Implementation in portfolios is effected by selecting securities that achieve the designated objectives. Bottom-up strategies drive their security selection process and facilitate the identification and analysis of undervalued securities.

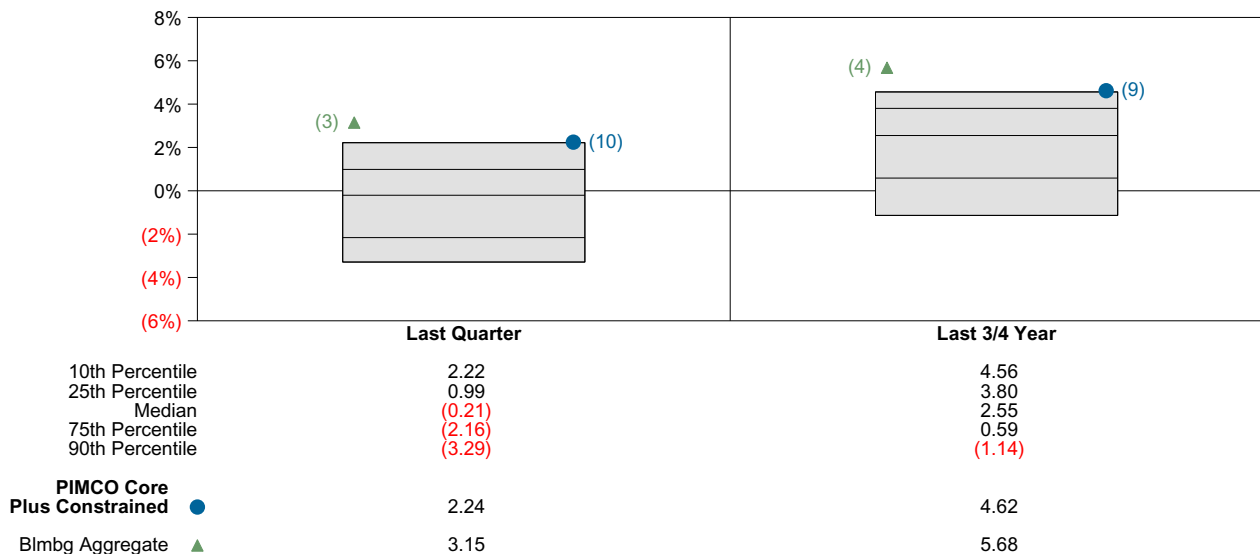
Quarterly Summary and Highlights

- PIMCO Core Plus Constrained's portfolio posted a 2.24% return for the quarter placing it in the 10 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 9 percentile for the last three-quarter year.
- PIMCO Core Plus Constrained's portfolio underperformed the Blmbg Aggregate by 0.90% for the quarter and underperformed the Blmbg Aggregate for the three-quarter year by 1.06%.

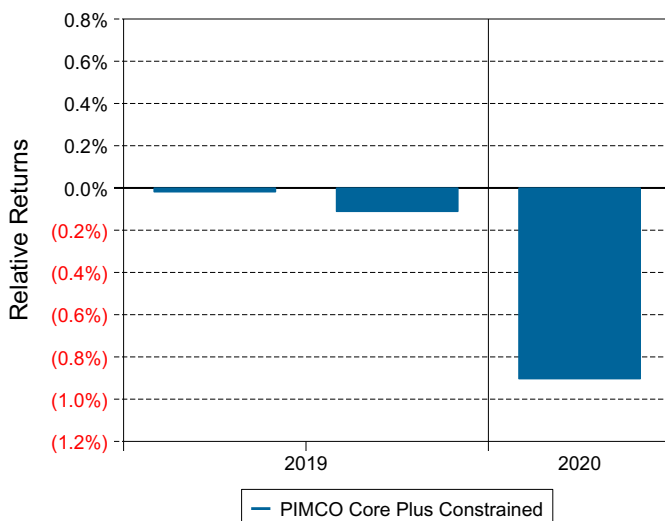
Quarterly Asset Growth

Beginning Market Value	\$162,243,420
Net New Investment	\$6,952,717
Investment Gains/(Losses)	\$3,761,065
Ending Market Value	\$172,957,202

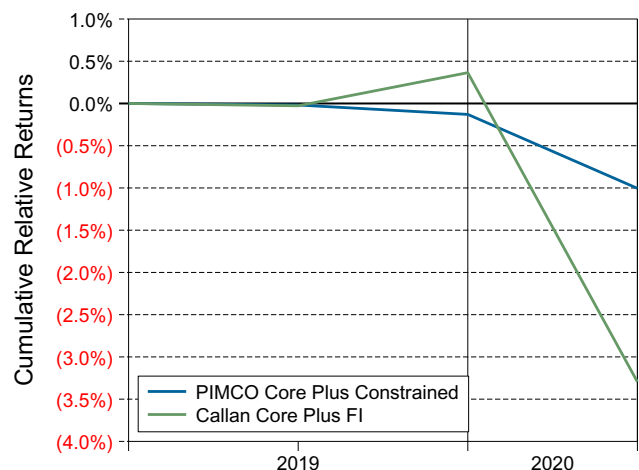
Performance vs Callan Core Plus Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



Cumulative Returns vs Blmbg Aggregate



PIMCO DiSCO II

Period Ended March 31, 2020

Investment Philosophy

The PIMCO Distressed Senior Credit Opportunities Fund is an opportunistic private-equity style Fund which seeks to provide investors enhanced returns principally through long-biased investments in undervalued senior and super senior structured credit securities that are expected to produce attractive levels of current income and that may also appreciate in value over the long term. The fund will look to capitalize on forced sales by liquidity constrained investors.

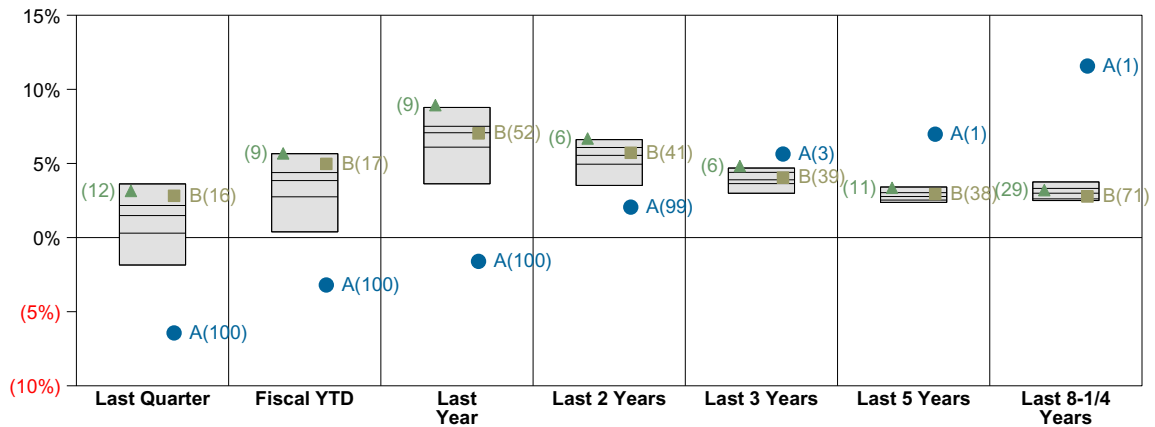
Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a (6.43)% return for the quarter placing it in the 100 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 100 percentile for the last year.
- PIMCO DiSCO II's portfolio underperformed the Blmbg Aggregate by 9.58% for the quarter and underperformed the Blmbg Aggregate for the year by 10.54%.

Quarterly Asset Growth

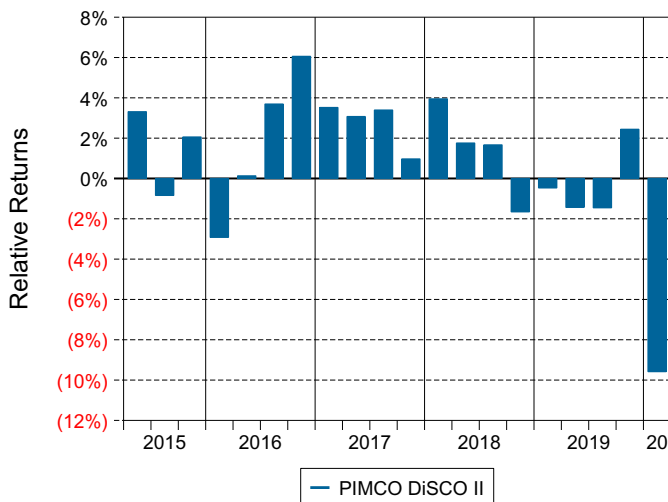
Beginning Market Value	\$44,644,429
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,872,411
Ending Market Value	\$41,772,018

Performance vs Callan Core Bond Mutual Funds (Net)

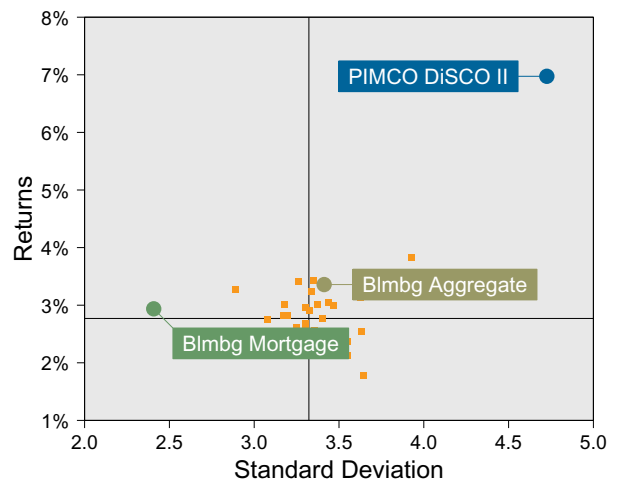


10th Percentile	3.62	5.66	8.78	6.61	4.69	3.41	3.75
25th Percentile	2.16	4.38	7.51	6.08	4.40	3.03	3.32
Median	1.49	3.85	7.07	5.55	3.90	2.77	2.99
75th Percentile	0.30	2.75	6.10	4.95	3.64	2.53	2.61
90th Percentile	(1.85)	0.39	3.63	3.52	2.99	2.37	2.50
PIMCO DiSCO II	● A (6.43)	(3.20)	(1.61)	2.05	5.63	6.97	11.57
Blmbg Mortgage	■ B 2.82	4.97	7.03	5.72	4.04	2.94	2.77
Blmbg Aggregate	▲ 3.15	5.68	8.93	6.68	4.82	3.36	3.20

Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



PIMCO Bravo II Fund

Period Ended March 31, 2020

Investment Philosophy

The BRAVO II Fund is a private equity style fund targeting an annualized IRR of 15-20% and multiple of 1.8-2x, net of fees and carried interest with an initial 5-year term. The fund will seek to capitalize on non-economic asset sale decisions by global financial institutions. The fund will have the flexibility to acquire attractively discounted, less liquid loans, structured credit and other assets tied to residential or commercial real estate markets in the U.S. and Europe.

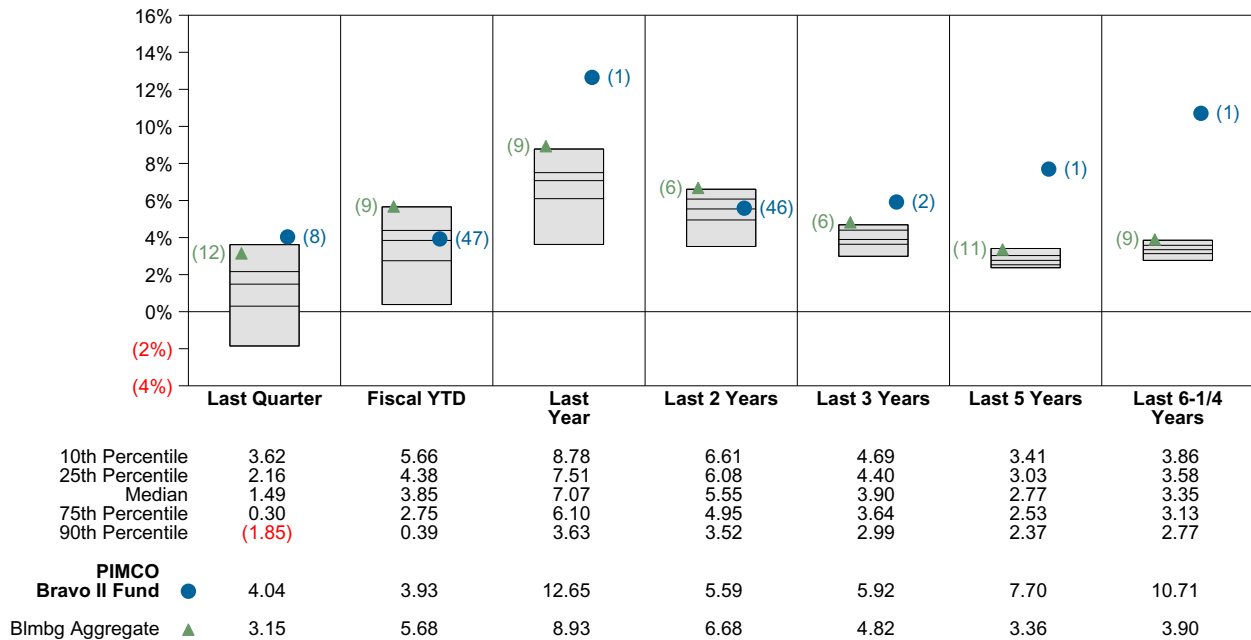
Quarterly Summary and Highlights

- PIMCO Bravo II Fund's portfolio posted a 4.04% return for the quarter placing it in the 8 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO Bravo II Fund's portfolio outperformed the Blmbg Aggregate by 0.89% for the quarter and outperformed the Blmbg Aggregate for the year by 3.71%.

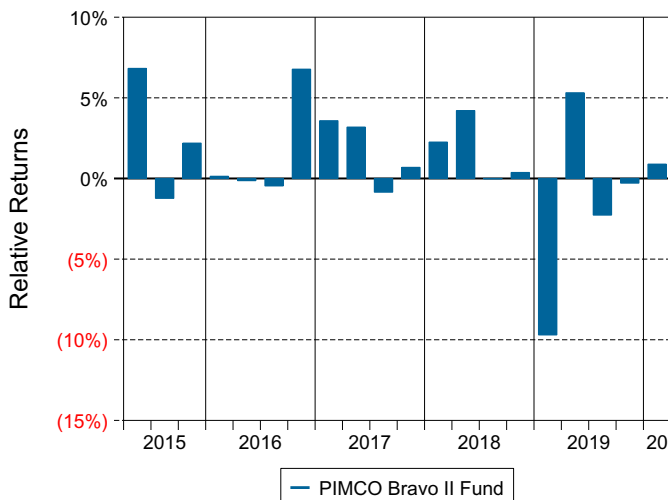
Quarterly Asset Growth

Beginning Market Value	\$11,910,537
Net New Investment	\$-790,314
Investment Gains/(Losses)	\$480,633
Ending Market Value	\$11,600,856

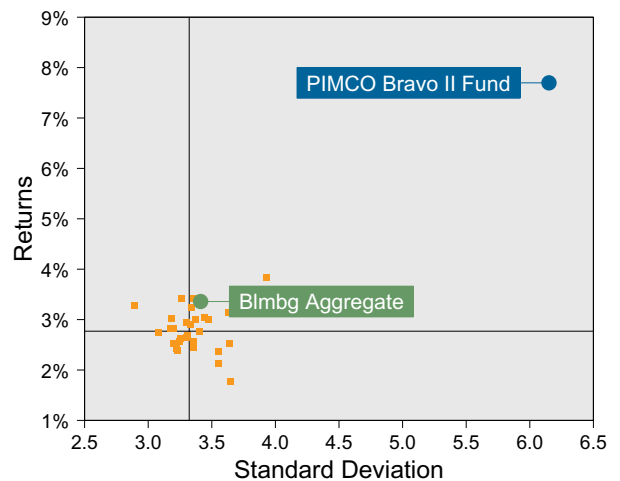
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



Prudential Core Plus Period Ended March 31, 2020

Investment Philosophy

PGIM Fixed Income's Core Plus Strategy is an actively-managed strategy that seeks +150 bps over the Bloomberg Barclays U.S. Aggregate Bond Index or similar benchmark annualized over a market cycle (three to five years.) The Strategy seeks about half of its excess return from active sector allocation and up to one-third each from subsector/security selection and duration/yield curve/currencies, depending on market opportunities.

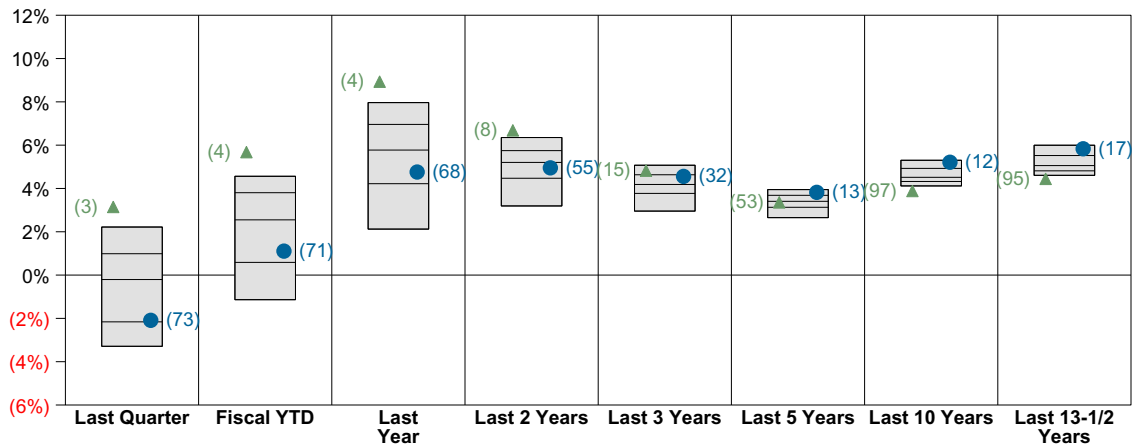
Quarterly Summary and Highlights

- Prudential Core Plus's portfolio posted a (2.09)% return for the quarter placing it in the 73 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 68 percentile for the last year.
- Prudential Core Plus's portfolio underperformed the Blmbg Aggregate by 5.24% for the quarter and underperformed the Blmbg Aggregate for the year by 4.18%.

Quarterly Asset Growth

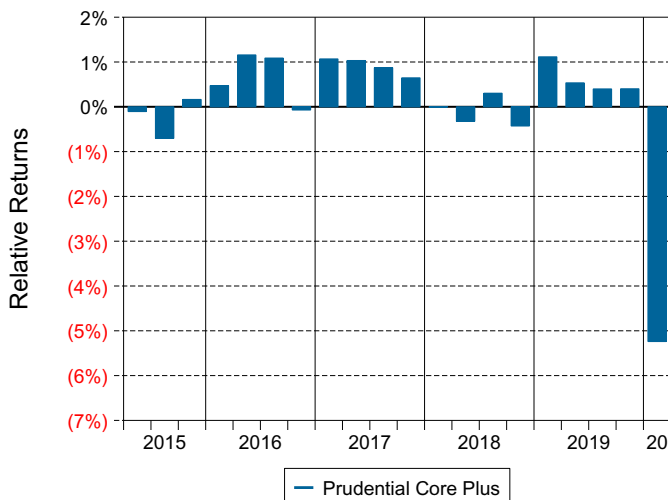
Beginning Market Value	\$343,259,775
Net New Investment	\$-183,360
Investment Gains/(Losses)	\$-7,164,403
Ending Market Value	\$335,912,012

Performance vs Callan Core Plus Fixed Income (Gross)

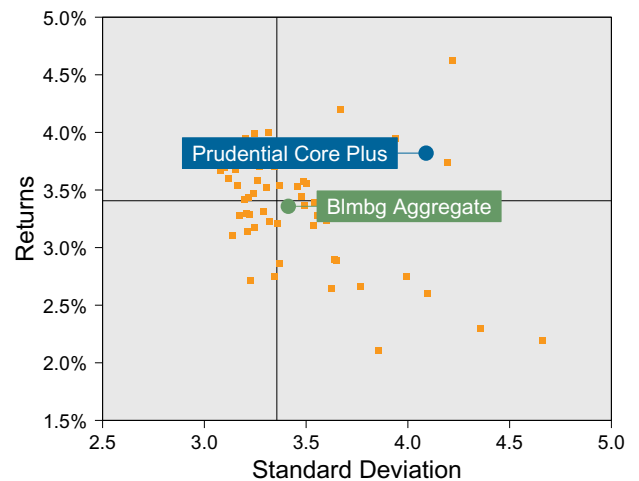


10th Percentile	2.22	4.56	7.97	6.35	5.07	3.95	5.30	6.00
25th Percentile	0.99	3.80	6.96	5.75	4.63	3.68	4.93	5.52
Median	(0.21)	2.55	5.77	5.20	4.18	3.41	4.51	5.06
75th Percentile	(2.16)	0.59	4.22	4.47	3.77	3.13	4.32	4.81
90th Percentile	(3.29)	(1.14)	2.12	3.19	2.95	2.65	4.12	4.61
Prudential Core Plus	● (2.09)	1.11	4.76	4.95	4.56	3.82	5.21	5.83
Blmbg Aggregate	▲ 3.15	5.68	8.93	6.68	4.82	3.36	3.88	4.44

Relative Return vs Blmbg Aggregate



Callan Core Plus Fixed Income (Gross) Annualized Five Year Risk vs Return



SSgA US Govt Cr Bd Index Period Ended March 31, 2020

Investment Philosophy

The Fund seeks an investment return that approximates as closely as practicable, before expenses, the performance of the Barclays Capital U.S. Government/Credit Bond Index over the long term.

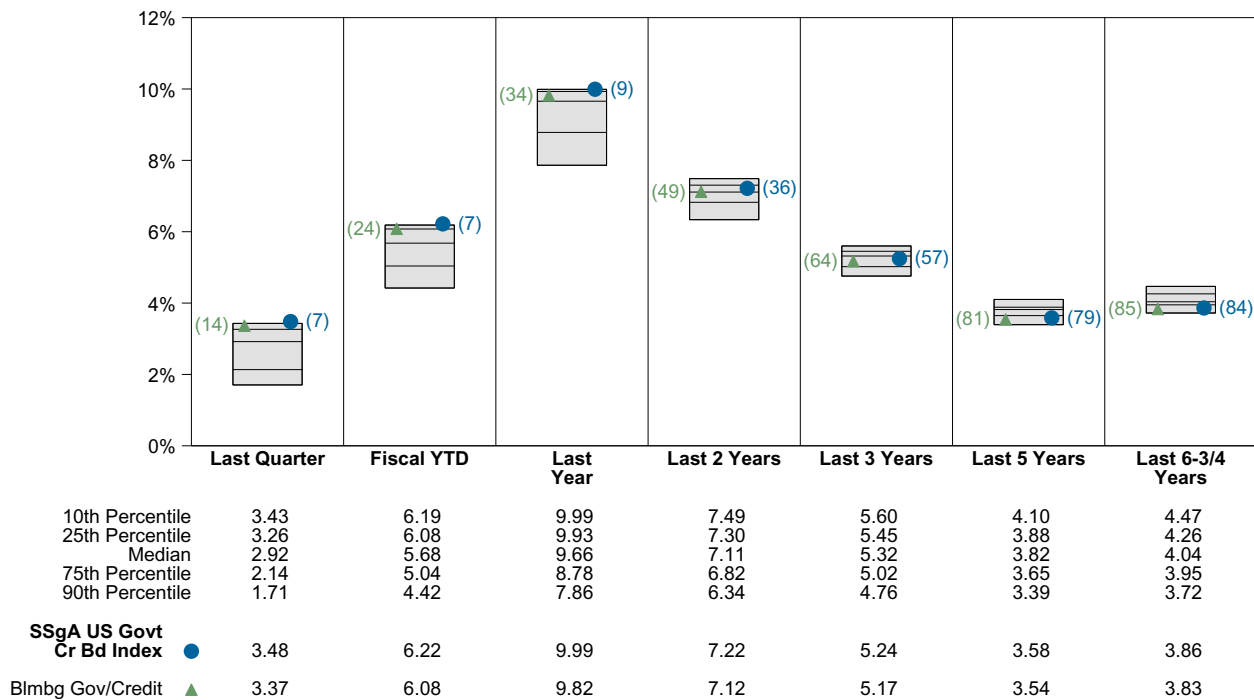
Quarterly Summary and Highlights

- SSgA US Govt Cr Bd Index's portfolio posted a 3.48% return for the quarter placing it in the 7 percentile of the Callan Government/Credit group for the quarter and in the 9 percentile for the last year.
- SSgA US Govt Cr Bd Index's portfolio outperformed the Blmbg Gov/Credit by 0.11% for the quarter and outperformed the Blmbg Gov/Credit for the year by 0.17%.

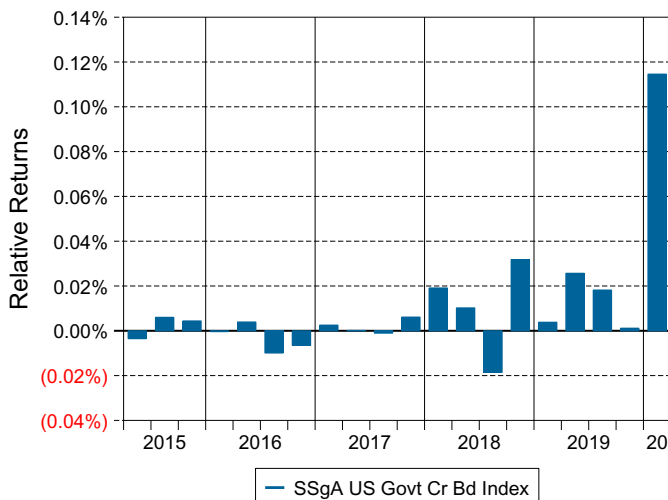
Quarterly Asset Growth

Beginning Market Value	\$185,387,181
Net New Investment	\$-6,875
Investment Gains/(Losses)	\$6,454,179
Ending Market Value	\$191,834,485

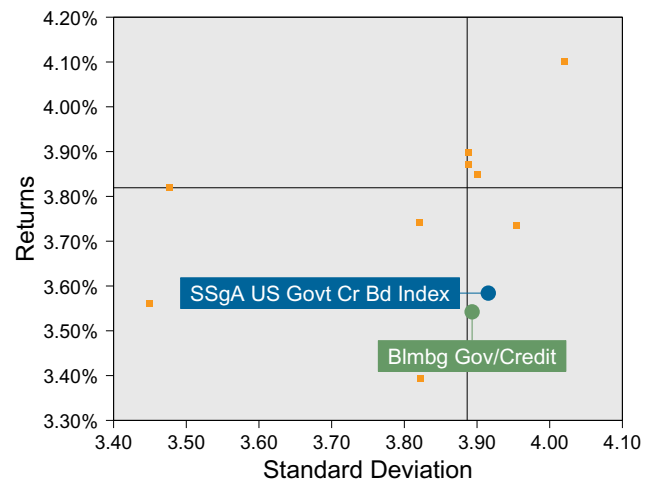
Performance vs Callan Government/Credit (Gross)



Relative Return vs Blmbg Gov/Credit



Callan Government/Credit (Gross) Annualized Five Year Risk vs Return



Wells Capital

Period Ended March 31, 2020

Investment Philosophy

The Medium Quality Credit fixed income strategy is designed to maximize total return from the high-grade corporate bond market while maintaining a strategic allocation to the BBB portion of the high yield market. The investment process for this fund starts with a "top-down" strategy. Security selection is determined by in-depth credit research, holding that in-depth knowledge of industries, companies, and their management teams can help identify credit trends that can lead to investment opportunities. Furthermore, a disciplined relative value framework is applied to help determine the optimal position to invest within an industry and within an individual issuer's capital structure.

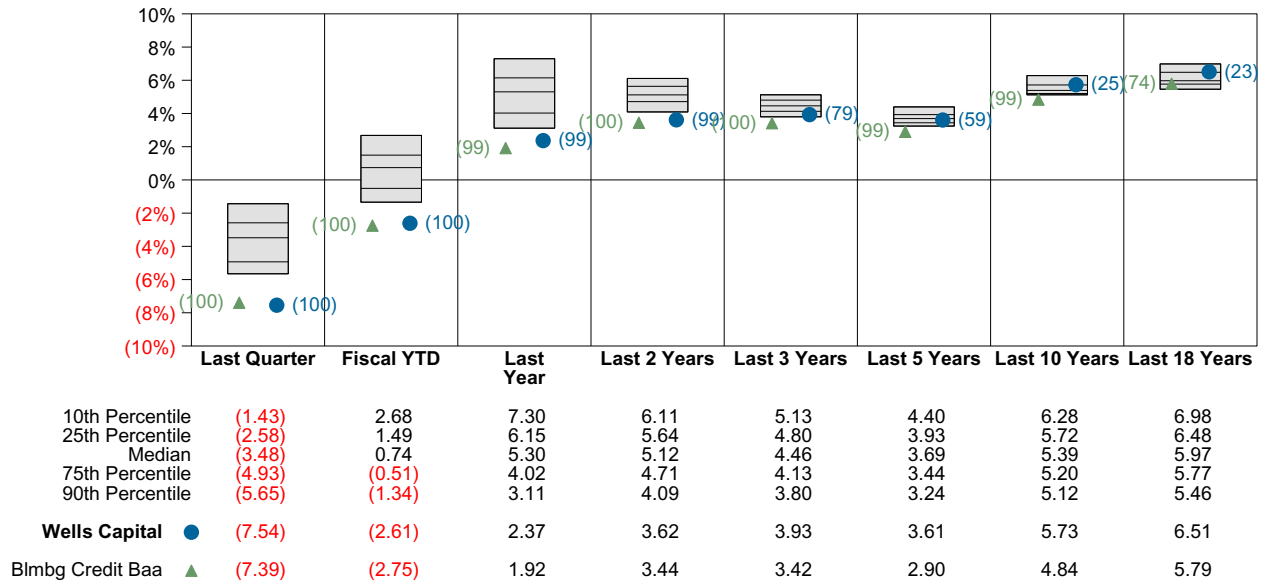
Quarterly Summary and Highlights

- Wells Capital's portfolio posted a (7.54)% return for the quarter placing it in the 100 percentile of the Callan Investment Grade Credit Fixed Inc group for the quarter and in the 99 percentile for the last year.
- Wells Capital's portfolio underperformed the Blmbg Credit Baa by 0.16% for the quarter and outperformed the Blmbg Credit Baa for the year by 0.45%.

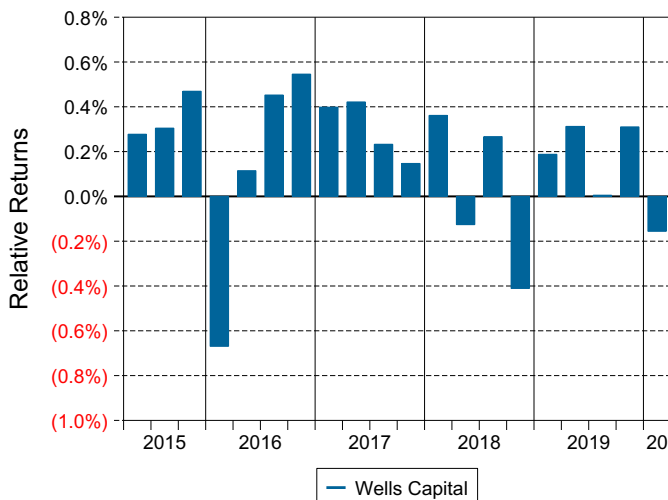
Quarterly Asset Growth

Beginning Market Value	\$111,975,417
Net New Investment	\$-54,206
Investment Gains/(Losses)	\$-8,441,916
Ending Market Value	\$103,479,296

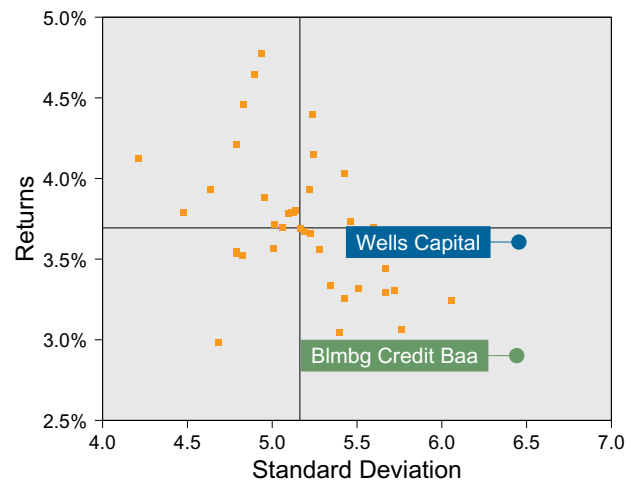
Performance vs Callan Investment Grade Credit Fixed Inc (Gross)



Relative Return vs Blmbg Credit Baa



Callan Investment Grade Credit Fixed Inc (Gross) Annualized Five Year Risk vs Return



Western Asset Management Company

Period Ended March 31, 2020

Investment Philosophy

Western Asset designs this portfolio using all major fixed-income sectors with a bias towards non-Treasuries, especially corporate, mortgage-backed and asset-backed securities. Value can be added through sector rotation, issue selection, duration and term structure weighting.

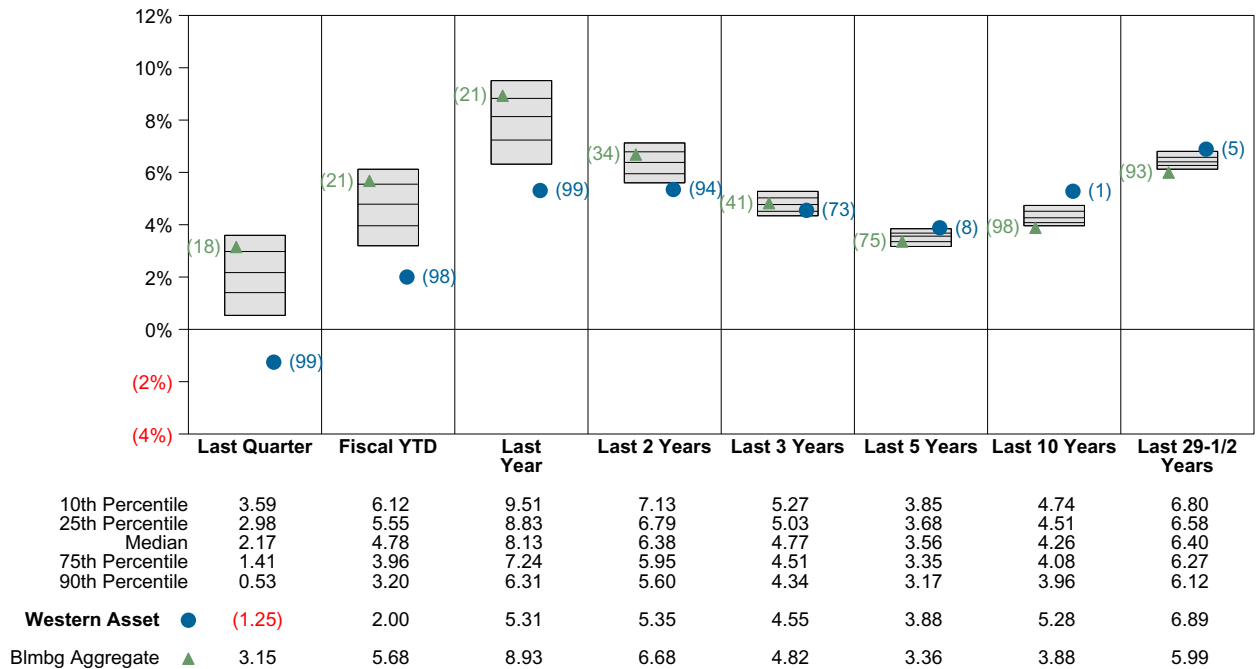
Quarterly Summary and Highlights

- Western Asset's portfolio posted a (1.25)% return for the quarter placing it in the 99 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 99 percentile for the last year.
- Western Asset's portfolio underperformed the Blmbg Aggregate by 4.40% for the quarter and underperformed the Blmbg Aggregate for the year by 3.63%.

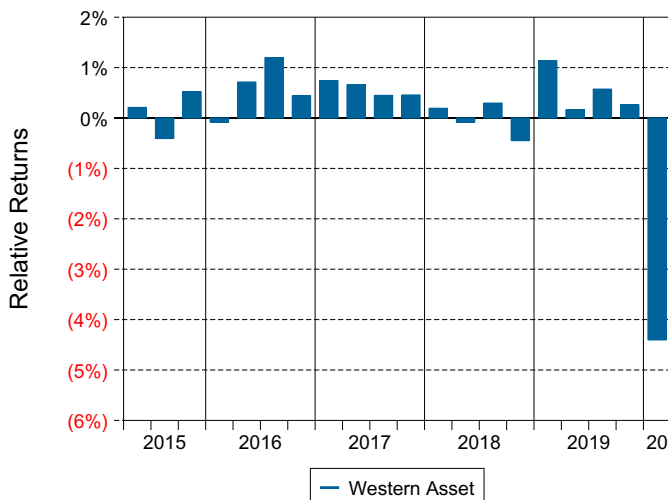
Quarterly Asset Growth

Beginning Market Value	\$361,475,156
Net New Investment	\$-106,095
Investment Gains/(Losses)	\$-4,527,512
Ending Market Value	\$356,841,550

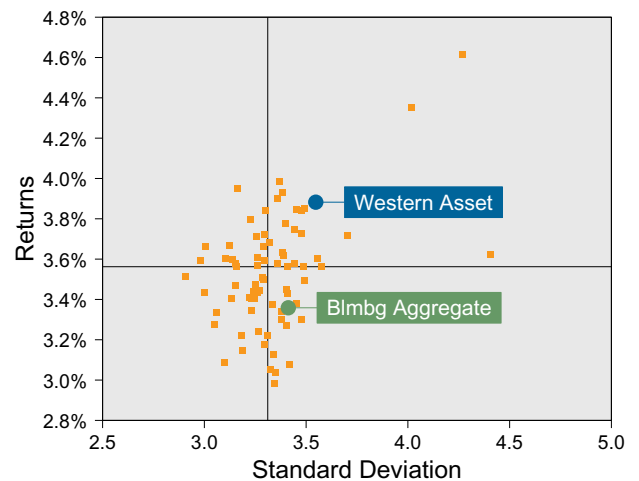
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



Callan Core Bond Fixed Income (Gross) Annualized Five Year Risk vs Return



Real Estate Period Ended March 31, 2020

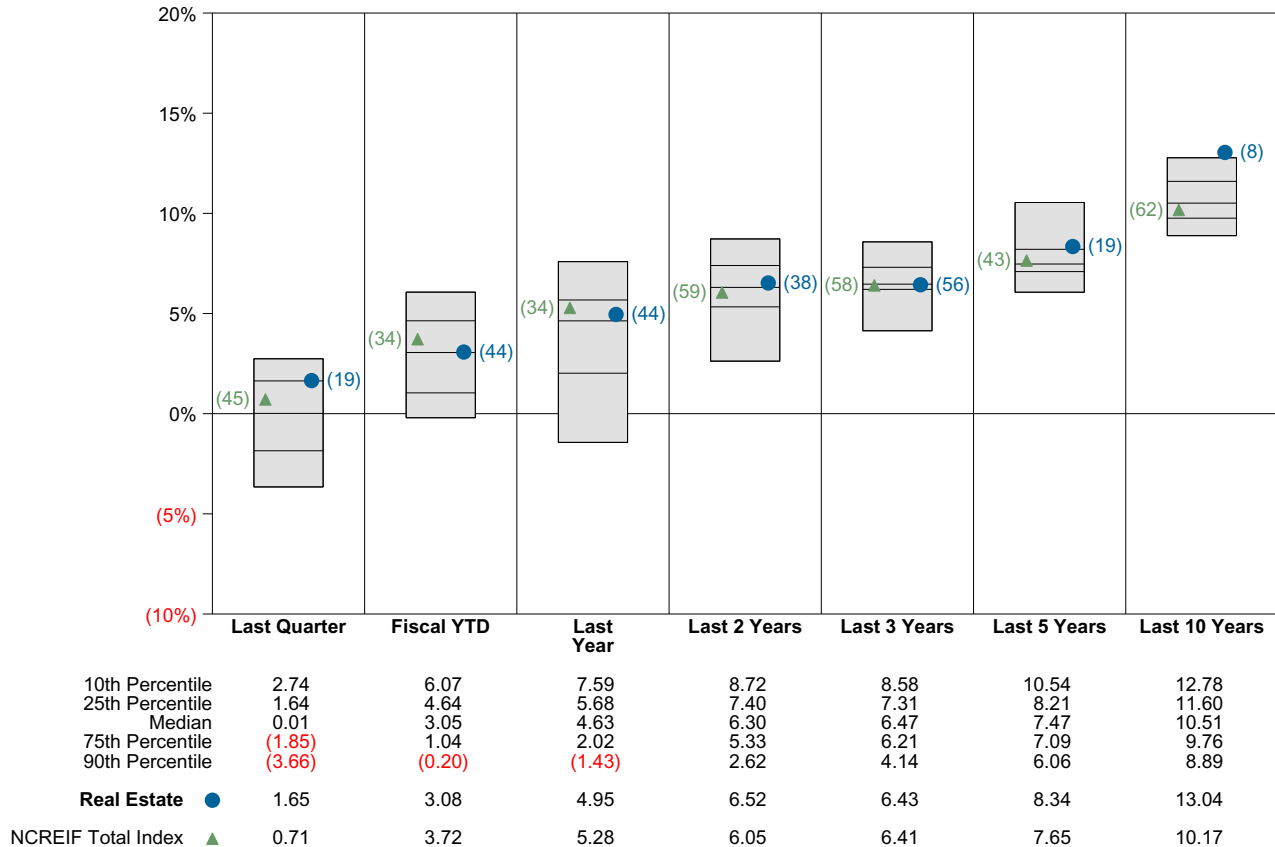
Quarterly Summary and Highlights

- Real Estate's portfolio posted a 1.65% return for the quarter placing it in the 19 percentile of the Public Fund - Real Estate group for the quarter and in the 44 percentile for the last year.
- Real Estate's portfolio outperformed the NCREIF Total Index by 0.94% for the quarter and underperformed the NCREIF Total Index for the year by 0.33%.

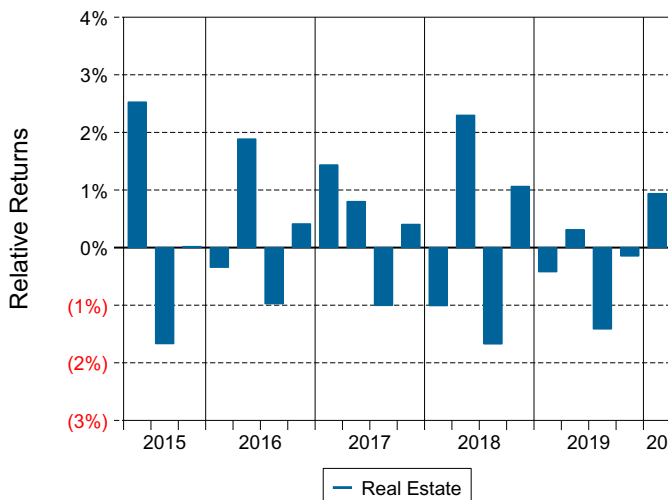
Quarterly Asset Growth

Beginning Market Value	\$100,690,131
Net New Investment	\$-1,051,978
Investment Gains/(Losses)	\$1,660,695
Ending Market Value	\$101,298,848

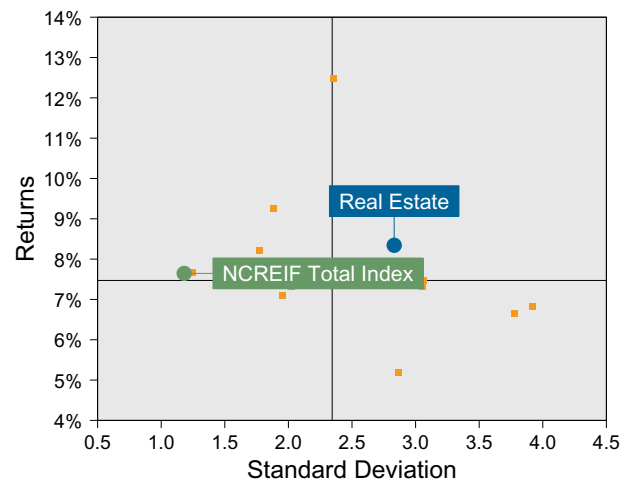
Performance vs Public Fund - Real Estate (Gross)



Relative Return vs NCREIF Total Index



Public Fund - Real Estate (Gross) Annualized Five Year Risk vs Return



Invesco Core Real Estate Period Ended March 31, 2020

Investment Philosophy

IRE's investment philosophy is comprised of two fundamental principles: (1) maximize the predictability and consistency of investment returns and (2) minimize the risk of capital loss. This philosophy forms the cornerstone of the company's real estate investment philosophy.

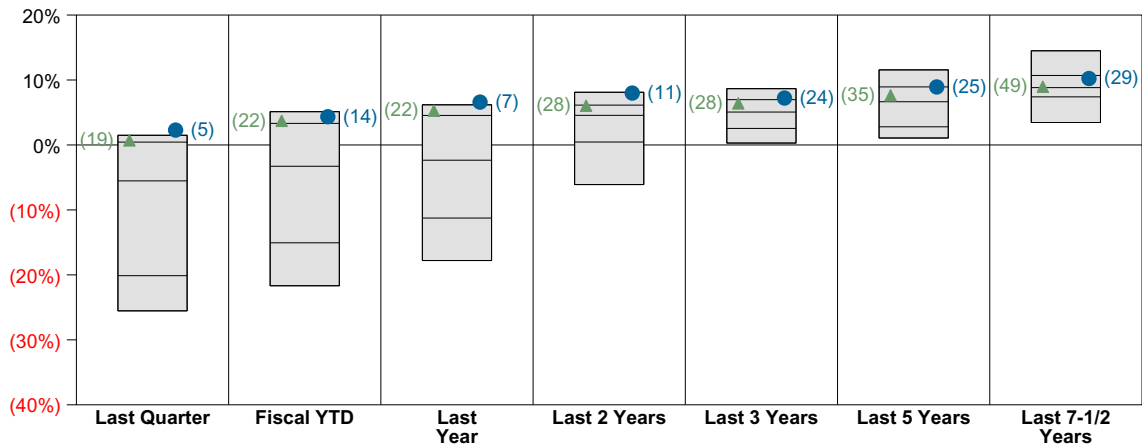
Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a 2.29% return for the quarter placing it in the 5 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 7 percentile for the last year.
- Invesco Core Real Estate's portfolio outperformed the NCREIF Total Index by 1.58% for the quarter and outperformed the NCREIF Total Index for the year by 1.32%.

Quarterly Asset Growth

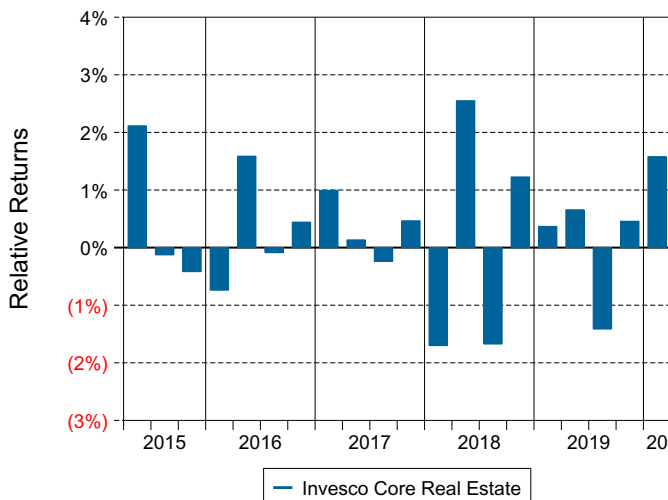
Beginning Market Value	\$52,753,858
Net New Investment	\$-484,644
Investment Gains/(Losses)	\$1,206,047
Ending Market Value	\$53,475,262

Performance vs Callan Total Domestic Real Estate DB (Gross)

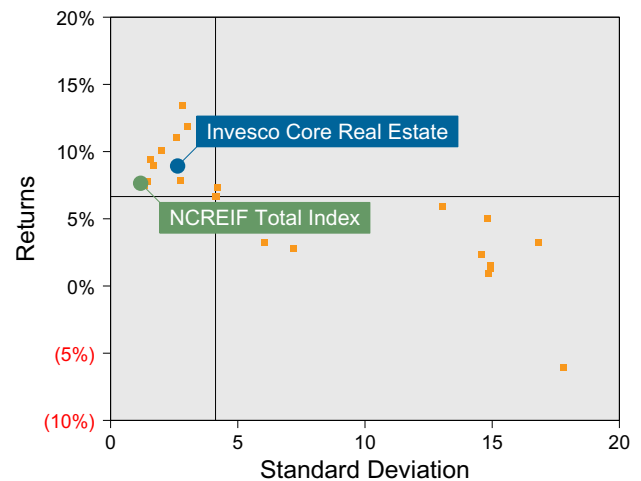


10th Percentile	1.49	5.12	6.18	8.11	8.67	11.56	14.50
25th Percentile	0.44	3.32	4.55	6.13	6.97	8.94	10.70
Median	(5.53)	(3.28)	(2.35)	4.56	5.07	6.65	8.82
75th Percentile	(20.12)	(15.06)	(11.25)	0.45	2.55	2.79	7.41
90th Percentile	(25.54)	(21.67)	(17.79)	(6.10)	0.29	1.07	3.46
Invesco Core Real Estate	● 2.29	4.34	6.60	7.99	7.22	8.93	10.23
NCREIF Total Index	▲ 0.71	3.72	5.28	6.05	6.41	7.65	8.97

Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return



JP Morgan Real Estate Period Ended March 31, 2020

Investment Philosophy

The J.P. Morgan U.S. Real Estate Income and Growth Fund seeks to construct and opportunistically manage a portfolio of core direct real estate investments, complemented by other real estate and real estate-related assets. The Fund pursues a broadly diversified absolute-return strategy and pursues all property investments on an opportunistic basis. The majority of the Fund's investments will be in direct core properties in the office, industrial, retail and residential sectors.

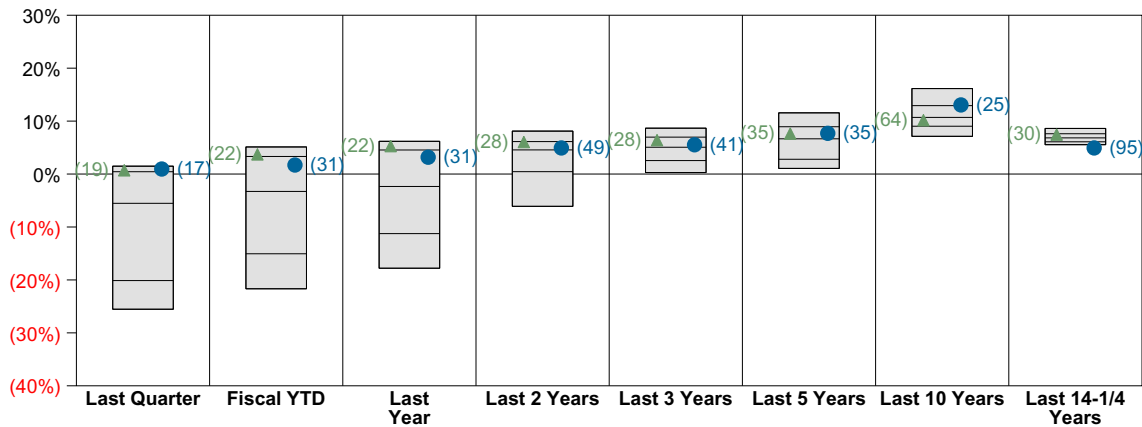
Quarterly Summary and Highlights

- JP Morgan Real Estate's portfolio posted a 0.95% return for the quarter placing it in the 17 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 31 percentile for the last year.
- JP Morgan Real Estate's portfolio outperformed the NCREIF Total Index by 0.24% for the quarter and underperformed the NCREIF Total Index for the year by 2.10%.

Quarterly Asset Growth

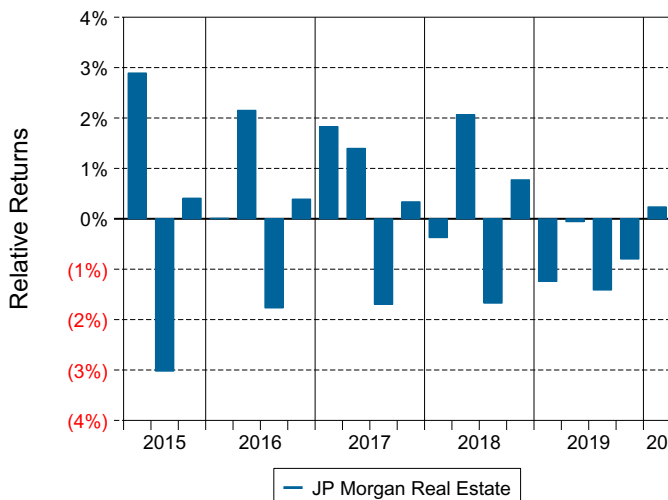
Beginning Market Value	\$47,936,273
Net New Investment	\$-567,335
Investment Gains/(Losses)	\$454,648
Ending Market Value	\$47,823,586

Performance vs Callan Total Domestic Real Estate DB (Gross)

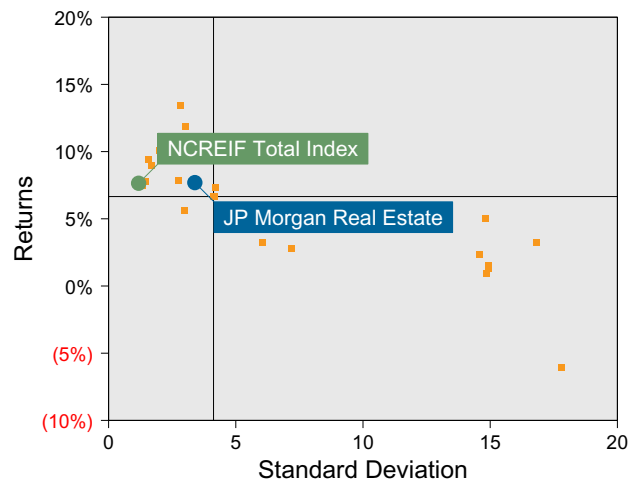


10th Percentile	1.49	5.12	6.18	8.11	8.67	11.56	16.15	8.62
25th Percentile	0.44	3.32	4.55	6.13	6.97	8.94	12.92	7.61
Median	(5.53)	(3.28)	(2.35)	4.56	5.07	6.65	10.70	6.83
75th Percentile	(20.12)	(15.06)	(11.25)	0.45	2.55	2.79	9.03	6.09
90th Percentile	(25.54)	(21.67)	(17.79)	(6.10)	0.29	1.07	7.13	5.55
JP Morgan Real Estate	● 0.95	1.71	3.18	4.93	5.53	7.69	13.05	4.93
NCREIF Total Index	▲ 0.71	3.72	5.28	6.05	6.41	7.65	10.17	7.46

Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return



Western Asset TIPS Period Ended March 31, 2020

Investment Philosophy

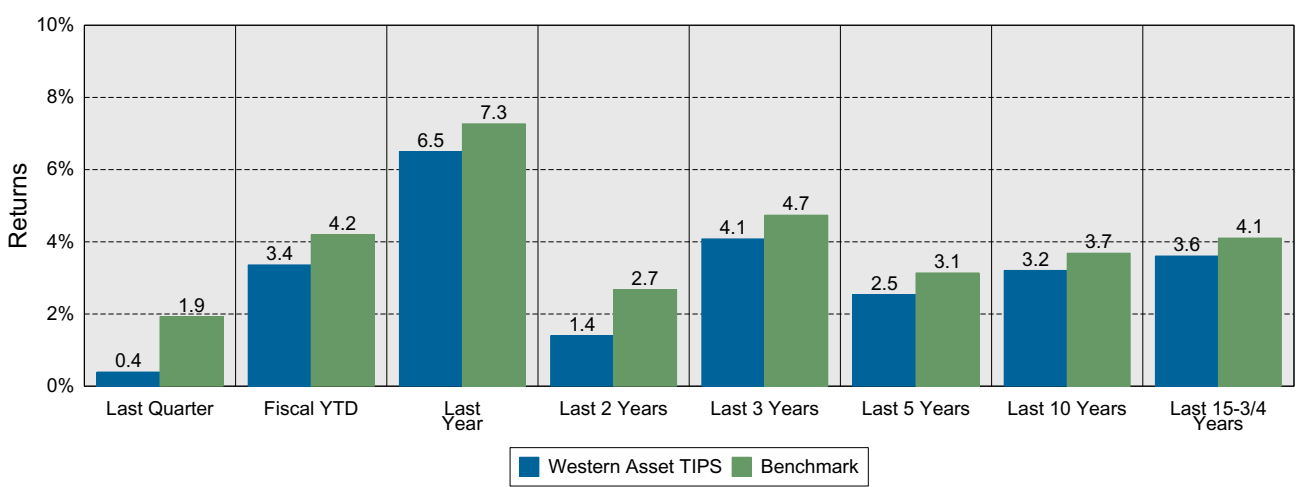
The Western Asset US TIPS Full Discretion strategy is an inflation-protected strategy that aims to maximize total return and add value through duration and curve positioning, sector allocation, and security selection, while approximating benchmark risk. The strategy invests in a diversified portfolio using higher-yielding inflation-protected instruments with a bias toward Treasury Inflation-Protected Securities (TIPS). Opportunistic investments include high-yield, emerging markets, non-dollar securities, commodities and bank loans that may also be employed using derivatives. **Benchmark: Bloomberg US TIPS through 12/31/2009; Bloomberg Global Inflation-Linked through 10/31/2018; Bloomberg US Govt Inflation Linked Bond Index thereafter.**

Quarterly Summary and Highlights

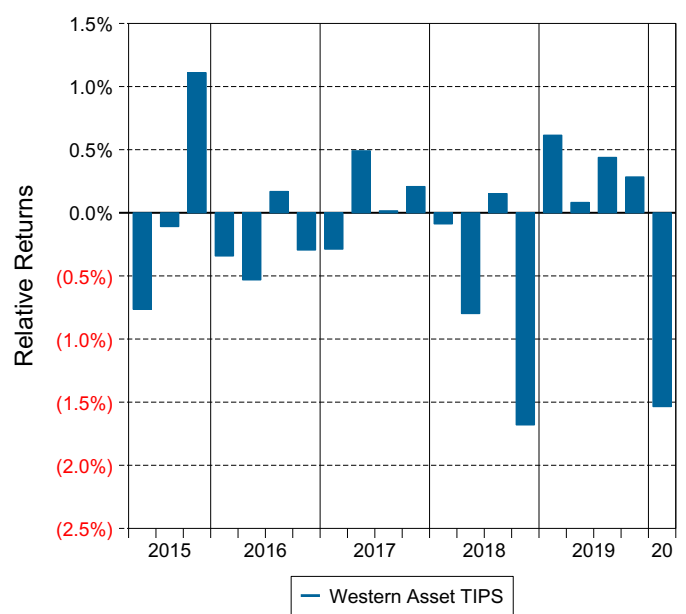
- Western Asset TIPS's portfolio underperformed the Benchmark by 1.54% for the quarter and underperformed the Benchmark for the year by 0.77%.

Quarterly Asset Growth

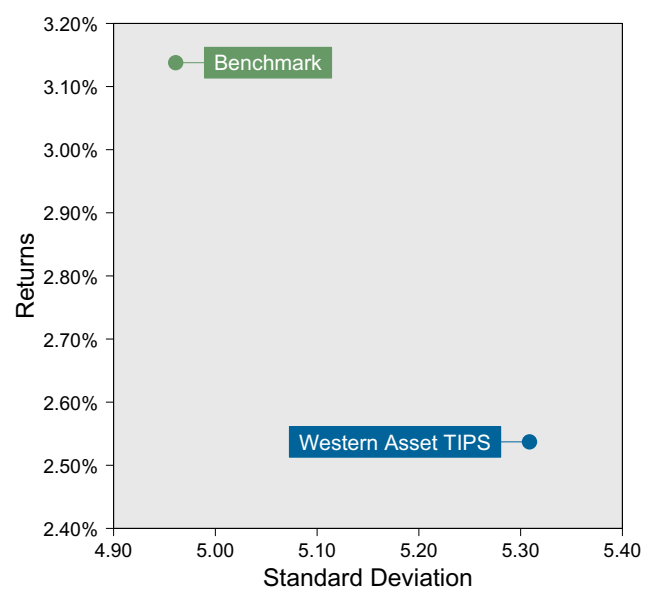
Beginning Market Value	\$143,209,289
Net New Investment	-\$41,147
Investment Gains/(Losses)	\$561,665
Ending Market Value	\$143,729,808



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Eastern Timber Opportunities Period Ended March 31, 2020

Investment Philosophy

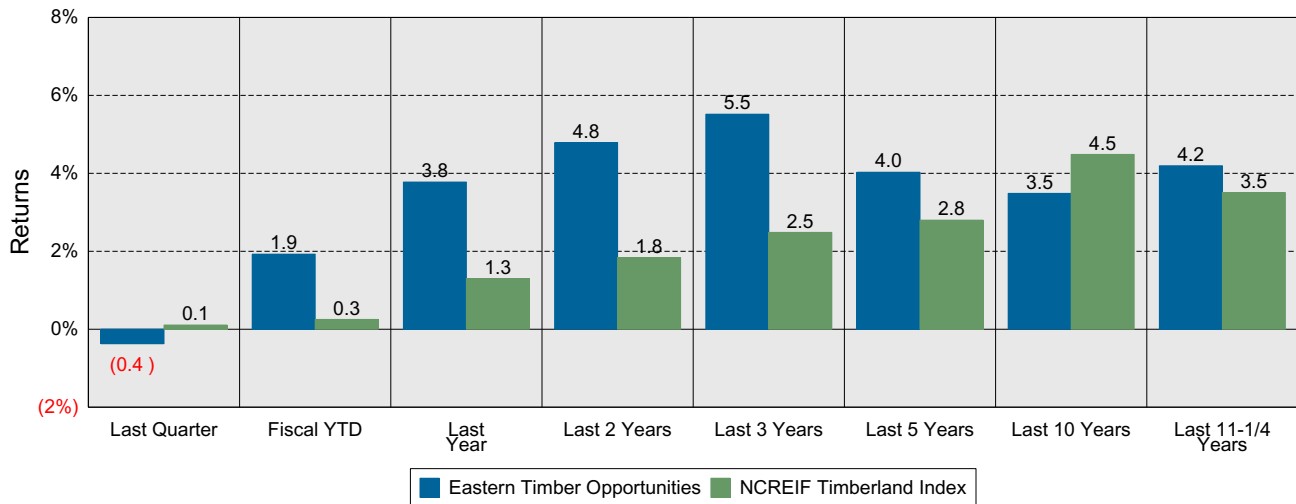
The investment objective of the Eastern Timberland Opportunities fund is to provide competitive timberland investment returns from Eastern US timberland investments by pursuing management strategies to increase timber production and land values through the investment term. TIR will maximize timber values within the portfolio with the application of intensive forest management techniques to accelerate the growth in timber volume and movement into higher value product categories. Additional value will be captured by realizing higher and better use opportunities for select timberland properties throughout the portfolio.

Quarterly Summary and Highlights

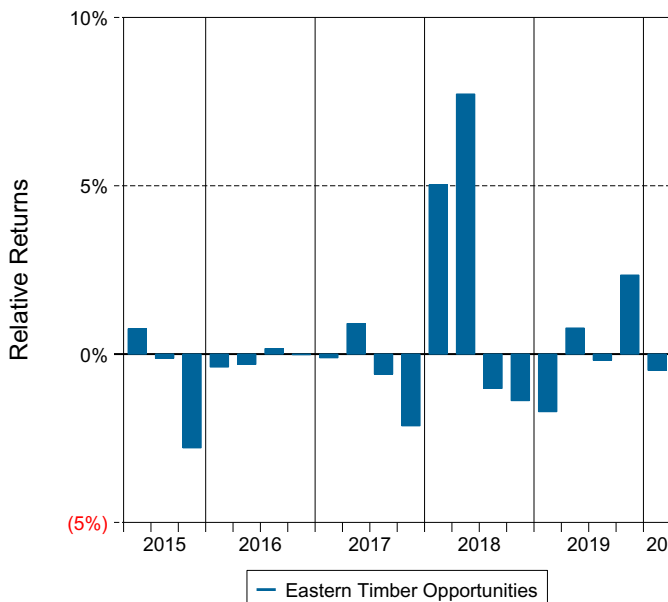
- Eastern Timber Opportunities's portfolio underperformed the NCREIF Timberland Index by 0.48% for the quarter and outperformed the NCREIF Timberland Index for the year by 2.48%.

Quarterly Asset Growth

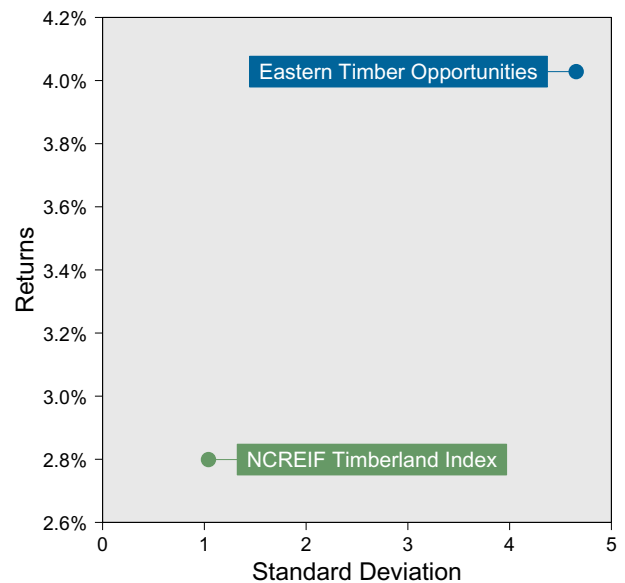
Beginning Market Value	\$55,160,388
Net New Investment	\$0
Investment Gains/(Losses)	\$-205,032
Ending Market Value	\$54,955,356



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



JP Morgan Infrastructure Period Ended March 31, 2020

Investment Philosophy

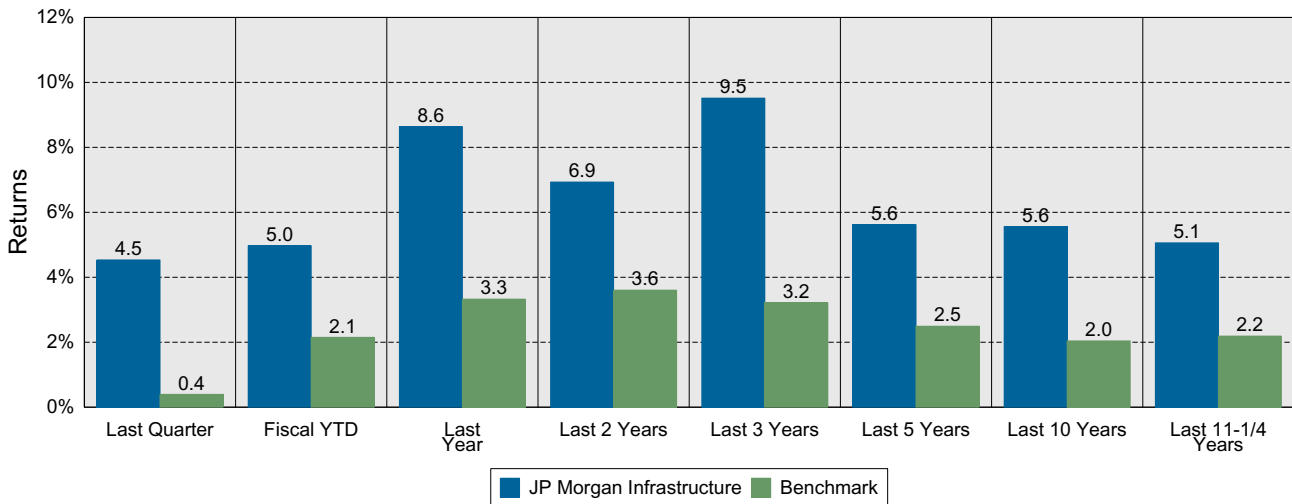
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas pipelines; electricity transmission and distribution facilities; contracted power generation assets; water distribution; waste-water collection and processing; railway lines and rapid rail links; and seaports and airports. **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

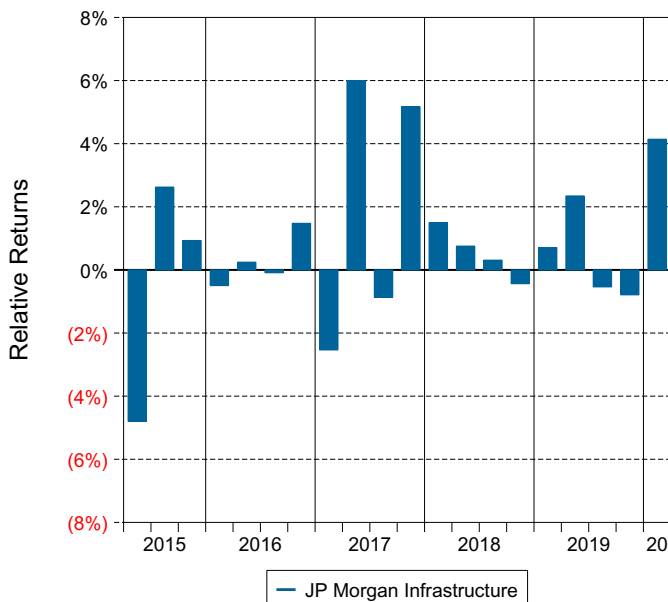
- JP Morgan Infrastructure's portfolio outperformed the Benchmark by 4.14% for the quarter and outperformed the Benchmark for the year by 5.31%.

Quarterly Asset Growth

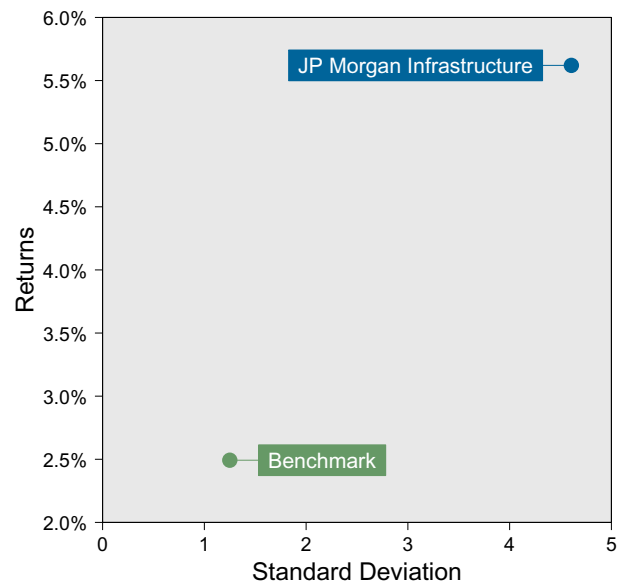
Beginning Market Value	\$42,329,763
Net New Investment	\$-1,877,606
Investment Gains/(Losses)	\$1,916,687
Ending Market Value	\$42,368,844



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Grosvenor Cust. Infrastructure Period Ended March 31, 2020

Investment Philosophy

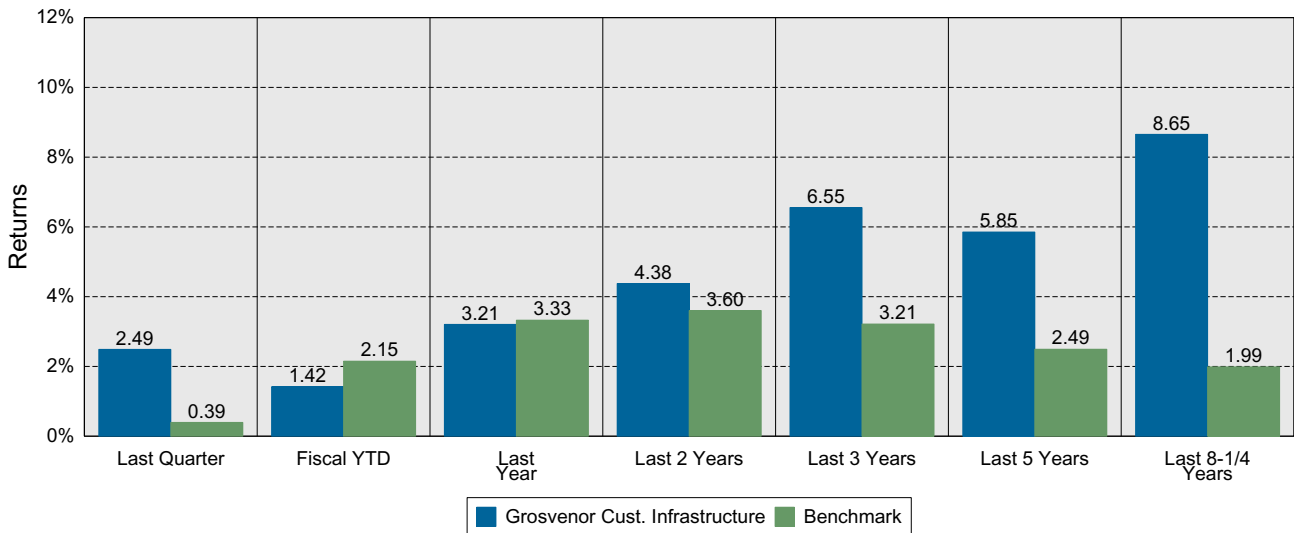
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%). **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

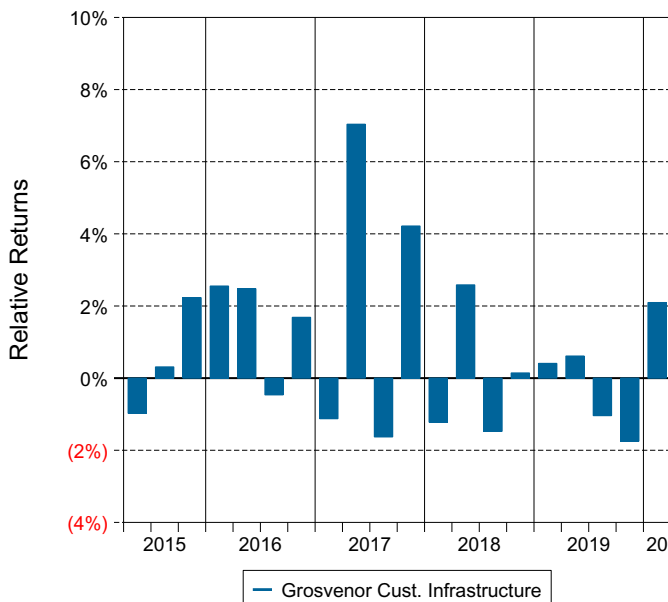
- Grosvenor Cust. Infrastructure's portfolio outperformed the Benchmark by 2.09% for the quarter and underperformed the Benchmark for the year by 0.12%.

Quarterly Asset Growth

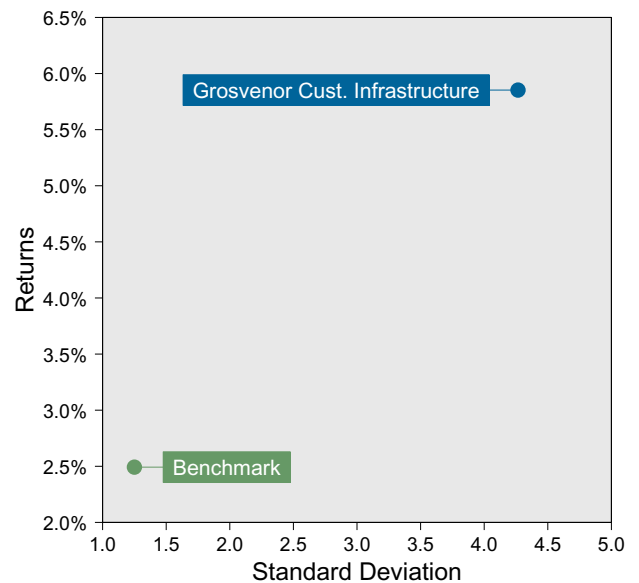
Beginning Market Value	\$11,704,903
Net New Investment	\$-684,712
Investment Gains/(Losses)	\$289,579
Ending Market Value	\$11,309,770



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Short Term Fixed Income Period Ended March 31, 2020

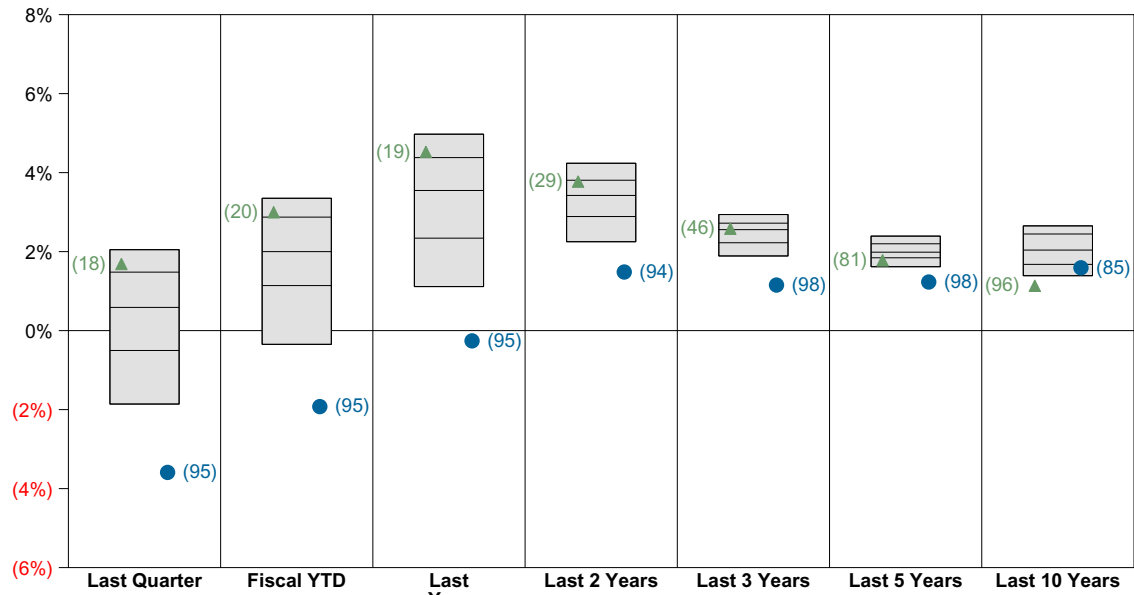
Quarterly Summary and Highlights

- Short Term Fixed Income's portfolio posted a (3.59)% return for the quarter placing it in the 95 percentile of the Callan Short Term Fixed Income group for the quarter and in the 95 percentile for the last year.
- Short Term Fixed Income's portfolio underperformed the Short Term Fixed Target by 5.28% for the quarter and underperformed the Short Term Fixed Target for the year by 4.79%.

Quarterly Asset Growth

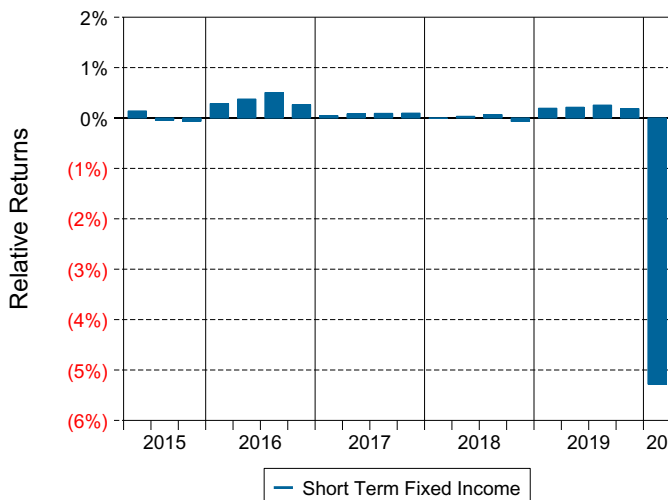
Beginning Market Value	\$697,273,545
Net New Investment	\$46,723,351
Investment Gains/(Losses)	\$-26,682,929
Ending Market Value	\$717,313,967

Performance vs Callan Short Term Fixed Income (Gross)

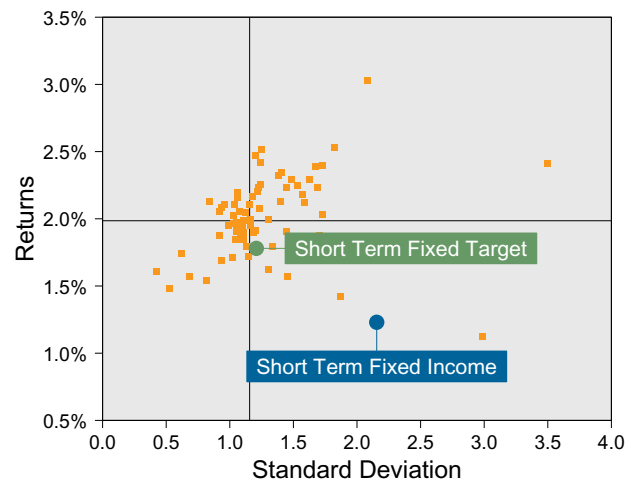


10th Percentile	2.05	3.35	4.97	4.24	2.94	2.39	2.65
25th Percentile	1.48	2.87	4.38	3.81	2.72	2.20	2.45
Median	0.59	2.00	3.55	3.42	2.56	1.99	2.04
75th Percentile	(0.50)	1.14	2.34	2.89	2.22	1.84	1.68
90th Percentile	(1.86)	(0.35)	1.11	2.25	1.89	1.62	1.39
Short Term Fixed Income	● (3.59)	(1.92)	(0.26)	1.48	1.15	1.23	1.59
Short Term Fixed Target	▲ 1.69	3.00	4.53	3.77	2.58	1.78	1.14

Relative Return vs Short Term Fixed Target



Callan Short Term Fixed Income (Gross) Annualized Five Year Risk vs Return



Barings Active Short Duration Period Ended March 31, 2020

Investment Philosophy

Babson's Active Short Duration team employs a total return management style, which dynamically adjusts duration in response to actual yield curve conditions. The approach seeks to take advantage of a variety of relative value opportunities, predominantly in the investment grade universe, which should provide steady income and potential capital appreciation. Value is also added through security selection. The end result is a high quality/short duration portfolio that has historically captured most of the returns of moderate duration bonds.

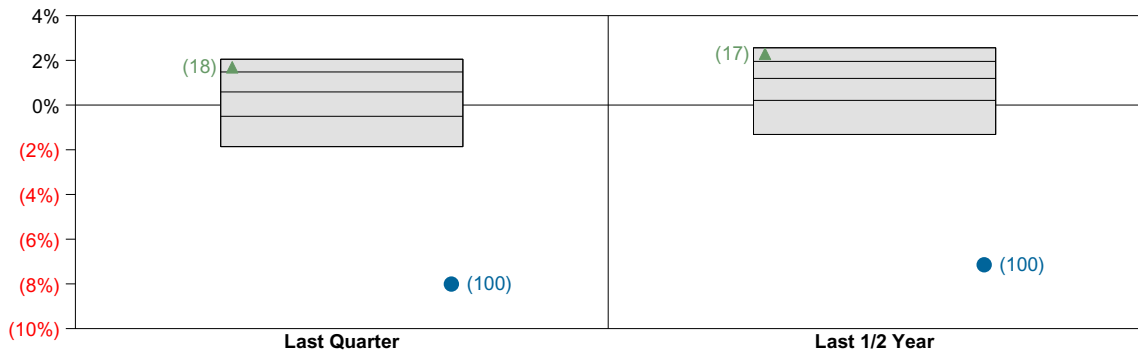
Quarterly Summary and Highlights

- Barings Active Short Duration's portfolio posted a (8.01)% return for the quarter placing it in the 100 percentile of the Callan Short Term Fixed Income group for the quarter and in the 100 percentile for the last one-half year.
- Barings Active Short Duration's portfolio underperformed the Blmbg Gov/Cred 1-3 Yr by 9.70% for the quarter and underperformed the Blmbg Gov/Cred 1-3 Yr for the one-half year by 9.44%.

Quarterly Asset Growth

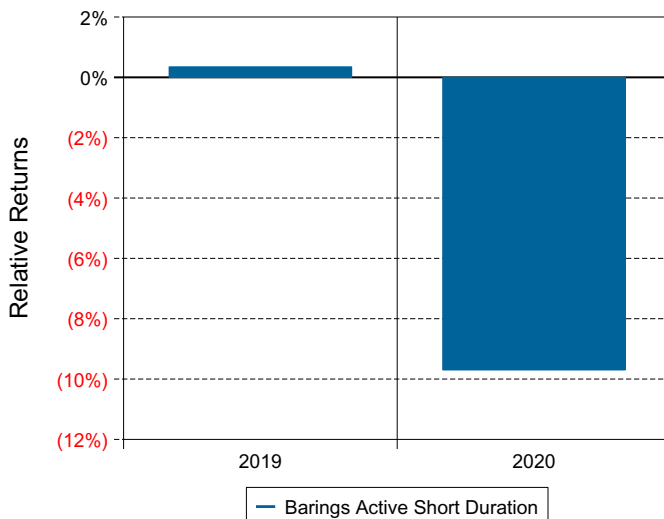
Beginning Market Value	\$350,200,626
Net New Investment	\$23,487,780
Investment Gains/(Losses)	\$-29,598,645
Ending Market Value	\$344,089,762

Performance vs Callan Short Term Fixed Income (Gross)

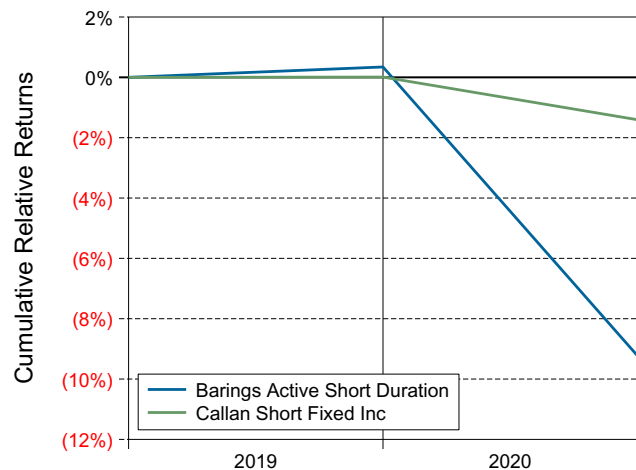


10th Percentile	2.05	2.56
25th Percentile	1.48	1.95
Median	0.59	1.19
75th Percentile	(0.50)	0.21
90th Percentile	(1.86)	(1.32)
Barings Active Short Duration	(8.01)	(7.15)
Blmbg Gov/Cred 1-3 Yr	1.69	2.29

Relative Return vs Blmbg Gov/Cred 1-3 Yr



Cumulative Returns vs Blmbg Gov/Cred 1-3 Yr



JP Morgan Short Term Bonds Period Ended March 31, 2020

Investment Philosophy

The investment objective of this account is to outperform the Barclays Capital 1-3 year Government/Credit Index while maintaining total return risk similar to that of the benchmark as measured over a market cycle. The weighted average effective duration of the portfolio will typically remain within +/- 30% of the benchmark.

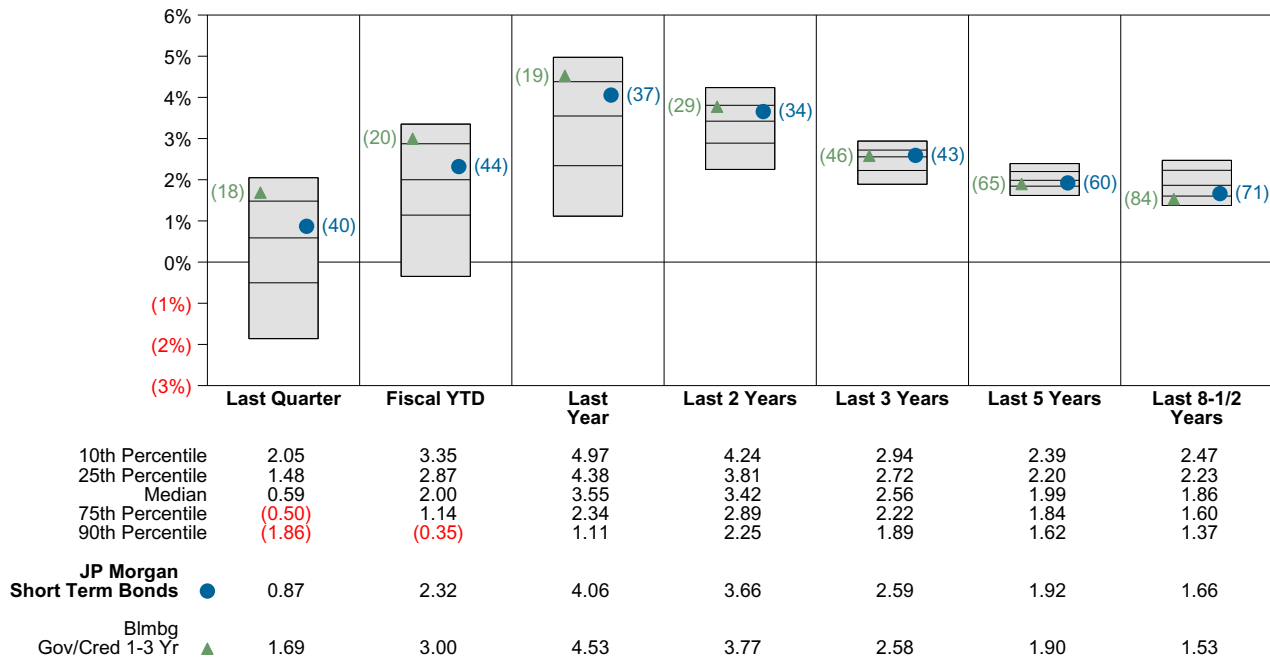
Quarterly Summary and Highlights

- JP Morgan Short Term Bonds's portfolio posted a 0.87% return for the quarter placing it in the 40 percentile of the Callan Short Term Fixed Income group for the quarter and in the 37 percentile for the last year.
- JP Morgan Short Term Bonds's portfolio underperformed the Blmbg Gov/Cred 1-3 Yr by 0.82% for the quarter and underperformed the Blmbg Gov/Cred 1-3 Yr for the year by 0.47%.

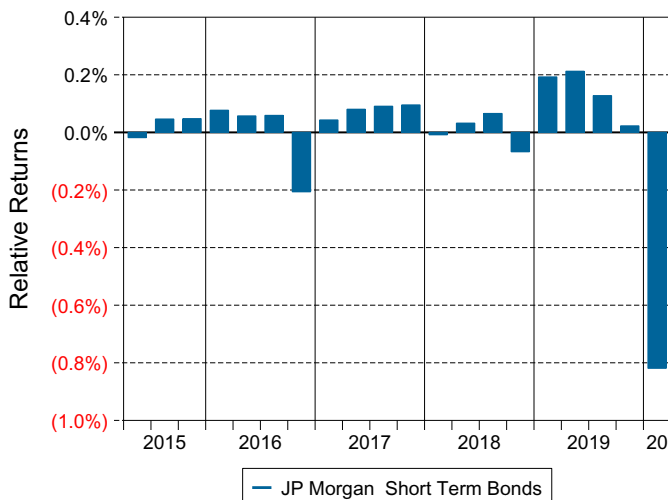
Quarterly Asset Growth

Beginning Market Value	\$347,072,919
Net New Investment	\$23,235,571
Investment Gains/(Losses)	\$2,915,715
Ending Market Value	\$373,224,205

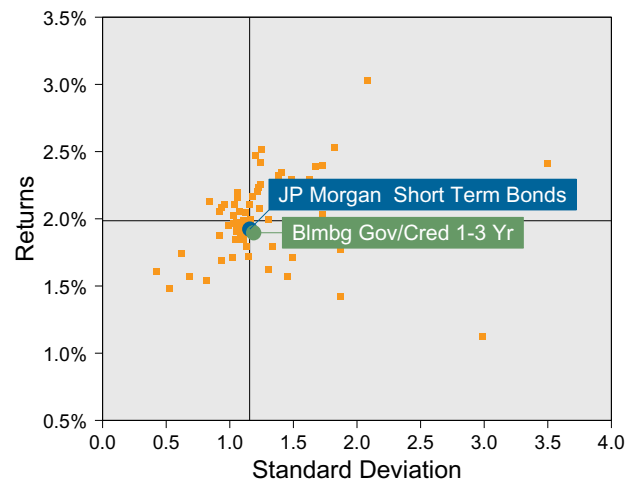
Performance vs Callan Short Term Fixed Income (Gross)



Relative Return vs Blmbg Gov/Cred 1-3 Yr



Callan Short Term Fixed Income (Gross) Annualized Five Year Risk vs Return



Research and Educational Programs

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

[2020 National Workshop Summary: Turbocharging DC Plans](#)

In this workshop, Connie Lee, Jana Steele, and James Veneruso described ways in which defined contribution plan sponsors can improve participant outcomes, including plan design strategies and investment implementation steps.

[2019 Nuclear Decommissioning Funding Study](#) | Callan's annual study offers insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

[2020 National Workshop Summary: Diversifying Alternatives](#)

In this workshop, presenters Pete Keliuotis, Catherine Beard, and Ashley DeLuce discussed three lesser-known alternatives strategies: specialty lending, emerging market private equity, and insurance-linked strategies.

[2020 DC Trends Survey](#) | Callan's *2020 Defined Contribution Trends Survey* is designed to provide a benchmark for sponsors to evaluate their plans compared to peers, and to offer insights to help sponsors improve their plans and the outcomes for their participants.

[How Sponsors Can Harness DC Plan Data for Better Outcomes](#)

Defined contribution (DC) plans are designed to help participants achieve the most beneficial outcomes. But participants' choices may not necessarily reflect asset allocation best practices. Sponsors can help participants by analyzing how investment options are used and make adjustments based on those observations.

[The Callan Periodic Table of Investment Returns](#) | We offer our Periodic Table Collection and the Callan Periodic Table of Investment Returns (Key Indices: 2000-2019).

[Callan's 2020-2029 Capital Market Assumptions](#) | Callan develops capital market assumptions to help clients with their long-term strategic planning. This year, we reduced our fixed income

assumptions to reflect lower starting yields following the Fed pivot in policy, but we held constant our real equity return over inflation.

[2020 National Workshop Summary: Fee Study](#) | In this 2020 workshop, presenters Butch Cliff, Mark Stahl, and Brady O'Connell discussed the major themes of our *2019 Investment Management Fee Study* and their impact on the institutional investor community.

[An Introduction to Our New Hedge Fund Peer Group](#) | The Callan Institutional Hedge Fund Peer Group is designed to help institutional investors better understand alpha-oriented solutions that can diversify their existing stock and bond exposures, and it represents the available pool of hedge fund talent that investors will want to consider, or at least compare with their existing hedge fund portfolios.

Quarterly Periodicals

[Private Equity Trends, 4Q19](#) | A high-level summary of private equity activity in the quarter through all the investment stages

[Active vs. Passive Charts, 4Q19](#) | A comparison of active managers alongside relevant benchmarks over the long term

[Market Pulse Flipbook, 4Q19](#) | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

[Capital Market Review, 4Q19](#) | Analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes

[Hedge Fund Quarterly, 4Q19](#) | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

[Real Assets Reporter, 4Q19](#) | Data and insights on real estate and other real assets investment topics.

Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: www.callan.com/library/

Please mark your calendar and look forward to upcoming invitations:

Upcoming Webinars

May 21 – Hedge Fund Overview

July 8 – China Update

For more information about events, please contact **Barb Gerraty**: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

50+

Unique pieces of research the Institute generates each year

525

Attendees (on average) of the Institute's annual National Conference

3,700

Total attendees of the "Callan College" since 1994

Education

Through the "Callan College," the Callan Institute offers educational sessions for industry professionals involved in the investment decision-making process. It was founded in 1994 to provide both clients and non-clients with basic- to intermediate-level instruction.

Introduction to Investments for Institutional Investors

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including dates and registration can be found at: www.callan.com/callan-college-intro-2/

Alternative Investments for Institutional Investors

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In this one-day session, Callan experts will provide instruction about the importance of allocations to alternatives, and how to integrate, evaluate, and monitor them.

Learn from some of Callan's senior consultants and experts, including Pete Keliuotis, the head of Alternatives Consulting. The session will cover private equity, private credit, hedge funds, real estate, and real assets; why invest in alternatives; risk/return characteristics and liquidity; designing and implementing an alternatives program; and trends and case studies.

Tuition is \$2,000 per person and includes instruction, all materials, and breakfast and lunch with the instructors.

Additional information including dates and registration can be found at: <https://www.callan.com/callan-college-alternatives-2/>



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance Department.

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
CapFinancial Partners, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Chartwell Investment Partners
ClearBridge Investments, LLC

Manager Name
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
D.E. Shaw Investment Management, L.L.C.
DePrince, Race & Zollo, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
GCM Grosvenor
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Green Square Capital Advisors, LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
Income Research + Management, Inc.

Manager Name
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MetLife Investment Management
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Nile Capital Group LLC
Northern Trust Asset Management
Nuveen
P/E Investments
Pacific Investment Management Company
Parametric Portfolio Associates LLC

Manager Name
Pathway Capital Management
Peregrine Capital Management, LLC.
Perkins Investment Management
PFM Asset Management LLC
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Polen Capital Management
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rothschild & Co. Asset Management US
S&P Dow Jones Indices
Schroder Investment Management North America Inc.
SLC Management
Smith Graham & Co. Investment Advisors, L.P.
State Street Global Advisors
Stone Harbor Investment Partners L.P.
Strategic Global Advisors
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
USAA Real Estate
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
WCM Investment Management
WEDGE Capital Management
Wellington Management Company LLP
Wells Fargo Asset Management
Western Asset Management Company LLC
Westfield Capital Management Company, LP
William Blair & Company LLC

March 31, 2020



North Dakota State Investment Board Legacy Fund

**Investment Measurement Service
Quarterly Review**

Information contained herein includes confidential, trade secret and proprietary information. Neither this Report nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose or disseminated to any other person without Callan's permission. Certain information herein has been compiled by Callan and is based on information provided by a variety of sources believed to be reliable for which Callan has not necessarily verified the accuracy or completeness of or updated. This content may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. This content is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation. Past performance is no guarantee of future results. For further information, please see Appendix for Important Information and Disclosures.

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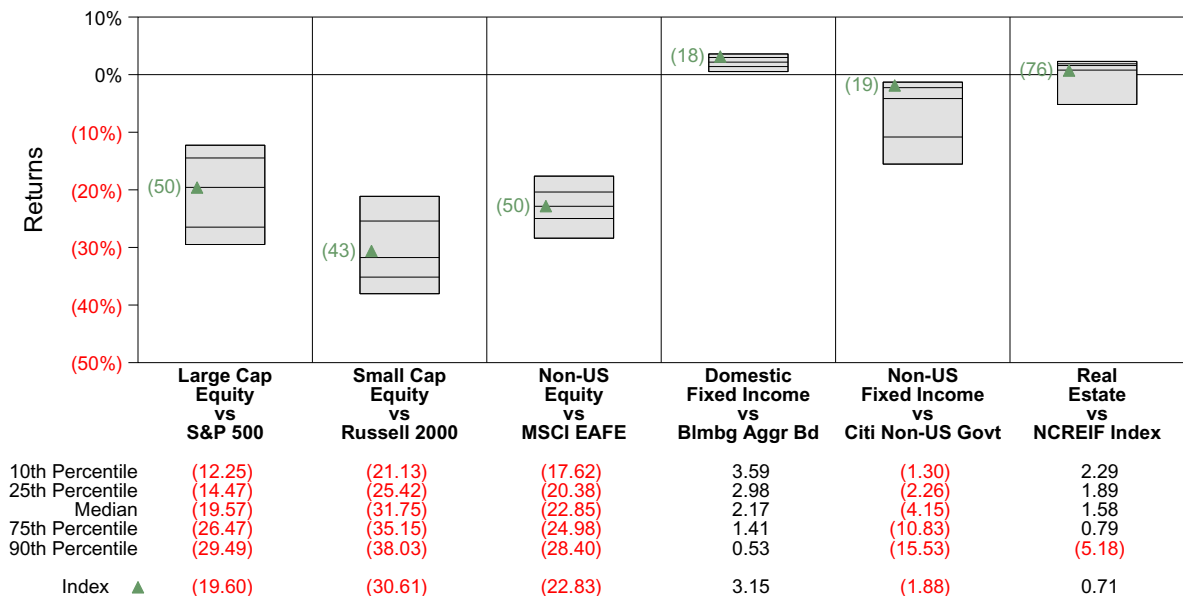
Market Overview

Active Management vs Index Returns

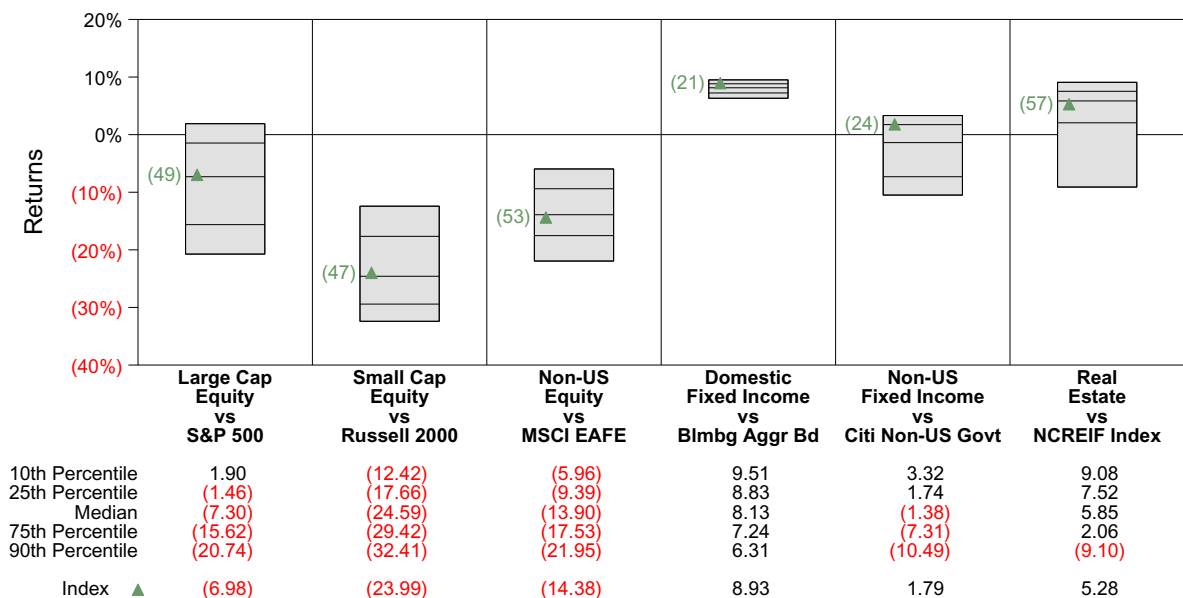
Market Overview

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class One Quarter Ended March 31, 2020



Range of Separate Account Manager Returns by Asset Class One Year Ended March 31, 2020





Pandemic Impact: What Happened?

ECONOMY

2 PAGE The speed at which the response to the pandemic shut down the economy and affected the capital markets was unprecedented. We hit bear market territory for the U.S. stock market in 16 days. The sudden drop in economic activity matched the depth and speed of the market drop.

Results Reflect Initial Impact of COVID-19

INSTITUTIONAL INVESTORS

4 PAGE All four primary types of institutional investors experienced sharp declines in the first quarter and smaller drops for the 12 months ending March 31. Over the last 20 years, all plan types have produced returns in a narrow range of 5.1%-5.3%.

Record Plunge Amid Extreme Volatility

EQUITY

6 PAGE U.S. equities experienced extreme volatility and near-record declines, in terms of speed. Large caps did relatively better; the Russell 2000 experienced its worst quarter ever. Growth continued to perform better vs. value across all market capitalizations.

Market Driven by Search for Safety

FIXED INCOME

8 PAGE Treasuries rallied as investors sought safety. The yield curve steepened as the Fed cut rates. Investment grade and high yield bonds saw record outflows. Global fixed income fell across the board, with the pain especially intense for emerging market debt.

Private RE Positive; Real Assets Hammered

REAL ESTATE/REAL ASSETS

10 PAGE Private real estate rose, due to income gains. Returns are expected to fall in 2Q20 and beyond. Global REITs underperformed equities and bonds. Infrastructure saw record fundraising. Almost all real assets saw GFC-level drops, especially energy-related sectors.

Activity Declines as Public Equity Drops

PRIVATE EQUITY

12 PAGE The public equity market decline slowed every aspect of private equity transaction activity. Valuations are likely to decline when first quarter numbers become available in early July. But historically, private equity has proven resilient in weathering downturns.

Notable Losses Amid Wider Market Plunge

HEDGE FUNDS/MACs

13 PAGE The Credit Suisse Hedge Fund Index lost 9.0% in the first quarter. The Callan Hedge Fund-of-Funds Peer Group slumped 8.1%, net of all fees and expenses. And representing 50 of the largest, broadly diversified hedge funds, the Callan Institutional Hedge Fund Peer Group fell 6.3%.

Index Posts Highest Return Since 2009

DEFINED CONTRIBUTION

15 PAGE The Callan DC Index gained 21.9% in 2019, while the Age 45 Target Date Fund rose 24.0%. TDFs saw the biggest inflows for the quarter, while U.S. large cap equity saw the largest outflows. The allocation to equity hit 70.2%, the highest since the third quarter of 2018.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000



Global ex-U.S. Equity
MSCI ACWI ex USA



U.S. Fixed Income
Bloomberg Barclays Agg



Global ex-U.S. Fixed Income
Bloomberg Barclays Gbl ex US



Sources: Bloomberg Barclays, FTSE Russell, MSCI

What Just Happened?

ECONOMY | Jay Kloepfer

The unprecedented response to the COVID-19 pandemic touched every actor in the global economy: consumers, workers, businesses, shareholders and business owners, renters, property owners, nonprofits, and governments at every level. The worldwide lockdown hit travel, transportation, and retail first, and spending collapsed in March as shelter-in-place orders and steep job losses restricted expenditures. Tax revenues plunged across all levels of government while demand for (and supply of) certain services ballooned. The Federal Reserve and central banks around the globe stepped in at record speed to revive and expand many of the policies developed during the Global Financial Crisis, to provide liquidity and support for financial markets that were seizing up in uncertainty. Governments rushed to offer massive fiscal stimulus to backstop the economy.

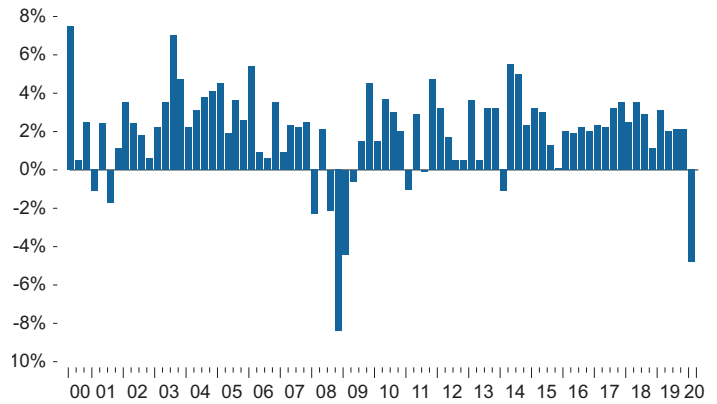
All these actions were taken to address the economic impact of the shutdown. However, these policies can only address the symptoms of the economic dislocation. At its core, this event is a global health crisis, and its resolution depends on the containment of the spread of the virus and a vaccine. The full return of the economy depends on the confidence that we are safe to resume jobs, travel, consumption, and daily interaction. Until then, the global economy will be hampered in ways we can only partly anticipate; the unmeasurable risk of the global health crisis will dominate for some time.

The speed with which the response to the pandemic shut down the economy and devastated confidence in the capital markets was remarkable. We hit bear market territory for the U.S. stock market—defined as a decline of 20%—in 16 days, the second-fastest drop in history (dating back to the Great Depression), only missing the record by a day. We hit a bottom on March 23, when the U.S. market was down almost 34%. Equity markets around the globe were down by at least the same amount.

The U.S. economy finished February in pretty good shape, trending to a GDP growth rate for the first quarter of just above 2% annualized, with unemployment at a generational low of

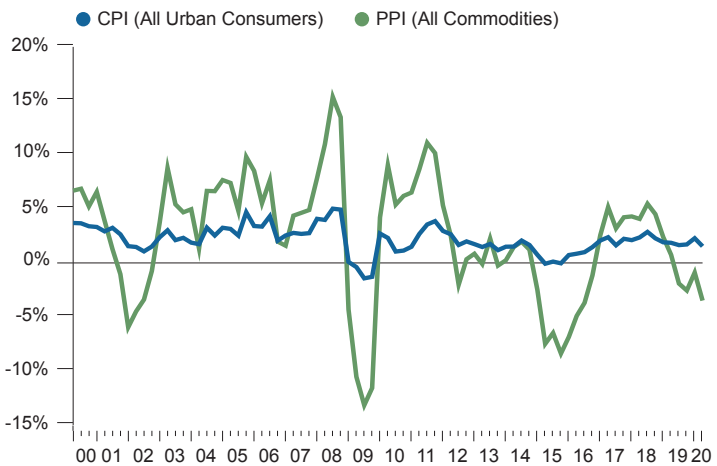
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

3.5%. In a matter of weeks, as efforts to address the spread of the virus were enacted quickly, the sudden drop in economic activity matched the depth and speed of the stock market drop. The national emergency was declared March 13, most shelter-in-place orders came over the next couple of weeks, and the economic impact was sudden and severe.

Initial unemployment claims came in at 211,000 the first week of March, at trend for the year, and moved up to 282,000 in the second week, normally an alarming increase of 34%. However,

claims then shot up to 3.3 million the next week and doubled again to 6.9 million the following week. While my commentary is focused on the first quarter, it is important to note that through the fourth week of April, claims have reached almost 30 million in just six weeks. Economic activity hit a serious bump after March 13, with 2½ weeks left in the quarter. The loss in this short period to GDP pulled growth from 2% as March began to a fall of 4.8% for the first quarter, a swing of almost 7% in less than three weeks. This was the largest quarterly decline since the fourth quarter of 2008.

As large and surprising as the first quarter drop may be, a much steeper plunge is in store for the U.S. and the rest of the global economy in the second quarter. Consensus projections are for second quarter GDP to fall by up to 35% (annual rate), and for consumption to fall by more than 40%. These numbers would be cartoonish, if they weren't so dire.

The pullback in business activity, employment, labor income, and subsequently in consumption is without modern parallel, and the usual measures of gauging economic activity must be viewed through a new lens to gain meaning. Percent changes in GDP around a cataclysmic event like this are difficult to grasp and not very helpful; a more useful approach will be to compare levels now and in the future versus pre-COVID. Percent change is more useful in describing an economy moving smoothly through normal cycles of expansion and recession.

On a hopeful note, in the words of Dr. Anthony Fauci, “this pandemic will be over, I promise.” The monetary and fiscal response is massive and is keeping markets liquid. The S&P 500 was down 20% through March, but has retreated to a loss

The Long-Term View

Index	2020 1st Qtr	Periods Ended 3/31/20			
		Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	-20.9	-9.1	5.8	10.1	8.8
S&P 500	-19.6	-7.0	6.7	10.5	8.9
Russell 2000	-30.6	-24.0	-0.2	6.9	7.6
Global ex-U.S. Equity					
MSCI EAFE	-22.8	-14.4	-0.6	2.7	4.0
MSCI ACWI ex USA	-23.4	-15.6	-0.6	2.1	--
MSCI Emerging Markets	-23.6	-17.7	-0.4	0.7	--
MSCI ACWI ex USA Small Cap	-29.0	-21.2	-0.8	2.8	4.6
Fixed Income					
Bloomberg Barclays Agg	3.1	8.9	3.4	3.9	5.5
90-Day T-Bill	0.6	2.3	1.2	0.6	2.4
Bloomberg Barclays Long G/C	6.2	19.3	6.0	8.1	7.9
Bloomberg Barclays GI Agg ex US	-2.7	0.7	2.0	1.4	3.8
Real Estate					
NCREIF Property	0.7	5.3	7.6	10.2	9.3
FTSE Nareit Equity	-27.3	-21.3	-0.3	7.4	9.2
Alternatives					
CS Hedge Fund	-9.0	-4.3	0.2	3.0	7.4
Cambridge PE*	5.7	16.6	12.8	13.7	15.3
Bloomberg Commodity	-23.3	-22.3	-7.8	-6.7	0.6
Gold Spot Price	4.8	23.0	6.2	3.7	5.8
Inflation – CPI-U	0.4	1.5	1.8	1.7	2.2

*Data for most recent period lags by a quarter. Data as of Dec. 31, 2019.
Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices, Refinitiv/Cambridge

of 12% year-to-date through April, and the index is now at a level comparable to both September 2019 and one year ago. Finally, we will adapt and learn to live and work safely, just as we learned to fly safely after 9/11.

Recent Quarterly Economic Indicators

	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18
Employment Cost–Total Compensation Growth	2.8%	2.7%	2.8%	2.7%	2.8%	2.9%	2.8%	2.8%
Nonfarm Business–Productivity Growth	-2.5%	1.2%	-0.3%	2.6%	3.8%	0.5%	1.6%	2.0%
GDP Growth	-4.8%	2.1%	2.1%	2.0%	3.1%	1.1%	2.9%	3.5%
Manufacturing Capacity Utilization	73.5%	75.0%	75.4%	75.5%	76.4%	77.0%	76.9%	76.4%
Consumer Sentiment Index (1966=100)	96.4	97.2	93.8	98.4	94.5	98.2	98.1	98.3

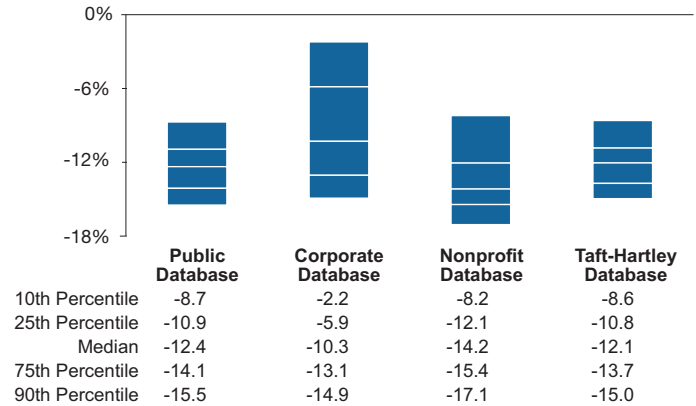
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Results Reflect the Initial Impact of the Pandemic

INSTITUTIONAL INVESTORS

- All four primary types of institutional investors experienced sharp declines in the first quarter and smaller drops for the 12 months ending March 31. A quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio declined 10.9% during the quarter and 0.4% over the year. Equities, represented by the S&P 500 Index, experienced a much-sharper decline of 19.6%.
- Over the one-year period, corporate defined benefit (DB) plans showed the smallest decline, nonprofits the sharpest.
- Over longer time periods, corporate DB plans have been the best performers. But over the last 20 years, all plan types have produced returns in a narrow range of 5.1%-5.3%, in line with the performance of the blended equities/ fixed income benchmark.
- Entering the year, the primary fear for institutional investors was an equity market downturn. Those fears were of course realized.
- In the wake of the pandemic-induced bear market, investors are turning their attention to rebalancing their portfolios and managing liquidity needs.

Quarterly Returns, Callan Database Groups



Source: Callan

- Investors are also reevaluating the purpose and implementation of all diversifiers, including real assets, hedge funds and liquid alternatives, fixed income, and private assets.
- At this point, the depth and magnitude of the downturn and the recession remain unknown.

Callan Database Median and Index Returns* for Periods Ended 3/31/20

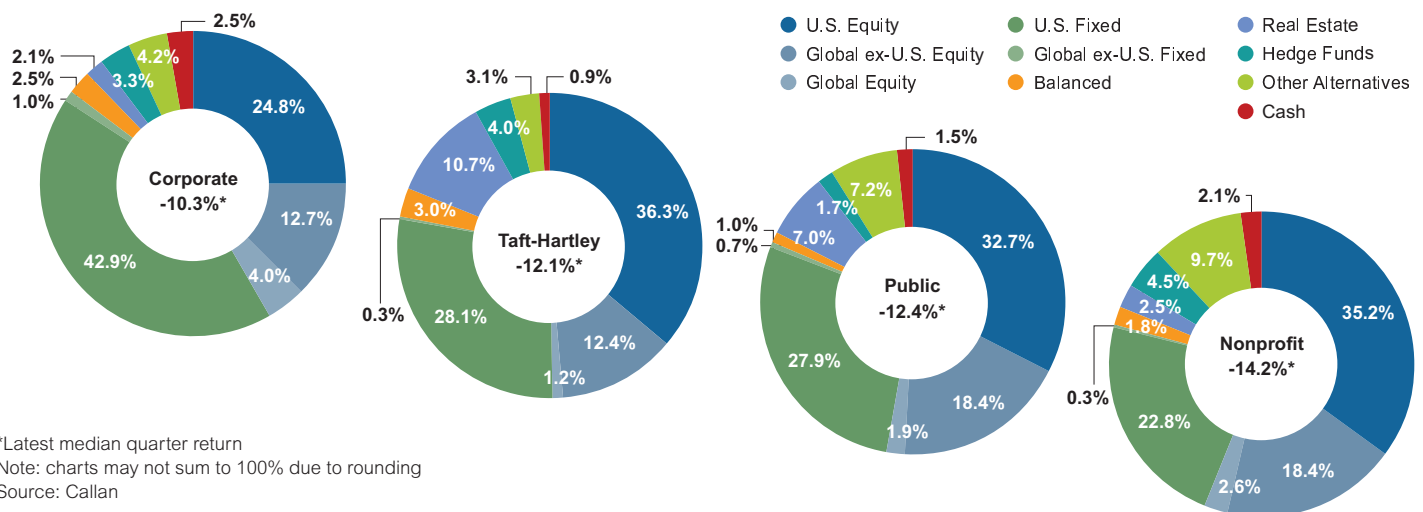
Database Group	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Public Database	-12.35	-4.10	3.19	3.88	6.41	5.77
Corporate Database	-10.29	-0.77	4.24	4.29	6.88	6.08
Nonprofit Database	-14.17	-5.81	2.50	3.21	6.08	5.67
Taft-Hartley Database	-12.05	-4.07	3.36	4.23	6.83	5.68
All Institutional Investors	-12.53	-4.24	3.20	3.81	6.55	5.80
Large (>\$1 billion)	-10.98	-2.61	3.88	4.25	6.89	6.06
Medium (\$100mm - \$1bn)	-12.48	-4.31	3.31	3.94	6.52	5.77
Small (<\$100 million)	-13.48	-5.01	2.78	3.36	6.21	5.66

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

- Our counsel to investors: stay the course, rebalance, manage liquidity, evaluate portfolio segments and strategies for impairment or unexpected performance, and watch for opportunities, both inside your portfolio and across the markets.
- Not surprisingly, the coronavirus pandemic and related market upheaval dominated the attention of investors:
 - Risk management and volatility were common concerns for all institutional investors.
 - **Public DB plans:** Rebalancing was a recurring theme, as was the related issue of liquidity. Across nearly all asset classes, plans showed limited interest in making changes to their strategic allocations.
 - **Corporate DB plans:** Many were trying to address the challenges caused by changes in their funded status. A large share of plans continued to implement the process of de-risking. The decline in rates since October 2018 demonstrated the benefit to de-risking with respect to matching interest rate risk. The plunge in rates through March 2020 obscures the impact of spread widening; the effect on funded status and LDI match is uncertain and variable.
- **DC plans:** Sponsors focused on communication to help participants affected by the economic shutdown. They were also trying to determine the effects of the SECURE and CARES Acts. Both make major changes to the regulatory environment for DC plans. While fees continued to be the top issue, concerns about plans' investment structures climbed. The active/passive debate continues, but it is more muted and likely to stay that way as plans focus on the impact of the coronavirus pandemic.
- **Nonprofits:** A key concern for some of these organizations was the impact of an economic slowdown on the organization: less tuition for colleges and fewer donations for churches. Nonprofits also had little interest in changing their strategic allocations, although there was interest in alternative beta/enhanced index products and unconstrained fixed income.
- Investors are already discussing opportunities in fixed income coming from the market dislocation and the policy response around the globe. The biggest question to answer: If opportunistic fixed income is to be pursued, from where do you fund it? Do you expect it to outperform equity? Do you risk up your fixed income in response to a zero interest rate policy that is back in place?

Average Asset Allocation, Callan Database Groups



Equity

U.S. Equities

During the 1st quarter of 2020, the COVID-19 pandemic coupled with an oil price war between Saudi Arabia and Russia spurred extreme global market volatility, which was further exacerbated by the realization that a shelter-in-place mandate was required to overcome the spread of the disease, subsequently inducing an all-but-certain global recession.

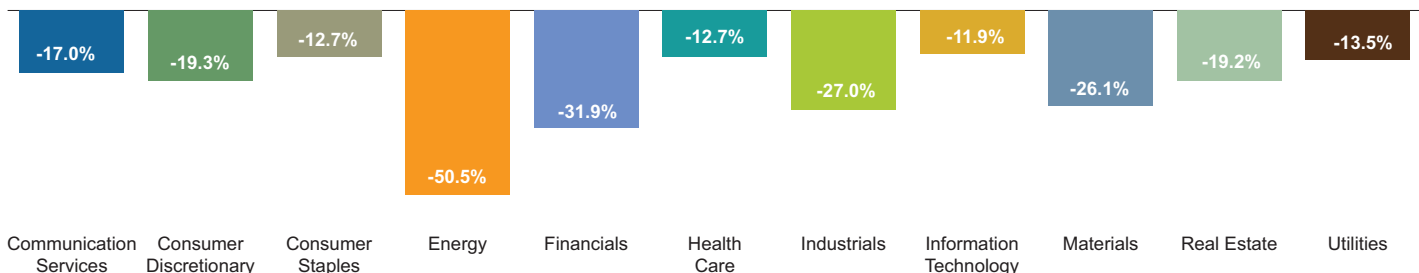
Large cap ► Russell 2000: -30.6% | Russell 1000: -20.2%

- Cyclical were punished while Technology, Staples, and Health Care were more resilient.
- Energy (-50.5%) plunged as demand declined and OPEC and Russia refused to cut production, driving down oil prices globally.
- Financials (-31.9%) and Industrials (-27.0%) fell sharply as interest rates were cut by the Fed in an emergency session, combined with expectations of a steep GDP decline because of COVID-19.
- Technology fared the best (-11.9%). The FAAMG stocks had an average return of -7.9% in 1Q, led by Amazon (+5.5%) and Microsoft (+0.3%); Health Care (-12.7%) and Consumer Staples (-12.7%) also held up better than the index average.

Large cap outpaced small cap for the quarter

- The Russell 2000 (-30.6%) experienced its worst quarter on record.
- The perceived safety of larger companies combined with more acute exposure to COVID-19 impact (e.g., restaurants, hotels, airlines, REITs) drove the sell-off.

Quarterly Performance of Industry Sectors



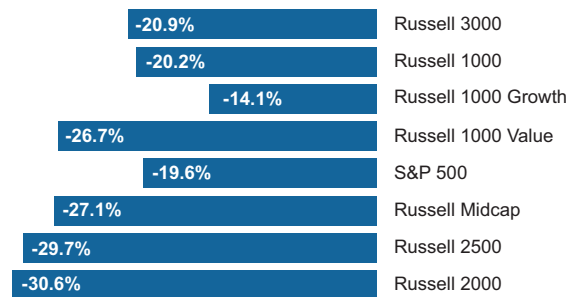
Source: S&P Dow Jones Indices

- The performance of the Russell 2000 Value (-35.7%) was driven by its exposure to Energy (especially exploration and production companies) and Financials (banks).

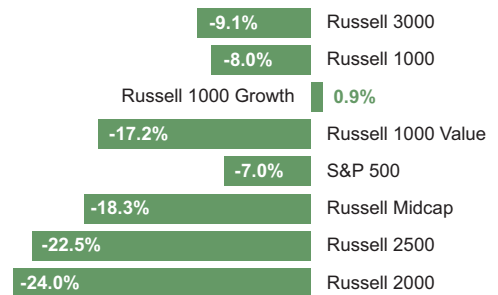
Growth outpaces value across market capitalizations

- The spread between Russell 1000 Growth (-14.1%) and Russell 2000 Value (-35.7%) was one of the widest ever.
- Russell MidCap Value (-0.8%) and Russell 2000 Value (-2.4%) now have negative annualized returns over a trailing five-year time period.

U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



Sources: FTSE Russell and S&P Dow Jones Indices

Global/Global ex-U.S. Equity

The COVID-19 pandemic coupled with the oil price war between Saudi Arabia and Russia injected significant volatility into the global equity markets, with most major indices entering bear market territory.

Global/Developed ex-U.S. ► *MSCI EAFE: -22.8% | MSCI World ex USA: -23.3% | MSCI ACWI ex USA: -23.4% | MSCI Japan: -16.8% | MSCI Pacific ex Japan: -27.6%*

- Fears of the pandemic and a global recession stoked the worst quarterly sell off since 2008 as economic activity halted worldwide.
- The oil price war further exacerbated the market meltdown, bidding up safe-haven assets and currencies.
- The U.S. dollar outperformed the euro, the British pound, and other major currencies, while underperforming the Swiss franc and Japanese yen.
- Every sector posted negative returns, led by cyclicals like travel-related industries, Energy, and Financials given the state of the economy and oil prices.
- Defensive sectors generally were under less pressure as demand for basic necessities to function (i.e., e-commerce and mobility) and combat the pandemic (i.e., diagnostics and treatment) helped stabilize Health Care, Consumer Staples, and Information Technology.
- Factor performance in developed ex-U.S. markets reflected risk aversion, including beta, size, and volatility.

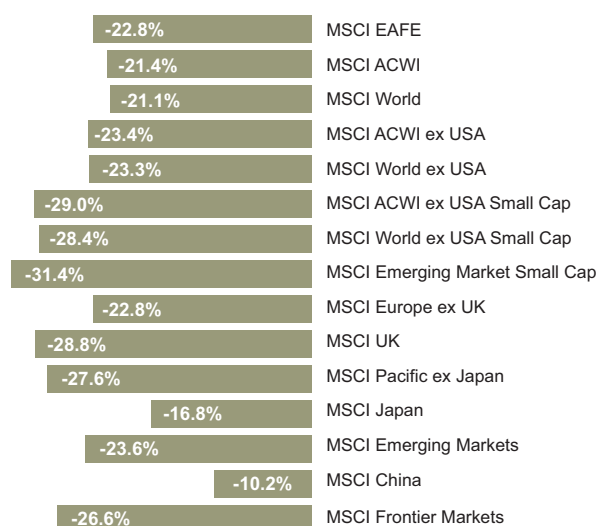
Emerging Markets ► *MSCI Emerging Markets Index: -23.6%*

- Decisive actions to contain the pandemic and stimulate the economy allowed China to outperform every developed and developing country.
- A looming global recession and the collapse in oil prices decimated commodities-levered economies like Brazil, South Africa, and Russia.
- Every sector posted negative returns, led by cyclicals such as travel-related industries, Energy, and Financials.
- Defensive sectors generally were under less pressure as demand for basic necessities and for diagnostics and treatment helped stabilize Health Care, Consumer Staples, and Information Technology.

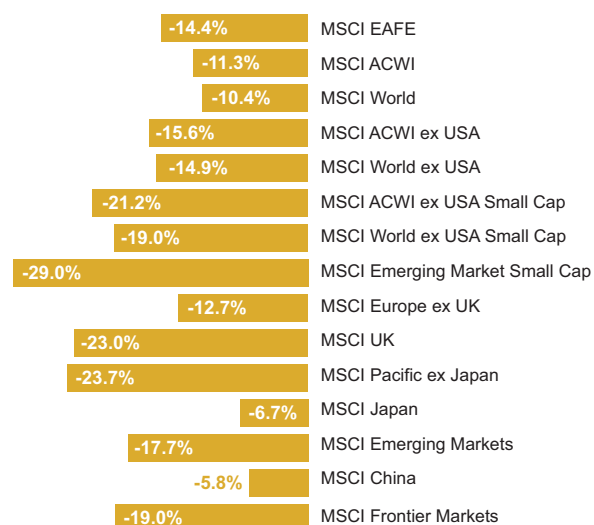
Global ex-U.S. Small Cap ► *MSCI World ex USA Small Cap: -28.4% | MSCI EM Small Cap: -31.4%*

- “Risk-off” market environment challenged small cap relative to large cap in both developed and emerging markets.
- Growth significantly outperformed value both within developed and emerging markets, supported by strong performance in Health Care, Consumer Staples, and Information Technology.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar)



Source: MSCI

Fixed Income

U.S. Fixed Income

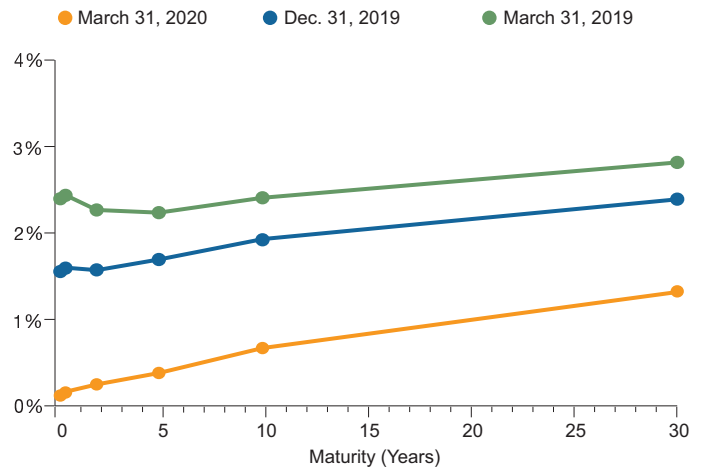
Treasuries rallied as investors sought safety

- The 10-year U.S. Treasury yield reached a low in March of 0.31% before closing the quarter at 0.70%, down sharply from the 2019 year-end level of 1.92%.
- The Treasury yield curve steepened as the Fed cut rates to 0%-0.25%.
- TIPS underperformed nominal Treasuries as expectations for inflation sank. The 10-year breakeven spread ended the quarter at 87 basis points, down sharply from 177 bps at year-end.

Investors spurned credit risk

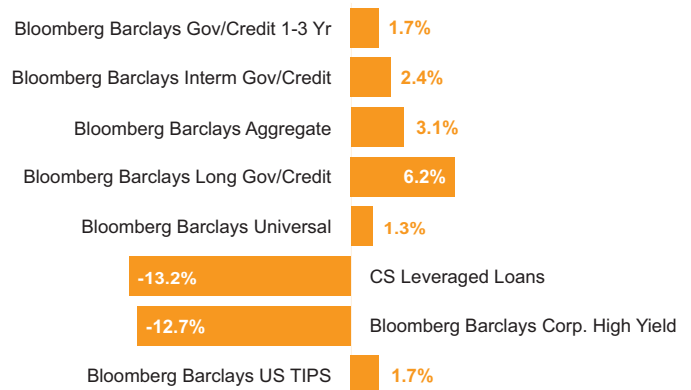
- Investment grade and high yield bond funds experienced record outflows as investors flocked to cash.
- Investment grade corporate spreads widened by 149 bps to 272 bps, representing the hardest hit sector in the Bloomberg Barclays US Aggregate Bond Index, particularly within Industrials, where several well-known issuers were downgraded to below investment grade, including Occidental Petroleum and Ford.
- The quality bias was evident as BBB-rated credit (-7.4%) underperformed single A or higher (+0.5%).
- CCC-rated high yield corporates (-20.6%) lagged BB-rated corporates (-10.2%).
- Energy (-38.9%) was the lowest-performing high yield bond sub-sector as oil prices collapsed.
- Most securitized sectors underperformed U.S. Treasuries.
- Bloomberg Barclays CMBS (+1.2%) and Bloomberg Barclays MBS (+2.8%) gained, while Bloomberg Barclays ABS declined (-0.2%).

U.S. Treasury Yield Curves



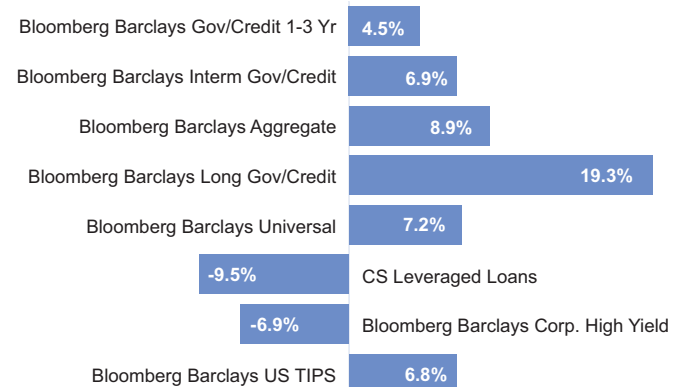
Source: Bloomberg

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

Global Fixed Income

Most indices fell by double digits

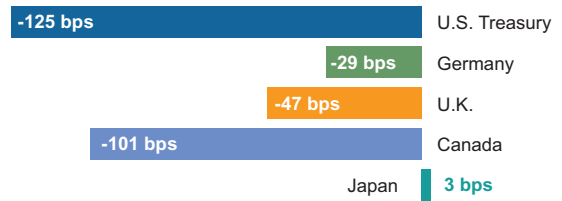
- Developed market sovereign bond yields ended the quarter slightly higher even as central banks stepped in to provide support to their economies; the European Central Bank launched a €750 billion stimulus program and the Bank of England cut interest rates.
- The U.S. dollar rose against the Australian dollar, British pound, and euro as investors sought safety within the greenback.

EM debt plummeted in the risk-off environment

- Within the dollar-denominated benchmark, returns were mixed amongst its 60+ constituents.
- Within the local currency-denominated benchmark, several local market returns in Latin America dropped about 20% (Brazil, Mexico, and Colombia), and South Africa plunged 29% as oil-sensitive economies suffered from the fall in oil prices.

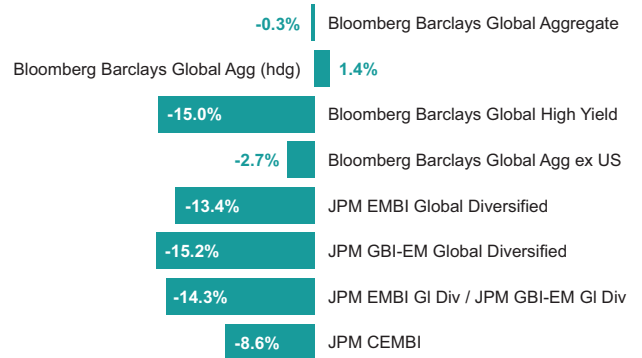
Change in 10-Year Global Government Bond Yields

4Q19 to 1Q20



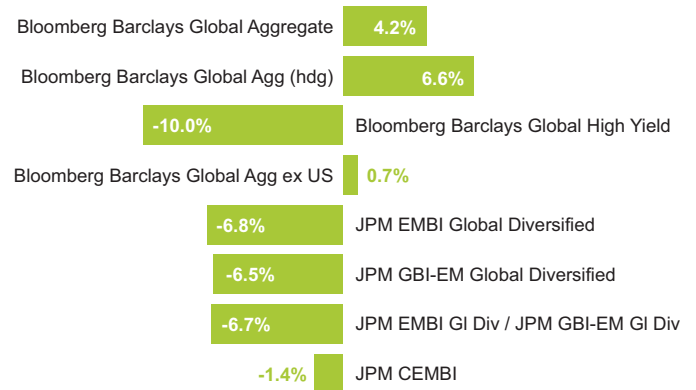
Source: Bloomberg Barclays

Global ex-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Global ex-U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Private RE Returns Positive, but Likely to Change; Real Assets Hammered

REAL ESTATE/REAL ASSETS | Sally Haskins and David Welsch

Private real estate results positive due to income

- Initial impact of pandemic reflected in 1Q20 results
- Positive return due to income
- Industrial real estate performed well.
- Retail depreciation accelerated this quarter.
- The dispersion of returns by manager within the NCREIF ODCE Index was due to the composition of underlying portfolios but also valuation methodologies and approaches.
- Negative returns expected for the second quarter and beyond.

How the pandemic is affecting fundamentals

- Vacancy rates for all property types in the U.S. are or will be impacted.
- There has been limited change in net operating income, but the second quarter will show declines.
- April rent collections show malls severely impacted followed by other types of retail. Class A/B urban apartments are relatively strong, followed by certain types of industrial and office.
- Supply was in check prior to the pandemic.
- Construction is limited to finishing up existing projects but has been hampered by shelter-in-place orders and material shortages.
- New construction will be basically halted in future quarters except for pre-leased properties.
- Transaction volumes were healthy in the first part of the quarter, but dropped off at quarter end and ground to a halt thereafter, with deals being canceled even when there were material non-refundable deposits.
- Cap rates remained steady during the quarter. The spread between cap rates and 10-year Treasuries is relatively high, leading some market participants to speculate that cap rates will not adjust much. Price discovery is happening and there are limited transactions.
- Callan believes the pandemic may cause a permanent repricing of risk across property types. Property types with more reliable cash flows will experience less of a change in cap rates; however, those with less reliable cash flows will see greater adjustments.

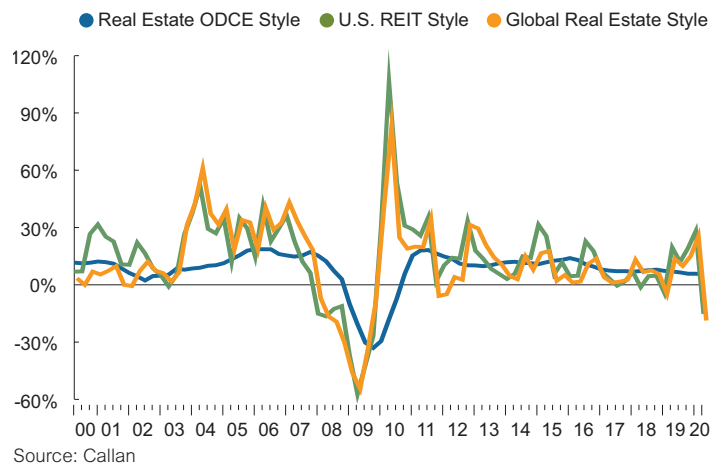
Global REITs underperformed vs. equities and bonds

- Global REITs plunged 28.5% in 1Q20 compared to a 21% drop for global equities (MSCI World).
- U.S. REITs fell 27.3% in 1Q20, lagging the S&P 500 Index, which was off 19.6%.
- Globally REITs are trading at a significant discount to NAV; in most regions the discount is at a five-year low.
- All property types except for data centers, cell towers, and life science are trading at the bottom of their range.

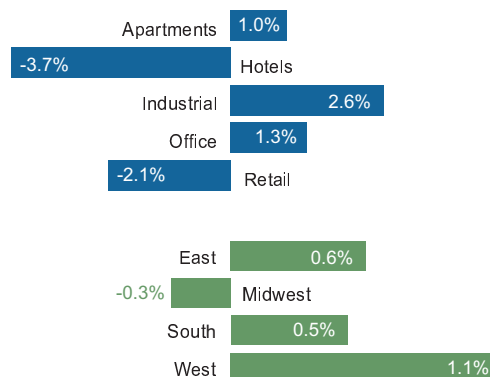
Infrastructure sees near-record fundraising

- 1Q20 was the third-largest quarter for closed-end infrastructure fundraising. The closed-end fund market continues to expand, with infrastructure debt, emerging markets, and

Rolling One-Year Returns



Sector Quarterly Returns by Property Type and Region



Source: NCREIF

REAL ESTATE/REAL ASSETS (Continued)

sector-specific strategies (e.g., communications and renewables). Investor interest in mezzanine or debt-focused funds has increased.

- Open-end funds raised significant capital in 2019, and the universe of investable funds continues to increase as the sector matures.
- In 2020 assets with guaranteed/contracted revenue or more inelastic demand patterns (e.g., renewables, telecoms, utilities) fared better than assets with GDP/demand-based revenue (e.g., airports, seaports, midstream-related).

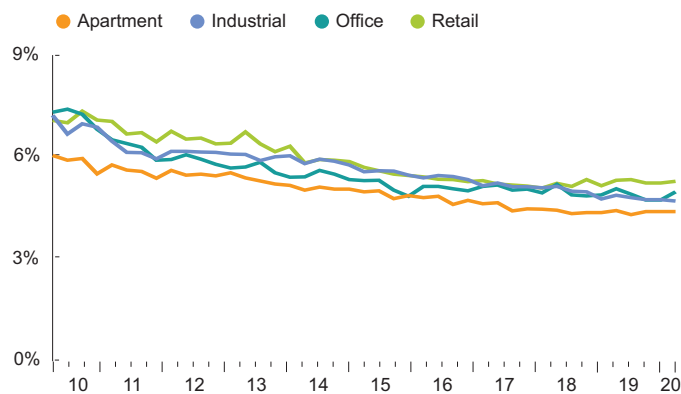
Real assets buffeted by COVID-19

- Real asset returns were significantly challenged during the first quarter of 2020 as almost the entire space (except gold

and TIPS) experienced performance not seen since the Global Financial Crisis.

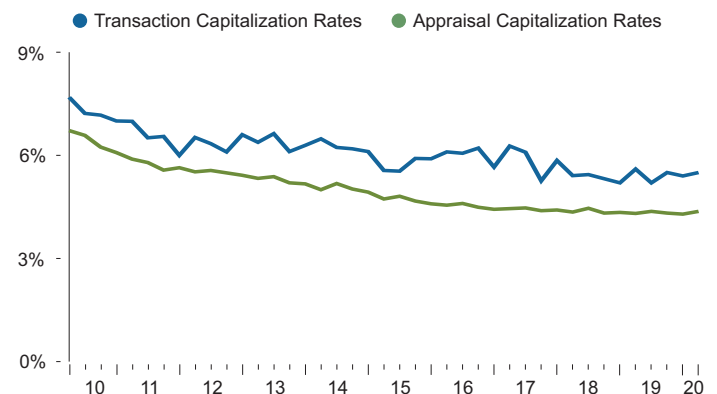
- The MLP space (Alerian MLP Index: -57%) and energy-related stocks (S&P 1200 Energy Index: -44%) were among the worst hit as Russia and Saudi Arabia engaged in an oil price war smack in the middle of a global pandemic that was already poised to cripple near-term energy demand.
- One silver lining, pun intended, was gold, which served its usual safe-haven role during the depths of March and throughout the first quarter; the Bloomberg Gold sub-Index rose 4.5% in the first quarter while equities of most companies tasked with mining the shiny metal were not so fortunate (GDX-Van Eck Gold Miners ETF: -14.5%).

NCREIF Capitalization Rates by Property Type



Source: NCREIF. Capitalization rates (net operating income / current market value (or sale price)) are appraisal-based.

NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF
Note: Transaction capitalization rate is equal weighted.

Callan Database Median and Index Returns* for Periods Ended 3/31/20

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	1.5	1.5	5.6	6.7	8.2	10.6	6.5
NFI-ODCE (value wt net)	0.8	0.8	3.9	5.9	7.5	10.4	6.5
NCREIF Property	0.7	0.7	5.3	6.4	7.6	10.2	8.1
NCREIF Farmland	-0.1	-0.1	2.6	5.2	6.3	10.7	13.1
NCREIF Timberland	0.1	0.1	1.3	2.5	2.8	4.5	6.4
Public Real Estate							
Global Real Estate Style	-25.2	-25.2	-18.7	-0.4	0.5	6.4	5.7
FTSE EPRA Nareit Developed	-28.5	-28.5	-24.0	-3.8	-2.1	4.4	--
Global ex-U.S. Real Estate Style	-24.8	-24.8	-18.0	0.6	0.1	5.4	5.3
FTSE EPRA Nareit Dev ex US	-27.7	-27.7	-23.0	-2.1	-1.5	3.4	--
U.S. REIT Style	-23.1	-23.1	-15.2	-0.4	1.4	8.6	7.2
EPRA Nareit Equity REITs	-27.3	-27.3	-21.3	-3.1	-0.3	7.4	6.2

*Returns less than one year are not annualized.
Sources: Callan, FTSE Russell, NCREIF

Over the Cliff

PRIVATE EQUITY | Gary Robertson

The impact of the COVID-19 virus on the capital markets in late February has introduced a period of price uncertainty and a pull-back in lending. Transaction activity is expected to slow for the remainder of 2020. New fundraising is also being delayed. General partners are focused more on existing portfolio company health and less on starting new company platforms.

Fundraising ► Based on preliminary data, first quarter private equity partnerships holding final closes totaled \$119 billion, down 37% from the fourth quarter. New partnerships formed totaled 223, off 28%. Callan expects fundraising to continue to slow as 2020 progresses. (Unless otherwise noted, all data come from PitchBook.)

Buyouts ► New buyout transactions declined notably, albeit from strong levels. Funds closed 1,677 investments with \$103 billion in disclosed deal value, a 27% decline in count and a 41% dip in dollar value from the fourth quarter. The largest investment was the \$14.3 billion take-private of Zayo Group, a digital communications infrastructure and services provider, by Digital Colony and EQT, along with a consortium of co-investors.

VC Investments ► New investments in venture capital companies totaled 5,868 rounds of financing, down 16%, with \$64 billion of announced value, off just 2%. The largest investment

Funds Closed 1/1/2020 to 3/31/2020

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	119	30,155	25%
Growth Equity	20	14,289	12%
Buyouts	56	52,736	44%
Mezzanine Debt	1	434	0%
Distressed	0	0	0%
Energy	2	4,475	4%
Secondary and Other	14	8,053	7%
Fund-of-Funds	11	8,836	7%
Totals	223	118,978	100%

Source: PitchBook (Figures may not total due to rounding.)

was a \$3 billion round in Gojek, a ride-hailing and personal courier company serving Southeast Asia.

Exits ► There were 422 private M&A exits of private equity-backed companies, a drop of 23%. Disclosed values plunged 69% to \$55 billion. There were 11 private equity-backed IPOs in the first quarter, down 67%, which raised an aggregate \$6 billion, lower by 14%.

Venture-backed M&A exits totaled 354 with disclosed value of \$23 billion. The number of sales declined 12% from the fourth quarter, and announced value was unchanged. There were 50 VC-backed IPOs, lower by 34%, and the combined float totaled \$6 billion, a drop of 14%.

Private Equity Performance (%) (Pooled Horizon IRRs through 9/30/2019*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	-0.37	13.01	14.56	14.39	14.83	11.41	11.02
Growth Equity	1.32	12.76	16.02	12.77	14.03	13.41	13.13
All Buyouts	1.43	8.85	15.32	12.83	14.59	13.65	12.04
Mezzanine	0.87	6.02	10.86	10.00	10.85	10.58	8.60
Credit Opportunities	-0.36	0.61	7.73	5.49	10.47	9.28	9.90
Control Distressed	1.05	4.38	8.86	7.83	11.17	10.52	10.58
All Private Equity	0.92	9.59	14.41	12.33	14.03	12.72	11.72
S&P 500	1.70	4.25	13.39	10.84	13.24	9.01	6.33
Russell 3000	1.16	2.92	12.83	10.44	13.08	9.10	6.72

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices

*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of *Capital Market Review* and other Callan publications.

Breaking Bad

HEDGE FUNDS/MACs | Jim McKee

Crushing fragile hopes of continuing economic strength coming into 2020, the COVID-19 pandemic coupled with a sudden oil market collapse forced investors to recalibrate their measures of risk across all capital markets. As investors ran for safe havens, Treasuries soared while equities cratered.

Representing a paper portfolio of hedge fund interests without implementation costs, the **Credit Suisse Hedge Fund Index (CS HFI)** lost 9.0% in the first quarter. As a proxy for live hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Peer Group** slumped 8.1%, net of all fees and expenses. Representing 50 of the largest, broadly diversified hedge funds with low-beta exposure to equity markets, the median manager in the **Callan Institutional Hedge Fund Peer Group** fell 6.3%.

Hedge Fund-of-Funds Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

Callan Peer Group Median and Index Returns* for Periods Ended 3/31/2020

Hedge Fund Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Fund-of-Funds Peer Group	-8.1	-4.9	0.5	0.7	3.1	3.8
Callan Absolute Return FOF Style	-8.5	-6.7	0.1	0.8	3.1	3.3
Callan Core Diversified FOF Style	-7.3	-4.3	0.4	0.4	3.0	3.5
Callan Long/Short Equity FOF Style	-10.8	-6.5	0.4	0.8	3.6	4.6
Credit Suisse Hedge Fund	-9.0	-4.3	0.4	0.2	3.0	4.0
CS Convertible Arbitrage	-5.3	-1.3	0.9	2.4	3.2	3.7
CS Distressed	-10.8	-11.5	-2.2	-0.8	2.5	3.9
CS Emerging Markets	-10.5	-6.2	0.7	1.8	3.2	5.1
CS Equity Market Neutral	-5.3	-6.2	-1.0	-0.3	0.9	-1.1
CS Event-Driven Multi	-18.8	-14.9	-4.1	-3.4	0.6	3.1
CS Fixed Income Arb	-5.8	-2.2	1.7	2.5	4.4	3.3
CS Global Macro	-8.1	-1.1	1.1	0.6	3.6	5.4
CS Long/Short Equity	-11.2	-5.4	1.4	1.1	3.6	4.8
CS Managed Futures	0.0	5.7	2.0	-2.0	1.4	3.0
CS Multi-Strategy	-6.5	-2.6	1.0	2.2	5.0	5.2
CS Risk Arbitrage	-6.8	-4.1	0.8	1.8	1.9	3.2
HFRI Asset Wtd Composite	-10.0	-6.1	0.2	0.4	3.1	--
90-Day T-Bill + 5%	1.8	7.3	6.8	6.2	5.6	6.4

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

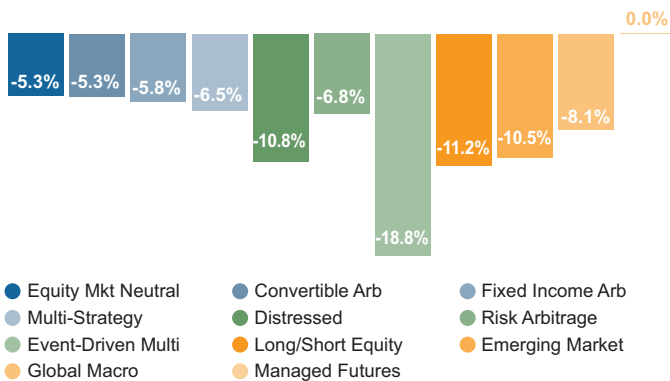
Within CS HFI, the worst-performing index was *Event-Driven Multi-Strategy* (-18.8%), reflecting its material exposure to soft deals particularly vulnerable to shifting market sentiments and crowded trades. The next group of poorly performing strategies included *Long/Short Equity* (-11.2%), *Distressed* (-10.8%), and *Emerging Markets* (-10.5%). Despite low net exposures, risk-on arbitrage strategies like *Equity Market Neutral* (-5.3%), *Convertible Arbitrage* (-5.3%), and *Fixed-Income Arbitrage* (-5.8%) suffered the next level of losses due to widened spreads from derisking or being net long with illiquidity. The best-performing strategy last quarter was *Managed Futures* (+0.0%).

Within the Callan Hedge FOF Group, net exposures to illiquidity and equity-related risks primarily determined performance in the first quarter. The median *Callan Long/Short Equity FOF* dropped 10.8%, with its net equity exposure driving the loss. Similarly, the median *Callan Absolute Return FOF* sank 8.5%.

The *Core Diversified FOF* (-7.3%) suffered the least of the FOF style groups.

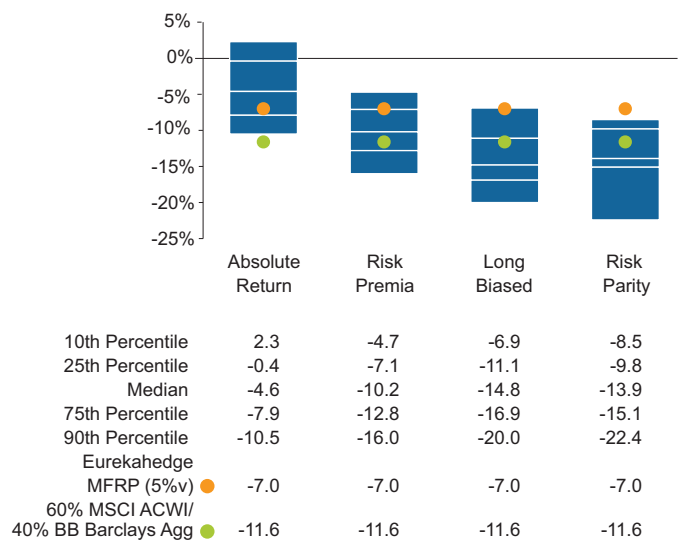
Within Callan’s database of liquid alternative solutions, the median managers of Callan Multi-Asset Class (MAC) style groups were all negative, gross of fees. The median *Callan Risk Premia MAC* dropped 10.2% as managers reduced gross exposures to their factors to keep within volatility targets. Targeting equal risk-weighted allocations to major asset classes with leverage, the *Callan Risk Parity MAC* fell 13.9%, trailing its 60% MSCI ACWI/40% Bloomberg Barclays US Aggregate Bond Index (-12.0%). Given a usually long equity bias within its dynamic asset allocation mandate, the *Callan Long-Biased MAC* (-14.8%) also trailed the 60%/40% benchmark. As the most conservative MAC style focused on non-directional strategies of long and short asset class exposures, *Callan Absolute Return MAC* slipped 4.6%.

Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

MAC Style Group Returns



Sources: Bloomberg Barclays, Callan, Eurekahedge, S&P Dow Jones Indices

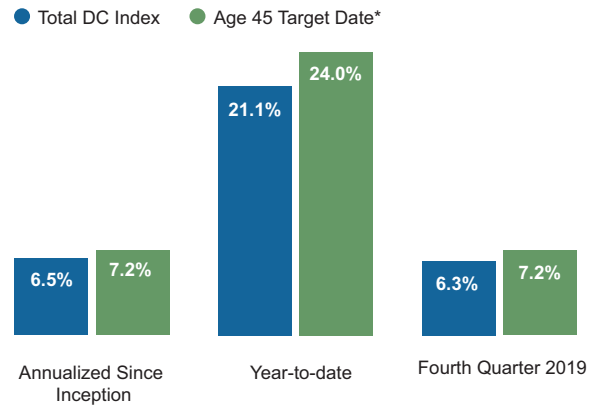
Index Posts Highest Return Since 2009

DEFINED CONTRIBUTION | Patrick Wisdom

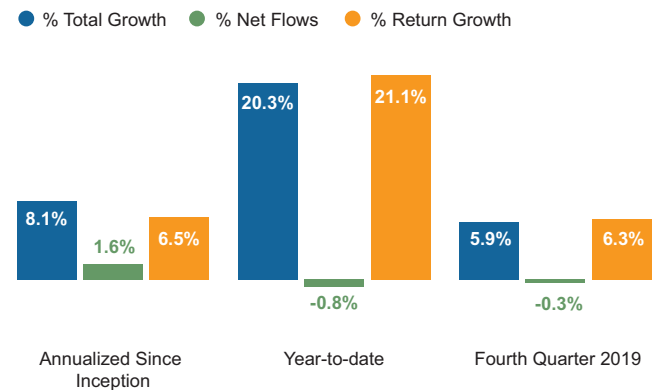
- The **Callan DC Index™** rose 6.3% in the final quarter of 2019, the fourth consecutive quarter of gains, and jumped 21.1% for the year, the highest since 2009. The Age 45 Target Date Fund had a larger fourth-quarter (7.2%) and full-year gain (24.0%).
- The Index’s growth in balances in the fourth quarter (5.9%) marked the fourth straight quarter of growth. Investment returns (6.3%) drove the growth, while net flows (-0.3%) detracted.
- Target date funds (TDFs) experienced the largest inflows (53.8%). After garnering the most flows in the previous quarter, U.S. fixed income again saw significant inflows (36.5%). U.S. large cap equity (-38.5%) had the largest outflows.
- Fourth-quarter turnover (i.e., net transfer activity) increased to 0.38% from the previous quarter’s 0.35%, well below the historical average (0.60%).
- The allocation to equity within the Index increased to 70.2%, the highest since the third quarter of 2018.
- The share of assets allocated to stable value decreased to 9.8%. The allocation to U.S. fixed income (6.1%) also fell despite positive flows; the asset class’s relative underperformance was the primary driver of the decrease.
- TDFs experienced the largest increase in asset allocation (30.4%), due to large inflows and solid performance.
- The prevalence of real return/TIPS within DC plans increased by 3.4 percentage points from the previous quarter to 38.5%.
- The presence of company stock (21.5%) remains near historic lows. Brokerage window prevalence (41.4%) remains near all-time highs.
- For plans with more than \$1 billion in assets, the average asset-weighted fee decreased by 4 basis points to 0.29%. Plans with less than \$500 million in assets saw a fee decrease of 2 bps, while the fee for plans with assets between \$500 million and \$1 billion remained steady at 0.36%.

The Callan DC Index is an equally weighted index tracking the cash flows and performance of over 100 plans, representing nearly \$300 billion in assets. The Index is updated quarterly and is available on Callan’s website.

Investment Performance



Growth Sources



Net Cash Flow Analysis (Fourth Quarter 2019) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	53.80%
U.S. Fixed Income	36.52%
U.S. Smid Cap	-18.02%
U.S. Large Cap	-38.48%
Total Turnover**	0.38%

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

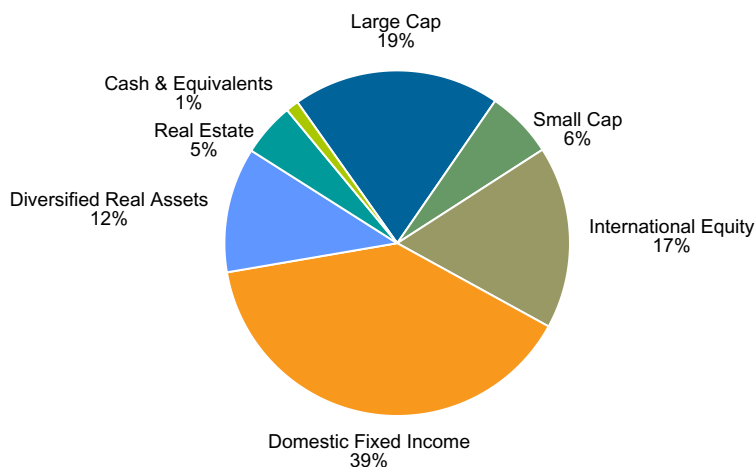
* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

** Total Index “turnover” measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

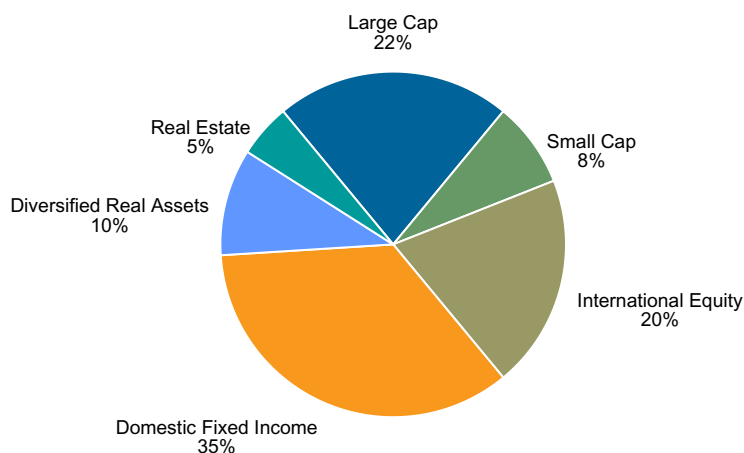
Actual vs Target Asset Allocation As of March 31, 2020

The first chart below shows the Fund's asset allocation as of March 31, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



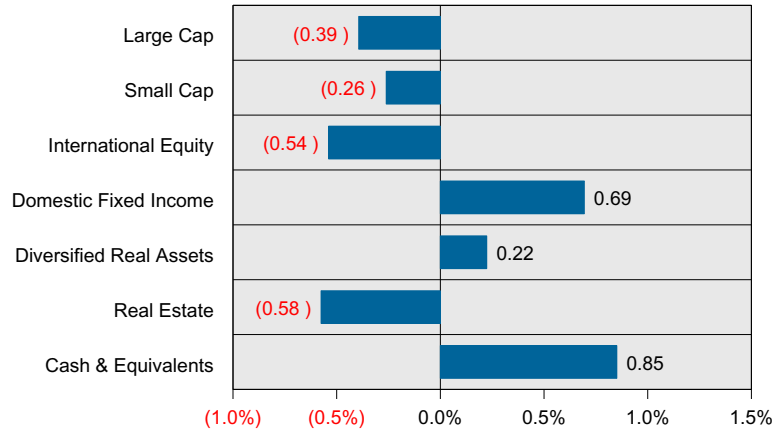
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	1,196,284	19.4%	22.0%	(2.6%)	(157,747)
Small Cap	384,765	6.3%	8.0%	(1.7%)	(107,610)
International Equity	1,053,519	17.1%	20.0%	(2.9%)	(177,418)
Domestic Fixed Income	2,419,574	39.3%	35.0%	4.3%	265,435
Diversified Real Assets	722,389	11.7%	10.0%	1.7%	106,921
Real Estate	305,268	5.0%	5.0%	(0.0%)	(2,467)
Cash & Equivalents	72,884	1.2%	0.0%	1.2%	72,884
Total	6,154,682	100.0%	100.0%		

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI EAFE, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

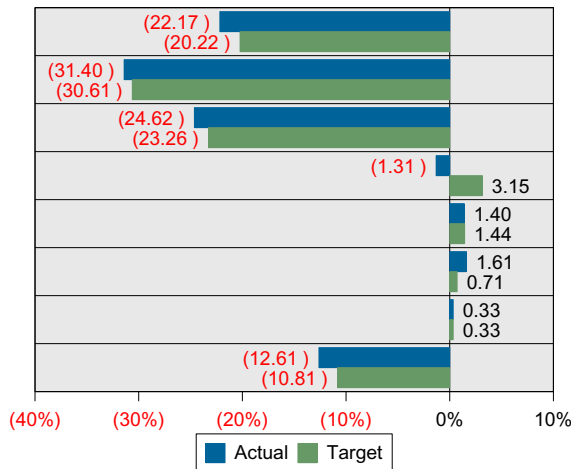
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

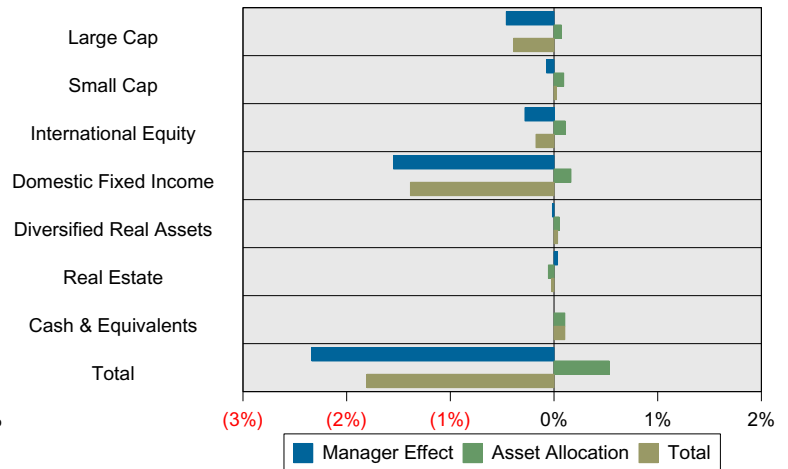
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

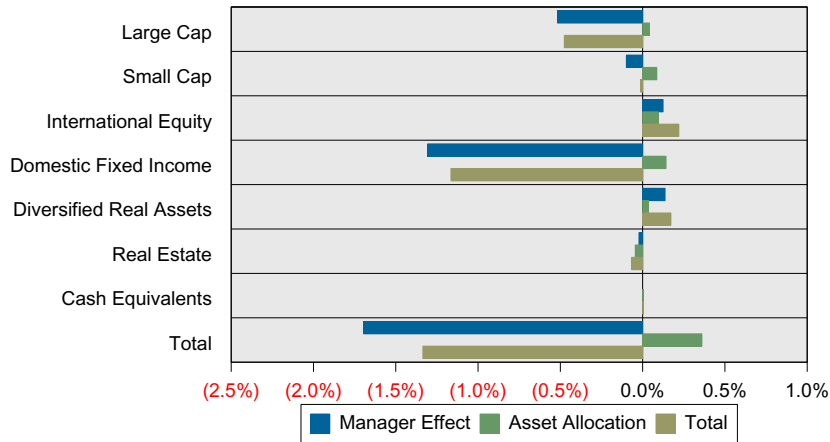
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	(22.17%)	(20.22%)	(0.46%)	0.07%	(0.39%)
Small Cap	8%	8%	(31.40%)	(30.61%)	(0.07%)	0.09%	(0.02%)
International Equity	19%	20%	(24.62%)	(23.26%)	(0.28%)	0.11%	(0.17%)
Domestic Fixed Income	36%	35%	(1.31%)	3.15%	(1.55%)	0.16%	(1.38%)
Diversified Real Assets	10%	10%	1.40%	1.44%	(0.01%)	0.05%	0.03%
Real Estate	4%	5%	1.61%	0.71%	0.03%	(0.05%)	(0.02%)
Cash & Equivalents	1%	0%	0.33%	0.33%	0.00%	0.10%	0.10%
Total			(12.61%)	(10.81%)	(2.34%)	0.53%	(1.80%)

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

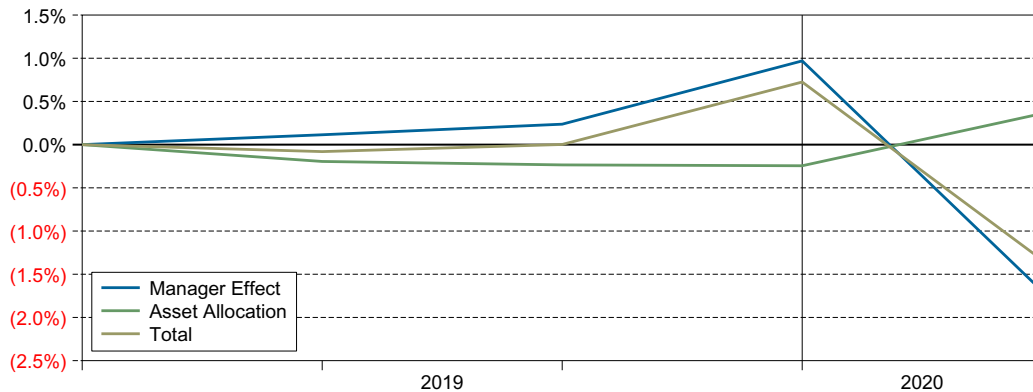
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

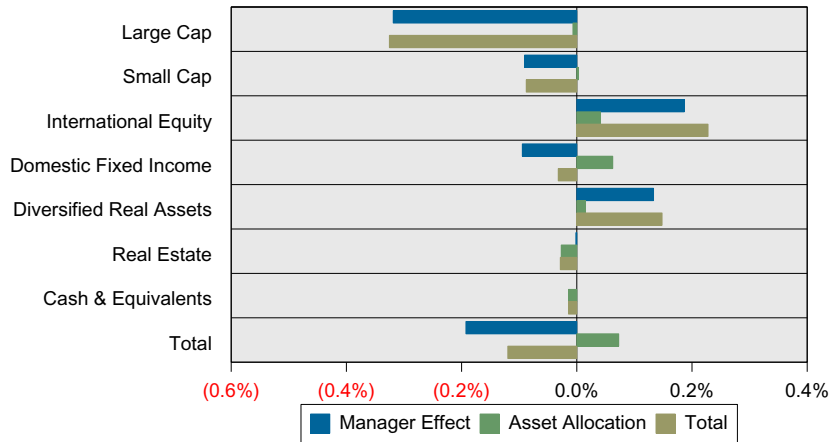
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return	
Large Cap	22%	22%	(10.38%)	(8.03%)	(0.52%)	0.04%	(0.48%)	
Small Cap	8%	8%	(25.02%)	(23.99%)	(0.10%)	0.09%	(0.01%)	
International Equity	20%	20%	(14.62%)	(14.89%)	0.12%	0.10%	0.22%	
Domestic Fixed Income	35%	35%	5.46%	8.93%	(1.31%)	0.14%	(1.16%)	
Diversified Real Assets	10%	10%	7.65%	5.98%	0.14%	0.04%	0.17%	
Real Estate	5%	5%	4.85%	5.28%	(0.02%)	(0.04%)	(0.07%)	
Cash Equivalents	1%	0%	1.87%	1.87%	0.00%	0.00%	0.00%	
Total			(4.03%)		(2.70%)	+ (1.70%)	+ 0.36%	(1.34%)

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

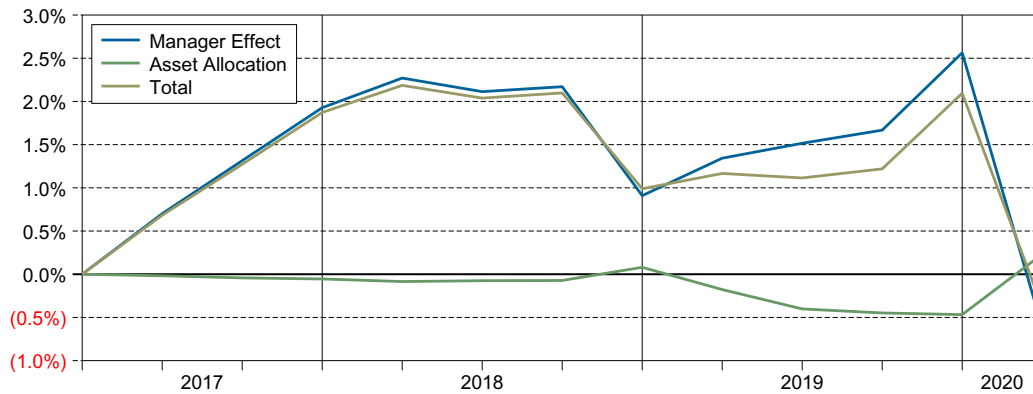
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

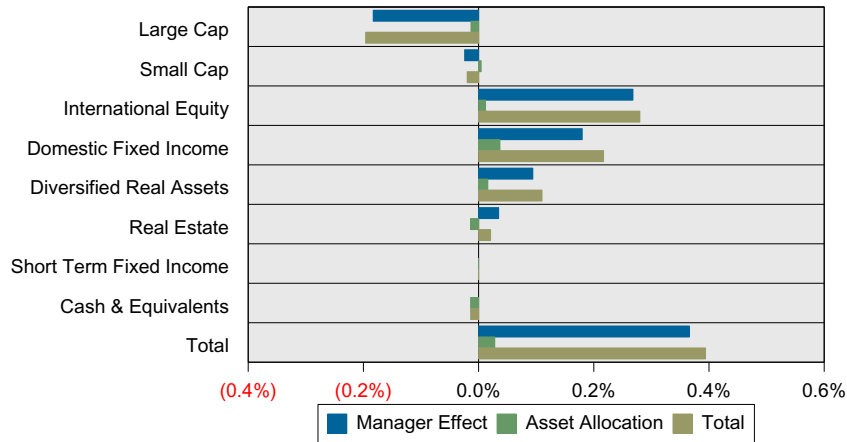
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	3.12%	4.64%	(0.32%)	(0.01%)	(0.33%)
Small Cap	8%	8%	(5.71%)	(4.64%)	(0.09%)	0.00%	(0.09%)
International Equity	20%	20%	(1.37%)	(2.07%)	0.19%	0.04%	0.23%
Domestic Fixed Income	35%	35%	4.81%	4.82%	(0.09%)	0.06%	(0.03%)
Diversified Real Assets	10%	10%	5.76%	4.26%	0.13%	0.01%	0.15%
Real Estate	5%	5%	6.34%	6.41%	(0.00%)	(0.03%)	(0.03%)
Cash & Equivalents	1%	0%	1.61%	1.61%	0.00%	(0.01%)	(0.01%)
Total			2.90%	3.02%	(0.19%)	0.07%	(0.12%)

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

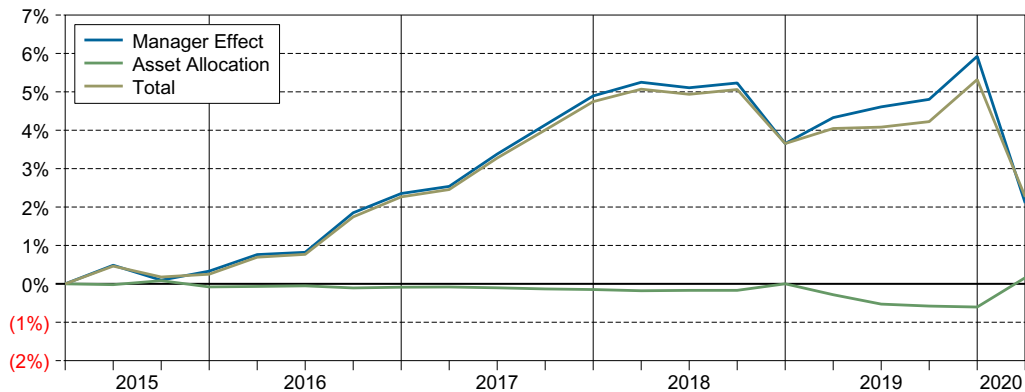
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

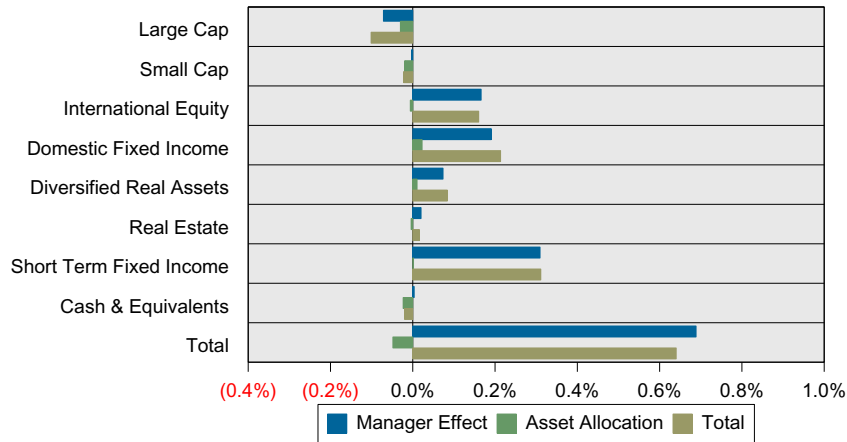
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	5.35%	6.22%	(0.18%)	(0.01%)	(0.20%)
Small Cap	8%	8%	(0.51%)	(0.25%)	(0.02%)	0.00%	(0.02%)
International Equity	20%	20%	0.38%	(0.81%)	0.27%	0.01%	0.28%
Domestic Fixed Income	35%	35%	4.06%	3.36%	0.18%	0.04%	0.22%
Diversified Real Assets	10%	10%	3.92%	2.90%	0.09%	0.02%	0.11%
Real Estate	5%	5%	8.29%	7.65%	0.03%	(0.01%)	0.02%
Short Term Fixed Income	0%	0%	-	-	0.00%	(0.00%)	(0.00%)
Cash & Equivalents	1%	0%	1.04%	1.04%	0.00%	(0.01%)	(0.01%)
Total					0.37%	0.03%	0.39%

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

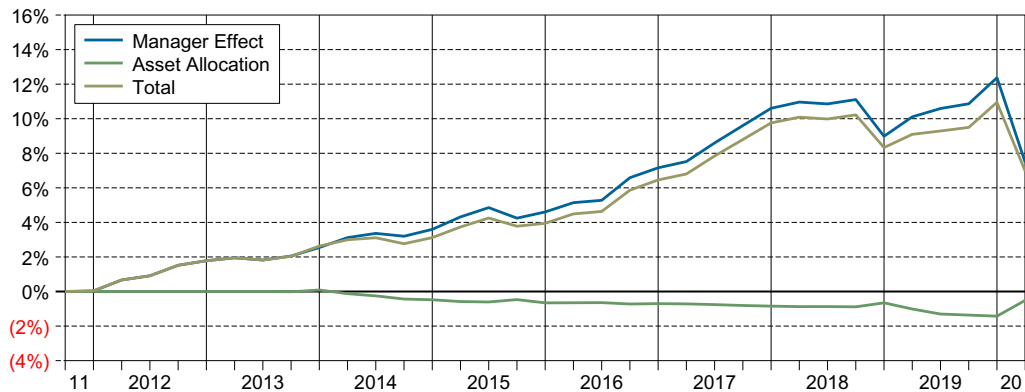
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Eight and One-Half Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Eight and One-Half Year Annualized Relative Attribution Effects

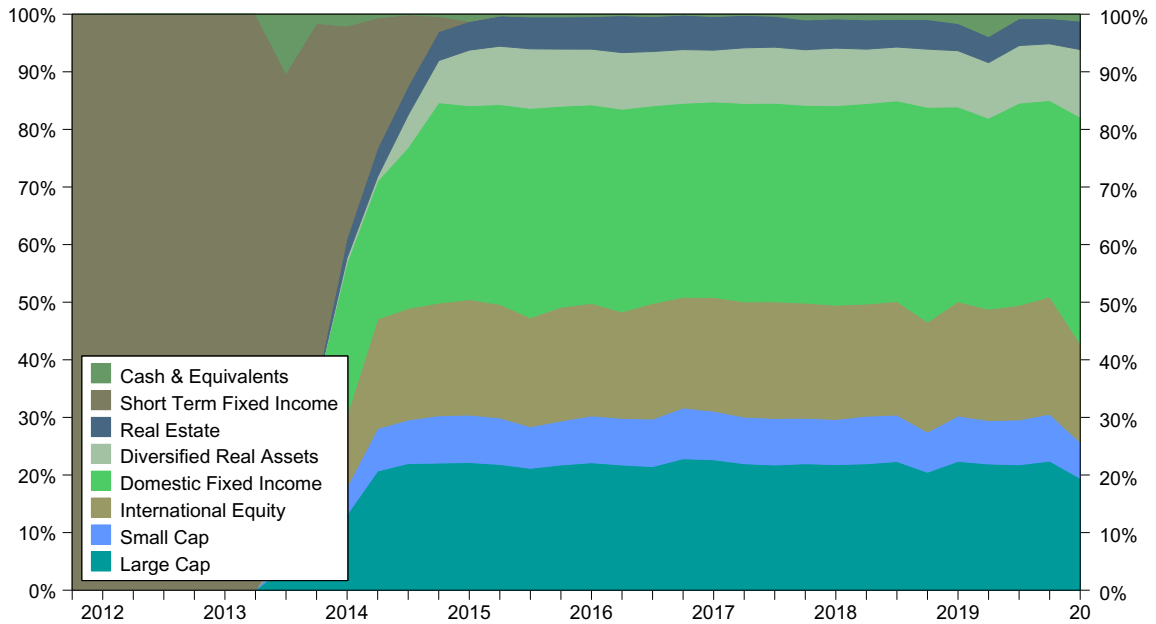
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	16%	16%	-	-	(0.07%)	(0.03%)	(0.10%)
Small Cap	6%	6%	-	-	(0.00%)	(0.02%)	(0.02%)
International Equity	14%	14%	-	-	0.17%	(0.01%)	0.16%
Domestic Fixed Income	25%	25%	-	-	0.19%	0.02%	0.21%
Diversified Real Assets	6%	7%	-	-	0.07%	0.01%	0.08%
Real Estate	4%	4%	-	-	0.02%	(0.00%)	0.02%
Short Term Fixed Income	26%	27%	-	-	0.31%	0.00%	0.31%
Cash & Equivalents	3%	2%	0.66%	0.65%	0.00%	(0.02%)	(0.02%)
Total			3.66%	3.02%	+ 0.69%	+ (0.05%)	0.64%

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

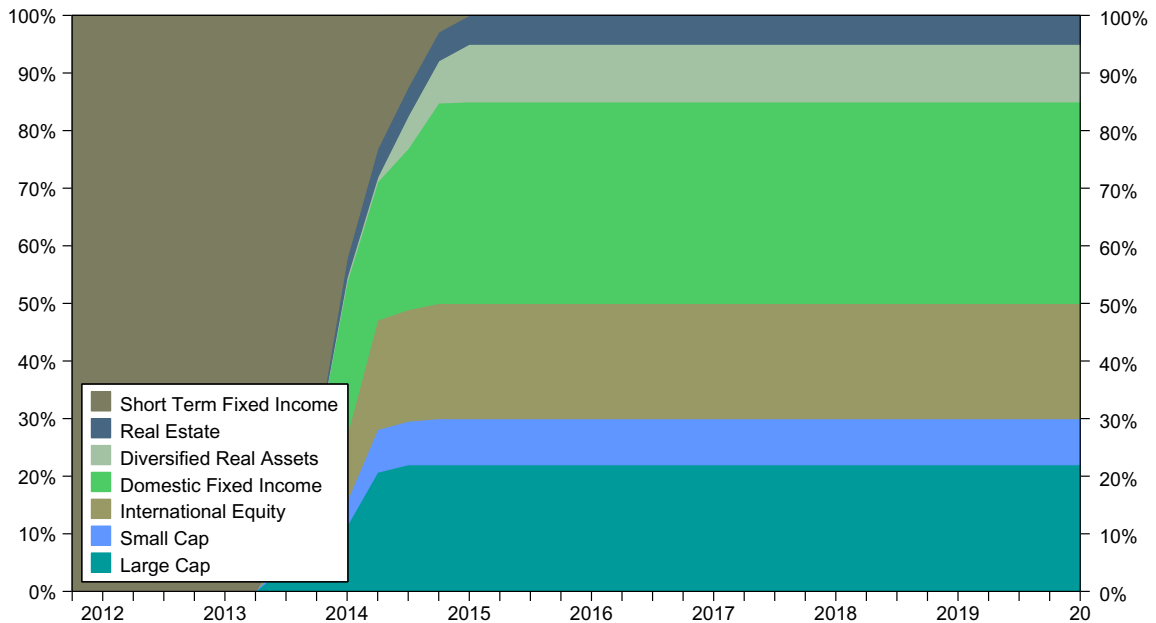
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, and the fund's historical target asset allocation.

Actual Historical Asset Allocation



Target Historical Asset Allocation

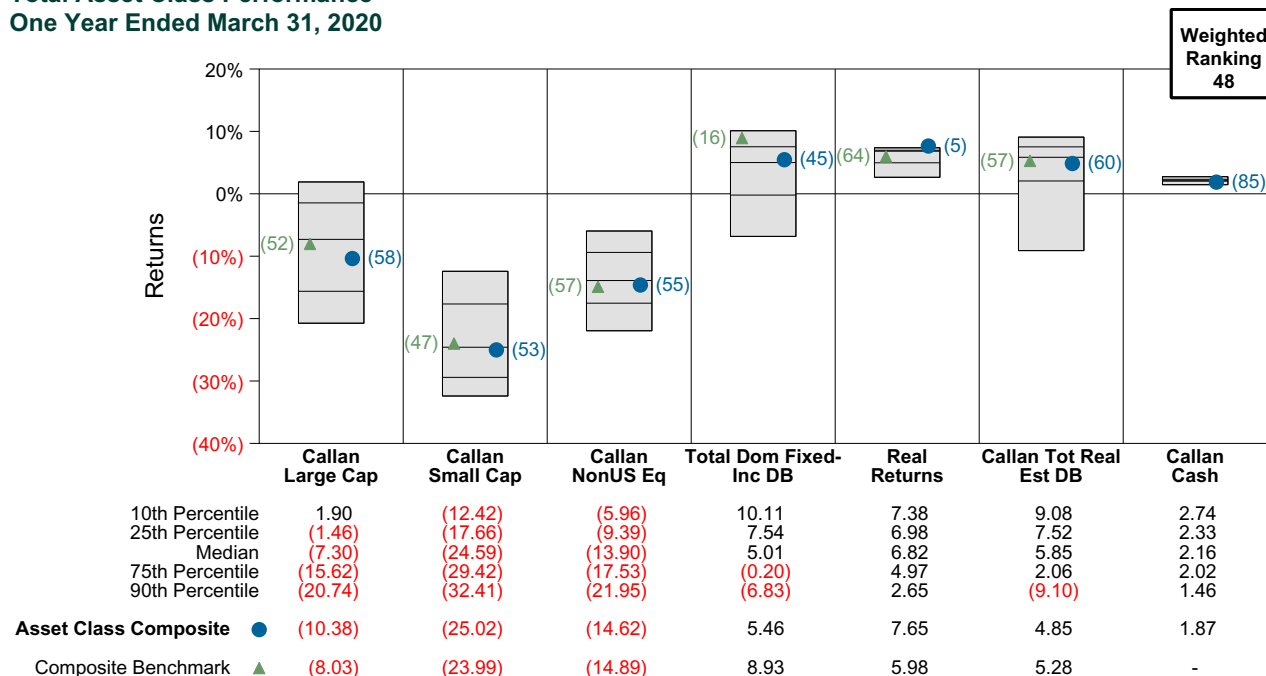


* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

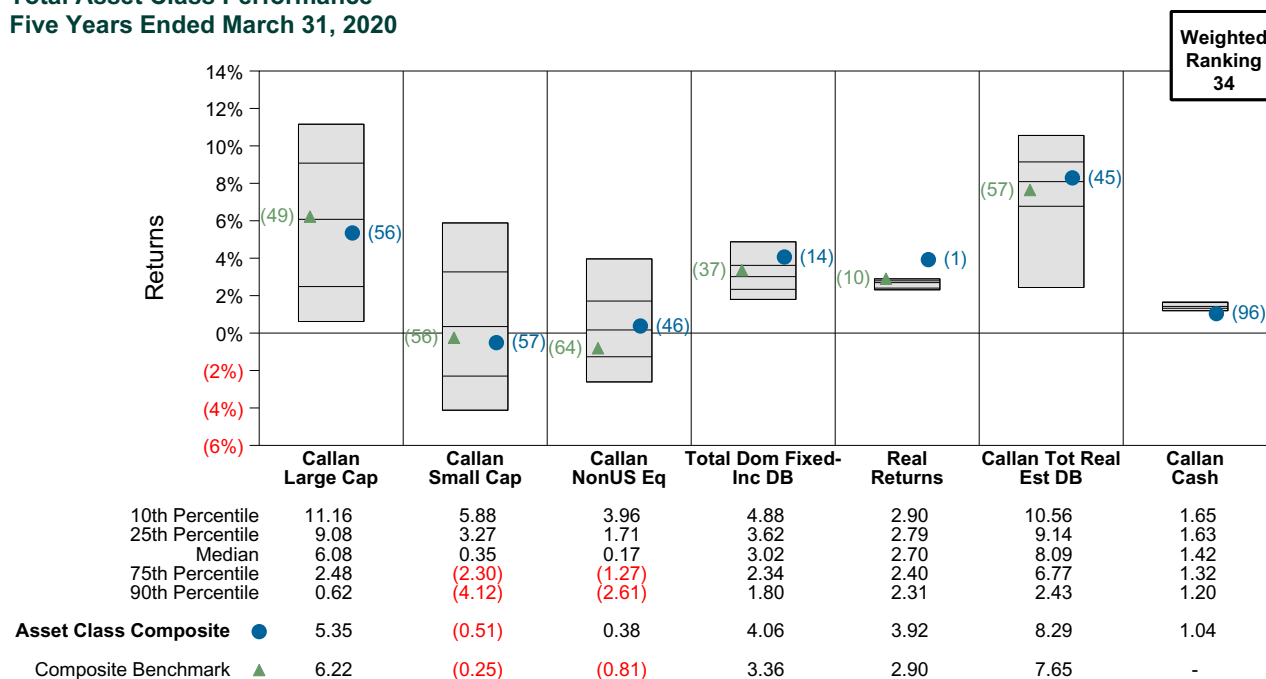
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended March 31, 2020



Total Asset Class Performance Five Years Ended March 31, 2020



* Current Quarter Target = 35.0% Bimbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Class Allocation

	March 31, 2020			December 31, 2019		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Global Equity	\$2,634,567,095	42.81%	\$(1,836,899)	\$(859,357,652)	\$3,495,761,646	50.94%
Domestic Equity	\$1,581,048,526	25.69%	\$(809,668)	\$(515,122,393)	\$2,096,980,587	30.56%
Large Cap	\$1,196,283,532	19.44%	\$(648,221)	\$(340,756,487)	\$1,537,688,240	22.41%
L.A. Capital Enhanced	249,042,295	4.05%	(94,409)	(58,605,968)	307,742,672	4.48%
L.A. Capital Large Cap Growth	397,174,094	6.45%	(230,416)	(66,070,625)	463,475,136	6.75%
Parametric Clifton Large Cap	243,885,010	3.96%	0	(68,484,064)	312,369,075	4.55%
LSV Large Cap Value	306,182,132	4.97%	(323,396)	(147,595,830)	454,101,358	6.62%
Small Cap	\$384,764,994	6.25%	\$(161,447)	\$(174,365,906)	\$559,292,347	8.15%
Atlanta Capital	105,939,552	1.72%	89,990,259	(28,876,369)	44,825,663	0.65%
Parametric Clifton SmallCap	198,930,015	3.23%	0	(94,226,519)	293,156,534	4.27%
PIMCO RAE	79,895,427	1.30%	(90,151,706)	(51,263,018)	221,310,151	3.22%
International Equity	\$1,053,518,568	17.12%	\$(1,027,232)	\$(344,235,258)	\$1,398,781,058	20.38%
DFA Intl SmallCap Value	97,494,502	1.58%	0	(49,545,140)	147,039,642	2.14%
LSV Intl Value	378,879,277	6.16%	(515,532)	(149,190,368)	528,585,177	7.70%
Vanguard Intl Explorer Fund	102,384,864	1.66%	0	(40,507,407)	142,892,271	2.08%
William Blair	474,759,926	7.71%	(511,700)	(104,992,343)	580,263,968	8.46%
Domestic Fixed Income	\$2,419,573,857	39.31%	\$114,064,365	\$(33,557,844)	\$2,339,067,336	34.08%
Ares ND Credit Strategies Fd	79,913,027	1.30%	10,000,000	1,367,299	68,545,728	1.00%
BND CDs	91,375,406	1.48%	(420,445)	543,216	91,252,635	1.33%
Cerberus ND Private Credit Fd	94,950,191	1.54%	9,000,000	2,076,500	83,873,691	1.22%
Declaration Total Return	181,097,374	2.94%	25,902,394	(13,658,902)	168,853,882	2.46%
PIMCO Bravo II	11,105,995	0.18%	(756,599)	460,163	11,402,431	0.17%
PIMCO DiSCO II	39,990,011	0.65%	0	(2,749,873)	42,739,884	0.62%
Prudential	691,332,688	11.23%	20,635,553	(11,569,570)	682,266,705	9.94%
SSgA US Govt Credit Bd Idx	352,408,015	5.73%	16,988,362	11,587,605	323,832,048	4.72%
Wells Capital	179,686,556	2.92%	12,912,185	(14,628,489)	181,402,859	2.64%
Western Asset Management	697,714,594	11.34%	19,802,915	(6,985,794)	684,897,472	9.98%
Global Real Assets	\$1,027,657,013	16.70%	\$37,783,768	\$13,930,591	\$975,942,654	14.22%
Real Estate	\$305,267,556	4.96%	\$(388,597)	\$4,847,369	\$300,808,784	4.38%
Invesco Core Real Estate	152,319,863	2.47%	(132,601)	3,408,078	149,044,386	2.17%
JP Morgan RE Inc & Growth	152,947,693	2.49%	(255,996)	1,439,291	151,764,398	2.21%
Diversified	\$722,389,457	11.74%	\$38,172,364	\$9,083,222	\$675,133,870	9.84%
Western Asset TIPS	447,035,604	7.26%	27,880,098	804,231	418,351,276	6.10%
ISQ Global Infrastructure II	46,087,814	0.75%	14,695,358	(814,694)	32,207,150	0.47%
JP Morgan Infrastructure	113,445,255	1.84%	(5,208,577)	5,313,217	113,340,614	1.65%
Grosvenor Cust. Infrastructure	46,785,275	0.76%	(1,439,606)	1,933,589	46,291,292	0.67%
Macquarie Infras. Partners IV	69,035,509	1.12%	2,245,092	1,846,879	64,943,538	0.95%
Cash	\$72,884,404	1.18%	\$20,754,081	\$176,315	\$51,954,008	0.76%
Northern Trust Cash Account	49,831,836	0.81%	20,604,149	86,491	29,141,196	0.42%
Bank of ND	23,052,568	0.37%	149,932	89,824	22,812,813	0.33%
Securities Lending Income	\$0	0.00%	\$(98,646)	\$98,646	-	-
Total Fund	\$6,154,682,368	100.0%	\$170,666,669	\$(878,709,945)	\$6,862,725,644	100.0%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 8-1/2 Years
Global Equity					
Gross	(24.63%)	(14.45%)	-	-	-
Net	(24.67%)	(14.64%)	-	-	-
Weighted Benchmark	(23.13%)	(13.42%)	-	-	-
Domestic Equity					
Gross	(24.65%)	(14.39%)	0.75%	3.82%	-
Net	(24.68%)	(14.52%)	0.60%	3.61%	-
Weighted Benchmark	(23.05%)	(12.47%)	-	-	-
Large Cap					
Gross	(22.17%)	(10.38%)	3.12%	5.35%	-
Net	(22.20%)	(10.53%)	2.95%	5.15%	-
Russell 1000 Index	(20.22%)	(8.03%)	4.64%	6.22%	12.38%
L.A. Capital Enhanced - Gross	(19.05%)	(7.52%)	4.15%	6.06%	-
L.A. Capital Enhanced - Net	(19.07%)	(7.63%)	4.01%	5.92%	-
Russell 1000 Index	(20.22%)	(8.03%)	4.64%	6.22%	12.38%
L.A. Capital LargeCap Growth - Gross	(14.27%)	(0.36%)	9.50%	9.07%	-
L.A. Capital LargeCap Growth - Net	(14.31%)	(0.56%)	9.28%	8.85%	-
Russell 1000 Growth Index	(14.10%)	0.91%	11.32%	10.36%	14.96%
Parametric Clifton Large Cap - Gross	(21.92%)	(9.16%)	4.08%	6.23%	-
Parametric Clifton Large Cap - Net	(21.92%)	(9.16%)	4.10%	6.18%	-
S&P 500 Index	(19.60%)	(6.98%)	5.10%	6.73%	12.54%
LSV Large Cap Value - Gross	(32.52%)	(23.23%)	(4.85%)	0.23%	-
LSV Large Cap Value - Net	(32.57%)	(23.45%)	(5.11%)	(0.05%)	-
Russell 1000 Value Index	(26.73%)	(17.17%)	(2.18%)	1.90%	9.60%
Small Cap					
Gross	(31.40%)	(25.02%)	(5.71%)	(0.51%)	-
Net	(31.42%)	(25.10%)	(5.83%)	(0.75%)	-
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	8.60%
Atlanta Capital - Gross	(23.45%)	-	-	-	-
Atlanta Capital - Net	(23.46%)	-	-	-	-
S&P 600 Small Cap Index	(32.64%)	(25.89%)	(5.34%)	0.45%	9.52%
Parametric Clifton Small Cap - Gross	(32.14%)	(25.15%)	(5.03%)	(0.14%)	-
Parametric Clifton Small Cap - Net	(32.14%)	(25.15%)	(5.06%)	(0.36%)	-
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	8.60%
PIMCO RAE - Gross	(36.35%)	(31.07%)	(9.14%)	(2.65%)	-
PIMCO RAE - Net	(36.41%)	(31.25%)	(9.37%)	(2.90%)	-
Russell 2000 Index	(30.61%)	(23.99%)	(4.64%)	(0.25%)	8.60%
International Equity					
Gross	(24.62%)	(14.62%)	(1.37%)	0.38%	-
Net	(24.69%)	(14.88%)	(1.67%)	0.08%	-
Benchmark(1)	(23.26%)	(14.89%)	(2.07%)	(0.81%)	4.26%
DFA Intl Small Cap Value	(33.70%)	(26.16%)	(9.92%)	(3.32%)	-
World ex US SC Va	(31.70%)	(23.16%)	(6.39%)	(1.63%)	3.83%
LSV Intl Value - Gross	(28.24%)	(20.58%)	(5.62%)	(1.86%)	-
LSV Intl Value - Net	(28.32%)	(20.89%)	(5.97%)	(2.24%)	-
MSCI EAFE Index	(22.83%)	(14.38%)	(1.82%)	(0.62%)	4.38%
Vanguard Intl Explorer Fund	(28.35%)	(20.84%)	(5.42%)	(1.49%)	-
BMI, EPAC, <\$2 B	(27.57%)	(20.52%)	(5.32%)	(0.43%)	4.37%
William Blair - Gross	(18.10%)	(4.48%)	5.81%	-	-
William Blair - Net	(18.19%)	(4.83%)	5.41%	-	-
MSCI ACWI ex US IMI	(24.11%)	(16.32%)	(2.34%)	(0.66%)	3.58%

(1) MSCI EAFE through 6/30/2016 and MSCI World ex-US thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 8-1/2 Years
Domestic Fixed Income					
Gross	(1.31%)	5.46%	4.81%	4.06%	-
Net	(1.33%)	5.34%	4.70%	3.94%	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.24%
Ares ND Credit Strategies Fd - Net	1.99%	8.53%	-	-	-
Cerberus ND Private Credit Fd - Net	2.46%	8.57%	-	-	-
S&P/LSTA Leveraged Loan B	(13.72%)	(9.50%)	(0.75%)	1.23%	3.44%
BND CDs - Net	0.60%	3.27%	3.11%	-	-
Declaration Total Return - Net	(6.84%)	(2.43%)	2.23%	2.49%	-
Libor-3 Month	0.40%	2.09%	2.04%	1.47%	1.00%
PIMCO Bravo II - Net(1)	4.04%	12.65%	5.92%	7.70%	-
PIMCO DiSCO II - Net (1)	(6.43%)	(1.61%)	5.63%	6.97%	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.24%
Prudential - Gross	(1.58%)	5.34%	4.80%	4.10%	-
Prudential - Net	(1.63%)	5.14%	4.56%	3.86%	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.24%
Wells Capital - Gross	(7.35%)	2.57%	3.93%	3.59%	-
Wells Capital - Net	(7.39%)	2.38%	3.76%	3.41%	-
Blmbg Credit Baa	(7.39%)	1.92%	3.42%	2.90%	4.32%
Western Asset - Gross	(0.94%)	5.67%	4.61%	3.83%	-
Western Asset - Net	(0.96%)	5.55%	4.49%	3.70%	-
Blmbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.24%
SSgA US Govt Credit Bd Idx - Gross	3.50%	10.01%	5.25%	3.59%	-
SSgA US Govt Credit Bd Idx - Net	3.50%	9.99%	5.23%	3.56%	-
Blmbg Govt/Credit Bd	3.37%	9.82%	5.17%	3.54%	3.42%

(1) Prior to 7/1/2019, the Legacy Fund participated in these portfolios via the Insurance Pool. Beginning 7/1/2019, its portion of the pool was segregated into its own portfolios. Returns prior to that date reflect the data from the Insurance pool.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 8-1/2 Years
Global Real Assets					
Gross	1.46%	6.72%	-	-	-
Net	1.39%	6.41%	-	-	-
Weighted Benchmark	1.20%	5.76%	-	-	-
Real Estate					
Gross	1.61%	4.85%	6.34%	8.29%	-
Net	1.50%	4.32%	5.79%	7.70%	-
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	9.21%
Invesco Core Real Estate - Gross	2.29%	6.59%	7.20%	8.91%	-
Invesco Core Real Estate - Net	2.20%	6.22%	6.87%	8.56%	-
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	9.21%
JP Morgan RE Inc & Growth - Gross	0.95%	3.18%	5.52%	7.71%	-
JP Morgan RE Inc & Growth - Net	0.81%	2.50%	4.77%	6.87%	-
NCREIF Total Index	0.71%	5.28%	6.41%	7.65%	9.21%
Diversified					
Gross	1.40%	7.65%	5.76%	3.92%	-
Net	1.36%	7.45%	5.53%	3.68%	-
Weighted Benchmark	1.44%	5.98%	4.26%	2.90%	-
Western Asset TIPS - Gross	0.32%	6.40%	4.07%	2.53%	-
Western Asset TIPS - Net	0.29%	6.28%	3.94%	2.40%	-
Benchmark(3)	1.93%	7.27%	4.74%	3.14%	2.88%
JP Morgan Infrastructure - Gross	4.69%	9.27%	10.19%	7.75%	-
JP Morgan Infrastructure - Net	4.53%	8.61%	9.48%	7.03%	-
Grosvenor Cust. Infrastructure - Net	4.18%	10.00%	11.05%	5.28%	-
Benchmark(1)	0.39%	3.33%	3.21%	2.49%	1.85%
Macquarie Infrs. Partners IV - Net	2.85%	4.42%	-	-	-
ISQ Global Infrastructure II - Net	(2.46%)	23.37%	-	-	-
Benchmark(2)	0.39%	3.33%	-	-	-
Cash & Equivalents - Net					
NT Cash Account - Net	0.29%	-	-	-	-
Bank of ND - Net	0.39%	-	-	-	-
90 Day Treasury Bills	0.57%	2.25%	1.83%	1.19%	0.72%
Total Fund					
Gross	(12.61%)	(4.03%)	2.90%	3.74%	3.66%
Net	(12.65%)	(4.21%)	2.70%	3.52%	3.48%
Target*	(10.81%)	(2.70%)	3.02%	3.35%	3.02%

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

(1) CPI-W through 6/30/2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

(2) 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.

(3) Blmbg Global Inflation-Linked through 10/31/2018 and Blmbg US Govt Inflation Linked Bond Index thereafter.

Domestic Equity

Period Ended March 31, 2020

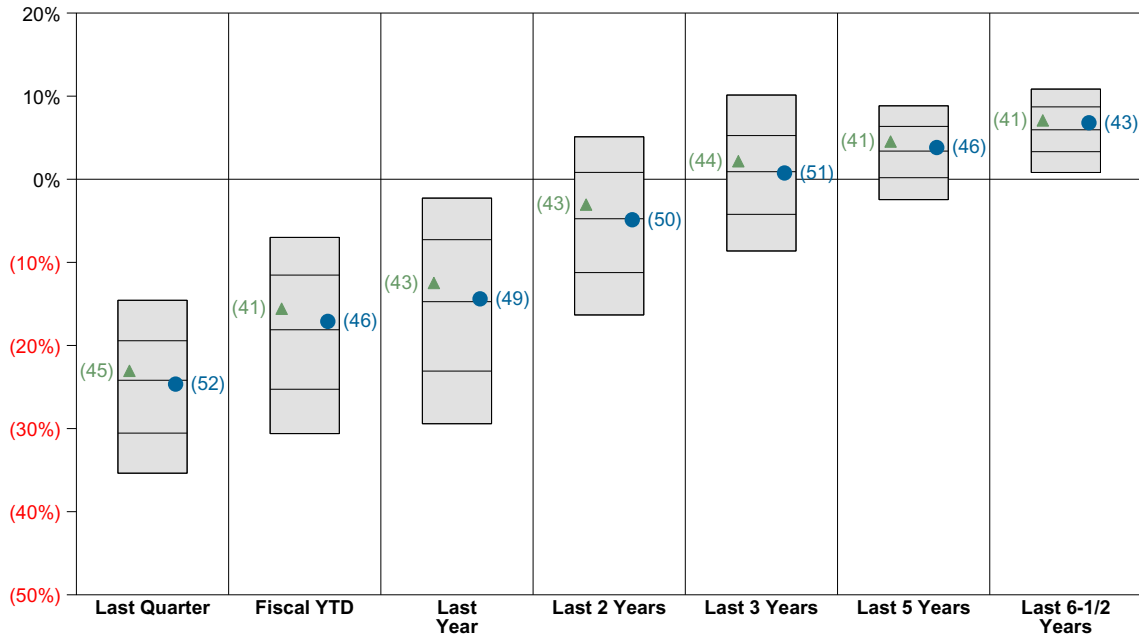
Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a (24.65)% return for the quarter placing it in the 52 percentile of the Total Domestic Equity Database group for the quarter and in the 49 percentile for the last year.
- Domestic Equity's portfolio underperformed the Domestic Equity Target by 1.60% for the quarter and underperformed the Domestic Equity Target for the year by 1.92%.

Quarterly Asset Growth

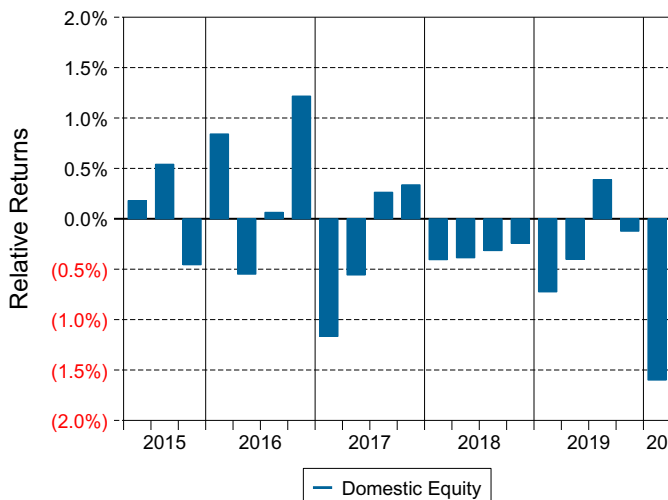
Beginning Market Value	\$2,096,980,587
Net New Investment	\$-809,668
Investment Gains/(Losses)	\$-515,122,393
Ending Market Value	\$1,581,048,526

Performance vs Total Domestic Equity Database (Gross)

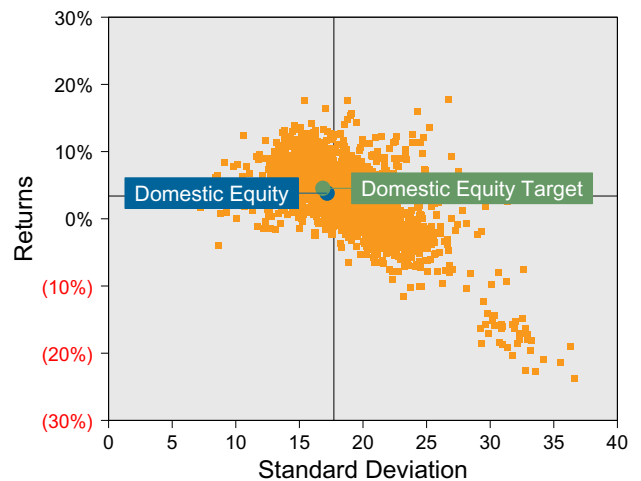


10th Percentile	(14.56)	(7.00)	(2.27)	5.11	10.13	8.84	10.85
25th Percentile	(19.43)	(11.53)	(7.27)	0.82	5.26	6.36	8.71
Median	(24.19)	(18.11)	(14.73)	(4.75)	0.91	3.39	5.95
75th Percentile	(30.55)	(25.27)	(23.08)	(11.23)	(4.22)	0.19	3.32
90th Percentile	(35.37)	(30.61)	(29.42)	(16.33)	(8.63)	(2.45)	0.82
Domestic Equity ●	(24.65)	(17.10)	(14.39)	(4.87)	0.75	3.82	6.80
Domestic Equity Target ▲	(23.05)	(15.57)	(12.47)	(3.05)	2.17	4.54	7.08

Relative Return vs Domestic Equity Target



Total Domestic Equity Database (Gross) Annualized Five Year Risk vs Return



Parametric Clifton Large Cap Period Ended March 31, 2020

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

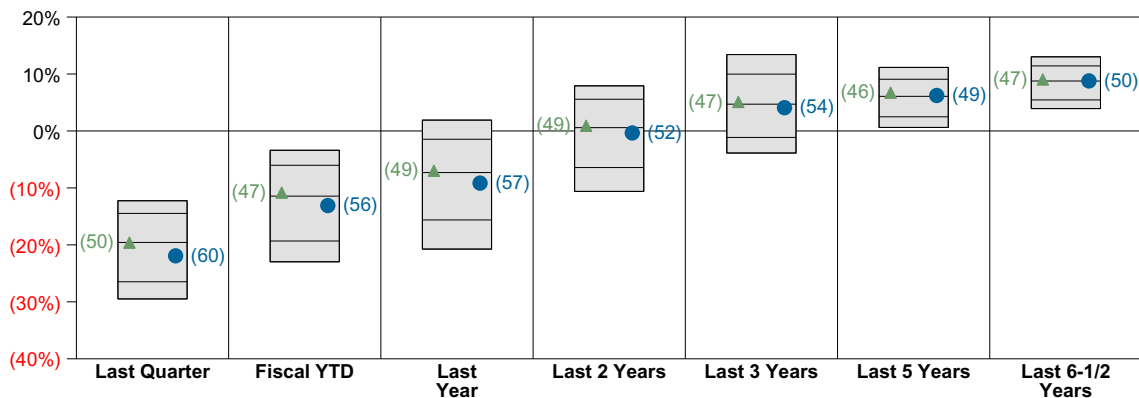
Quarterly Summary and Highlights

- Parametric Clifton Large Cap's portfolio posted a (21.92)% return for the quarter placing it in the 60 percentile of the Callan Large Capitalization group for the quarter and in the 57 percentile for the last year.
- Parametric Clifton Large Cap's portfolio underperformed the S&P 500 Index by 2.33% for the quarter and underperformed the S&P 500 Index for the year by 2.18%.

Quarterly Asset Growth

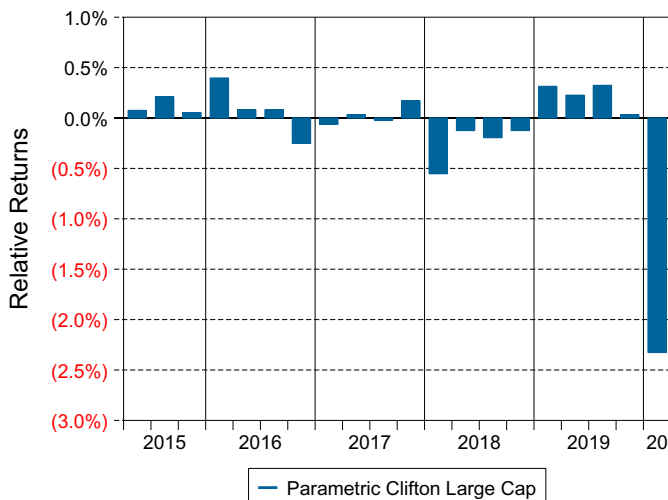
Beginning Market Value	\$312,369,075
Net New Investment	\$0
Investment Gains/(Losses)	\$-68,484,064
Ending Market Value	\$243,885,010

Performance vs Callan Large Capitalization (Gross)

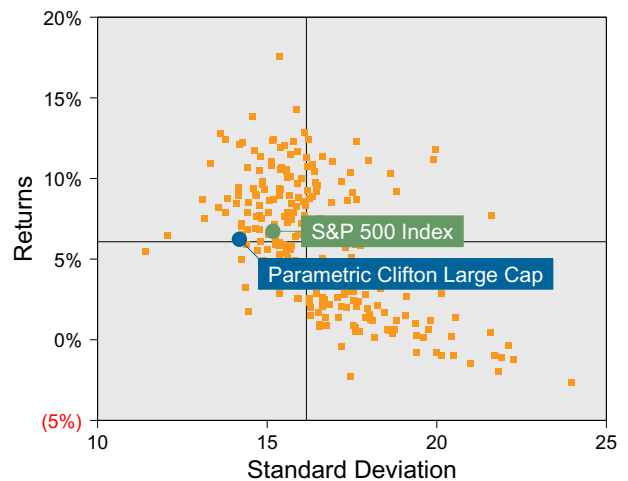


10th Percentile	(12.25)	(3.39)	1.90	7.92	13.41	11.16	13.02
25th Percentile	(14.47)	(6.03)	(1.46)	5.57	9.97	9.08	11.42
Median	(19.57)	(11.44)	(7.30)	0.58	4.70	6.08	8.77
75th Percentile	(26.47)	(19.32)	(15.62)	(6.42)	(1.14)	2.48	5.45
90th Percentile	(29.49)	(22.97)	(20.74)	(10.61)	(3.88)	0.62	3.93
Parametric Clifton Large Cap	● (21.92)	(13.10)	(9.16)	(0.35)	4.08	6.23	8.78
S&P 500 Index	▲ (19.60)	(10.82)	(6.98)	0.92	5.10	6.73	9.05

Relative Return vs S&P 500 Index



Callan Large Capitalization (Gross) Annualized Five Year Risk vs Return



L.A. Capital Period Ended March 31, 2020

Investment Philosophy

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

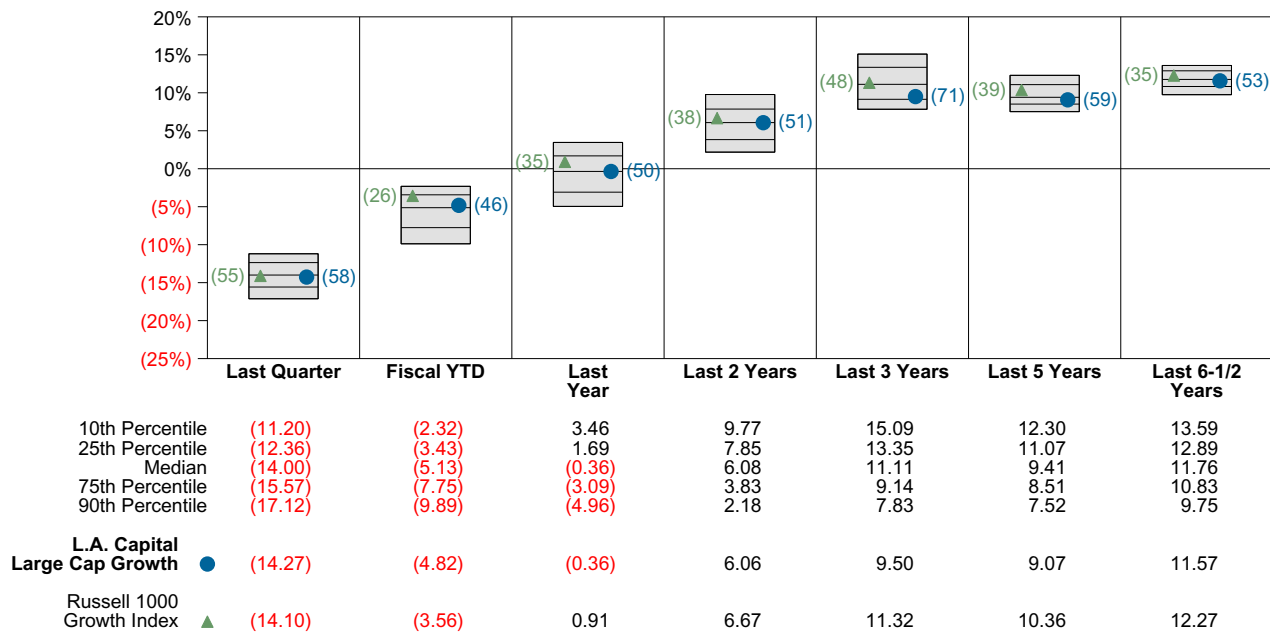
Quarterly Summary and Highlights

- L.A. Capital Large Cap Growth's portfolio posted a (14.27)% return for the quarter placing it in the 58 percentile of the Callan Large Cap Growth group for the quarter and in the 50 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio underperformed the Russell 1000 Growth Index by 0.17% for the quarter and underperformed the Russell 1000 Growth Index for the year by 1.27%.

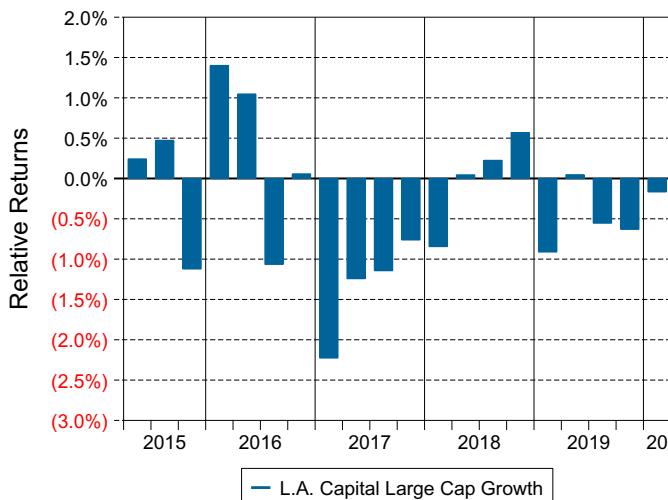
Quarterly Asset Growth

Beginning Market Value	\$463,475,136
Net New Investment	\$-230,416
Investment Gains/(Losses)	\$-66,070,625
Ending Market Value	\$397,174,094

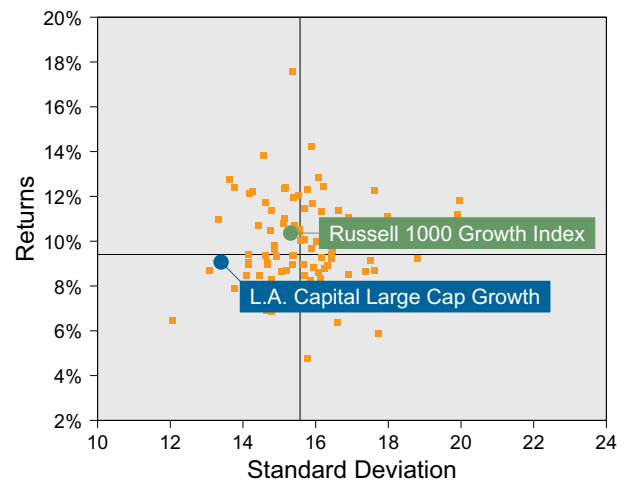
Performance vs Callan Large Cap Growth (Gross)



Relative Return vs Russell 1000 Growth Index



Callan Large Cap Growth (Gross) Annualized Five Year Risk vs Return



L.A. Capital Enhanced Period Ended March 31, 2020

Investment Philosophy

The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in April of 2004. Since October of 2006 a small portion of each of the two core accounts was allocated into the Large Cap Alpha Fund with intent to add incremental alpha to the assignment given that the information ratio was expected to be higher.

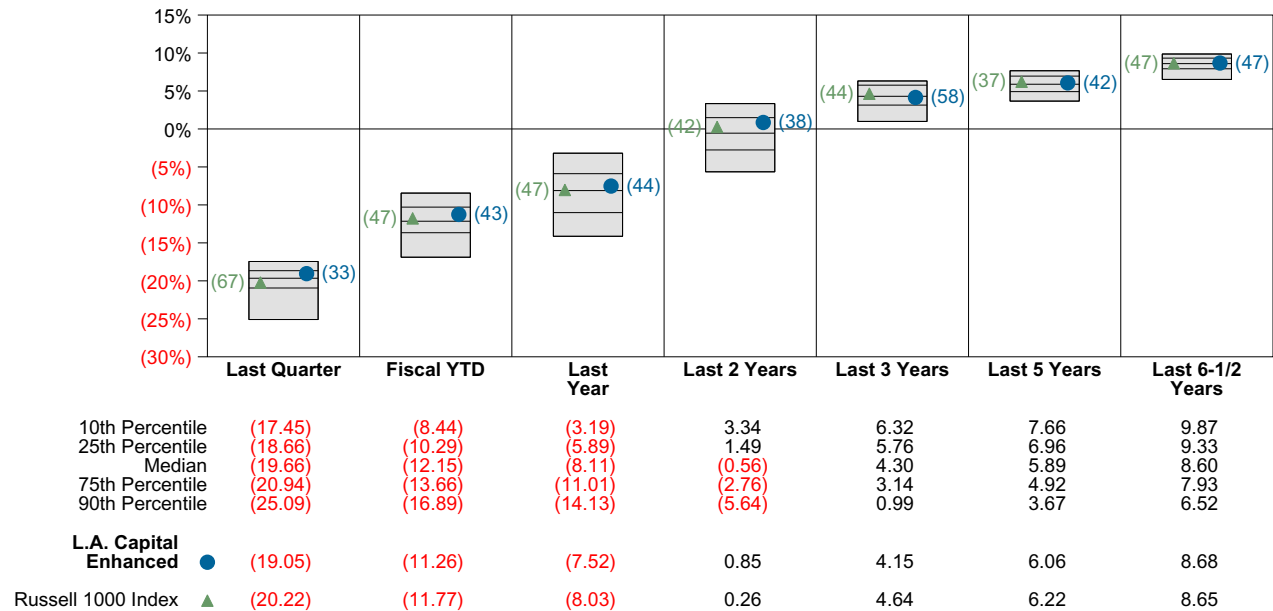
Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a (19.05)% return for the quarter placing it in the 33 percentile of the Callan Large Cap Core group for the quarter and in the 44 percentile for the last year.
- L.A. Capital Enhanced's portfolio outperformed the Russell 1000 Index by 1.17% for the quarter and outperformed the Russell 1000 Index for the year by 0.51%.

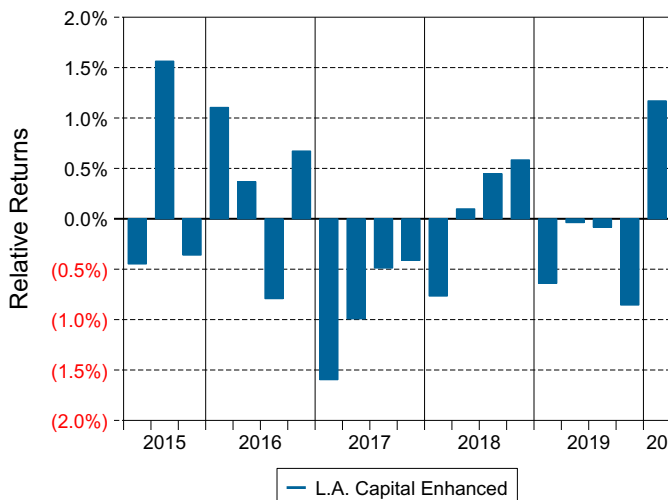
Quarterly Asset Growth

Beginning Market Value	\$307,742,672
Net New Investment	\$-94,409
Investment Gains/(Losses)	\$-58,605,968
Ending Market Value	\$249,042,295

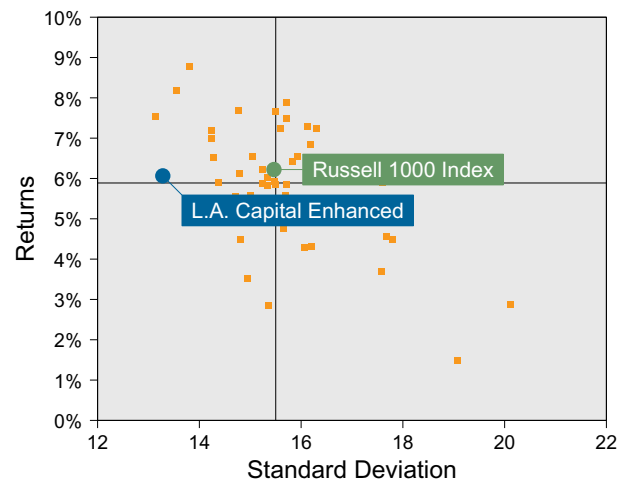
Performance vs Callan Large Cap Core (Gross)



Relative Return vs Russell 1000 Index



Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return



LSV Asset Management

Period Ended March 31, 2020

Investment Philosophy

The objective of LSV Asset Management's Large Cap Value Equity (U.S.) strategy is to outperform the Russell 1000 Value by at least 200 basis points (gross of fees) per annum over a 3-5 year period with a tracking error of approximately 4%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 100 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested.

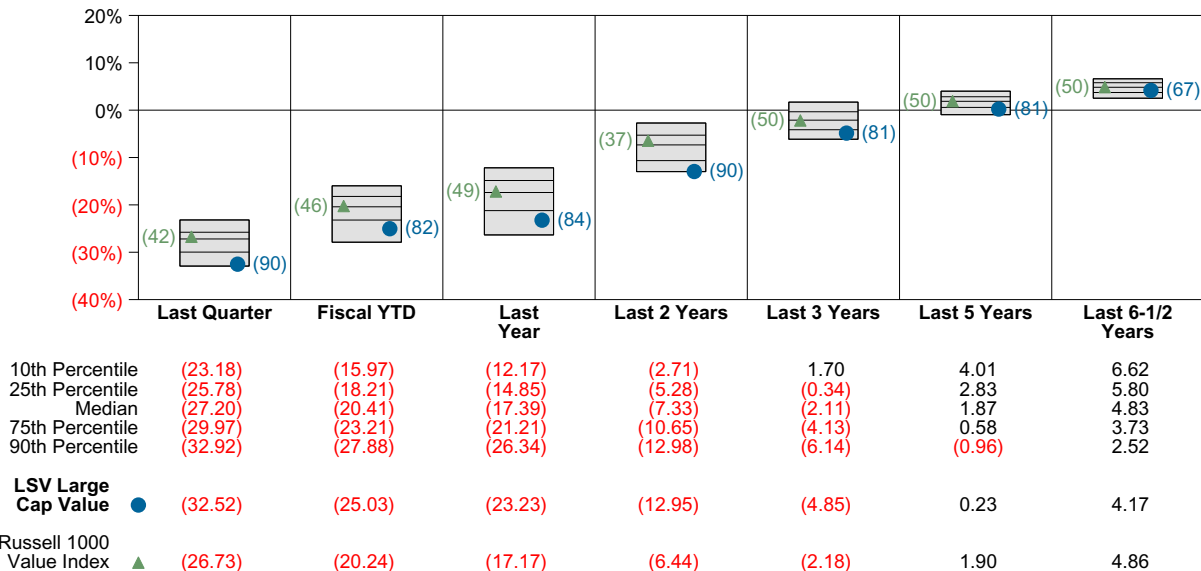
Quarterly Summary and Highlights

- LSV Large Cap Value's portfolio posted a (32.52)% return for the quarter placing it in the 90 percentile of the Callan Large Cap Value group for the quarter and in the 84 percentile for the last year.
- LSV Large Cap Value's portfolio underperformed the Russell 1000 Value Index by 5.80% for the quarter and underperformed the Russell 1000 Value Index for the year by 6.06%.

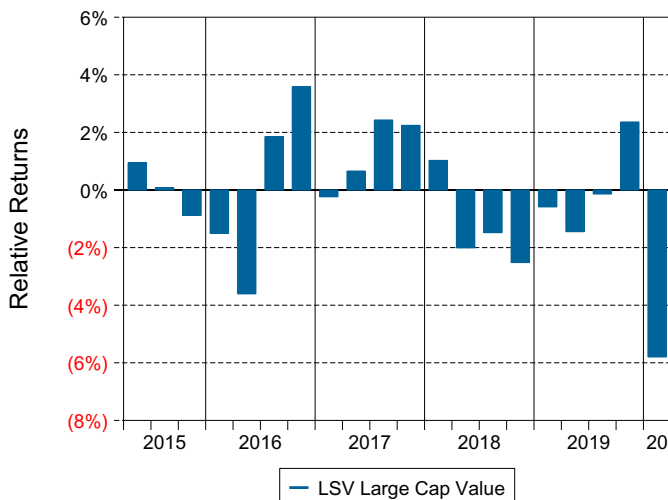
Quarterly Asset Growth

Beginning Market Value	\$454,101,358
Net New Investment	\$-323,396
Investment Gains/(Losses)	\$-147,595,830
Ending Market Value	\$306,182,132

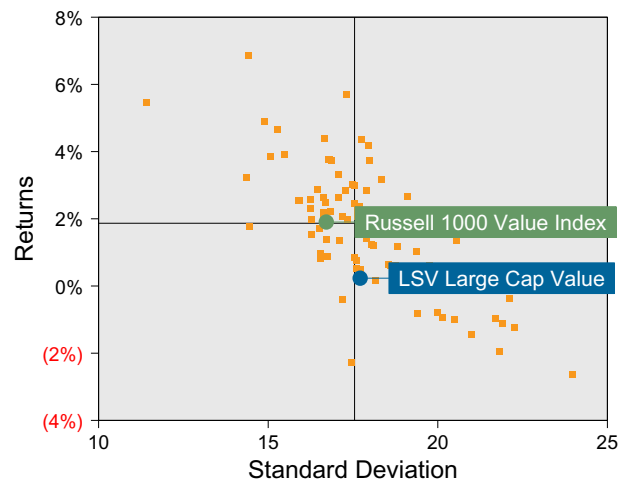
Performance vs Callan Large Cap Value (Gross)



Relative Return vs Russell 1000 Value Index



Callan Large Cap Value (Gross) Annualized Five Year Risk vs Return



Atlanta Capital Period Ended March 31, 2020

Investment Philosophy

Atlanta believes that high quality companies produce consistently increasing earnings and dividends, thereby providing attractive returns with moderate risk over the long-term.

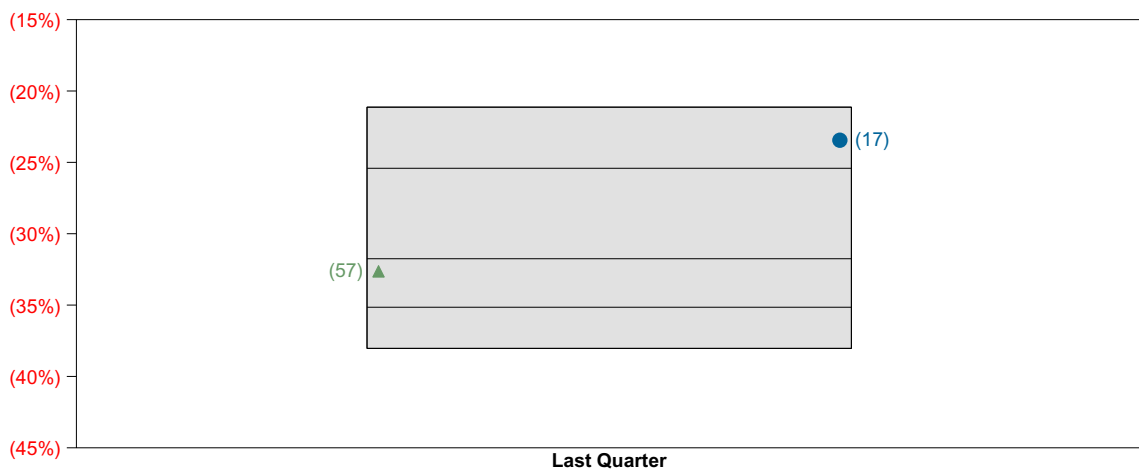
Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a (23.45)% return for the quarter placing it in the 17 percentile of the Callan Small Capitalization group for the quarter.
- Atlanta Capital's portfolio outperformed the S&P 600 Small Cap Index by 9.19% for the quarter.

Quarterly Asset Growth

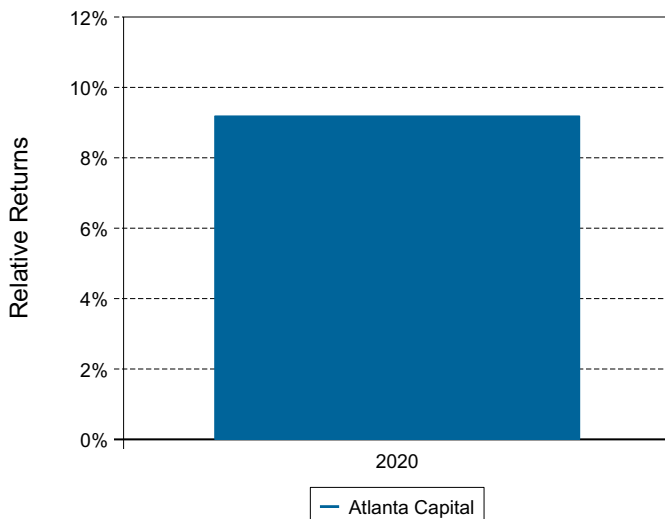
Beginning Market Value	\$44,825,663
Net New Investment	\$89,990,259
Investment Gains/(Losses)	\$-28,876,369
Ending Market Value	\$105,939,552

Performance vs Callan Small Capitalization (Gross)

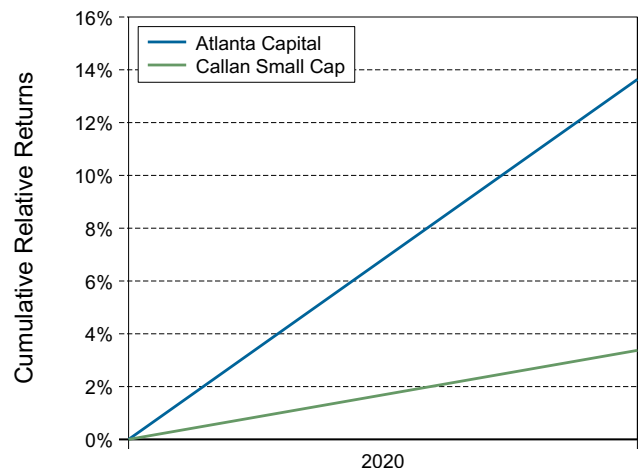


10th Percentile	(21.13)
25th Percentile	(25.42)
Median	(31.75)
75th Percentile	(35.15)
90th Percentile	(38.03)
Atlanta Capital	(23.45)
S&P 600 Small Cap Index	(32.64)

Relative Return vs S&P 600 Small Cap Index



Cumulative Returns vs S&P 600 Small Cap Index



Parametric Clifton Small Cap Period Ended March 31, 2020

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

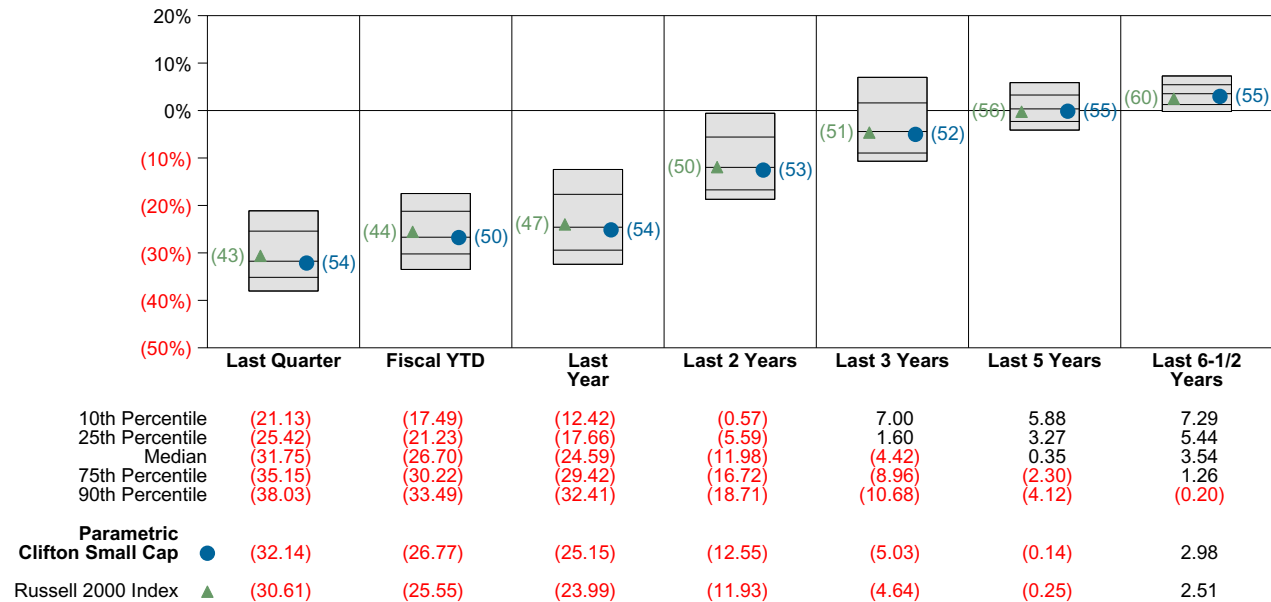
Quarterly Summary and Highlights

- Parametric Clifton Small Cap's portfolio posted a (32.14)% return for the quarter placing it in the 54 percentile of the Callan Small Capitalization group for the quarter and in the 54 percentile for the last year.
- Parametric Clifton Small Cap's portfolio underperformed the Russell 2000 Index by 1.53% for the quarter and underperformed the Russell 2000 Index for the year by 1.16%.

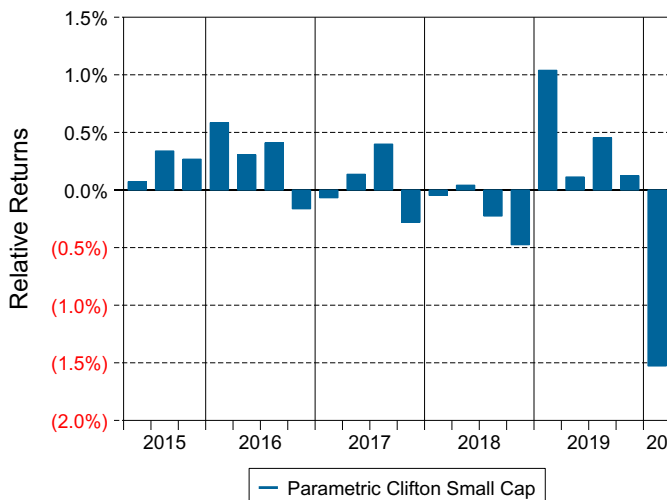
Quarterly Asset Growth

Beginning Market Value	\$293,156,534
Net New Investment	\$0
Investment Gains/(Losses)	\$-94,226,519
Ending Market Value	\$198,930,015

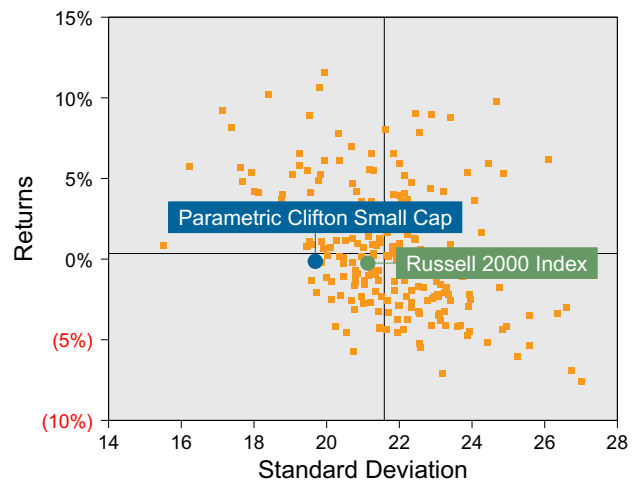
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return



PIMCO RAE

Period Ended March 31, 2020

Investment Philosophy

Small company value equity portfolio utilizing the index strategy and philosophy described as the Enhanced RAFI US Small strategy which relies on portfolio weights derived from firm fundamentals (free cash flow, book equity value, total sales and gross dividend), instead of market capitalization. Additionally, the enhanced portfolio strategy uses a quality of earnings screening and a financial distress screening to augment portfolio returns and reduce portfolio volatility.

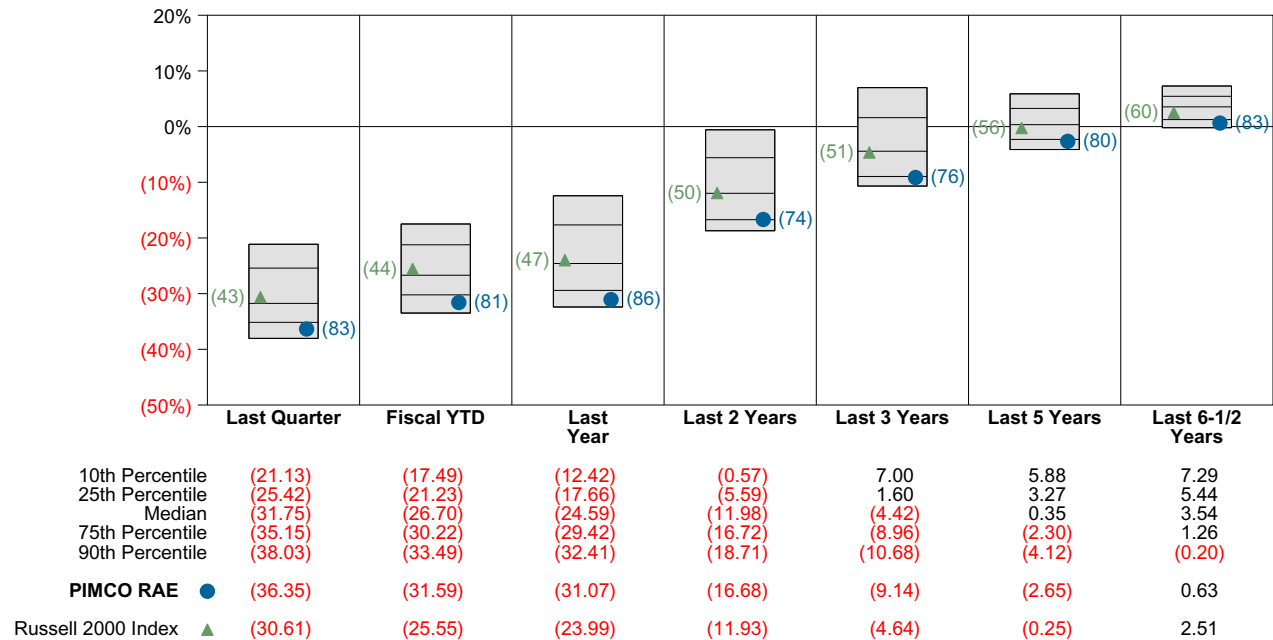
Quarterly Summary and Highlights

- PIMCO RAE's portfolio posted a (36.35)% return for the quarter placing it in the 83 percentile of the Callan Small Capitalization group for the quarter and in the 86 percentile for the last year.
- PIMCO RAE's portfolio underperformed the Russell 2000 Index by 5.74% for the quarter and underperformed the Russell 2000 Index for the year by 7.08%.

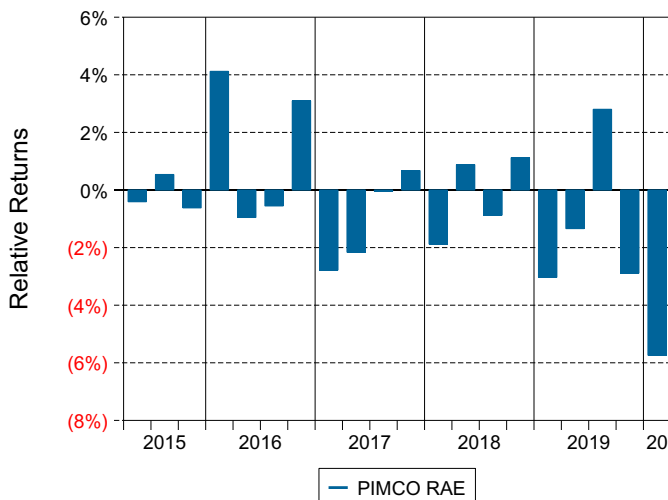
Quarterly Asset Growth

Beginning Market Value	\$221,310,151
Net New Investment	\$-90,151,706
Investment Gains/(Losses)	\$-51,263,018
Ending Market Value	\$79,895,427

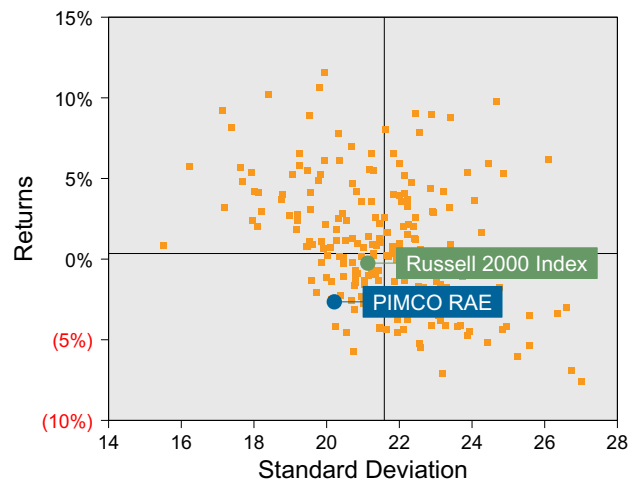
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return



International Equity Period Ended March 31, 2020

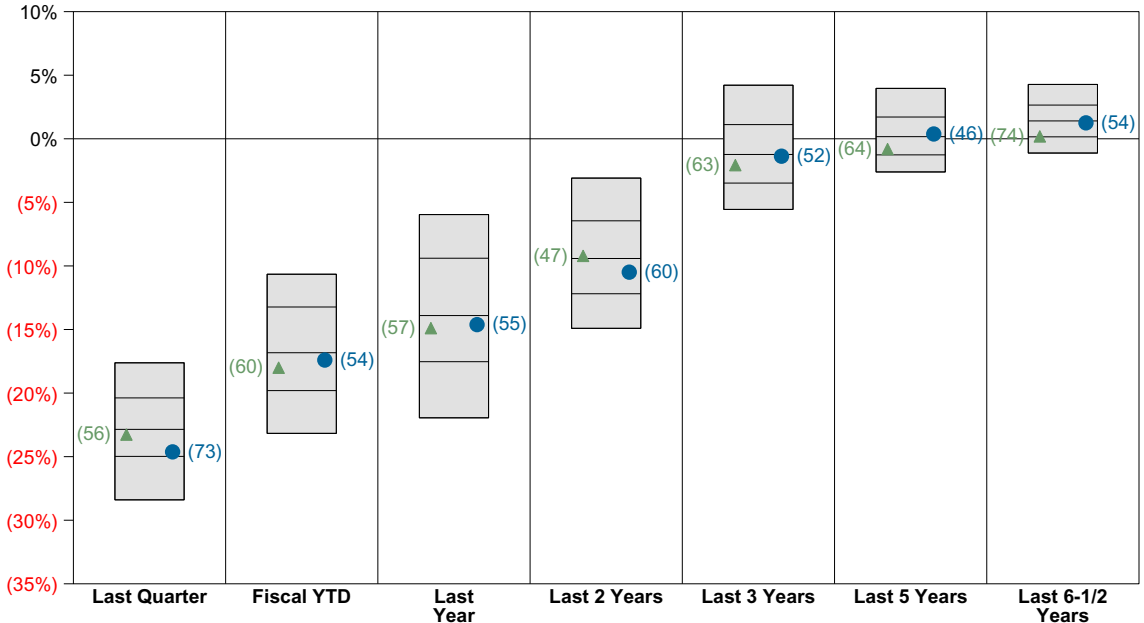
Quarterly Summary and Highlights

- International Equity's portfolio posted a (24.62)% return for the quarter placing it in the 73 percentile of the Callan Non-US Equity group for the quarter and in the 55 percentile for the last year.
- International Equity's portfolio underperformed the International Equity Target by 1.36% for the quarter and outperformed the International Equity Target for the year by 0.28%.

Quarterly Asset Growth

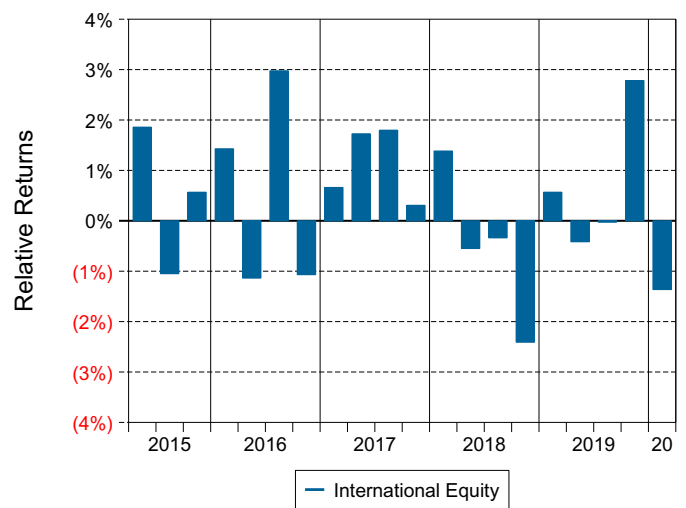
Beginning Market Value	\$1,398,781,058
Net New Investment	\$-1,027,232
Investment Gains/(Losses)	\$-344,235,258
Ending Market Value	\$1,053,518,568

Performance vs Callan Non-US Equity (Gross)

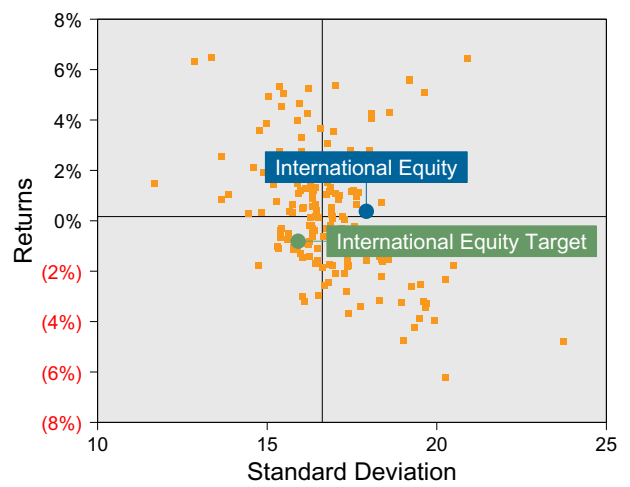


10th Percentile	(17.62)	(10.65)	(5.96)	(3.09)	4.21	3.96	4.28
25th Percentile	(20.38)	(13.23)	(9.39)	(6.45)	1.12	1.71	2.65
Median	(22.85)	(16.83)	(13.90)	(9.42)	(1.23)	0.17	1.40
75th Percentile	(24.98)	(19.80)	(17.53)	(12.19)	(3.48)	(1.27)	0.15
90th Percentile	(28.40)	(23.17)	(21.95)	(14.91)	(5.56)	(2.61)	(1.12)
International Equity ●	(24.62)	(17.40)	(14.62)	(10.49)	(1.37)	0.38	1.25
International Equity Target ▲	(23.26)	(18.00)	(14.89)	(9.21)	(2.07)	(0.81)	0.19

Relative Return vs International Equity Target



Callan Non-US Equity (Gross) Annualized Five Year Risk vs Return



DFA Intl Small Cap Value Period Ended March 31, 2020

Investment Philosophy

The International Small Cap Value Portfolio invests in the stocks of small, non-US developed markets companies that Dimensional believes to be value stocks at the time of purchase. Specifically, it looks at companies that fall within the smallest 8-10% of each country's market capitalization, and who's shares have a high book value in relation to their market value (BtM). It does not invest in emerging markets.

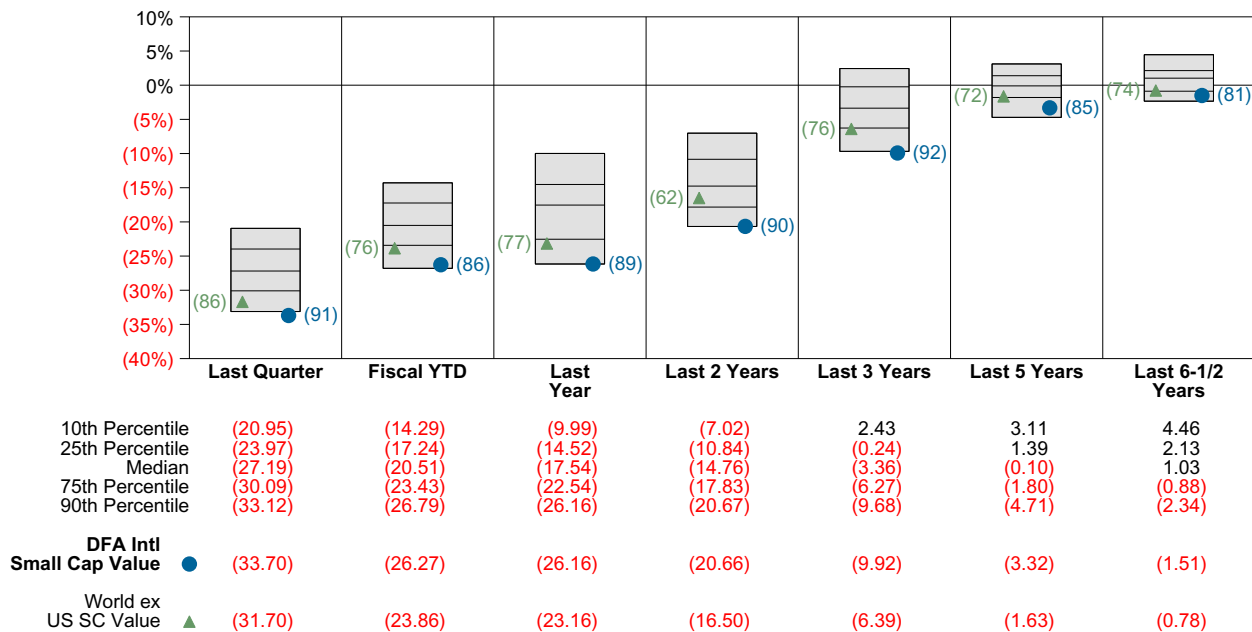
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a (33.70)% return for the quarter placing it in the 91 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 89 percentile for the last year.
- DFA Intl Small Cap Value's portfolio underperformed the World ex US SC Value by 2.00% for the quarter and underperformed the World ex US SC Value for the year by 3.00%.

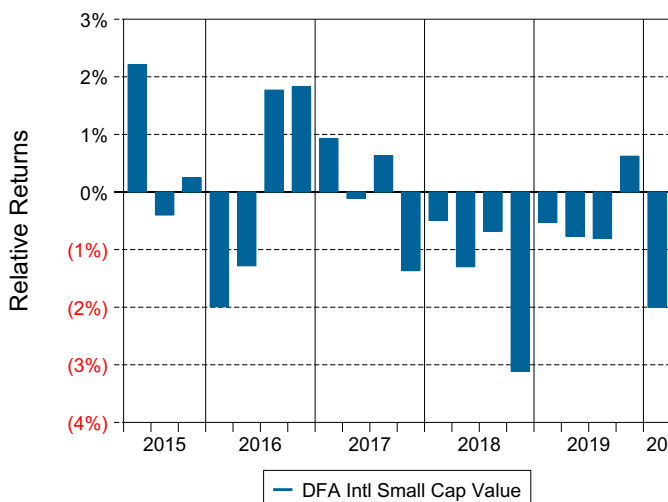
Quarterly Asset Growth

Beginning Market Value	\$147,039,642
Net New Investment	\$0
Investment Gains/(Losses)	\$-49,545,140
Ending Market Value	\$97,494,502

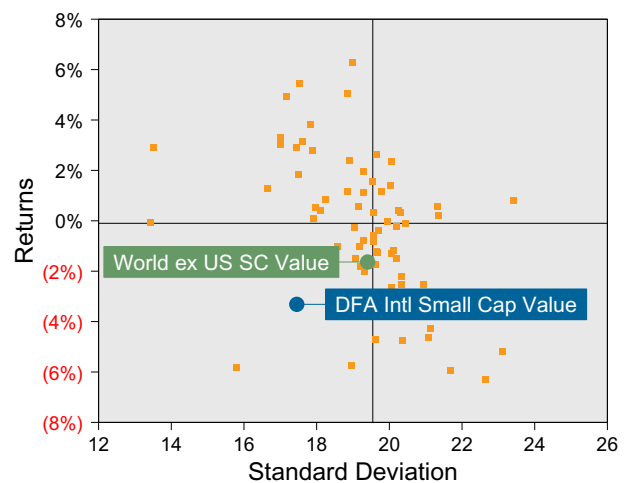
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Return vs World ex US SC Value



Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return



LSV Intl Value

Period Ended March 31, 2020

Investment Philosophy

The objective of LSV Asset Management's International Large Cap Value strategy is to outperform the MSCI EAFE Index by at least 250 basis points (gross of fees) per annum over an annualized 3-5 year period with a tracking error of approximately 5-6%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 150 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested. LSV weights countries at a neutral weight relative to the benchmark country weights. 50% of the portfolio is US dollar hedged.

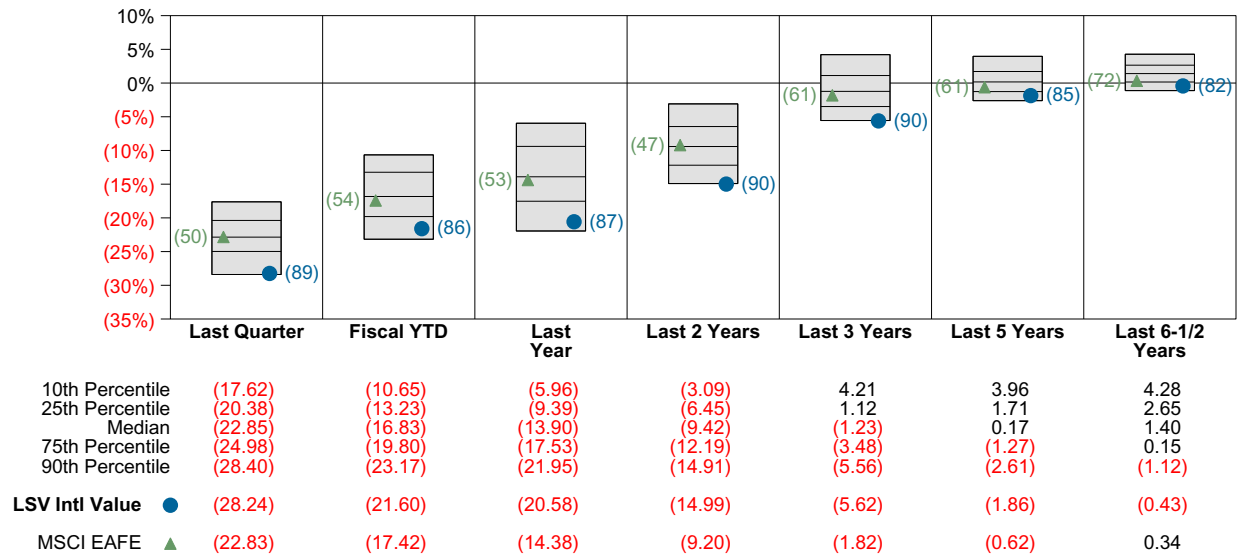
Quarterly Summary and Highlights

- LSV Intl Value's portfolio posted a (28.24)% return for the quarter placing it in the 89 percentile of the Callan Non-US Equity group for the quarter and in the 87 percentile for the last year.
- LSV Intl Value's portfolio underperformed the MSCI EAFE by 5.42% for the quarter and underperformed the MSCI EAFE for the year by 6.20%.

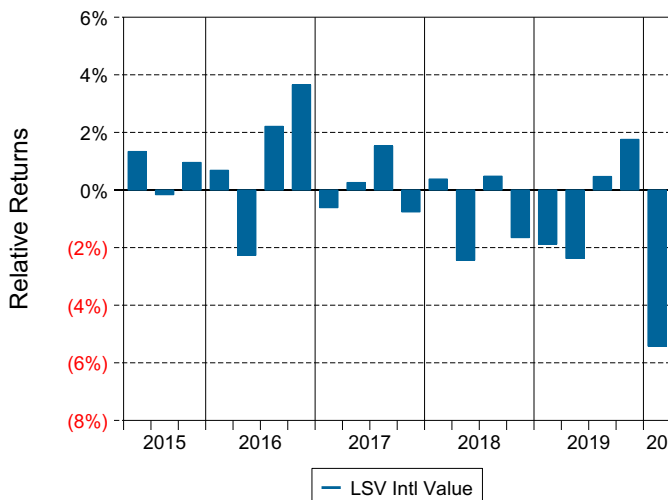
Quarterly Asset Growth

Beginning Market Value	\$528,585,177
Net New Investment	\$-515,532
Investment Gains/(Losses)	\$-149,190,368
Ending Market Value	\$378,879,277

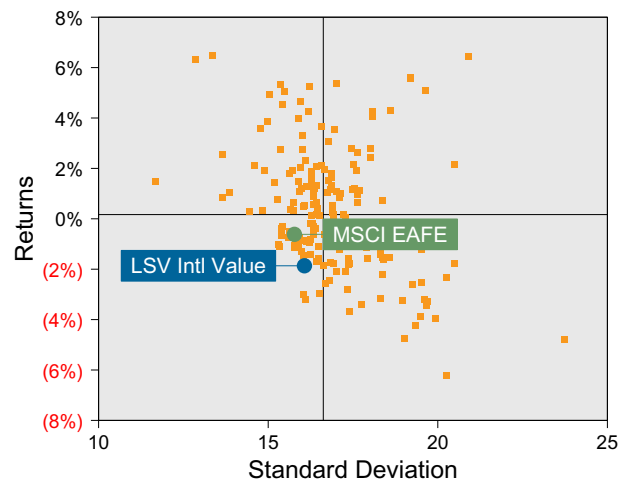
Performance vs Callan Non-US Equity (Gross)



Relative Return vs MSCI EAFE



Callan Non-US Equity (Gross) Annualized Five Year Risk vs Return



Vanguard Intl Explorer Fund Period Ended March 31, 2020

Investment Philosophy

Vanguard International Explorer Fund invests primarily in the equity securities of small-capitalization companies located outside the United States that the advisor believes offer the potential for long-term capital appreciation. The advisor considers, among other things, whether a company is likely to have above-average earnings growth, whether the company's securities are attractively valued, and whether the company has any proprietary advantages.

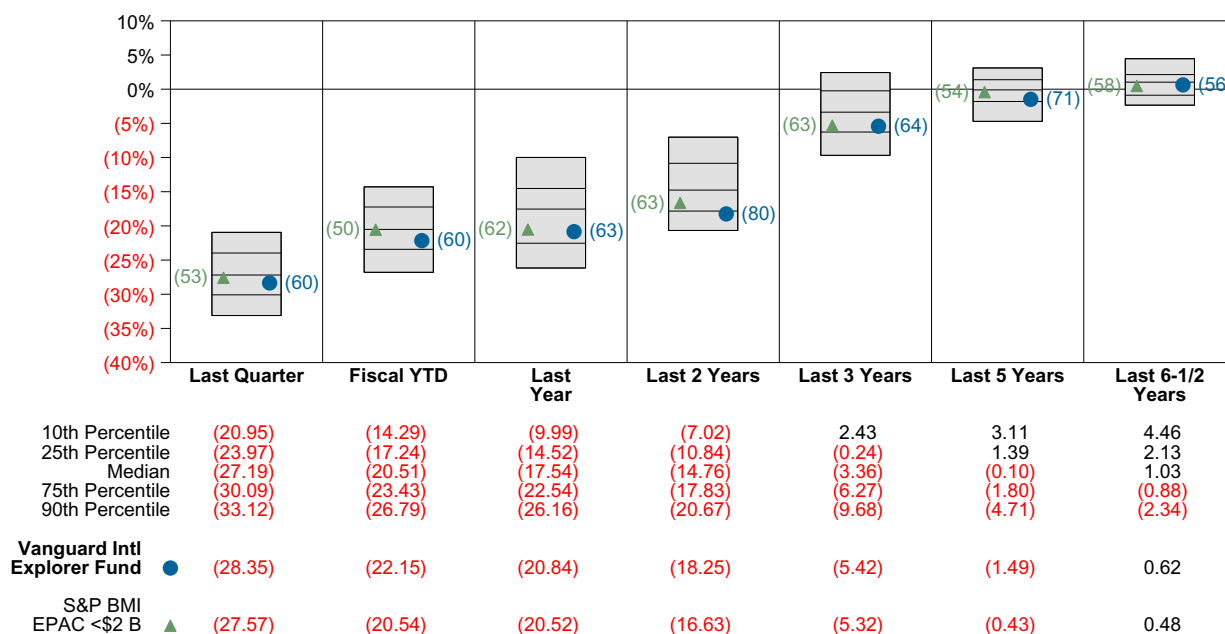
Quarterly Summary and Highlights

- Vanguard Intl Explorer Fund's portfolio posted a (28.35)% return for the quarter placing it in the 60 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 63 percentile for the last year.
- Vanguard Intl Explorer Fund's portfolio underperformed the S&P BMI EPAC <\$2 B by 0.77% for the quarter and underperformed the S&P BMI EPAC <\$2 B for the year by 0.32%.

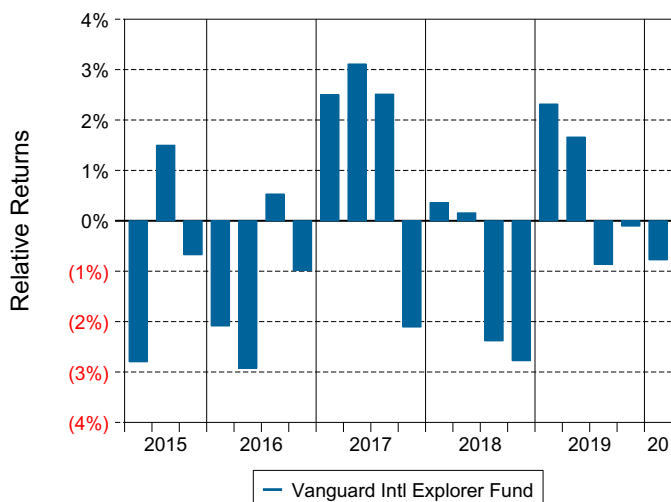
Quarterly Asset Growth

Beginning Market Value	\$142,892,271
Net New Investment	\$0
Investment Gains/(Losses)	\$-40,507,407
Ending Market Value	\$102,384,864

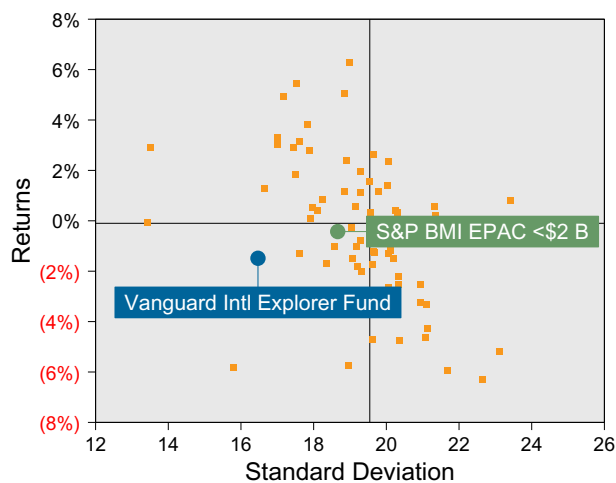
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Return vs S&P BMI EPAC <\$2 B



Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return



William Blair Period Ended March 31, 2020

Investment Philosophy

One of the basic investment tenets of William Blair & Company has been its focus on quality growth companies. They believe that investing in quality growth companies will generate above average results with generally less risk than the market. This opportunity exists because they believe the market underestimates the durability and rate of growth in companies that have the following characteristics: strong management with a unique vision, competitive advantages that prolong the duration and size of earnings growth, and conservative financing. Internationally, they believe that this philosophy can be combined with strategic flexibility in managing geographic exposure, capitalization, sector emphasis, and relative growth and valuation at the portfolio level in order to provide an appropriate degree of adaptability to cyclical conditions.

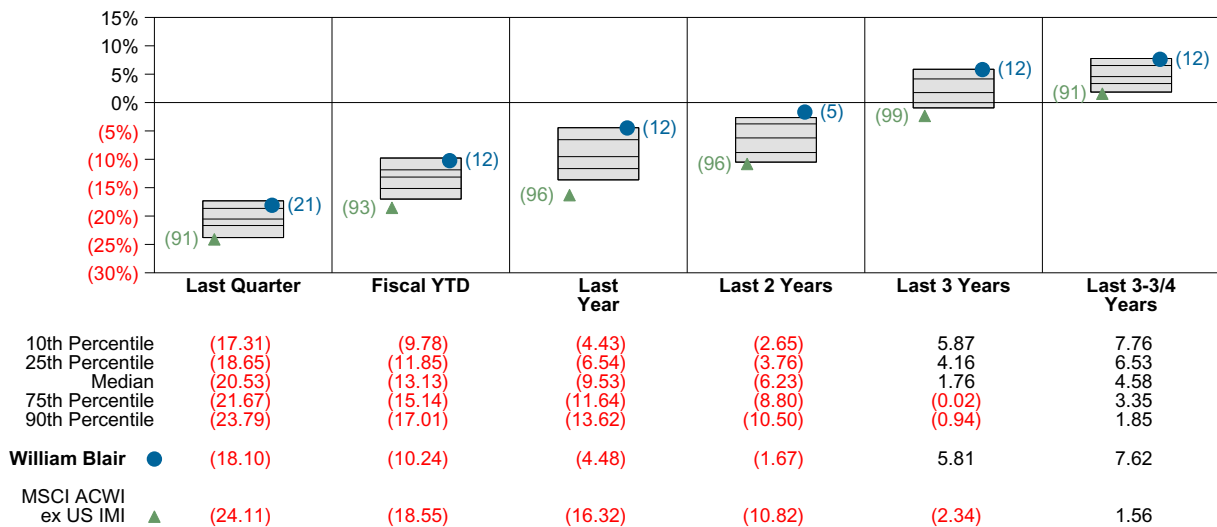
Quarterly Summary and Highlights

- William Blair's portfolio posted a (18.10)% return for the quarter placing it in the 21 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 12 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 6.01% for the quarter and outperformed the MSCI ACWI ex US IMI for the year by 11.84%.

Quarterly Asset Growth

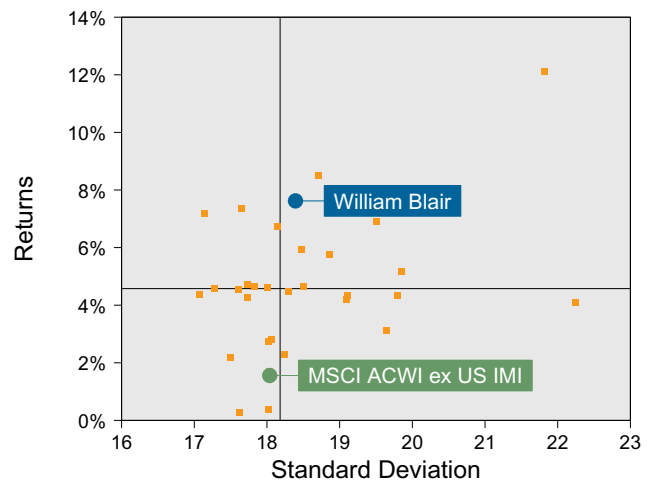
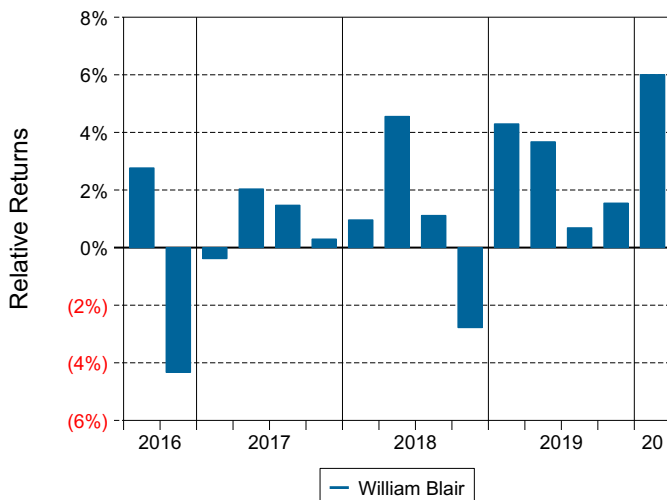
Beginning Market Value	\$580,263,968
Net New Investment	\$-511,700
Investment Gains/(Losses)	\$-104,992,343
Ending Market Value	\$474,759,926

Performance vs Callan Non-US All Country Growth Equity (Gross)



Callan Non-US All Country Growth Equity (Gross) Annualized Three and Three-Quarter Year Risk vs Return

Relative Return vs MSCI ACWI ex US IMI



Domestic Fixed Income Period Ended March 31, 2020

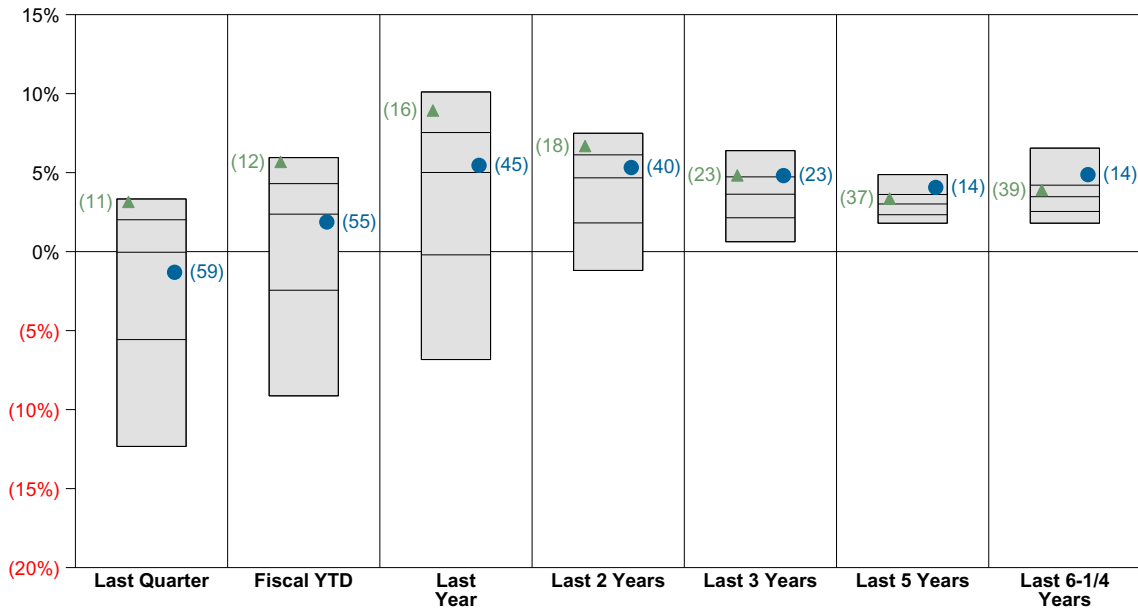
Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a (1.31)% return for the quarter placing it in the 59 percentile of the Total Domestic Fixed-Inc Database group for the quarter and in the 45 percentile for the last year.
- Domestic Fixed Income's portfolio underperformed the Domestic Fixed Income Target by 4.46% for the quarter and underperformed the Domestic Fixed Income Target for the year by 3.47%.

Quarterly Asset Growth

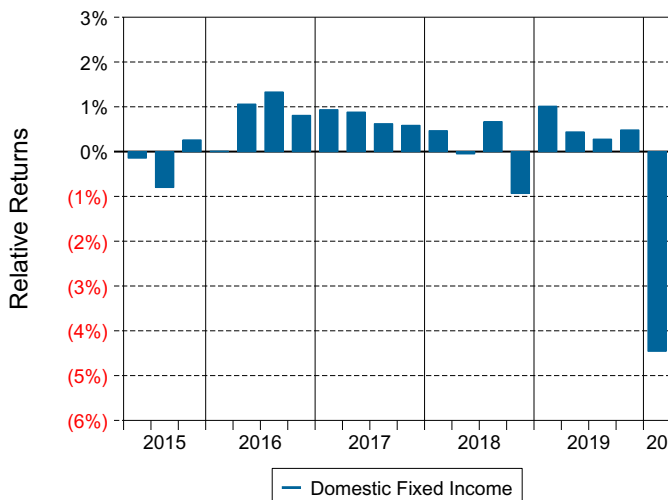
Beginning Market Value	\$2,339,067,336
Net New Investment	\$114,064,365
Investment Gains/(Losses)	\$-33,557,844
Ending Market Value	\$2,419,573,857

Performance vs Total Domestic Fixed-Inc Database (Gross)

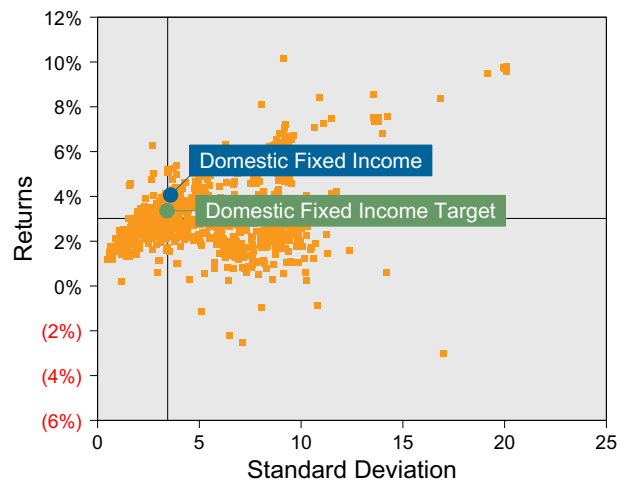


10th Percentile	3.33	5.95	10.11	7.49	6.39	4.88	6.55
25th Percentile	2.02	4.30	7.54	6.13	4.73	3.62	4.21
Median	(0.04)	2.37	5.01	4.67	3.63	3.02	3.48
75th Percentile	(5.57)	(2.44)	(0.20)	1.82	2.14	2.34	2.54
90th Percentile	(12.33)	(9.13)	(6.83)	(1.19)	0.63	1.80	1.80
Domestic Fixed Income	● (1.31)	1.88	5.46	5.32	4.81	4.06	4.87
Domestic Fixed Income Target	▲ 3.15	5.68	8.93	6.68	4.82	3.36	3.90

Relative Returns vs Domestic Fixed Income Target



Total Domestic Fixed-Inc Database (Gross) Annualized Five Year Risk vs Return



Ares ND Credit Strategies Fd Period Ended March 31, 2020

Quarterly Summary and Highlights

- Ares ND Credit Strategies Fd's portfolio posted a 1.99% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Ares ND Credit Strategies Fd's portfolio outperformed the S&P/LSTA Leveraged Loan B Index by 15.70% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 18.04%.

Quarterly Asset Growth

Beginning Market Value	\$68,545,728
Net New Investment	\$10,000,000
Investment Gains/(Losses)	\$1,367,299
Ending Market Value	\$79,913,027

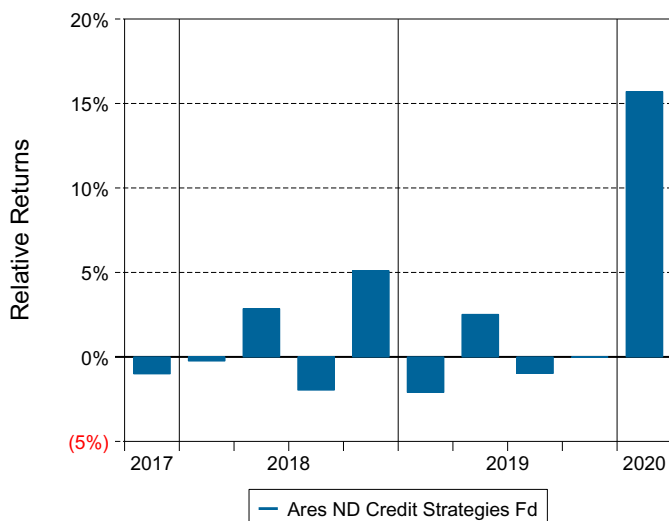
Performance vs Callan High Yield Mutual Funds (Net)



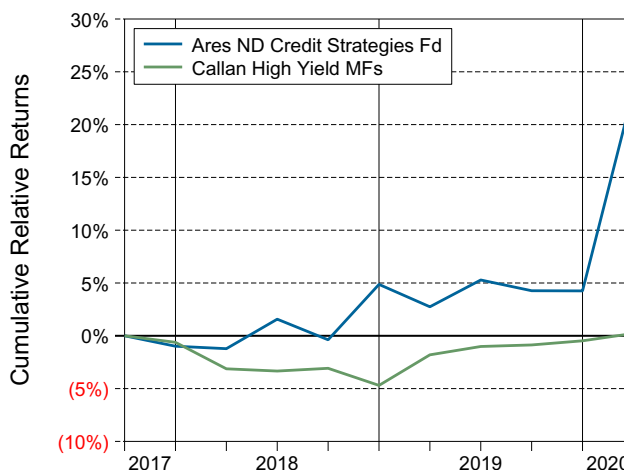
10th Percentile	(10.30)	(6.68)	(4.19)	0.14	0.06
25th Percentile	(11.73)	(8.26)	(5.67)	(0.43)	(0.83)
Median	(12.78)	(9.65)	(7.31)	(1.56)	(1.41)
75th Percentile	(14.30)	(10.96)	(8.78)	(2.30)	(2.04)
90th Percentile	(15.99)	(13.25)	(10.94)	(3.92)	(3.30)

Ares ND Credit Strategies Fd	● A	1.99	4.13	8.53	7.97	6.90
S&P/LSTA Leveraged Loan	■ B	(13.05)	(10.66)	(9.16)	(3.29)	(1.64)
S&P/LSTA Leveraged Loan B Index	▲ C	(13.72)	(11.03)	(9.50)	(3.33)	(1.67)

Relative Returns vs S&P/LSTA Leveraged Loan B Index



Cumulative Returns vs S&P/LSTA Leveraged Loan B Index



Cerberus ND Private Credit Fd Period Ended March 31, 2020

Investment Philosophy

The investment objective of the LLC is to achieve superior risk-adjusted rates of return primarily through origination of, and investment in, secured debt assets consistent with the Loan Opportunities Strategy of the Cerberus Business Finance lending platform ("CBF", "Cerberus Business Finance" or the "Cerberus Lending Platform"). The Cerberus Lending Platform is a direct origination and lending business focused on providing secured debt primarily to U.S. middle-market companies. The LLC expects to generate both current income and capital appreciation.

Quarterly Summary and Highlights

- Cerberus ND Private Credit Fd's portfolio posted a 2.46% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Cerberus ND Private Credit Fd's portfolio outperformed the S&P/LSTA Leveraged Loan B Index by 16.18% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 18.07%.

Quarterly Asset Growth

Beginning Market Value	\$83,873,691
Net New Investment	\$9,000,000
Investment Gains/(Losses)	\$2,076,500
Ending Market Value	\$94,950,191

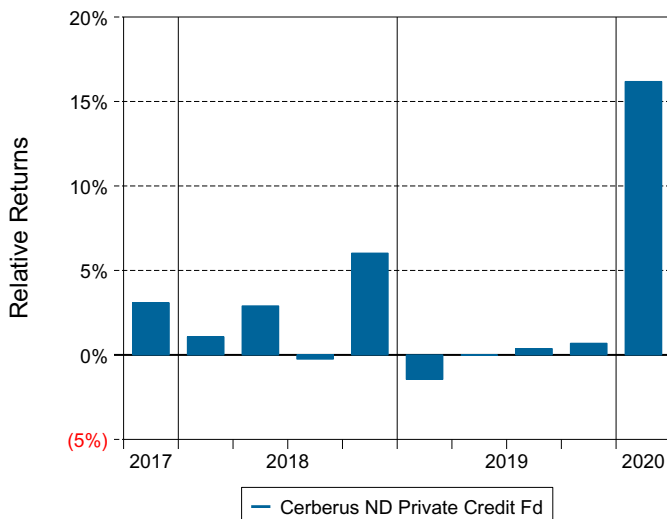
Performance vs Callan High Yield Mutual Funds (Net)



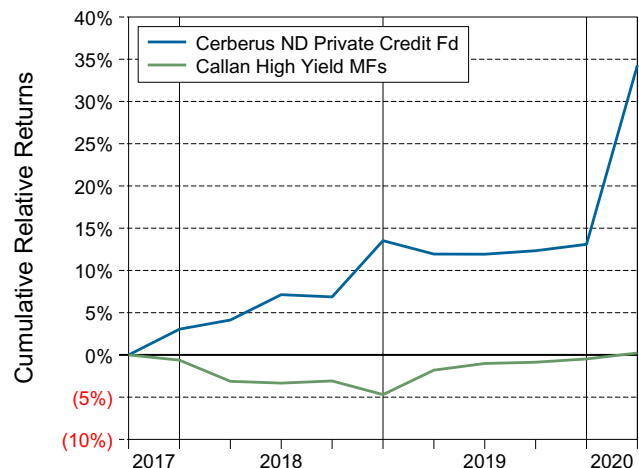
10th Percentile	(10.30)	(6.68)	(4.19)	0.14	0.06
25th Percentile	(11.73)	(8.26)	(5.67)	(0.43)	(0.83)
Median	(12.78)	(9.65)	(7.31)	(1.56)	(1.41)
75th Percentile	(14.30)	(10.96)	(8.78)	(2.30)	(2.04)
90th Percentile	(15.99)	(13.25)	(10.94)	(3.92)	(3.30)

Cerberus ND Private Credit Fd	● A	2.46	6.75	8.57	9.78	10.64
S&P/LSTA Leveraged Loan	■ B	(13.05)	(10.66)	(9.16)	(3.29)	(1.64)
S&P/LSTA Leveraged Loan B Index	▲	(13.72)	(11.03)	(9.50)	(3.33)	(1.67)

Relative Returns vs S&P/LSTA Leveraged Loan B Index



Cumulative Returns vs S&P/LSTA Leveraged Loan B Index



Declaration Total Return Period Ended March 31, 2020

Investment Philosophy

The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). Portfolio holdings may range from short tenure senior classes to stressed issues or subordinated securities with substantial risk of non-payment and correspondingly higher yields. Smaller portfolio allocations may include consumer asset-backed securities (ABS), or other structured credit securities and corporate bonds. As a diversification strategy and a potential hedge to credit risk, the Fund may invest in securities which tend to benefit from slow mortgage prepayments and economic growth, such as interest only (IO) MBS.

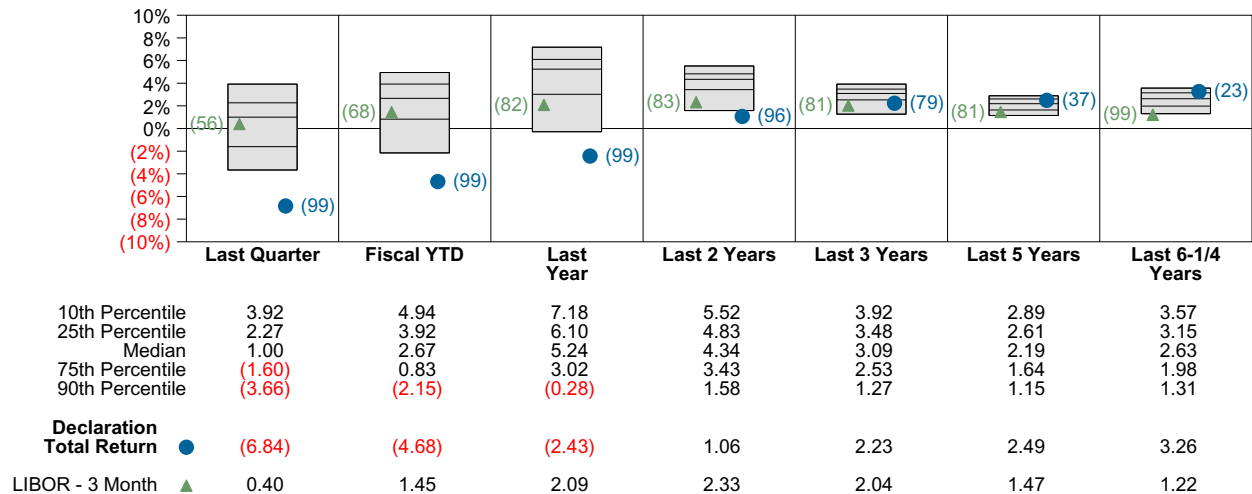
Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a (6.84)% return for the quarter placing it in the 99 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 99 percentile for the last year.
- Declaration Total Return's portfolio underperformed the LIBOR - 3 Month by 7.24% for the quarter and underperformed the LIBOR - 3 Month for the year by 4.52%.

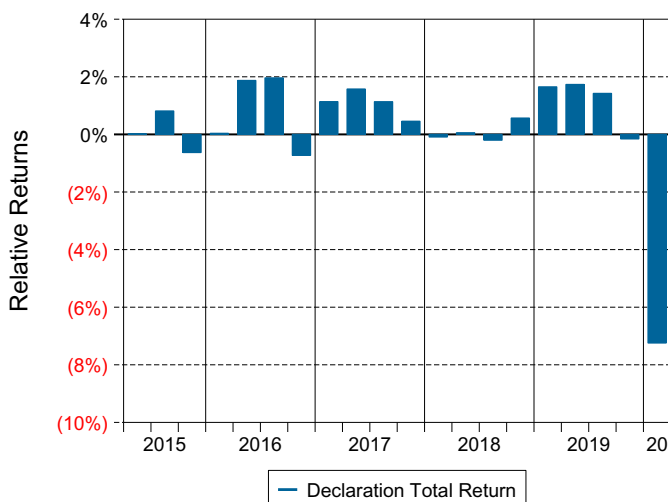
Quarterly Asset Growth

Beginning Market Value	\$168,853,882
Net New Investment	\$25,902,394
Investment Gains/(Losses)	\$-13,658,902
Ending Market Value	\$181,097,374

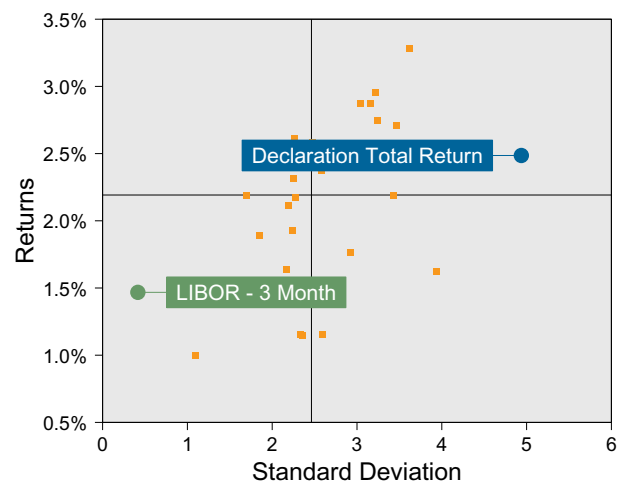
Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)



Relative Return vs LIBOR - 3 Month



Callan Intermediate Fixed Inc Mut Funds (Net) Annualized Five Year Risk vs Return



PIMCO Bravo II

Period Ended March 31, 2020

Investment Philosophy

The BRAVO II Fund is a private equity style fund targeting an annualized IRR of 15-20% and multiple of 1.8-2x, net of fees and carried interest with an initial 5-year term. The fund will seek to capitalize on non-economic asset sale decisions by global financial institutions. The fund will have the flexibility to acquire attractively discounted, less liquid loans, structured credit and other assets tied to residential or commercial real estate markets in the U.S. and Europe. **Prior to July 1, 2019, the Legacy Fund participated in these portfolios via the Insurance Pool. Beginning July 1, 2019, its portion of the pool was segregated into its own portfolios. Returns prior to that date reflect the data from the Insurance pool.**

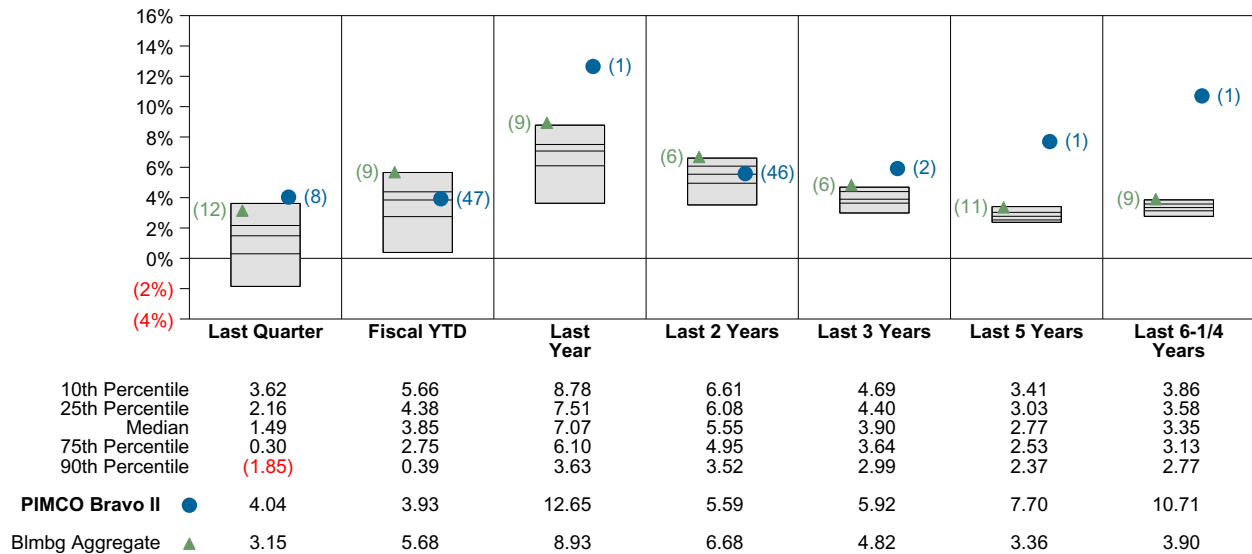
Quarterly Summary and Highlights

- PIMCO Bravo II's portfolio posted a 4.04% return for the quarter placing it in the 8 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO Bravo II's portfolio outperformed the Blmbg Aggregate by 0.89% for the quarter and outperformed the Blmbg Aggregate for the year by 3.71%.

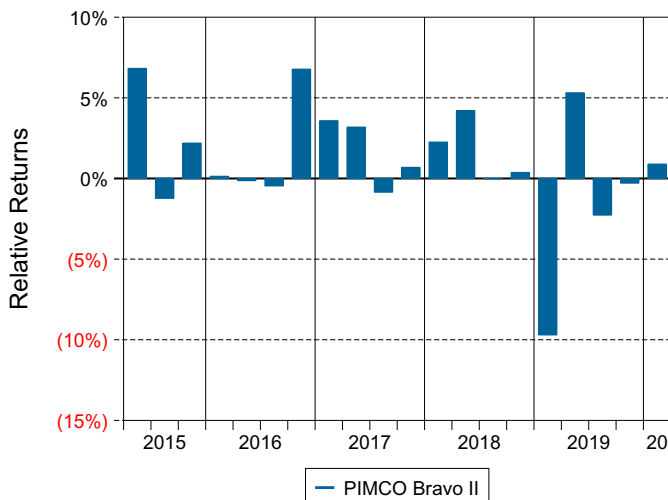
Quarterly Asset Growth

Beginning Market Value	\$11,402,431
Net New Investment	\$-756,599
Investment Gains/(Losses)	\$460,163
Ending Market Value	\$11,105,995

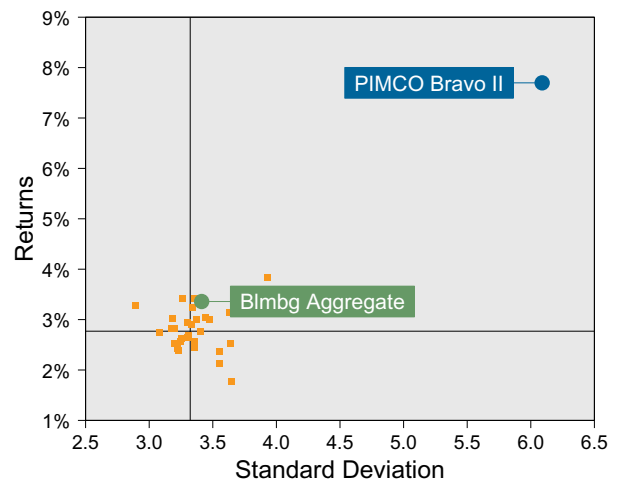
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



PIMCO DiSCO II

Period Ended March 31, 2020

Investment Philosophy

The PIMCO Distressed Senior Credit Opportunities Fund is an opportunistic private-equity style Fund which seeks to provide investors enhanced returns principally through long-biased investments in undervalued senior and super senior structured credit securities that are expected to produce attractive levels of current income and that may also appreciate in value over the long term. The fund will look to capitalize on forced sales by liquidity constrained investors. **Prior to July 1, 2019, the Legacy Fund participated in these portfolios via the Insurance Pool. Beginning July 1, 2019, its portion of the pool was segregated into its own portfolios. Returns prior to that date reflect the data from the Insurance pool.**

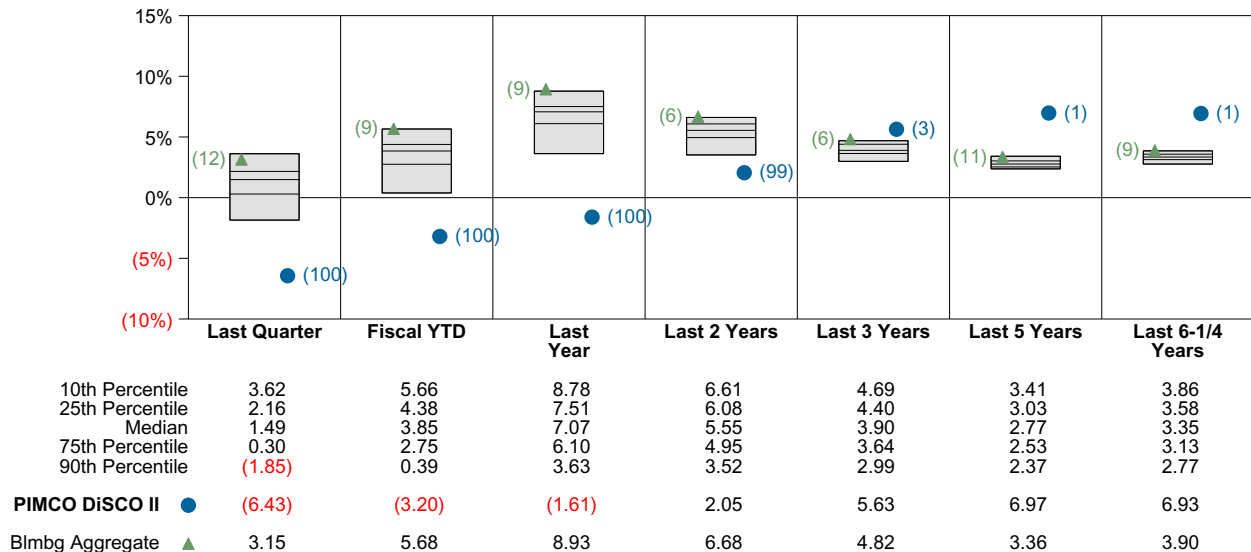
Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a (6.43)% return for the quarter placing it in the 100 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 100 percentile for the last year.
- PIMCO DiSCO II's portfolio underperformed the Blmbg Aggregate by 9.58% for the quarter and underperformed the Blmbg Aggregate for the year by 10.54%.

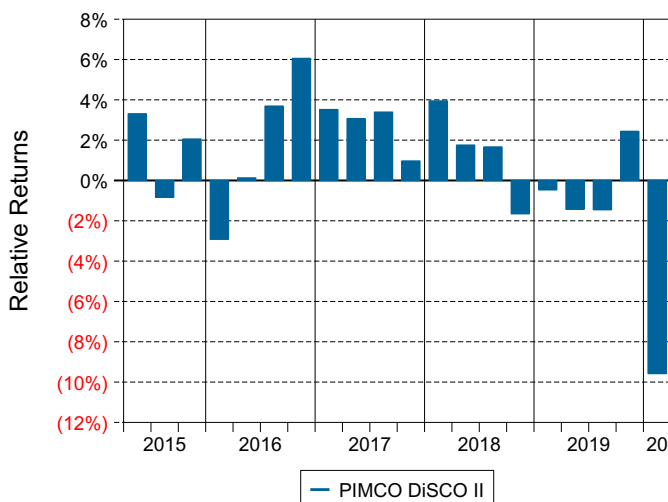
Quarterly Asset Growth

Beginning Market Value	\$42,739,884
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,749,873
Ending Market Value	\$39,990,011

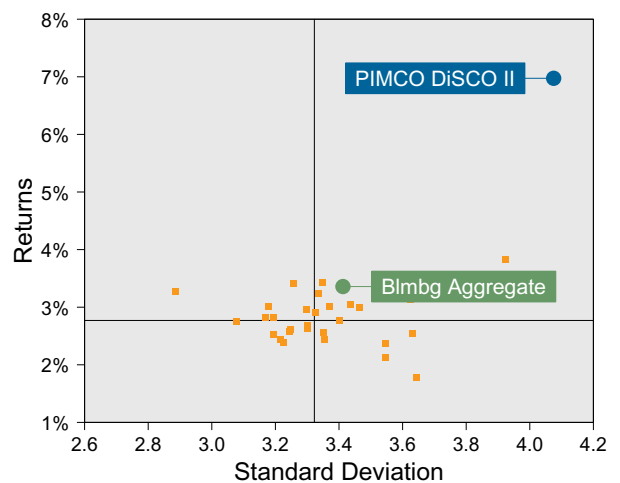
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



Prudential

Period Ended March 31, 2020

Investment Philosophy

PGIM Fixed Income's Core Plus Strategy is an actively-managed strategy that seeks +150 bps over the Bloomberg Barclays U.S. Aggregate Bond Index or similar benchmark annualized over a market cycle (three to five years.) The Strategy seeks about half of its excess return from active sector allocation and up to one-third each from subsector/security selection and duration/yield curve/currencies, depending on market opportunities.

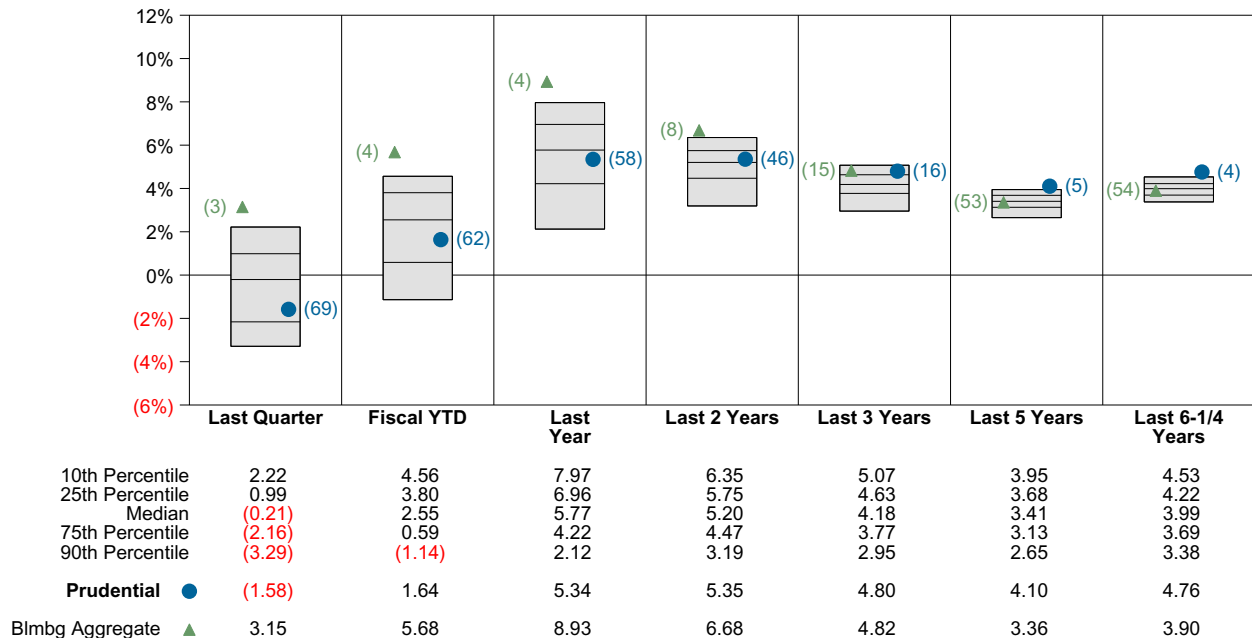
Quarterly Summary and Highlights

- Prudential's portfolio posted a (1.58)% return for the quarter placing it in the 69 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 58 percentile for the last year.
- Prudential's portfolio underperformed the Blmbg Aggregate by 4.73% for the quarter and underperformed the Blmbg Aggregate for the year by 3.59%.

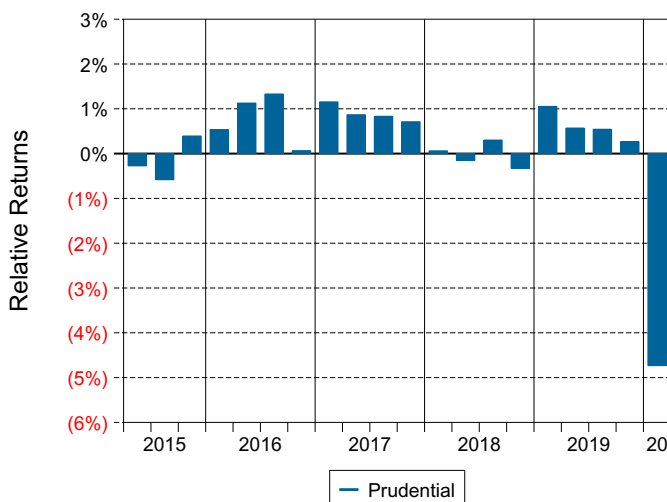
Quarterly Asset Growth

Beginning Market Value	\$682,266,705
Net New Investment	\$20,635,553
Investment Gains/(Losses)	\$-11,569,570
Ending Market Value	\$691,332,688

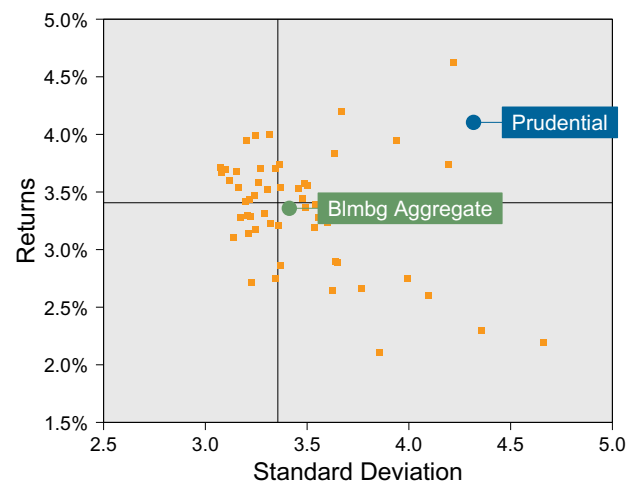
Performance vs Callan Core Plus Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



Callan Core Plus Fixed Income (Gross) Annualized Five Year Risk vs Return



SSgA US Govt Credit Bd Idx Period Ended March 31, 2020

Investment Philosophy

The Fund seeks an investment return that approximates as closely as practicable, before expenses, the performance of the Barclays Capital U.S. Government/Credit Bond Index over the long term.

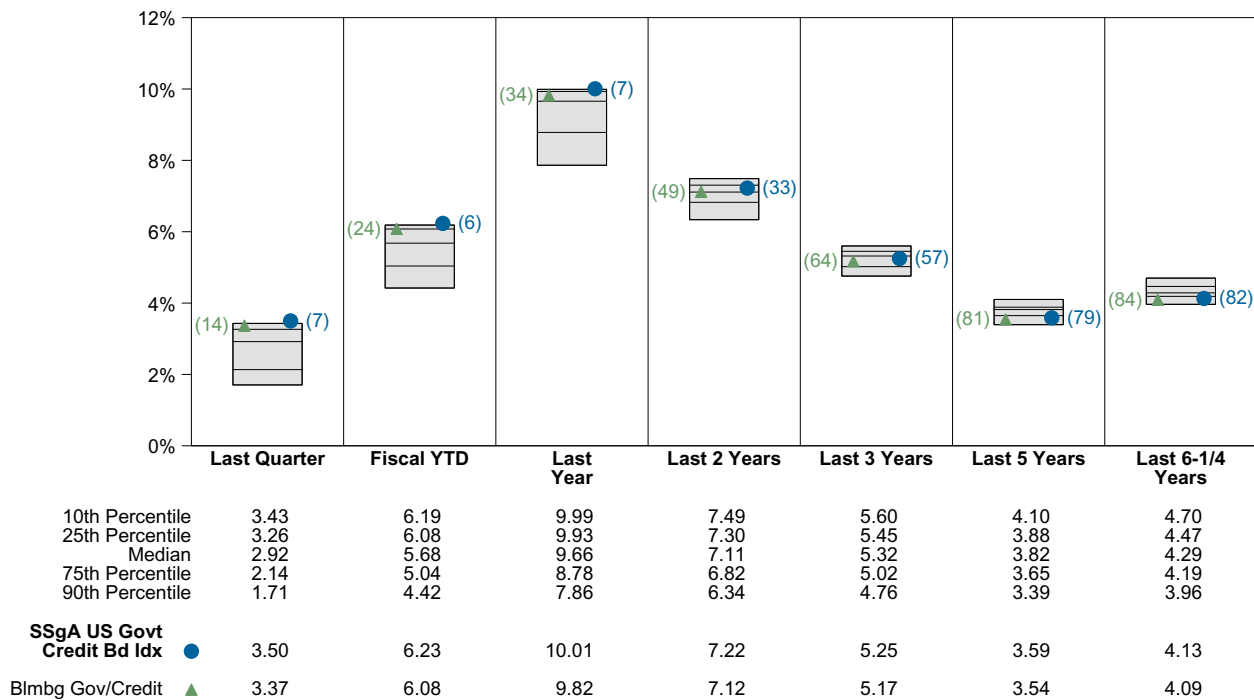
Quarterly Summary and Highlights

- SSgA US Govt Credit Bd Idx's portfolio posted a 3.50% return for the quarter placing it in the 7 percentile of the Callan Government/Credit group for the quarter and in the 7 percentile for the last year.
- SSgA US Govt Credit Bd Idx's portfolio outperformed the Blmbg Gov/Credit by 0.13% for the quarter and outperformed the Blmbg Gov/Credit for the year by 0.18%.

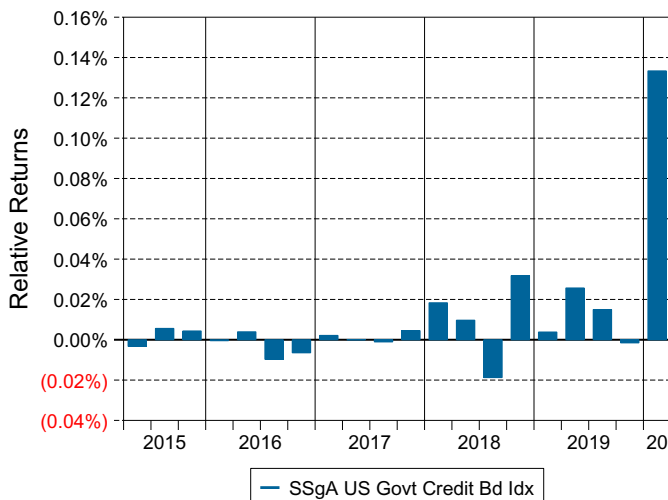
Quarterly Asset Growth

Beginning Market Value	\$323,832,048
Net New Investment	\$16,988,362
Investment Gains/(Losses)	\$11,587,605
Ending Market Value	\$352,408,015

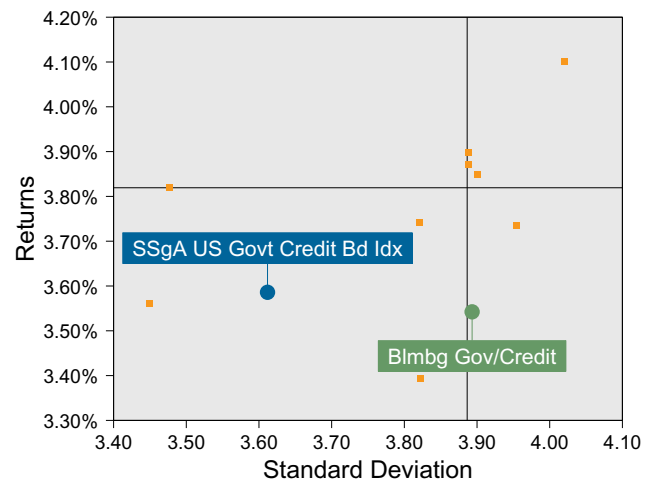
Performance vs Callan Government/Credit (Gross)



Relative Return vs Blmbg Gov/Credit



Callan Government/Credit (Gross) Annualized Five Year Risk vs Return



Wells Capital

Period Ended March 31, 2020

Investment Philosophy

The Medium Quality Credit fixed income strategy is designed to maximize total return from the high-grade corporate bond market while maintaining a strategic allocation to the BBB portion of the high yield market. The investment process for this fund starts with a "top-down" strategy. Security selection is determined by in-depth credit research, holding that in-depth knowledge of industries, companies, and their management teams can help identify credit trends that can lead to investment opportunities. Furthermore, a disciplined relative value framework is applied to help determine the optimal position to invest within an industry and within an individual issuer's capital structure.

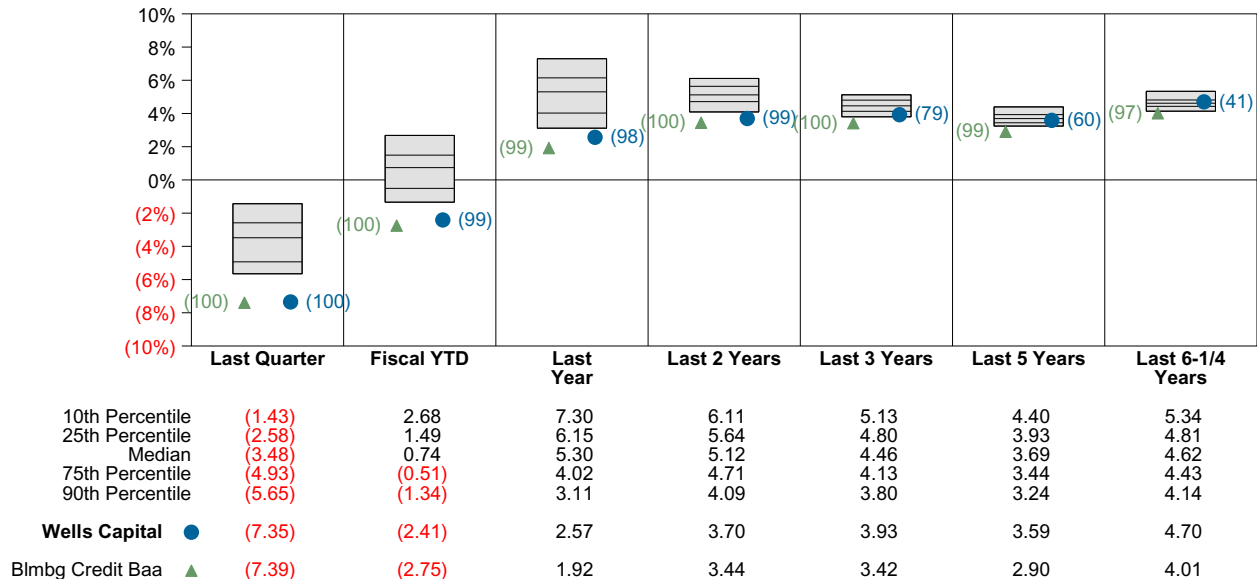
Quarterly Summary and Highlights

- Wells Capital's portfolio posted a (7.35)% return for the quarter placing it in the 100 percentile of the Callan Investment Grade Credit Fixed Inc group for the quarter and in the 98 percentile for the last year.
- Wells Capital's portfolio outperformed the Blmbg Credit Baa by 0.04% for the quarter and outperformed the Blmbg Credit Baa for the year by 0.65%.

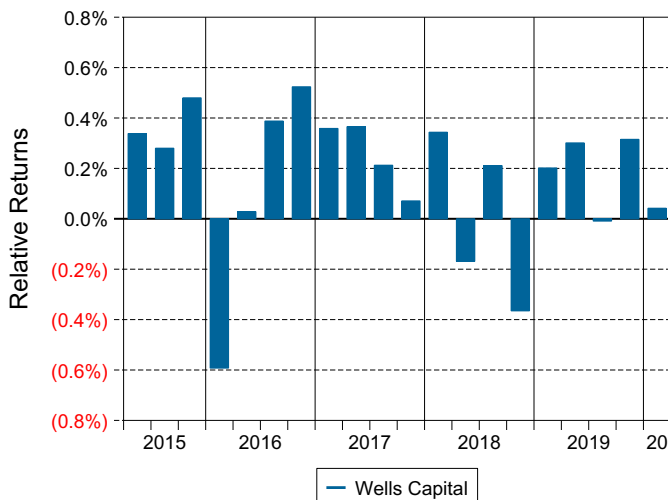
Quarterly Asset Growth

Beginning Market Value	\$181,402,859
Net New Investment	\$12,912,185
Investment Gains/(Losses)	\$-14,628,489
Ending Market Value	\$179,686,556

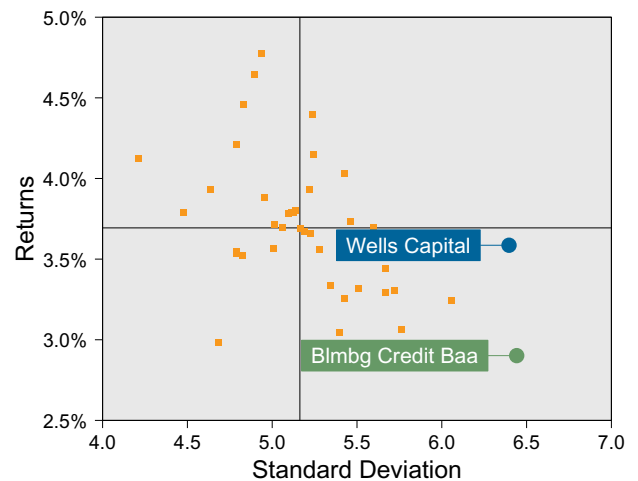
Performance vs Callan Investment Grade Credit Fixed Inc (Gross)



Relative Return vs Blmbg Credit Baa



Callan Investment Grade Credit Fixed Inc (Gross) Annualized Five Year Risk vs Return



Western Asset Management Company

Period Ended March 31, 2020

Investment Philosophy

Western Asset designs this portfolio using all major fixed-income sectors with a bias towards non-Treasuries, especially corporate, mortgage-backed and asset-backed securities. Value can be added through sector rotation, issue selection, duration and term structure weighting.

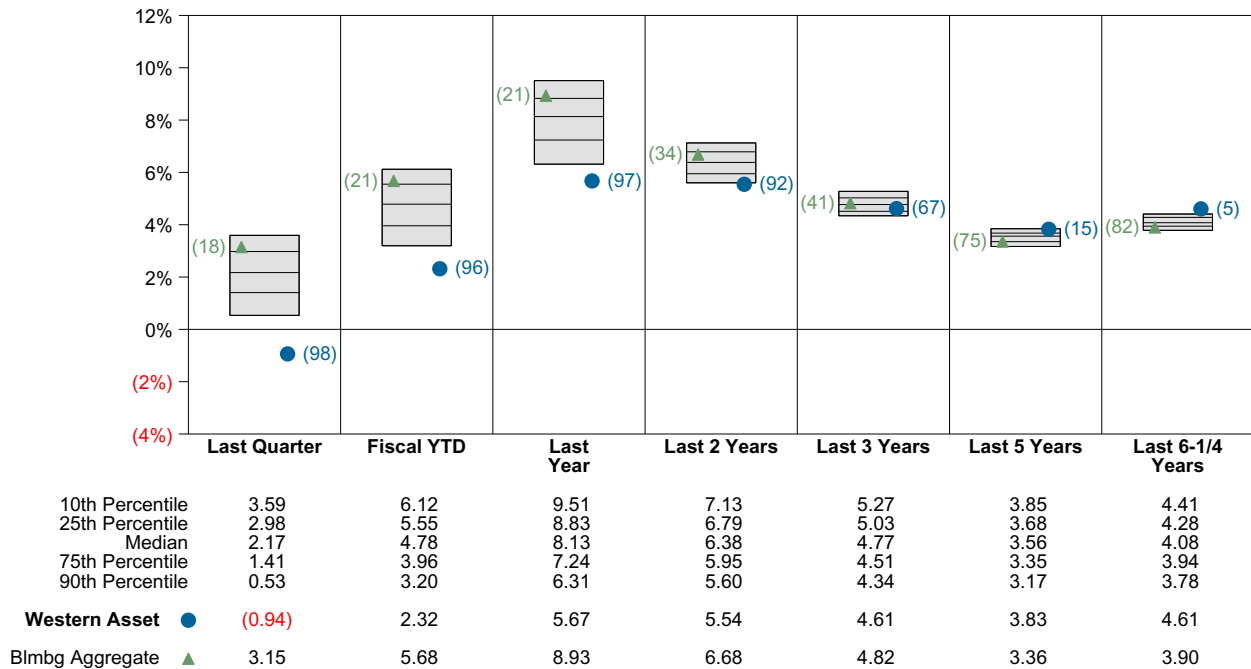
Quarterly Summary and Highlights

- Western Asset's portfolio posted a (0.94)% return for the quarter placing it in the 98 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 97 percentile for the last year.
- Western Asset's portfolio underperformed the Blmbg Aggregate by 4.09% for the quarter and underperformed the Blmbg Aggregate for the year by 3.26%.

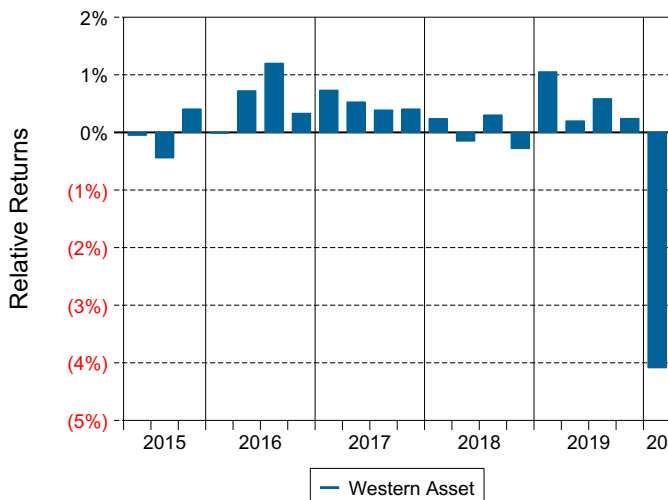
Quarterly Asset Growth

Beginning Market Value	\$684,897,472
Net New Investment	\$19,802,915
Investment Gains/(Losses)	\$-6,985,794
Ending Market Value	\$697,714,594

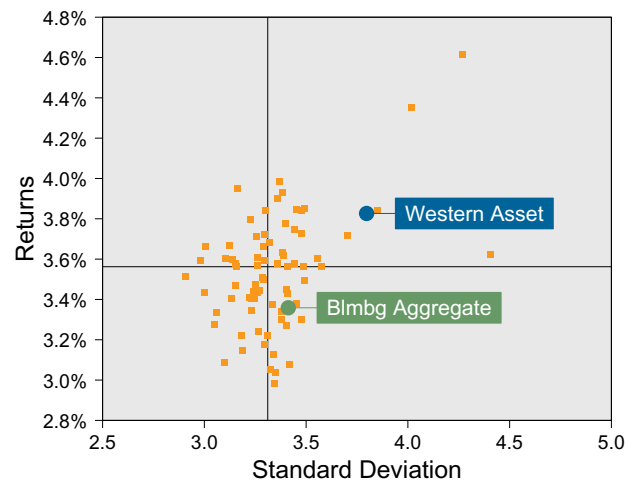
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



Callan Core Bond Fixed Income (Gross) Annualized Five Year Risk vs Return



Invesco Core Real Estate

Period Ended March 31, 2020

Investment Philosophy

IRE's investment philosophy is comprised of two fundamental principles: (1) maximize the predictability and consistency of investment returns and (2) minimize the risk of capital loss. This philosophy forms the cornerstone of the company's real estate investment philosophy.

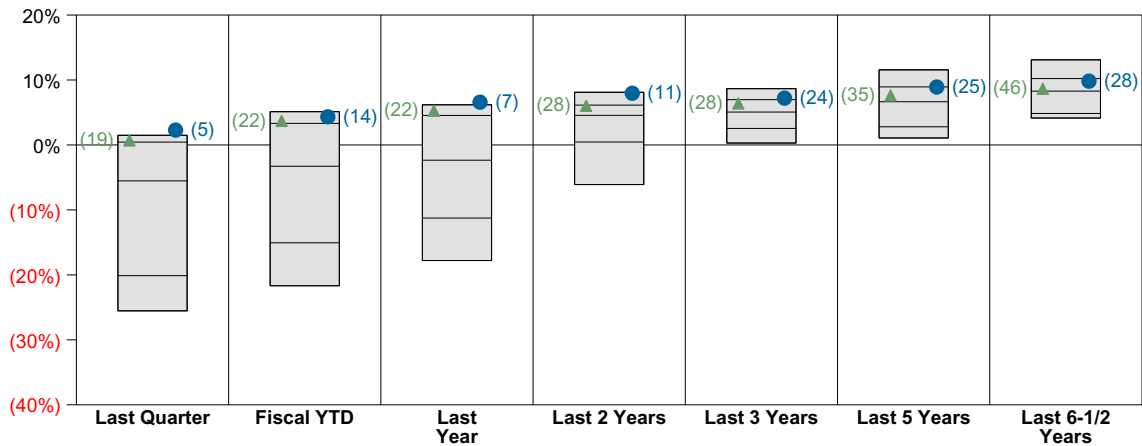
Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a 2.29% return for the quarter placing it in the 5 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 7 percentile for the last year.
- Invesco Core Real Estate's portfolio outperformed the NCREIF Total Index by 1.57% for the quarter and outperformed the NCREIF Total Index for the year by 1.31%.

Quarterly Asset Growth

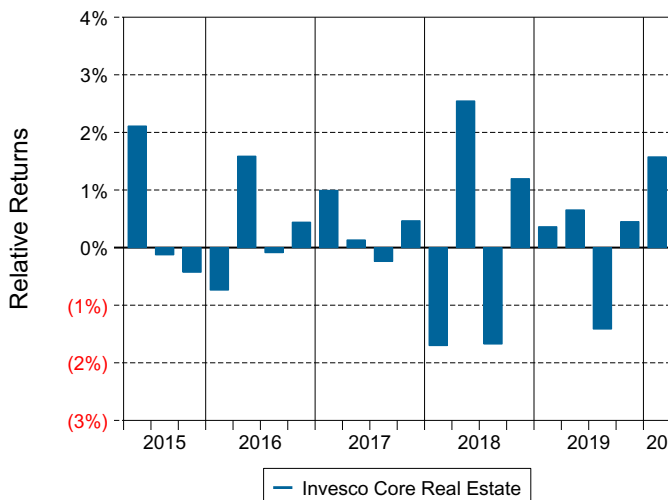
Beginning Market Value	\$149,044,386
Net New Investment	\$-132,601
Investment Gains/(Losses)	\$3,408,078
Ending Market Value	\$152,319,863

Performance vs Callan Total Domestic Real Estate DB (Gross)

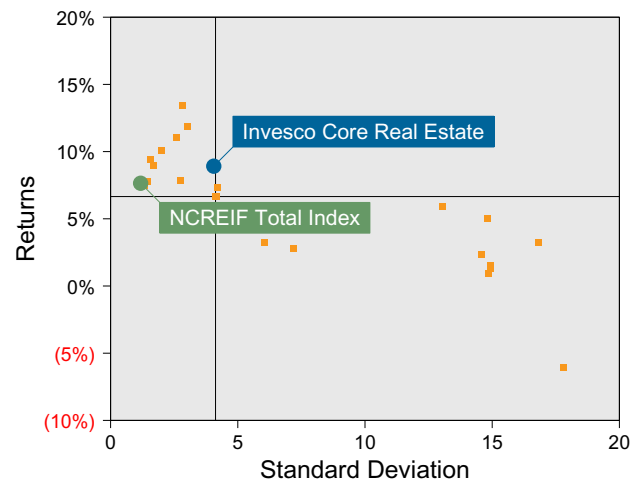


10th Percentile	1.49	5.12	6.18	8.11	8.67	11.56	13.11
25th Percentile	0.44	3.32	4.55	6.13	6.97	8.94	10.22
Median	(5.53)	(3.28)	(2.35)	4.56	5.07	6.65	8.29
75th Percentile	(20.12)	(15.06)	(11.25)	0.45	2.55	2.79	4.85
90th Percentile	(25.54)	(21.67)	(17.79)	(6.10)	0.29	1.07	4.15
Invesco Core Real Estate	● 2.29	4.33	6.59	7.96	7.20	8.91	9.82
NCREIF Total Index	▲ 0.71	3.72	5.28	6.05	6.41	7.65	8.66

Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return



JP Morgan RE Inc & Growth Period Ended March 31, 2020

Investment Philosophy

The J.P. Morgan U.S. Real Estate Income and Growth Fund seeks to construct and opportunistically manage a portfolio of core direct real estate investments, complemented by other real estate and real estate-related assets. The Fund pursues a broadly diversified absolute-return strategy and pursues all property investments on an opportunistic basis. The majority of the Fund's investments will be in direct core properties in the office, industrial, retail and residential sectors.

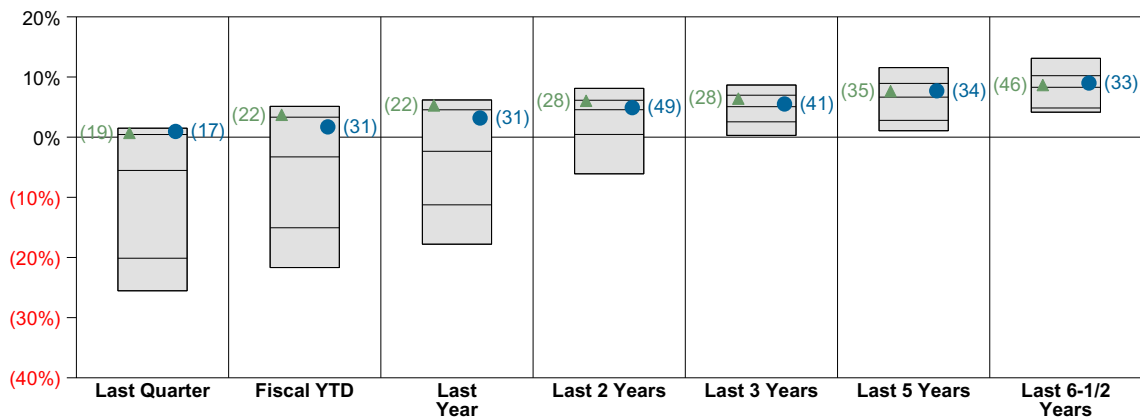
Quarterly Summary and Highlights

- JP Morgan RE Inc & Growth's portfolio posted a 0.95% return for the quarter placing it in the 17 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 31 percentile for the last year.
- JP Morgan RE Inc & Growth's portfolio outperformed the NCREIF Total Index by 0.24% for the quarter and underperformed the NCREIF Total Index for the year by 2.10%.

Quarterly Asset Growth

Beginning Market Value	\$151,764,398
Net New Investment	\$-255,996
Investment Gains/(Losses)	\$1,439,291
Ending Market Value	\$152,947,693

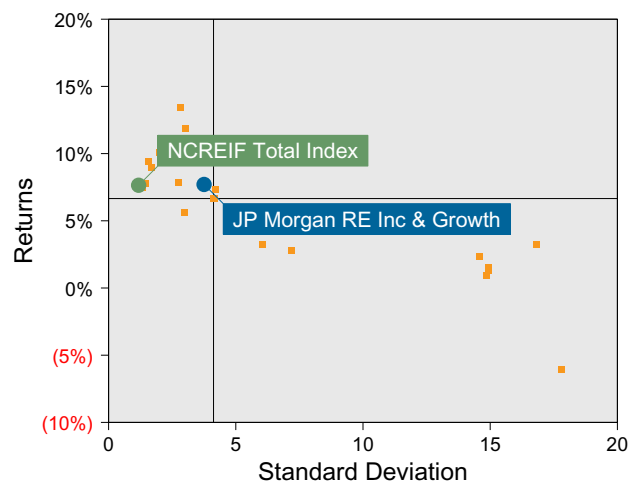
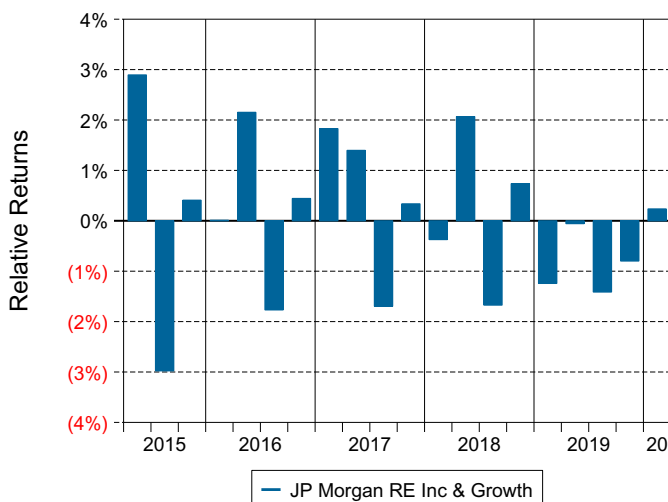
Performance vs Callan Total Domestic Real Estate DB (Gross)



10th Percentile	1.49	5.12	6.18	8.11	8.67	11.56	13.11
25th Percentile	0.44	3.32	4.55	6.13	6.97	8.94	10.22
Median	(5.53)	(3.28)	(2.35)	4.56	5.07	6.65	8.29
75th Percentile	(20.12)	(15.06)	(11.25)	0.45	2.55	2.79	4.85
90th Percentile	(25.54)	(21.67)	(17.79)	(6.10)	0.29	1.07	4.15
JP Morgan RE Inc & Growth	0.95	1.71	3.18	4.91	5.52	7.71	9.00
NCREIF Total Index	0.71	3.72	5.28	6.05	6.41	7.65	8.66

Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return

Relative Return vs NCREIF Total Index



Western Asset TIPS Period Ended March 31, 2020

Investment Philosophy

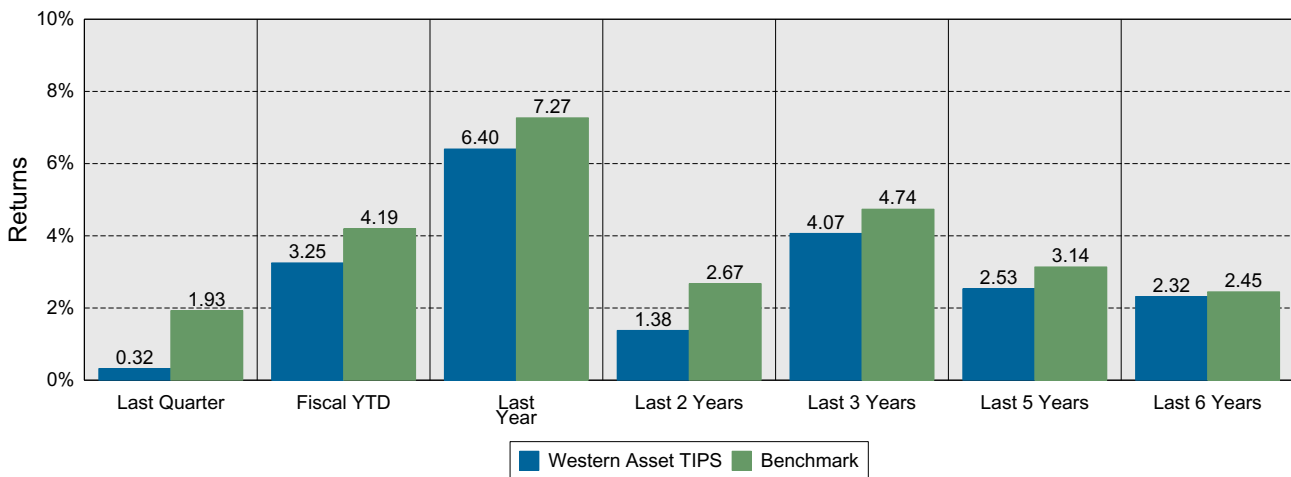
The Western Asset US TIPS Full Discretion strategy is an inflation-protected strategy that aims to maximize total return and add value through duration and curve positioning, sector allocation, and security selection, while approximating benchmark risk. The strategy invests in a diversified portfolio using higher-yielding inflation-protected instruments with a bias toward Treasury Inflation-Protected Securities (TIPS). Opportunistic investments include high-yield, emerging markets, non-dollar securities, commodities and bank loans that may also be employed using derivatives. **Benchmark: Bloomberg US TIPS through 12/31/2009; Bloomberg Global Inflation-Linked through 10/31/2018; Bloomberg US Govt Inflation Linked Bond Index thereafter.**

Quarterly Summary and Highlights

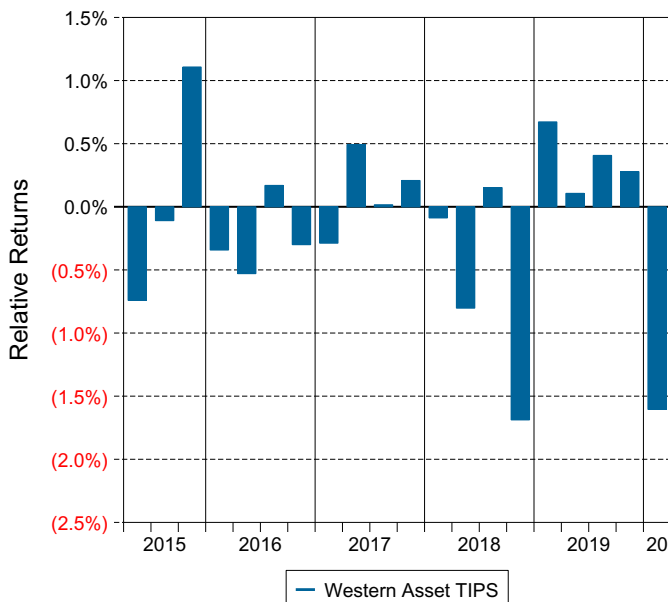
- Western Asset TIPS's portfolio underperformed the Benchmark by 1.60% for the quarter and underperformed the Benchmark for the year by 0.86%.

Quarterly Asset Growth

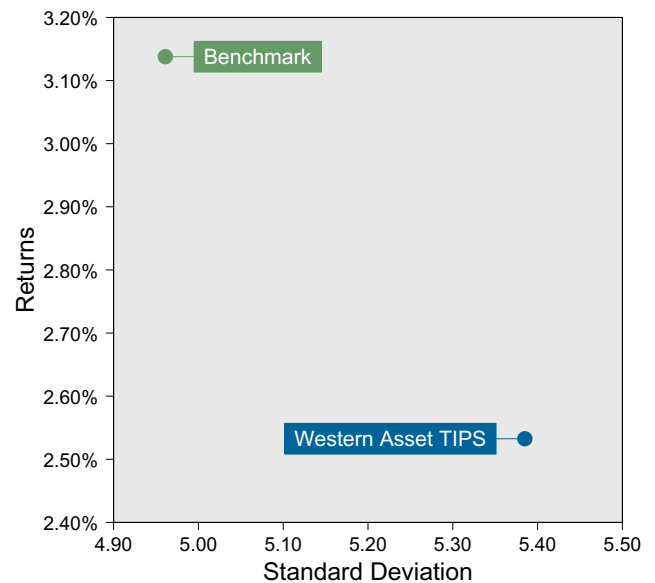
Beginning Market Value	\$418,351,276
Net New Investment	\$27,880,098
Investment Gains/(Losses)	\$804,231
Ending Market Value	\$447,035,604



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



ISQ Global Infrastructure II

Period Ended March 31, 2020

Investment Philosophy

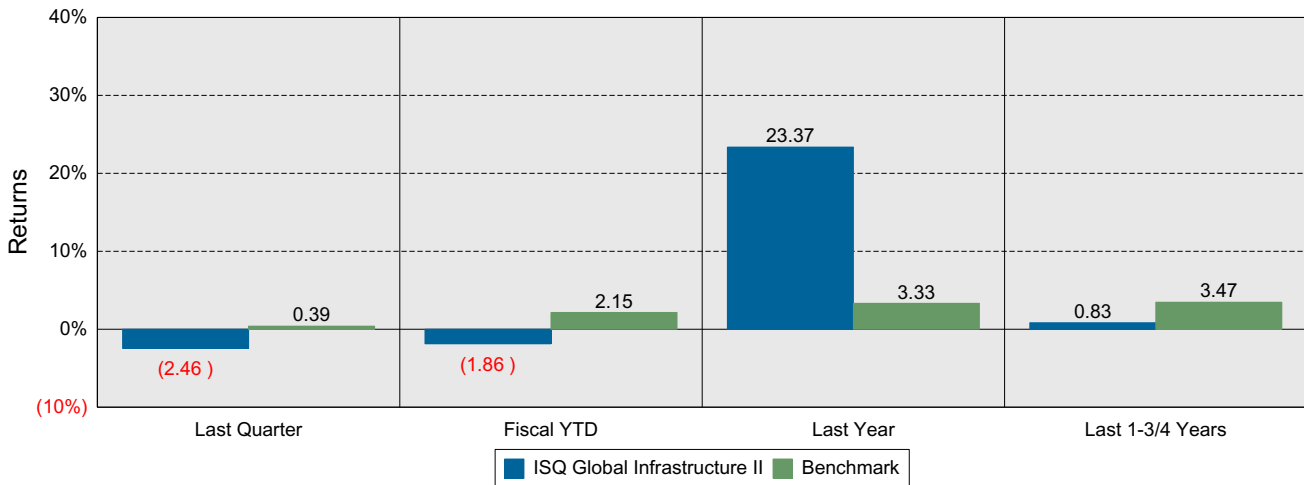
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia and Latin America. The Fund may also invest in debt Securities that have equity-like returns or an equity component, or are related to its equity investments, including without limitation convertible debt, bank loans and participations and other similar instruments. **The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.**

Quarterly Summary and Highlights

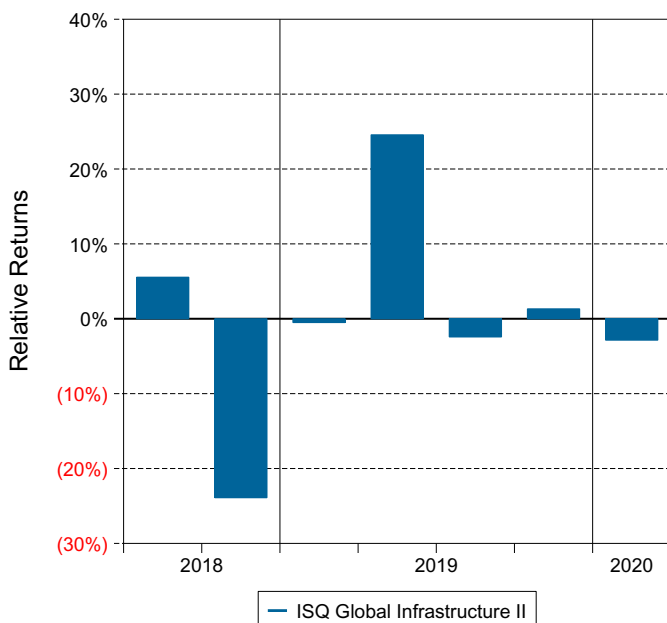
- ISQ Global Infrastructure II's portfolio underperformed the Benchmark by 2.85% for the quarter and outperformed the Benchmark for the year by 20.04%.

Quarterly Asset Growth

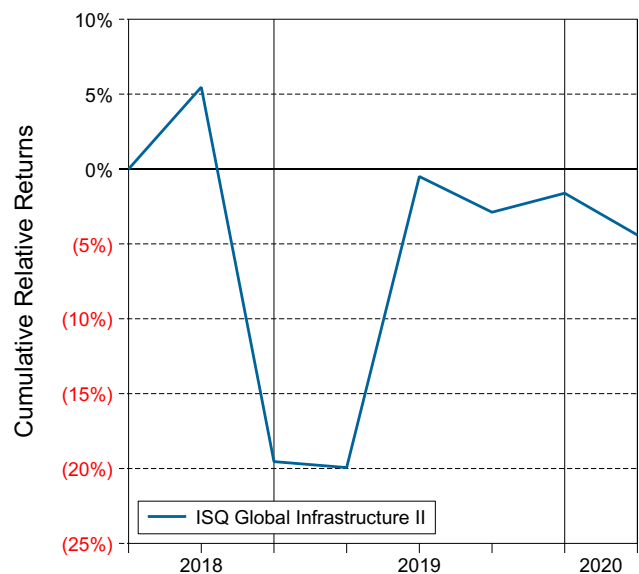
Beginning Market Value	\$32,207,150
Net New Investment	\$14,695,358
Investment Gains/(Losses)	\$-814,694
Ending Market Value	\$46,087,814



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



JP Morgan Infrastructure Period Ended March 31, 2020

Investment Philosophy

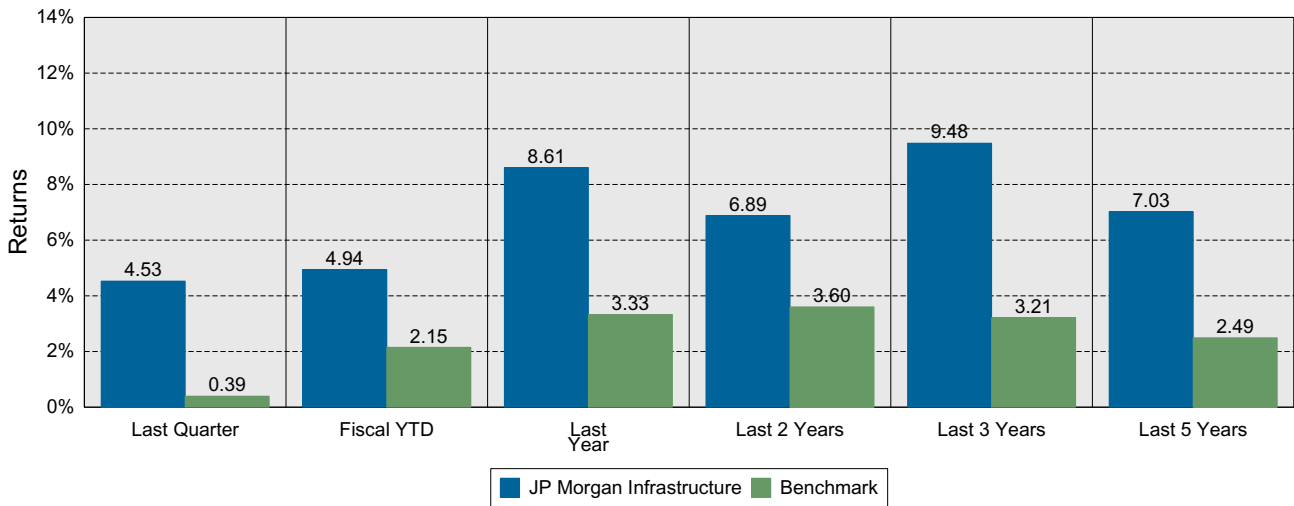
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas pipelines; electricity transmission and distribution facilities; contracted power generation assets; water distribution; waste-water collection and processing; railway lines and rapid rail links; and seaports and airports. **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

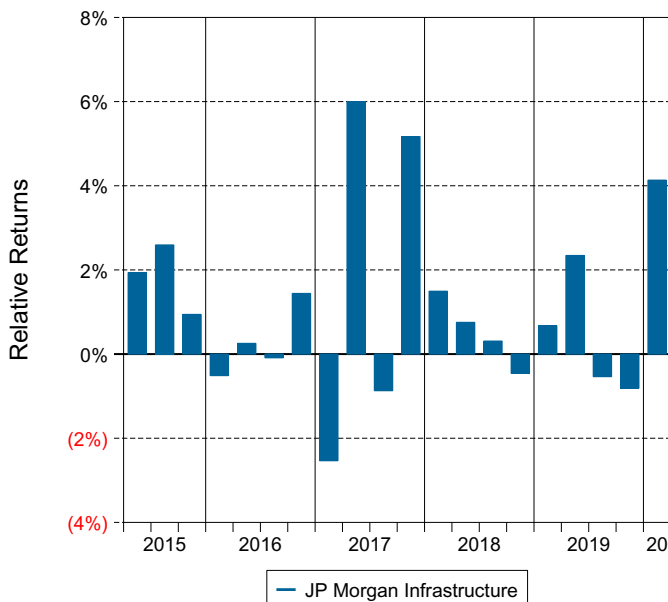
- JP Morgan Infrastructure's portfolio outperformed the Benchmark by 4.13% for the quarter and outperformed the Benchmark for the year by 5.28%.

Quarterly Asset Growth

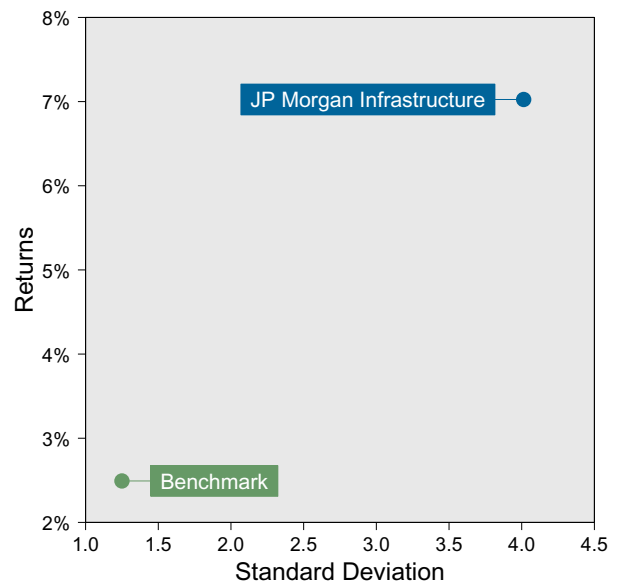
Beginning Market Value	\$113,340,614
Net New Investment	\$-5,020,214
Investment Gains/(Losses)	\$5,124,854
Ending Market Value	\$113,445,255



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Grosvenor Cust. Infrastructure Period Ended March 31, 2020

Investment Philosophy

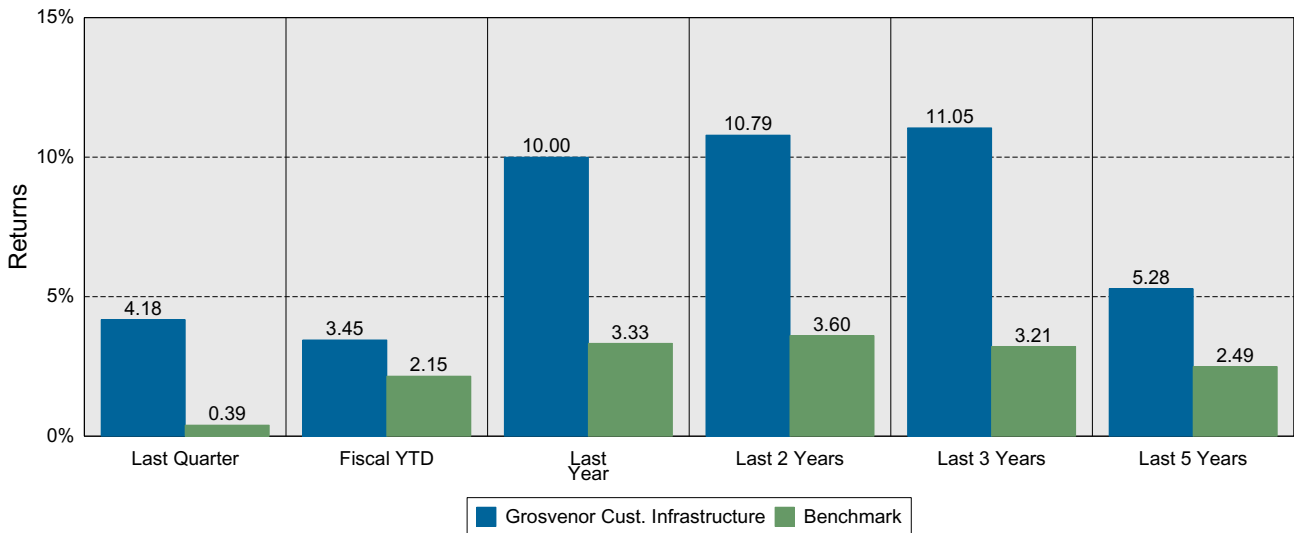
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%). **The Benchmark is comprised of CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.**

Quarterly Summary and Highlights

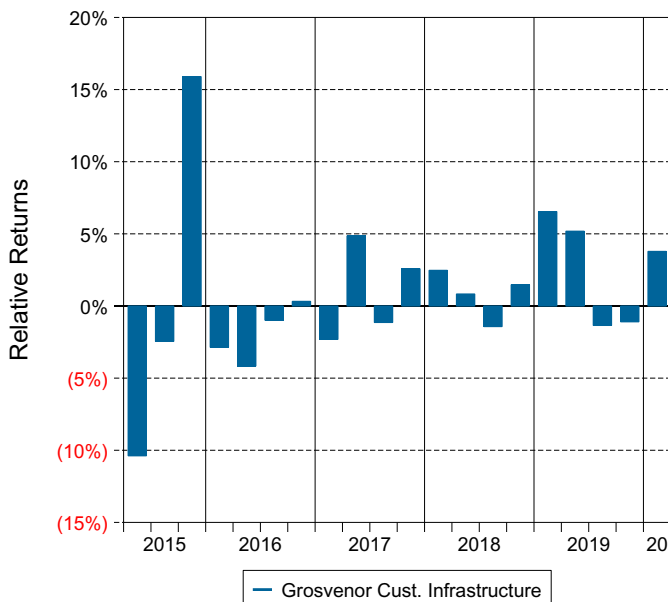
- Grosvenor Cust. Infrastructure's portfolio outperformed the Benchmark by 3.78% for the quarter and outperformed the Benchmark for the year by 6.67%.

Quarterly Asset Growth

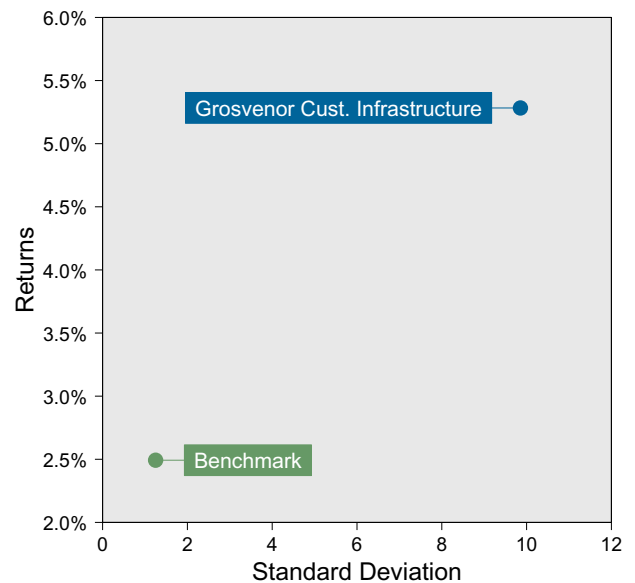
Beginning Market Value	\$46,291,292
Net New Investment	\$-1,439,606
Investment Gains/(Losses)	\$1,933,589
Ending Market Value	\$46,785,275



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



Macquarie Infras. Partners IV Period Ended March 31, 2020

Investment Philosophy

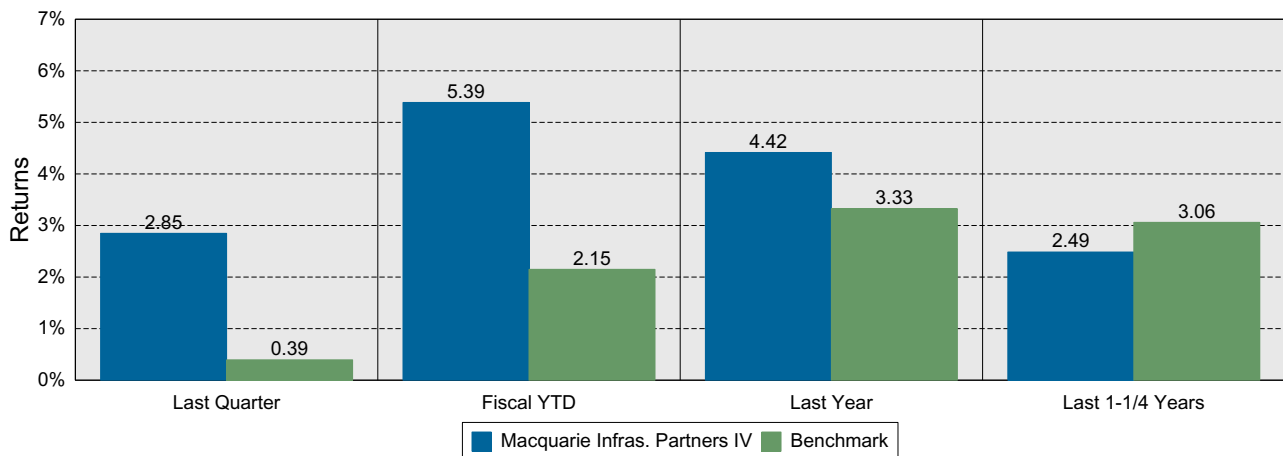
Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience will provide a competitive advantage in sourcing and due diligence. Furthermore, the manager will also continue to focus on opportunities where its active management capabilities can add value for investors in terms of enhancing returns and the substantial mitigation and/or elimination of material operational risks. **The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.**

Quarterly Summary and Highlights

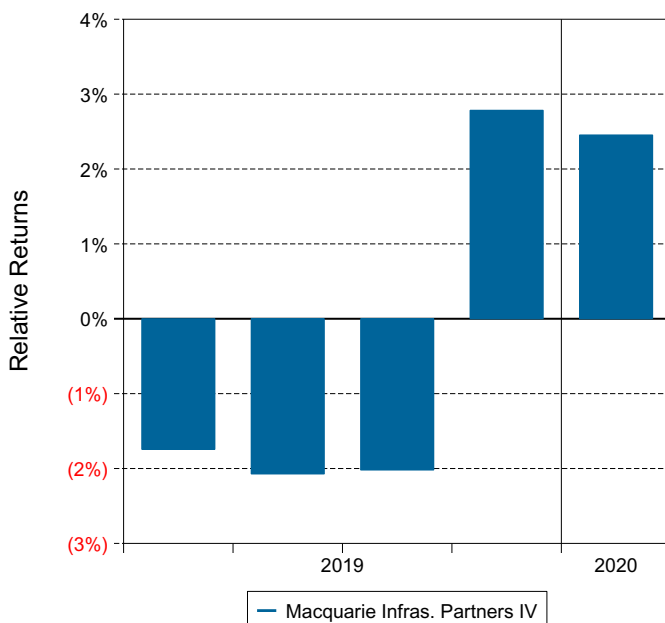
- Macquarie Infras. Partners IV's portfolio outperformed the Benchmark by 2.45% for the quarter and outperformed the Benchmark for the year by 1.09%.

Quarterly Asset Growth

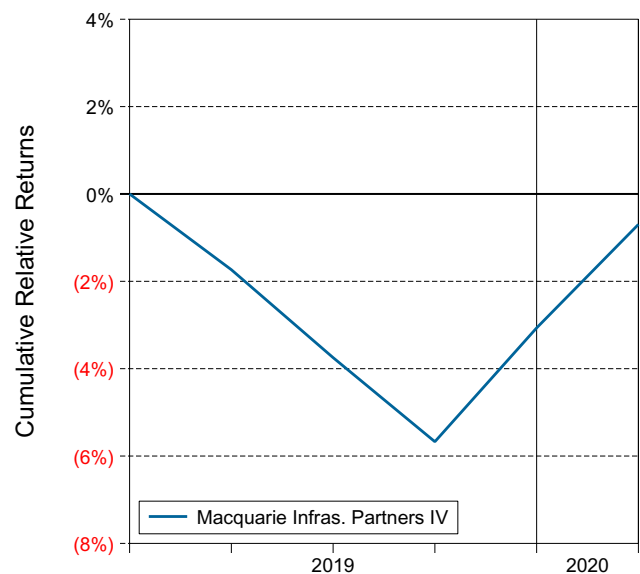
Beginning Market Value	\$64,943,538
Net New Investment	\$2,245,092
Investment Gains/(Losses)	\$1,846,879
Ending Market Value	\$69,035,509



Relative Return vs Benchmark



Cumulative Returns vs Benchmark



Research and Educational Programs

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

[2020 National Workshop Summary: Turbocharging DC Plans](#)

In this workshop, Connie Lee, Jana Steele, and James Veneruso described ways in which defined contribution plan sponsors can improve participant outcomes, including plan design strategies and investment implementation steps.

[2019 Nuclear Decommissioning Funding Study](#) | Callan's annual study offers insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

[2020 National Workshop Summary: Diversifying Alternatives](#)

In this workshop, presenters Pete Keliuotis, Catherine Beard, and Ashley DeLuce discussed three lesser-known alternatives strategies: specialty lending, emerging market private equity, and insurance-linked strategies.

[2020 DC Trends Survey](#) | Callan's *2020 Defined Contribution Trends Survey* is designed to provide a benchmark for sponsors to evaluate their plans compared to peers, and to offer insights to help sponsors improve their plans and the outcomes for their participants.

[How Sponsors Can Harness DC Plan Data for Better Outcomes](#)

Defined contribution (DC) plans are designed to help participants achieve the most beneficial outcomes. But participants' choices may not necessarily reflect asset allocation best practices. Sponsors can help participants by analyzing how investment options are used and make adjustments based on those observations.

[The Callan Periodic Table of Investment Returns](#) | We offer our Periodic Table Collection and the Callan Periodic Table of Investment Returns (Key Indices: 2000-2019).

[Callan's 2020-2029 Capital Market Assumptions](#) | Callan develops capital market assumptions to help clients with their long-term strategic planning. This year, we reduced our fixed income

assumptions to reflect lower starting yields following the Fed pivot in policy, but we held constant our real equity return over inflation.

[2020 National Workshop Summary: Fee Study](#) | In this 2020 workshop, presenters Butch Cliff, Mark Stahl, and Brady O'Connell discussed the major themes of our *2019 Investment Management Fee Study* and their impact on the institutional investor community.

[An Introduction to Our New Hedge Fund Peer Group](#) | The Callan Institutional Hedge Fund Peer Group is designed to help institutional investors better understand alpha-oriented solutions that can diversify their existing stock and bond exposures, and it represents the available pool of hedge fund talent that investors will want to consider, or at least compare with their existing hedge fund portfolios.

Quarterly Periodicals

[Private Equity Trends, 4Q19](#) | A high-level summary of private equity activity in the quarter through all the investment stages

[Active vs. Passive Charts, 4Q19](#) | A comparison of active managers alongside relevant benchmarks over the long term

[Market Pulse Flipbook, 4Q19](#) | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

[Capital Market Review, 4Q19](#) | Analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes

[Hedge Fund Quarterly, 4Q19](#) | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

[Real Assets Reporter, 4Q19](#) | Data and insights on real estate and other real assets investment topics.

Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: www.callan.com/library/

Please mark your calendar and look forward to upcoming invitations:

Upcoming Webinars

May 21 – Hedge Fund Overview

July 8 – China Update

For more information about events, please contact **Barb Gerraty**: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

50+

Unique pieces of research the Institute generates each year

525

Attendees (on average) of the Institute's annual National Conference

3,700

Total attendees of the "Callan College" since 1994

Education

Through the "Callan College," the Callan Institute offers educational sessions for industry professionals involved in the investment decision-making process. It was founded in 1994 to provide both clients and non-clients with basic- to intermediate-level instruction.

Introduction to Investments for Institutional Investors

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including dates and registration can be found at: www.callan.com/callan-college-intro-2/

Alternative Investments for Institutional Investors

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In this one-day session, Callan experts will provide instruction about the importance of allocations to alternatives, and how to integrate, evaluate, and monitor them.

Learn from some of Callan's senior consultants and experts, including Pete Keliuotis, the head of Alternatives Consulting. The session will cover private equity, private credit, hedge funds, real estate, and real assets; why invest in alternatives; risk/return characteristics and liquidity; designing and implementing an alternatives program; and trends and case studies.

Tuition is \$2,000 per person and includes instruction, all materials, and breakfast and lunch with the instructors.

Additional information including dates and registration can be found at: <https://www.callan.com/callan-college-alternatives-2/>



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance Department.

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
CapFinancial Partners, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Chartwell Investment Partners
ClearBridge Investments, LLC

Manager Name
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
D.E. Shaw Investment Management, L.L.C.
DePrince, Race & Zollo, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
GCM Grosvenor
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Green Square Capital Advisors, LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
Income Research + Management, Inc.

Manager Name
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MetLife Investment Management
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Nile Capital Group LLC
Northern Trust Asset Management
Nuveen
P/E Investments
Pacific Investment Management Company
Parametric Portfolio Associates LLC

Manager Name
Pathway Capital Management
Peregrine Capital Management, LLC.
Perkins Investment Management
PFM Asset Management LLC
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Polen Capital Management
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rothschild & Co. Asset Management US
S&P Dow Jones Indices
Schroder Investment Management North America Inc.
SLC Management
Smith Graham & Co. Investment Advisors, L.P.
State Street Global Advisors
Stone Harbor Investment Partners L.P.
Strategic Global Advisors
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
USAA Real Estate
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
WCM Investment Management
WEDGE Capital Management
Wellington Management Company LLP
Wells Fargo Asset Management
Western Asset Management Company LLC
Westfield Capital Management Company, LP
William Blair & Company LLC

Informational Background

Diversified Real Assets - Infrastructure Overview

May 20, 2020

Dave Hunter, Darren Schulz and Eric Chin

Diversified Real Assets - Overview

Pension Pool - Diversified Real Assets		% of		% of	
As of March 31, 2020		Market Value \$	Total Assets	Market Value \$	Total Assets
Pension Pool overweight JPMorgan Infrastructure		\$ 5,470,371,853	100%	\$ 5,470,371,853	100%
ISQ Global Infrastructure		\$ 39,942,773	0.7%	\$ 39,942,773	0.7%
The Rohatyn Group - (fka JPM Asian Infra)		\$ 18,072,424	0.3%	\$ 18,072,424	0.3%
JPMorgan Infrastructure Investment Fund		\$ 179,428,463	3.3%	\$ 139,428,463	2.5%
Grosvenor Custom Infra I		\$ 22,619,559	0.4%	\$ 22,619,559	0.4%
Grosvenor Custom Infra II		\$ 18,714,110	0.3%	\$ 18,714,110	0.3%
Macquarie MIP		\$ 59,830,774	1.1%	\$ 99,830,774	1.8%
Timber - Springbank/Teredo		\$ 127,397,241	2.3%	\$ 127,397,241	2.3%
Sub-total		\$ 466,005,344	8.5%	\$ 466,005,344	8.5%
Legacy Fund - Diversified Real Assets		% of		% of	
As of March 31, 2020		Market Value \$	Total Assets	Market Value \$	Total Assets
Legacy Fund overweight U.S. TIPS		\$ 6,154,682,368	100%	\$ 6,154,682,368	100%
Western U.S. TIPS		\$ 447,035,604	7.3%	\$ 387,035,604	6.3%
ISQ Global Infrastructure		\$ 46,087,814	0.7%	\$ 46,087,814	0.7%
JPMorgan Infrastructure Investment Fund		\$ 113,445,255	1.8%	\$ 113,445,255	1.8%
Grosvenor Custom Infra II		\$ 46,785,275	0.8%	\$ 46,785,275	0.8%
Macquarie MIP		\$ 69,035,509	1.1%	\$ 129,035,509	2.1%
Sub-total		\$ 722,389,457	11.7%	\$ 722,389,457	11.7%

RIO recommends a new \$100 million commitment to Macquarie Infrastructure Partners in order to improve expected risk adjusted returns within the Diversified Real Asset sectors of the Pension Pool and Legacy Fund by:

- 1) diversifying strategy concentration risk within Diversified Real Assets (JPM IIF at \$294 million and Western TIPS at \$447 million);
- 2) reducing an overweight allocation to Western U.S.TIPS at 7.3% in Legacy Fund (with a lower long-term expected rate of return);
- 3) reducing manager concentration risk with two of the five largest SIB firms (Western at \$1.6 billion and JPMorgan at \$1.1 billion);
- 4) expanding an existing relationship with Macquarie, an established and respected market leader in the infrastructure sector; and
- 5) striving to obtain preferential “first close” pricing advantages.

The SIB approved a \$140 million commitment to MIP IV in October 2018 noting preliminary returns are favorable and represent the best performing infrastructure fund for the SIB in the current fiscal year and recent valuation guidance remains positive.

Investment Philosophy

Macquarie’s principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team’s sector expertise and operating experience will provide a competitive advantage in sourcing and due diligence. Furthermore, the manager will also continue to focus on opportunities where its active management capabilities can add value for investors in terms of enhancing returns and the substantial mitigation and/or elimination of material operational risks. **The Benchmark is comprised of 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net.**

Quarterly Summary and Highlights

- Macquarie Infrac. Partners IV’s portfolio outperformed the Benchmark by 2.45% for the quarter and outperformed the Benchmark for the year by 1.09%.

North Dakota State Investment Board Pension Funds

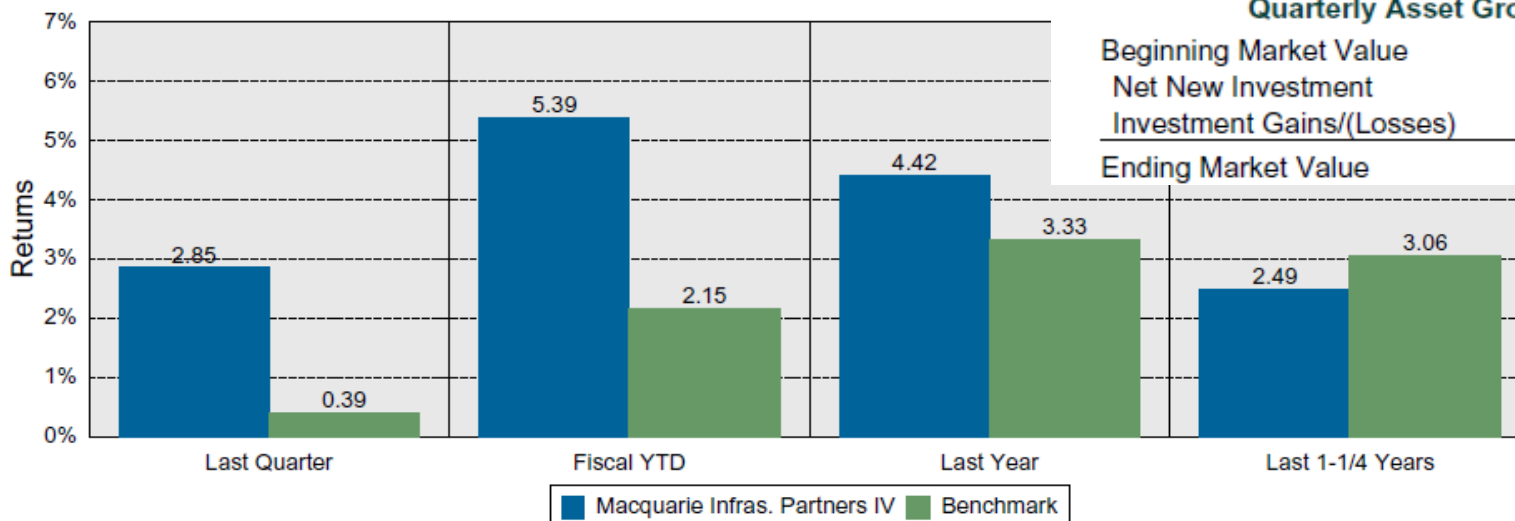
Quarterly Asset Growth

Beginning Market Value	\$56,284,399
Net New Investment	\$1,945,746
Investment Gains/(Losses)	\$1,600,629
Ending Market Value	\$59,830,774

North Dakota State Investment Board Legacy Fund

Quarterly Asset Growth

Beginning Market Value	\$64,943,538
Net New Investment	\$2,245,092
Investment Gains/(Losses)	\$1,846,879
Ending Market Value	\$69,035,509



Importance of Diversification



- ▶ Diversification by manager helps to mitigate key-person risk, destabilizing staff turnover, and business risk.
- ▶ Strategy diversification is an important determinant of final portfolio risk, so a mix of strategies needs to be aligned to a targeted risk and return profile

Source: Mercer

Current Portfolio

Observations

- ▶ Current manager structure is heavily weighted to JP Morgan IIF, an open-end core/core plus fund
- ▶ Compared to JPM IIF, the weightings to Grosvenor CIS fund-of-funds are relatively low
- ▶ As CIS I and II mature, follow-on commitments will be needed to maintain policy allocations
- ▶ Reducing exposure to JPM as liquidity permits will help lower manager concentration, increase diversification by revenue drivers, geography, and sectors, thereby potentially lowering overall risk

Infrastructure Roadmap

Recommendations

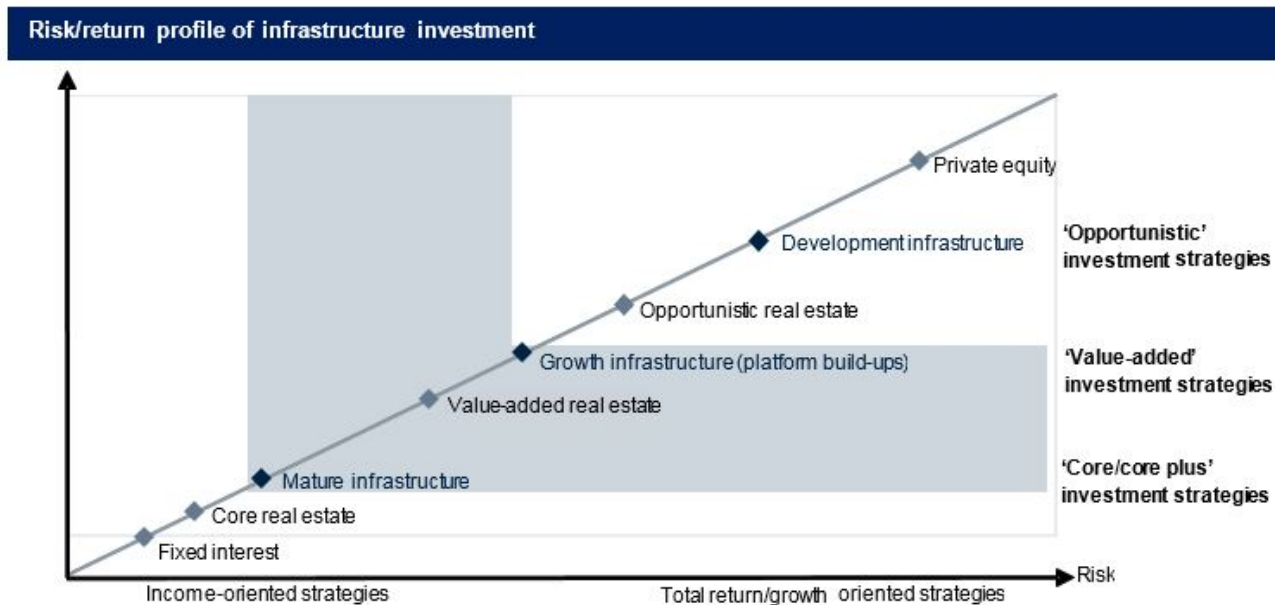
- ▶ Partially redeem JPM IIF exposure to reduce manager and asset concentration
- ▶ Current infrastructure portfolios would benefit from more closed-end fund exposure, as deploying capital into new primary commitments in a programmatic fashion enhances diversification by manager, geography, sectors, and asset lifecycles
- ▶ Commitments to I-Squared value-add strategy in Pension Trust and Legacy Fund to complement existing infrastructure exposures
- ▶ Macquarie, a core/core plus manager identified by Staff, to present to the SIB in May

What are Infrastructure Assets?

- ▶ Generally **long life assets associated with the delivery of essential public services**, such as communications, regulated utilities, transportation and waste management
- ▶ Tend to be **hard assets with steady and predictable cash flow**
- ▶ **Inflation protection** can be derived to the extent that revenues are explicitly linked to inflation
- ▶ **Demand** for asset tends to be **predictable and inelastic**, therefore **less susceptible to economic downturns** as compared to other asset classes
- ▶ **Income generation via a cash yield return** exists for more mature, stabilized assets

Infrastructure in an Investor's Portfolio

- ▶ While the risk/return profile of infrastructure assets vary considerably at different stages of development, in general, **infrastructure risk falls between a continuum of risk between real estate and private equity**



Risk/Return Profile Among Infrastructure Strategies

	Core Equity	Core + Equity	Value-added Equity	Opportunistic Equity
Type of assets	Brownfield assets such as regulated utility, mature toll road, airport, other monopolistic contracted assets	Fewer monopolistic contracted and demand-based/GDP linked assets with expansion or growth potential	Platform-based infrastructure build-out blending brownfield and development. Telecom towers is one example.	Assets in construction (greenfield) phase; assets in emerging markets; assets highly growth-oriented, more akin to private equity
Main return driver	Mostly income	Income and appreciation	Income and appreciation	Mostly capital appreciation
Key risks	Operating, regulatory, patronage, financing	Operating, regulatory, patronage, financing, development	Political, operating contracts, strategy implementation, patronage, construction, currency and/or hedging risks, other	Political, operating contracts, strategy implementation, patronage, construction, currency and/or hedging risks, other
Net return target	5-8%	8-12%	11-14%	>14%

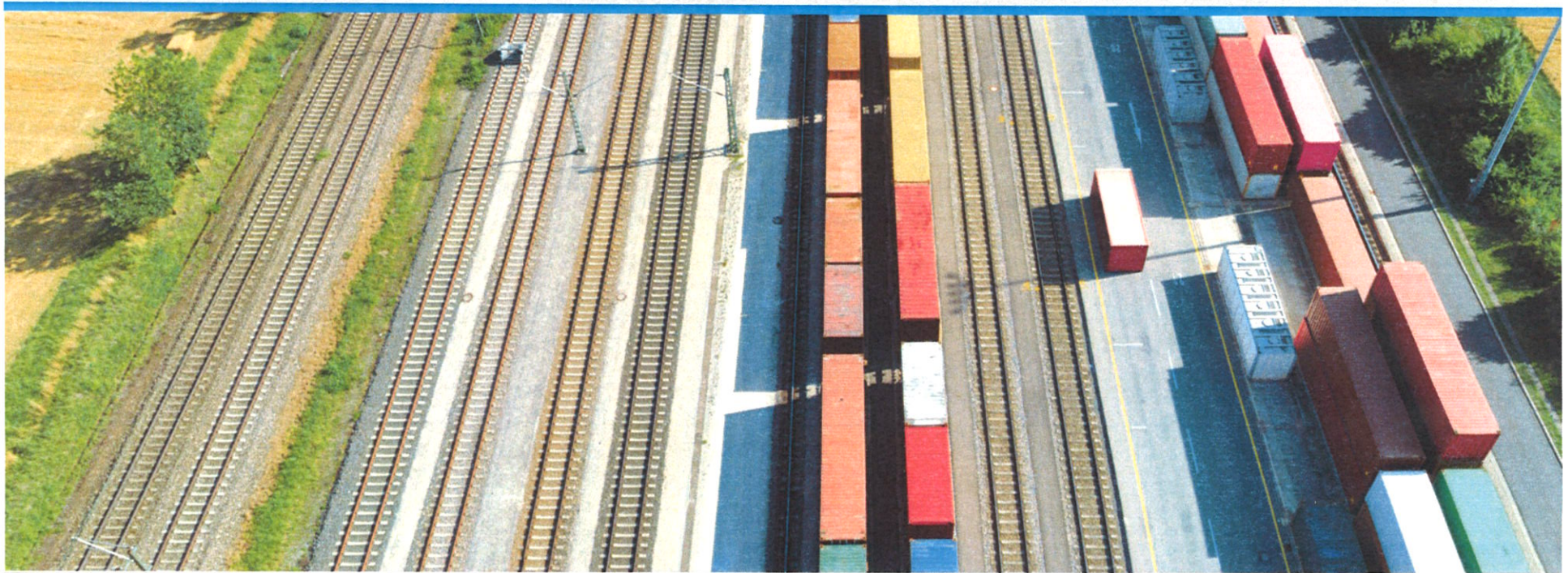


Macquarie Infrastructure and Real Assets (MIRA)

Macquarie Infrastructure Partners V

North Dakota State Investment Board
Board Presentation

May 2020



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Important Notice (1 of 2)

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This document is being distributed on behalf of Macquarie Infrastructure Partners Inc. ("MIP Inc." or the "Manager") on a confidential basis in response to the diligence request by North Dakota State Investment Board dated May 7, 2020. References to "we", "us", "our" and similar expressions are to the Manager. References to "we", "us", "our" and similar expressions are to the Manager. As used herein, the "Fund" or "MIP V" refers to a Delaware limited partnership named Macquarie Infrastructure Partners V, L.P. (together with its related fund vehicles as the context requires), which will be managed by the Manager. The Manager may also be referred to herein as "MIP".

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Important Notice (2 of 2)

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No representation is made or will be made that any forward-looking statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results and operations to vary materially from the forward-looking statements. Similarly no representation is given that the assumptions disclosed in this document upon which forward-looking statements may be based are reasonable. There can be no assurance that the investment strategy or objective of MIP V will be achieved or that investors will receive a return of the amount invested.

Past or projected performance is not an indication of future performance and there can be no assurance that the Fund will be able to implement its investment strategy or achieve its investment objectives or that investors in the Fund will not lose all of their invested capital. The Manager does not guarantee any particular rate of return or the performance of the Fund nor does the Manager guarantee the repayment of any amounts invested. Unless expressly stated, performance information contained herein has not been audited or verified by an independent party. Historical performance information contained herein must be read together with a careful review of the endnotes to the historical performance charts herein and the investment performance definitions provided together with such performance charts.

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Presenter Biographies



Karl Kuchel
CEO, MIP Inc.

Karl is the CEO of MIP Inc., which manages MIP I, MIP II, MIP III, MIP IV and MIP V. Collectively the funds have invested more than \$14 billion of equity in a variety of infrastructure assets, primarily in the U.S. and Canada. In addition to his role as CEO, Karl serves as an investment committee member for the MIP funds and is actively involved in evaluation and execution of transaction opportunities as well as management of portfolio company investments.

Prior to his appointment as CEO, Karl served as the Chief Operating Officer for MIP, where his responsibilities included capital allocation, cash flow management, valuation, financing and business planning across each fund's portfolio companies.

Karl joined Macquarie in 2003 in Sydney, Australia, where he was involved with acquisition and asset management activities for Macquarie Infrastructure Group and Macquarie Communications Infrastructure Group, prior to transferring to the New York office in 2004.

Karl holds a Bachelor of Commerce with Honors degree and a Bachelor of Laws degree from the University of Queensland.



Jenny Chan
Portfolio & Strategy

Jenny is a Managing Director with MIRA and is currently the Head of Portfolio and Strategy for the MIP Funds. Prior to this role, Jenny had responsibility for developing and executing the debt capital management strategy across MIRA portfolio assets and new acquisition targets. Jenny began her career with Macquarie as a graduate in 2001.

Before joining the MIRA New York office in 2015, she worked in the Macquarie Capital advisory business and Macquarie's direct lending business, making credit investments on behalf of Macquarie Bank Limited. In her role with Macquarie Capital, Jenny advised on the acquisitions of Hawai'i Gas and the Dulles Greenway.

She earned her Bachelor of Commerce (Honors) and Bachelor of Laws (Honors) from The University of Queensland.



Andrew Killian
Relationship Manager

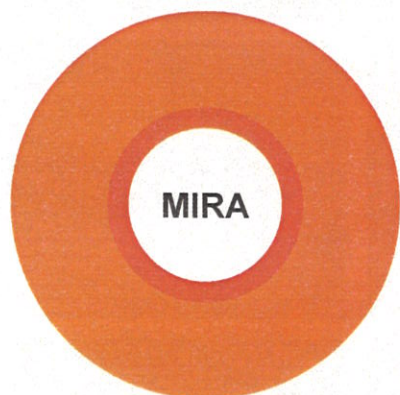
Andrew is a Relationship Manager in MAM's Client Solutions Group (CSG). He is responsible for working with the firm's global private infrastructure, agriculture, private credit and real estate funds to build and maintain relationships with institutional limited partners and their advisors.

Andrew has spent the majority of his career partnering with investors in the real assets space, having previously worked at Brookfield Asset Management and Cohen & Steers Capital Management. While at Macquarie, Andrew has served in multiple roles including as a member of Macquarie's Global Listed Infrastructure team where he served as a senior product specialist.

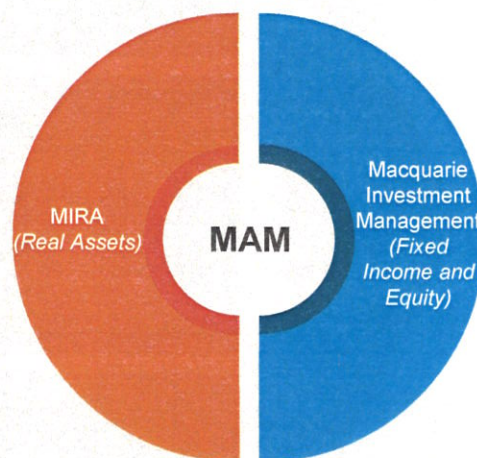
Andrew received a Bachelor of Arts degree from Boston College and is a Chartered Alternative Investment Analyst.



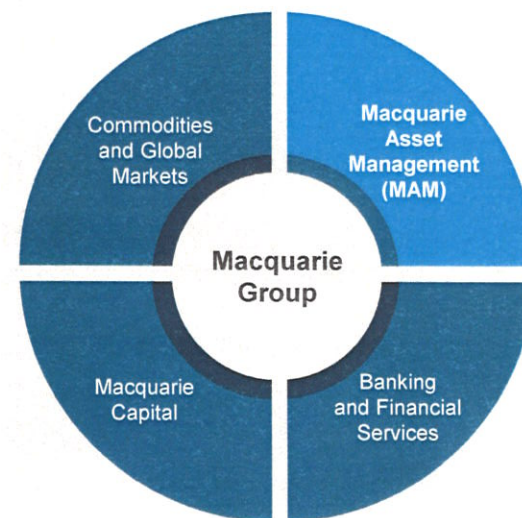
MIRA: How We're Structured



We are a real assets investment manager...



...within the asset management arm...



...of a global financial group

Macquarie Infrastructure and Real Assets (MIRA)

- * Operating since 1994
- * AUM¹ of US\$135.6b
- * EUM² of US\$90.7b
- * 800+ staff³

Macquarie Asset Management (MAM)

- * Operating since 1980
- * AUM¹ of US\$379.3b
- * Top 50 Global Asset Manager⁴
- * 1,500+ staff³

Macquarie Group

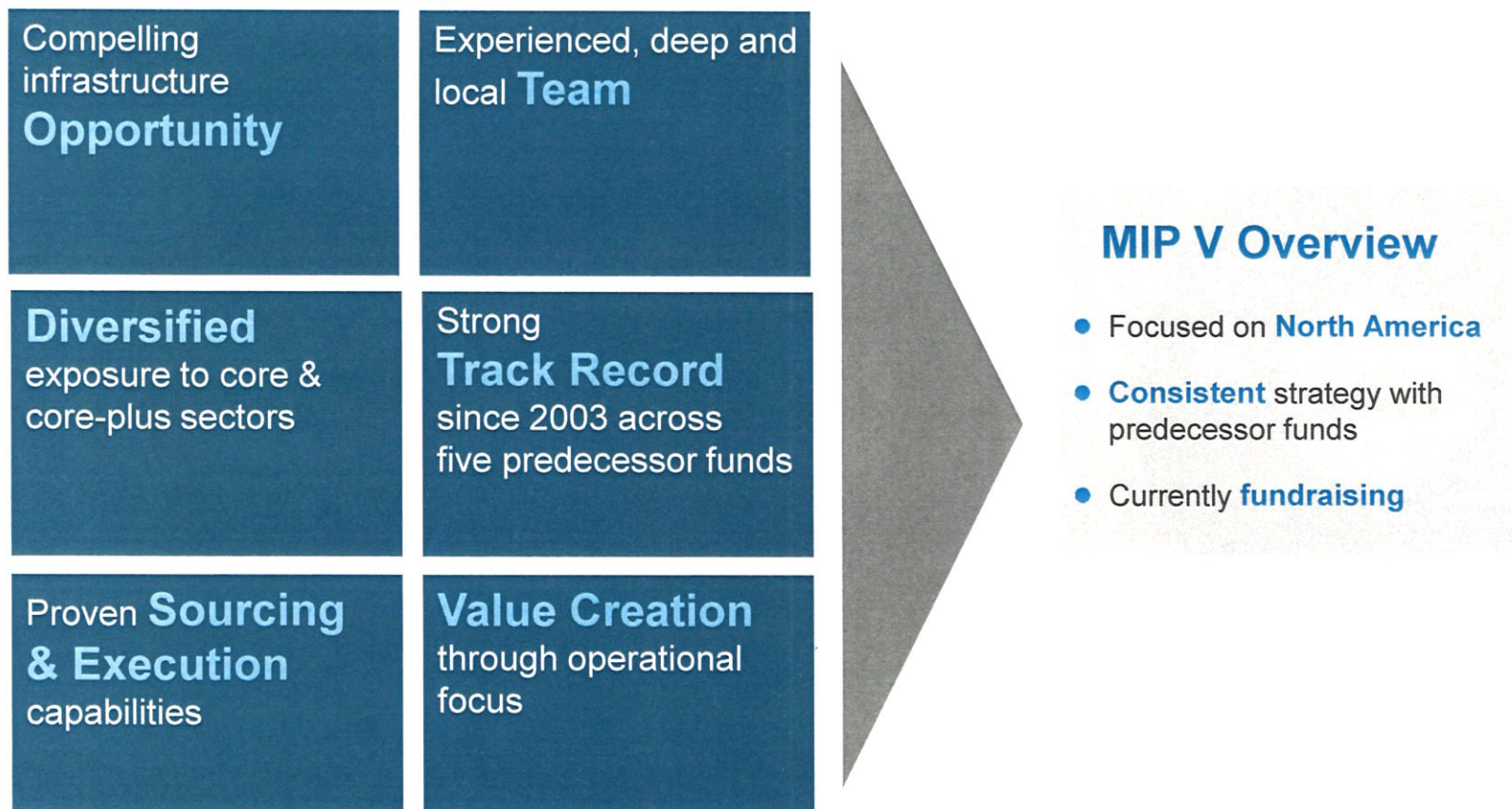
- * Operating since 1969
- * Listed on ASX⁵ in 1996
- * 51 years of continuous profitability⁶
- * 15,800+ staff⁷

1. Assets under management (AUM) based on proportionate enterprise value calculated as proportionate net debt and equity value, as at 30 September 2019 for the majority of assets, based on 30 September 2019 FX rates. 2. Equity under management (EUM) is defined as market capitalization, plus fully underwritten or committed future capital raisings for listed funds and committed capital less any called capital returned to investor for unlisted (private) funds and mandates, as at 30 September 2019, based on 30 September 2019 FX rates. 3. Office and staff data as of 30 September 2019. 4. P&I Largest Money Managers 2018. 5. Australian Securities Exchange. 6. Refers to Macquarie Group financial results. 7. Staff data is provided as at 31 March 2020



Macquarie Infrastructure Partners V

MIP V continues the investment philosophy and approach of the MIP platform, which spans 16 years of investment track record and experience in the Americas



Note: There can be no assurance that Manager expectations regarding MIP V's investments will be met. Past performance is not necessarily indicative of the performance of MIP V. For further information, see the Important Notice.



Clear and Consistent Investment Strategy

MIP V to implement core / core-plus investment strategy, consistent with previous five vintages



Note: There are some small differences in the investment mandates between each of the MIPs. 1. Please refer to the LPA for additional details regarding the sector investment mandate for MIP V.
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Compelling Investment Proposition

Attractive risk-return profile and substantial depth of opportunities in the North American market provides a compelling investment proposition

Why Infrastructure?

- Essential services provide for relatively **inelastic demand** and therefore **lower risk of volatility** throughout market cycles
- Attractive risk/return profile and **lower correlation** to traditional asset classes provide **portfolio diversification benefits**
- **Inflation hedge benefits** through revenue streams directly or indirectly linked to CPI
- **Predictable cash flows** over long-term allow for **recurring yield** to investors

Why the Americas?

- Strong and consistent transaction activity; **~1,700 transactions** with an estimated **\$600 billion** aggregate value completed in North America from 2014 to 2018¹
- Significant **infrastructure build-out** required - **\$2.1 trillion** projected U.S. public funding gap²
- Potential replacement costs associated with Canada's deteriorating infrastructure **totalling C\$388 billion**³
- Middle class in LatAm expected to grow by **90 million** by 2030⁴

Why Now?

- Attractive private capital opportunities **expected to continue**
- To support **economic growth / population growth / urbanization**
- Increasing end-user **data demand**
- **Evolving** energy landscape
- Increasing acceptance of **public-private partnerships**
- **Limitations** on traditional funding sources

Note: Not all the transactions described herein are suitable for a Fund, and a number of these transactions may be outside the Fund's investment objectives. 1. 2014-2018 transaction information as sourced by Preqin Ltd. Oct 2019. Estimated aggregate value refers to total number of deals from 2014 to 2018 multiplied by average disclosed deal size. 2. ASCE's 2017 Report Card for America's Infrastructure - through 2025. 3. Relates to Canada's municipal infrastructure rated very poor, poor or fair as reported by the Federation of Canadian Municipalities' National Infrastructure Report Card 2016. 4. World Bank population statistics; Bussolo, Maliszewska and Murad "The Long-Awaited Rise of the Middle Class in Latin America Is Finally Happening" World Bank, June 2014. Refer to MIP V LPA for details regarding Fund's ability to invest a limited proportion of its capital in Latin America



Strong Opportunity Set within Target Sectors

MIP V's primary focus is to invest in North American infrastructure, with specific investment strategies across key target sectors

- Terminals in **gateway ports**
- Class II **rail networks**; platform expansions via Class III railroad roll-ups
- **Airports**, including upgrades of terminals
- **Supply chain** infrastructure serving key markets

Transportation



Utilities & Energy



- **Utilities** that require large future capex spend or face regulatory or other challenges
- High quality **midstream assets** with value through economic / commodity cycles
- **Power generation assets** with complex operations or key competitive advantages

- **Fiber and wire-line** networks with broad customer bases
- **Wireless network** infrastructure including towers, Distributed Antennae Systems (DAS) and small cell systems
- High quality **datacenter** assets with key advantages

Communications



Waste Management



- **Solid waste companies** in fragmented markets
- **Disposal assets**, including landfills, recycling facilities, waste-to-energy plants and waste-by-rail
- **Industrial and specialty** waste platforms

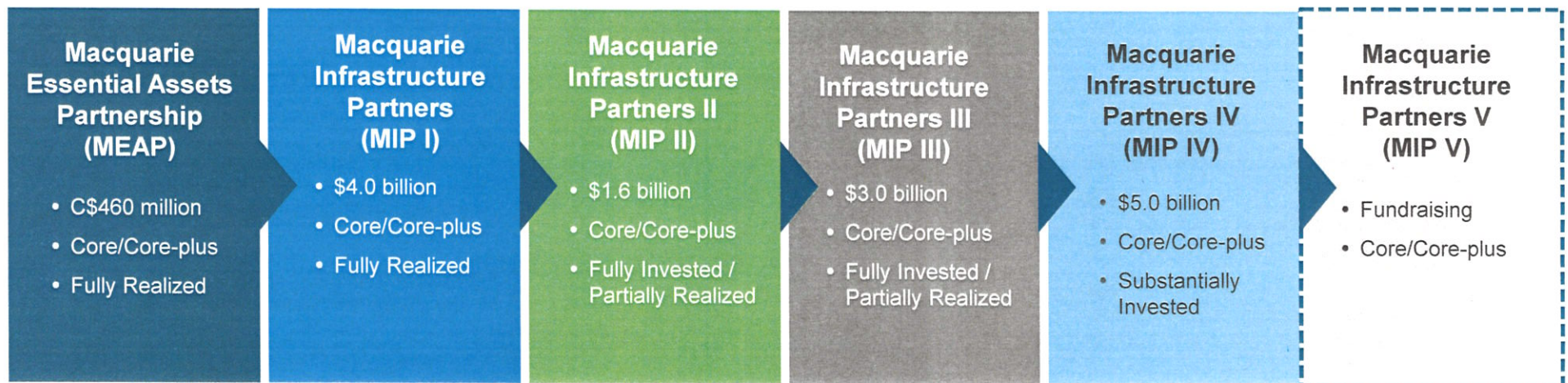
MIP V also has the ability to invest a small proportion of the Fund in target investments across these sectors in **Latin America** where risk-adjusted returns provide attractive opportunities

Note: While the Manager will seek to pursue a diversified investment strategy, no guarantees can be made that the Manager will invest in each of these sectors or subsectors.



Proven Strategy and Track Record

Consistent strategy and strong track record of infrastructure investment since 2003



37
Portfolio Companies¹

20
Realizations²

2
Fully Realized Funds

Note: As of February 2020

1. Total count of distinct infrastructure businesses (realized and unrealized) owned by private infrastructure funds investing in the U.S. and Canada. 2. MIP I and MIP II's realization of Global Tower Partners, and Puget Energy and MEAP and MIP I's realization of Aquarion are each treated as one realization. Past performance is not necessarily indicative of future results of an investment in the Fund and there can be no assurance that the Fund will achieve comparable results, that the returns generated by the Fund will equal or exceed those of other Macquarie-managed funds or that the Fund will be able to implement its investment strategy or achieve its investment objectives.



Diversified Investment Portfolios

MIP has consistently invested across a broad range of infrastructure sectors and successfully delivered balanced, diversified vintages

Utilities

- *AltaLink*
- *Michigan Electric Transmission Company*
- *Duquesne Light*
- *Aquarion Water Company*
- *Puget Energy*
- Cleco Corporation



Communications

- *Global Tower Partners*
- InSite Wireless Group
- Aligned Energy
- Bluebird Fiber
- Netrality Data Centers



Ports

- *Fraser Surrey Docks*
- *Halterm Limited*
- *Penn Terminals*
- NYK Ports
- Maher Terminals
- Long Beach Container Terminal



Power, midstream and renewables

- *Broadrock Renewables*
- *Leaf River Energy Center*
- *Lordstown Energy Center*
- *Lagoon Water Solutions*
- Centauro Energia



Roads

- *Edmonton Ring Road*
- *Sea-to-Sky Highway*
- *South Bay Expressway*
- *Chicago Skyway*
- *Indiana Toll Road*
- *Dulles Greenway*
- *Autoroute 25*
- Elizabeth River Tunnels
- Goethals Bridge Replacement Project



Waste management

- *Waste Industries*
- WCA Waste Corporation
- *GFL Environmental*
- Tunnel Hill Partners
- Wheelabrator Technologies
- Solvi



Items in italics represent fully realized investments as of February 2020.

Note: Past performance is not indicative of future results of an investment in MIP V and there can be no assurance that the Fund will be able to implement its investment strategy or achieve its investment objectives. Further, there can be no assurance that the Fund diversification will be similar to prior funds or that similar investment opportunities will be made available to the Fund.

BOARD ACTION

TO: State Investment Board
FROM: Dave Hunter, Darren Schulz and Eric Chin
DATE: May 19, 2020
SUBJECT: Macquarie Infrastructure Partners V Recommendation

Recommendation: RIO requests the SIB approve up to a \$100 million commitment to Macquarie Infrastructure Partners V (MIP V) in order to further diversify our real asset investments within the Pension and Insurance Pools and Legacy Fund. Based on current market conditions, RIO recommends this action given that our existing Diversified Real Assets portfolio has a higher than desired allocation to U.S. Treasury Inflation Protected Securities (TIPS) of roughly \$600 million. The SIB previously approved a \$140 million commitment to MIP IV in October of 2018 following a comprehensive due diligence process which included the engagement of Mercer’s real assets consulting team. RIO re-engaged with Mercer and Callan infrastructure specialists (Jan Mende) in recent months to reconfirm our favorable opinion of Macquarie as a proven leader in the infrastructure sector. If the SIB approves this recommendation, RIO believes the SIB will be able to take advantage of a significant “first close” pricing opportunity in June. **RIO conducted onsite due diligence in March.**

MIP Overview:

As one of three units within Macquarie Asset Management (MAM), the Macquarie Infrastructure & Real Assets (MIRA) team is a leading infrastructure manager globally, with a long track record sourcing and managing assets in four primary infrastructure sectors: regulated utilities, communications, waste management and transportation. MIP V continues the investment philosophy and approach of the MIP platform which has generated a strong track record of infrastructure investment focused in the U.S. and Canada dating back to 2003 including over \$14 billion of invested capital in 37 portfolio companies.

MIP V is a continuation of predecessor funds that invest in core and core-plus infrastructure assets and companies in North America: Macquarie Essential Assets Partnership (2003 vintage), Macquarie Infrastructure Partners I (2006), II (2008), III (2013) and IV (2018).

Key tenets of the investment strategy are the following:

1. Focus primarily on established brownfield infrastructure assets that possess contracted revenue streams, favorable demographic factors and natural monopolistic characteristics
2. Value creation through active asset management and operational improvements: MIP seeks to implement operational improvements to increase efficiencies and operating performance of assets
3. Control equity investments are critical to the strategy
4. Diversified by sector, geography and stage of asset life
5. Conservative use of asset-level leverage and weighted average leverage of the total fund not to exceed 50% LTV.

Fund V Characteristics:

Target Net IRR: 10-12% with 4% to 6% Target Gross Yield

Target Fund Size: \$5 billion

Number of Investments: 7-10 investments

Target Deal Size: \$400-600 million

Geographic exposure: 80-100% U.S. and Canada, up to 20% Other Americas

Position Size Limit: No more than 20% of commitment in a single investment

Conclusion:

Staff believes that an investment in MIP V is a prudent investment for the Legacy Fund and Pension and Insurance Pools. MIP V's core/core-plus focus is well-suited as an anchor infrastructure allocation parallel to JP Morgan Infrastructure Investment Fund (IIF). A commitment to MIP V further diversifies the SIB's current infrastructure investments with a focus on large core transactions supplemented by core-plus opportunities. **RIO also notes that MIP's IV early returns have been encouraging despite the recent market downturn given its defensive approach to GDP sensitive infrastructure investments.**

Macquarie possesses a number of competitive advantages relative to some of its peers:

1. **Platform Experience:** Macquarie has a deep and experienced team with an average of 25 years of industry experience. The firm is widely known as a leader in the space and has successfully invested and managed four prior funds focusing on North America.
2. **Regional Approach:** Macquarie employs a regional approach with the belief that infrastructure assets are best managed by local teams that understand local markets and the communities they serve. This also strengthens the implementation of value-enhancing operational improvements with each asset's management team.
3. **Conservative Investment Approach:** Macquarie seeks to minimize downside risk and protect capital when structuring infrastructure investments upon acquisition and through the investment period. Given the firm's meaningful history in the sector, the firm's past experiences during economic downturns have strengthened their process for identifying risks within portfolio companies. For example, the degree of leverage employed when financing portfolio companies reflects the stability of underlying cash flows – regulatory, contracted, GDP sensitive – and the expected volatility of cash flows in stress scenarios.
4. **Management Fee:** The firm offers an LP friendly fee on committed uninvested capital, which helps reduce the J-curve effect and the gross to net performance spread of the fund.

Some of the risks/concerns Staff has identified are:

1. **Competitive Market:** A concern not unique to Macquarie is the amount of capital that has been raised in recent years to source and invest in large infrastructure assets, the result of which has been increased competition for deals and elevated valuations. That being said, Macquarie believes the opportunity set for private infrastructure in North America is large and robust, particularly given the constraints on public sector financing and the substantial need for the infrastructure investment in the U.S. and Canada due to historical underinvestment.
2. **Concentrated Portfolio:** Macquarie plans to invest in 7 to 10 portfolio companies diversified by sector and geography. Historically, the firm has invested on the lower end of the deal range, resulting in concentrated portfolios. Nevertheless, the firm principally invests in core assets which are generally considered to have relatively stable cash flows and lower risk profiles. Another mitigant is that a commitment to Macquarie would serve as part of a diversified multi-manager infrastructure investment program within SIB asset pools.

**ND STATE INVESTMENT BOARD
AUDIT COMMITTEE MEETING**

Thursday May 21, 2020 – 3:00 PM
Retirement and Investment Office
3442 E Century Ave, Bismarck, ND 58507

AGENDA

1. Call to Order and Approval of Agenda – Chair (committee action) (5 minutes)
2. Approval of February 27, 2020 Minutes – Chair (committee action) (5 minutes)
3. Presentation of July 1, 2019 to June 30, 2020 Fiscal Year Financial Audit Scope and Approach and Final GASB 68 Schedule Audit Report – CliftonLarsonAllen (to follow) (committee action) (30 minutes)
4. 2020 – 2021 Third Quarter Audit Activities Report – Sara Sauter (committee action) (30 minutes)
5. Retiree Benefit Fraud Incident – Sara Sauter (information) (10 minutes)
6. 2020 - 2021 Audit Services Workplan and Budgeted Hours– Sara Sauter (committee action) (30 minutes)
7. Update on Internal Audit Activities – Sara Sauter (committee action) (15 minutes)
8. 2020 - 2021 SIB Audit Committee Meeting Schedule – Sara Sauter (committee action) (5 minutes)
9. 2020 - 2021 SIB Audit Committee Membership – Sara Sauter (information) (5 minutes)
10. Other – Next SIB Audit Committee Meeting

****PENDING APPROVAL****

Retirement and Investment Office
Thursday August 13, 2020 – 2:30 PM
RIO Conference Room
3442 E Century Ave
Bismarck, ND

11. Adjournment

Any individual requiring an auxiliary aid or service should contact the Retirement and Investment Office at (701) 328-9885 at least (3) days prior to the scheduled meeting.

RETIREMENT AND INVESTMENT OFFICE
Internal Audit
2019-2020 3rd Quarter Audit Activities Report
January 1, 2020 – March 31, 2020

The audit objective of Internal Audit is twofold: first, to provide comprehensive, practical audit coverage of the Retirement and Investment Office (RIO) programs; second, to assist RIO management and the State Investment Board (SIB) by conducting special reviews or audits.

Audit coverage is based on the July 1, 2019 through June 30, 2020 work plan approved by the SIB Audit Committee. The audit activities undertaken are consistent with the Internal Audit charter and goals, and the goals of RIO. To the extent possible, our audits are being carried out in accordance with the International Standards for the Professional Practice of Internal Auditing. Audit effort is being directed to the needs of RIO and the concerns of management and the SIB Audit Committee.

Investment and Agency Audit Activities

• **Executive Limitation Audit**

On an annual basis, Internal Audit reviews the Executive Director/CIO's level of compliance with SIB Governance Manual Executive Limitation Policies A- 1 through A-11. The Executive Limitations Audit was started in December 2019.

The audit was issued February 27, 2020.

• **Executive Review Committee**

In February 2019, the Executive Review Committee requested Internal Audits assistant in administering a board self-evaluation. Internal Audit administered the evaluation, collected the responses, and reported to the State Investment Board on March 27, 2020.

The Executive Review Committee also annually evaluates the Executive Director/CIO of the North Dakota Retirement and Investment Office, Mr. David Hunter. Internal Audit's assistance was required to facilitate a survey to the current SIB members and a survey to RIO staff. The survey to RIO staff was completed in March 2020 and the SIB survey was administered in March/April 2020. Internal Audit compiled the results and reported to the Executive Review Committee.

• **Administrative Expense Audit**

A review of RIO's policies pertaining to travel and expenses which will be compared to OMB policy and state purchasing requirements. A sample of travel vouchers from both board members and staff will be reviewed, including in-state, out-of-state, and international travel to ensure compliance with policy and regulations. A sample of invoices (ex. rent, cleaning, etc.) will also be selected. These invoices will be reviewed to ensure proper approvals were obtained, verify invoice with expense voucher, review contract, and review that payment was issued and cleared.

The audit report was issued January 30, 2020.

• **Cash Management and Rebalancing Audit**

A review of procedures for cash management and rebalancing of investment allocations. A sample of rebalancing of asset allocations, wire transactions, and bank fees will be selected and confirmed. Also, a sample of client requests will also be reviewed for timeliness and accuracy. Lastly, a review of staff access and authorization will be reviewed and confirmed.

This audit was started in March 2020; however, do to COVID-19 it was temporarily put on hold. Since then the SIB has hired Parametric to help with rebalancing the portfolio. Due to the changes internal audit staff is working with fiscal management staff to understand the changes and re-scope the audit.

This audit is currently in progress.

- **Internal Control Assessment**

The internal control assessment was started in March 2020; however, do to COVID-19 it was temporarily put on hold. Also, discussions with management staff, it was decided to first complete the Internal Control Guidelines put forth by the ND Office of Management and Budget.

This assessment is currently in progress.

Retirement Program Audit Activities

- **TFFR Employer Salary Reviews**

Internal Audit examines employer reporting to the Teachers' Fund for Retirement (TFFR) to determine whether retirement salaries and contributions reported for members of TFFR for accuracy with the definition of salary as it appears in the TFFR Employer Guide. Other reporting procedures reviewed during the audit process are calculation of service hours and eligibility for TFFR membership. A written report is issued after each review is completed to Retirement Services.

Status of TFFR Employer Audits as of September 30, 2019:

- Three (3) employer audits had been completed.
- One (1) employer audit was in progress.

- **Salary Verification Audit**

On an annual basis Internal Audit verifies retirement salaries and contributions reported to TFFR for the prior fiscal year for 65 randomly selected member accounts from 60 different employers. The sample has been selected, notifications for information have been requested and information has been returned by the employers. The reconciliation of salaries is scheduled to start during the third quarter.

This audit is currently in progress.

- **File Maintenance**

A review of changes made to TFFR member account data by Retirement and Investment Office employees is reviewed on an annual basis. Internal Audit reviews system generated (CPAS) audit tables to ensure transactions initiated by staff are expected and appropriate given an individual's role within the organization. Member accounts are also reviewed to ensure contact and demographic information has been updated correctly per Member Action Forms on file. Other procedures reviewed are change of addresses and the posting of beneficiary deaths that are not in pay status.

This report was issued January 31, 2020.

- **Benefit Payment Audit**

A review of deaths, long outstanding checks, and long term annuitants was completed to determine that established policies and procedures were being followed by the staff of Retirement Services.

This audit was issued April 20, 2020.

- **Task List Project**

Internal Audit is working with Retirement Services, Administrative Services, and Information Systems Services on tracking retirement program activities. Due to retirements and different activities happening, Internal Audit has been spending more time with this project. The tracking of tasks will go through June 30, 2020. This will give a full year of activities.

- **Data Analytics**

Internal Audit and RIO's Information Technology Division has been working with North Dakota Information Technology Department (NDIT) to develop data analytics to help streamline the TFFR Employer Salary, Service Hours, Eligibility Review process. Internal Audit is currently working through the first employer audit comparing the employer master payroll file comparison with the ESPB database.

Administrative Activities

The Supervisor of Internal Audit attended the monthly RIO staff meetings, monthly RIO manager's meetings, divisional meetings, three SIB meetings, and one TFFR meeting. The Internal Audit staff member attended the monthly RIO staff meetings, divisional meetings, one TFFR meeting. Internal Audit staff also continues to educate RIO staff on internal audit as needed.

Professional Development/CE/General Education

The Supervisor Internal Audit is pursuing a Master's in Business Administration and a Master's in Public Administration and completed the following courses: Managerial Accounting, Managerial Finance, and Executive Economic Analysis. In February 2020 completed all course work for her Master's in Public Administration.

Board Acceptance Requested

TO: State Investment Board
FROM: Dave Hunter
DATE: May 19, 2020
SUBJECT: SIB Securities Litigation Committee Update

The SIB Securities Litigation Committee (SLC) held a special meeting on April 30, 2020, to review a developing international securities litigation case involving investors in Nissan Motor Co. Ltd. (Nissan) who suffered damages as a result of alleged financial misconduct that led to the arrest of former Nissan Chairman, Carlos Ghosn.

- Financial Recovery Technologies (FRT), our securities litigation monitoring firm, made RIO aware of a developing international securities litigation case against Nissan on Friday, April 24th.
- The proposed action alleges that investors in Nissan suffered damages as a result of the revelations of financial misconduct that led to the arrest of former Nissan Chairman, Carlos Ghosn (as described in Exhibit B).
- Based on our SIB approved SLC Charter, the Committee is authorized to “make decisions on the level of participation the SIB will take in ... opt-in or group litigation” cases and “approve the selection of special assistant attorneys” under the guidance and approval of the AG office.
- On April 30, RIO discussed the merits of this case with Craig D’Alessio and Michael Lange of FRT to confirm: 1) estimated damages are approximately \$1.2 million; 2) the legal jurisdiction is Japan; and 3) the SIB approved litigation threshold for Japan is \$1 million.
- FRT Senior Vice President of Worldwide Litigation Michael Lange stated there is “very little downside risk to pursuing securities litigation in this case and there is a good chance of obtaining a 25% estimated recovery” which translates into “an approximate \$300,000 gross loss recovery or an estimated \$225,000 net loss recovery” after up to a 25% contingent fee arrangement.
- On May 12, 2020, the North Dakota Emergency Commission approved the SLC’s request to engage in a litigation contingency fee arrangement in an effort to recover damages.
- RIO is currently in the process of obtaining approval from the Office of the Attorney General for the appointment of a Special Assistant Attorney General to serve the SIB on international opt in group securities litigation case.

If the SIB concurs, RIO will work with AG counsel to draft legislation which would allow the SIB to engage in litigation contingency fee arrangements in the future without the prior consent of the North Dakota Emergency Commission (EC). Governor Burgum made this recommendation at the EC meeting on May 12th while noting the Land Board already maintains this authority.



ND STATE INVESTMENT BOARD
SECURITIES LITIGATION COMMITTEE

SPECIAL MEETING

Thursday, April 30, 2020, 8:00 a.m.
North Dakota Retirement and Investment Office (RIO)
RIO Conference Room (Virtual Meeting Host)
Teleconferencing – 701.328.7950 Participant Code – 696855#
3442 East Century Avenue, Bismarck, ND

AGENDA

1. Call to Order and Approval of Agenda – Chief Deputy Attorney General Seibel **Committee Action**
2. Minutes (November 7, 2019) **Committee Action**
3. Securities Litigation Committee (SLC) Updates – Mr. Hunter (20 minutes)
 - a. New SLC Member - Assistant Attorney General Mr. Dean DePountis – Mr. Hunter *(verbal)*
 - b. Pending Securities Litigation Activity – Mr. Hunter *Informational*
 - c. Securities Litigation Market Update – Mr. Michael Lange & Mr. Craig D'Allessio *Informational*
 - d. Executive Director Recommendation – Mr. Hunter **Committee Action**
4. Other - Next Proposed SIB Securities Litigation Committee Meeting

North Dakota Retirement and Investment Office
3442 E Century Ave, Bismarck, ND 58503
Tuesday, May 19 at 1:00 PM

5. Adjournment

Any individual requiring an auxiliary aid or service should contact the Retirement and Investment Office at (701) 328-9885 at least (3) days prior to the scheduled meeting.

Committee Action

TO: SIB Securities Litigation Committee

FROM: Dave Hunter, ED/CIO, and Connie Flanagan, Chief Financial Officer

DATE: April 28, 2020

SUBJECT: Securities Litigation – Nissan Motor Co. Ltd. (Nissan)

- Financial Recovery Technologies (FRT), our securities litigation monitoring firm, made RIO aware of a developing international securities litigation case against Nissan on Friday, April 24th.
- The proposed action alleges that investors in Nissan suffered damages as a result of the revelations of financial misconduct that led to the arrest of former Nissan Chairman, Carlos Ghosn (as described in [Exhibit B](#)).
- Based on our SIB approved SLC Charter, the Committee is authorized to “make decisions on the level of participation the SIB will take in ... opt-in or group litigation” cases and “approve the selection of special assistant attorneys” under the guidance and approval of the AG office (SLC Charter on next page).
- On April 27, RIO discussed the merits of this case with Craig D’Alessio and Michael Lange of FRT to confirm: 1) estimated damages are approximately \$1.2 million; 2) the legal jurisdiction is Japan; and 3) the SIB approved litigation threshold for Japan is \$1 million ([Exhibit A](#)).
- The attached FRT “Opt-In” Monitoring Alert states the “Jurisdiction Risk” for this Nissan Motor Corporation case in Japan is deemed to be “Low Risk” for “Costs” and “Discovery” and “Medium Risk” for “Anonymity” ([Exhibit B](#)).
- FRT Senior Vice President of Worldwide Litigation Michael Lange stated there is “very little downside risk to pursuing securities litigation in this case and there is a good chance of obtaining a 25% estimated recovery” which translates into “an approximate \$300,000 gross loss recovery or an estimated \$225,000 net loss recovery” after up to a 25% contingent fee arrangement which may require the approval of the ND Emergency Commission on May 12, 2020.
- If the SLC concurs, RIO will request Mr. Michael Lange and Mr. Craig D’Alessio to share additional background on the merits and risks of electing to “Opt-In” to the Nissan securities litigation case including the engagement of Kessler, Topaz, Meltzer, Check LLP, an FRT approved securities litigation firm and a Special Assistant Attorney General (SAAG) appointment by our AG office.

CHARTER OF THE
SECURITIES LITIGATION COMMITTEE OF THE
NORTH DAKOTA STATE INVESTMENT BOARD

PURPOSE

The Securities Litigation Committee (the Committee) is a standing committee of the North Dakota State Investment Board (SIB) created to assist in fulfilling its fiduciary oversight responsibilities of monitoring the investment of assets entrusted to it by the various statutory and contracted funds, and to serve as a communications link for the SIB, RIO's management and staff, third party securities litigation firms, and others.

The Committee will determine when an active role should be pursued in regards to securities litigation affecting securities within the SIB's portfolios.

AUTHORITY

The Committee is authorized to:

- draft policy (to be formally approved by SIB) regarding dollar and/or risk thresholds for determining when to opt-out of class actions and/or seek direct litigation or lead plaintiff status;
- based on SIB approved policy, make decisions on the level of participation the SIB will take in direct litigation, opt-in or group litigation, anti-trust and other class actions; and
- approve the selection of special assistant attorneys in cases of direct litigation.

Committee Action Requested:

RIO respectfully requests the SLC to consider engaging Kessler, Topaz, Meltzer, Check LLP to Opt-In into international group securities litigation to recover an estimated \$225,000 in net loss recoveries from an alleged fraud committed by Nissan Motor Co. Ltd. noting the participation deadline is May 1, 2020. This recommendation is consistent with our SIB approved SLC Charter and Policy noting the jurisdictional threshold for Japan is \$1 million (per Exhibit A) and is classified as Low Risk for Costs and Discovery by FRT (per Exhibit B).

Exhibit A
 Non-US Opt-In and Group Litigation
 Jurisdictional Thresholds

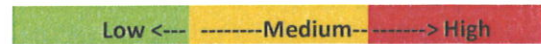
Jurisdictional Description	Threshold
Passive/very low risk jurisdictions, simple registration or claim filing (no participation in litigation required, strong anonymity, very low costs) including, but potentially not limited to: Australia, Israel, Netherlands (including Dutch Foundations), regulatory funds (e.g. Compensation Schemes in UK)	\$20,000 (FRT proposal to lower to zero)
Low risk jurisdictions (no discovery, low cost) including, but potentially not limited to: Japan	\$1 million
Moderate risk jurisdictions (moderate cost, funded/insured to protect from cost shifting, some restricted discovery, not fully public) including but potentially not limited to: Germany, Austria, Belgium, Switzerland, Denmark, Spain, Finland, France, Hong Kong, Indonesia, Ireland, Italy, Korea, Luxembourg, Malaysia, Norway, New Zealand, Portugal, Sweden, and Thailand	\$5 million
High risk jurisdictions (potential in-person discovery, no anonymity, uncapped fees) including, but potentially not limited to: Taiwan, United Kingdom, Singapore, Brazil	\$10 million

Jurisdictional Thresholds are developed in consultation with legal counsel including other designated agents which are experts in global securities litigation matters.

JAPAN: Nissan Motor Corporation

Company	Nissan Motor Co. Ltd.
Jurisdiction	Japan
Exchange	JSE
Industry	Automobile
Claims	Breach of continuous disclosure obligations, and misleading and deceptive conduct

Jurisdiction Risk



Costs	✓
Anonymity	✓
Discovery	✓

Next Steps

An evaluation of your trading history shows you actively traded Nissan common stock during the Relevant Period and have potentially been impacted by the alleged fraud.

As a first step, investors wishing to participate must provide Kessler with their transaction data to confirm eligibility and estimate losses. At your request, FRT can initiate this process by providing them with your data on an anonymous basis. If you have compensable losses and would like to further discuss your rights with the organizers, FRT can facilitate a direct discussion.

Please contact your FRT Representative if you would like to discuss registration in this case.

Securities & Damages Information

For securities and damages information, please log into the [FRT Client Portal](#).

Relevant Parties

Kessler, Topaz, Meltzer Check LLP

Important Dates

Relevant Period:
June 11, 2011 – November 19, 2018

Participation Deadline: May 1, 2020
Statute of Limitations: June 25, 2020

Update Information

Kessler has updated its recovery effort in the following three ways –

- **Extending the registration deadline:** The registration deadline is now **May 1, 2020**. Kessler’s claimant group is largely formed and ready to file, and they plan to file suit well before the limitations deadline. Therefore, you should consider May 1 a firm deadline with little flexibility.

- **Added claims:** Kessler has extended the relevant period. The new period is June 11, 2011 to November 19, 2018. Therefore, you may have more eligible trades.

- **Additional securities:** Kessler has added seven more securities identifiers. These correspond with company shares listed on exchanges outside of Japan. Your FRT loss estimate includes any losses in these newly added securities.

*Please note that these changes may have resulted in increasing your estimated damages – please review your damage in the client portal.

This proposed action alleges that investors in Nissan Motor Co. Ltd. (“Nissan”) suffered damages as a result of the revelations of financial misconduct that led to the arrest of former Nissan Chairman, Carlos Ghosn. The Kessler law firm is organizing recovery efforts in Japan on behalf of investors who purchased Nissan common stock during the Class Period. This litigation will be separate from the securities class action filed in December 2018 in the US District Court for Tennessee on behalf of investors who purchased Nissan American Depository Receipts (ADRs) (OTC: NSANY).

Kessler is targeting mid May to file first claims. This is based on when they anticipate having a first claimant group ready, with an eye towards a time limit on filing. Japanese securities laws include a five-year statute of repose, the outer time limit to file after the events on which the claim is based. Kessler wants to ensure inclusion among the allegedly false financials in Nissan’s Annual Report for the Fiscal Year ending March 31, 2015, which was publicly filed in Japan on June 25, 2015. The time limit for claims based on this Annual Report, and shares purchased at that time, would be June 25, 2020. If there is sufficient interest, the firm may file a second group complaint, but this cannot be guaranteed.

Disclaimer: Decisions to opt into non-US group litigations are at the discretion of the client. This notification does not constitute advice. It is not an evaluation of the legal merits of the case, nor is it an endorsement of the litigation being proposed or its potential outcomes. It is also not intended as an endorsement of the parties organizing the proposed litigation, including but not limited to the attorneys and/or funding agents described above. The purpose of this notice is to assist clients with their decision about whether to participate by providing certain key informational details as they have been presented by the case’s organizer(s).

ADDITIONAL INFORMATION**1. What is this matter about?**

On November 19, 2018, Nissan's former Chairman and CEO, Carlos Ghosn, was arrested in Japan on charges of misconduct around reporting on his compensation. Subsequent investigations revealed further wrongdoings by Mr. Ghosn and others, including a pervasive lack of internal controls and poor governance at Nissan going back years. These improprieties included false statements in Nissan's publicly filed reports.

The US Securities and Exchange Commission (SEC) sued Nissan and Ghosn for violating anti-fraud provisions of the US securities laws. In September 2019, the SEC settled the charges by agreement requiring Nissan to pay a \$15 million penalty, and Ghosn to pay a \$1 million penalty and agreeing to a 10-year ban on serving as officer or director.

On December 10, 2019, the Japanese Securities and Exchange Surveillance Commission (SESC) recommended Nissan be fined 2.5 billion yen (about \$22M) for violating disclosure obligations in the company's annual reports for fiscal years 2014 through 2017.

In response to news of Ghosn's first arrest (he was arrested several times), Nissan's stock price dropped about 5%. Throughout the Class Period, Nissan's stock price trended down and has remained down. Nissan shares currently trade about 40% below their November 18 close.

2. How big were my losses?

Claims will be brought under Japanese securities laws - the Financial Instruments and Exchange Act (FIEA) - and Japanese Civil Code (JCC). Under both, investors can recover actual losses caused by the defendants' illicit acts. The FIEA has a presumption for the amount of harm. Specifically, for shares purchased within one year of disclosure of an earlier falsehood, the FIEA assumes losses equal the difference between the average share price a month before and a month after the disclosure multiplied by the number of shares held through then. The presumption is rebuttable, meaning the defendants can disclaim responsibility for harm caused by other factors and events.

Compensable losses under Japanese law take into account the realized gains or losses from post disclosure sales. Rebounding share prices can also erode claim value unless losses are 'locked-in' by sale. For unsold shares, losses get 'locked in' by litigation: for FIEA claims they are calculated using the share price on the date they are filed, and for JCC claims they are calculated using the share price as of the date of trial.

As noted earlier, Nissan's stock price trended down throughout the Class Period and has not yet recovered. However, your claim for unsold shares remains vulnerable to future price increases. This favors filing sooner rather than later.

3. How does Japan handle group claims?

Japan does not have an opt-out class action mechanism for shareholder claims. Investors bring claims as a group, joining together in one complaint (a group action) or selecting and delegating authority to a representative for the group (an opt-in class). Unlike the US, Japan does not have a process for consolidating cases filed in different districts. Even within a district, claimant groups may stay separate, permitting different outcomes.

In addition to funding the litigation, Kessler will be managing and supervising it on your behalf in accordance with the Funding Letter Agreement. Generally, litigation takes 3-5 years to resolve. Historically, most securities case will settle rather than go to trial and this is one of only a few countries with a significant history of successful outcomes for shareholders.

4. What are the costs and burdens of participation?Funder compensation

Kessler is proposing to represent you on a fully funded, risk free contingent basis. The firm will retain and pay the Japanese lawyers, advance all case costs, and indemnify you against all associated risks. If successful, Kessler will get reimbursement of expenses (allocated pro rata on the gross recovery) plus the following percentage commission on the net (post-expense) recovery amount.

Phase	Definition	Percentage of Net Recovery (NR)
-------	------------	---------------------------------

I	Pre-complaint	15%
II	Litigation	20% on first \$50M of NR
	Litigation	17.5% on second \$50M of NR
	Litigation	15% on NR amounts > \$100M
III	Appeal	25%

Cost reimbursement will be capped at 2.5% of total Gross Recovery or 5% if the case is appealed.

Adverse costs

Like most non-US jurisdictions, Japan has adverse party (loser pays) cost shifting. However, the risk is modest. Like the US, each side bears its own attorney fees, so exposure is only on costs which are set by formula up-front based on claim size. At the defendants' request, for claimants located outside Japan, the court may require the posting of security for costs. In its FLA, Kessler agrees to fully indemnify you against adverse cost risk and if required, will post any required security.

Discovery, evidentiary burden, and participation

Documents should not be needed to prove your securities law claims as reliance is not an element under the FIEA. Japan does not have US style discovery so parties cannot compel each other to produce documents and information. They must obtain information by agreement or by asking the court to require it. So, you should not have to provide more than the documents and information required of any litigant, as detailed in the Registration Instructions. You should also not be required to attend hearings or trial. However, the Japanese court will ultimately decide if/what is required from the parties.

5. Will my participation in this case be anonymous?

No, as a litigant, your identity will be disclosed to the defendants. In Japan, litigation proceedings include hearings that are public.

6. How do I join?

Kessler has set a low minimum loss amount for participation: \$50,000. To register, the firm will need you to sign the following documents:

- Funding Letter Agreement (FLA); and
- Power of Attorney (POA).

As a litigant, the Japanese court will also require from you trade confirms, proof of standing to sue, and evidence of signing authority.

As a first step, investors wishing to participate must provide Kessler with their trade data to confirm eligibility and estimated loss amounts. At your request, FRT can initiate this process by providing Kessler with your data on an anonymous basis. If you have significant compensable losses and would like to further discuss your rights, FRT can facilitate a direct discussion with the firm.

If you decide to proceed, Kessler will customize a set of registration documents. These will include the FLA and POA mentioned above. In addition to signing both, you will need to provide documents on corporate organization, the signor's authority, your legal standing to sue, and ownership of the shares for which compensation is sought. Trade confirmations will also be needed.

Please don't hesitate to contact your FRT Account Representative regarding this matter.

***Disclaimer:** Decisions to opt into non-US group litigations are at the discretion of the client. This notification does not constitute advice. It is not an evaluation of the legal merits of the case, nor is it an endorsement of the litigation being proposed or its potential outcomes. It is also not intended as an endorsement of the parties organizing the proposed litigation, including but not limited to the attorneys and/or funding agents described above. The purpose of this notice is to assist clients with their decision about whether to participate by providing certain key informational details as they have been presented by the case's organizer.*

May 13, 2020

MEMO TO: Dave Hunter
Retirement & Investment Office – 190

FROM: Becky Deichert
Management and Fiscal Analyst

SUBJECT: **2021-2023 Budget Request Limits**

Your agency's special fund request limit is **\$5,869,164**. Agencies are required to reprioritize 5 percent of the 2019-21 special funds adjusted legislative base. This amount is **\$293,458**. Attached to this memorandum is a spreadsheet detailing the calculation of these amounts.

Additional special fund dollars may be requested through the optional budget change procedure which includes a new requirement to provide outcome measures for each optional request. The outcome measures will help determine the value of the request when compared to requests from other agencies and will require additional reporting during the biennium to measure effectiveness. If your agency plans to submit optional budget requests, contact me for further instructions and required forms.

Your agency's 2021-23 base budget FTE amount is **20.0**. This represents no change from the 2019-21 authorized FTE level. Any additional positions must be requested in an optional change package, regardless of funding source. The cost to continue salary increases given during the 2019-21 biennium must be funded within the limits listed in this letter.

Please feel free to contact me at 328-4910 if you have any questions regarding the 2021-23 biennium budget request limit.

Attachment

600 E Boulevard Ave, Dept 110 | Bismarck, ND 58505-0400 | nd.gov/omb

DIRECTOR
& ADMINISTRATION
4th Floor
701.328.4904

CENTRAL
SERVICES
14th Floor
701.328.3293

FACILITY
MANAGEMENT
4th Floor
701.328.2471

FISCAL
MANAGEMENT
4th Floor
701.328.2680

HUMAN RESOURCE
MANAGEMENT SERVICES
14th Floor
701.328.3293

RISK
MANAGEMENT
1600 E Century Ave, Suite 4
Bismarck, ND 58503
701.328.7584

**2021-23 BUDGET REQUEST LIMIT
RETIREMENT AND INVESTMENT OFFICE**

	General Fund	Federal Funds	Special Funds	Total
2019-21 legislative appropriation	\$0	\$0	\$14,869,164	\$14,869,164
Appropriation adjustments (as of 3/31/2018):	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Adjusted appropriation ¹	\$0	\$0	\$14,869,164	\$14,869,164
Adjustments for base budget:				
Remove one-time funding for pension administrative system	<u>0</u>	<u>0</u>	<u>(9,000,000)</u> ²	<u>(9,000,000)</u>
2021-23 Legislative Base Budget ³	\$0	\$0	\$5,869,164	\$5,869,164
Adjustments for budget request limit:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
2021-23 budget request limit	<u><u>\$0</u></u>	No Limit	<u><u>\$5,869,164</u></u>	<u><u>\$5,869,164</u></u>
2021-23 Base Budget FTE				20.00
2021-23 Reprioritization Amount			<u><u>\$293,458</u></u> ⁴	

¹ These amounts should be reflected in the 2019-21 Appropriation column of IBARS.

² Pursuant to Section 2 of 2019 SB 2022, this amount must be removed from your agency's base budget and you must provide a report to the 2021 appropriations committees regarding the use of this appropriation during the 2019-21 biennium. **These amounts will be reflected in your adjustment column in Ibars, no change packages are needed to remove them.**

³ This amount should be reflected in the 2019-21 Legislative Base Level column in Ibars

⁴ Reprioritization change packages:
Use AA200 for reductions
Use AA300 for increases

BUDGETING / FINANCIAL CONDITION

AS OF MARCH 31, 2020

	2019-2021 BUDGET	ADJUSTED APPROPRIATION	BIENNIUM TO DATE ACTUAL	EXPENDITURES		
				BUDGET AVAILABLE	% BUDGET AVAILABLE	% OF BIENNIUM REMAINING
SALARIES AND BENEFITS	\$ 4,978,230.00	\$ 4,978,230.00	\$ 1,687,589.61	\$ 3,290,640.39	66.10%	62.50%
OPERATING EXPENDITURES	3,538,934.00 *	3,538,934.00	240,158.55	3,298,775.45	93.21%	62.50%
CAPITAL ASSETS	6,300,000.00	6,300,000.00	0.00	6,300,000.00	100.00%	62.50%
CONTINGENCY	52,000.00	52,000.00	0.00	52,000.00	100.00%	62.50%
TOTAL	\$ 14,869,164.00	\$ 14,869,164.00	\$ 1,927,748.16	12,941,415.84	87.04%	62.50%

* In addition to the Capital Assets line, the operating expenditure budget includes \$2,650,000 for the TFFR Pension Administration System Project.

EXPENDITURE REPORT

QUARTER ENDED MARCH 31, 2020

	<u>INVESTMENT</u>	<u>RETIREMENT</u>	<u>QUARTERLY TOTALS</u>	<u>FISCAL YEAR TO - DATE</u>	<u>BIENNIUM TO - DATE</u>
<u>CONTINUING APPROPRIATIONS</u>					
INVESTMENT EXPENDITURES (SEE ATTACHED DETAIL)	\$ 8,721,611.11	\$ 0.00	\$ 8,721,611.11	\$ 24,841,628.81	\$ 24,841,628.81
MEMBER CLAIMS					
1. ANNUITY PAYMENTS	0.00	55,877,505.25	55,877,505.25	168,245,853.10	168,245,853.10
2. REFUND PAYMENTS	0.00	1,802,959.01	1,802,959.01	5,533,554.50	5,533,554.50
TOTAL MEMBER CLAIMS	0.00	57,680,464.26	57,680,464.26	173,779,407.60	173,779,407.60
OTHER CONTINUING APPROPRIATIONS	166,736.10	128,612.10	295,348.20	512,361.77	512,361.77
TOTAL CONTINUING APPROPRIATIONS	8,888,347.21	57,809,076.36	66,697,423.57	199,133,398.18	199,133,398.18
<u>BUDGETED EXPENDITURES</u>					
1. SALARIES & BENEFITS					
SALARIES	223,562.58	217,538.53	441,101.11	1,236,763.89	1,236,763.89
OVERTIME/TEMPORARY	0.00	55.28	55.28	55.28	55.28
TERMINATION SALARY & BENEFITS	0.00	0.00	0.00	0.00	0.00
FRINGE BENEFITS	75,499.56	80,977.68	156,477.24	450,770.44	450,770.44
TOTAL SALARY & BENEFITS	299,062.14	298,571.49	597,633.63	1,687,589.61	1,687,589.61
2. OPERATING EXPENDITURES					
DATA PROCESSING	3,748.64	19,063.65	22,812.29	55,322.30	55,322.30
TELECOMMUNICATIONS - ISD	1,683.83	1,501.20	3,185.03	7,686.91	7,686.91
TRAVEL	2,976.87	3,226.51	6,203.38	27,801.61	27,801.61
IT - SOFTWARE/SUPPLIES	0.00	0.00	0.00	253.43	253.43
POSTAGE SERVICES	626.27	15,175.48	15,801.75	29,497.14	29,497.14
IT - CONTRACTUAL SERVICES	268.09	761.91	1,030.00	1,670.35	1,670.35
BUILDING/LAND RENT & LEASES	9,058.86	13,032.30	22,091.16	67,833.48	67,833.48
DUES & PROF. DEVELOPMENT	791.25	1,858.75	2,650.00	14,651.00	14,651.00
OPERATING FEES & SERVICES	729.56	2,240.93	2,970.49	4,347.73	4,347.73
REPAIR SERVICE	742.64	1,046.86	1,789.50	2,164.50	2,164.50
PROFESSIONAL SERVICES	1,138.68	2,711.22	3,849.90	10,499.90	10,499.90
INSURANCE	0.00	0.00	0.00	918.95	918.95
OFFICE SUPPLIES	82.17	172.57	254.74	921.08	921.08
PRINTING	313.50	4,417.03	4,730.53	11,916.07	11,916.07
PROFESSIONAL SUPPLIES & MATERIALS	0.00	365.00	365.00	1,056.60	1,056.60
MISCELLANEOUS SUPPLIES	24.73	12.31	37.04	579.38	579.38
IT EQUIPMENT UNDER \$5000	0.00	120.00	120.00	193.27	193.27
OTHER EQUIP. UNDER \$5000	0.00	0.00	0.00	0.00	0.00
OFFICE EQUIP. & FURNITURE UNDER \$5000	0.00	0.00	0.00	2,844.85	2,844.85
TOTAL OPERATING EXPENDITURES	22,185.09	65,705.72	87,890.81	240,158.55	240,158.55
3. CAPITAL ASSETS	0.00	0.00	0.00	0.00	0.00
4. CONTINGENCY	0.00	0.00	0.00	0.00	0.00
TOTAL BUDGETED EXPENDITURES	321,247.23	364,277.21	685,524.44	1,927,748.16	1,927,748.16
TOTAL EXPENDITURES	\$ 9,042,858.34	\$ 58,044,741.47	\$ 67,382,948.01	\$ 201,061,146.34	\$ 201,061,146.34

INVESTMENT EXPENDITURE DETAIL
FEEES PAID DURING THE QUARTER ENDED MARCH 31, 2020

FOR QUARTER ENDED 9/30/19

PENSION REAL ESTATE

JP Morgan (Special & Strategic) 610,581.44

INSURANCE SHORT TERM FIXED

JP Morgan 72,717.26

TOTAL FOR QUARTER ENDED 9/30/19 683,298.70

FOR QUARTER ENDED 12/31/19

PENSION DEVELOPED INTERNATIONAL EQUITY POOL

Northern Trust 27,579.34

Wellington 165,816.34

William Blair 193,179.18

TOTAL PENSION INTERNATIONAL EQUITY 386,574.86

PENSION GLOBAL EQUITY POOL

Epoch 772,086.58

LSV 138,512.00

TOTAL PENSION GLOBAL EQUITY 910,598.58

PENSION BELOW INVESTMENT GRADE FIXED

Loomis Sayles 213,057.43

PENSION INVESTMENT GRADE FIXED INCOME POOL

PIMCO 97,930.69

Prudential 93,008.92

State Street 3,502.59

TOTAL PENSION INVESTMENT GRADE FIXED INCOME 194,442.20

PENSION INFRASTRUCTURE POOL

JP Morgan 299,369.79

PENSION LARGE CAP EQUITY POOL

LA Capital 272,853.71

PENSION SMALL CAP EQUITY POOL

Atlanta Capital 274,287.00

PENSION REAL ESTATE

JP Morgan (Special & Strategic) 619,058.40

Invesco 293,315.75

TOTAL PENSION REAL ESTATE 912,374.15

INSURANCE FIXED INCOME POOL

PIMCO 47,283.17

Prudential 183,359.54

State Street 6,874.85

Wells 54,205.70

Western Asset 106,094.94

TOTAL INSURANCE FIXED INCOME 397,818.20

INSURANCE LARGE CAP EQUITY POOL

LA Capital 54,034.48

LSV 55,829.00

TOTAL INSURANCE LARGE CAP 109,863.48

INVESTMENT EXPENDITURE DETAIL
FEES PAID DURING THE QUARTER ENDED MARCH 31, 2020

INSURANCE SMALL CAP EQUITY POOL

Atlanta Capital	1,299.00	
PIMCO RAE	21,478.25	
TOTAL INSURANCE SMALL CAP		22,777.25

INSURANCE INT'L EQUITY

LSV	71,013.00	
William Blair	71,113.94	
TOTAL INSURANCE INT'L EQUITY		142,126.94

INSURANCE DIVERSIFIED REAL ASSETS

JP Morgan	70,346.49	
Western Asset	41,146.60	
TOTAL INSURANCE DIVERSIFIED REAL ASSETS		111,493.09

INSURANCE REAL ESTATE

Invesco	46,935.16	
JP Morgan	67,927.18	
TOTAL INSURANCE REAL ESTATE		114,862.34

INSURANCE SHORT TERM FIXED

Barings	112,220.01	
JP Morgan	91,712.07	
TOTAL INSURANCE SHORT TERM FIXED		203,932.08

LEGACY FIXED INCOME

Prudential	364,447.34	
State Street	11,638.00	
Wells	87,814.52	
Western Asset	197,084.66	
TOTAL LEGACY FIXED INCOME		660,984.52

LEGACY LARGE CAP EQUITY

LA Capital	324,825.10	
LSV	323,396.00	
TOTAL LEGACY LARGE CAP		648,221.10

LEGACY SMALL CAP EQUITY

Atlanta Capital	9,741.00	
PIMCO RAE	151,705.81	
TOTAL LEGACY SMALL CAP		161,446.81

LEGACY INT'L EQUITY

LSV	515,532.00	
William Blair	511,699.53	
TOTAL LEGACY INT'L EQUITY		1,027,231.53

LEGACY DIVERSIFIED REAL ASSETS

JP Morgan	188,362.73	
Western Asset	119,902.27	
TOTAL LEGACY DIVERSIFIED REAL ASSETS		308,265.00

LEGACY REAL ESTATE

Invesco	132,600.67	
JP Morgan	215,053.24	
TOTAL LEGACY REAL ESTATE		347,653.91

INVESTMENT EXPENDITURE DETAIL
FEEES PAID DURING THE QUARTER ENDED MARCH 31, 2020

PERS RETIREE HEALTH INSURANCE CREDIT FUND

SEI 100,665.49

JOB SERVICE FUND

SEI 75,525.12

TOBACCO PREVENTION & CONTROL TRUST FUND

STATE STREET 295.40

CONSULTANT

Adams Street 11,184.00

Callan 107,500.00

Novarca 11,017.95

TOTAL CONSULTANT 129,701.95

TOTAL FOR QUARTER ENDED 12/31/19 8,026,421.93

FOR QUARTER ENDED 3/31/20

PENSION CASH

Northern Trust 11,890.48

TOTAL FOR QUARTER ENDED 3/31/20 11,890.48

TOTAL FEES PAID DURING QUARTER ENDED 3/31/2020 8,721,611.11

NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE

QUARTERLY MONITORING REPORT Executive Limitations / Staff Relations

Quarter Ended March 31, 2020

The Executive Limitation “Staff Relations” deals with the treatment of staff at RIO. The executive director “shall not cause or allow any condition or any communication which is unfair, undignified, or disrespectful.” This Executive Limitation lists six specific limitations that range from personnel policies to exit interviews. All the limitations are intended to protect staff from unfair, undignified, or disrespectful treatment by management.

There were no exceptions to this Executive Limitation during the past quarter.

The Executive Director/CIO held at least three full office meetings and three manager meetings during the first calendar quarter of 2020 in order to promote an open and collaborative work environment while enhancing team member communication, awareness and engagement.

On January 10, our former Retirement Program Manager Shelly Schumacher announced her intent to retire effective on February 29. After a successful interview process, RIO’s most experienced Retirement Benefits Counselor, Denise Weeks, was promoted to Program Manager on March 1 (following Shelly’s retirement). Shelly and Fay were very helpful and supportive in helping Denise to transition into this important new leadership role for our agency.

On February 3, Matt Posch joined RIO as our new Investment and Compliance Officer after having worked at U.S. Bank in Minneapolis prior to relocating to Bismarck.

On March 2, Ann Griffin started as our new Investment Accountant after joining us from MDU here in Bismarck.

On April 30, Fay Kopp retired after 32 years of State service including the last 20 years as our Deputy Executive Director and Chief Retirement Officer. Fay kindly agreed to postpone her retirement by one month given the impact of the COVID-19 outbreak on agency operations. Fay’s willingness to provide additional leadership and guidance during this challenging period was greatly appreciated by all RIO team members.

RIO expects to be fully staffed on June 1, when Ms. Janylyn Murtha and Ms. Jayme Heick are scheduled to start as RIO’s new Deputy Executive Director/Chief Retirement Officer and Retirement Benefits Counselor, respectively. Jan and Jayme were selected as our top candidates after an extensive interview process and with helpful HRMS guidance.

RIO is very pleased with all of the above hiring decisions and I am highly confident that Denise, Matt, Ann, Jayme and Jan will make great additions to our team in the upcoming years. Most importantly, I sincerely thank all of our RIO team members who have done an outstanding job of handling an increased workload since last July when we elected to restructure agency operations to become more technologically efficient particularly while transitioning to a remote work enabled office environment in early-2020.

**Quarterly Report on Ends
Q2:FY20**

Investment Program

Manager Research and Monitoring Highlights

Over the quarter, Staff continued to push forward on the equity optimization project, meeting or speaking with 23 prospective and current equity managers. Generally, Staff focused on evaluating candidate equity managers that employed quantitative strategies or managers that were investing in the small cap space.

Furthermore, as Staff has grown wary that the market may be nearing the end of the cycle, Staff has been developing a list of candidate managers that employ strategies that could thrive in a severe market dislocation. Notable managers that Staff has evaluated include Cerberus, Contrarian, Varde, and HPS.

Staff has also conducted onsite or in person due diligence with a number of North Dakota's existing infrastructure managers. Macquarie, I Squared and Grosvenor are all launching the next iteration of their infrastructure funds in the coming months. Investors who commit at the first close receive significant fee discounts. As such, Staff is proactively evaluating these funds to determine if they may be a good fit for the SIB's portfolios.

Portfolio Changes & Investment Consultant

At the January SIB meeting, the Board approved up to a \$100 million increase to the Ares ND Credit Fund. The Board also approved engaging with Callan to conduct a manager search to identify small cap manager candidates. Lastly, the Board approved maintaining the consultant relationship with Callan.

At the March SIB meeting, the Board approved engaging Parametric to assist in synthetically rebalancing portfolio exposures to meet long-term asset allocation targets.

Other

Matt Posch (Investment and Compliance Officer) officially joined RIO on February 3, 2020.

Staff continues to monitor each client's asset allocation monthly and makes rebalancing decisions based on rebalancing policy and cash flow requirements.

Staff attended meetings with many SIB client boards, sub-committees and/or legislative committees or representatives including TFFR, PERS, Legacy Fund, Budget Stabilization Fund, Employee Benefits Programs, Industrial Commission, Emergency Commission and City of Grand Forks.

LSV remains on the Watch List.

NDRIO Investment Due Diligence
Quarterly Monitoring Report
Jan. 1 to March 31, 2020

Date	Manager/Consultant	Reason for Call/Meeting	Key Takeaways	Location	Rio Attendees	Manager Attendees	Document Type & Description: Location
1/7/2020	LA Capital	Portfolio Update		RIO	Dave Hunter Daren Schulz	Tom Stevens	
1/15/2020	White Oak	Prospect DD	<i>Potential candidate for investments in ABL. Also a comp to ARES ABL fund.</i>	Conference Call	Eric Chin Dave Hunter Darren Schulz	Jonathan Moll Tom Otte	Presentation: Tamale Notes: Q:\Investments\Manager Notes
1/16/2020	Highbridge	Prospect DD	<i>Prospect credit hedge fund. Not a high priority for now.</i>	Onsite	Eric Chin	John Massad Jim Sakelaris	Presentation: Tamale Notes: Q:\Investments\Manager Notes
1/17/2020	Parametric	Portfolio Update	<i>ND is looking to get more active in the small cap space</i>	Conference Call	Eric Chin Dave Hunter Darren Schulz	Tom Lee Ben Lazarus Chris Haskamp	
1/21/2020	BlackRock Pep	Bi-weekly portfolio update	<i>Standard update</i>	Conference Call	Eric Chin Darren Schulz	Simon Dwyer	
1/22/2020	Ancora	Prospect DD	<i>Event driven small cap prospect: likely too small</i>	Conference Call	Eric Chin	Mark Preston Joe Boehm	Presentation: Tamale Notes: Q:\Investments\Manager Notes
1/22/2020	Ares	Portfolio Update	<i>Evaluating growth of Ares AUM</i>	Conference Call	Eric Chin Dave Hunter Darren Schulz	Kara Herskowitz Mitch Goldstein Jana Markowicz	Notes: Q:\Investments\Manager Notes
1/23/2020	Contrarian	Prospect DD	<i>Credit and distressed prospect, interesting--looking at distressed middle market loans</i>	Meeting	Eric Chin	Andy Friedman	
1/27/2020	Varde	Prospect DD	<i>Quick chat with prospect credit/distressed manager</i>	Conference Call	Eric Chin	Kim Steinberg	
1/27/2020	Granahan	Prospect DD	<i>Prospect small cap manager-strong 5 year numbers</i>	Conference Call	Eric Chin	Steve Sexeny	Presentation: Tamale Notes: Q:\Investments\Manager Notes
1/28/2020	Epoch	Portfolio Update	<i>Hasn't generated as much excess returns as expected</i>	Onsite	Eric Chin	Jeff Ulness Bill Booth	Presentation: Tamale Notes: Q:\Investments\Manager Notes
1/29/2020	First Eagle	Prospect DD	<i>Prospect equity manager-launching new fund w/o gold exposure</i>	Meeting	Eric Chin	Brian Ralph	Presentation: Tamale
1/31/2020	Macquarie	Transition Management	<i>Consider using if we need transition management services</i>	Conference Call	Eric Chin	Kevin Byrne	Presentation: Tamale
2/5/2020	Axiom	Portfolio Update	<i>Status Quo, monitoring impact of COVID19 in China</i>	Conference Call	Eric Chin Darren Schulz Matt Posch	Donald Elefson, Steven Hanson	Presentation: Tamale Notes: Q:\Investments\Manager Notes
2/10/2020	Russell Indices	Update on ND and Russell Indices	<i>Russell has interesting factor based tools</i>	Conference Call	Eric Chin	Sara Wilson	
2/12/2020	JPM Real Estate	Fund Update	<i>Status Quo</i>	Conference Call	Darren Schulz Matt Posch	Dave Esrig, Kimberly Adams, Craig Theirl	
2/14/2020	Two Sigma	Introduction	<i>Quantitative investors</i>	Conference Call	Matt Posch Eric Chin	Tom Prunty	Presentation: Tamale Notes: Q:\Investments\Manager Notes
2/19/2020	Franklin Templeton	Prospect DD	<i>Candidate international small cap equity manager</i>	Conference Call	Darren Schulz Eric Chin	Michael Benjamin	Presentation: Tamale
2/19/2020	DE Shaw	Introduction	<i>Quantitative investors</i>	Conference Call	Eric Chin Matt Posch	Nathaniel Howe	
2/20/2020	TIR	ETO Liquidation	<i>Chat to discuss ETO liquidation</i>	Conference Call	Eric Chin Dave Hunter Darren Schulz	Tom Johnson Chris Mathis Steve Jack	Presentation: Tamale
2/21/2020	Renaissance Technologies	Introduction	<i>Quantitative investors</i>	Conference Call	Matt Posch Eric Chin	Jennifer Milacci	Presentation: Tamale Notes: Q:\Investments\Manager Notes
2/26/2020	Federated	Small Cap Intro	<i>Intro to MDT and Kaufmann products. Will look more into Kaufmann</i>	Onsite	Matt Posch Darren Schulz David Hunter	Shawn Knutson	Presentation: Tamale Notes: Q:\Investments\Manager Notes
2/26/2020	Jana	Prospect DD	<i>Interesting activist manager-potential for small cap search</i>	Onsite	Eric Chin	Scott Ostfeld Darya Mastroiardi	Presentation: Tamale Notes: Q:\Investments\Manager Notes
2/26/2020	Macquarie	LPAC	<i>LPAC</i>	Conference Call	Eric Chin Dave Hunter	Karl Kuchel	Presentation: Tamale
2/26/2020	World Quant	Introduction	<i>Quantitative investors</i>	Conference Call	Matt Posch Eric Chin	Rick Kohly	Presentation: Tamale Notes: Q:\Investments\Manager Notes
2/27/2020	Burgundy	Small Cap Intro	<i>Concentrated value manager focusing on quality</i>	Conference Call	Matt Posch Eric Chin Darren Schulz	Roz McLeon, Ayrton Dick	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/2/2020	Manulife	Prospect DD	<i>Small cap core review, candidate for small cap search</i>	Conference Call	Eric Chin	Bill Tabot Mike Evans Reid Kilberg	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/3/2020	Cerberus	Distressed Prospect	<i>Attractive candidate for distressed</i>	Conference Call	Darren Schulz Eric Chin	Greg Gordon Bob Davenport	Notes: Q:\Investments\Manager Notes
3/4/2020	HPS	Credit & Distressed Prospect	<i>Continues to be an attractive candidate to keep on ND's radar.</i>	Onsite	Eric Chin	Michael Kahn	Presentation: Tamale Notes: Q:\Investments\Manager Notes

3/4/2020	Macquarie	Small Cap Growth Prospect	<i>Likely to small for ND</i>	Onsite	Eric Chin	Alex Ely Chris Jacques Jane Fisher	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/5/2020	William Blair	Small Cap Intro	<i>Small cap growth manager, tend to overweight micro where they can find more inefficiencies</i>	Onsite	Matt Posch Darren Schulz David Hunter	Steve Weeks, Ward Sexton	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/6/2020	Janus Henderson	Small Cap Intro	<i>Growth prospect, focus on companies with strong ROIC</i>	Conference Call	Matt Posch Darren Schulz David Hunter	Jonathan Coleman, Scott Stutzman, Jen Nichols, Richard Bagshaw	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/6/2020	JPM	Small Cap Growth Prospect	<i>Growth prospect</i>	Onsite	Eric Chin	Eytan Shapiro Jim Sakelaris James Connors	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/9/2020	Macquarie	Infrastructure Update	<i>Infrastructure update and new fund launch</i>	Onsite	Darren Schulz Eric Chin	Nick Coxton David Agneu & Others Scott Litman Michael Rose	Notes: Q:\Investments\Manager Notes
3/10/2020	GCM	Infrastructure Update	<i>Infrastructure update and new fund launch</i>	Onsite	Darren Schulz Eric Chin	Erik Hall Ravi Parekh Akhil Unni Dhruv Narain	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/11/2020	I Squared	Infrastructure Update	<i>Infrastructure update and new fund launch</i>	Onsite	Eric Chin	Adil Rahmathulla, Managing Partner Andreas Moon, Managing Director	Notes: Q:\Investments\Manager Notes
3/11/2020	GS Quant Equities	Prospect DD	<i>Highly regarded candidate for quant equities</i>	Onsite	Darren Schulz Eric Chin Eric Chin	Joseph Konzelmann Osman Ali	Presentation: Tamale Notes: Q:\Investments\Manager Notes
3/19/2020	CBF (Cerberus)	Portfolio Update	<i>Tough times-check how they fare through crisis</i>	Conference Call	Dave Hunter Darren Schulz Eric Chin	Kevin McLeod Keith Read	Notes: Q:\Investments\Manager Notes
3/20/2020	Parametric	Equity overlay	<i>Implement equity futures to get back to target allocation</i>	Conference Call	Dave Hunter Darren Schulz Eric Chin	Tom Lee Ben Lazarus Chris Haskamp	
3/24/2020	Prudential	Portfolio Update	<i>Performance update amid crisis</i>	Conference Call	Dave Hunter Darren Schulz Eric Chin	Peter Taggart Michael Collins Steve Ahrens	Notes: Q:\Investments\Manager Notes
3/25/2020	WAMCO	Portfolio Update	<i>Performance update amid crisis</i>	Conference Call	Dave Hunter Darren Schulz Eric Chin	Frances Coombes	Notes: Q:\Investments\Manager Notes
3/30/2020	Cerberus	Credit Market Update	<i>Credit markets showing strain from COVID-19</i>	Conference Call	Dave Hunter Darren Schulz Matt Posch	Bob Davenport	Presentation: Tamale

Quarterly Monitoring Report on TFFR Ends Quarter ended March 31, 2020

Retirement Program

This report highlights exceptions to normal operating conditions.

TFFR Retirement Program Operations:

- RIO continues to follow CDC, Governor's Office, and State recommendations in an effort to reduce the spread of the coronavirus.
- The RIO office is closed to the public. Many staff members are working remotely primarily communicating via phone and email. IT staff have done a wonderful job supporting this transition. Our dedicated staff -- both in-office and remote -- continue to provide excellent customer service to members and employers. Patience, flexibility, and communication have been key.
- TFFR member and employer services are functional, and are primarily being delivered by electronic means. We continue to administer critical retirement program operations including member claims processing, employer reporting, and retiree payroll functions. Staff is processing retirements, refunds, deaths, and other high priority claims and requests. We currently have retirement applications or documentation for 240 prospective retirees this spring, and we expect more applications to come in.
- Monthly TFFR benefit payments to almost 9,000 retirees and beneficiaries went out on April 1, and will continue to go out every month as promised. TFFR can meet its financial obligation to retirees, despite the economic downturn.
- We have developed various COVID-19 related communications for active and retired members and employers which are available on the RIO website and have been emailed or otherwise distributed to members and employers.
 - Top 5 Things TFFR wants Active Members, Retirees and Employers to Know
 - Top 5 Things TFFR wants Retired Members to Know
 - TFFR Employer Reporting Frequently Asked Questions
- As COVID-19 related questions come from members and employers, we are doing our best to promptly research and respond in a timely manner.
- We greatly appreciate the support provided by DPI, ESPB, and member and employer stakeholder groups including NDCEL, ND United, NDRTA, NDSBA, and NDASBO. They are valuable partners as we seek feedback and information.

- TFFR's actuary presented the 2019 annual actuarial valuation report, funding projections, and GASB 67 information to the TFFR Board and Legislative Employee Benefits Programs Committee.
- TFFR received 2019 Public Pension Standards Award for Administration. This award is designed to recognize public employee retirement systems that meet professional standards for pension plan administration. TFFR has received a PPCC award each year it has been granted since 1992.
- TFFR Member Online activity continues to increase. To date, almost 4,500 active, inactive, and retired members have registered for this service.
- RIO website is being updated utilizing the State's template. The goal is to create a modern, user-friendly website for TFFR members and employers, SIB clients, and the public.
- The TFFR Board approved a Plan Management Policy to use as a risk assessment and management tool for evaluating the financial health and long term sustainability of TFFR.
- The TFFR Board is in the process of completing a comprehensive review of its Governance Manual.
- The TFFR Board approved a reduction in the long-term assumed rate of return to 7.25% from 7.75% on April 26, 2020.
- TFFR's pension administration system modernization project has commenced and the Project Charter was approved. The Executive Steering Committee (ESC) meeting has met twice, although the most recent ESC meeting was cancelled due to the COVID-19 related challenges.

FOR INFORMATIONAL PURPOSES ONLY

TO: State Investment Board

FROM: David Hunter, Darren Schulz and Eric Chin

DATE: May 22, 2020

SUBJECT: Watch List Update: LSV Asset Management (Pension, Insurance and Legacy)

Watch List Update:

The SIB placed LSV Asset Management on Watch on May 24, 2019, as a result of meaningful underperformance relative to benchmarks in the short to intermediate term.

Background:

As of March 31, 2020, LSV Asset Management managed approximately \$1.2 billion in global, domestic and international equity mandates held across all three investment pools. The mandates managed by the firm are summarized in the following table:

TOTAL LSV EQUITIES	>>>>>>>	\$	1,169,414,498	1-year	5-years	10-years
LSV World Equities	Pension	\$	382,154,636	-21.2%	-0.9%	-
<i>Benchmark</i>			<i>MSCI ACWI</i>	-12.4%	3.0%	-
	<i>Pension</i>		<i>Underperformance</i>	-8.8%	-3.9%	-
LSV U.S. Large Cap Value	Insurance	\$	49,878,509	-24.2%	-0.6%	7.1%
LSV U.S. Large Cap Value	Legacy	\$	306,182,132	-23.5%	-0.1%	-
<i>Benchmark</i>			<i>Russell 1000 Value</i>	-17.2%	1.9%	7.7%
	<i>Insurance</i>		<i>Underperformance</i>	-7.0%	-2.5%	-0.5%
	<i>Legacy</i>		<i>Underperformance</i>	-6.3%	-2.0%	-
LSV International Value	Insurance	\$	52,319,944	-21.0%	-2.3%	1.7%
LSV International Value	Legacy	\$	378,879,277	-20.9%	-2.2%	-
<i>Benchmark</i>			<i>MSCI EAFE</i>	-14.4%	0.0%	2.4%
	<i>Insurance</i>		<i>Underperformance</i>	-6.6%	-2.3%	-0.7%
	<i>Legacy</i>		<i>Underperformance</i>	-6.5%	-2.2%	-

LSV is a deep value equity manager employing a proprietary, disciplined quantitative process to rank stocks and construct portfolios. Their systematic investment approach is designed with an understanding of the fundamental causes of security mispricing. These include investors' tendencies to:

- extrapolate the past too far into the future;
- wrongly equate a good company with a good investment, irrespective of price;
- ignore statistical evidence; and
- develop a “mindset” about a company.

Unlike other deep value managers, they do not invest in distressed companies that require major turnarounds. Rather, they look for generally healthy companies that have gone through extended periods of underperformance, but more recently exhibit positive signs of change.

Risk Factor Performance Challenges:

As noted in prior memos, value-oriented equity strategies have significantly underperformed other style factors since the global financial crisis. In the last three years, including the first quarter of 2020 in which the emergence of the COVID-19 pandemic resulted in meaningful market weakness, the challenge of value equity investing became even more pronounced when compared to growth equity style factors. In fact, Q1 2020 was the third worst quarter of large cap value relative performance compared to growth stocks since the inception of Russell indices in 1979. Cumulative total returns of the Russell 1000 Value and Growth indices over the last three years illustrate the stark difference by comparison:



Another style factor that has struggled is size. Small cap stocks have underperformed large cap stocks starting in the Fall of 2018 and Q1 2020 had the largest quarterly underperformance versus large cap stocks since the inception of the Russell indices.



Combine the penalties to value and size as compared to large cap growth stocks and you have an annualized return differential of 24% over the last three years.



Conclusion:

Staff recommends maintaining LSV Asset Management on Watch in light of the magnitude of short and intermediate term underperformance. While Staff takes comfort in LSV's organizational stability, steadfast commitment to its investment discipline and continuous research to make enhancements to its process, the degree to which the value risk factor has been impacted by market conditions and investor sentiment warrants a reappraisal of its future persistence as an equity risk premium. Accordingly, Staff will maintain heightened monitoring of the public equity mandates managed by the firm as it conducts equity risk factor research as part of the global equity manager structure review. RIO had conducted onsite visits with LSV portfolio management twice since these strategies have been placed on Watch in addition to conducting relative attribution performance reviews on a monthly basis. RIO notes that our investment consultant concurs with our current view on LSV and does not recommend any additional action at this time.