

## Executive Summary - Informational

**TO:** State Investment Board  
**FROM:** Dave Hunter  
**DATE:** September 18, 2020  
**SUBJECT:** SIB Meeting Materials – [September 25, 2020](#)

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Our September board meeting will focus on Callan's annual investment performance review of SIB client returns as of June 30, 2020. RIO will also share board education and manager research on in-state investment programs administered by other state plans, invite BND to provide an investment update & highlight recent legislative committee presentations.

- Asset and Performance Overview** – RIO will refresh the Asset and Performance Overview shared with the Board last month noting that **94% of our SIB clients generated net returns which exceeded their approved policy benchmarks for the 5 years ended June 30, 2020.** All SIB Pension Pool clients generated net returns which exceeded their respective policy benchmarks for the 1, 3 and 5 year periods ended June 30, 2020. **The Pension Pool, which includes PERS and TFFR, generated a net return of 8.4% for the 10 years ended June 30, 2020, exceeding its Policy Benchmark of 7.94% and their actuarial long-term return assumptions (of 7.00% to 7.25%).** The NDSIB Pension Pool was also ranked in the top 25% of Callan's Public Fund Sponsor Database for the 10-years ended June 30, 2020.
- Callan Annual Investment Review** – The SIB engages Callan to provide quarterly and annual investment performance reviews which include a reconciliation of RIO's reported investment returns and asset valuations with those reported by Northern Trust, noting that Northern Trust serves as our primary custodian and record keeper for SIB client investments. RIO ties out investment returns and asset valuations with our investment managers and Northern Trust after each month-end in addition to assisting Callan in reconciling reported returns and investment valuations directly with Northern Trust after every quarter-end. The State also obtains an outside independent audit of our RIO financial statements and disclosures as of June 30<sup>th</sup> after every fiscal year-end. Our Audit Committee and RIO's Internal Audit team is also responsible for reviewing RIO's internal accounting controls, policies, practices, reporting and documentation on behalf of the SIB throughout the year.
- Public Equity Update** – RIO's Deputy Chief Investment Officer Darren Schulz will provide a status update of our global public equity manager search and restructuring.
- Employee Benefits Program and Legacy Fund Earnings Committee** – RIO provided an investment update of the SIB's five largest clients to the Employee Benefits Program Committee as of June 30, 2020. RIO also intends to provide and a similar

investment update to the Legacy Fund Earnings Committee on September 22<sup>nd</sup>. The latter will highlight the benefits of using the Percent of Market Value (POMV) approach in establishing a sustainable spending policy for the Legacy Fund. Based on Legacy Fund balances for the 5 fiscal years ended June 30, 2020 exceeding \$5.5 billion, a 4% annual spending rate would translate into over \$440 million of POMV based earnings for the next biennium (e.g. \$5.5 billion x 4% = \$220 million x 2 years = \$440 million per biennium).

5. **BND Match Loan CD Program** – In response to BND requesting a \$100 million increase in the existing \$300 million Match Loan CD program, RIO respectfully requests the SIB to consider increasing the program size by up to \$100 million to \$400 million with indicative pricing terms in compliance with the prudent investor rule. RIO obtained indicative pricing spreads from our largest fixed income managers to obtain evidence the spread being charged to like term U.S. Treasury's was sufficient to compensate for the incremental liquidity risk. RIO notes "economically targeted investing" is prohibited unless the investment meets the "exclusive benefit rule" whereby: a) the cost does not exceed the fair market value at time of investment; b) the investment offers an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk; c) sufficient liquidity is maintained in the fund to permit distributions in accordance with plan terms; and d) the safeguards that a prudent investor would adhere to our present.
6. **Agency Update** – RIO will provide Quarterly Monitoring Reports on Staff Relations, Budget/Financial Conditions, our Investment and Retirement Programs (including the TFFR Pension Administration System enhancement project) and our Watch List.
7. **Annual Governance Manual Review** – If the SIB concurs, RIO intends to conduct our annual Governance Manual Review over the next three months to facilitate a more meaningful review. Under this proposal, the SIB and RIO would review *Section A on Executive Limitations* and *Section B on Governance Process* next month. **At the conclusion of our monthly board discussions, the SIB may make a motion to accept recommended changes, if any, to our Governance Manual.**



# ND STATE INVESTMENT BOARD MEETING

Friday, September 25, 2020, 8:30 a.m.  
State Capitol, Pioneer Room (Virtual)  
600 E Boulevard Ave, Bismarck, ND

**Teleconference 701-328-0950, Conference ID: 566 449 715#**

## Revised Agenda

### I. APPROVAL OF AGENDA

### II. APPROVAL OF MINUTES (August 28, 2020)

### III. INVESTMENTS

- A. Asset and Performance Overview - Mr. Hunter (10 minutes) **Board Acceptance**
- B. Callan Annual Review - Mr. Paul Erlendson and Mr. Alex Browning (1 hour)
  - 1. Market Update and Investment Review - Pension, Insurance, Legacy **Board Acceptance**
- C. Global Equity Manager Search Update - Mr. Darren Schulz (10 minutes) *Informational*

### IV. BOARD EDUCATION AND GOVERNANCE

- A. Callan Board Education Options - Mr. Hunter (5 minutes)
- B. Overview of In-State Investment Programs - Mr. Hunter (10 minutes)
  - 1. GCM Grosvenor, Adams Street, Barings - *Informational*
- C. BND Match Loan CD Program - Mr. Hunter (10 minutes)
  - 1. Bank of North Dakota - Mr. Eric Hardmeyer and Mr. Kelvin Hullet *Informational*
  - 2. Staff Recommendation - Mr. Hunter **Board Action**
- D. Legacy Investment Plan - Commissioner Jon Godfread and Mr. James Leiman *Informational (10 minutes)*

### V. QUARTERLY MONITORING (enclosed) (10 minutes) **Board Acceptance**

- A. Executive Limitations / Staff Relations - Mr. Hunter
- B. Budget / Financial Conditions - Ms. Connie Flanagan
- C. Investment Program (with Enhanced Quarterly Monitoring Report) - Mr. Eric Chin
- D. Retirement Program (with TFFR PAS Update) - Ms. Jan Murtha
- E. Watch List - Mr. Matt Posch
- F. Governance Manual Review - Mr. Hunter

### VI. OTHER

Next Meetings:

SIB - October 23, 2020, 8:30 a.m.  
SIB Securities Litigation - November 5, 2020, 1:00 p.m.  
SIB Audit Committee - November 12, 2020, 2:30 p.m.

### VII. ADJOURNMENT

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Any individual requiring an auxiliary aid or service, please contact the Retirement and Investment Office (RIO)  
(701) 328-9885 at least three (3) days prior to the scheduled meeting.

**NORTH DAKOTA STATE INVESTMENT BOARD  
MINUTES OF THE  
AUGUST 28, 2020, BOARD MEETING**

**MEMBERS PRESENT:** Brent Sanford, Lt. Governor, Chair  
Rob Lech, TFFR Board, Vice Chair  
Troy Seibel, PERS Board, Parliamentarian  
Jon Godfread, Insurance Commissioner  
Toni Gumeringer, TFFR Board  
Keith Kempenich, Legacy/Budget Stab. Adv. Board  
Bryan Klipfel, Director of WSI  
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  
Jan Murtha, Dep Exec Dir/CRO  
Matt Posch, Investment/Compliance Officer  
Sara Sauter, Suprv of Internal Audit  
Darren Schulz, Dep CIO  
Dottie Thorsen, Internal Auditor  
Susan Walcker, Senior Financial Accountant  
Len Wall, Information Security

**GUESTS:** Lynn Baranski, BlackRock  
Dave Brett, Public Citizen  
Aimee Copas, Council of Educational Leaders  
Dean DePountis, Attorney General's Office  
Simon Dwyer, BlackRock  
Miguel Gonzalo, Adams Street  
Jordan Hutzenbuhler, Public Citizen  
Kelly Meldrum, Adams Street  
Ross Ramatici, Public Citizen  
Bryan Reinhardt, PERS  
Alex Storer, Adams Street

**CALL TO ORDER:**

Lt. Governor Sanford, called the State Investment Board (SIB) regular meeting to order at 8:30 a.m. on Friday, August 28, 2020. The virtual meeting was held at the Retirement and Investment Office (RIO), 3442 East Century Avenue, Bismarck, ND.

Attendance was taken:

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

AGENDA:

The Board considered the agenda for the August 28, 2020, meeting,

IT WAS MOVED BY DR. LECH AND SECONDED BY MS. GUMERINGER AND CARRIED BY A VOICE VOTE TO ACCEPT THE AGENDA FOR THE AUGUST 28, 2020, MEETING.

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

MOTION CARRIED

ABSENT: MR. OLSON

MINUTES:

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY COMMISSIONER GODFREAD AND CARRIED BY A VOICE VOTE TO APPROVE THE JULY 24, 2020, MINUTES AS DISTRIBUTED.

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

NAYS: NONE

MOTION CARRIED

ABSENT: MR. OLSON

INVESTMENTS:

Mr. Hunter reviewed preliminary fiscal year end results for June 30, 2020.

A strong equity market recovery during the second quarter drove Teachers' Fund for Retirement (TFFR) and Public Employees Retirement System (PERS) returns up 10.8% and the Legacy Fund up 12.3%, while Workforce Safety & Insurance (WSI) and Budget Stabilization Fund posted net gains of 8.1% and 4.3%, respectively.

	TFFR	PERS	Legacy	WSI	Budget Stabilization
<b>Net Returns for 1-Year Ended 12/31/2019</b>	<b>18.0%</b>	<b>18.0%</b>	<b>18.1%</b>	<b>13.6%</b>	<b>4.7%</b>
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%
Net Return for Quarter Ended 6/30/2020	10.8%	10.8%	12.3%	8.1%	4.3%
<b>Preliminary Net Return FYE 6/30/2020</b>	<b>3.4%</b>	<b>3.4%</b>	<b>4.2%</b>	<b>6.0%</b>	<b>2.3%</b>

**Note: Net returns are based on preliminary data which is unaudited and subject to change.**

For the Fiscal Year Ended (FYE) June 30, 2020, TFFR and PERS net investment returns are estimated at 3.4% and Legacy Fund is estimated at 4.2%. WSI and Budget Stabilization Fund net returns are estimated at 6% and 2.3%, respectively, for the FYE June 30, 2020.

PERS and TFFR earned a net investment return of 3.4% for the year ended June 20, 2020, which exceeded the Policy Benchmark by 0.20%. For the 5-years ended June 30, 2020, PERS and TFFR earned a net investment return of 6.2% and 6.17%, respectively, exceeding respective Policy Benchmarks by 0.30%. Job Service, which is a de-risked pension plan with a funded ratio in excess of 140%, failed to exceed Policy Benchmark Returns for the 1, 3 and 5 year periods ended June 30, 2020. Most SIB clients 5-year returns exceeded their Policy Benchmarks.

WSI earned 6% for the 1, 3 and 5 years ended June 30, 2020, which trailed the Policy Benchmark by 0.63% in fiscal 2020 and beat the Policy Benchmark by 0.80% the last 5 years. Legacy Fund earned 4.2% in fiscal 2020 and 5.9% for the 5-years ended June 30, 2020, which trailed by the Policy Benchmark by 0.15% in fiscal 2020 and exceeded the Policy Benchmark by 0.37% over the last 5 years. Budget Stabilization earned 2.35% and 1.95% for the 1 and 5 years ended June 30, 2020, respectively, and trailed Policy Benchmarks.

The vast majority of SIB clients (93%) generated net investment returns which exceeded their respective Policy Benchmarks for the 5-years ended June 30, 2020, but the impact of the global pandemic severely impacted Fiscal 2020 results. Investment returns improved sharply in the second quarter of 2020 for SIB clients.

Private Equity - Mr. Hunter reviewed the Adams Street Global Private Equity Program. The SIB's private equity returns remain in the 3<sup>rd</sup> quartile for the Pension Trust as of March 31, 2020. RIO's Investment Personnel and Callan's private equity experts teamed up in 2015 and 2016 to re-evaluate the overall investment approach in private equity. As a result, the SIB approved a renewed commitment to Adams Street Partners Global Fund strategies and a new fund of one program with BlackRock. Recent commitments have improved performance which have been ranked in the 1<sup>st</sup> and 2<sup>nd</sup> quartile since 2015.

Adams Street Partners representatives reviewed the SIB's portfolio.

Investment Personnel recommended a new "follow-on" commitment, up to \$60 million, to the Adams Street Partners 2020 Global Fund. SIB clients within the Pension Trust have a 6.5% (or \$393 million) target allocation to private equity versus an actual allocation of \$290.3 million as of March 31, 2020.

**IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO ACCEPT RIO INVESTMENT PERSONNEL'S RECOMMENDATION FOR THE ADAMS STREET PARTNERS 2020 GLOBAL FUND.**

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

**NAYS: NONE**

**MOTION CARRIED**

BlackRock Private Equity Partners reviewed the SIB's portfolio.

RIO Investment Personnel recommended an additional commitment of up to \$250 million to the SIB's Private Opportunities Fund, L.P. (North Dakota's customized private equity mandate managed by BlackRock Private Equity Partners.

**IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY DR. LECH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT RIO INVESTMENT PERSONNEL'S RECOMMENDATION FOR THE BLACKROCK PRIVATE OPPORTUNITIES FUND, L.P.**

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

**NAYS: NONE**

**MOTION CARRIED**

**GOVERNANCE:**

Audit Committee - Ms. Sauter reviewed the SIB Audit Committee's activities for the period of July 1, 2019 - June 30, 2020. The following activities were completed; Executive Limitations Audit, SIB Self-Evaluation, Investment Due Diligence, Administrative Expense Audit, Three TFFR Employer Reporting Reviews, TFFR Benefit Payment Audit, TFFR File Maintenance Audit, and TFFR Task List Project. Internal Audit also assisted CliftonLarsonAllen LLP (CLA), RIO's Loss Control Committee, and is assisting in a review of RIO staff's policy manual.

The Audit Committee also received the results of the RIO financial audit for the fiscal year ended June 30, 2019 from CLA. An unmodified "clean" opinion was issued. The Audit Committee reviewed the RIO financial audit plan for fiscal year ended June 30, 2020 with CLA. The Audit Committee adopted a work plan and budgeted hours for fiscal year July 1, 2020 to June 30, 2021.

Ms. Sauter also reviewed the Audit Committee charter. The charter requires the SIB confirm on an annual basis the review of all responsibilities outlined in the Charter.

Ms. Sauter also reviewed a fraud incident with a January 2020 retiree benefit payment. The TFFR Board was notified on April 23, 2020, and the Audit Committee on May 21, 2020. TFFR worked with legal counsel and the State Risk Management division to restore the member's payment. TFFR, with the assistance of Internal Audit, have put additional measures in place to reduce the likelihood of this occurring in the future.

**IT WAS MOVED BY DR. LECH AND SECONDED BY COMMISSIONER SMITH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE AUDIT REPORT FOR THE PERIOD OF JULY 1, 2019 - JUNE 30, 2020.**

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

**NAYS: NONE**

**MOTION CARRIED**

Securities Litigation - Mr. Hunter updated the SIB on activities of the SIB Securities Litigation Committee (SLC).

The SLC re-elected Chief Deputy Attorney General Troy Seibel to serve as Chair and Land Commissioner Jodi Smith to serve as Vice Chair. The SLC also reviewed its list of approved securities litigation firms and the range of loss recoveries in recent fiscal years. K&L Gates provided an overview of recent legal developments on the WG Trading and Tribune cases.

**IT WAS MOVED BY MR. OLSON AND SECONDED BY MS. SMITH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE SECURITIES LITIGATION REPORT.**

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

**NAYS: NONE**

**MOTION CARRIED**

Budget and Website - Ms. Flanagan informed the SIB RIO's budget was submitted for 2021-23 biennium with three optional requests. The budget was submitted in accordance with the Governor's instruction, with no increase in the total base budget request.

RIO Website - RIO's new website has been up and running since August 4, 2020. Ms. Flanagan requested the SIB let her know if there are any issues with finding financial statements and performance reports, etc.

Government Finance Officers Association (GFOA) - Mr. Hunter stated GFOA has awarded RIO a Certificate of Achievement for Excellence in Financial Reporting for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2019. This is the 22<sup>nd</sup> consecutive year that RIO has achieved the award. Mr. Hunter thanked all of RIO specifically, Ms. Flanagan, Ms. Walcker and Ms. Griffin.

Prudent Investor Rule - Mr. Hunter reviewed the Prudent Investor Rule and how the rule applies to the SIB program.

**21-10-07. Legal investments.**

The state investment board shall apply the prudent investor rule in investing for funds under its supervision. The "prudent investor rule" means that in making investments the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The retirement funds belonging to the teachers' fund for retirement and the public employees' retirement system must be invested exclusively for the benefit of their members and in accordance with the respective funds' investment goals and objectives.

The SIB does not make individual investments in securities as all client portfolios are externally managed by approved investment firms using SIB client board approved investment policies and asset allocations.

Economically targeted investing is prohibited unless the investment meets the "exclusive benefit rule" and the following four conditions are satisfied:

- 1) The cost does not exceed the fair market value at time of investment;
- 2) The investment provides the fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and expected risk;
- 3) Sufficient liquidity is maintained in the fund to permit distributions in accordance with plan terms; and
- 4) The safeguards or diversity that a prudent investor rule would adhere to are present.

Mr. Hunter also reviewed a new investment duties regulation issued by the US Department of Labor. The rule is intended to provide a clear regulatory guidepost for plan fiduciaries in light of recent trends involving environmental, social, and governance (ESG) investing.

Discussion followed on the diversification of the Legacy Fund, Pension Fund, and Insurance Fund.

Discussion also followed on the Legacy Fund, its oversight, and its Investment Policy Statement specifically, who decides how and where the funds are invested particularly when it comes to investing in North Dakota. There is growing concern from the public regarding the Legacy Fund and its impact in North Dakota.

The next regular meeting of the SIB has been scheduled for September 25, 2020, at 8:30 a.m. at RIO (virtual).

The next regular meeting of the SIB Securities Litigation Committee is scheduled for November 5, 2020, at 1:00 p.m. at RIO (virtual).

The next regular meeting of the SIB Audit Committee is scheduled for November 12, 2020, at 2:30 p.m. at RIO (virtual).



**ADJOURNMENT:**

With no further business to come before the SIB, Lt. Governor Sanford adjourned the meeting at 11:08 a.m.

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Lt. Governor Sanford, Chair  
State Investment Board

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Bonnie Heit  
Recorder

Board Action

# Asset and Performance Overview

Annual Investment Review as of June 30, 2020

September 25, 2020

Dave Hunter, Executive Director / CIO

Darren Schulz, Deputy Chief Investment Officer

Jan Murtha, Deputy Executive Director / Chief Retirement Officer

Connie Flanagan, Chief Financial Officer

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

# State Investment Board – Client Assets Under Management

- ▶ SIB client assets under management (AUM) approached **\$16.3 billion** at June 30, 2020, including the Pension Trust at \$6 billion, Insurance Trust at \$3 billion and Legacy Fund at \$7 billion. Despite highly volatile market conditions, SIB clients generated over \$620 million of net investment income in fiscal year 2020 and Legacy Fund benefitted from \$596 million of deposits.
- ▶ The Pension Trust posted a net return of **+3.4%** in fiscal 2020. The Pension Trust generated a net annualized return of 6.2% during the last 5-years exceeding the policy benchmark of 5.9%.
- ▶ The Insurance Trust generated a net investment return of **+5.0%** in the last year. During the last 5-years, the Insurance Trust posted a net annualized return of 5.5%, exceeding the performance benchmark of 4.8%.
- ▶ The Legacy Fund generated a net investment return of **+4.2%** last year. During the last 5-years, Legacy Fund earned a net annualized return of 5.9%, exceeding the policy benchmark of 5.55%.
- ▶ The U.S. economy and global capital markets were strong in 2019 with U.S. unemployment at record low levels and the U.S. equity markets posting record highs **prior** to the impact of the pandemic which caused a sharp and severe decline in the global economy including a 33% decline in U.S. GDP in Q2 2020 and the highest rate of U.S. unemployment since the Great Depression in 1933. **Since March 31, 2020**, the S&P 500 Index has materially recovered in part due to an unprecedented level of government intervention, although there is a major disparity of returns between mega-cap growth stocks and the broader market.

<u>Fund Name</u>	<u>Market Values as of 6/30/20<sup>(1)</sup></u>	<u>Market Values as of 6/30/19<sup>(2)</sup></u>
<b>Pension Trust Fund</b>		
Public Employees Retirement System (PERS)	3,212,113,496	3,152,930,087
Teachers' Fund for Retirement (TFFR)	2,612,716,499	2,573,622,554
City of Bismarck Employees Pension	106,946,867	104,517,247
City of Grand Forks Employees Pension	67,458,579	68,419,301
City of Bismarck Police Pension	42,552,004	41,862,976
Grand Forks Park District	7,406,214	7,176,427
<b>Subtotal Pension Trust Fund</b>	<b>6,049,193,658</b>	<b>5,948,528,592</b>
<b>Insurance Trust Fund</b>		
Workforce Safety & Insurance (WSI)	2,125,881,220	2,065,400,398
Budget Stabilization Fund	727,275,063	118,707,130
City of Fargo FargoDome Permanent Fund	43,550,868	44,840,633
PERS Group Insurance Account	31,495,987	31,067,120
State Fire and Tornado Fund	22,825,556	22,761,457
ND Association of Counties (NDACo) Fund	6,693,191	6,333,052
Petroleum Tank Release Compensation Fund	6,165,424	5,994,235
Insurance Regulatory Trust Fund	5,714,619	6,218,781
State Risk Management Workers Comp Fund	5,116,217	5,187,879
State Risk Management Fund	4,561,175	4,909,623
State Bonding Fund	3,787,526	3,609,422
ND Board of Medicine	2,470,787	2,362,384
Attorney General Settlement Fund	1,057,147	
Lewis & Clark Interpretive Center Endowment Fund	793,808	751,763
Bismarck Deferred Sick Leave Account	770,793	779,596
Cultural Endowment Fund	493,401	475,311
ND Veterans' Cemetary Trust Fund	312,782	
<b>Subtotal Insurance Trust Fund</b>	<b>2,988,965,565</b>	<b>2,319,398,784</b>
<b>Legacy Trust Fund</b>		
Legacy Fund	6,999,783,262	6,580,759,920
PERS Retiree Insurance Credit Fund	144,237,322	135,962,521
Job Service of North Dakota Pension	95,338,534	97,285,279
ND Tobacco Prevention and Control Trust Fund	7,589,354	9,300,127
<b>Total Assets Under SIB Management</b>	<b>16,285,107,695</b>	<b>15,091,235,223</b>

<sup>(1)</sup> Market values are unaudited and subject to change.

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

**SIB Pension Clients:**

PERS and TFFR earned a net investment return of 3.4% for the year end June 30, 2020, which exceeded the Policy Benchmark by 0.20%.

For the 5-years ended June 30, 2020, PERS and TFFR earned a net investment return of 6.2% and 6.17%, respectively, exceeding Policy Benchmarks by 0.30%.

Job Service, a de-risked pension plan with a funded ratio in excess of 130%, failed to exceed Policy Benchmark Returns for the 1, 3 and 5 year periods ended June 30, 2020.

Over 98% of our SIB Pension clients earned net returns which exceeded their respective Policy Benchmarks for the 1, 3 and 5 years ended June 30, 2020 (based on AUM).

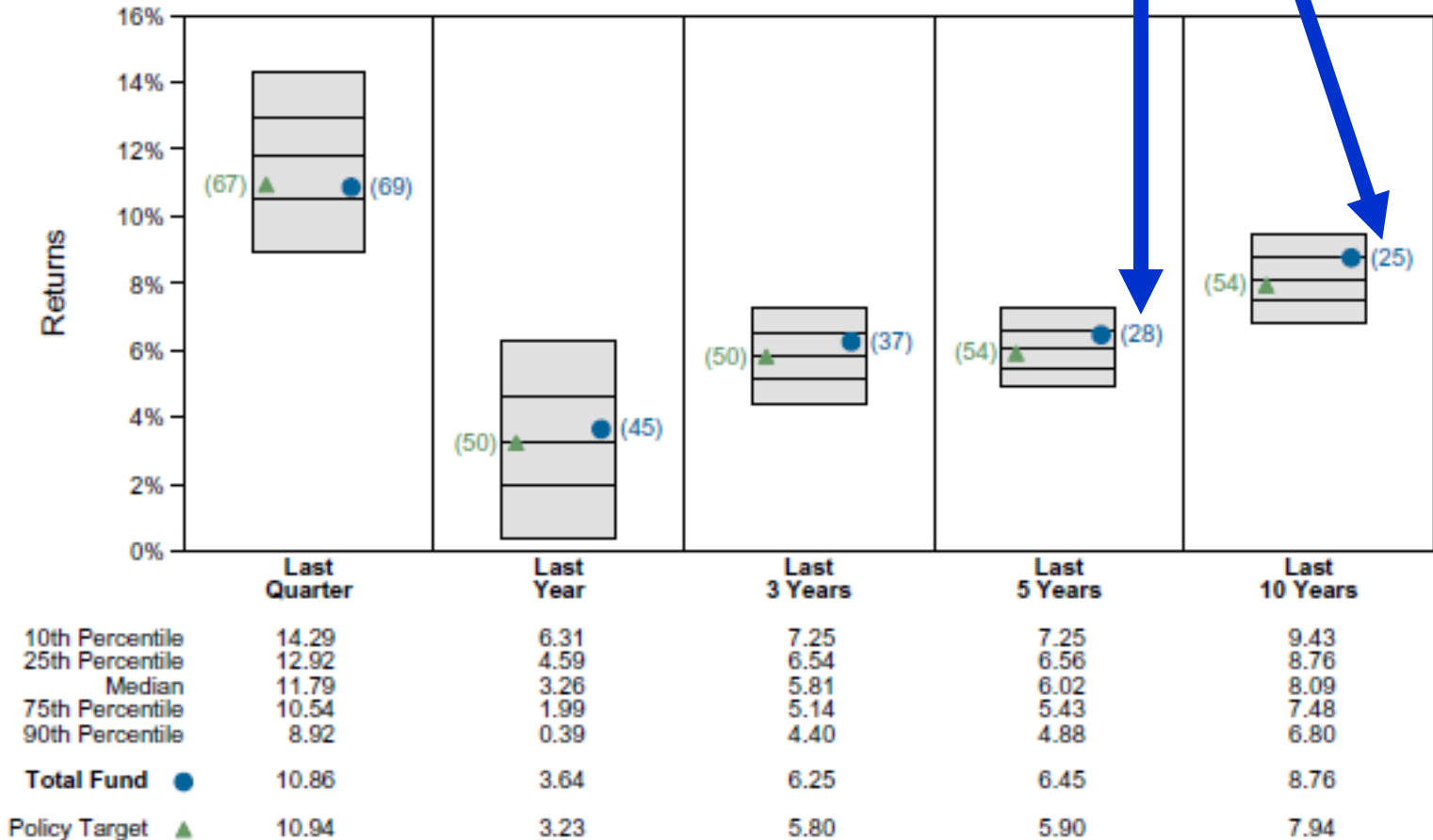
	1 Year Ended 6/30/2020	3 Yrs Ended 6/30/2020	5 Yrs Ended 6/30/2020	Risk 5 Yrs Ended 6/30/2020	Risk Adj Excess Return 5 Yrs Ended 6/30/2020
<b>PERS \$3.2 billion</b>					
Total Fund Return - Net	3.41%	6.01%	6.20%	10.1%	0.09%
Policy Benchmark Return	3.21%	5.79%	5.90%	9.7%	
Total Relative Return	0.20%	0.23%	0.30%	104%	
<b>TFFR \$2.65 billion</b>					
Total Fund Return - Net	3.45%	6.01%	6.17%	10.1%	0.20%
Policy Benchmark Return	3.19%	5.81%	5.87%	9.9%	
Total Relative Return	0.26%	0.21%	0.30%	102%	
<b>Bismarck Employees \$107 million</b>					
Total Fund Return - Net	3.75%	5.84%	5.93%	8.4%	0.29%
Policy Benchmark Return	3.73%	5.56%	5.57%	8.3%	
Total Relative Return	0.02%	0.28%	0.36%	102%	
<b>Bismarck Policy \$43 million</b>					
Total Fund Return - Net	3.41%	5.83%	5.94%	9.1%	0.29%
Policy Benchmark Return	3.28%	5.53%	5.62%	9.0%	
Total Relative Return	0.13%	0.30%	0.33%	101%	
<b>Grand Forks Pension \$67 million</b>					
Total Fund Return - Net	4.02%	6.53%	6.44%	10.6%	0.27%
Policy Benchmark Return	3.61%	6.15%	6.15%	10.6%	
Total Relative Return	0.41%	0.38%	0.28%	100%	
<b>Grand Forks Parks \$7 million</b>					
Total Fund Return - Net	3.78%	6.36%	6.37%	9.8%	0.06%
Policy Benchmark Return	3.56%	6.06%	6.04%	9.3%	
Total Relative Return	0.22%	0.30%	0.32%	105%	
<b>Job Service \$95 million</b>					
Total Fund Return - Net	2.82%	4.26%	4.77%	4.7%	-0.79%
Policy Benchmark Return	5.04%	5.31%	5.18%	4.2%	
Total Relative Return	-2.21%	-1.06%	-0.42%	112%	

Note: Amounts are unaudited and subject to change.

## 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 June 30, 2020. **For the Last 5 Years and Last 10 Years ended June 30, 2020, the SIB Pension pool ranked in the 28<sup>th</sup> or 25<sup>th</sup> percentile.**

### Callan Public Fund Sponsor Database



**SIB Non-Pension Clients:**

WSI and Legacy Fund earned a net investment return of 6% and 4.2%, respectively, for the year end June 30, 2020, which trailed their respective Policy Benchmarks.

For the 5-years ended June 30, 2020, WSI and Legacy Fund earned a net investment return of 6% and 5.9%, respectively, exceeding their Policy Benchmarks by 0.80% for WSI and 0.37% for Legacy.

Budget Stabilization Fund returns failed to exceed Policy Benchmark Returns for the 1, 3 and 5 year periods ended June 30, 2020, but have materially improved since March 31.

Over 90% of Non-Pension clients earned net returns which exceeded their Policy Benchmarks over the last 5-years.

	1-Year Ended 6/30/2020	3 Yrs Ended 6/30/2020	5 Yrs Ended 6/30/2020	Risk 5 Yrs Ended 6/30/2020	Risk Adj Excess Return 5 Yrs Ended 6/30/2020
<b>WSI - \$2.1 billion</b>					
Total Fund Return - Net	6.00%	6.07%	6.00%	5.99%	-0.42%
Policy Benchmark Return	6.62%	5.81%	5.20%	4.47%	
Total Relative Return	-0.63%	0.26%	0.80%		
<b>Legacy Fund \$7 billion</b>					
Total Fund Return - Net	4.23%	5.58%	5.91%	10.47%	-0.16%
Policy Benchmark Return	4.38%	5.66%	5.55%	9.29%	
Total Relative Return	-0.15%	-0.08%	0.37%		
<b>Budget Stab. \$727 million</b>					
Total Fund Return - Net	2.35%	2.38%	1.95%	2.79%	-0.59%
Policy Benchmark Return	4.17%	2.87%	2.09%	1.15%	
Total Relative Return	-1.82%	-0.49%	-0.14%		
<b>Fire &amp; Tornado \$23 million</b>					
Total Fund Return - Net	4.97%	5.57%	5.72%	8.33%	-0.43%
Policy Benchmark Return	5.96%	5.69%	5.22%	6.62%	
Total Relative Return	-1.00%	-0.12%	0.50%		
<b>State Bonding \$4 million</b>					
Total Fund Return - Net	4.95%	3.93%	3.53%	2.22%	0.27%
Policy Benchmark Return	5.50%	3.73%	2.91%	1.88%	
Total Relative Return	-0.55%	0.20%	0.62%		
<b>Insur.Reg.Trust. Fund \$6 million</b>					
Total Fund Return - Net	6.11%	5.22%	4.89%	6.00%	0.45%
Policy Benchmark Return	4.38%	4.60%	4.17%	5.56%	
Total Relative Return	1.74%	0.62%	0.72%		

Note: Amounts are unaudited and subject to change.

**Elevated Risk:**

The global pandemic triggered an unprecedented rise in global market volatility and a period of fixed income illiquidity in March which prompted the Fed to initiate the largest and most wide spread government 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 including the Budget Stabilization Fund, Job Service, the PERS Group Insurance Fund and PERS Retiree Health Insurance Credit Fund each of which failed to generate net investment returns in excess of Policy Benchmarks for the 5-years ended June 30, 2020.

	1-Year Ended 6/30/2020	3 Yrs Ended 6/30/2020	5 Yrs Ended 6/30/2020	Risk 5 Yrs Ended 6/30/2020	Risk Adj Excess Return 5 Yrs Ended 6/30/2020
<b>Petrol.Tank Release \$6 million</b>					
Total Fund Return - Net	4.55%	3.70%	3.30%	2.00%	0.26%
Policy Benchmark Return	5.15%	3.55%	2.75%	1.73%	
Total Relative Return	-0.60%	0.15%	0.55%		
<b>State Risk Mgmt \$5 million</b>					
Total Fund Return - Net	5.88%	6.22%	6.27%	7.70%	-0.69%
Policy Benchmark Return	7.55%	6.48%	5.83%	5.98%	
Total Relative Return	-1.67%	-0.26%	0.44%		
<b>State Risk W/C \$5 million</b>					
Total Fund Return - Net	5.73%	6.43%	6.57%	8.91%	-0.69%
Policy Benchmark Return	7.42%	6.82%	6.25%	7.25%	
Total Relative Return	-1.69%	-0.38%	0.31%		
<b>NDACo \$6.7 million</b>					
Total Fund Return - Net	5.67%	5.75%	5.65%	8.42%	-0.50%
Policy Benchmark Return	6.63%	5.87%	5.15%	6.54%	
Total Relative Return	-0.95%	-0.12%	0.50%		
<b>Bismarck Def.Sick \$771,000</b>					
Total Fund Return - Net	5.43%	5.66%	5.80%	7.66%	-0.44%
Policy Benchmark Return	6.50%	5.67%	5.12%	5.78%	
Total Relative Return	-1.07%	-0.01%	0.68%		
<b>FargoDome \$44 million</b>					
Total Fund Return - Net	3.78%	5.51%	5.94%	11.04%	-0.28%
Policy Benchmark Return	4.74%	5.78%	5.59%	9.58%	
Total Relative Return	-0.96%	-0.27%	0.35%		

Note: Amounts are unaudited and subject to change.

### Key Takeaways:

- 1) Over 94% of our SIB clients earned net returns that exceeded Policy Benchmark for the 5-years ended June 30, 2020, thereby creating incremental income for the vast majority of our SIB clients.
- 2) All SIB Pension Pool clients generated net returns which exceeded their respective Policy Benchmarks for the 1, 3, and 5 year periods ended June 30, 2020.
- 3) The Pension Pool, which includes PERS and TFFR in addition to the Bismarck and Grand Forks pension plans, generated a net return of 8.4% for the 10 years ended June 30, 2020, exceeding the Policy Benchmark Return of 7.94% and actuarial long-term return assumption (of 7.00% for PERS and 7.25% for TFFR).

	1-Year Ended 6/30/2020	3 Yrs Ended 6/30/2020	5 Yrs Ended 6/30/2020	Risk 5 Yrs Ended 6/30/2020	Risk Adj Excess Return 5 Yrs Ended 6/30/2020
<b>Cultur.Endow. \$493,000</b>					
Total Fund Return - Net	3.91%	6.05%	6.56%	11.66%	-0.58%
Policy Benchmark Return	5.28%	6.64%	6.53%	10.34%	
Total Relative Return	-1.37%	-0.59%	0.02%		
<b>Board of Med. \$2.5 million</b>					
Total Fund Return - Net	5.54%	4.55%	4.10%	6.23%	-0.48%
Policy Benchmark Return	5.64%	4.55%	3.80%	4.54%	
Total Relative Return	-0.09%	0.00%	0.31%		
<b>PERS Group Insur. \$31.5 million</b>					
Total Fund Return - Net	2.35%	2.31%	1.69%	1.08%	-0.41%
Policy Benchmark Return	4.02%	2.75%	2.03%	0.93%	
Total Relative Return	-1.67%	-0.44%	-0.34%		
<b>Lewis &amp; Clark \$794,000</b>					
Total Fund Return - Net	5.70%	N/A	N/A		
Policy Benchmark Return	6.36%	N/A	N/A		
Total Relative Return	-0.66%	N/A	N/A		
<b>PERS Retiree Health \$144 million</b>					
Total Fund Return - Net	4.98%	6.21%	6.18%	12.07%	-0.69%
Policy Benchmark Return	5.25%	6.38%	6.37%	10.88%	
Total Relative Return	-0.27%	-0.17%	-0.19%		
<b>Tobacco Prev \$7.6 million</b>					
Total Fund Return - Net	3.69%	3.26%	N/A		
Policy Benchmark Return	3.74%	3.26%	N/A		
Total Relative Return	-0.05%	0.00%			

Note: Amounts are unaudited and subject to change.



# Employee Benefits Program Committee Presentation

September 9, 2020

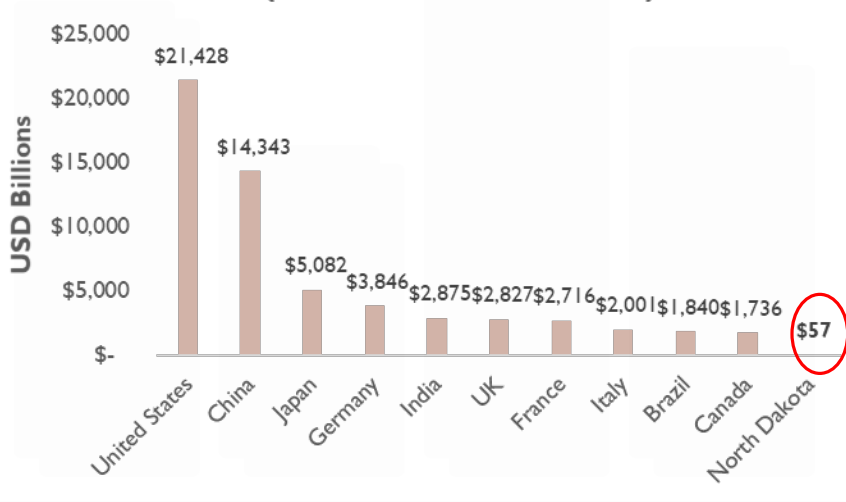
## Overview of SIB Client Investments

- SIB client investments increased by over \$1.2 billion in the last fiscal year to exceed \$16.3 billion as of June 30, 2020:

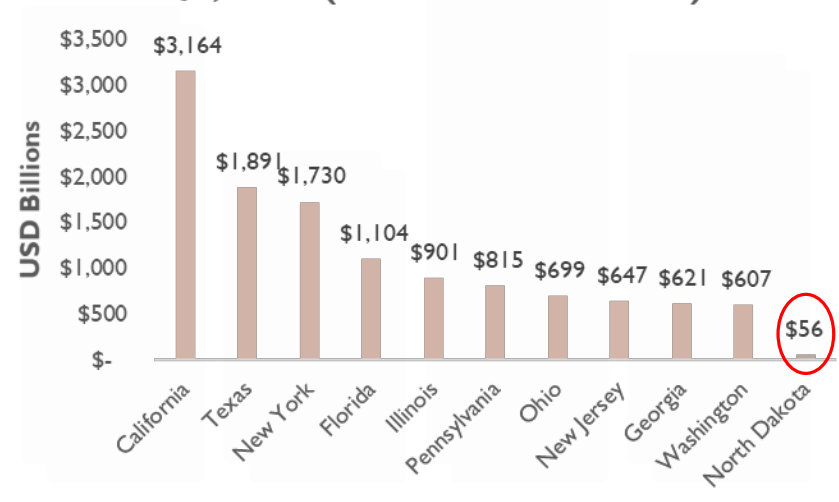
Legacy Fund	\$ 7.0 billion	<i>(\$6.995 billion)</i>
PERS	3.2	
TFFR	2.7	
Other	3.4	
- SIB client net investment income exceeded \$620 million for the fiscal year ended June 30, 2020, including \$277 million for the Legacy Fund, **\$104 million for PERS** and **\$86 million for TFFR**.
- **For the 10-years ended June 30, 2020, PERS (main) plan earned a net investment return of 8.38% exceeding its performance benchmark of 7.94% by 0.44% and its long-term expected return assumption of 7.00%.**
- **For the 10-years ended June 30, 2020, TFFR earned a net investment return of 8.53% exceeding its performance benchmark of 7.90% by 0.63% and its long-term expected return assumption of 7.25%.**
- SIB Pension Trust returns (including TFFR and PERS) ranked in the **top 25%** based on Callan's Public Fund Sponsor database for the 10-years ended June 30, 2020.
- In 2019, the SIB dedicated an additional \$100 million in Legacy Fund investments to providing cost-efficient financing to companies seeking to develop new businesses and infrastructure in North Dakota. The \$100 million addition to the Bank of North Dakota's (BND) Match Loan Certificates of Deposit (CD) Investment Program increased the program's size to **\$300 million**. BND requested the increase to support future anticipated growth in this economic development program.
- **The SIB is required to apply the prudent investor rule in investing funds under its supervision.** The prudent investor rule requires the SIB, as a fiduciary, to exercise judgment and care, **under the circumstances then prevailing**, that an institutional investor of ordinary **prudence, discretion and intelligence** exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, **considering the probable safety of capital as well as probable income**.
- **RIO's website was recently updated to improve overall transparency and reporting access for our interested users and clients** noting the Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to RIO for its CAFR for the fiscal year ended June 30, 2019 (for the 22<sup>nd</sup> consecutive year).

# GDP of Ten Largest Global and U.S. Economies

**GDP of the Ten Largest Economies by Country**  
2019 (Current USD Billions)<sup>2</sup>



**GDP of the Ten Largest Economies by State**  
Q1, 2020 (Current USD Billion)<sup>1</sup>



1: State GDP data from [www.bea.gov](http://www.bea.gov)  
2: Country GDP data from [www.worldbank.org](http://www.worldbank.org)

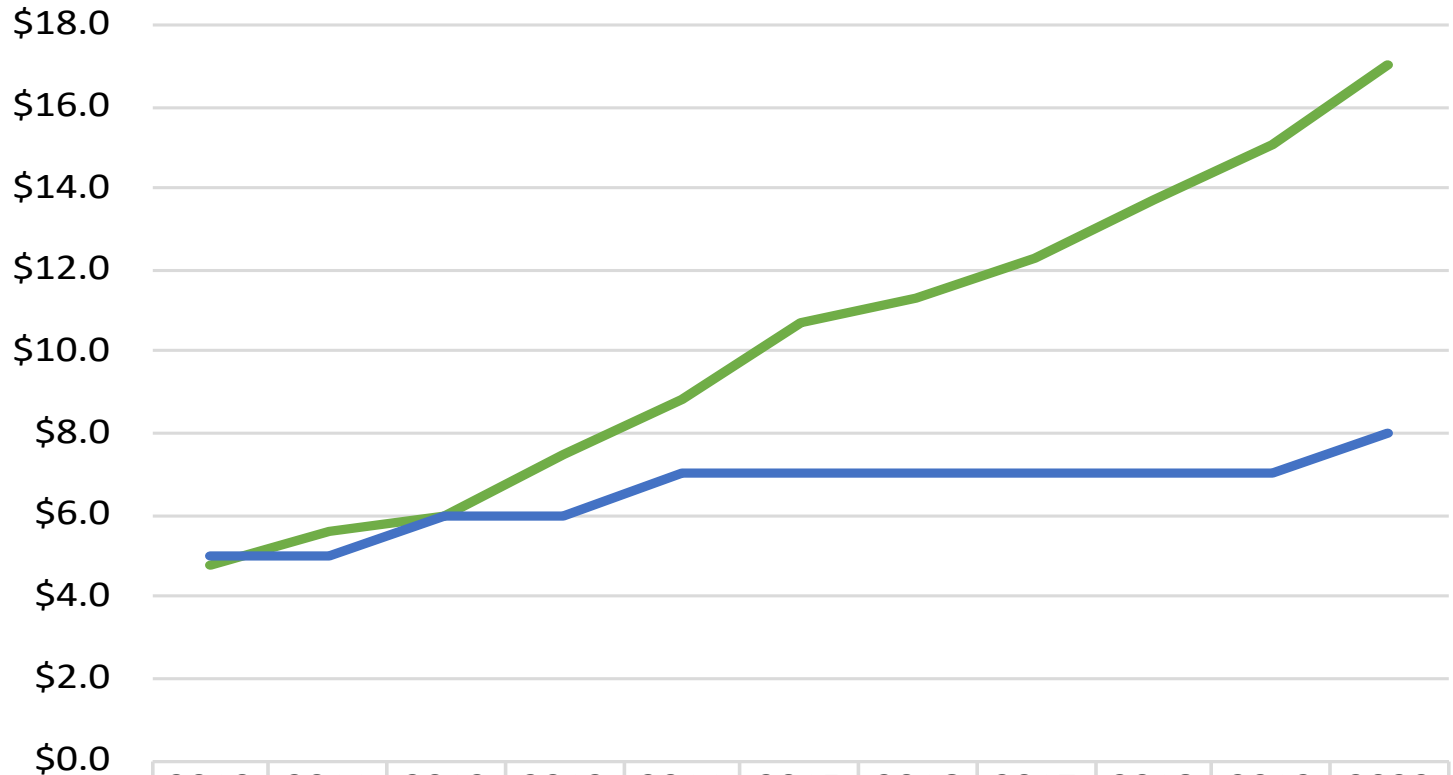
**SIB Press Release August 27, 2019 - The North Dakota State Investment Board (SIB) dedicated an additional \$100 million in Legacy Fund investments to providing cost-efficient financing to companies seeking to develop new businesses and infrastructure in North Dakota** – one of several actions taken by the board to further improve the Legacy Fund’s performance and return for North Dakotans.

**The \$100 million addition to the Bank of North Dakota’s Match Loan Certificates of Deposit (CD) Investment Program will increase the program’s total size from \$200 million to \$300 million.** The state-owned Bank of North Dakota requested the increase to support future anticipated growth in this economic development program, which has been in place for over 30 years.

**“This increase in funding will provide greater access to capital for entrepreneurs looking to launch new manufacturing, processing and value-added businesses and important infrastructure in North Dakota, while also ensuring that more Legacy Fund dollars are being invested right here in North Dakota,”** said Lt. Gov. Brent Sanford, who chairs the SIB.

**NOTE: SIB client investment values in 2020 are preliminary, unaudited and subject to change.**

## SIB Investments and SIB FTE (2010 to 2020)



\$ Billions	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SIB FTE	5	5	6	6	7	7	7	7	7	7	8

— \$ Billions — SIB FTE

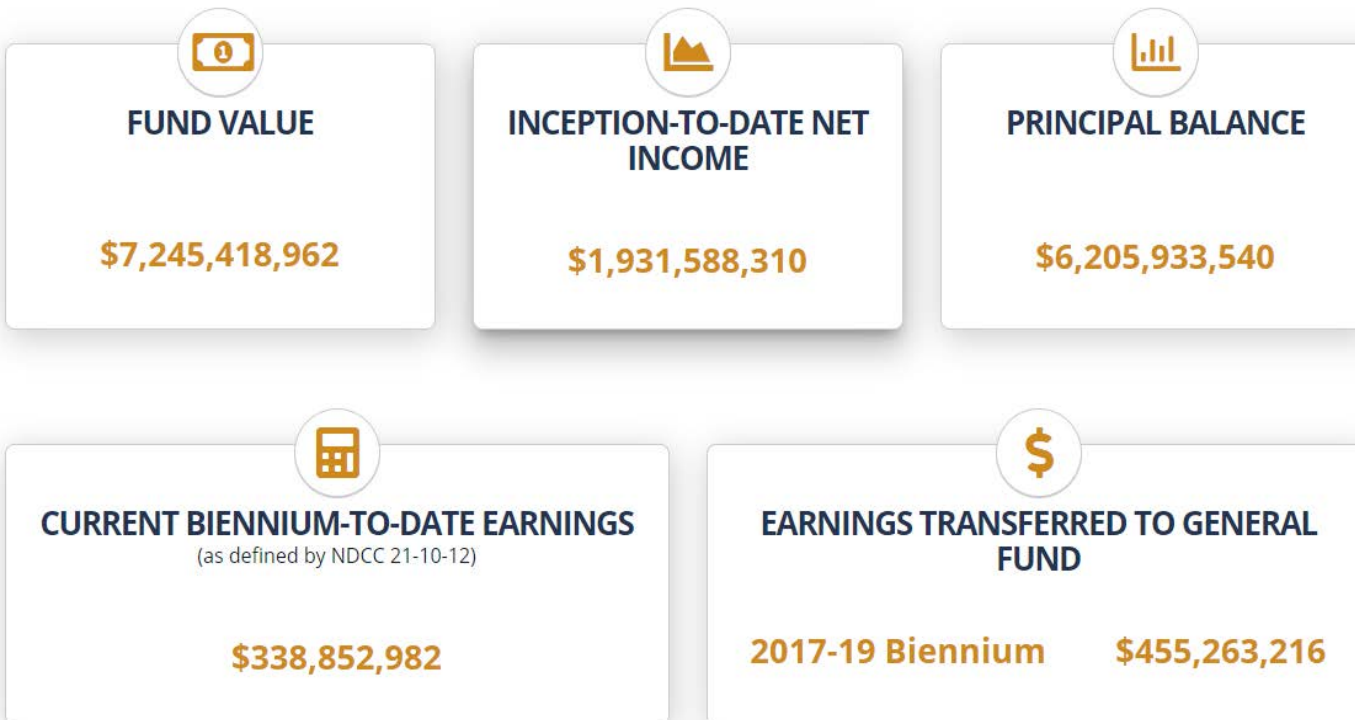
# North Dakota Retirement and Investment Office - Legacy Fund Website

<https://www.rio.nd.gov/legacy-fund>

## Legacy Fund

The Legacy Fund was created by a constitutional amendment in 2010. The amendment provides that 30% of oil and gas gross production and oil extraction taxes on oil produced after June 30, 2011, be transferred to the Legacy Fund. The State Investment Board (SIB) is responsible for the investment of the fund. The first Legacy Fund transfer was received by the SIB in September 2011. The ND Constitution also requires that all earnings accrued after June 30, 2017, must be transferred to the state's general fund at the end of each biennium.

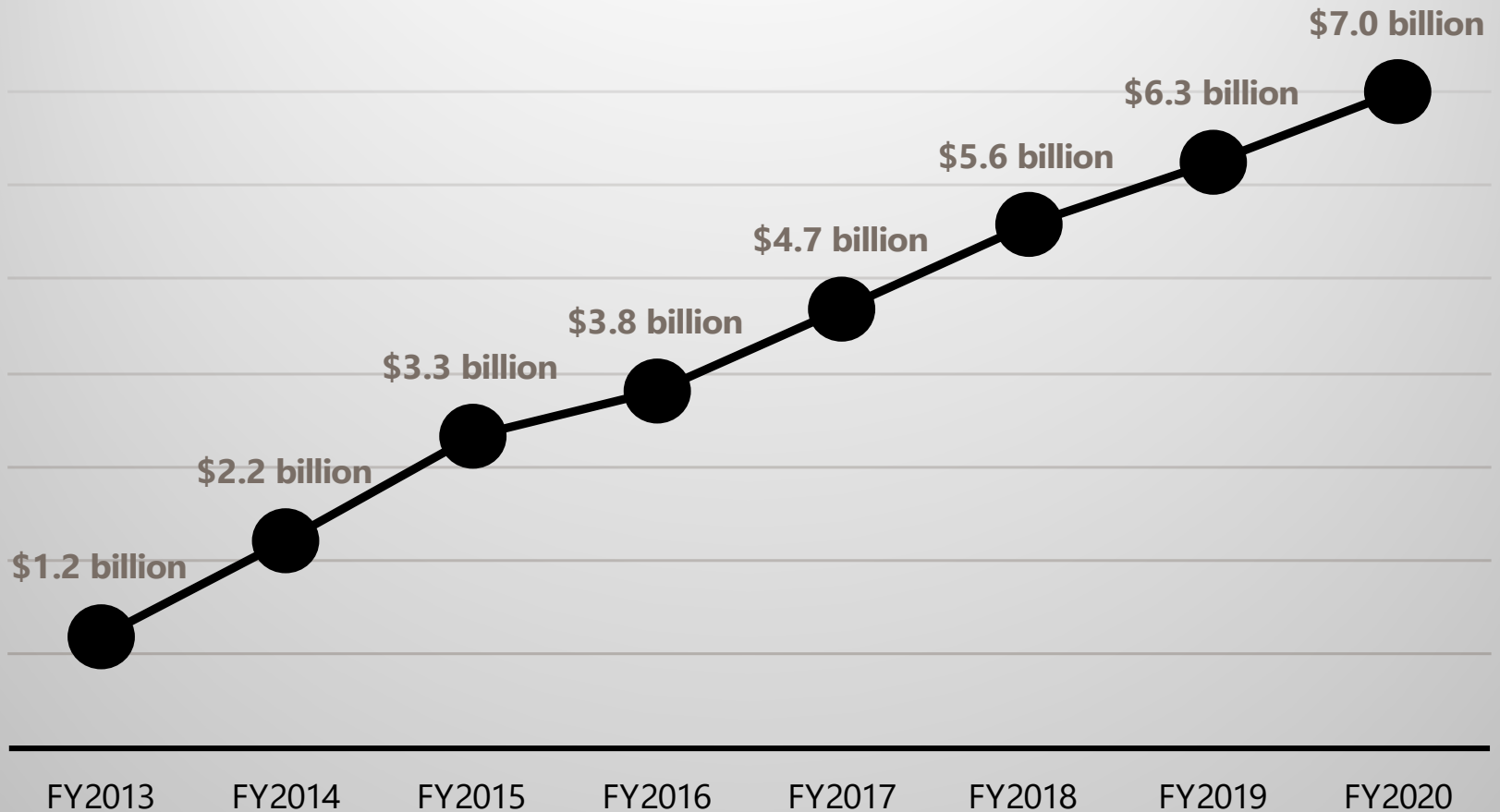
Balances listed below as of July 31, 2020. ←



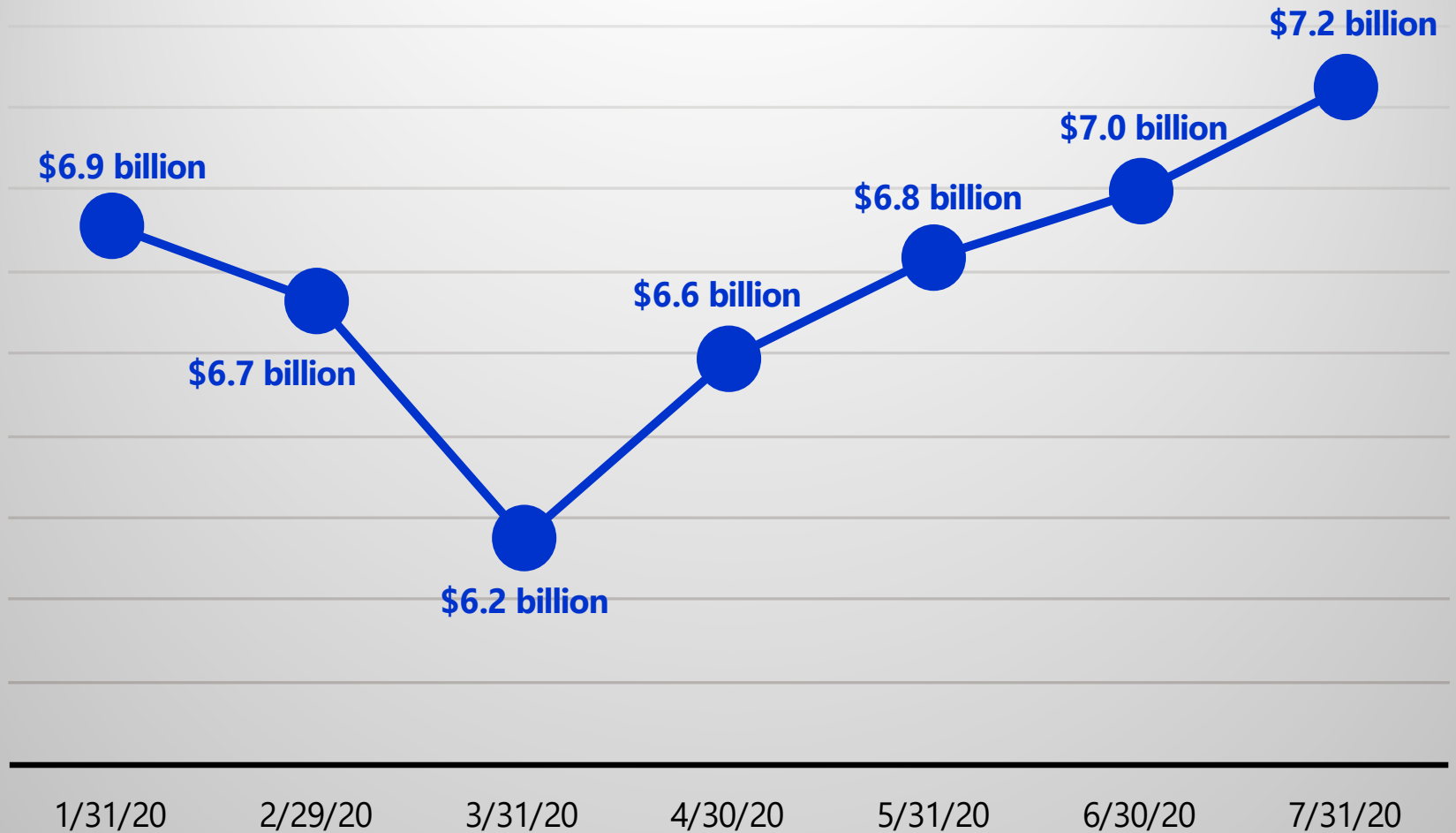
Financial Statements

Performance Reports

# Legacy Fund Ending Balance By Fiscal Year Ended June 30



# Legacy Fund Month End Balances



# Impact of Potential Losses on Principal and Budgeting

## As of July 31, 2020

Legacy Fund		
Cumulative Transferrable Earnings		
June 1, 2019 to July 31, 2020		
NDCC 21-10-12 Earnings Definition		
Month/Year	NDCC Earnings	% Change
Jun-19	\$ 46,980,140	-
Jul-19	\$ 84,674,975	80%
Aug-19	\$ 94,468,378	12%
Sep-19	\$ 126,735,617	34%
Oct-19	\$ 159,116,218	26%
Nov-19	\$ 192,972,958	21%
Dec-19	\$ 239,758,018	24%
Jan-20	\$ 262,515,510	9%
Feb-20	\$ 231,653,888	-12%
Mar-20	\$ 143,034,431	-38%
Apr-20	\$ 198,253,302	39%
May-20	\$ 249,967,702	26%
Jun-20	\$ 300,703,906	20%
Jul-20	\$ 338,852,982	13%

**Question:** How could investment losses impact fund principal and could earnings be used to offset losses to fund principal?

**Response:** Legacy Fund principal is impacted by losses and earnings. Since inception, Legacy Fund has earned over \$1.9 billion of net investment income and over \$1.2 billion of NDCC 21-10-12 defined “Earnings” as of July 31, 2020. RIO understands that \$436.8 million of Earnings prior to July 1, 2017, were capitalized into Principal (by statute), while \$455.3 million of Earnings from the 2017-19 biennium were transferred to the General Fund. Current biennium to date Earnings are estimated at \$388.8 million as of July 31, 2020, as summarized below:

Earnings pre-July 1, 2017	a	\$ 436,839,672
Earnings transferred for 2017-19 biennium	b	\$ 455,263,216
Earnings transferrable for 2019-21 biennium	c	\$ 338,852,982
<b>Total NDCC 21-10-12 Earnings since inception</b>	<b>d</b>	<b>\$ 1,230,955,870</b>
Earnings pre-July 1, 2017	a	\$ 436,839,672
Earnings transferrable for 2019-21 biennium	c	\$ 338,852,982
Earnings Not Transferred in 2017-19 biennium	e	\$ 775,692,654

Total NDCC 21-10-12 Earnings since inception are \$1.231 billion of which \$455.3 million was transferred in the 2017-19 biennium.

Since inception, Legacy Fund net investment income (U.S. GAAP basis) is estimated at \$1.9 billion as of July 31, 2020, including \$240.7 million for the month ended July 31, 2020.

## ND Legacy Fund Summary of Deposits, Earnings and Net Position As of July 31, 2020

	Deposits	Withdrawals	Total Net Earnings	Ending Net Position	Earnings as defined in NDCC 21-10-12
FY2012	396,585,658	-	2,300,225	398,885,883	2,571,475
FY2013	791,126,479	-	4,216,026	1,194,228,388	15,949,089
FY2014	907,214,971	-	113,153,662	2,214,597,021	50,033,655
FY2015	1,011,343,040	-	99,895,650	3,325,835,711	95,143,905
FY2016	434,853,950	-	45,851,680	3,806,541,341	65,326,673
FY2017	399,501,134	-	479,595,256	4,685,637,731	207,814,875
<b>Totals</b>	<b>3,940,625,232</b>	<b>-</b>	<b>745,012,499</b>	<b>4,685,637,731</b>	<b>436,839,672</b>
<b>All earnings prior to 7/1/2017 became part of principal.</b>					
FY2018	529,870,755		360,575,532	5,576,084,018	242,859,840
FY2019 *	628,610,681		53,186,743	6,257,881,442	212,403,376
<b>Earnings transferred 7/23/19 for 2017-19 biennium</b>					<b>455,263,216</b>
June, 2019	63,958,262	(455,263,216)	255,651,383	6,122,227,871	46,980,140
FY2020	596,589,041	-	276,492,158	6,995,309,070	253,723,766
FY2021 **	9,439,897	-	240,669,995	7,245,418,962	38,149,076
<b>Earnings transferrable at end of 2019-21 biennium</b>					<b>338,852,982</b>
<b>Life-to-date Totals</b>	<b>5,769,093,868</b>	<b>(455,263,216)</b>	<b>1,931,588,310</b>	<b>7,245,418,962</b>	<b>1,230,955,870</b>

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

\*\* FY2021 amounts are preliminary and unaudited.

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.



# Legacy Fund

## Percent of Market Value (“POMV”) Overview

The **Percent of Market Value (or POMV)** approach uses the average ending balance (or market value) of the Legacy Fund from the five prior fiscal year ends (June 30) to establish a historical investment baseline to develop a sustainable spending policy.

The **POMV approach is commonly used by similar investment funds**, including **ND’s Common Schools Trust Fund**, in developing a sustainable spending policy. It is widely accepted as a best practice by many endowments and foundations.

### Example:

**Step 1** – Determine the average ending balance of the Legacy Fund for the last 5 fiscal year ends = **\$5.5 billion** as of 6/30/2020

**Step 2** – Determine a sustainable spending policy to preserve the Legacy Fund's future purchasing power = **3% per year**

**Step 3** – Multiply average ending balance of **\$5.5 billion** times the sustainable rate of **3%** = **\$165 million per year**

**Step 4** – Multiply annual spending value of **\$165 million** times **two** for the biennium spending amount = **\$330 million / biennium**

**Why do we want to adopt the POMV approach instead of current “earnings”?** The current definition of earnings can vary greatly from quarter to quarter (and month to month) given the inherent volatility of stock and debt markets. As example, the Legacy Fund earned nearly \$390 million in the last half of 2019 (7/1/19 to 12/31/19), prior to losing over \$870 million in the 1<sup>st</sup> quarter of 2020 (1/1/20 to 3/31/20) and then recovering over \$760 million in the 2<sup>nd</sup> quarter of 2020 (4/1/20 to 6/30/20). This earnings volatility makes it very difficult to budget in future years.

### SIB Endorsements:

“This (POMV) approach seeks to eliminate undue risk when developing a sustainable spending policy for future state budgeting and reporting purposes.”

“The Percent of Market Value approach increases transparency, is sustainable, and is a proven method that is used by other funds similar to the Legacy Fund.”

**How was the 4% amount determined to be a reasonable sustainable spending rate?** Many similar investment funds, endowments and foundations use a **4% or 5%** annual spending rate (including ND’s Common Schools Trust Fund which uses a **5%** annual spending rate). Given current market conditions and a conservative belief that future investment returns may be lower than historical returns, some investors believe a **3% or 4%** spending rate is more appropriate at this time. It is also important to note the Legacy Fund has a long-term expected return of **5.8%** based on its current asset allocation policy of 50% equity, 35% fixed income and 15% real assets. If we assume that inflation will average less than 2% to 3% in the future (or **1.8% to 2.8%**), a **3% or 4%** annual spending policy will preserve the real purchasing power of the Legacy Fund in the future (after inflationary impacts).

# Legacy Fund - Percent of Market Value (“POMV”) Examples

Exact Dollar Amounts on Left Side

Rounded Dollar Amounts on Right Side

<u>Last 5 Fiscal Years</u>	<u>Legacy Ending Market Value</u>
June 30, 2016	\$ 3,809,485,184
June 30, 2017	\$ 4,687,963,730
June 30, 2018	\$ 5,577,319,113
June 30, 2019	\$ 6,580,759,928
June 30, 2020	\$ 6,999,783,262
<b>5-Year Average</b>	<b>\$ 5,531,062,243</b>

<u>Last 5 Fiscal Years</u>	<u>Legacy Ending Market Value</u>
June 30, 2016	\$ 3.8 billion
June 30, 2017	\$ 4.7 billion
June 30, 2018	\$ 5.6 billion
June 30, 2019	\$ 6.6 billion
June 30, 2020	\$ 7.0 billion
<b>5-Year Average</b>	<b>\$ 5.5 billion</b>

<u>Spending Rate:</u>	
1% per year	\$ 55,310,622
2% per biennium	\$ 110,621,245
2% per year	\$ 110,621,245
4% per biennium	\$ 221,242,490
3% per year	\$ 165,931,867
6% per biennium	\$ 331,863,735
4% per year	\$ 221,242,490
8% per biennium	\$ 442,484,980

<u>Spending Rate:</u>	
1% per year	\$ 55 million
2% per biennium	\$ 110 million
2% per year	\$ 110 million
4% per biennium	\$ 220 million
3% per year	\$ 165 million
6% per biennium	\$ 330 million
4% per year	\$ 220 million
8% per biennium	\$ 440 million

# Overview of Prudent Investor Rule

## NDCC 21-10-07 Legal Investments - Prudent Investor Rule:

The **state investment board** shall apply **the prudent investor rule** in investing for funds under its supervision. The "**prudent investor rule**" means that in making investments **the fiduciaries** shall exercise the **judgment and care**, under the **circumstances then prevailing**, that an institutional investor of ordinary **prudence, discretion, and intelligence** exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, **considering probable safety of capital as well as probable income**. The retirement funds belonging to the teachers' fund for retirement and the public employees retirement system must be invested exclusively for the benefit of their members and in accordance with the respective funds' investment goals and objectives.

**The SIB does not make individual investments in securities as all client portfolios are externally managed by approved investment firms using SIB client board approved investment policies and asset allocations.**

**Economically targeted investing is prohibited unless the investment meets the "exclusive benefit rule" and the following four conditions are satisfied:**

- 1) The cost does not exceed the fair market value at time of investment;
- 2) **The investment provides the fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and expected risk;**
- 3) Sufficient liquidity is maintained in the fund to permit distributions in accordance with plan terms; and
- 4) The safeguards or diversity that a **prudent investor would adhere to are present.**

RIO's website was recently updated to improve overall transparency and reporting access for our users and clients noting the Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to RIO for its CAFR for the fiscal year ended June 30, 2019 (for the 22<sup>nd</sup> consecutive year). →



Government Finance Officers Association

## Certificate of Achievement for Excellence in Financial Reporting

Presented to

### **North Dakota Retirement and Investment Office**

For its Comprehensive Annual  
Financial Report  
For the Fiscal Year Ended

June 30, 2019

*Christopher P. Morill*


Executive Director/CEO

Introduced by

1 A BILL for an Act to create and enact a new section to chapter 21-10 of the North Dakota  
2 Century Code, relating to a legacy earnings fund; and to amend and reenact subsection 1 of  
3 section 21-10-06 of the North Dakota Century Code, relating to funds invested by the state  
4 investment board.


5 **BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:**

6 **SECTION 1. AMENDMENT.** Subsection 1 of section 21-10-06 of the North Dakota Century  
7 Code is amended and reenacted as follows:

- 8 1. Subject to the provisions of section 21-10-02, the board shall invest the following
- 9 funds:
- 10 a. State bonding fund.
- 11 b. Teachers' fund for retirement.
- 12 c. State fire and tornado fund.
- 13 d. Workforce safety and insurance fund.
- 14 e. Public employees retirement system.
- 15 f. Insurance regulatory trust fund.
- 16 g. State risk management fund.
- 17 h. Budget stabilization fund.
- 18 i. Health care trust fund.
- 19 j. Cultural endowment fund.
- 20 k. Petroleum tank release compensation fund.
- 21 l. Legacy fund.
- 22  m. Legacy earnings fund.
- 23 n. A fund under contract with the board pursuant to subsection 3.

1 **SECTION 2.** A new section to chapter 21-10 of the North Dakota Century Code is created  
2 and enacted as follows:

3 **Legacy earnings fund - State treasurer - Transfers - Reserve balance.**

- 4 1. There is created in the state treasury the legacy earnings fund. The fund consists of all
- 5 moneys transferred to the fund under subsection 2 and all interest and earnings upon
- 6 moneys in the fund.
- 7 2. Any legacy fund earnings transferred to the general fund at the end of each biennium
- 8 in accordance with section 26 of article X of the Constitution of North Dakota must be
- 9 immediately transferred by the state treasurer to the legacy earnings fund.
- 10 3. Any amounts transferred under subsection 2 in excess of the amount available for
- 11 appropriation under subsection 4 must be retained in the fund and designated as a
- 12 reserve balance. The reserve balance may be used only to supplement legacy fund
- 13 earnings in a biennium in which the amounts transferred under subsection 2 are less
- 14 than the amount available for appropriation under subsection 4.
- 15 4. For each biennium subsequent to the biennium in which the legacy fund earnings are
- 16  transferred under subsection 2, the amount available for appropriation from the legacy
- 17 earnings fund is six percent of the five-year average value of the legacy fund assets as
- 18 reported by the state investment board. The average value of the legacy fund assets
- 19 must be calculated using the value of the assets at the end of each fiscal year for the
- 20 five-year period ending with the most recently completed even-numbered fiscal year.

**Key Takeaways:** On Sep. 22, 2020, the Legacy Fund Earnings Committee approved draft legislation to:

- 1) Amend NDCC 21-10-06 to include the “Legacy Earnings Fund” under the list of funds to be invested by the SIB;
- 2) Amend NDCC 21-10 to include a new section on the Legacy Earnings Fund using the SIB endorsed **Percent of Market Value approach** to determine the amount of Legacy earnings available for appropriation to “**six percent of the five-year average value of the legacy fund assets as reported by the SIB**”; and
- 3) “The average of the legacy fund assets at the end of each fiscal year for the five-year period ending with the **most recently completed even-numbered fiscal year**”.

<b>SIB Five Largest Clients</b>					
<b>Preliminary Monthly</b>					
<b>Returns - July 31, 2020</b>	<b>TFFR</b>	<b>PERS</b>	<b>Legacy</b>	<b>WSI</b>	<b>BSF</b>
<b>Net Investment Return</b>	<b>3.34%</b>	<b>3.40%</b>	<b>3.44%</b>	<b>2.67%</b>	<b>0.70%</b>
<b>Policy Benchmark</b>	<b>2.93%</b>	<b>2.91%</b>	<b>2.68%</b>	<b>1.99%</b>	<b>0.18%</b>
<b>Excess Return</b>	<b>0.41%</b>	<b>0.49%</b>	<b>0.76%</b>	<b>0.68%</b>	<b>0.52%</b>
<b>Net Investment Income</b>	<b>\$87 million</b>	<b>\$109 million</b>	<b>\$240 million</b>	<b>\$47 million</b>	<b>\$5 million</b>
<b>Fund Market Value</b>	<b>\$2.7 billion</b>	<b>\$3.3 billion</b>	<b>\$7.2 billion</b>	<b>\$2.2 billion</b>	<b>\$732 million</b>

**Investment returns and values are based on actual preliminary data which is unaudited and subject to material change.**

# Callan



September 2020

## **North Dakota State Investment Board**

Performance Evaluation  
as of June 30, 2020

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**Paul Erlendson**  
Senior Vice President

**Alex Browning**  
Senior Vice President

Callan

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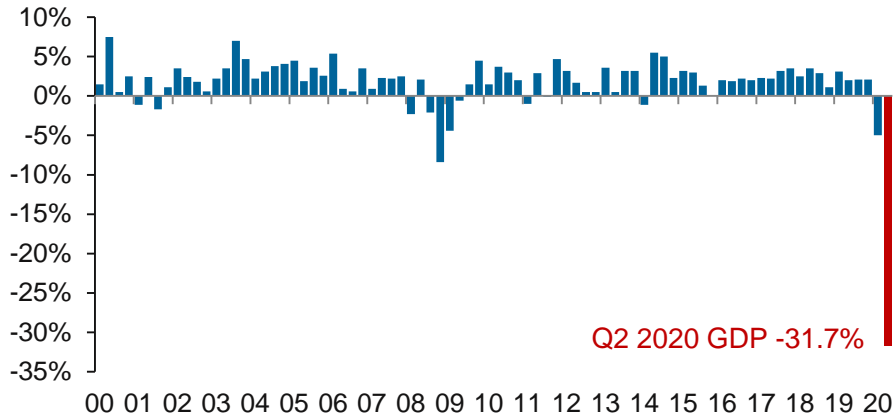
## **Market Update**

Second Quarter 2020

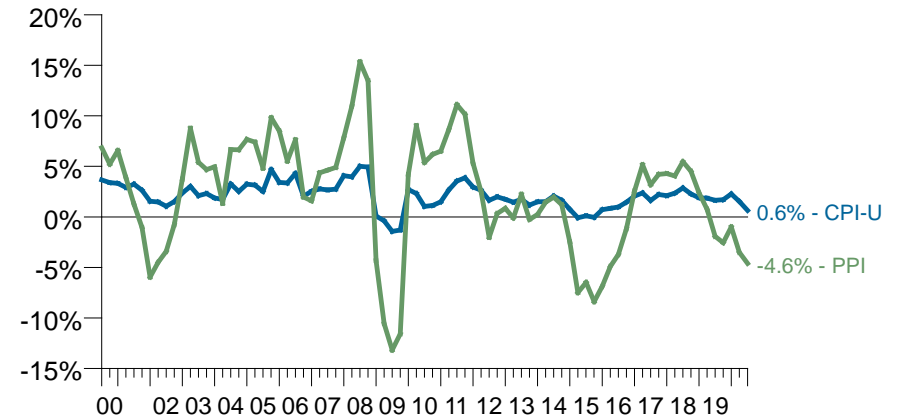
# U.S. Economy—Summary

For periods ended June 30, 2020

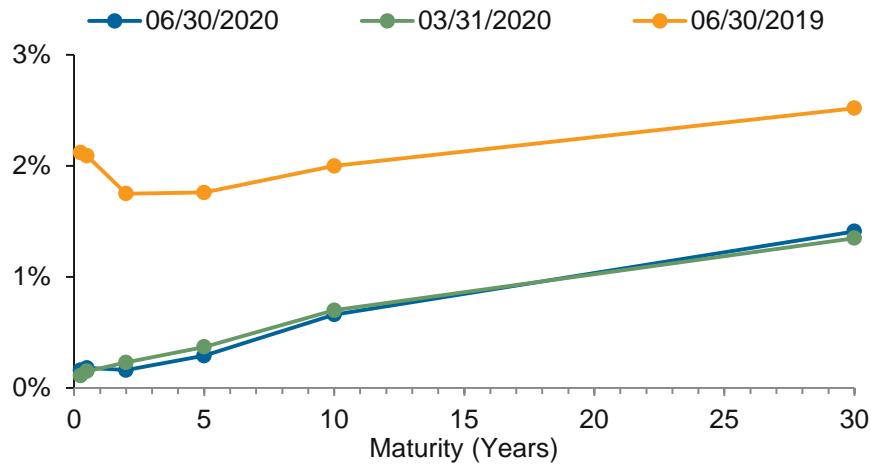
## Quarterly Real GDP Growth



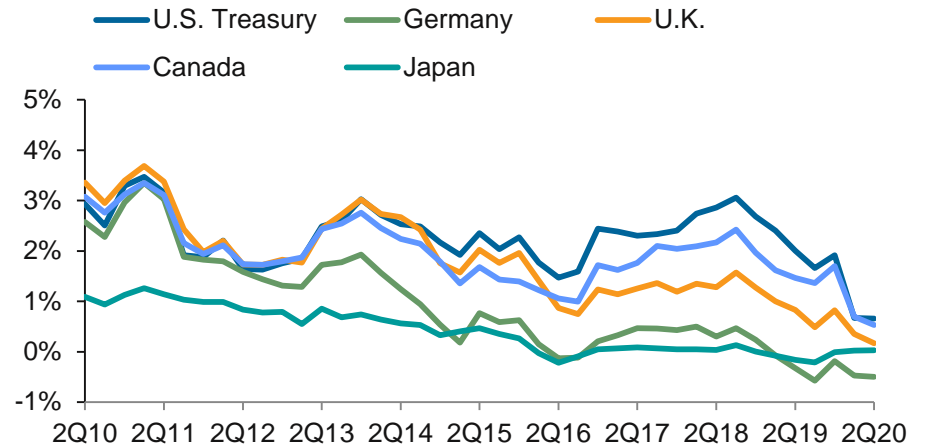
## Inflation Year-Over-Year



## U.S. Treasury Yield Curves



## 10-Year Global Government Bond Yields



Sources: Bloomberg, Bureau of Labor Statistics, Callan

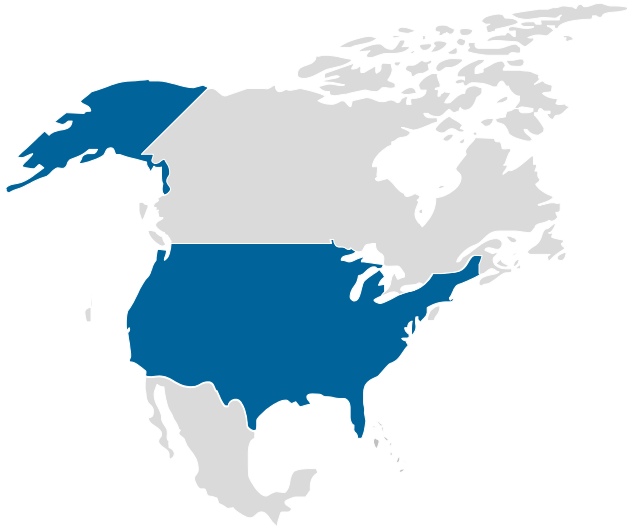


# Market Environment: 2Q20

High degree of uncertainty

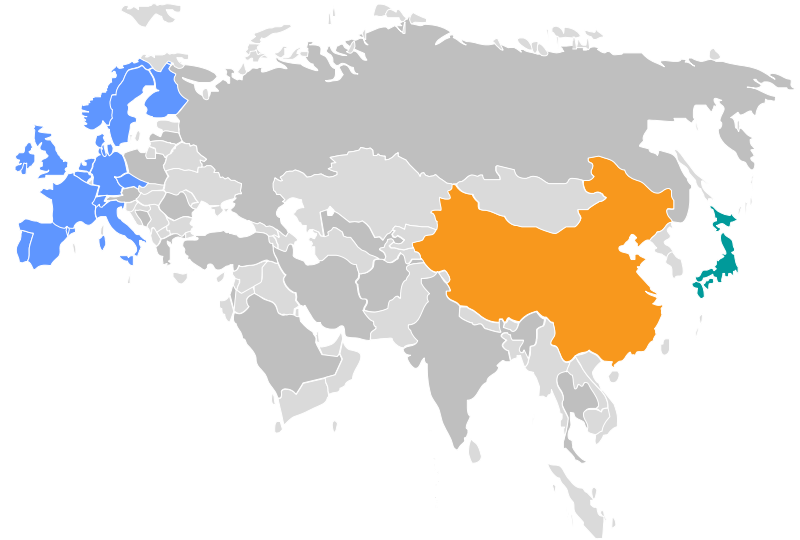
## U.S.

- GDP contracted 5.0% annualized in 1Q and 32.9% in 2Q
  - *PCE decline by 10.5% from 1Q levels, despite a 9.7% rise in real disposable income in the second quarter*
  - *Exports, inventories, investment, and local and state government spending also declined*
- Retail sales, durable goods, personal spending rebounded in May but not fully recovered
- Unemployment (11.1% in June) remains elevated
- Housing benefited from relatively low mortgage rates
- Fed left rates close to 0% and expects to be on hold until at least 2022



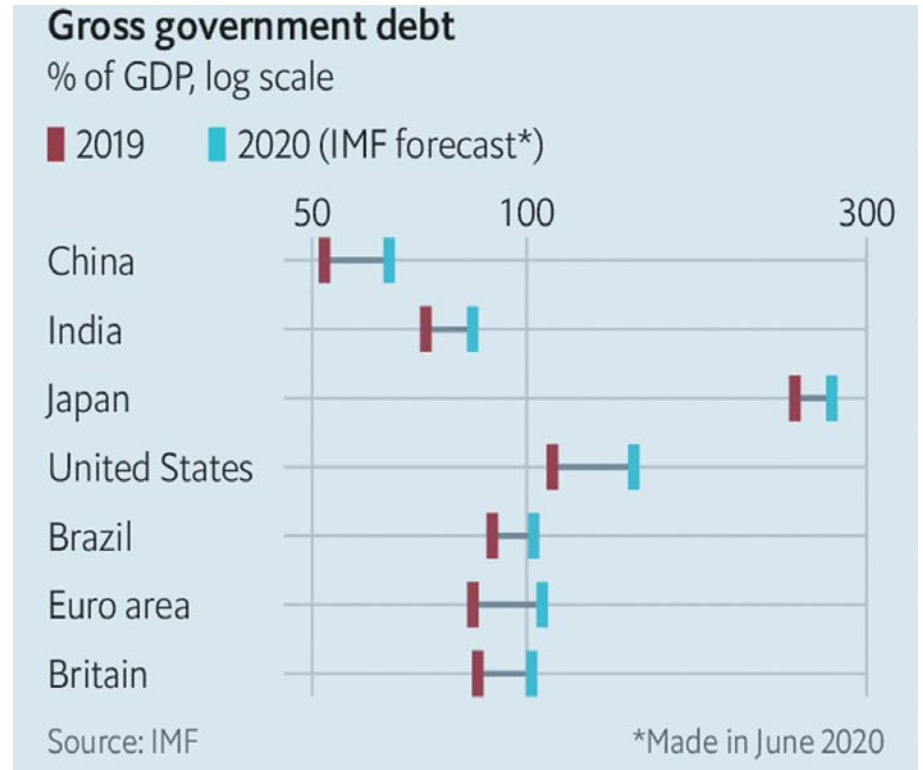
## Overseas

- Euro zone 1Q GDP contracted 3.8%; largest quarterly drop on record
- U.K. GDP sank 20% in April, most ever
- Japan's economy shrank 4.4% in April
- China's GDP fell 6.8% in 1Q, first contraction in 28 years.
  - *Chinese government unveiled fiscal stimulus of US\$506 bn, bringing budget deficit to a record high of 3.6% of GDP.*
  - *Growth is expected to be positive in 2Q.*



# IMF GDP Forecasts for 2020

From bad to worse

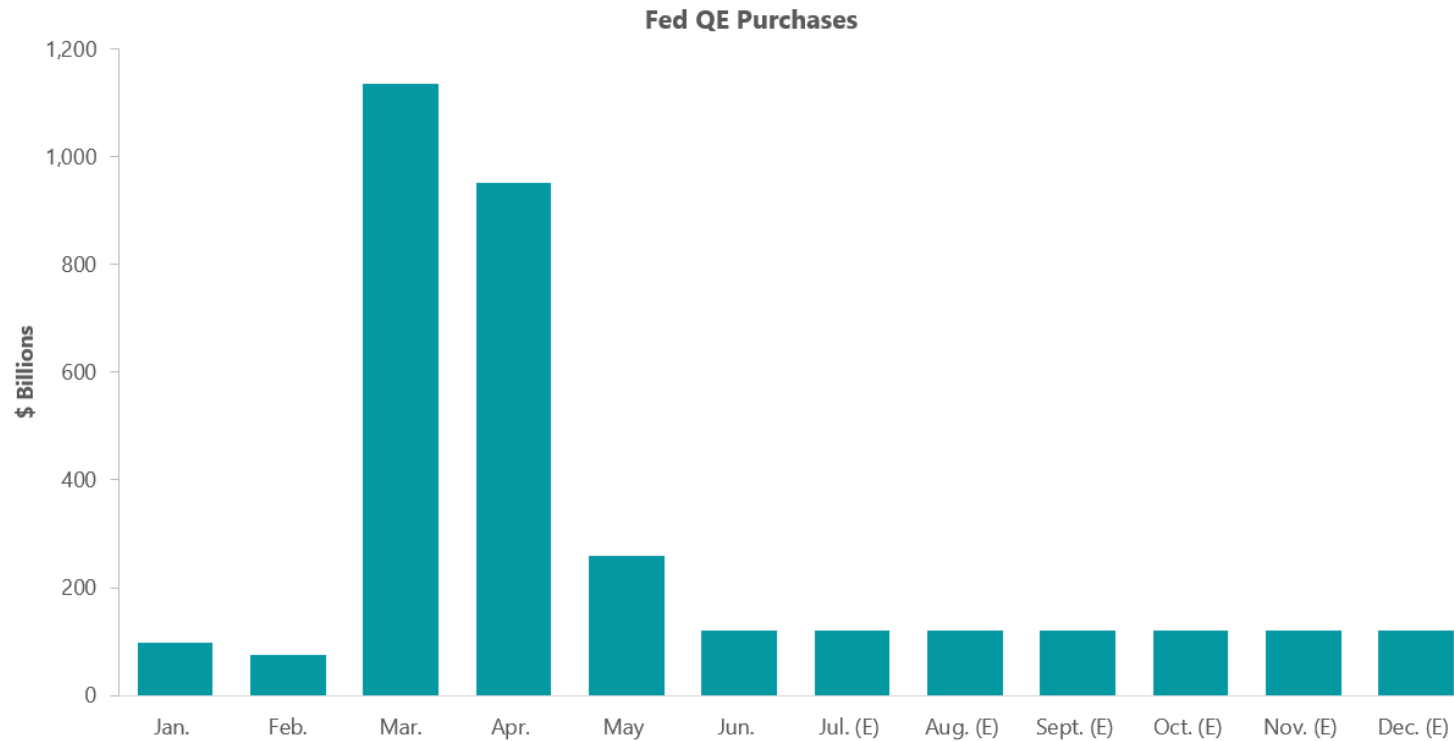


On June 24th the IMF said the economic slump caused by the COVID-19 pandemic would be worse than forecast in April, and that governments would be left more indebted as a result.

- The fund thinks advanced economies' combined GDP at the end of 2021 will still be lower than it was in the first quarter of 2019.
- But it warned of an unusual degree of uncertainty surrounding the numbers, which assume persistent social distancing, lower productivity, and widespread economic scarring.

Source: The Economist

# Fed Supplied a Tsunami of Liquidity



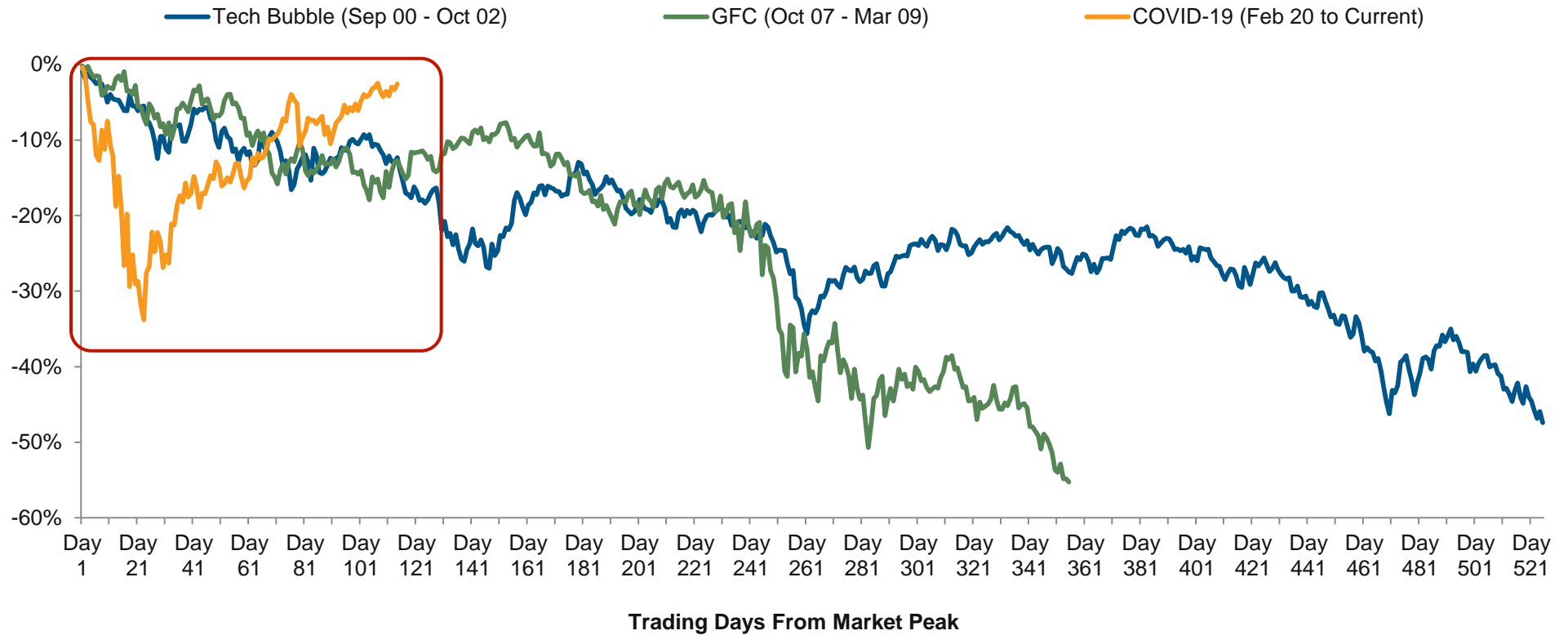
- The Fed's ~\$3T increase in its balance sheet has buoyed markets.
- Going forward, \$225B in monthly Treasury issuance will be a liquidity drag vs. \$120B in expected monthly QE.

Sources: Clearbridge Investments; Federal Reserve Bank of New York

# Unprecedented Shock to Global Capital Markets

'Global Hurricane' in the form of a pandemic

**S&P 500 Index Cumulative Returns**  
**Market Peak-to-Trough for Recent Corrections vs.**  
**Current Path of COVID-19 Correction Through 7/31/20**

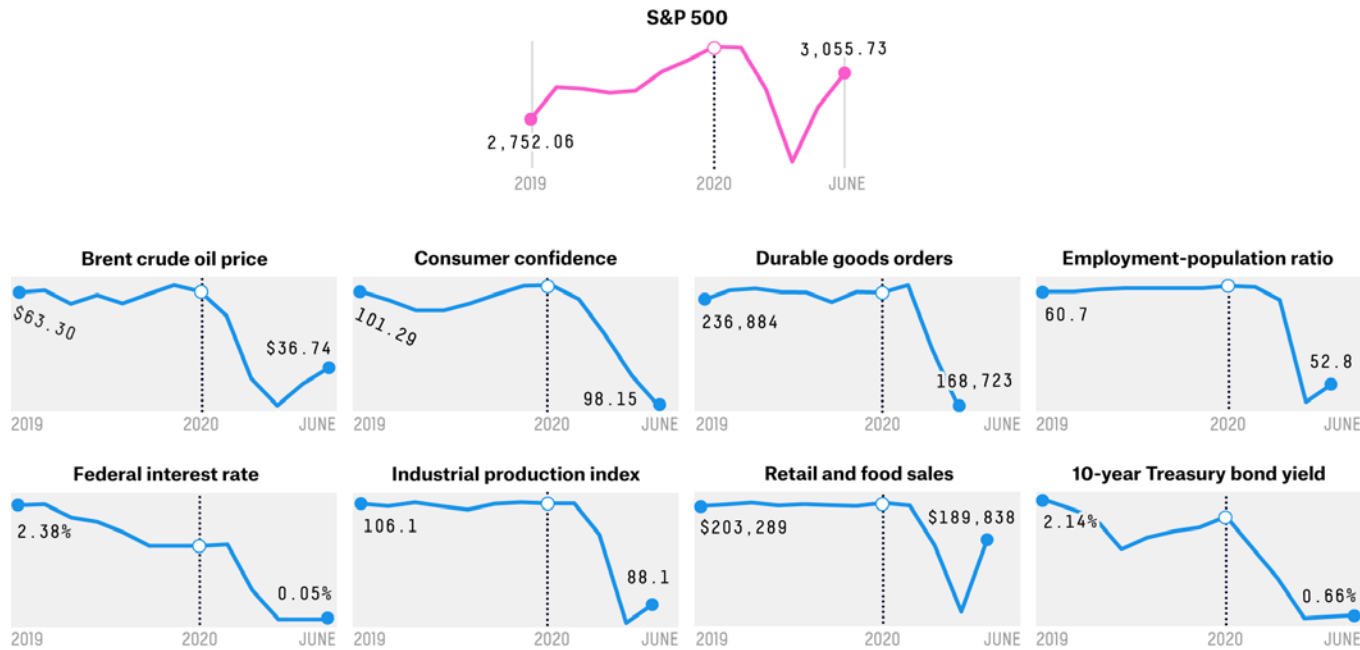


— The sharpest and fastest equity market decline ever: 16 trading days to reach bear market; -33% after just 23 days.

# Swift Recovery for Equities; Did Investors Get Ahead of Themselves?

## The stock market is up while most economic indicators are down

Various economic indicators, reported at one-month intervals, June 2019 through June 2020



Any economic indicator reported more frequently than once a month is charted here using data from the first day of each month.

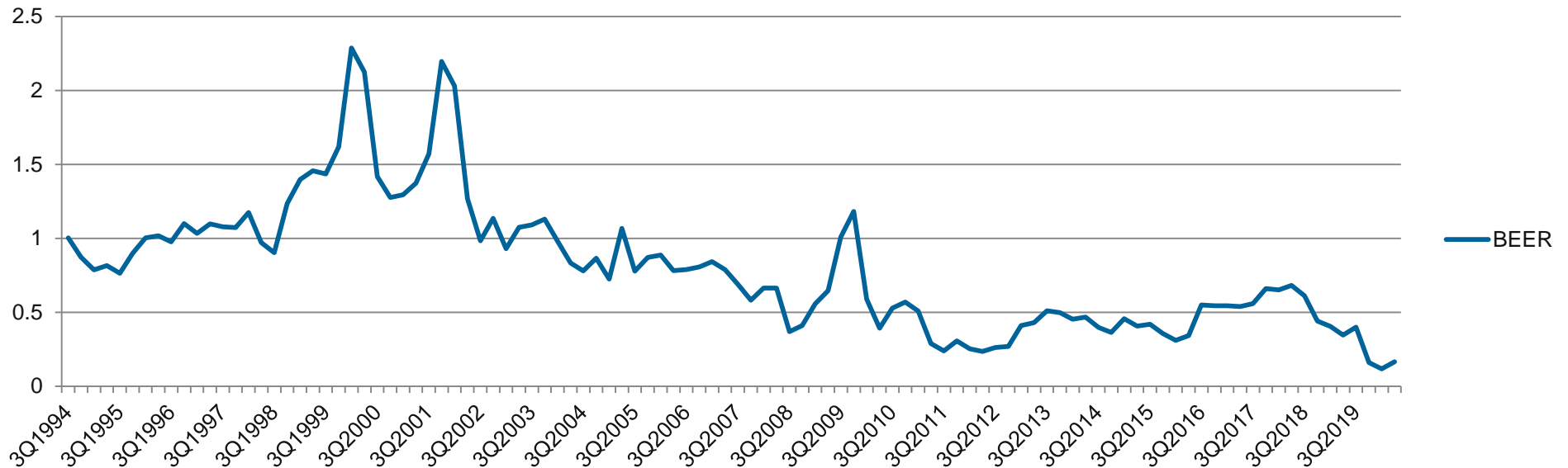
FiveThirtyEight

SOURCES: YAHOO FINANCE, OECD, FEDERAL RESERVE BANK OF ST. LOUIS

- As of July 17, U.S. stock market recouped its YTD loss – how can that be?
  - Supreme confidence in efficacy of monetary and fiscal policy
  - Apple, Alphabet (Google), Microsoft, Facebook, Amazon are up 35% in 2Q20 and made up 30% of the S&P 500 return, even though they represent 20% of market cap.

# Bond Equity Earnings Yield Ratio

## Bond Equity Earnings Yield Ratio (BEER)



- If stocks are yielding more than bonds, that is,  $BEER < 1$ , then stocks are cheap given that more value is being created by investing in equities.
  - As demand for stocks increase, price appreciation will cause P/E ratios to increase. As P/E ratios increase, earnings yield decreases, and bonds may become more attractive.
- Calculated as 10-year Treasury yield / S&P 500 earnings yield.

# Callan Periodic Table of Investment Returns

Trailing periods as of June 30, 2020

Annual Returns					Trailing Periods				Quarterly Returns		
2015	2016	2017	2018	2019	1-Year	3-Year	5-Year	10-Year	1Q20	2Q20	YTD 2020
Large Cap Equity	Small Cap Equity	Emerging Market Equity	U.S. Fixed Income	Large Cap Equity	U.S. Fixed Income	Large Cap Equity	Large Cap Equity	Large Cap Equity	U.S. Fixed Income	Small Cap Equity	U.S. Fixed Income
1.38%	21.31%	37.28%	0.01%	31.49%	8.74%	10.73%	10.73%	13.99%	3.15%	25.42%	6.14%
U.S. Fixed Income	High Yield	Dev ex-U.S. Equity	High Yield	Small Cap Equity	Large Cap Equity	U.S. Fixed Income	High Yield	Small Cap Equity	Global ex-U.S. Fixed Income	Large Cap Equity	Global ex-U.S. Fixed Income
0.55%	17.13%	24.21%	-2.08%	25.52%	7.51%	5.32%	4.79%	10.50%	-2.68%	20.54%	0.61%
Real Estate	Large Cap Equity	Large Cap Equity	Global ex-U.S. Fixed Income	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income	High Yield	U.S. Fixed Income	High Yield	High Yield	Emerging Market Equity	Large Cap Equity
-0.79%	11.96%	21.83%	-2.15%	22.49%	0.71%	3.33%	4.30%	6.68%	-12.68%	18.08%	-3.08%
Dev ex-U.S. Equity	Emerging Market Equity	Small Cap Equity	Large Cap Equity	Real Estate	High Yield	Global ex-U.S. Fixed Income	Small Cap Equity	Real Estate	Large Cap Equity	Dev ex-U.S. Equity	High Yield
-3.04%	11.19%	14.65%	-4.38%	21.91%	0.03%	2.52%	4.29%	6.30%	-19.60%	15.34%	-3.80%
Small Cap Equity	Real Estate	Global ex-U.S. Fixed Income	Real Estate	Emerging Market Equity	Emerging Market Equity	Small Cap Equity	Global ex-U.S. Fixed Income	Dev ex-U.S. Equity	Dev ex-U.S. Equity	High Yield	Emerging Market Equity
-4.41%	4.06%	10.51%	-5.63%	18.44%	-3.39%	2.01%	2.89%	5.43%	-23.26%	10.18%	-9.78%
High Yield	Dev ex-U.S. Equity	Real Estate	Small Cap Equity	High Yield	Dev ex-U.S. Equity	Emerging Market Equity	Emerging Market Equity	U.S. Fixed Income	Emerging Market Equity	Real Estate	Dev ex-U.S. Equity
-4.47%	2.75%	10.36%	-11.01%	14.32%	-5.42%	1.90%	2.86%	3.82%	-23.60%	10.07%	-11.49%
Global ex-U.S. Fixed Income	U.S. Fixed Income	High Yield	Dev ex-U.S. Equity	U.S. Fixed Income	Small Cap Equity	Dev ex-U.S. Equity	Dev ex-U.S. Equity	Emerging Market Equity	Real Estate	Global ex-U.S. Fixed Income	Small Cap Equity
-6.02%	2.65%	7.50%	-14.09%	8.72%	-6.63%	0.84%	2.01%	3.27%	-28.53%	3.38%	-12.98%
Emerging Market Equity	Global ex-U.S. Fixed Income	U.S. Fixed Income	Emerging Market Equity	Global ex-U.S. Fixed Income	Real Estate	Real Estate	Real Estate	Global ex-U.S. Fixed Income	Small Cap Equity	U.S. Fixed Income	Real Estate
-14.92%	1.49%	3.54%	-14.57%	5.09%	-16.25%	-1.60%	1.27%	1.98%	-30.61%	2.90%	-21.33%

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

# Stunning Recovery in Global Equity Markets in 2Q20

V-shaped equity rebound, ahead of the global economy

## Global equity rally after March market bottom

- S&P -33% from peak (02/19/20) to low on 3/23/20
- Sharp rebound since March, suggesting broad-based recovery, but YTD results concentrated in a few stocks
- Fed cut rates to zero, commenced QE, instituted multiple facilities to backstop money markets, credit markets, and economy.
  - *Fed expects to get paid back*
  - *Further fiscal stimulus expected*
- Congress passed fiscal stimulus (CARES) to carry the economy through the crisis.
- Economic recovery will be uncertain as COVID-19 infections continue; re-openings may be reversed.

## Returns for Periods ended June 30, 2020

	1 Quarter	1 Year	5 Years	10 Years	25 Years
<b>U.S. Equity</b>					
Russell 3000	22.03	6.53	10.03	13.72	9.28
S&P 500	20.54	7.51	10.73	13.99	9.27
Russell 2000	25.42	-6.63	4.29	10.50	8.16
<b>Global ex-U.S. Equity</b>					
MSCI World ex USA	15.34	-5.42	2.01	5.43	4.68
MSCI Emerging Markets	18.08	-3.39	2.86	3.27	--
MSCI ACWI ex USA Small Cap	22.83	-4.34	2.50	6.05	5.51
<b>Fixed Income</b>					
Bloomberg Barclays Aggregate	2.90	8.74	4.30	3.82	5.36
90-day T-Bill	0.02	1.63	1.19	0.64	2.37
Bloomberg Barclays Long Gov/Credit	6.23	18.91	8.98	7.84	7.72
Bloomberg Barclays Global Agg ex-US	3.38	0.71	2.89	1.98	3.73
<b>Real Estate</b>					
NCREIF Property	0.71	4.46	7.13	9.89	9.22
FTSE Nareit Equity	11.82	-13.04	4.06	9.05	9.48
<b>Alternatives</b>					
CS Hedge Fund	6.20	-0.73	1.55	3.83	7.49
Cambridge Private Equity*	5.36	16.14	12.64	13.57	15.29
Bloomberg Commodity	5.08	-17.38	-7.69	-5.82	0.75
Gold Spot Price	12.77	27.36	8.97	3.75	6.36
<b>Inflation - CPI-U</b>	-0.12	0.65	1.56	1.69	2.12

\*Cambridge PE data through 12/31/19

Sources: Bloomberg, Bloomberg Barclays, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices



# U.S. Equity Performance

## Cyclicals snap back though Tech still favored

- Consumer Discretionary fared best (+32.9%) as consumer activity recovered along with economies reopening.
- Energy (+30.5%) and Materials (+26.0%) also regained ground.
- Tech (+30.5%) remains an investor favorite in seemingly every market environment.

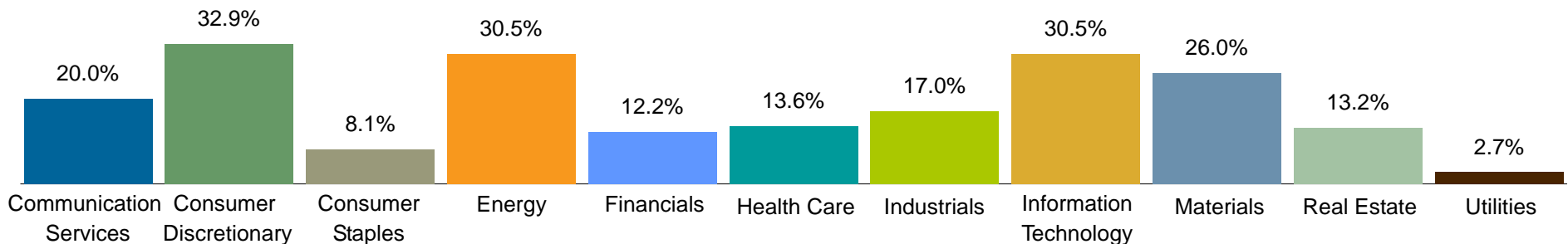
## Large cap outpaces small cap for quarter

- The small cap Russell 2000 Index followed up its worst quarter on record (1Q20: -30.6%) with its third-best quarter on record (2Q20: +25.4%).

## Growth outpaces value across market capitalizations

- Spread between Russell 1000 Growth (+27.8%) and Russell 1000 Value (+14.3%) second widest on record.
- Spread between Russell 2000 Growth (+30.6%) and Russell 2000 Value (+18.9%) fourth widest on record.

## Economic Sector Quarterly Performance (S&P 500)

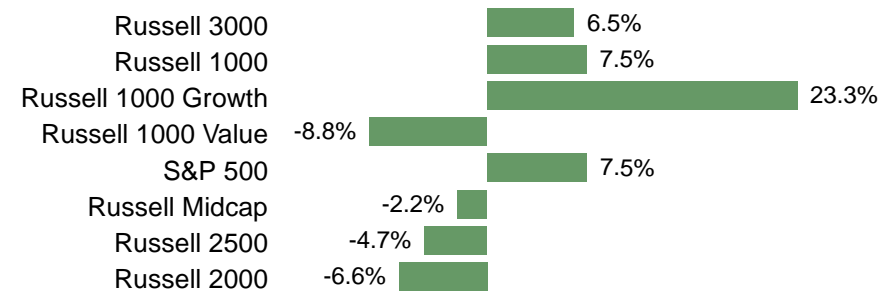


Sources: FTSE Russell, S&P Dow Jones Indices

## U.S. Equity: Quarterly Returns



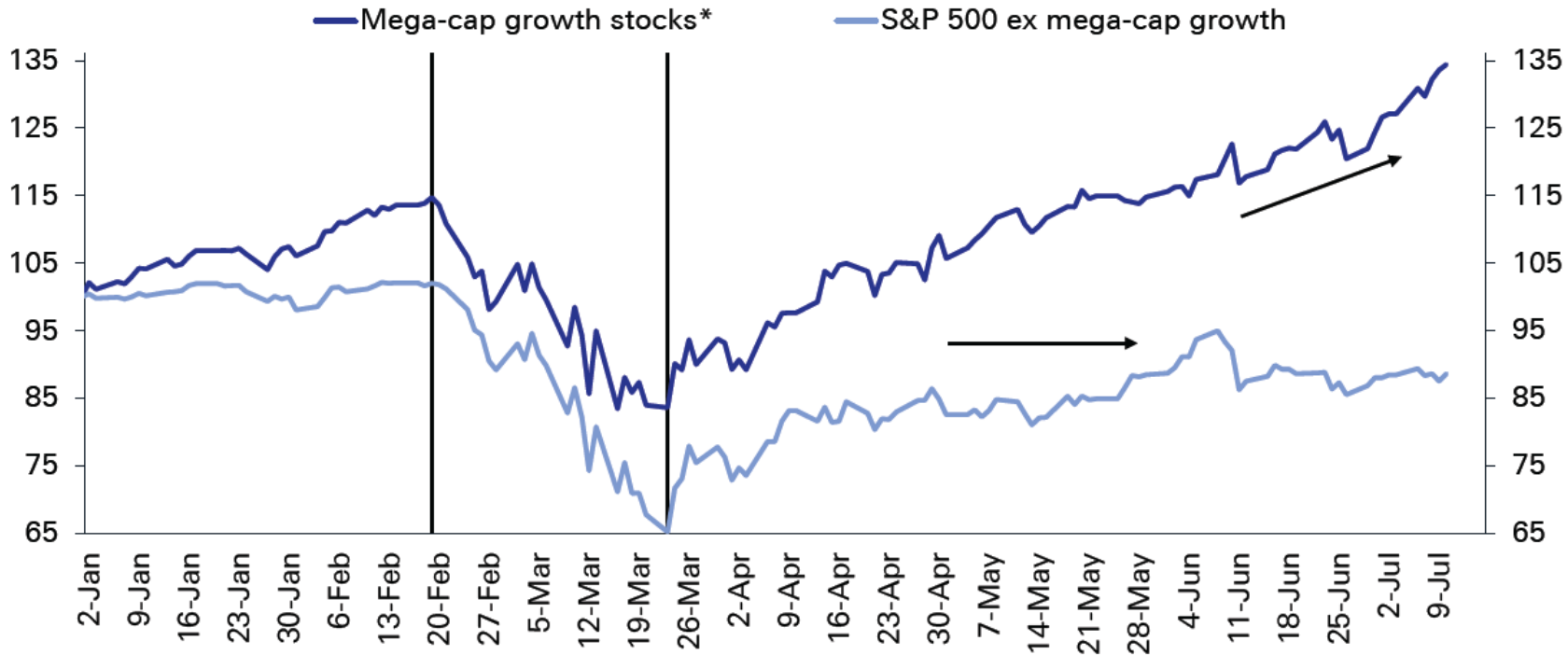
## U.S. Equity: One-Year Returns



# Narrow U.S. Equity Market Performance

YTD through July 20<sup>th</sup> 2020

## S&P 500 mega-cap growth vs others (re-indexed, Dec 31 2019=100)



\*MSFT, AAPL, AMZN, GOOGL, GOOG, FB, V, MA, NVDA, NFLX, ADBE

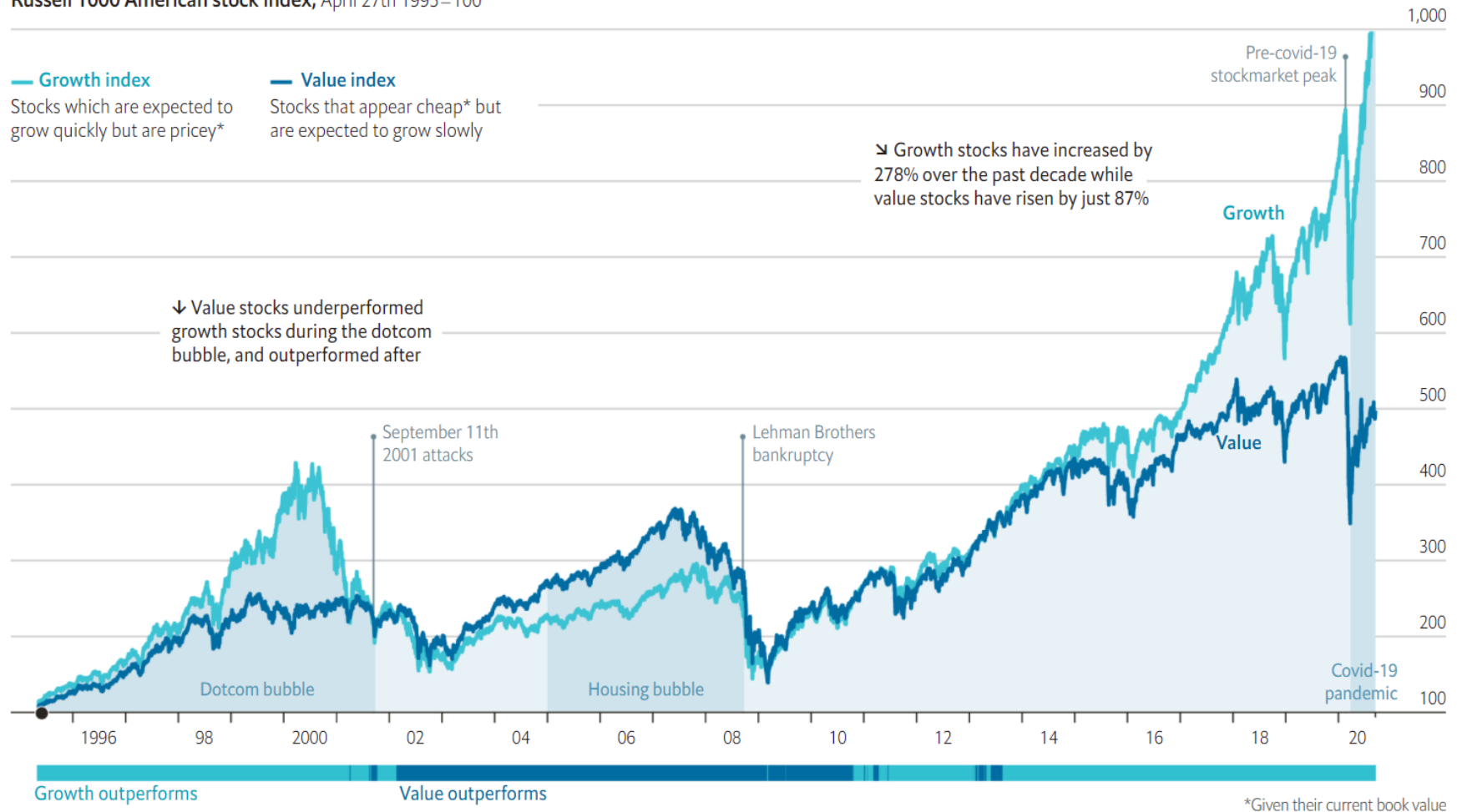
Source: Bloomberg Finance LP, DB Asset Allocation, DB Global Research

- Mega-cap growth stocks (10 stocks comprising 27% of the S&P 500's total market capitalization) are propping up the market. The other 490 stocks range-traded since early April.

# The Growth – Value Dichotomy

Growth and Value cycles are finite but can seem endless

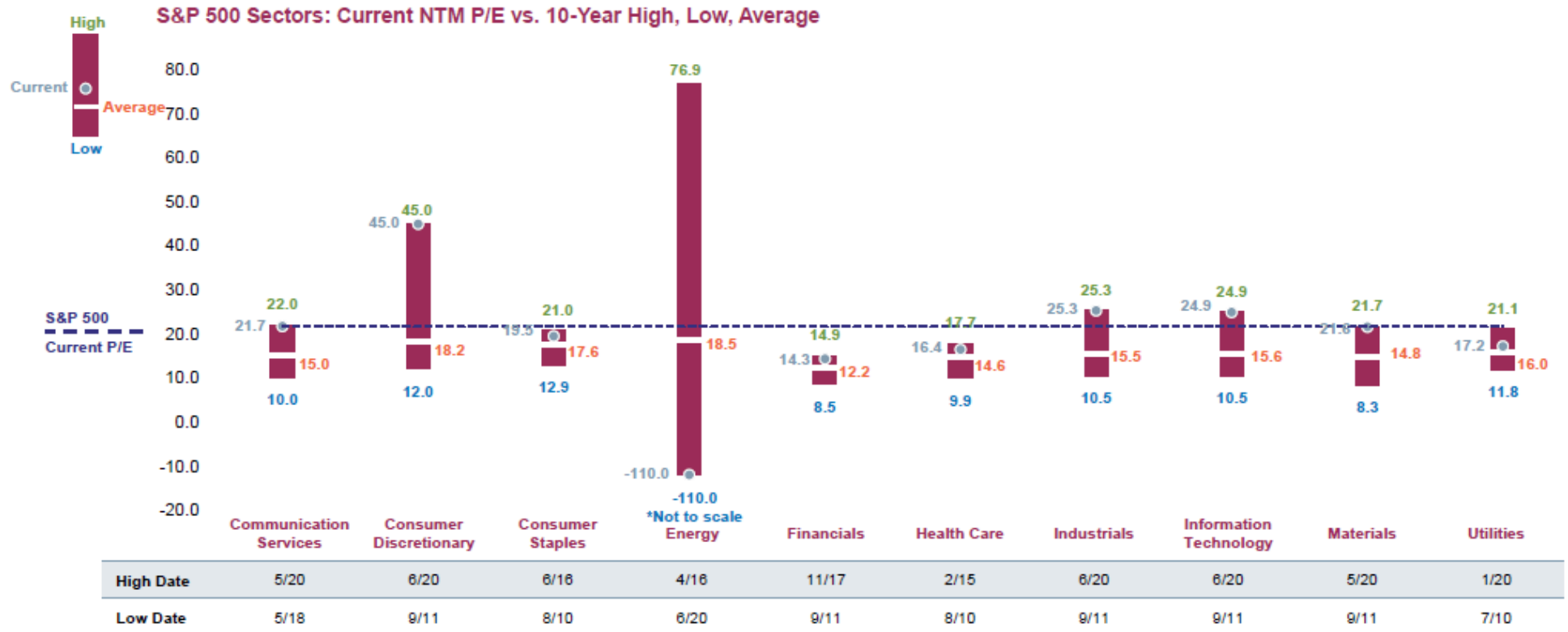
Russell 1000 American stock index, April 27th 1995=100



- The length and magnitude of the current Growth cycle's performance advantage is unprecedented
- For ten years ended 6/30/2020, the Russell 1000 Growth index return is +17.23%; the Value return is +10.41%.

Source: The Economist, September 19, 2020, "The age-old strategy of buying cheap shares is faltering."

# U.S. Equity Valuations



Source: Eaton Vance Monthly Market Monitor, FactSet as of 6/30/20. NTM P/E is market price per share divided by expected earnings per share over the next twelve months.

# Global ex-U.S. Equity Performance

## Broad-based recovery

- Having just posted the worst quarter in the benchmark’s history, the broad MSCI ACWI ex USA gained 16.1% in Q2, a top 10 mark in the history of the index.
- Emerging markets (+18.1%) outperformed the developed markets EAFE Index (+14.9%).
  - *Despite strong performance, both benchmarks trailed compared to U.S. equities.*

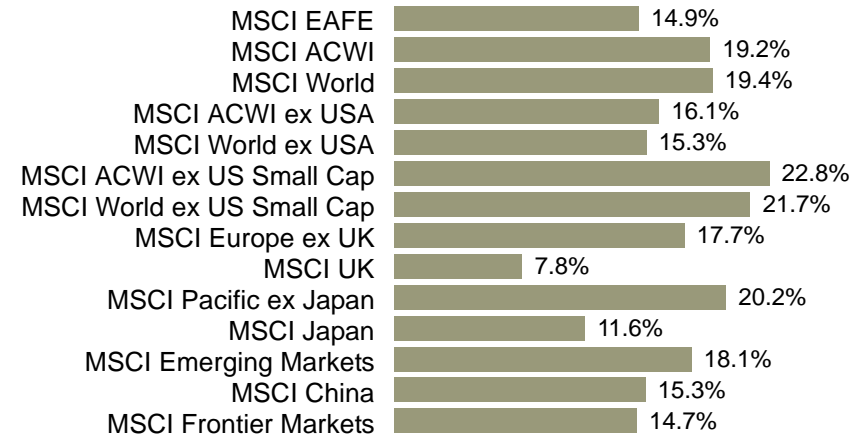
## Currencies

- After rallying during the chaos of Q1, safe-haven currencies such as the U.S. dollar and yen sold off in Q2.

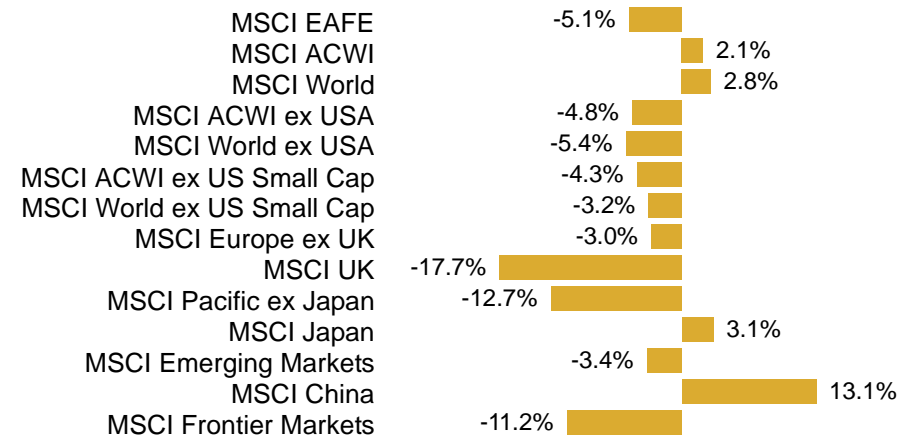
## Growth vs. value

- Growth continued to outperform value within markets and capitalizations.

## Global Equity: Quarterly Returns



## Global Equity: Annual Returns



Source: MSCI

# U.S. Fixed Income Performance

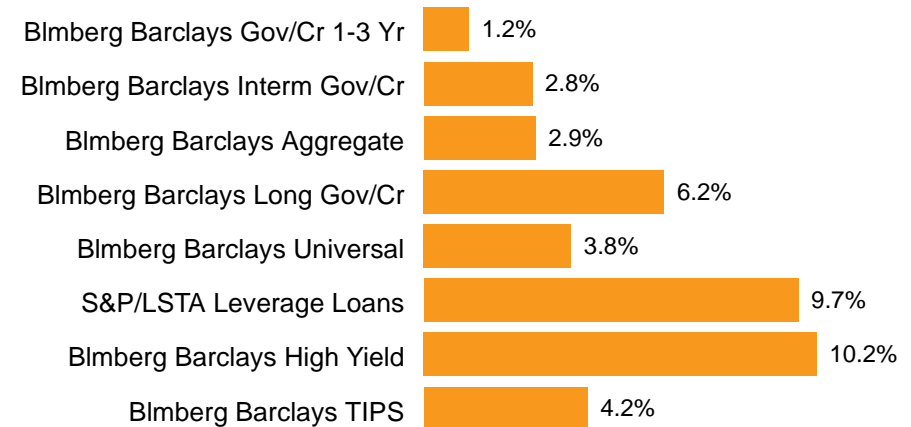
## Corporates rallied as risk appetite reemerged

- The riskiest sectors rallied the most with the Bloomberg High Yield Index gaining 10.2% and the S&P/LSTA Leveraged Loan Index climbing 9.7%.
- High yield spreads blew out from the 300-400 bp range to reach double-digits in the first quarter, but tightened meaningfully to end the second quarter at about 625 bps.

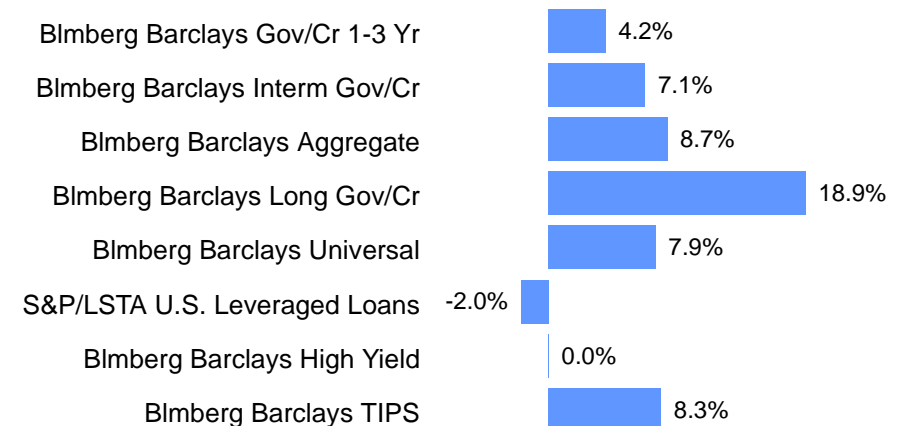
## Treasury yields were range-bound

- The Treasury yield curve was little changed over the quarter and sovereign bonds underperformed corporates as a result.
- The 10-year Treasury fell only four basis points and ended the quarter yielding 0.66%.
- TIPS outperformed nominal Treasuries as expectations for inflation recovered somewhat. The 10-year breakeven spread ended the quarter at 134 bps, up from 87 bps last quarter but still down from 177 bps at the end of 2019.

## U.S. Fixed Income: Quarterly Returns



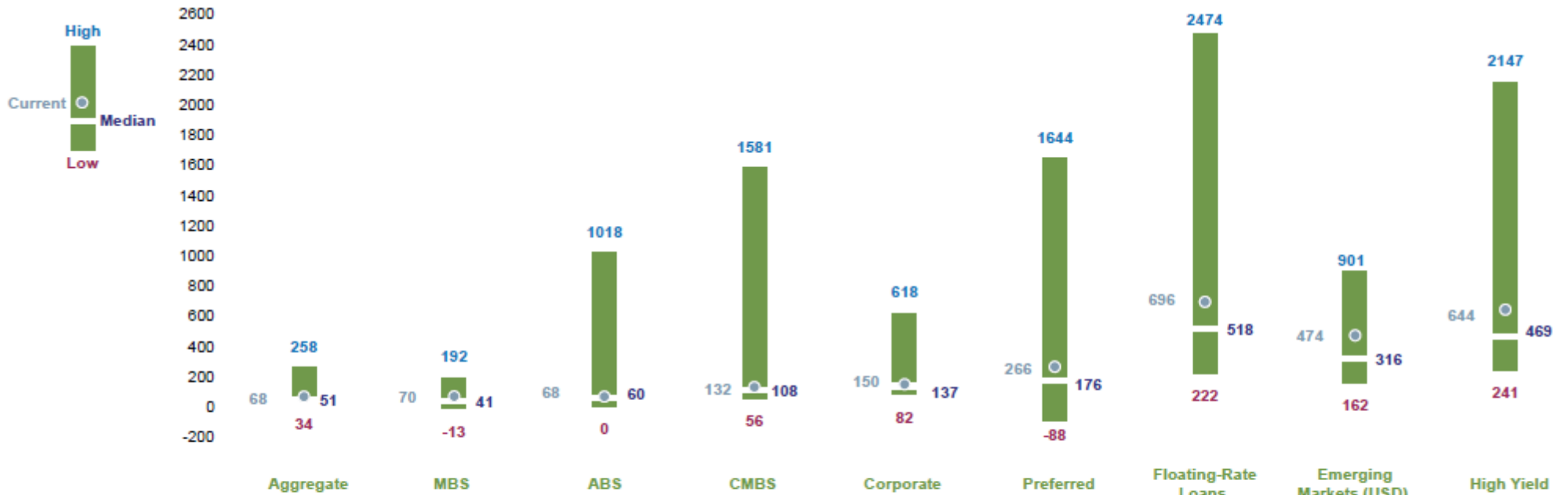
## U.S. Fixed Income: Annual Returns



Sources: Bloomberg Barclays, S&P Dow Jones Indices

# Fixed Income Valuations

## Spread Analysis (bps)



	Aggregate	MBS	ABS	CMBS	Corporate	Preferred	Floating-Rate Loans	Emerging Markets (USD)	High Yield
<b>Max Spread Date</b>	12/3/2008	12/3/2008	1/6/2009	11/21/2008	12/3/2008	3/9/2009	12/19/2008	10/24/2008	12/15/2008
<b>Min Spread Date</b>	1/31/2018	7/27/2010	10/1/2009	1/31/2018	2/22/2007	12/6/2017	3/31/2006	6/1/2007	6/1/2007
<b>Spread on 12/31/19</b>	39	39	44	72	93	17	481	291	380
<b>Spread on 12/31/18</b>	54	35	53	86	153	242	551	415	533
<b>Spread on 12/31/17</b>	36	25	36	62	93	-30	405	285	358

Source: Eaton Vance Monthly Market Monitor, FactSet as of 6/30/20. Spread history measures past 15 years. All fixed-income spreads are in basis points and measure option-adjusted yield spread relative to comparable maturity U.S. Treasuries using daily data. Loan Index spread represents the three-year discounted spread over LIBOR. Aggregate represented by Bloomberg Barclays US Aggregate Index. MBS represented by Bloomberg Barclays U.S. Mortgage Backed Securities (MBS) Index. ABS represented by Bloomberg Barclays U.S. Asset Backed Securities (ABS) Index. CMBS represented by Bloomberg Barclays U.S. CMBS Investment Grade Index. Corporate represented by Bloomberg Barclays U.S. Corporate Investment Grade Index. Preferred represented by ICE BofA Fixed Rate Preferred Securities Index. Floating-Rate Loans represented by S&P/LSTA Leveraged Loan Index. Emerging Markets(USD) represented by J.P. Morgan Emerging Markets Bond Index (EMBI) Global Diversified. High Yield represented by ICE BofAUS High Yield Index.

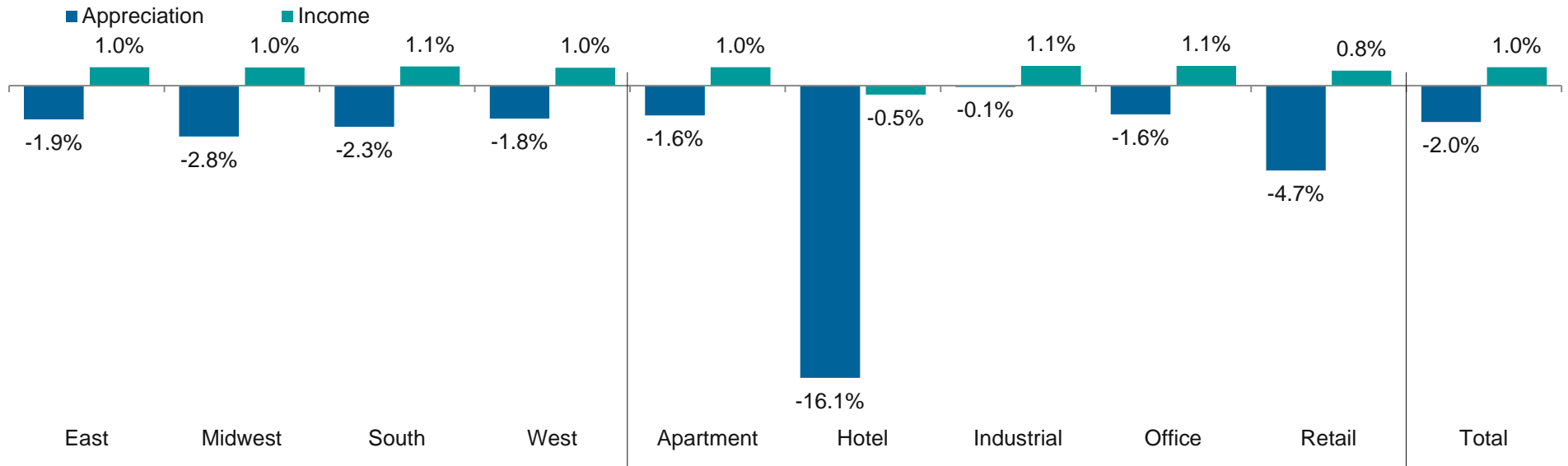
# U.S. Private Real Estate Market Trends

## Results

- Pandemic's continued impact reflected in 2Q results
- Income remains positive except in Hotel sector.
- All sectors experienced negative appreciation, Industrial remains the best performer
- Dispersion of returns by manager within the ODCE Index due to both composition of underlying portfolios and valuation methodologies/approach
- Negative returns expected for 3Q and beyond

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NCREIF ODCE	-1.6%	2.2%	5.7%	7.3%	10.8%
Appreciation	-2.5%	-1.8%	1.4%	2.9%	5.8%
Income	0.9%	4.1%	4.2%	4.3%	4.8%
NCREIF Property Index	-1.0%	2.7%	5.4%	6.8%	9.7%
Appreciation	-2.0%	-1.7%	0.9%	2.1%	4.4%
Income	1.0%	4.4%	4.5%	4.6%	5.2%

## NCREIF Property Index Returns by Region and Property Type



Source: NCREIF

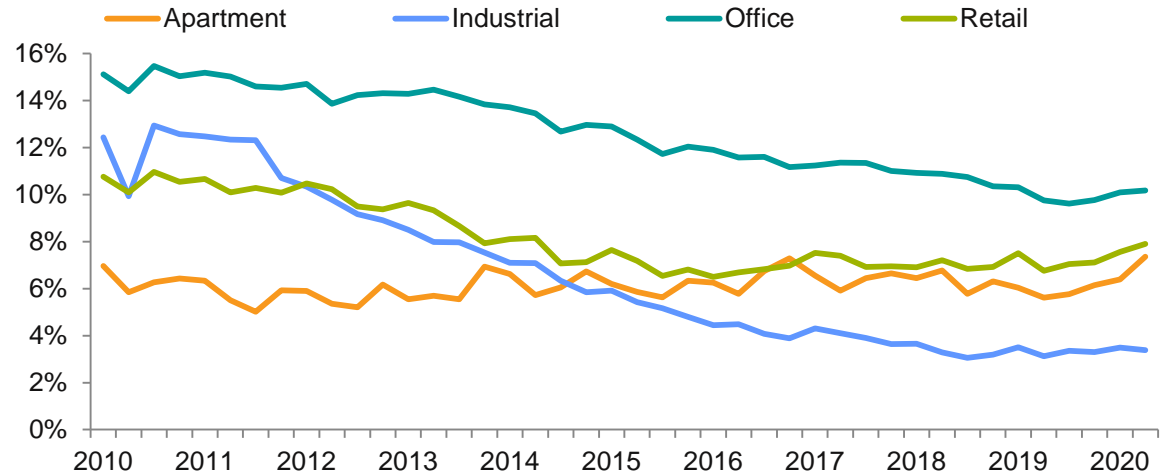


# U.S. Private Real Estate Market Trends

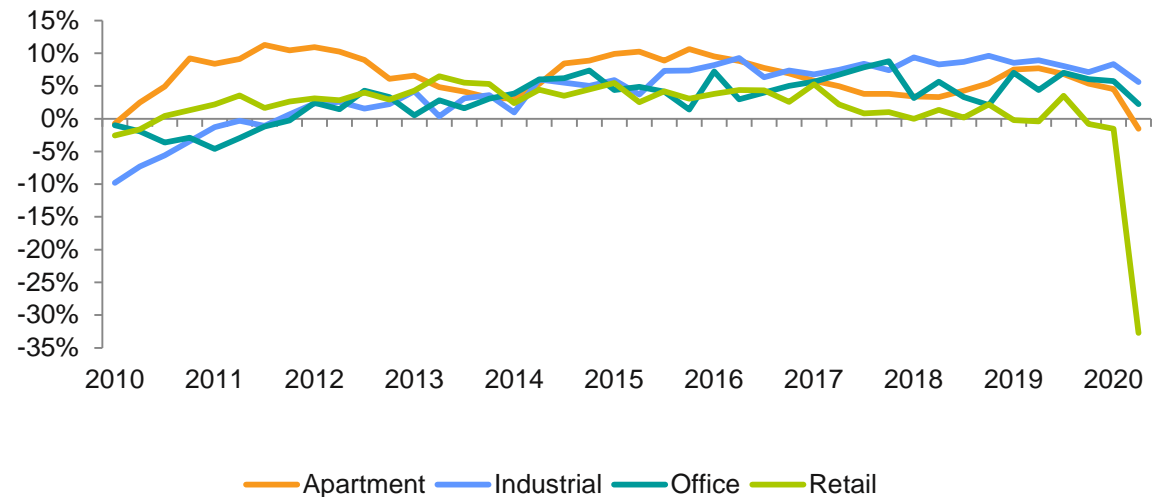
## U.S. real estate fundamentals

- Vacancy rates for all property types are or will be impacted.
- Net operating income has declined as retail experienced the largest drop-off in over 20 years.
- Second quarter rent collections show relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors. The Retail sector remains challenged, with regional malls impacted most heavily.
- Class A/B urban apartments relatively strong, followed by certain types of Industrial and Office
- Supply was in check before the pandemic.
- Construction is limited to finishing up existing projects but has been hampered by shelter in place and material shortages.
- New construction will be basically halted in future quarters except for pre-leased properties.

## Vacancy by Property Type



## Rolling 4-Quarter NOI Growth by Property Type



Source: NCREIF

Callan

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**NDSIB Total Performance Summary**

# NDSIB Consolidated Gross Performance Summary

As of June 30, 2020

	Last Quarter	Last Year	Last 5 Years
<b>Consolidated Pension Trust</b>	10.86%	3.64%	6.45%
<i>Consolidated Pension Trust Target</i>	10.92%	3.20%	5.89%
Relative Performance vs. Target	-0.06%	0.44%	0.56%
<b>PERS Total Fund</b>	10.92%	3.63%	6.47%
<i>NDSIB PERS Total Fund Target</i>	10.84%	3.21%	5.91%
Relative Performance vs. Target	0.08%	0.42%	0.56%
<b>TFFR Total Fund</b>	10.88%	3.66%	6.44%
<i>NDSIB TFFR Total Fund Target</i>	11.05%	3.19%	5.87%
Relative Performance vs. Target	-0.17%	0.47%	0.57%
<b>WSI Total Fund</b>	8.23%	6.16%	6.21%
<i>NDSIB WSI Total Fund Target</i>	6.23%	6.62%	5.20%
Relative Performance vs. Target	2.00%	-0.46%	1.01%
<b>Legacy - Total Fund</b>	12.39%	4.41%	6.13%
<i>NDSIB Legacy - Total Fund Target</i>	10.89%	4.38%	5.55%
Relative Performance vs. Target	1.50%	0.03%	0.58%
<b>Budget - Total Fund</b>	4.40%	2.43%	2.11%
<i>NDSIB Budget - Total Fund Target</i>	1.16%	4.17%	2.09%
Relative Performance vs. Target	3.24%	-1.74%	0.02%

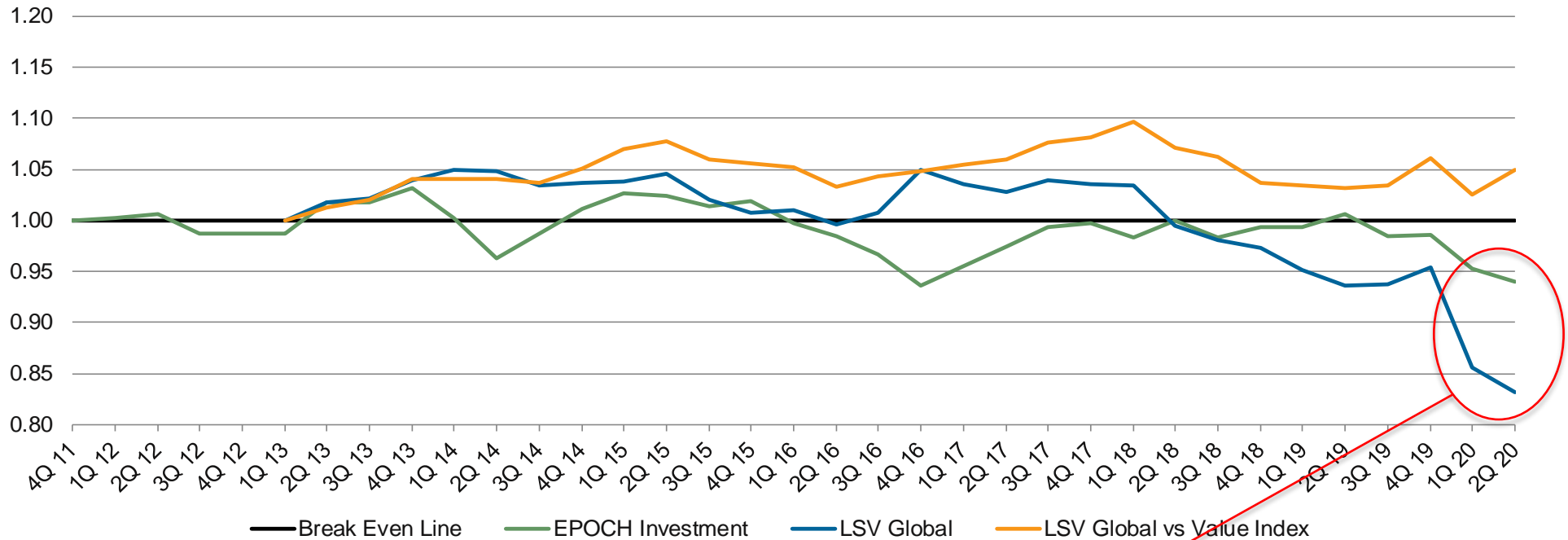
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**Manager Relative Performance**

# Word Equities

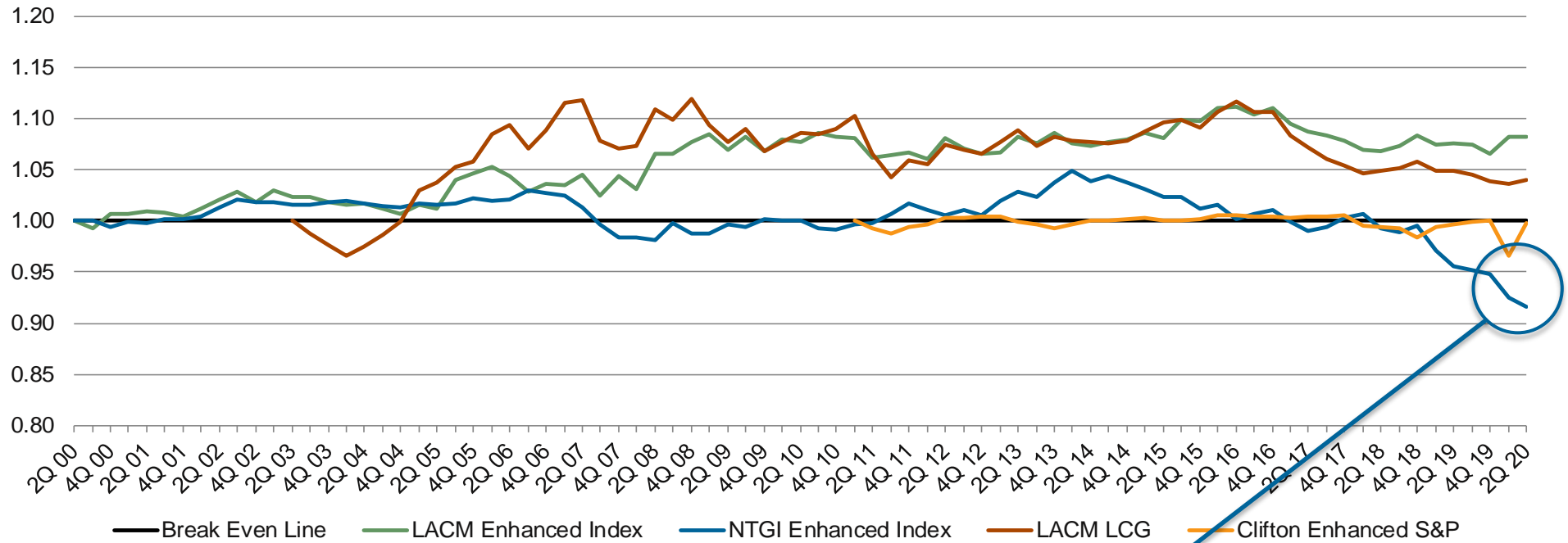
Cumulative Net Relative Return Since Inception, as of June 30, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
EPOCH Investment	Q1 2012	0.94	MSCI World
LSV Global	Q2 2013	0.83	Custom LSV Global Index
LSV Global vs Value Index	Q2 2013	1.05	MSCI ACWI IMI Value

# U.S. Large Cap Equities

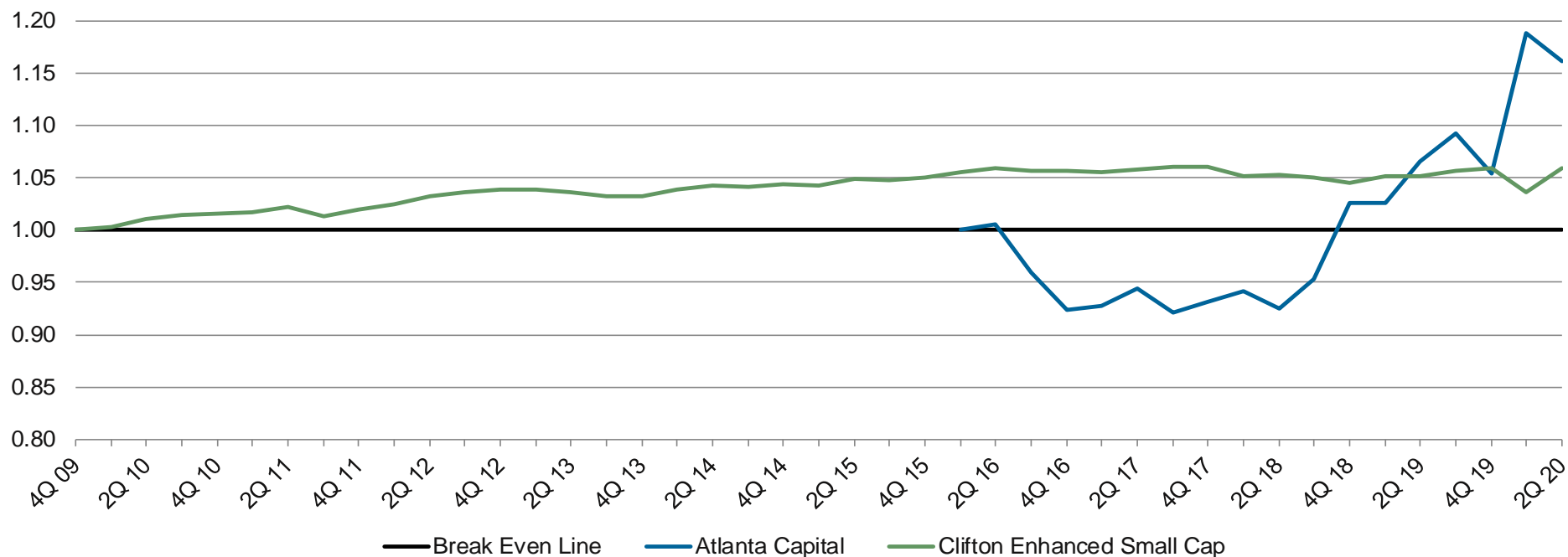
Cumulative Net Relative Return Since Inception, as of June 30, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Clifton Enhanced S&P	Q2 2011	1.00	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	0.92	S&P 500

# U.S. Small Cap Equities

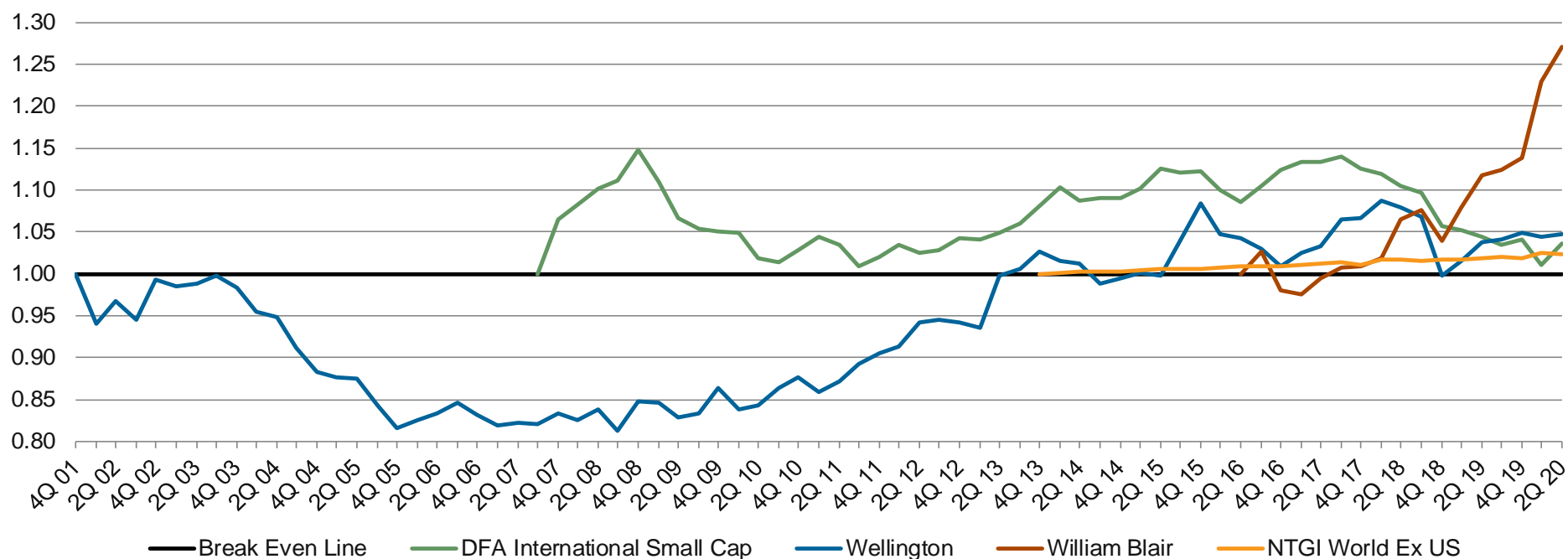
Cumulative Net Relative Return Since Inception, as of June 30, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Atlanta Capital	Q2 2016	1.16	S&P 600 Small Cap
Clifton Enhanced Small Cap	Q1 2010	1.06	Russell 2000

## Developed International Equities

Cumulative Net Relative Return Since Inception, as of June 30, 2020

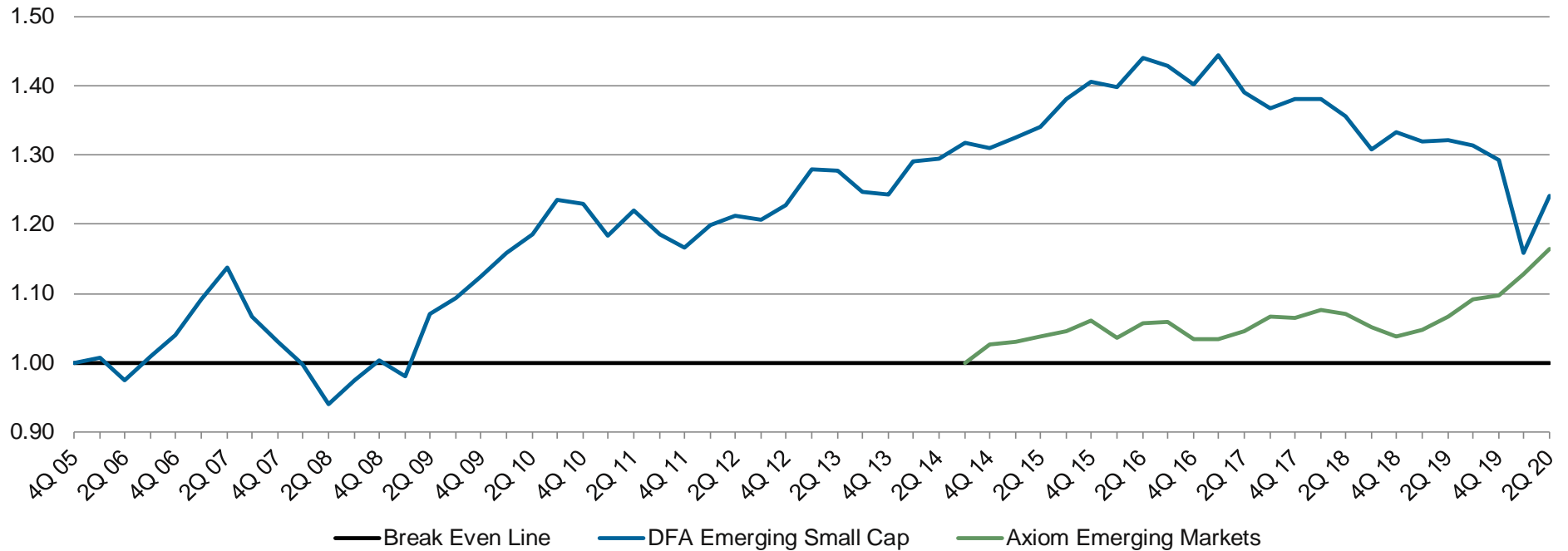


Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
DFA International Small Cap	Q4 2007	1.04	MSCI World Ex US SC Value
NTGI World Ex US	Q1 2014	1.02	MSCI World Ex US
Wellington	Q1 2002	1.05	BMI, EPAC, <\$2 B
William Blair	Q3 2016	1.27	MSCI ACWI Ex US IMI



# Emerging Market Equities

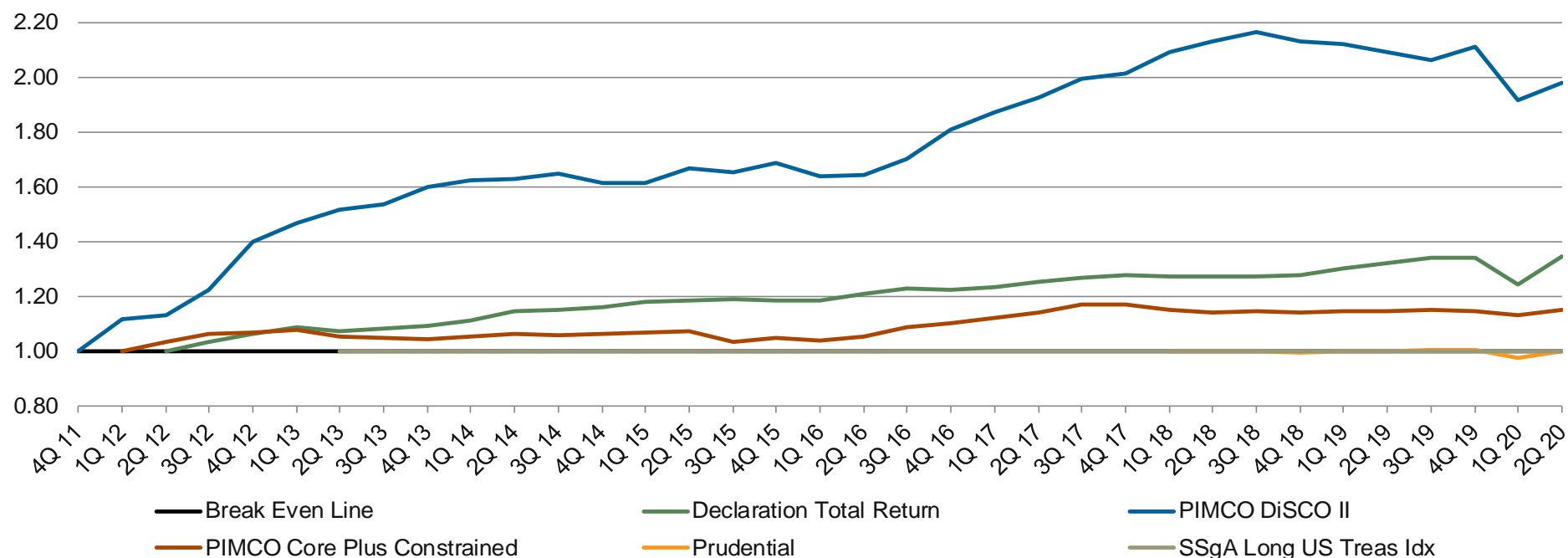
Cumulative Net Relative Return Since Inception, as of June 30, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Axiom Emerging Markets	Q4 2014	1.17	MSCI Emerging Market
DFA Emerging Small Cap	Q1 2006	1.24	MSCI Emerging Market

# Investment Grade Fixed Income

Cumulative Net Relative Return Since Inception, as of June 30, 2020

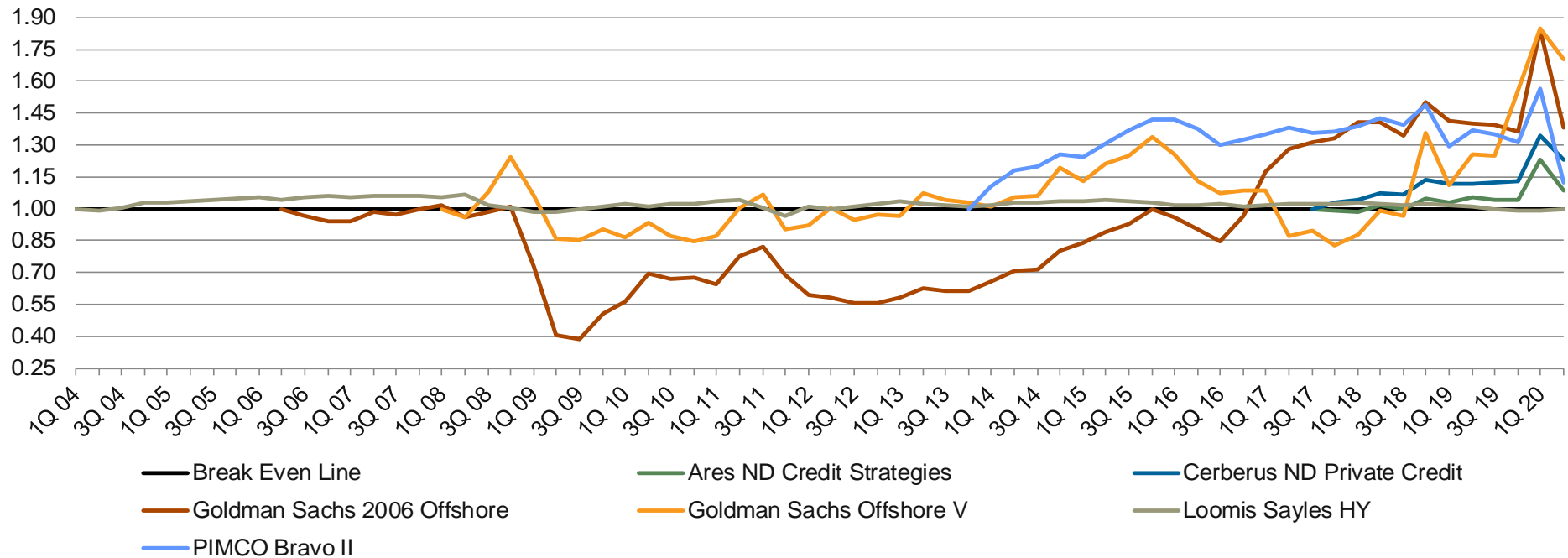


Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Declaration Total Return	Q3 2012	1.34	3-Month LIBOR
PIMCO DiSCO II	Q1 2012	1.98	Bloomberg Aggregate
PIMCO Core Plus Constrained	Q2 2014	1.15	PIMCO Custom Benchmark
Prudential	Q2 2018	1.00	Bloomberg Aggregate
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 June 30, 2020



Fund Name	First Full Quarter of Returns	Cumulative Net Relative Return Since Inception	Benchmark
Ares ND Credit Strategies	Q4 2017	1.08	S&P:LSTA Leveraged Loan B
Cerberus ND Private Credit	Q4 2017	1.23	S&P:LSTA Leveraged Loan B
Goldman Sachs 2006 Offshore	Q3 2006	1.38	Bloomberg: HY Corp 2% Iss Cap
Goldman Sachs Offshore V	Q4 2007	1.70	Bloomberg: HY Corp 2% Iss Cap
Loomis Sayles HY	Q2 2004	1.00	Bloomberg: HY Corp 2% Iss Cap
PIMCO Bravo II	Q1 2014	1.12	Bloomberg: HY Corp 2% Iss Cap

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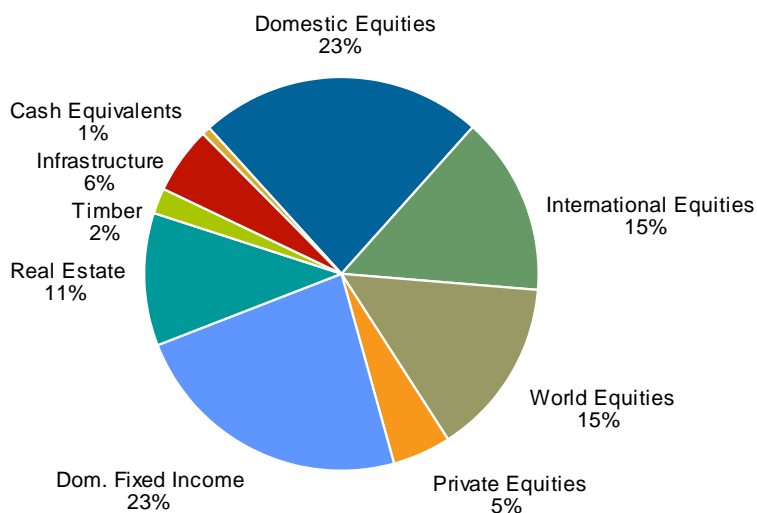
## **Consolidated Pension Trusts Quarterly Review**

- Public Employees Retirement System
- Teachers' Fund for Retirement

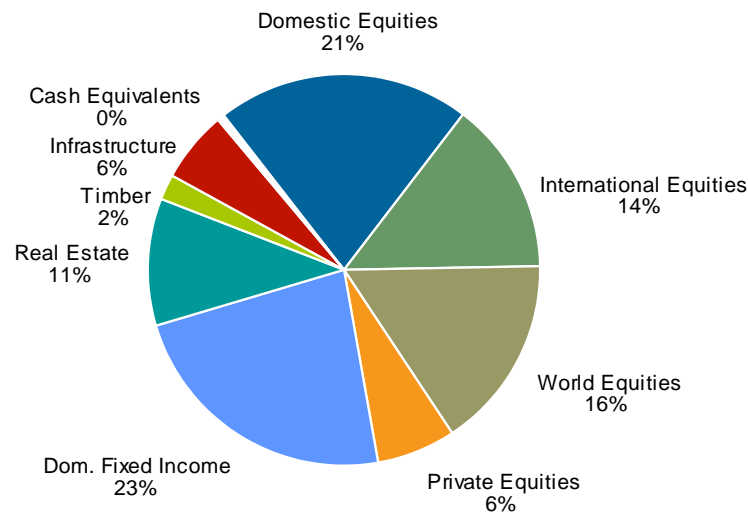
# Consolidated Pension Trust Allocation

As of June 30, 2020

**Actual Asset Allocation**



**Target Asset Allocation**

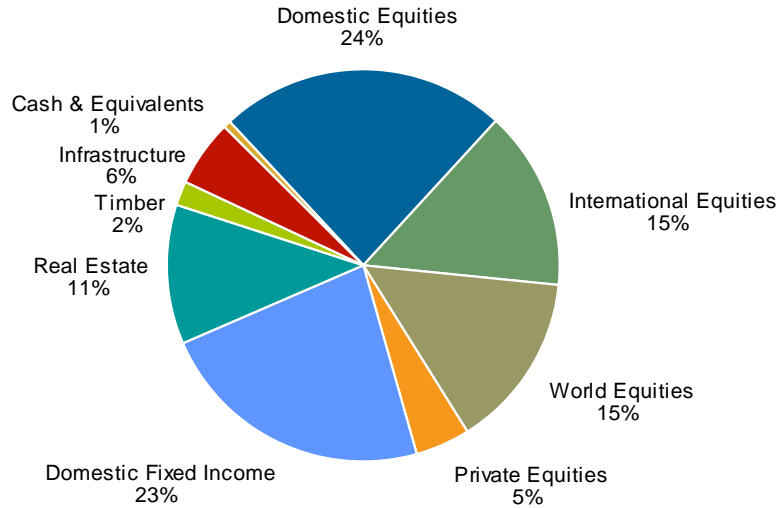


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	1,409,633	23.3%	20.9%	2.4%	143,089
International Equities	886,643	14.7%	14.3%	0.3%	19,193
World Equities	880,741	14.6%	16.0%	(1.4%)	(87,130)
Private Equities	290,360	4.8%	6.5%	(1.7%)	(101,585)
Dom. Fixed Income	1,417,572	23.4%	23.3%	0.2%	11,081
Real Estate	659,447	10.9%	10.5%	0.4%	21,440
Timber	125,130	2.1%	2.1%	(0.0%)	(0)
Infrastructure	335,556	5.5%	5.9%	(0.4%)	(23,398)
Cash Equivalents	44,111	0.7%	0.4%	0.3%	17,310
<b>Total</b>	<b>6,049,194</b>	<b>100.0%</b>	<b>100.0%</b>		

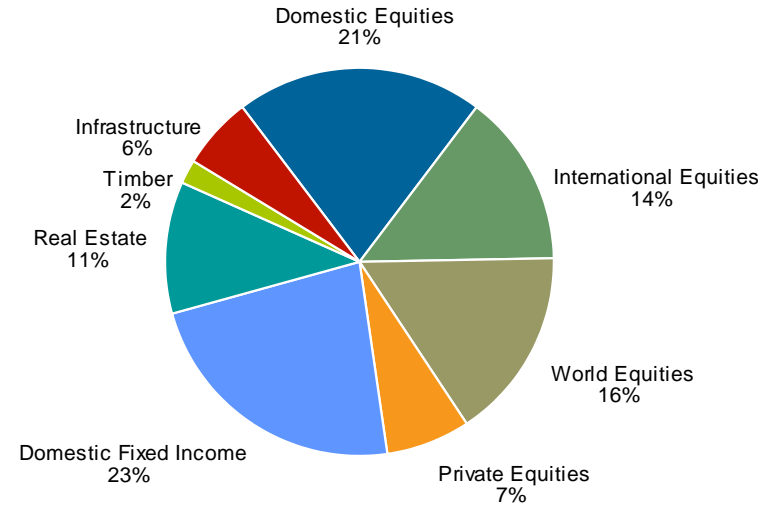
# PERS Allocation

As of June 30, 2020

**Actual Asset Allocation**



**Target Asset Allocation**

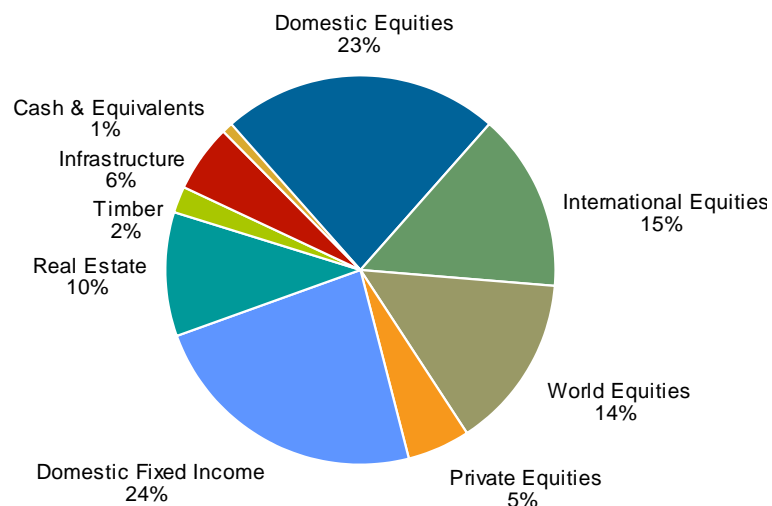


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	762,118	23.7%	20.6%	3.1%	100,801
International Equities	474,643	14.8%	14.4%	0.4%	11,721
World Equities	466,460	14.5%	16.0%	(1.5%)	(47,478)
Private Equities	145,517	4.5%	7.0%	(2.5%)	(79,331)
Domestic Fixed Income	736,208	22.9%	23.0%	(0.1%)	(2,578)
Real Estate	367,791	11.5%	11.0%	0.5%	14,458
Timber	63,277	2.0%	2.0%	0.0%	0
Infrastructure	177,339	5.5%	6.0%	(0.5%)	(16,353)
Cash & Equivalents	18,760	0.6%	0.0%	0.6%	18,760
<b>Total</b>	<b>3,212,113</b>	<b>100.0%</b>	<b>100.0%</b>		

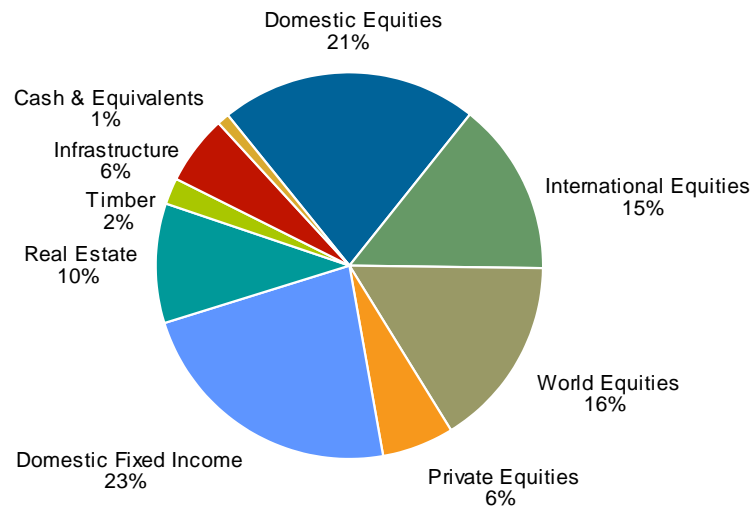
# TFFR Allocation

As of June 30, 2020

**Actual Asset Allocation**



**Target Asset Allocation**

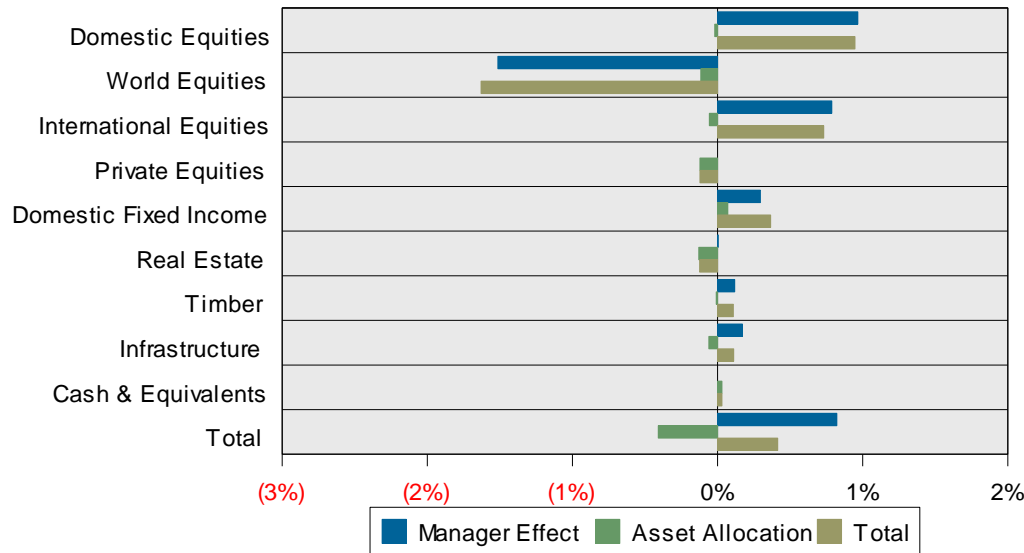


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	603,162	23.1%	21.5%	1.6%	42,434
International Equities	387,171	14.8%	14.5%	0.3%	7,323
World Equities	378,588	14.5%	16.0%	(1.5%)	(39,447)
Private Equities	134,642	5.2%	6.0%	(0.8%)	(22,121)
Domestic Fixed Income	614,035	23.5%	23.0%	0.5%	13,110
Real Estate	269,594	10.3%	10.0%	0.3%	8,323
Timber	56,483	2.2%	2.2%	(0.0%)	(0)
Infrastructure	145,357	5.6%	5.8%	(0.3%)	(7,178)
Cash & Equivalents	23,683	0.9%	1.0%	(0.1%)	(2,444)
<b>Total</b>	<b>2,612,716</b>	<b>100.0%</b>	<b>100.0%</b>		

# PERS Performance and Attribution

As of June 30, 2020

## One Year Relative Attribution Effects



## Returns for 1 Year Ended 06/30/2020

Return Type	Return (%)
Gross	3.63%
Net of fees	3.41%
Target	3.21%
Net added	0.20%

## One Year Relative Attribution Effects

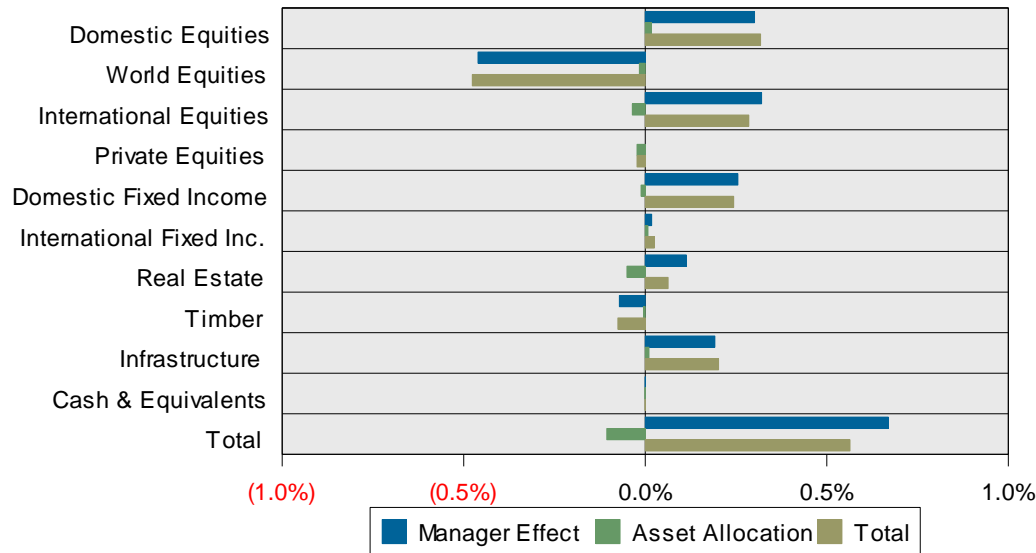
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	8.94%	4.13%	0.97%	(0.02%)	0.95%
World Equities	16%	16%	(6.82%)	2.84%	(1.51%)	(0.12%)	(1.63%)
International Equities	15%	14%	0.07%	(4.87%)	0.79%	(0.06%)	0.73%
Private Equities	4%	7%	3.05%	3.05%	0.00%	(0.12%)	(0.12%)
Domestic Fixed Income	23%	23%	7.40%	6.20%	0.30%	0.07%	0.37%
Real Estate	12%	11%	2.66%	2.69%	0.01%	(0.13%)	(0.12%)
Timber	2%	2%	6.28%	0.34%	0.12%	(0.01%)	0.11%
Infrastructure	5%	6%	4.84%	1.62%	0.17%	(0.06%)	0.11%
Cash & Equivalents	0%	0%	1.49%	1.49%	0.00%	0.03%	0.03%
<b>Total</b>			<b>3.63%</b>	<b>3.21%</b>	<b>+ 0.82%</b>	<b>+ (0.41%)</b>	<b>0.41%</b>



# PERS Performance and Attribution

As of June 30, 2020

## Five Year Annualized Relative Attribution Effects



## Returns for 5 Year Ended 06/30/2020

Return Type	Return (%)
Gross	6.47%
Net of fees	6.20%
Target	5.91%
Net added	0.29%

## Five Year Annualized Relative Attribution Effects

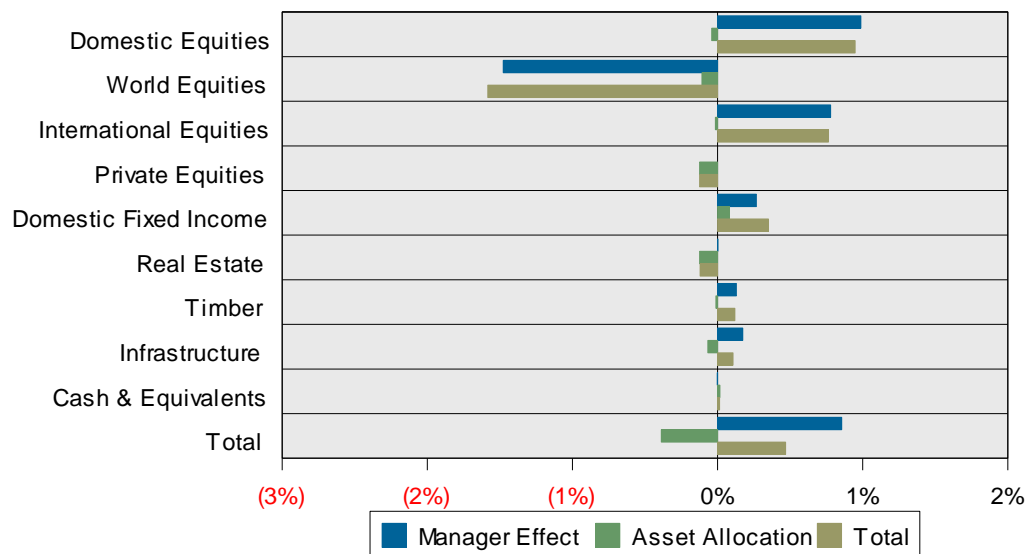
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	10.55%	9.09%	0.30%	0.02%	0.32%
World Equities	16%	16%	3.87%	6.90%	(0.46%)	(0.02%)	(0.48%)
International Equities	16%	14%	4.25%	2.24%	0.32%	(0.04%)	0.29%
Private Equities	3%	7%	3.98%	3.98%	0.00%	(0.02%)	(0.02%)
Domestic Fixed Income	20%	20%	5.71%	4.46%	0.26%	(0.01%)	0.24%
International Fixed Inc.	3%	3%	-	-	0.02%	0.01%	0.03%
Real Estate	11%	11%	7.76%	6.77%	0.11%	(0.05%)	0.06%
Timber	3%	3%	0.38%	2.71%	(0.07%)	(0.00%)	(0.08%)
Infrastructure	5%	6%	6.31%	2.14%	0.19%	0.01%	0.20%
Cash & Equivalents	1%	0%	1.26%	1.23%	0.00%	(0.00%)	(0.00%)

**Total** 6.47% = 5.91% + 0.67% + (0.11%) 0.56%

# TFFR Performance and Attribution

As of June 30, 2020

## One Year Relative Attribution Effects



## Returns for 1 Year Ended 06/30/2020

Return Type	Return (%)
Gross	3.66%
Net of fees	3.45%
Target	3.19%
Net added	0.26%

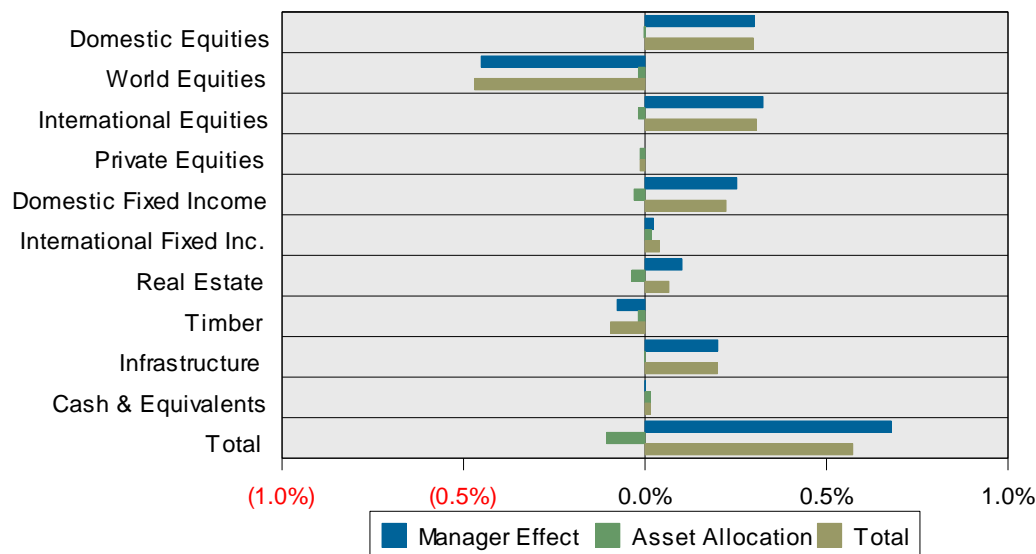
## One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	9.11%	4.24%	0.99%	(0.04%)	0.95%
World Equities	15%	16%	(6.82%)	2.84%	(1.48%)	(0.11%)	(1.58%)
International Equities	15%	15%	(0.02%)	(4.98%)	0.78%	(0.01%)	0.76%
Private Equities	5%	6%	3.04%	3.04%	0.00%	(0.12%)	(0.12%)
Domestic Fixed Income	24%	23%	7.28%	6.20%	0.27%	0.08%	0.35%
Real Estate	11%	10%	2.66%	2.69%	0.00%	(0.12%)	(0.12%)
Timber	2%	2%	6.28%	0.34%	0.13%	(0.01%)	0.12%
Infrastructure	5%	6%	4.84%	1.62%	0.17%	(0.07%)	0.11%
Cash & Equivalents	1%	1%	1.49%	1.63%	(0.00%)	0.02%	0.01%
<b>Total</b>			<b>3.66%</b>	<b>3.19%</b>	<b>+ 0.86%</b>	<b>+ (0.39%)</b>	<b>0.47%</b>

# TFFR Performance and Attribution

As of June 30, 2020

## Five Year Annualized Relative Attribution Effects



## Returns for 5 Year Ended 06/30/2020

Return Type	Return (%)
Gross	6.44%
Net of fees	6.17%
Target	5.87%
Net added	0.30%

## Five Year Annualized Relative Attribution Effects

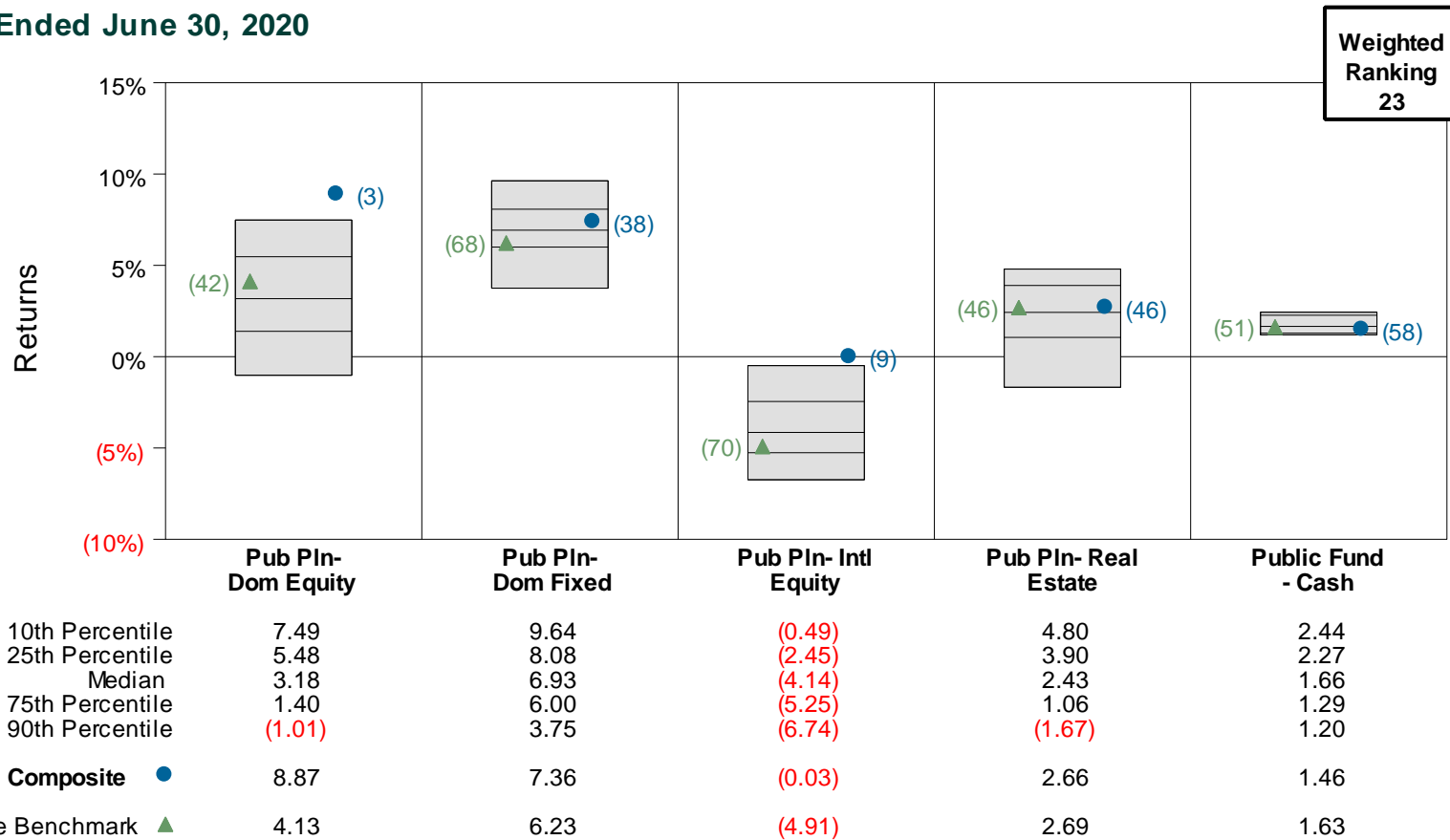
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	10.59%	9.12%	0.30%	(0.00%)	0.30%
World Equities	16%	16%	3.87%	6.90%	(0.45%)	(0.02%)	(0.47%)
International Equities	15%	15%	4.23%	2.18%	0.33%	(0.02%)	0.31%
Private Equities	4%	6%	3.97%	3.97%	0.00%	(0.01%)	(0.01%)
Domestic Fixed Income	20%	20%	5.59%	4.32%	0.25%	(0.03%)	0.22%
International Fixed Inc.	3%	3%	-	-	0.02%	0.02%	0.04%
Real Estate	10%	10%	7.76%	6.77%	0.10%	(0.04%)	0.07%
Timber	3%	3%	0.38%	2.71%	(0.08%)	(0.02%)	(0.09%)
Infrastructure	5%	5%	6.31%	2.14%	0.20%	(0.00%)	0.20%
Cash & Equivalents	1%	1%	1.26%	1.19%	0.00%	0.01%	0.01%

**Total** **6.44% = 5.87% + 0.68% + (0.11%)** **0.57%**

# Asset Class Composite Results

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

### Total Asset Class Performance One Year Ended June 30, 2020

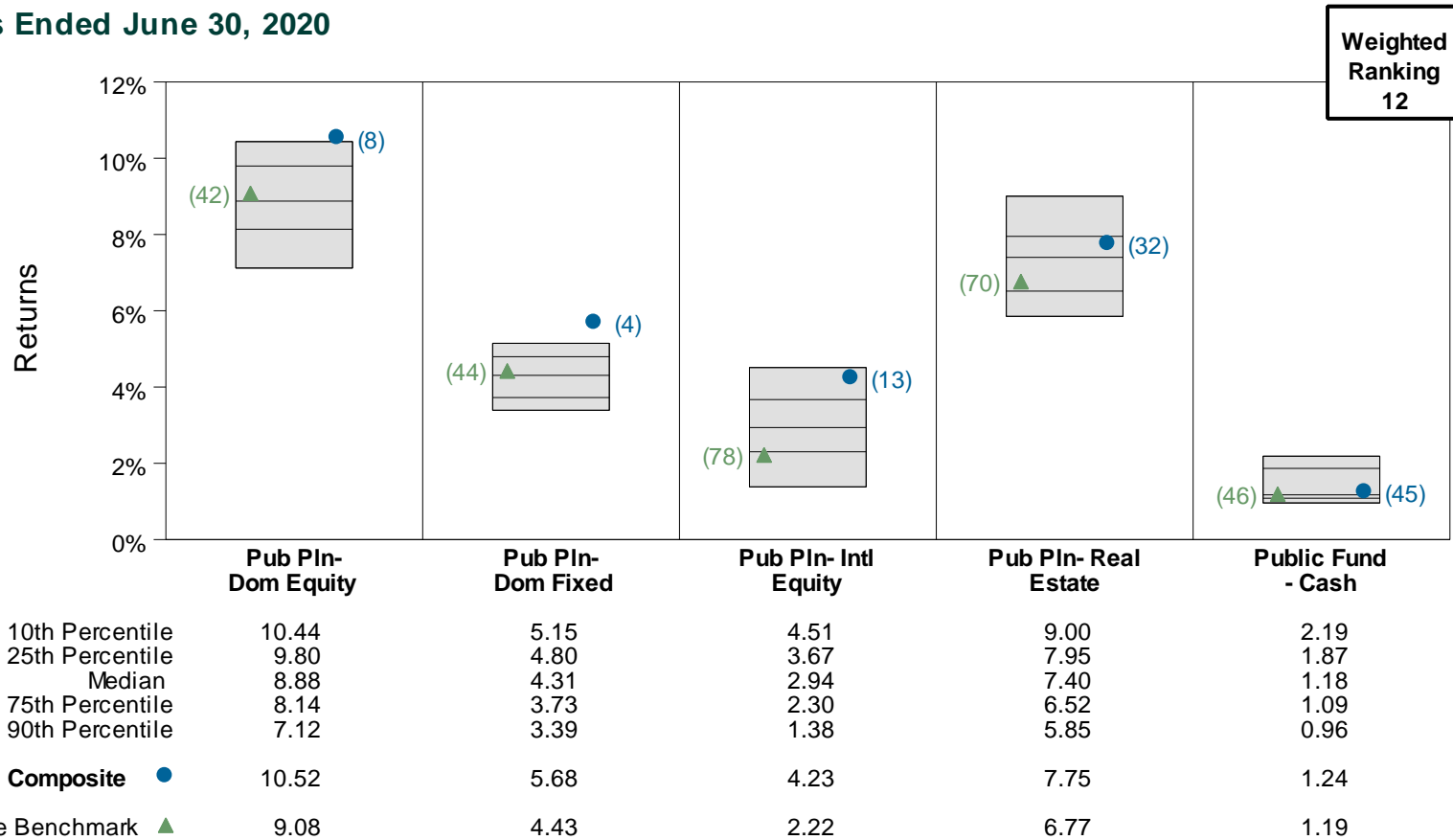


- U.S. equity and fixed income drove absolute returns over the trailing 12 months. The strongest relative performance was experienced by both the domestic international equity composites.
- With the exception of cash, all asset classes outperformed their respective peer group medians.

# Asset Class Composite Results

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

### Total Asset Class Performance Five Years Ended June 30, 2020



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

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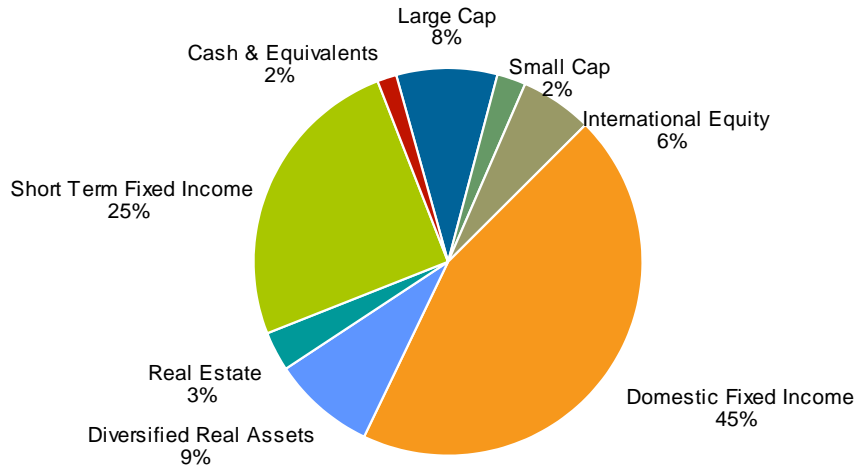
## **Consolidated Insurance Trust Quarterly Review**

- Workforce Safety and Insurance Legacy Fund
- Budget Stabilization Fund

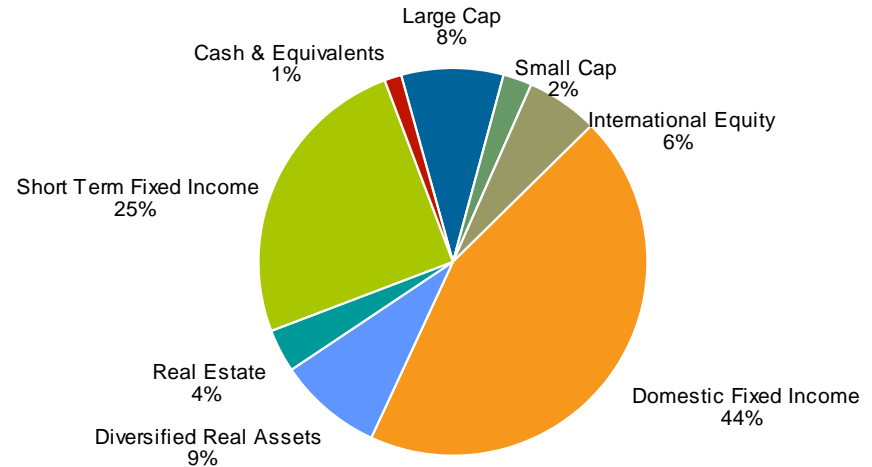
# Consolidated Insurance Trust Allocation

As of June 30, 2020

**Actual Asset Allocation**



**Target Asset Allocation**

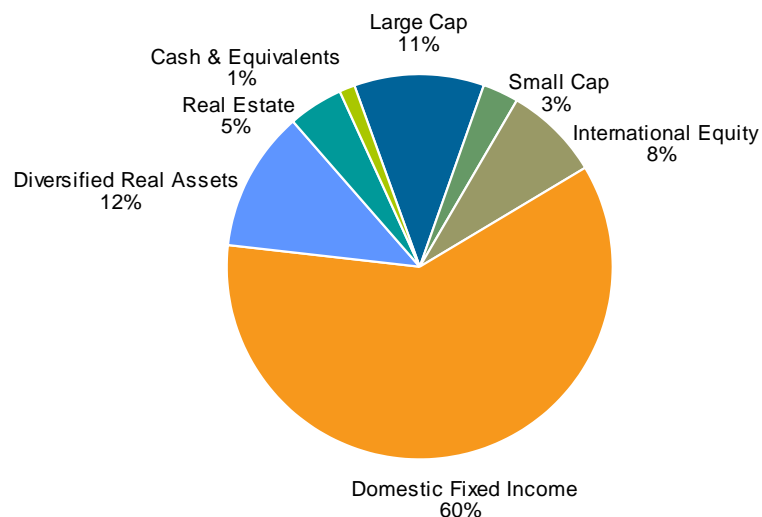


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	251,975	8.4%	8.5%	(0.1%)	(1,592)
Small Cap	71,336	2.4%	2.4%	(0.0%)	(787)
International Equity	179,663	6.0%	6.0%	(0.0%)	(1,027)
Domestic Fixed Income	1,334,281	44.6%	44.3%	0.3%	8,907
Diversified Real Assets	255,746	8.6%	8.7%	(0.1%)	(3,746)
Real Estate	98,564	3.3%	3.6%	(0.3%)	(7,919)
Short Term Fixed Income	749,106	25.1%	25.1%	(0.0%)	(0)
Cash & Equivalents	48,294	1.6%	1.4%	0.2%	6,165
<b>Total</b>	<b>2,988,966</b>	<b>100.0%</b>	<b>100.0%</b>		

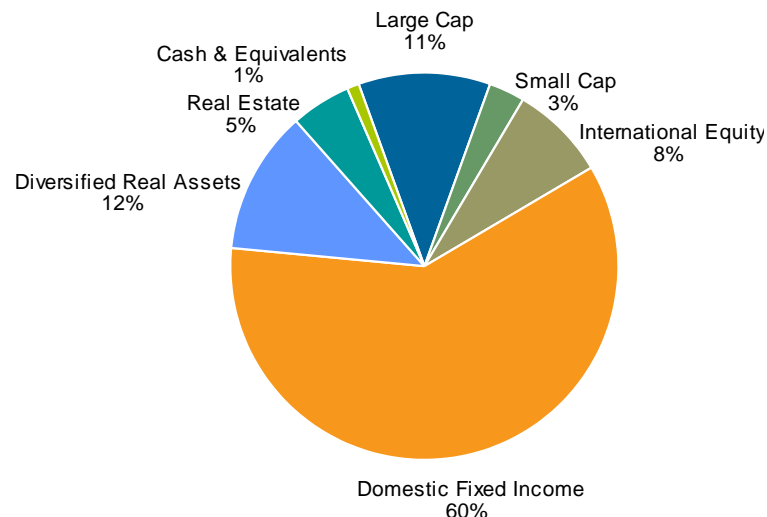
# WSI Allocation

As of June 30, 2020

**Actual Asset Allocation**



**Target Asset Allocation**



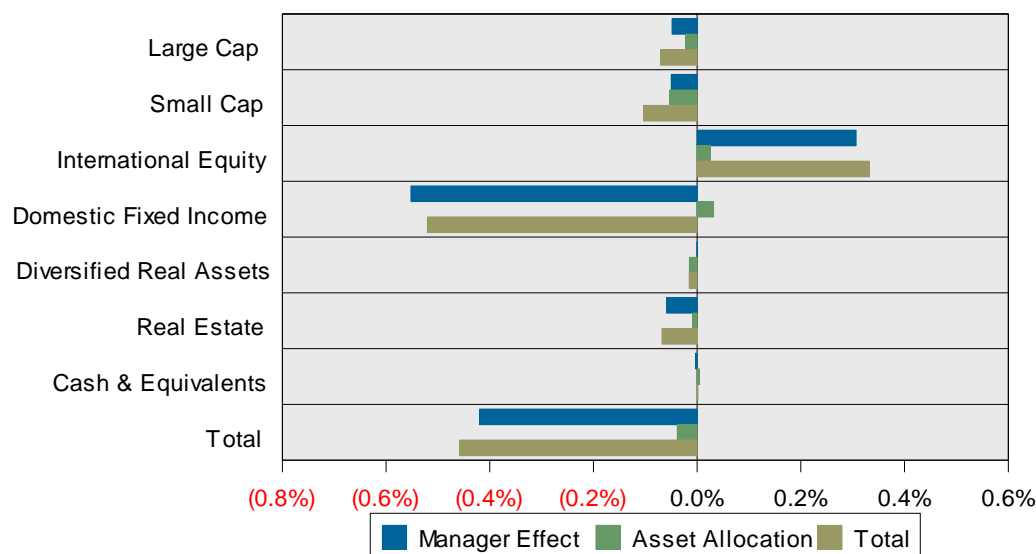
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	232,276	10.9%	11.0%	(0.1%)	(1,571)
Small Cap	63,132	3.0%	3.0%	(0.0%)	(644)
International Equity	169,018	8.0%	8.0%	(0.0%)	(1,053)
Domestic Fixed Income	1,284,237	60.4%	60.0%	0.4%	8,708
Diversified Real Assets	251,371	11.8%	12.0%	(0.2%)	(3,735)
Real Estate	98,386	4.6%	5.0%	(0.4%)	(7,908)
Cash & Equivalents	27,461	1.3%	1.0%	0.3%	6,202
<b>Total</b>	<b>2,125,881</b>	<b>100.0%</b>	<b>100.0%</b>		



# WSI Performance and Attribution

As of June 30, 2020

## One Year Relative Attribution Effects



## Returns for 1 Year Ended 06/30/2020

Return Type	Return (%)
Gross	6.16%
Net of fees	6.00%
Target	6.62%
Net added	-0.62%

## One Year Relative Attribution Effects

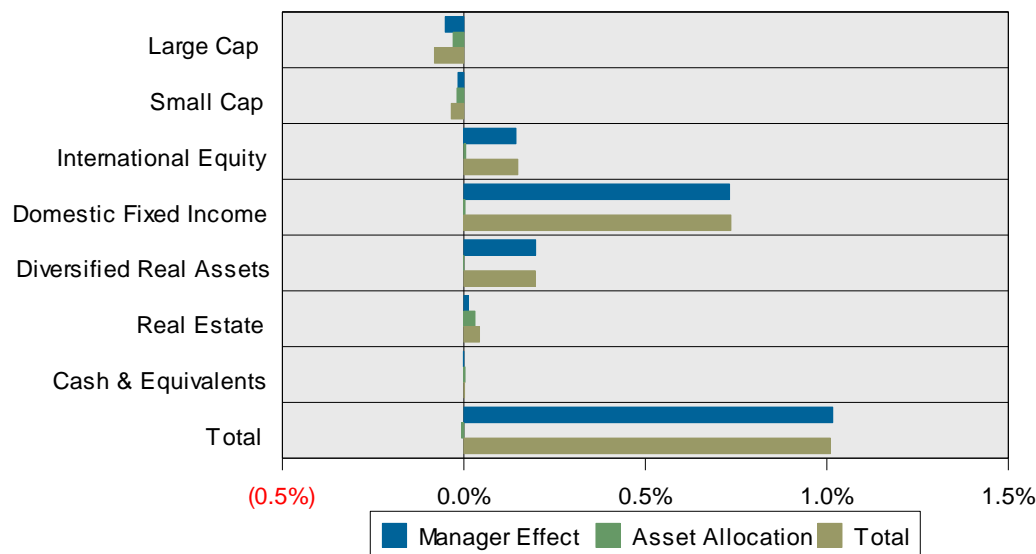
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	6.78%	7.48%	(0.05%)	(0.02%)	(0.07%)
Small Cap	3%	3%	(8.23%)	(6.63%)	(0.05%)	(0.05%)	(0.10%)
International Equity	8%	8%	(2.18%)	(5.42%)	0.31%	0.03%	0.33%
Domestic Fixed Income	61%	60%	8.03%	8.74%	(0.55%)	0.03%	(0.52%)
Diversified Real Assets	12%	12%	5.46%	5.41%	(0.00%)	(0.02%)	(0.02%)
Real Estate	5%	5%	1.41%	2.69%	(0.06%)	(0.01%)	(0.07%)
Cash & Equivalents	1%	1%	1.37%	1.63%	(0.00%)	0.00%	0.00%

**Total** 6.16% = 6.62% + (0.42%) + (0.04%) (0.46%)

# WSI Performance and Attribution

As of June 30, 2020

## Five Year Annualized Relative Attribution Effects



## Returns for 5 Year Ended 06/30/2020

Return Type	Return (%)
Gross	6.21%
Net of fees	6.00%
Target	5.20%
Net added	0.80%

## Five Year Annualized Relative Attribution Effects

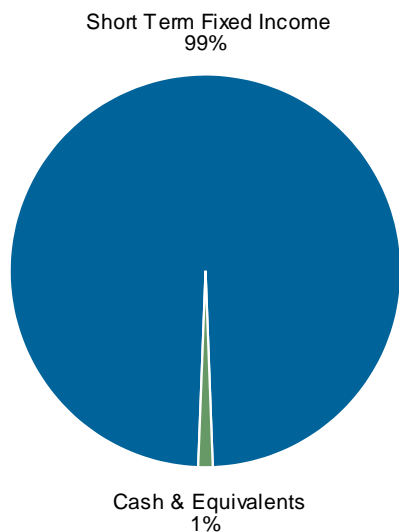
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	12%	12%	9.93%	10.47%	(0.05%)	(0.03%)	(0.08%)
Small Cap	4%	4%	3.69%	4.29%	(0.02%)	(0.02%)	(0.03%)
International Equity	8%	9%	3.36%	1.94%	0.14%	0.01%	0.15%
Domestic Fixed Income	55%	56%	5.75%	4.30%	0.73%	0.00%	0.74%
Diversified Real Assets	14%	14%	4.89%	3.47%	0.20%	(0.00%)	0.20%
Real Estate	6%	6%	6.81%	6.77%	0.01%	0.03%	0.04%
Cash & Equivalents	1%	1%	1.06%	1.19%	(0.00%)	0.00%	0.00%

**Total** **6.21% = 5.20% + 1.02% + (0.01%)** **1.01%**

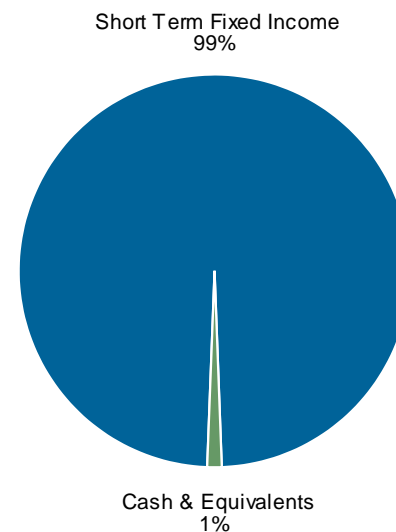
# Budget Stabilization Fund Allocation

As of June 30, 2020

**Actual Asset Allocation**



**Target Asset Allocation**

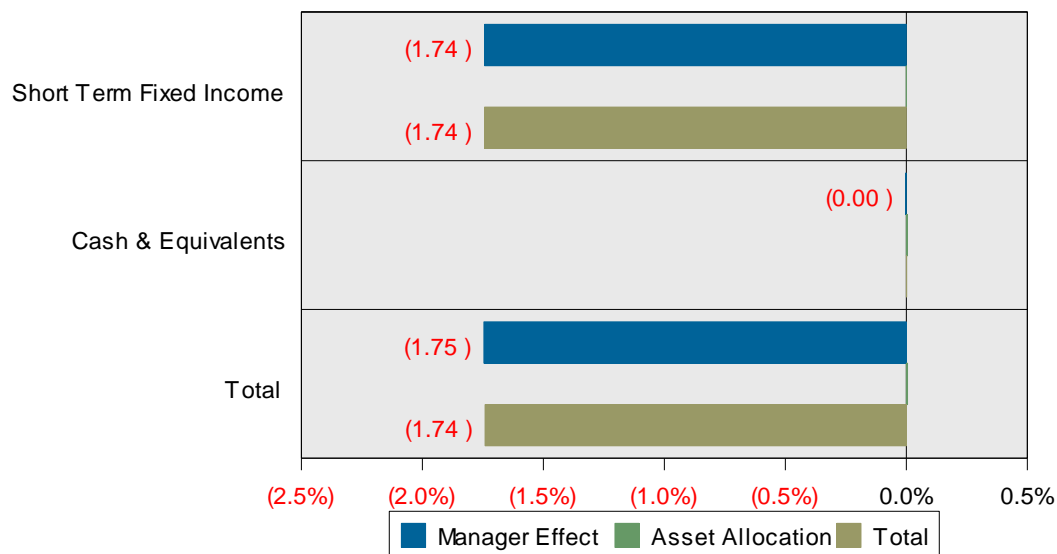


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Short Term Fixed Income	719,272	98.9%	98.9%	0.0%	143
Cash & Equivalents	8,003	1.1%	1.1%	(0.0%)	(143)
Total	727,275	100.0%	100.0%		

# Budget Stabilization Fund Performance and Attribution

As of June 30, 2020

## One Year Relative Attribution Effects



## Returns for 1 Year Ended 06/30/2020

Return Type	Return (%)
Gross	2.43%
Net of fees	2.35%
Target	4.17%
Net added	-1.82%

## One Year Relative Attribution Effects

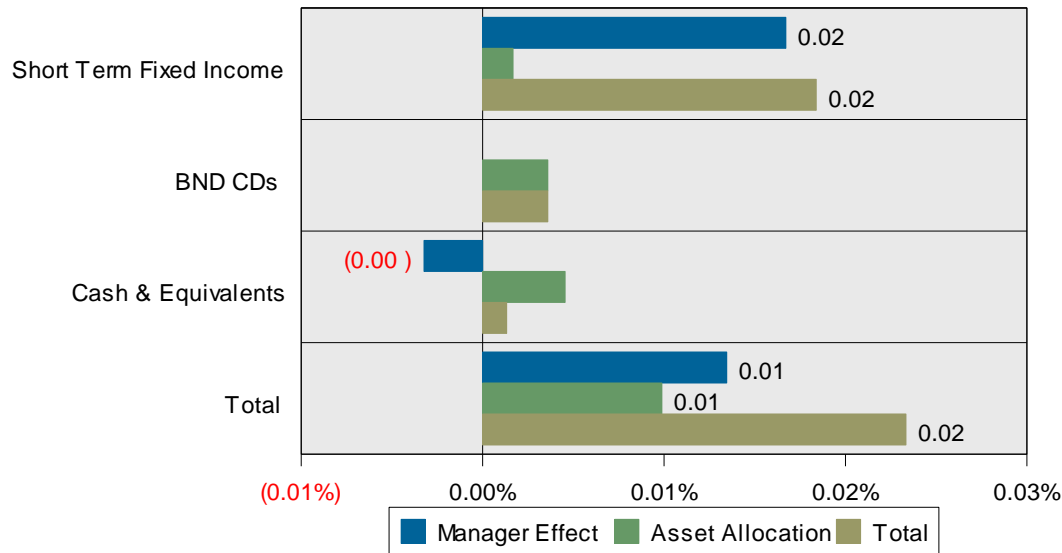
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	99%	99%	2.44%	4.20%	(1.74%)	0.00%	(1.74%)
Cash & Equivalents	1%	1%	1.37%	1.63%	(0.00%)	0.00%	0.00%

<b>Total</b>	<b>2.43%</b>	<b>=</b>	<b>4.17%</b>	<b>+</b>	<b>(1.75%)</b>	<b>+</b>	<b>0.00%</b>	<b>(1.74%)</b>
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# Budget Stabilization Fund Performance and Attribution

As of June 30, 2020

## Five Year Annualized Relative Attribution Effects



## Returns for 5 Year Ended 06/30/2020

Return Type	Return (%)
Gross	2.11%
Net of fees	1.95%
Target	2.09%
Net added	-0.14%

## Five Year Annualized Relative Attribution Effects

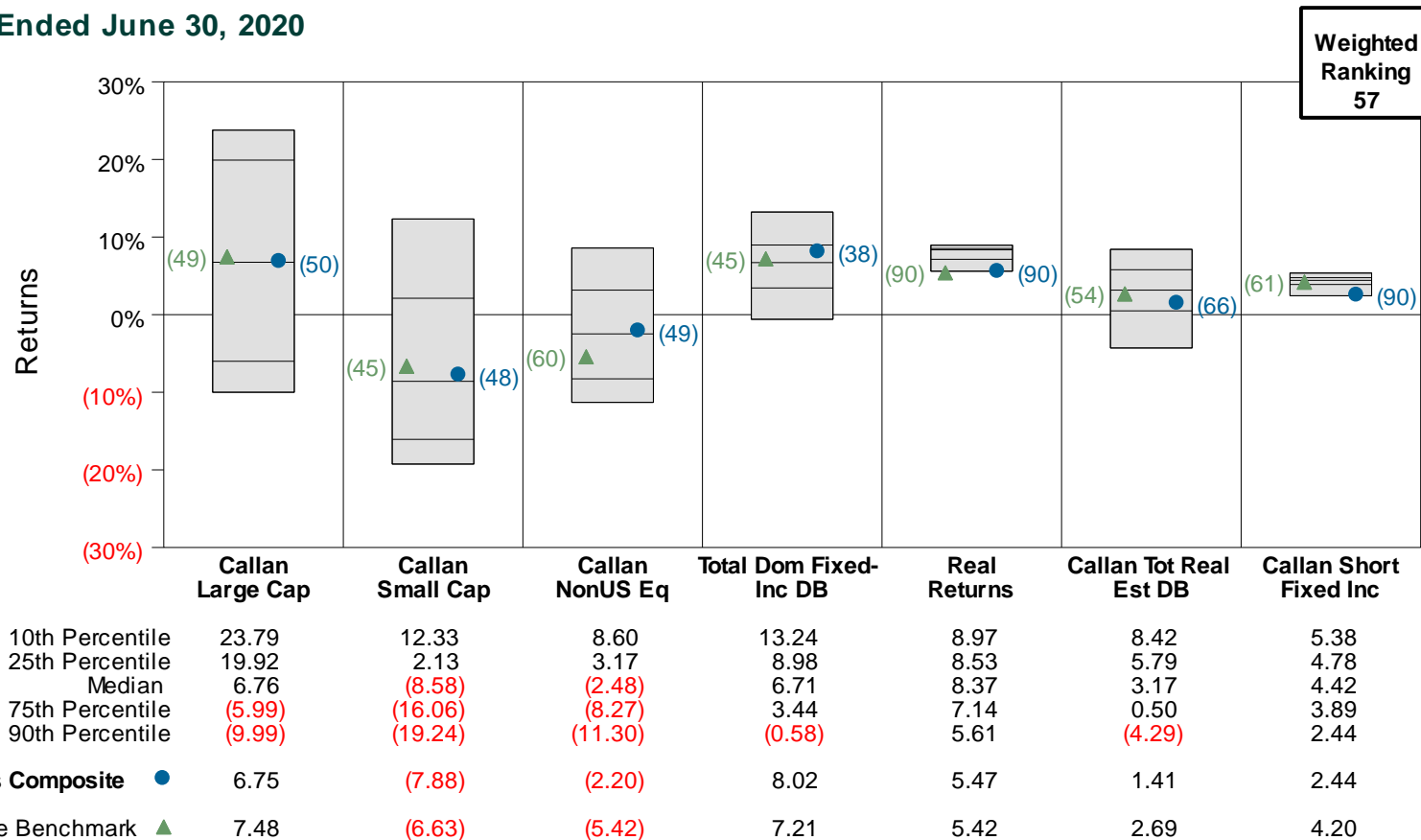
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	92%	92%	2.05%	1.99%	0.02%	0.00%	0.02%
BND CDs	5%	5%	-	-	0.00%	0.00%	0.00%
Cash & Equivalents	3%	3%	1.06%	1.19%	(0.00%)	0.00%	0.00%

**Total** **2.11% = 2.09% + 0.01% + 0.01%** **0.02%**

# Asset Class Composite Results

## Consolidated Insurance Trust Asset Class Results vs. Callan Style Groups

Total Asset Class Performance  
One Year Ended June 30, 2020

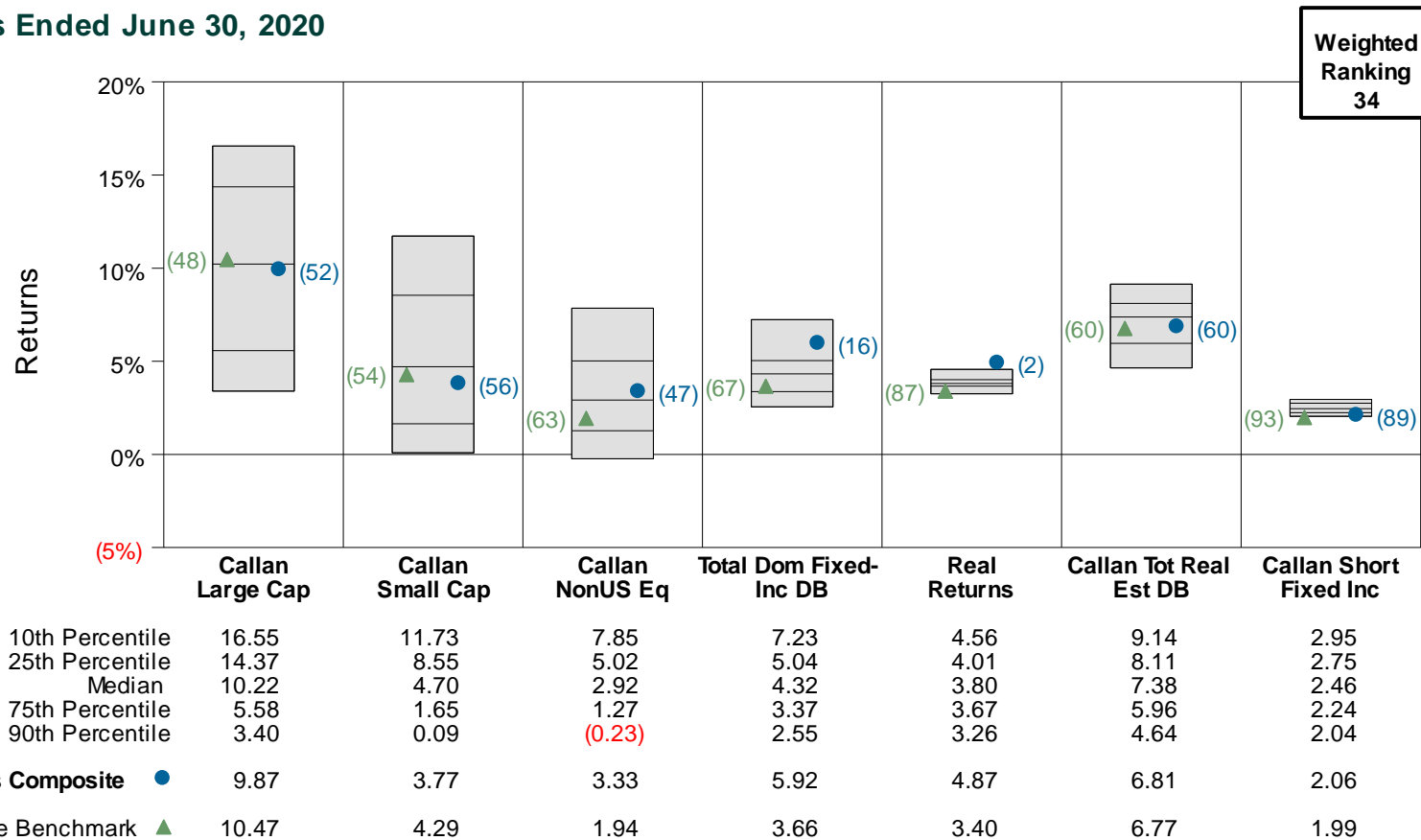


- U.S. LC equity, U.S. SC equity, and real estate all underperformed their benchmarks during the period.
- U.S. LC and SC equity, international equity, and domestic fixed income performed above their peer medians. Real assets and short fixed income performed in the bottom decile.

# Asset Class Composite Results

## Consolidated Insurance Trust Asset Class Results vs. Callan Style Groups

Total Asset Class Performance  
Five Years Ended June 30, 2020



- U.S. LC equity and U.S. SC equity were the only asset classes to underperform their benchmarks over the trailing 5-year period.
- Real returns ranked in the second percentile, domestic fixed income ranked in the top quartile and non-U.S. equity was above median.

Callan

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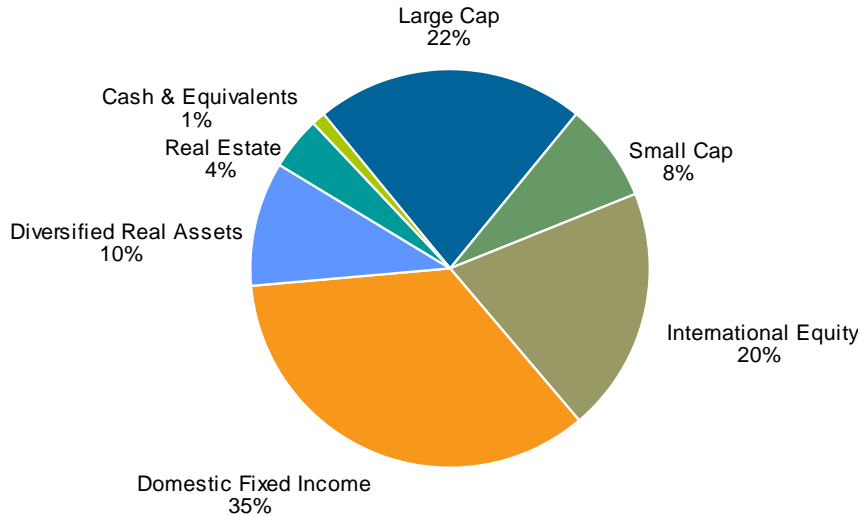
**Legacy Fund Quarterly Review**



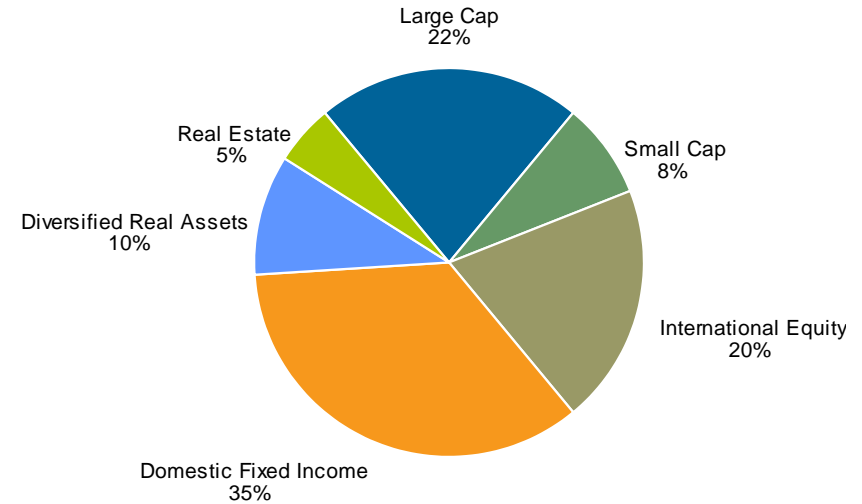
# Legacy Fund Allocation

As of June 30, 2020

**Actual Asset Allocation**



**Target Asset Allocation**

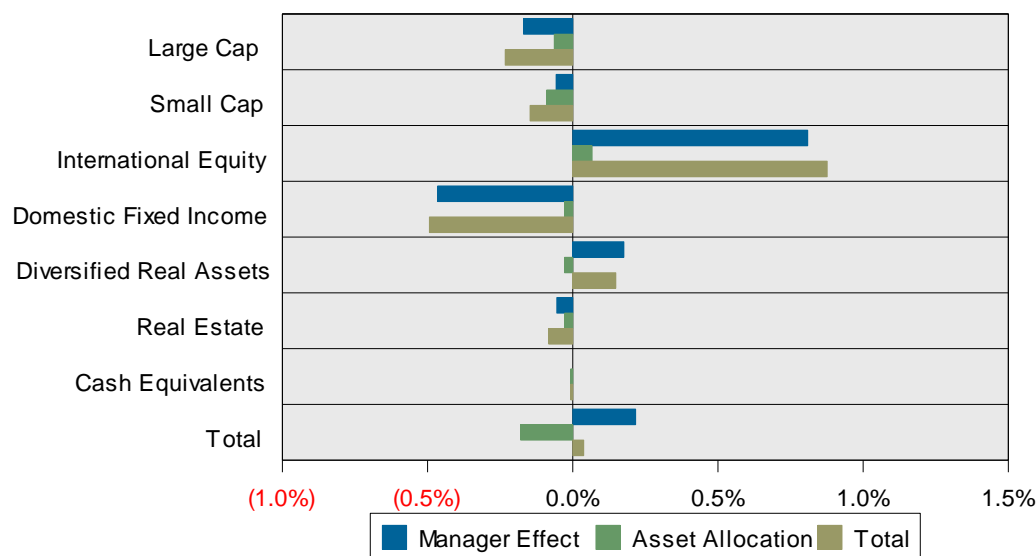


Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	1,533,533	21.9%	22.0%	(0.1%)	(6,420)
Small Cap	559,129	8.0%	8.0%	(0.0%)	(853)
International Equity	1,391,840	19.9%	20.0%	(0.1%)	(8,116)
Domestic Fixed Income	2,435,035	34.8%	35.0%	(0.2%)	(14,890)
Diversified Real Assets	706,045	10.1%	10.0%	0.1%	6,067
Real Estate	299,806	4.3%	5.0%	(0.7%)	(50,183)
Cash & Equivalents	74,395	1.1%	0.0%	1.1%	74,395
<b>Total</b>	<b>6,999,783</b>	<b>100.0%</b>	<b>100.0%</b>		

# Legacy Performance and Attribution

As of June 30, 2020

## One Year Relative Attribution Effects



## Returns for 1 Year Ended 06/30/2020

Return Type	Return (%)
Gross	4.41%
Net of fees	4.23%
Target	4.38%
Net added	-0.15%

## One Year Relative Attribution Effects

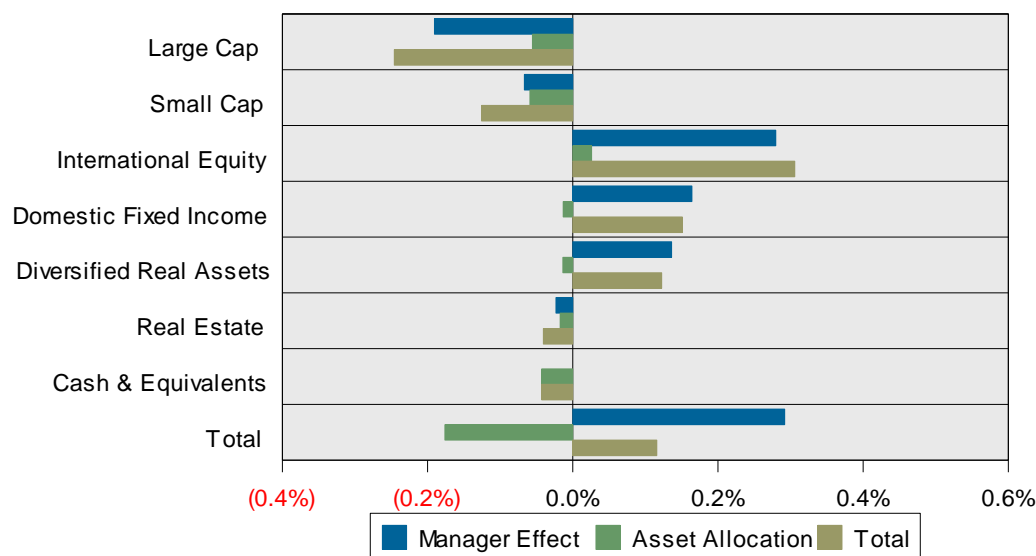
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	6.53%	7.48%	(0.17%)	(0.06%)	(0.23%)
Small Cap	8%	8%	(7.26%)	(6.63%)	(0.06%)	(0.09%)	(0.15%)
International Equity	19%	20%	(1.79%)	(5.42%)	0.81%	0.07%	0.88%
Domestic Fixed Income	35%	35%	7.86%	8.74%	(0.47%)	(0.03%)	(0.49%)
Diversified Real Assets	10%	10%	7.83%	5.93%	0.18%	(0.03%)	0.15%
Real Estate	5%	5%	1.41%	2.69%	(0.05%)	(0.03%)	(0.08%)
Cash Equivalents	1%	0%	1.34%	1.34%	0.00%	(0.01%)	(0.01%)

**Total** 4.41% = 4.38% + 0.22% + (0.18%) 0.04%

# Legacy Performance and Attribution

As of June 30, 2020

## Three Year Annualized Relative Attribution Effects



## Returns for 3 Year Ended 06/30/2020

Return Type	Return (%)
Gross	5.78%
Net of fees	5.58%
Target	5.67%
Net added	-0.09%

## Three Year Annualized Relative Attribution Effects

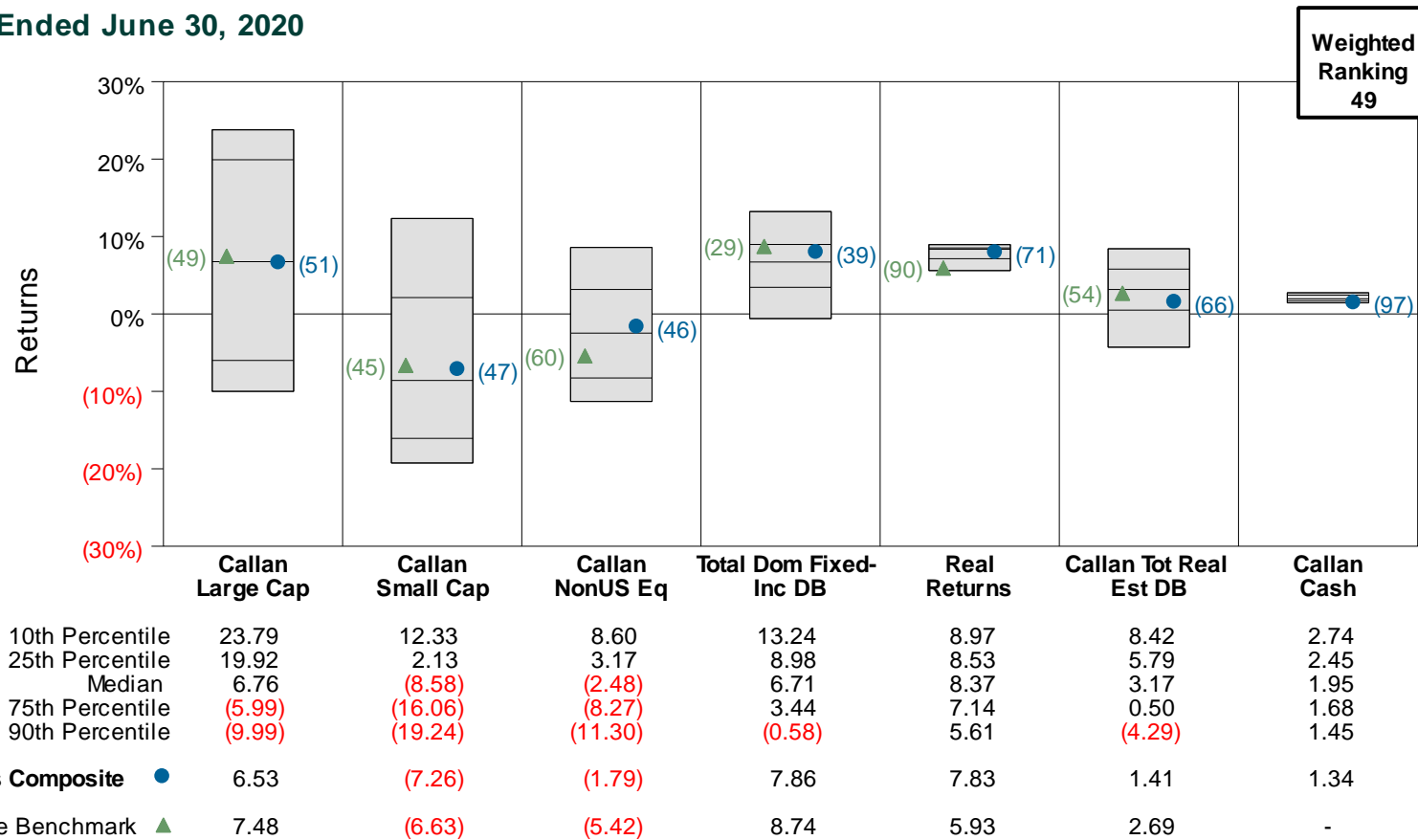
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	9.67%	10.64%	(0.19%)	(0.06%)	(0.25%)
Small Cap	8%	8%	1.20%	2.01%	(0.07%)	(0.06%)	(0.13%)
International Equity	20%	20%	2.05%	0.84%	0.28%	0.03%	0.31%
Domestic Fixed Income	35%	35%	6.01%	5.32%	0.16%	(0.01%)	0.15%
Diversified Real Assets	10%	10%	5.93%	4.50%	0.14%	(0.01%)	0.12%
Real Estate	5%	5%	4.92%	5.44%	(0.02%)	(0.02%)	(0.04%)
Cash & Equivalents	1%	0%	1.57%	1.57%	0.00%	(0.04%)	(0.04%)

**Total** **5.78% = 5.67% + 0.29% + (0.18%)** **0.12%**

# Asset Class Composite Results

## Legacy Fund Asset Class Results vs. Callan Style Groups

Total Asset Class Performance  
One Year Ended June 30, 2020

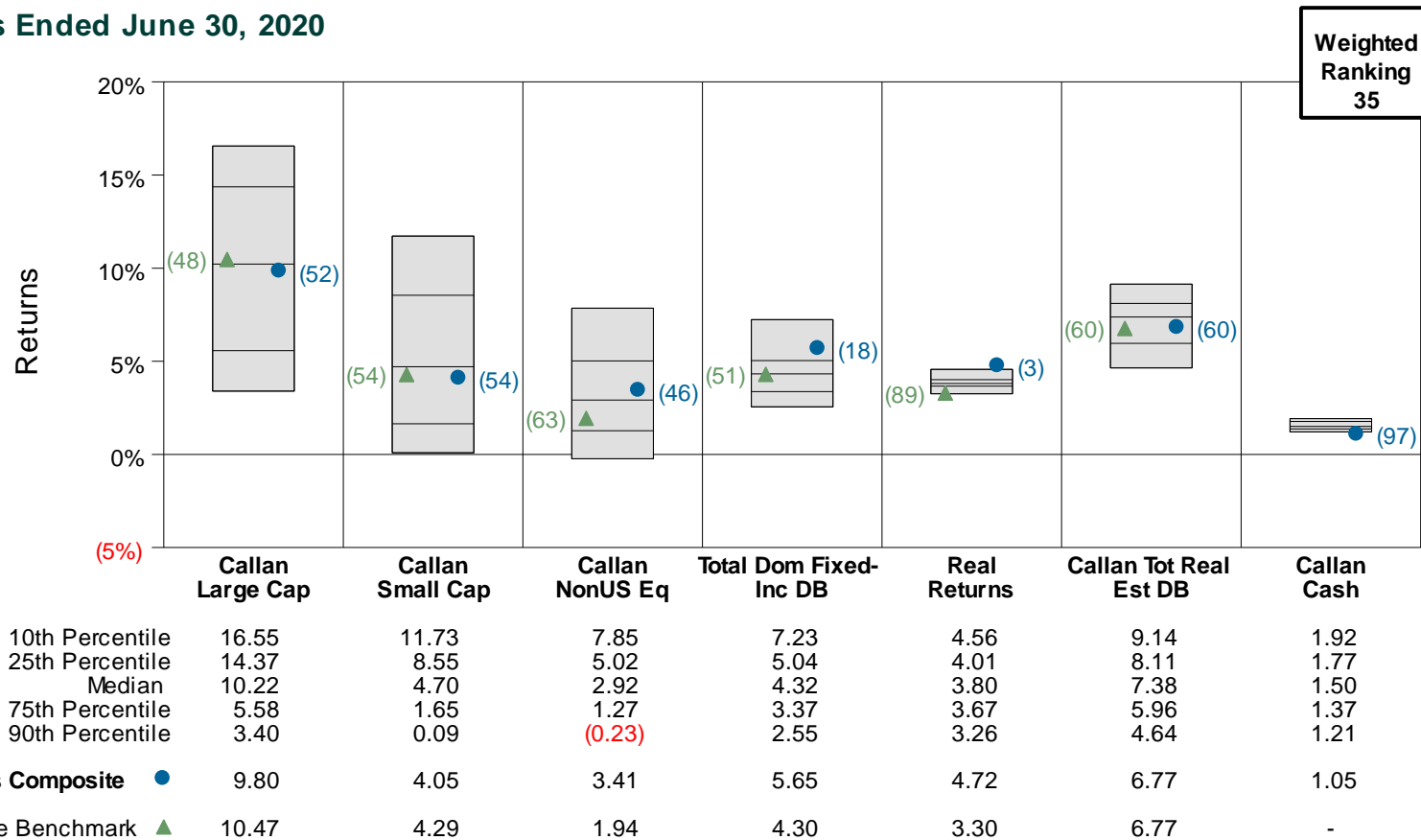


- Non-U.S. equity and real returns were the only two asset classes to outpace their respective benchmarks over the past year.
- U.S. SC equity, non-U.S. equity, and domestic fixed income performed above median during the period.

# Asset Class Composite Results

## Legacy Fund Asset Class Results vs. Callan Style Groups

Total Asset Class Performance  
Five Years Ended June 30, 2020



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

Callan

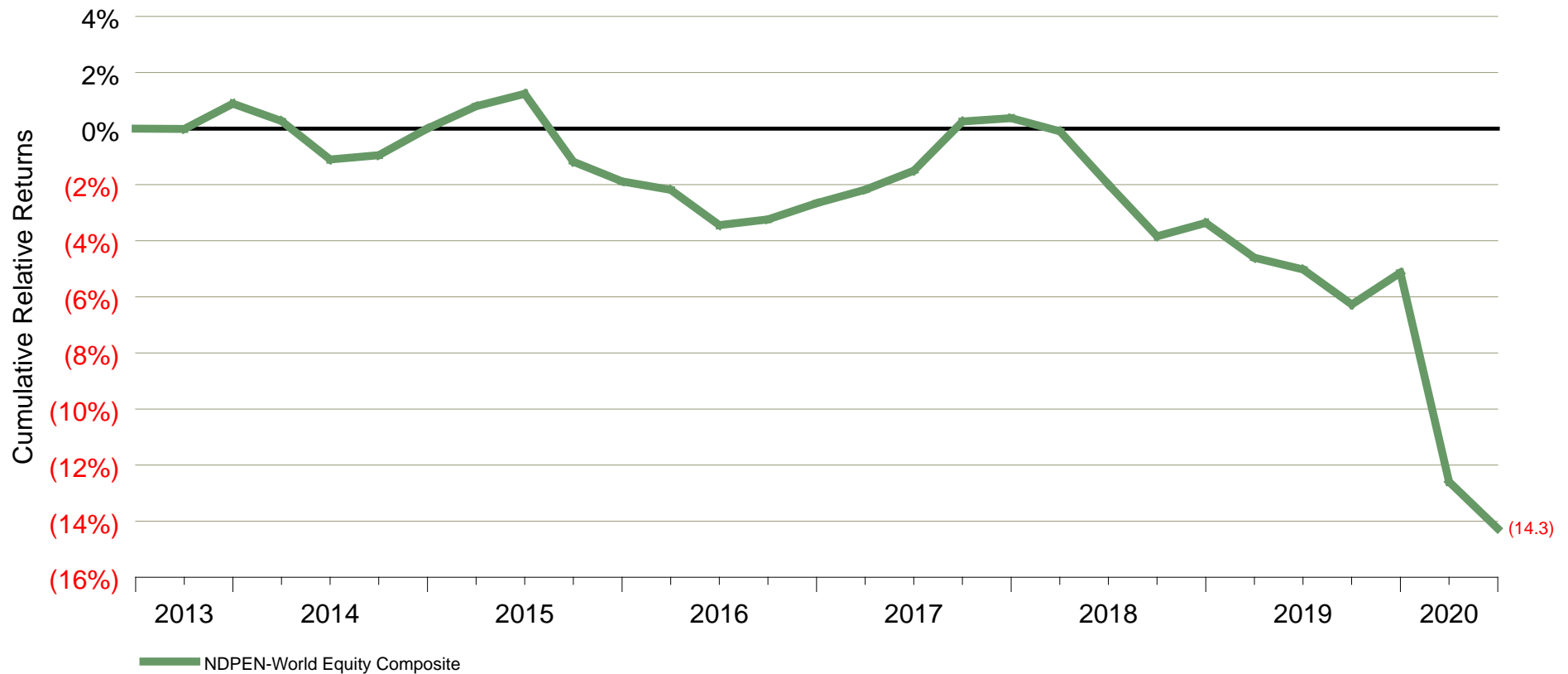
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## **Asset Class in Focus**

World Equity

# World Equity Composite Relative Performance

Net of Fee Cumulative Relative Returns Relative To MSCI:World  
for 7 Years Ended June 30, 2020

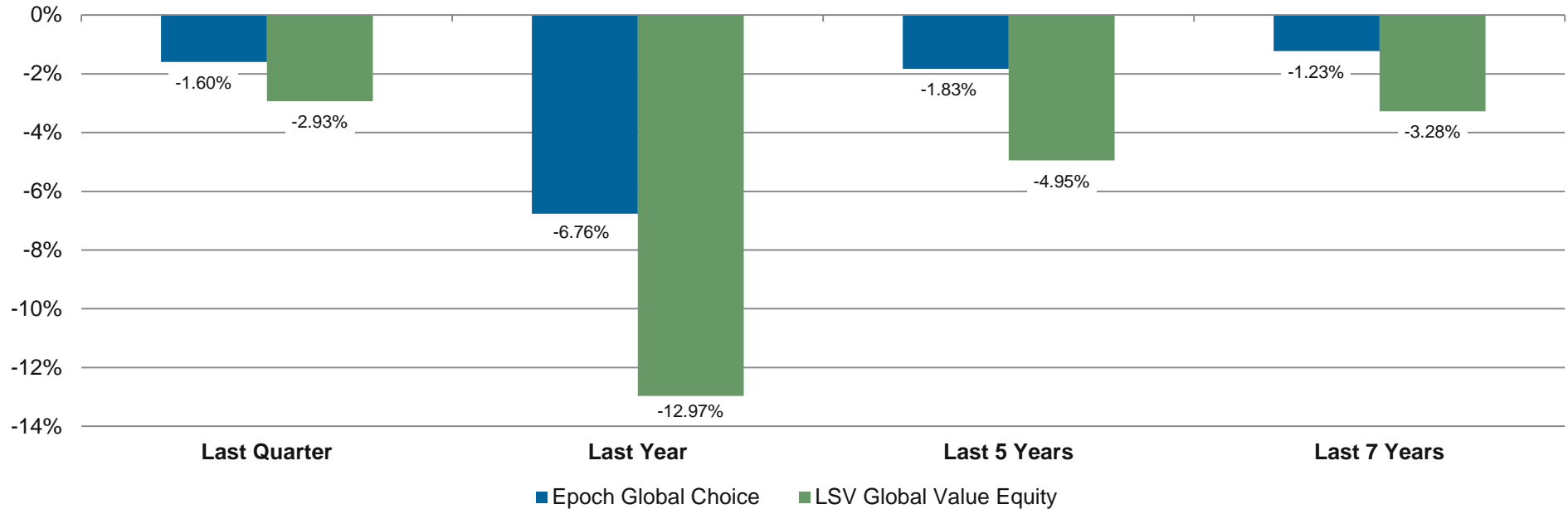


- The World Equity Composite has underperformed the MSCI World Index by a cumulative 14.3% over the trailing seven years.

# Manager Excess Returns

As of June 30, 2020

### Excess Manager Net Returns vs. MSCI World



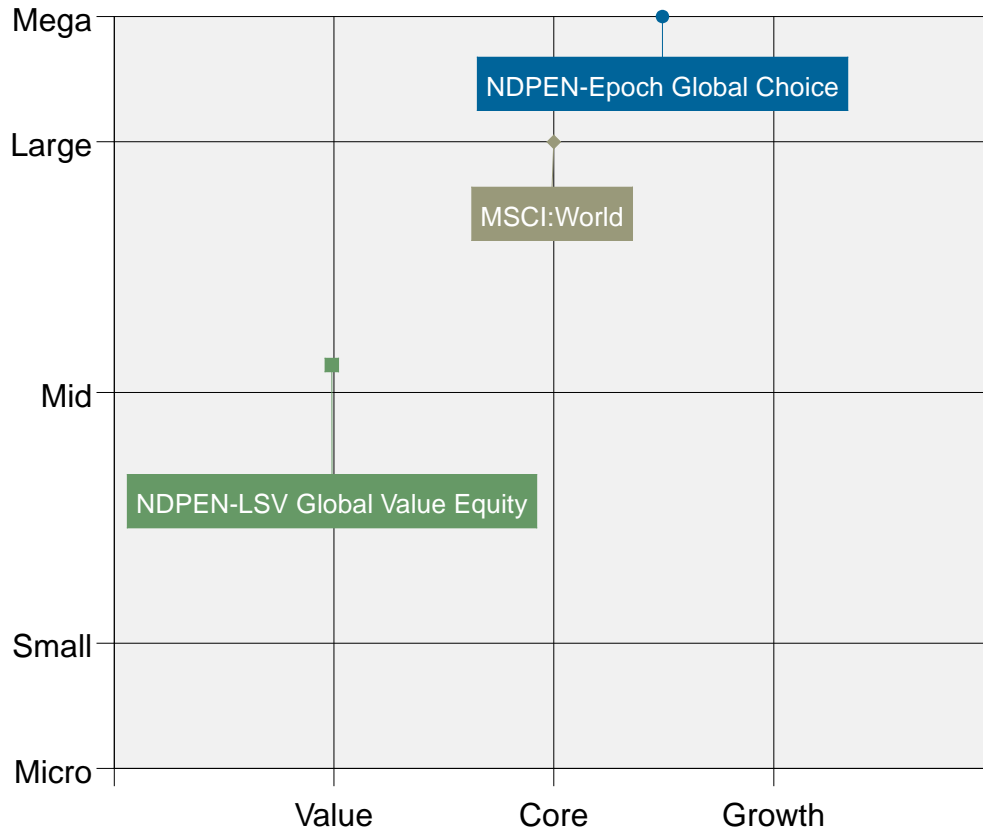
- Relative to the MSCI World, both LSV and Epoch have generated negative relative performance.
- While Epoch is benchmarked to the MSCI World, LSV has a broader mandate and a value style bias.

Excess returns for periods one year and greater are annualized

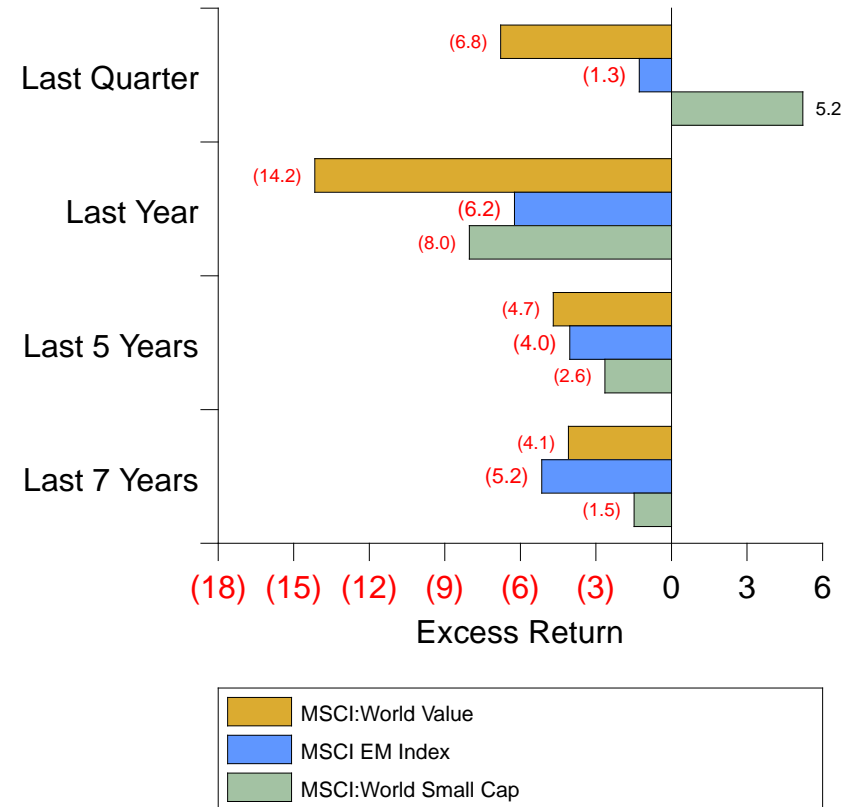


# World Equity Portfolio Exposures

Global Equity Style Map for June 30, 2020



Excess Return vs. MSCI World Index for Periods Ending June 30, 2020

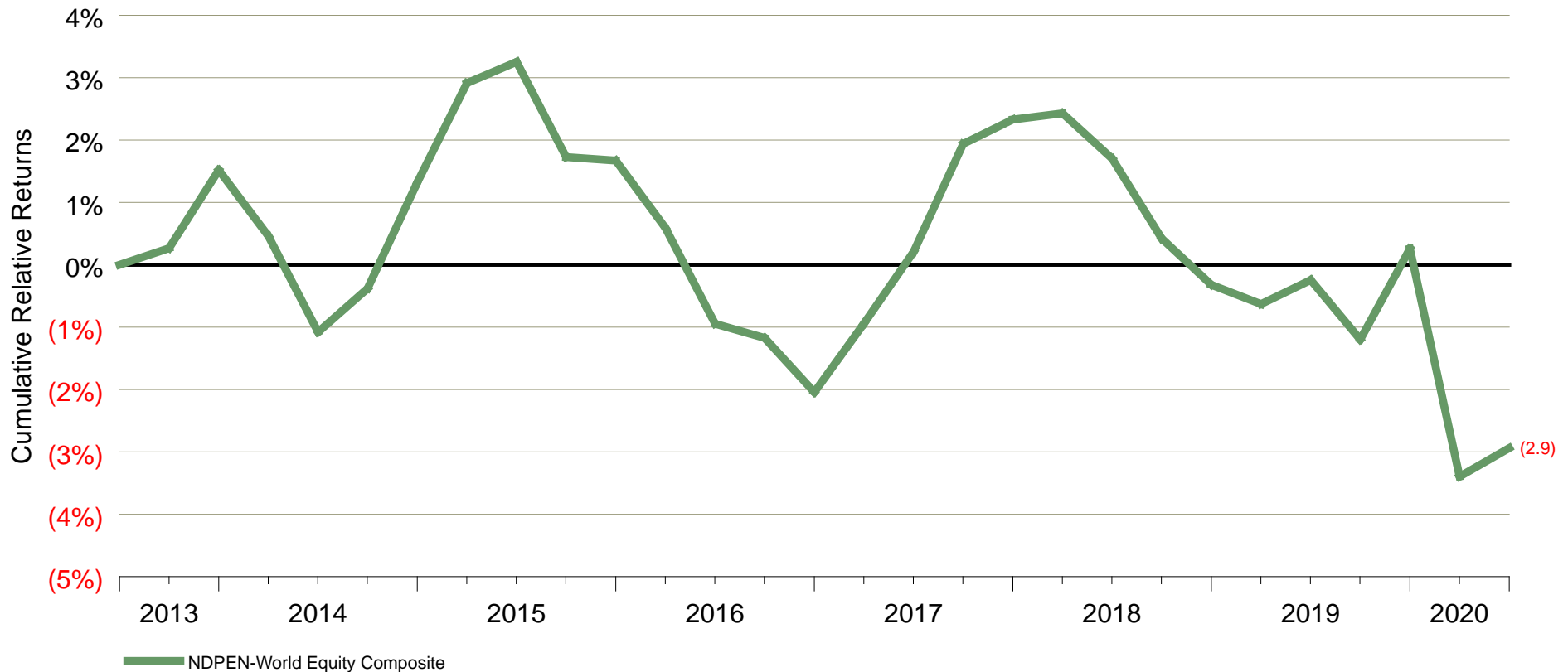


- While the World Equity Composite is benchmarked to the MSCI World Index, LSV is benchmarked to the MSCI ACWI IMI. This index includes both smaller capitalization stocks and Emerging Market equities.
- LSV also has a strong value bias. All three of these factor tilts (small cap, value, and EM) have underperformed the MSCI World Index over one-, five-, and seven-year periods.

Excess returns for periods one year and greater are annualized

# World Equity Composite vs. 50% MSCI World / 50% MSCI ACWI IMI Value

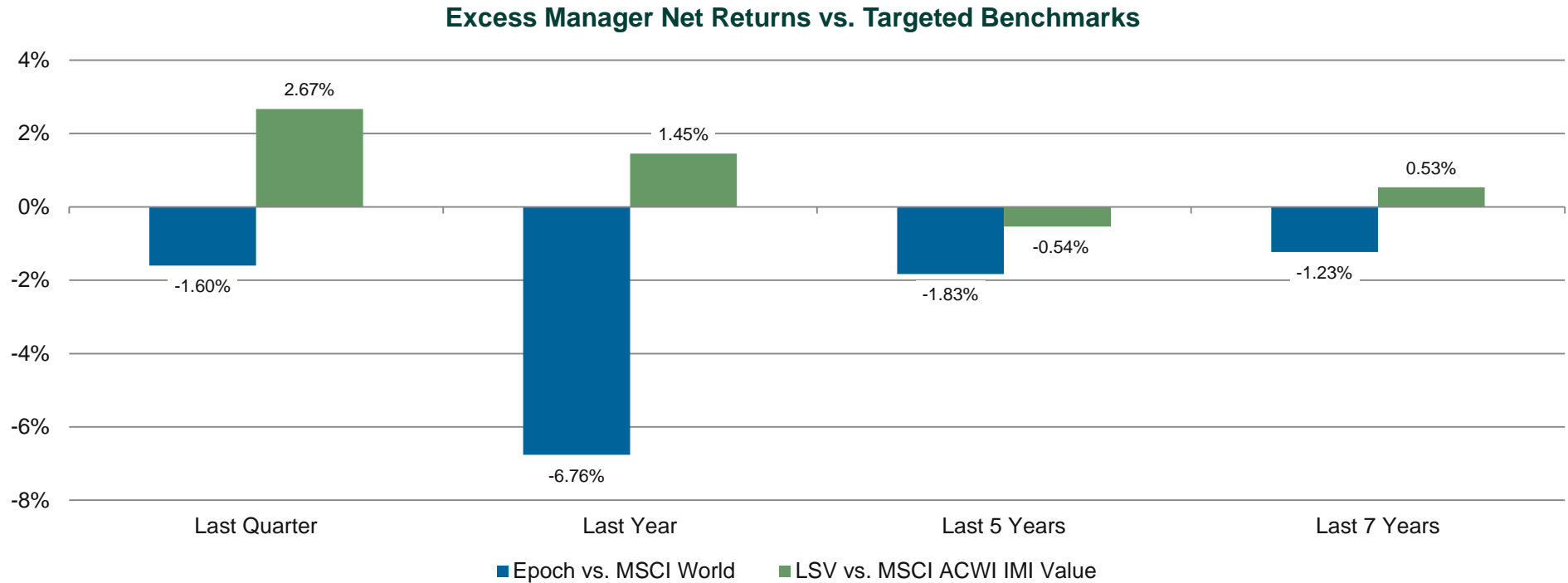
Net of Fee Cumulative Relative Returns Relative To 50% MSCI World / 50% MSCI ACWI IMI Value for 7 Years Ended June 30, 2020



- When compared to a benchmark that is more reflective of the underlying manager portfolios, the World Equity Composite’s relative underperformance is less severe.
- The composite underperformed this combined benchmark by a cumulative 2.9% over seven years versus -14.3% against the MSCI World.

# Manager Excess Returns vs. Targeted Benchmarks

As of June 30, 2020



- When compared against the MSCI ACWI IMI Value, LSV has actually produced positive returns over the trailing seven-year period and, over the one-year trailing period.
- Relative returns are still negative over the trailing five-year period, but are less severe than are Epoch's against the MSCI World.

Excess returns for periods one year and greater are annualized

Callan

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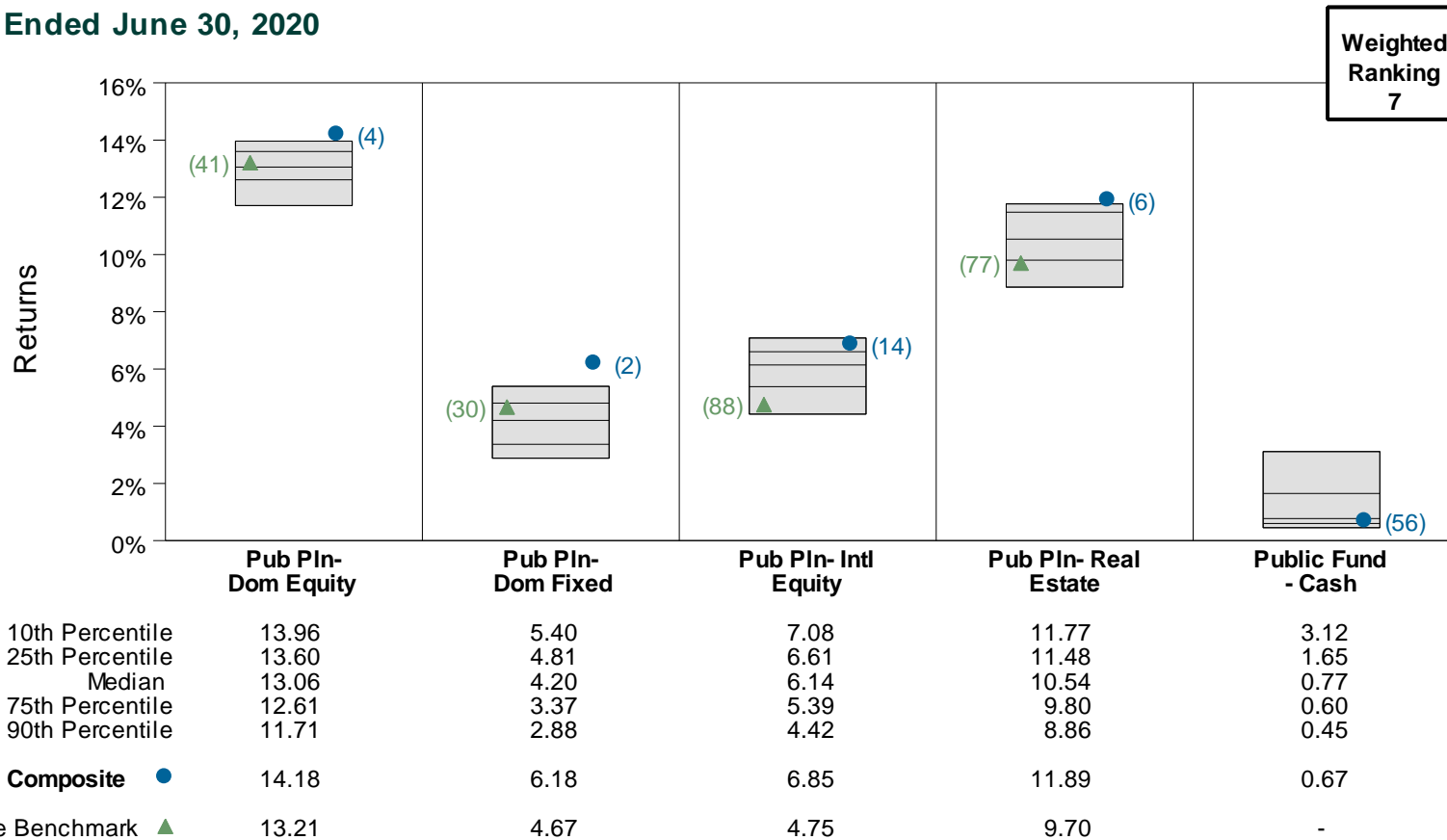
## **Appendix A**

Consolidated Asset Class Rankings

# Asset Class Composite Results

## PERS' Asset Class Results vs. Other Public Pension Funds

### Total Asset Class Performance Ten Years Ended June 30, 2020

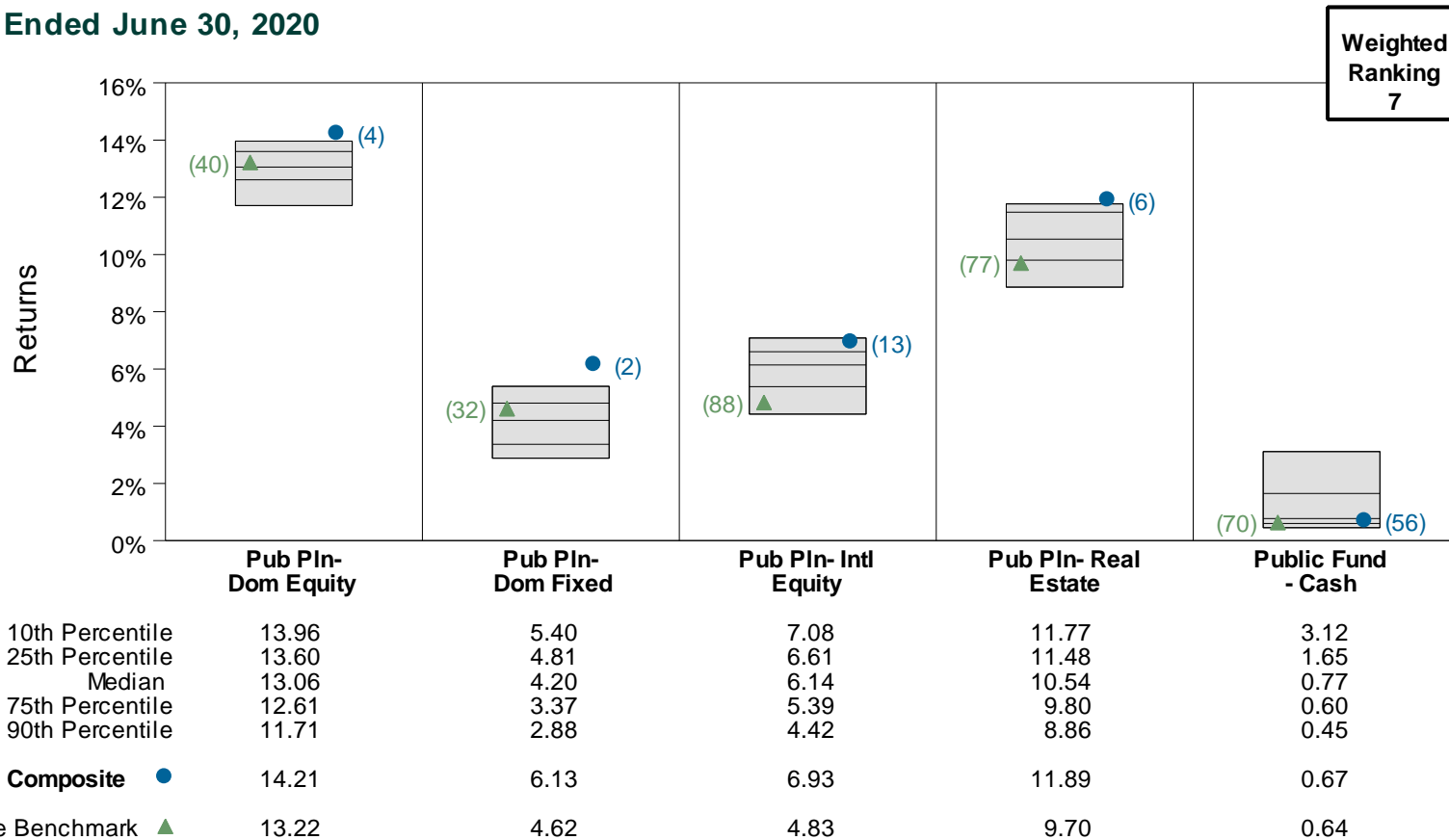


- All asset classes have outperformed their benchmarks and performed in the top quartile over the last 10 years (excluding cash).
- Domestic equity, fixed income, and real estate have ranked in the top decile over the period.

# Asset Class Composite Results

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

### Total Asset Class Performance Ten Years Ended June 30, 2020

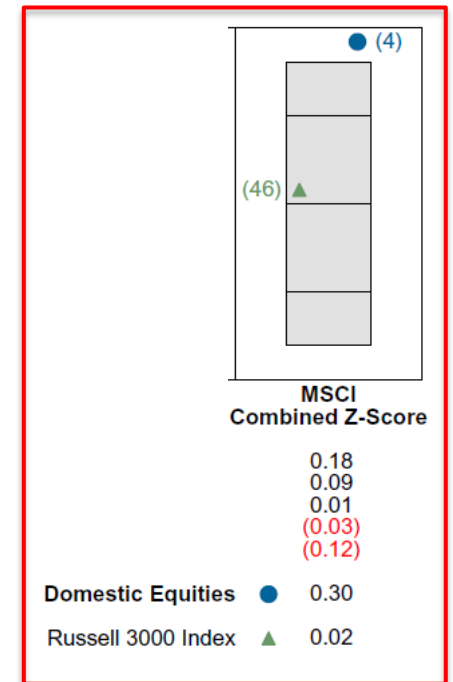
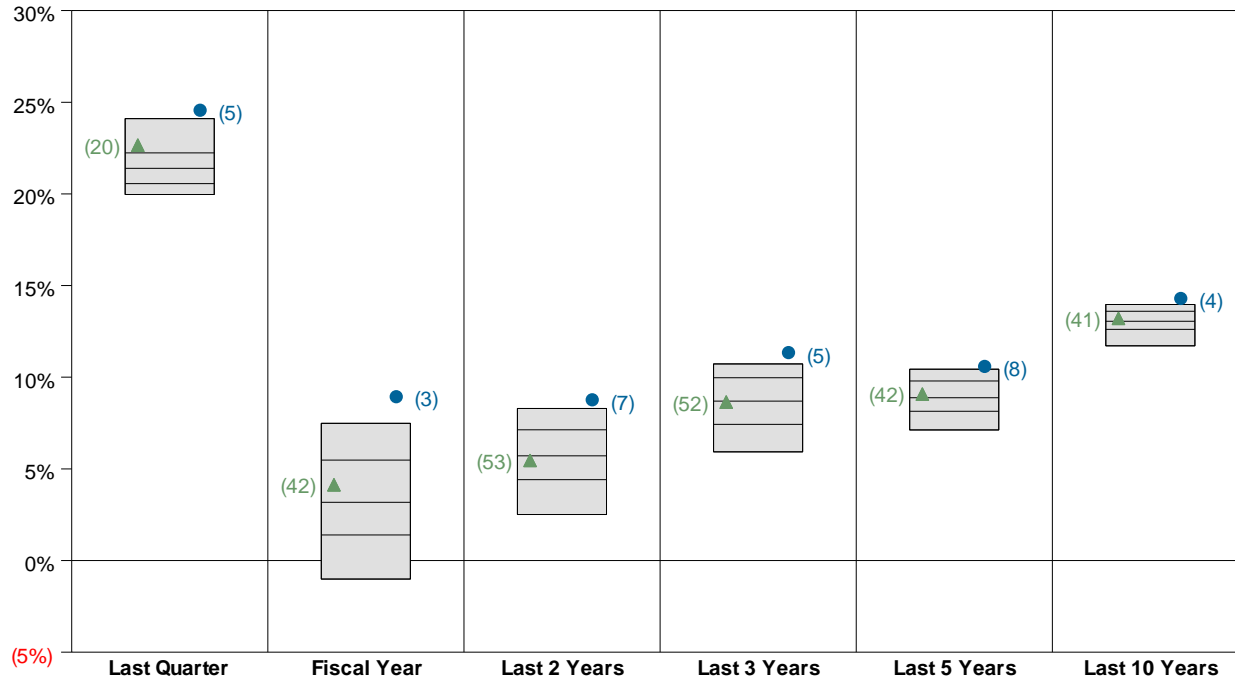


- All asset classes have outperformed their benchmarks over the last 10 years.
- With the exception of cash, all asset classes have ranked in the top quartile over the period.

# Consolidated Pension Trust: Domestic Equity

As of June 30, 2020

## Performance vs Public Fund - Domestic Equity (Gross)



Higher Z-Scores denote "growth."

Lower Z-Scores denote "Value"

10th Percentile	24.10	7.49	8.29	10.72	10.44	13.96
25th Percentile	22.23	5.48	7.13	9.97	9.80	13.60
Median	21.40	3.18	5.71	8.70	8.88	13.06
75th Percentile	20.56	1.40	4.41	7.43	8.14	12.61
90th Percentile	19.97	(1.01)	2.52	5.93	7.12	11.71
<b>Domestic Equities ●</b>	24.48	8.87	8.69	11.26	10.52	14.22
Domestic Equity Target ▲	22.66	4.13	5.46	8.64	9.08	13.21

- The domestic equity composite outperformed the benchmark over all measured periods.
- Over the trailing 10-year period the composite ranks in the top decile.
- NDSIB's domestic equity portfolio has benefitted from a meaningful growth tilt versus other Public Pension Funds.

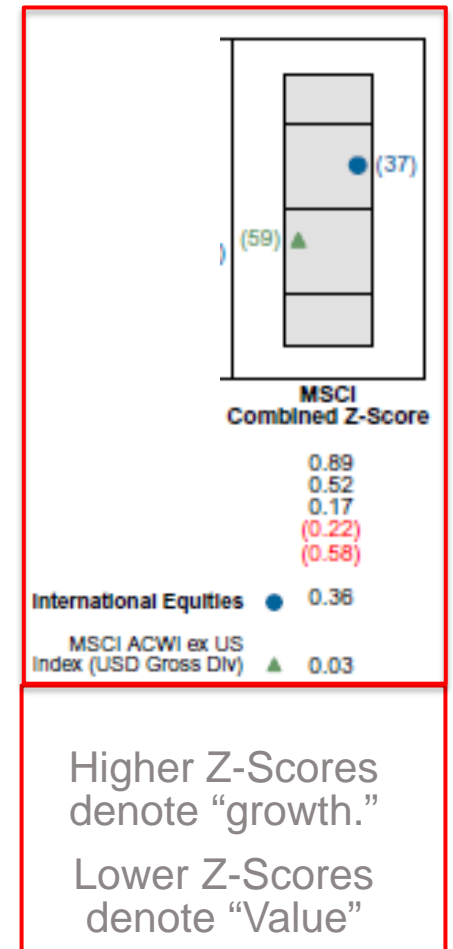
# Consolidated Pension Trust: International Equity

As of June 30, 2020

## Performance vs Public Fund - International Equity (Gross)



	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	20.29	(0.49)	0.16	3.23	4.51	7.08
25th Percentile	18.09	(2.45)	(0.88)	2.41	3.67	6.61
Median	16.40	(4.14)	(1.71)	1.53	2.94	6.14
75th Percentile	15.92	(5.25)	(2.79)	0.62	2.30	5.39
90th Percentile	15.42	(6.74)	(3.86)	(0.44)	1.38	4.42
<b>International Equities</b> ●	20.07	(0.03)	(0.19)	3.20	4.23	6.92
International Equity Target ▲	15.97	(4.91)	(1.85)	1.13	2.22	4.78



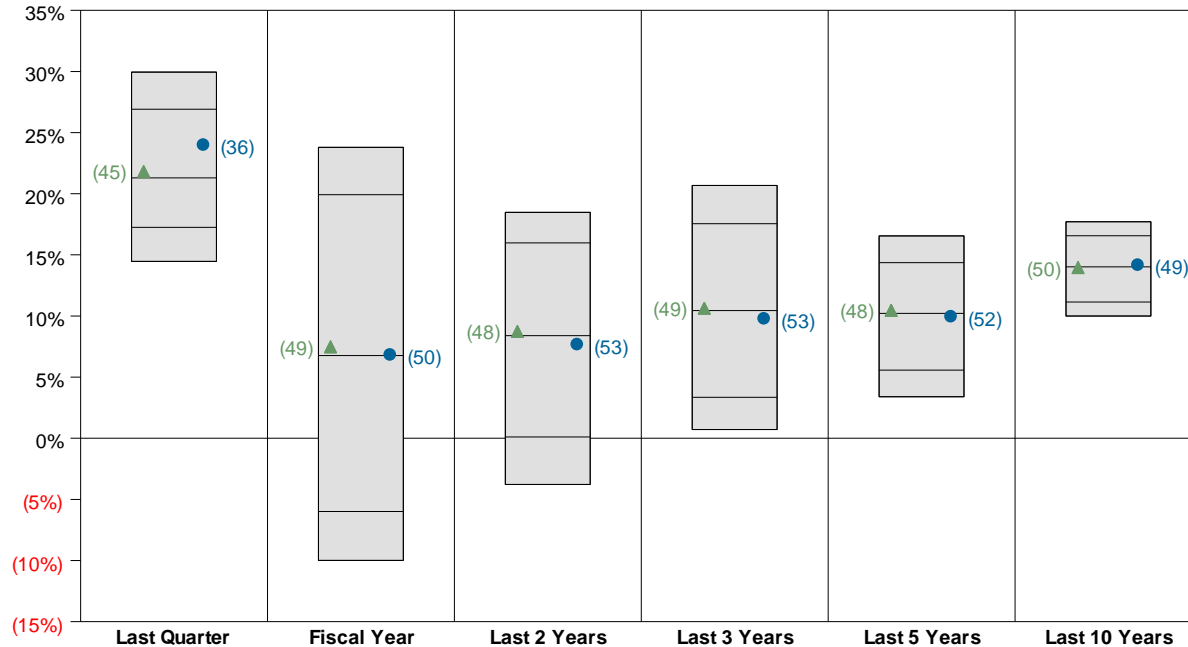
- NDSIB's international equity outperformed the benchmark over all measured periods.
- The portfolio has performed in the top quartile over all trailing periods.
- NDSIB's international equity portfolio also benefits from a growth tilt versus other Public Pension Funds.



# Consolidated Insurance Trust: Large Cap Equity

As of June 30, 2020

## Performance vs Callan Large Capitalization (Gross)



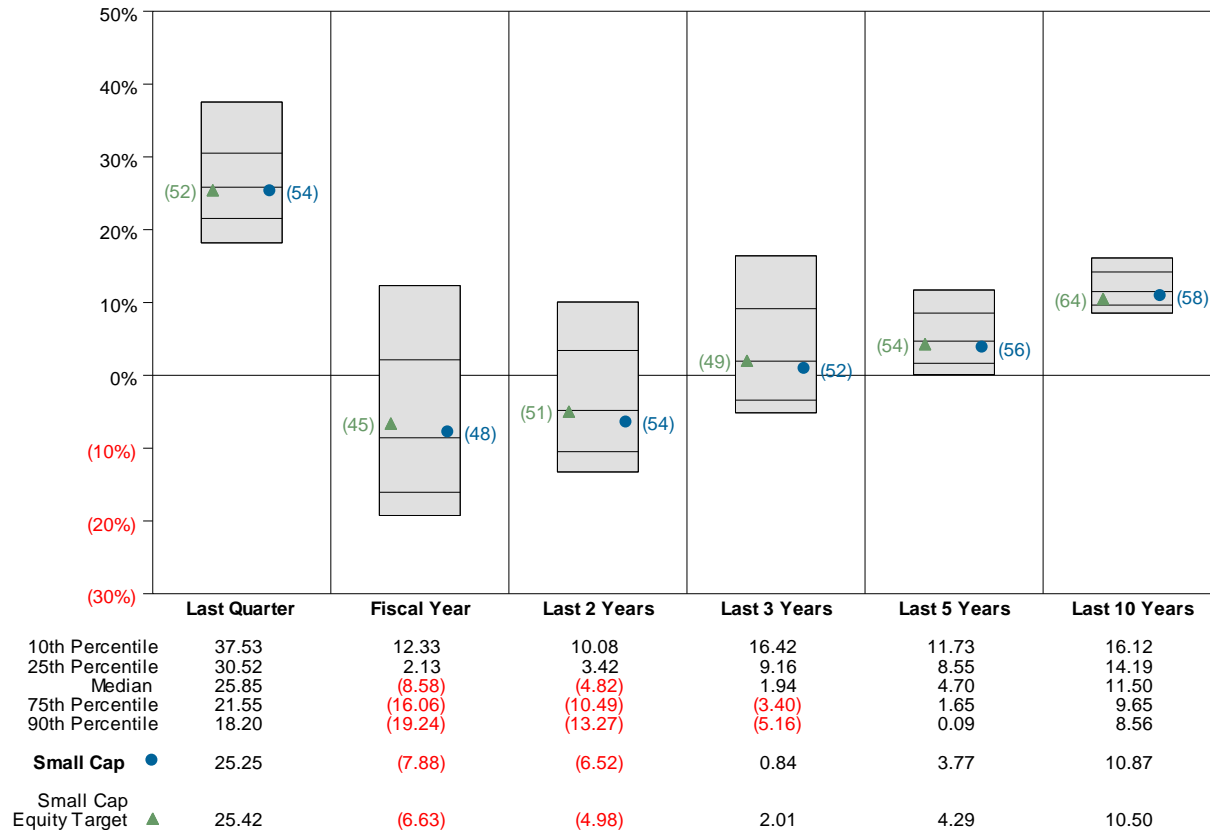
	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	29.95	23.79	18.48	20.68	16.55	17.71
25th Percentile	26.91	19.92	15.98	17.55	14.37	16.57
Median	21.30	6.76	8.39	10.44	10.22	14.02
75th Percentile	17.25	(5.99)	0.11	3.35	5.58	11.14
90th Percentile	14.46	(9.99)	(3.78)	0.71	3.40	9.99
<b>Large Cap</b> ●	23.90	6.75	7.59	9.70	9.87	14.10
Large Cap Equity Target ▲	21.82	7.48	8.74	10.64	10.47	13.97

- The portfolio has generally performed near the median among peer composites.

# Consolidated Insurance Trust: Small Cap Equity

As of June 30, 2020

## Performance vs Callan Small Capitalization (Gross)

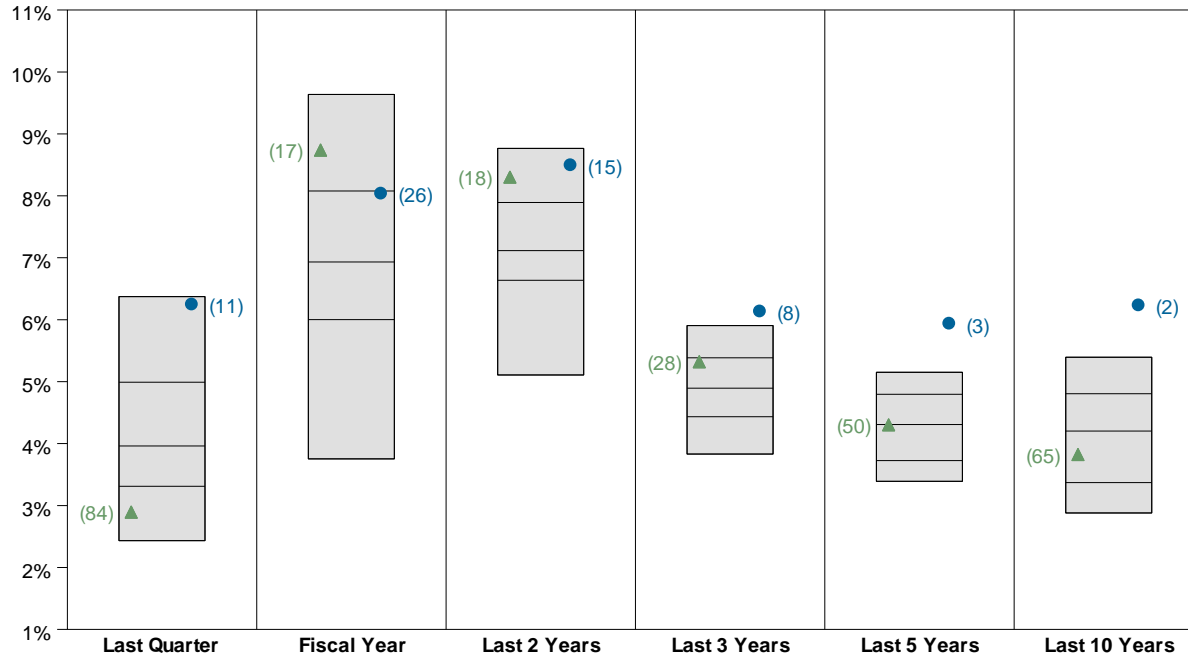


- The asset class produced mixed performance relative to the benchmark over various rolling periods.
- The small cap equity composite underperformed the peer median over longer measured periods.

# Consolidated Insurance Trust: Domestic Fixed Income

As of June 30, 2020

## Performance vs Public Fund - Domestic Fixed (Gross)



10th Percentile	6.37	9.64	8.77	5.90	5.15	5.40
25th Percentile	4.99	8.08	7.89	5.38	4.80	4.81
Median	3.96	6.93	7.11	4.89	4.31	4.20
75th Percentile	3.31	6.00	6.64	4.43	3.73	3.37
90th Percentile	2.43	3.75	5.11	3.83	3.39	2.88
<b>Domestic Fixed Income</b>	<b>6.23</b>	<b>8.02</b>	<b>8.48</b>	<b>6.12</b>	<b>5.92</b>	<b>6.22</b>
<b>Blmbg Aggregate</b>	<b>2.90</b>	<b>8.74</b>	<b>8.30</b>	<b>5.32</b>	<b>4.30</b>	<b>3.82</b>

- The asset class outperformed the target over trailing periods 2-years and longer, while underperforming during the fiscal year.
- The domestic fixed income asset class ranked in the top decile for the three-, five-, and ten-year periods. Shorter term rankings have also been strong.

June 30, 2020



## North Dakota State Investment Board Pension Funds

Investment Measurement Service  
Quarterly Review

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## Table of Contents

### June 30, 2020

---

#### Executive Summary

Active Management Overview	2
Capital Market Review	3

---

#### NDSIB - Consolidated Pension Trust

Actual vs Target Asset Allocation	19
Quarterly Total Fund Attribution	20
Cumulative Total Fund Attribution	21
Historical Asset Allocation	25
Asset Class Risk and Return	26
Total Fund Ranking	27
Asset Class Rankings	28
Investment Manager Asset Allocation	29
Investment Manager Returns	32

---

#### NDSIB - Public Employees Retirement System

Actual vs Target Asset Allocation	38
Quarterly Total Fund Attribution	39
Cumulative Total Fund Attribution	40
Cumulative Performance	44
Historical Asset Allocation	45
Asset Class Risk and Return	46
Total Fund Ranking	47
Asset Class Rankings	48
Asset Class Allocation	49
Asset Class Returns	50

---

#### NDSIB - Teachers Fund For Retirement

Actual vs Target Asset Allocation	53
Quarterly Total Fund Attribution	54
Cumulative Total Fund Attribution	55
Cumulative Performance	59
Historical Asset Allocation	60
Asset Class Risk and Return	61
Total Fund Ranking	62
Asset Class Rankings	63
Asset Class Allocation	64
Asset Class Returns	65

---

## Table of Contents

### June 30, 2020

---

#### Domestic Equities

Domestic Equities Composite	68
L.A. Capital Management	69
L.A. Capital Management Enhanced Index	70
Northern Trust AM Enhanced S&P 500	71
Parametric Enhanced S&P 500	72
Atlanta Capital	73
Parametric Enhanced Small Cap	74

---

#### International Equities

International Equities Composite	76
DFA International Small Cap Value Fund	77
Northern Trust AM World ex US	78
Wellington Management Company	79
William Blair	80
Axiom Emerging Markets	81
DFA Emerging Markets	82

---

#### World Equities

EPOCH Investment Partners	84
LSV Asset Management	85

---

#### Private Equities

Investment Manager Returns	87
----------------------------	----

---

#### Domestic Fixed Income

Domestic Fixed Income Composite	89
Declaration Total Return	90
PIMCO DiSCO II	91
PIMCO Core Plus Constrained	92
Prudential Core	93
SSgA Long US Treasury Index	94
Ares ND Credit Strategies Fd	95
Cerberus ND Private Credit Fd	96
Goldman Sachs 2006 Offshore	97
Goldman Sachs Offshore Fund V	98
Loomis Sayles	99
PIMCO Bravo II Fund	100

---

#### Real Estate

Real Estate Composite	102
Performance vs Total Real Estate Database	103

---

---

## Table of Contents

### June 30, 2020

---

#### Timber

TIR Teredo	106
TIR Springbank	107

---

#### Infrastructure

ISQ Global Infrastructure II	109
The Rohatyn Group	110
JP Morgan Infrastructure Fund	111
Grosvenor Cust. Infrastructure	112
Grosvenor Cust. Infrastructure II	113
Macquarie Infrastructure Partners IV	114

---

Callan Research/Education	115
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Disclosures	118
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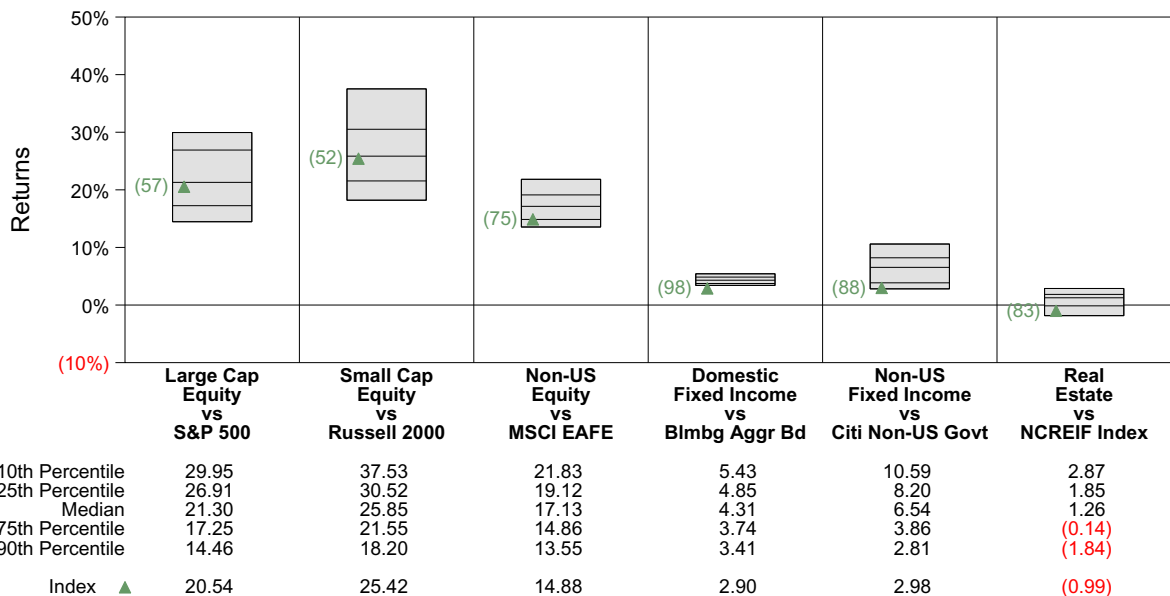
## Market Overview

### Active Management vs Index Returns

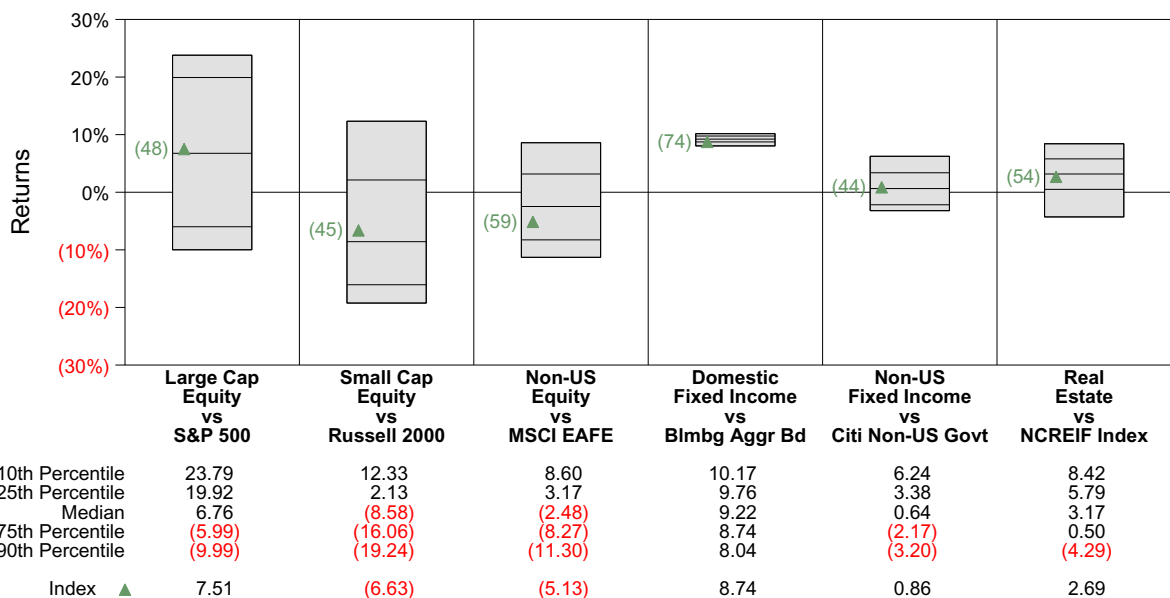
#### Market Overview

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 June 30, 2020



#### Range of Separate Account Manager Returns by Asset Class One Year Ended June 30, 2020







# Capital Market Review

## The Stock Market Is Not the Economy

### ECONOMY

**2** While equities rebounded in 2Q20, economies around the world face significant challenges as the pandemic creates an unprecedented environment. U.S. GDP, for instance, fell an astonishing 9.5% in the quarter, or 32.9% on an annualized basis, while a quarter of all jobs evaporated.

## Returns Positive After 1st Quarter Volatility

### INSTITUTIONAL INVESTORS

**4** Every type of institutional investor showed gains over the one year ending with the second quarter, rebounding from the first quarter. And while all lagged a 60% stocks/40% bonds benchmark over that time period, over longer periods they have roughly matched its performance.

## Bounceback Leads Indices to Soar in 2Q

### EQUITY

**6** U.S. equity markets bounced back from March lows in 2Q20, with three sectors (Technology, Consumer Discretionary, Energy) posting returns in excess of 30%. Accommodative monetary policies helped fuel the market recovery for global equities.

## Mixed Performance Around the World

### FIXED INCOME

**8** After strong performance in 1Q20, U.S. Treasury returns lagged other "spread" sectors in 2Q20 as risk appetites rebounded. Developed market sovereign bond yields ended lower amid rate cuts overseas. Emerging market debt rebounded, helped by rising oil prices.

## Appreciation Falters; REITs Underperform

### REAL ESTATE/REAL ASSETS

**10** All sectors of the NCREIF Property Index saw negative appreciation in 2Q20, but income remained positive except for Hotels. Transaction volume dropped off with the exception of Industrial assets that have tenants with strong credit. REITs underperformed equity benchmarks.

## Heightened Focus on Portfolio Holdings

### PRIVATE EQUITY

**12** Activity slowed in 2Q20, although larger transactions helped prop up dollar volumes. The market is in a period of both price discovery and a heightened focus on existing portfolio holdings. First quarter returns were down, but by less than half those of public equity.

## Beta Leads, and Alpha Follows

### HEDGE FUNDS/MACs

**13** Global markets reverted to risk-on mode in 2Q20, and most hedge fund strategies benefited. The CS HFI rose 6.2%, while the median manager in the Callan Hedge Fund-of-Funds Database Group gained 7.7%. The Callan Institutional Hedge Fund Peer Group increased 6.0%.

## Index Posts Largest Drop Since 4Q08

### DEFINED CONTRIBUTION

**15** The equity downturn in 1Q20 led to the decline and ended four straight quarters of gains. Balances saw the biggest plunge ever. Stable value funds saw the biggest inflows as participants sought safety. Allocation to equity reached the lowest level since 2012.

## Broad Market Quarterly Returns

**U.S. Equity**  
Russell 3000



**22.0%**

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



**16.1%**

**U.S. Fixed Income**  
Bloomberg Barclays Agg



**2.9%**

**Global ex-U.S. Fixed Income**  
Bloomberg Barclays GBI ex US



**3.4%**

Sources: Bloomberg Barclays, FTSE Russell, MSCI

# The Stock Market Is Not the Economy

ECONOMY | Jay Kloepfer

Stock markets around the globe staged spectacularly swift recoveries in the second quarter from their sudden and equally spectacular plunge in the first quarter, providing investors with the hallowed V-shaped recovery that once seemed impossible. While major equity indices are headed back toward all-time highs, the economies underlying these markets face a path quite different from a V-shaped recovery. The sectors driving the U.S. stock market, technology in particular, are not the sectors like retail and hospitality that employ the largest number of workers.

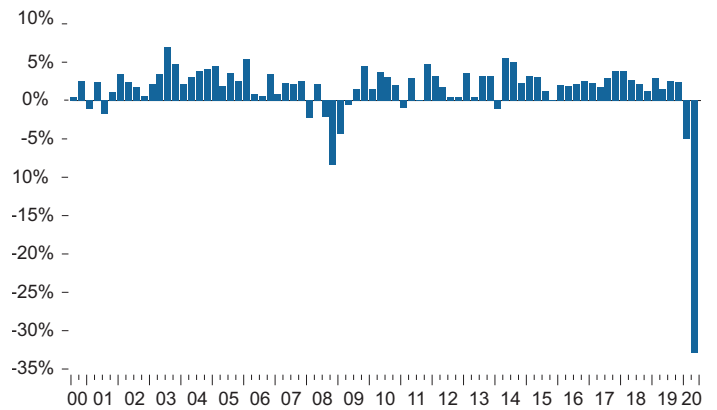
The staggered reopening of states within the U.S. and economies around the globe drove a sharp rise in economic activity in May and June, but a range of high-frequency indicators suggests the pace of recovery has since softened following a resurgence in COVID-19 infections and deaths. The prospect for many locales to pause or roll back easing, and the observed retrenchment in spending by businesses and consumers, looms over the path to recovery. Government belt tightening may undermine the rebound, as tax revenues for localities have plummeted in the face of a surge in demand for services. Revenue shortfalls for state and local governments for fiscal year 2021 may total \$200 billion, according to IHS Markit. Consensus forecasts still call for a strong rebound in the third quarter followed by a more gradual recovery, but the risk has risen for a W-shaped trajectory, where a decline follows the third quarter pop, and then a more durable recovery begins with a delay, perhaps in the second half of 2021.

The word “unprecedented” to describe the current environment may seem overused, but the speed and depth of the economic disruption was indeed unprecedented. The total output of the U.S. economy as measured by GDP dropped 9.5% in the second quarter, or an annualized decline of 32.9%, unheard of in modern times. Approximately one quarter of all jobs disappeared in a matter of weeks.

GDP is an admittedly challenged measure of true economic activity even in normal times, and annualized percent changes around the chasm of the COVID-19 economic shutdown are

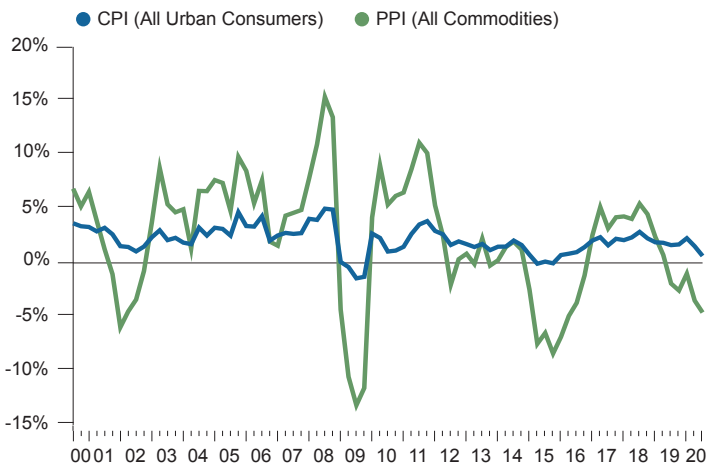
## Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

## Inflation Year-Over-Year



Source: Bureau of Labor Statistics

problematic in context. Adding to the data confusion is the seasonal adjustment methodology, which under normal circumstances greatly reduces the signal-to-noise ratio in monthly and quarterly GDP estimates but exacerbates the severity of data swings in times of extreme stress. These limitations aside, GDP remains the most comprehensive metric for examining U.S. and global activity. For the whole year, projections by forecaster Capital Economics suggest a GDP decline of close to 5% in the U.S. and Japan, 7.5% in the euro zone, and greater than 10% in the U.K. Official estimates for China peg 2020 GDP growth

at 2%, while unofficial estimates show a small loss (-1%). The focus going forward will be on the level of GDP, employment, unemployment, sales, and production, and when we can recover pre-pandemic levels of economic activity. Consensus estimates peg U.S. GDP regaining its pre-pandemic level in the second half of 2021, barring the appearance of the W-shaped recovery.

The most immediate and severe impact to the U.S. economy has been in the job market. Initial unemployment claims spiked to 6.9 million in the last week of March. The weekly claims have since subsided, but remain at levels unprecedented before the pandemic, topping 1 million every week since then. In addition to regular state unemployment programs, the CARES Act expanded benefits to many not typically covered by states and extended regular benefits for up to 13 weeks. The sum of these programs provided unemployment benefits for over 30 million persons through the end of June, off a starting job base of 155 million in February. The job market staged a surprising surge in May and June, but the high-frequency data are suggesting a marked softening into the summer.

U.S. inflation perked up in June following declines for three consecutive months, but year-over-year CPI is up just 0.6%, well below recent trends and the Fed's long-term target of 2%. By some measures, second quarter inflation fell to its lowest point in SEVEN decades. CPI measures consumer prices against a basket of typical goods and services purchased. GDP and consumption price deflators measure price changes of goods and services as actually transacted, and both measures saw almost 2% declines in the second quarter. While concerns are rising that the fiscal and monetary stimulus enacted to rescue the global economies will be highly inflationary, the prospect

### The Long-Term View

Index	2Q20	Periods Ended 6/30/20			
		Year	5 Yrs	10 Yrs	25 Yrs
<b>U.S. Equity</b>					
Russell 3000	22.0	6.5	10.0	13.7	9.3
S&P 500	20.5	7.5	10.7	14.0	9.3
Russell 2000	25.4	-6.6	4.3	10.5	8.2
<b>Global ex-U.S. Equity</b>					
MSCI EAFE	14.9	-5.1	2.1	5.7	4.5
MSCI ACWI ex USA	16.1	-4.8	2.3	5.0	--
MSCI Emerging Markets	18.1	-3.4	2.9	3.3	--
MSCI ACWI ex USA Small Cap	22.8	-4.3	2.5	6.0	5.5
<b>Fixed Income</b>					
Bloomberg Barclays Agg	2.9	8.7	4.3	3.8	5.4
90-Day T-Bill	0.0	1.6	1.2	0.6	2.4
Bloomberg Barclays Long G/C	6.2	18.9	9.0	7.8	7.7
Bloomberg Barclays GI Agg ex US	3.4	0.7	2.9	2.0	3.7
<b>Real Estate</b>					
NCREIF Property	-1.0	2.7	6.8	9.7	9.1
FTSE Nareit Equity	11.8	-13.0	4.1	9.1	9.5
<b>Alternatives</b>					
CS Hedge Fund	6.2	-0.7	1.6	3.8	7.5
Cambridge PE*	-7.8	2.1	10.4	12.3	14.7
Bloomberg Commodity	5.1	-17.4	-7.7	-5.8	0.7
Gold Spot Price	12.8	27.4	9.0	3.8	6.4
<b>Inflation – CPI-U</b>	-0.1	0.6	1.6	1.7	2.1

\*Data for most recent period lags by a quarter. Data as of 3/31/20.

Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices, Refinitiv/Cambridge

of near-term deflation is real, and holds the potential to derail the recovery—falling prices could slow consumer and business spending, especially if deflation becomes a spiral rather than a temporary dip.

### Recent Quarterly Economic Indicators

	2Q20	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18
Employment Cost–Total Compensation Growth	2.7%	2.8%	2.7%	2.8%	2.7%	2.8%	2.9%	2.8%
Nonfarm Business–Productivity Growth	2.5%*	-0.8%	1.2%	-0.3%	2.7%	3.9%	0.5%	1.6%
GDP Growth	-32.9%	-5.0%	2.4%	2.6%	1.5%	2.9%	1.3%	2.1%
Manufacturing Capacity Utilization	63.1%	73.5%	75.0%	75.4%	75.5%	76.4%	77.0%	76.9%
Consumer Sentiment Index (1966=100)	74.0	96.4	97.2	93.8	98.4	94.5	98.2	98.1

\* Estimate

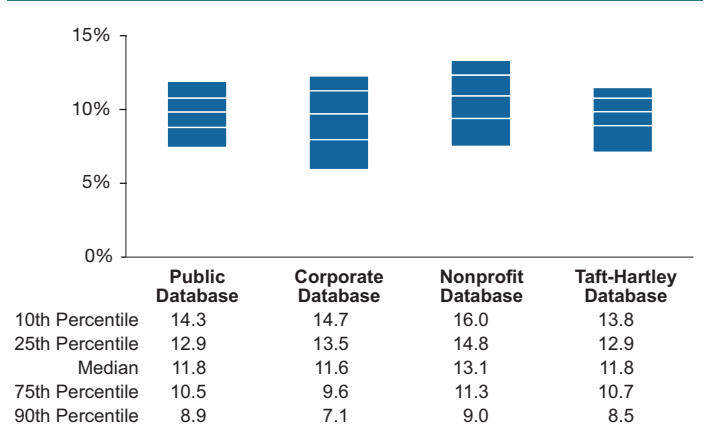
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

# Returns Positive After 1st Quarter Volatility

## INSTITUTIONAL INVESTORS

- After the pandemic-induced market volatility in 1Q20, all types of institutional investors rebounded to positive performance for the 12 months ending with the second quarter. Corporate defined benefit (DB) plans fared notably better than others, gaining 6.4%. Other types of investors saw increases of roughly 2%-3%. All fell short of major U.S. stock and bond indices, as well as a 60% S&P 500/40% Bloomberg Barclays Aggregate benchmark, but outperformed global ex-U.S. equities by a wide margin.
- Over the last 20 years, institutional investors have performed in line with the 60%/40% benchmark, with returns in a range of 5.7%-5.9% annualized.
- The V-shaped equity market decline and recovery experienced in the first half of 2020 revealed levels of volatility not seen since the Global Financial Crisis of 2008-09. Investors' recent experience with volatility may reveal their "true" tolerance for risk.
- We note that the stock market is not the economy and the path out of recession remains undiscovered.

### Quarterly Returns, Callan Database Groups



Source: Callan

- For institutional investors, the key is to stay the course: rebalance; manage liquidity; evaluate their portfolios for impairment or unexpected performance; and watch for opportunity, both inside the portfolio and across the markets.

### Callan Database Median and Index Returns\* for Periods Ended 6/30/20

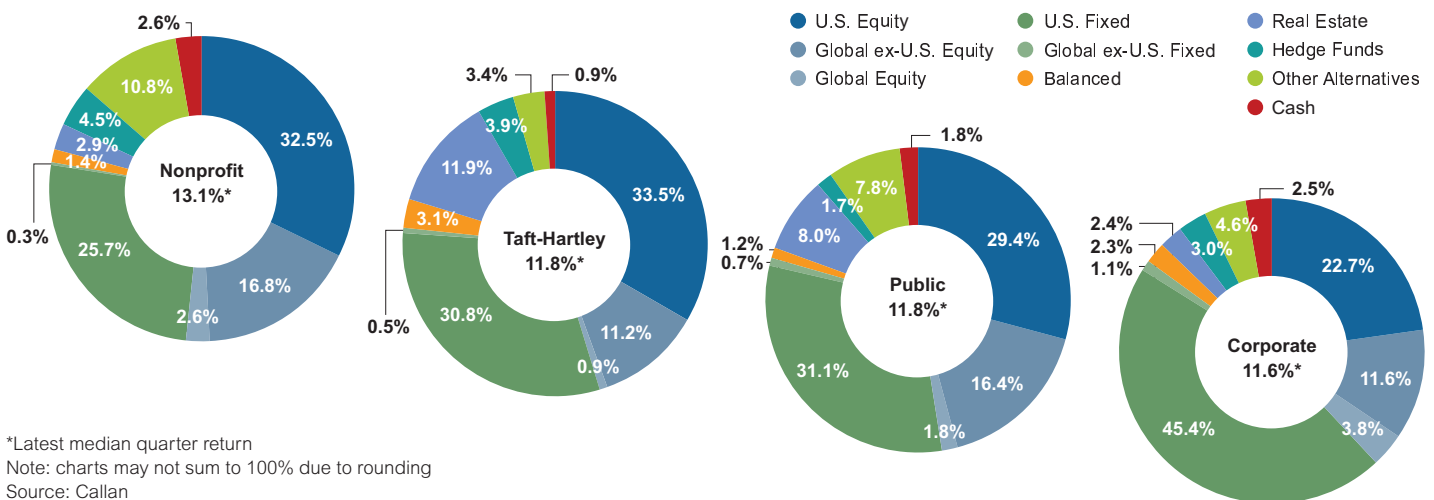
Database Group	Quarter	Year-to-date	Year	3 Years	5 Years	10 Years
Public Database	11.79	-2.34	3.26	5.81	6.02	8.09
Corporate Database	11.64	0.00	6.36	6.89	6.74	8.47
Nonprofit Database	13.10	-3.26	2.67	5.52	5.59	7.89
Taft-Hartley Database	11.82	-2.74	3.21	5.93	6.21	8.55
All Institutional Investors	12.04	-2.26	3.63	5.88	6.03	8.24
Large (>\$1 billion)	10.87	-1.62	4.09	6.39	6.40	8.48
Medium (\$100mm - \$1bn)	11.99	-2.18	3.62	5.94	6.12	8.24
Small (<\$100 million)	12.71	-2.71	3.31	5.65	5.76	8.07

\*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.

- The massive monetary and fiscal intervention by governments will change the landscape:
  - The continuing low-yield environment and the capital markets going forward favor growth.
  - Investors need to remember the purpose of capital market assumptions: To define an investor’s return expectation, while matching the investor’s risk tolerance and investment time horizon. Importantly, they are not point estimates: they define a range of possible outcomes.
  - Investors also need to assess what can serve as an equity diversifier equal to bonds with the return of zero interest rates. Are they willing to pay for the benefit of fixed income?
- Some decisions are on hold, particularly serious restructuring of asset class exposures, but strategic planning continues apace.
- Based on Callan’s client activity, many types of institutional investors plan to adjust their strategic allocations by shifting out of publicly traded asset classes and into alternatives, including private equity, private credit, and real assets.
- This interest has led to a surge in asset allocation reviews and discussions about the capital markets with investors.
- As part of those assessments, investors are re-examining the purposes of all diversifiers, including real assets, hedge funds and liquid alternatives, fixed income, and private equity and private credit.
- Private credit in particular drew attention. All institutional investor types had some interest in increasing private credit, and none indicated an intention to cut their allocations.
- Corporate DB plans indicated they intended to reduce allocations to equities but increase allocations to fixed income. The capital market upheaval has not derailed the trend toward de-risking; the commitment to de-risking is solid.
- Public DB plans expressed interest in a range of opportunistic strategies, such as unconstrained fixed income.
- Nonprofits continued to emphasize return enhancement. Strategic asset allocation work is focused on evaluating investment portfolios that can support the desired distribution rate in order to balance intergenerational equity.
- The top concern for insurance clients was yield.
- In terms of their strategic allocations, insurance clients indicated they planned to shift out of equities, both U.S. and global ex-U.S., and increase allocations to a variety of credit and alternative investments.
- Institutional investors expressed strong interest in educational topics relevant to the current market environment.
- Finally, COVID-19 was top of mind for all investor types. One noticeable impact was a dramatic shift in meetings. Virtually all clients in an exclusive Callan survey said that the vast bulk of their meetings were now occurring virtually, and a third were doing all of their meetings that way.

Average Asset Allocation, Callan Database Groups



# Equity

## U.S. Equities

U.S. equity markets bounced back from March lows in 2Q20 (Russell 1000: +21.8%). The S&P 500 (+20.5%) recorded its best quarterly performance since 1998. Three sectors (Technology, Consumer Discretionary, and Energy) posted returns in excess of 30%. Information Technology (+30.5%) continues to be a top performer with the “FAAMG” stocks (Facebook, Amazon, Apple, Microsoft, and Google) up 35% in the quarter. Many Technology stocks benefited from the “stay at home” environment. Energy stocks (+30.5%) rebounded after OPEC+ and non-OPEC production cuts buoyed crude prices.

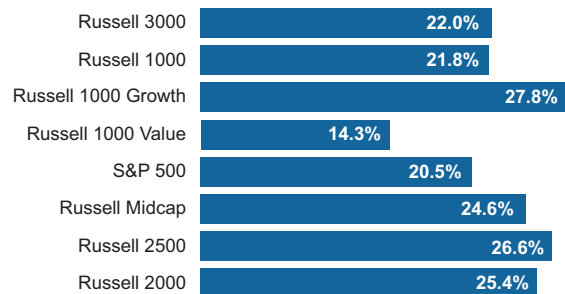
### Small cap outgained large cap

- From the first to the second quarter, the Russell 2000 swung from its worst quarterly performance to one of its three best quarterly returns since the inception of the index.
- The Russell 2000 still lags the Russell 1000 on a year-to-date and trailing one-year basis, exemplifying the extreme dislocation between large and small cap performance in the first quarter.
- Better-than-expected economic data and Fed actions helped shift investment sentiment in favor of small cap.

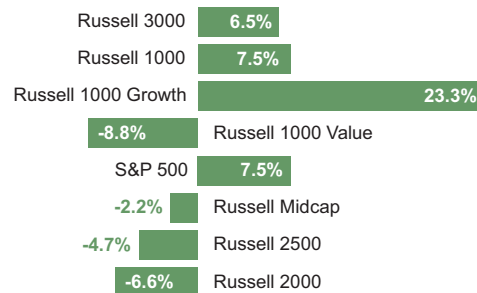
### Growth outpaced value across market capitalizations

- Russell’s value indices underperformed their growth counterparts across the market cap spectrum during the first quarter decline as well as during the second quarter recovery (Russell 1000 Growth: +27.8%; Russell 1000 Value: +14.3%; Russell 2000 Growth: +25.4%; Russell 2000 Value: -6.6%; Russell 2500 Growth: +26.6%; Russell 2500 Value: -4.7%; Russell Midcap Growth: +24.6%; Russell Midcap Value: -2.2%; S&P 500 Growth: +20.5%; S&P 500 Value: +7.5%; Russell 3000 Growth: +22.0%; Russell 3000 Value: +6.5%).

## U.S. Equity: Quarterly Returns



## U.S. Equity: One-Year Returns

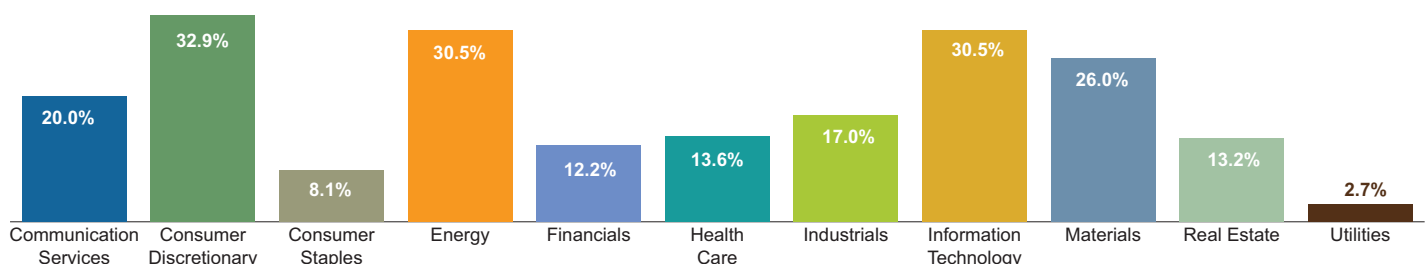


Sources: FTSE Russell and S&P Dow Jones Indices

+14.3%; Russell 2000 Growth: +30.6%; Russell 2000 Value: +18.9%).

- Persistently low interest rates, a flatter yield curve, and slower economic growth are some of the headwinds for the value factor.

## Quarterly Performance of Industry Sectors



Source: S&P Dow Jones Indices

## Global/Global ex-U.S. Equity

Accommodative monetary policies coupled with massive fiscal stimulus helped fuel the second quarter market recovery after the first quarter's declines.

### Global/Developed ex-U.S.

- Developed markets with the most success at mitigating the coronavirus led; Australia (+28.9%), New Zealand (+28.1%), and Germany (+26.5%) were the top performers.
- Countries' inability to "flatten the curve" acted as headwinds to their equity markets, namely the U.K. (+7.8%).
- Every sector in MSCI EAFE except Energy (-0.03%) posted positive returns, led by cyclical stocks, whose prices are highly sensitive to changes in the economy; Information Technology (+23.4%) companies also provided strong returns as working-from-home trends continued to support the sector.
- Factor performance in developed ex-U.S. markets was led by momentum and quality, reflecting the cyclical rebound (momentum) coupled with continued pandemic uncertainty (quality, flight to safety); growth continued to outperform value (EAFE Growth: +17.0% vs. EAFE Value: +12.4%).

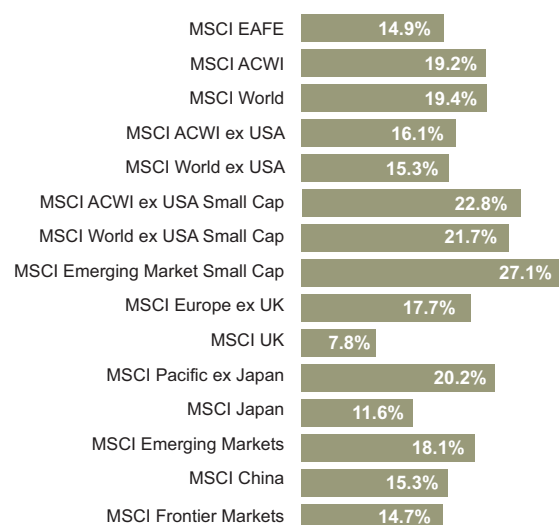
## Emerging Markets

- Emerging markets produced their strongest quarterly gains in over a decade as fiscal and monetary stimulus from countries aided the second quarter rebound across all countries and sectors.
- Most EM countries ended lockdowns during the period, but Latin America, India, and some parts of Southeast Asia ended the second quarter with cases surging.
- Commodity-linked economies such as South Africa (+27.2%), Brazil (+22.9%), and Russia (+18.7%) recovered on the strength of metals, mining, and oil-related securities after being some of the worst-performing countries in 1Q20.
- China (+15.6%) lagged the index as U.S.-China trade tensions reignited and additional sanctions were imposed.
- Every sector posted positive returns, most in double digits.
- Growth outperformed value (EM Growth: +22.1% vs. EM Value: +13.8%)

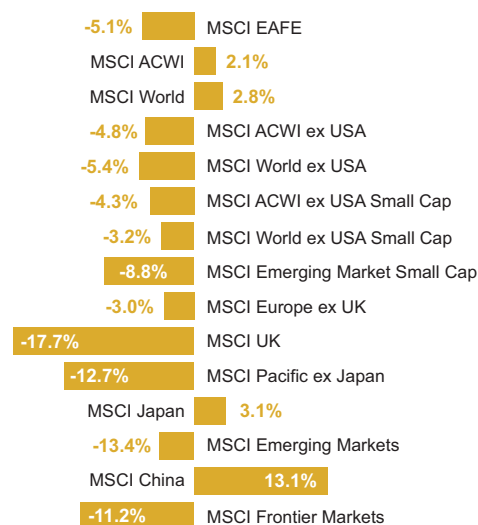
## Global ex-U.S. Small Cap

- Global ex-U.S. small caps rallied during the second quarter as lockdowns eased and economies reopened.
- A risk-on mindset pervaded the global ex-U.S. small cap market that fueled double-digit returns for every sector in the MSCI ACWI ex-USA Small Cap Index.
- Australia (+47.1%) was the top-performing country; Japan (+12.8%) and the U.K. (+14.8%) were two of the weakest.

### 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

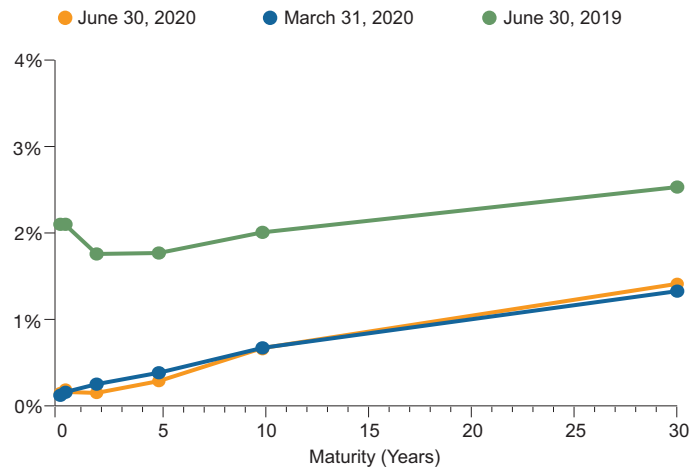
### U.S. Treasury yields were range-bound

- The 10-year U.S. Treasury yield reached a high of 0.91% in June before closing the quarter at 0.66%, down slightly from the 1Q20 quarter-end level of 0.70%.
- After strong performance in 1Q20, U.S. Treasury returns lagged other “spread” sectors as risk appetites rebounded, fueled by massive Fed stimulus programs as well as improved liquidity.
- The Fed left rates on hold at 0% – 0.25% for the foreseeable future, anchoring the low end of the yield curve.
- TIPS outperformed nominal Treasuries as expectations for inflation rose. The 10-year breakeven spread ended the quarter at 1.34%, up from 0.87% as of the end of 1Q20.

### Corporate credit rallied due to spread narrowing

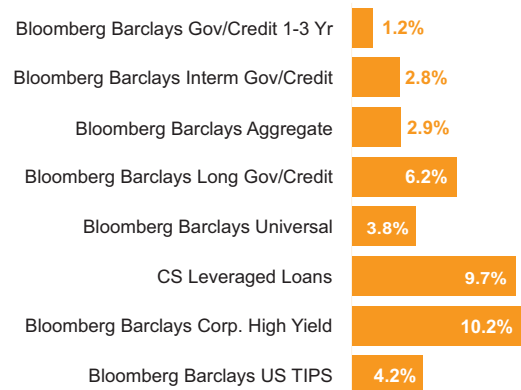
- Corporate credit rebounded amid improving investor confidence and economic data. However, fallen angels continued to spark concern with nearly half the investment grade bond market now rated BBB.
- Investment grade corporate spreads narrowed by 122 bps to 150 bps despite companies issuing record amounts of debt totaling \$1.4 trillion; the Fed provided continued support through the announcements of the Primary and Secondary Market Corporate Credit Facilities.
- In a reversal from 1Q20, lower quality outperformed as BBB-rated credit (+11.2%) outperformed single A (+7.0%), AA (+5.0%), and AAA (+1.7%).
- High yield corporates also posted sharp returns (+10.2%). CCC-rated high yield corporates (+9.1%) lagged BB-rated corporates (+11.5%).
- The high yield default rate reached a 10-year high (6.2%).
- Energy (+40.0%) was the highest-performing high yield bond sub-sector, reflecting sharply higher oil prices.

## U.S. Treasury Yield Curves



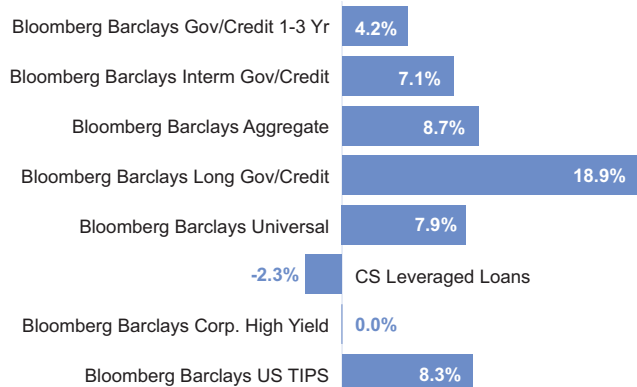
Source: Bloomberg

## 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

### Global ex-U.S. fixed income rose amid rate cuts

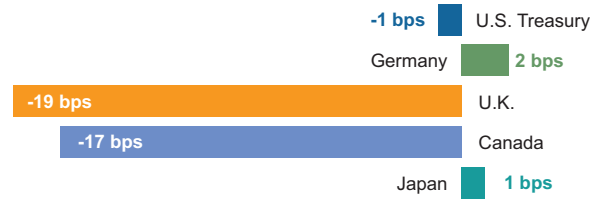
- The U.S. dollar depreciated modestly against a basket of developed market currencies, most notably the Australian and New Zealand dollars (-12.5%, -8.4%, respectively). The dollar was roughly flat versus the yen.
- Developed market sovereign bond yields ended the quarter lower amid rate cuts overseas, and the unhedged Bloomberg Barclays Global Aggregate ex-US benchmark posted positive returns (+3.4%)
- The ECB expanded the stimulus program announced in March from €750 billion to €1.35 trillion.

### Emerging market debt made up ground

- The J.P. Morgan EMBI Global Diversified dollar-denominated benchmark posted strong returns (+12.3%) as oil prices rose and central bank liquidity measures took effect. However, the index remains slightly below year-end 2019 levels.
- Higher-yielding countries led the way in 2Q20 (+16.6%); however they remain down (-12.7%) relative to investment grade constituents year-to-date, according to index data from J.P. Morgan.
- Within the J.P. Morgan GBI-EM Global Diversified local currency-denominated benchmark (+9.8%), returns were positive for the vast majority of constituents. Oil-sensitive economies such as Mexico, Colombia, and South Africa rebounded to some degree, but remained down year-to-date.

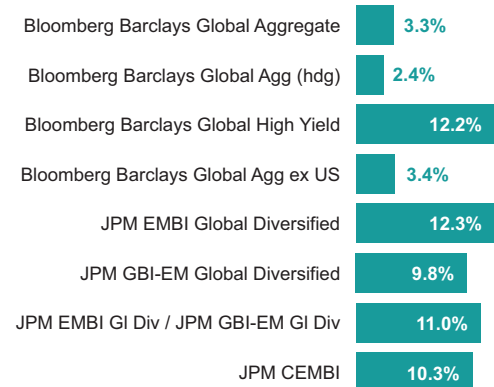
## Change in 10-Year Global Government Bond Yields

1Q20 to 2Q20



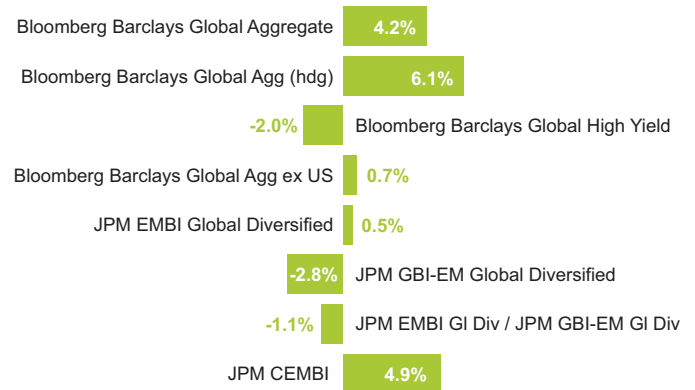
Source: Bloomberg Barclays

## Global Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

## Global Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

# Pandemic Has Muted Impact on Private Real Estate; REITs Underperform

REAL ESTATE/REAL ASSETS | Munir Iman

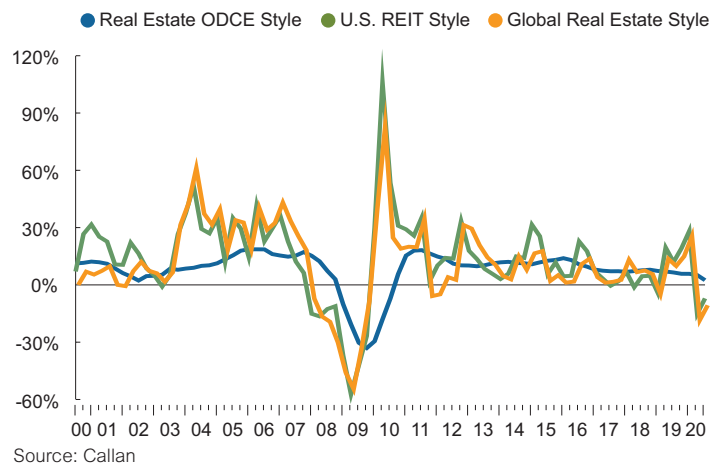
## Private U.S. Real Estate

- The continued impact of the pandemic was reflected in 2Q20 results.
- All sectors of the NCREIF Property Index saw negative appreciation, but income remained positive except in the Hotel sector.
- Industrial remains the best performer.
- The dispersion of returns by manager within the NFI ODCE Index was due to both the composition of underlying portfolios and different valuation methodologies/approaches.
- Negative returns are expected over the next few quarters.
- Vacancy rates for all property types are or will be impacted.
- Net operating income has declined as retail experienced the largest drop-off in over 20 years.
- Second quarter rent collections show relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors. The Retail sector remains challenged, with regional malls impacted most heavily.
- Class A/B urban apartments were relatively strong, followed by certain types of Industrial and Office.
- Supply was in check before the pandemic.
- Construction is limited to finishing up existing projects but has been hampered by shelter-in-place policies and shortages of materials.
- New construction will be basically halted in future quarters except for pre-leased properties.
- Transaction volume has dropped off during the quarter with the exception of Industrial assets that have tenants with strong credit, which are trading at pre-COVID-19 levels.
- 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 may 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.

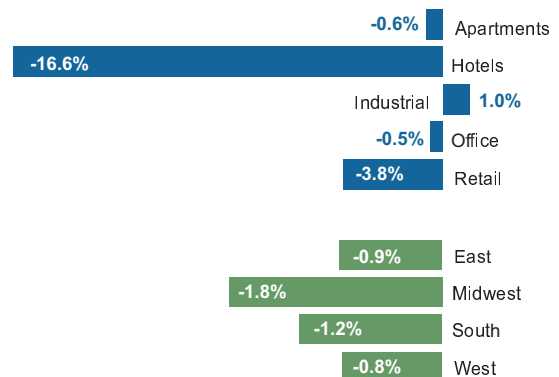
## U.S. and Global REITs

- Global REITs underperformed in 2Q20, gaining 10.1% compared to 19.4% for global equities (MSCI World).
- U.S. REITs rose 11.8% in 2Q20, lagging the S&P 500 Index, which jumped 20.5%.
- Globally, REITs (except in Singapore) are trading at a discount to NAV.
- In some regions the discount is at a five-year low.
- All property types except for data centers, hotels, and life sciences are trading at the bottom of their range.
- Ongoing volatility in REIT share prices offers opportunities to purchase mispriced securities, individual assets from REIT

## Rolling One-Year Returns



## Sector Quarterly Returns by Property Type and Region



Source: NCREIF

## REAL ESTATE/REAL ASSETS (Continued)

owners, and discounted debt, as well as lend to companies and/or execute take-privates of public companies.

utilities) fared better than assets with GDP/demand-based revenue (e.g. airports, seaports, and midstream-related).

### Infrastructure

- 1Q20 was the third-largest quarter for closed-end infrastructure fundraising (\$37 billion), following 4Q19 (\$43 billion) and 3Q18 (\$38 billion). The closed-end fund market continues to expand, with infrastructure debt, emerging markets, and 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, and

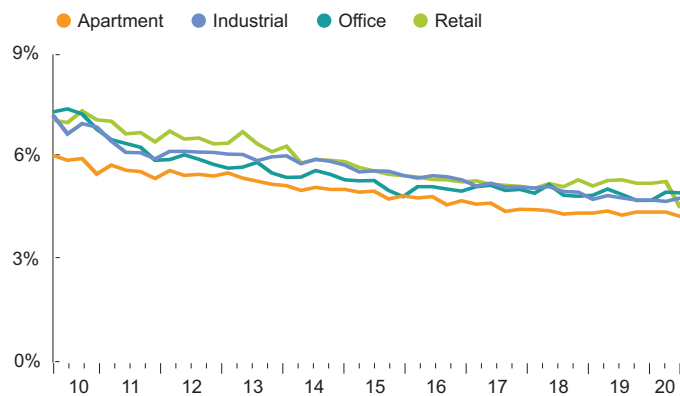
### Real estate investment opportunities

- Primary opportunity: purchase of mispriced publicly traded real estate, both equity and debt
- Emerging opportunity: purchase of mezzanine loans from forced sellers

### Infrastructure investment opportunities

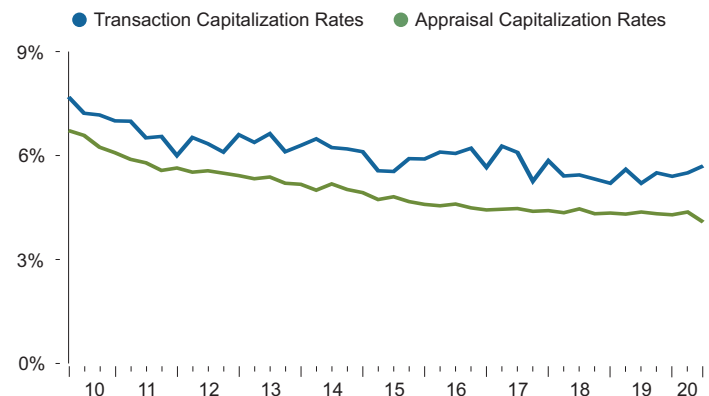
- Primary opportunity: purchase of mispriced publicly traded infrastructure
- Infrastructure lending if traditional lenders retrench

### 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 6/30/20

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
<b>Real Estate ODCE Style</b>	<b>-0.6</b>	<b>-0.2</b>	<b>2.5</b>	<b>5.5</b>	<b>7.2</b>	<b>10.1</b>	<b>6.0</b>
NFI-ODCE (value wt net)	-1.7	-1.0	1.3	4.7	6.3	9.8	6.0
NCREIF Property	-1.0	-0.3	2.7	5.4	6.8	9.7	7.7
NCREIF Farmland	0.6	0.5	2.5	4.9	6.2	10.7	12.9
NCREIF Timberland	0.1	0.2	0.3	2.3	2.7	4.4	6.2
<b>Public Real Estate</b>							
<b>Global Real Estate Style</b>	<b>10.5</b>	<b>-17.0</b>	<b>-10.7</b>	<b>2.2</b>	<b>3.7</b>	<b>8.4</b>	<b>5.6</b>
FTSE EPRA Nareit Developed	10.1	-21.3	-16.3	-1.6	1.3	6.3	--
<b>Global ex-U.S. Real Estate Style</b>	<b>10.1</b>	<b>-17.2</b>	<b>-9.2</b>	<b>3.1</b>	<b>3.5</b>	<b>7.9</b>	<b>5.6</b>
FTSE EPRA Nareit Dev ex US	8.6	-21.5	-15.9	-0.9	0.6	5.4	--
<b>U.S. REIT Style</b>	<b>12.1</b>	<b>-13.9</b>	<b>-7.1</b>	<b>2.9</b>	<b>5.8</b>	<b>10.3</b>	<b>7.1</b>
EPRA Nareit Equity REITs	11.8	-18.7	-13.0	0.0	4.1	9.1	6.0

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

# Activity Falls but Dollars Continue to Flow

PRIVATE EQUITY | Gary Robertson

Private equity metrics such as fundraising, company purchase prices, and private M&A exits plunged by count in the second quarter, but dollar volumes held relatively steady as larger transactions were able to proceed. Only IPOs increased in the second quarter, supported by the public market rally. Private equity returns in the first quarter fell, but by less than half of public equity's decline.

**Fundraising** ► Final closes for private equity partnerships in the second quarter totaled \$149 billion of commitments in 229 partnerships, based on preliminary data. (Unless otherwise noted, all data come from PitchBook.) The dollar volume fell 18% but the number of funds rose 1% from the first quarter. For the first half, 2020 is running \$26 billion or 10% ahead of a year ago, although the number of funds raised has fallen by 25%. We expect the second half of 2020 will decline from the first half, as general partners are slowing the deployment pace of their current funds and focusing on existing companies, resulting in fewer new funds coming to market.

**Buyouts** ► Funds closed 973 investments with \$75 billion in disclosed deal value, a 51% fall in count and a 29% drop in dollar value from the first quarter. Average buyout prices plunged to 9.2x EBITDA in the second quarter, 2.3x lower than pricing for the full year 2019. Average leverage multiples fell to 4.9x.

## Funds Closed 1/1/20 to 6/30/20

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	261	59,755	20%
Growth Equity	42	29,669	10%
Buyouts	123	125,411	42%
Mezzanine Debt	4	2,888	1%
Distressed	5	8,000	3%
Energy	3	6,175	2%
Secondary and Other	46	50,431	17%
Fund-of-Funds	25	14,879	5%
<b>Totals</b>	<b>509</b>	<b>297,209</b>	<b>100%</b>

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

**Venture Capital** ► New rounds of financing in VC companies totaled 5,741, with \$65 billion of announced value. The number of investments fell 20% but value rose 2% from the first quarter.

**Exits** ► There were 219 private M&A exits of private equity-backed companies, with disclosed values totaling \$121 billion. The count fell 59% but values rose 68%. There were 15 private equity-backed IPOs in the second quarter raising an aggregate \$11 billion, up 15% and 57%, respectively, from the first quarter. Venture-backed M&A exits totaled 283 with disclosed value of \$23 billion. The number of sales declined 31% from the first quarter, but value rose 35%. There were 74 VC-backed IPOs in the second quarter with a combined float of \$11 billion; the count jumped 40% and the issuance grew 83%.

## Private Equity Performance (%) (Pooled Horizon IRRs through 3/31/20\*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-2.85	9.10	14.62	11.29	14.85	11.36	5.71	28.09
Growth Equity	-5.45	5.44	13.53	11.77	12.82	12.60	10.35	14.17
All Buyouts	-9.93	0.79	10.71	11.31	13.28	12.32	10.95	12.78
Mezzanine	-4.78	2.38	8.70	8.84	10.57	10.16	7.51	9.56
Credit Opportunities	-12.06	-9.91	1.44	3.50	7.84	8.33	9.13	9.32
Control Distressed	-12.20	-8.67	2.09	5.02	9.25	8.92	9.56	10.09
<b>All Private Equity</b>	<b>-7.84</b>	<b>2.24</b>	<b>10.93</b>	<b>10.53</b>	<b>12.85</b>	<b>11.72</b>	<b>9.33</b>	<b>13.77</b>
S&P 500	-19.60	-6.98	5.10	6.73	10.53	7.58	4.79	8.85
Russell 3000	-20.90	-9.13	4.00	5.77	10.15	7.50	4.91	8.81

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.

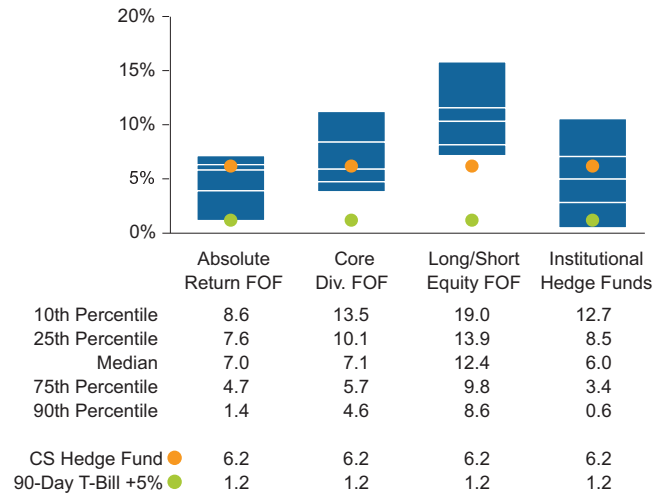
# Beta Leads, Alpha Follows

HEDGE FUNDS/MACs | Jim McKee

Emboldened by dramatic monetary and fiscal stimulus, global markets reverted to full risk-on mode in the second quarter, and most hedge fund strategies benefited. Illustrating raw hedge fund performance without implementation costs, the Credit Suisse Hedge Fund Index (CS HFI) rose 6.2% in the second quarter, its strongest quarterly performance since 2009. The median manager in the Callan Hedge Fund-of-Funds Database Group, representing actual hedge fund portfolios, advanced 7.7% net of all fees and expenses.

The median manager in the Callan Institutional Hedge Fund Peer Group, tracking 50 of the largest, broadly diversified hedge funds with low-beta exposure to equity markets, gained 6.0%. Those funds focused on market neutral equity or rates arbitrage edged ahead 3% to 5%; those more exposed to illiquid credit strategies rebounded over 7%.

## Hedge Fund Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

## Callan Peer Group Median and Index Returns\* for Periods Ended 6/30/20

Hedge Fund Universe	Quarter	Year to Date	Year	3 Years	5 Years	10 Years
<b>Callan Institutional Hedge Fund Peer Group</b>	<b>6.0</b>	<b>-0.6</b>	<b>1.3</b>	<b>3.9</b>	<b>4.1</b>	<b>5.4</b>
<b>Callan Fund-of-Funds Peer Group</b>	<b>7.7</b>	<b>-0.8</b>	<b>1.2</b>	<b>3.1</b>	<b>2.6</b>	<b>4.3</b>
<b>Callan Absolute Return FOF Style</b>	<b>7.0</b>	<b>-2.8</b>	<b>-1.8</b>	<b>2.3</b>	<b>2.2</b>	<b>3.5</b>
<b>Callan Core Diversified FOF Style</b>	<b>7.1</b>	<b>0.2</b>	<b>2.1</b>	<b>3.4</b>	<b>2.2</b>	<b>4.2</b>
<b>Callan Long/Short Equity FOF Style</b>	<b>12.4</b>	<b>-1.2</b>	<b>1.7</b>	<b>3.5</b>	<b>3.0</b>	<b>5.2</b>
Credit Suisse Hedge Fund	6.2	-3.3	-0.7	2.1	1.6	3.8
CS Convertible Arbitrage	5.9	0.2	3.2	2.8	3.0	3.9
CS Distressed	5.6	-5.7	-7.9	-1.0	0.3	3.3
CS Emerging Markets	13.2	1.3	4.7	4.1	4.1	4.8
CS Equity Market Neutral	3.4	-2.1	-2.7	0.0	0.0	1.6
CS Event-Driven Multi	12.0	-9.0	-7.3	-0.6	-1.3	2.1
CS Fixed Income Arb	2.7	-3.2	-0.7	2.1	2.9	4.5
CS Global Macro	4.6	-3.9	-1.1	3.2	1.8	3.9
CS Long/Short Equity	9.8	-2.5	2.6	3.5	2.7	5.2
CS Managed Futures	-2.9	-2.9	-2.0	2.2	-0.4	1.2
CS Multi-Strategy	3.9	-2.8	-0.9	1.6	3.0	5.7
CS Risk Arbitrage	7.5	0.2	2.4	2.3	3.0	2.8
HFRI Asset Wtd Composite	4.5	-7.4	-5.0	0.9	1.1	3.6
90-Day T-Bill + 5%	1.2	3.1	6.6	6.8	6.2	5.6

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

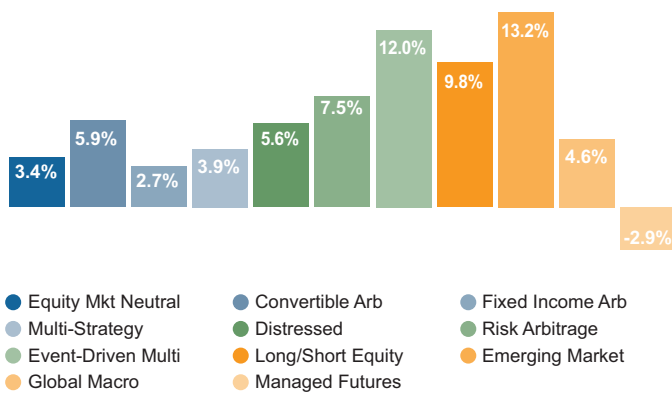
Within CS HFI, the best-performing strategies last quarter were *Emerging Markets* (+13.2%), *Event-Driven Multi-Strategy* (+12.0%), and *Long/Short Equity* (+9.8%). Arbitrage strategies also benefited from the risk-on rally, but their hedges limited gains to mid-single digits or less. As the worst-performing strategy in CS HFI, *Managed Futures* (-2.9%) was caught flat-footed in the sudden equity rally.

Within the Hedge FOF Group, market exposures notably affected performance in the second quarter. Given its net long equity exposure, the median *Callan Long/Short Equity FOF* (+12.4%) decidedly beat the *Callan Absolute Return FOF* (+7.0%).

Within Callan's database of liquid alternative solutions, the median managers of the Callan Multi-Asset Class (MAC)

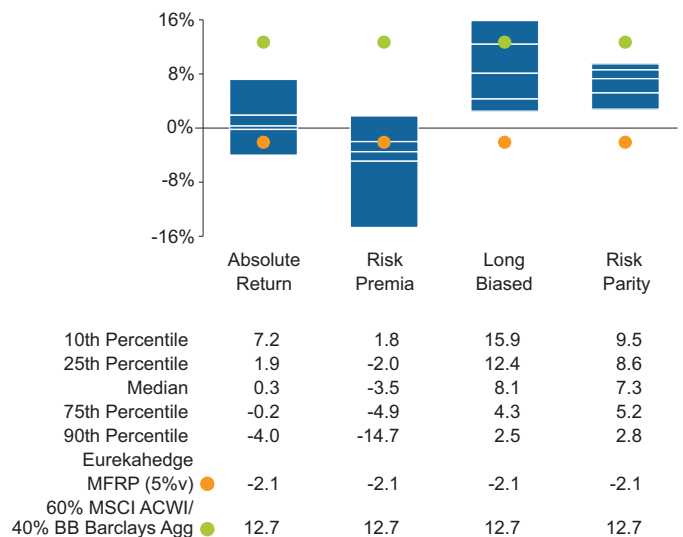
Style Group generated mixed returns, gross of fees, consistent with their underlying risk exposures. Typically targeting equal risk-weighted allocations to major asset classes with leverage, the *Callan Risk Parity MAC* added 7.3%. However, the more traditional equity-centric benchmark of 60% MSCI ACWI and 40% Bloomberg Barclays US Aggregate Bond Index rose 12.7%. Given a usually long equity bias within dynamic asset allocation models, the *Callan Long-Biased MAC* (+8.1%) also trailed the global benchmark. As the most conservative MAC style focused on non-directional strategies of long and short asset class exposures, the *Callan Absolute Return MAC* edged ahead 0.3%. Reflecting the second quarter's challenging environment for alternative betas, such as the equity value and momentum factors, the median *Callan Risk Premia MAC* fell 3.5%.

### Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

### MAC Style Group Returns



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

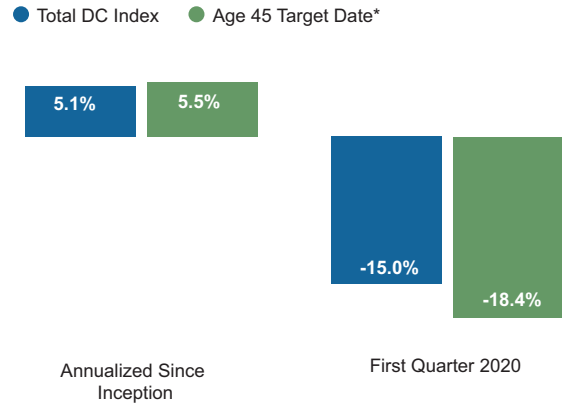
# Index Posts Largest Quarterly Drop Since 4Q08

DEFINED CONTRIBUTION | Patrick Wisdom

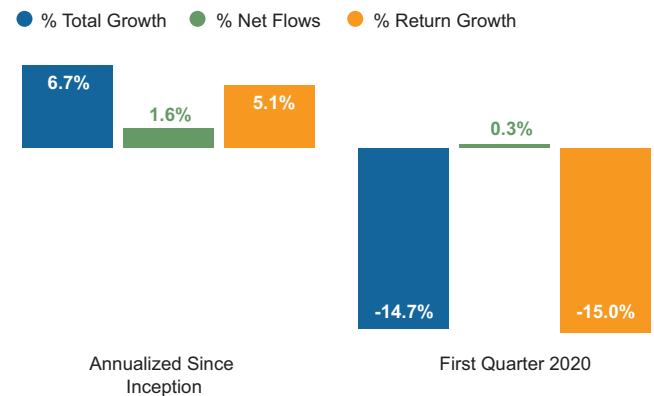
- The Callan DC Index™ lost 15.0% in 1Q20, the sharpest plunge since 4Q08, ending four consecutive quarters of gains. The Age 45 Target Date Fund posted a larger loss (-18.4%), attributable to its higher allocation to equity, which underperformed fixed income.
- The Index’s sharp drop in balances (-14.7%) reversed four straight quarters of growth and was the biggest since the Index’s inception. Poor investment returns (-15.0%) were the sole driver; quarterly net flows (0.3%) played a small mitigating role.
- With investors seeking less-risky investments, stable value funds saw the largest inflows (49.7%). U.S. large cap equity (-54.3%) and U.S. small/mid cap equity (-26.0%) had the largest outflows.
- Turnover in the DC Index (i.e., net transfer activity levels within DC plans) increased dramatically to 0.96% from the previous quarter’s 0.38%, the highest since 3Q12.
- The allocation to equity fell to 66.0% in 1Q20 from 70.2% in the previous quarter, the lowest since 2012. The allocation to stable value increased to 11.8%.
- The allocations to large cap equity (23.8%) and small/mid cap equity (7.0%) both decreased by more than 1.4 percentage points. Global ex-U.S. equity (4.6%) and company stock (1.8%) had the next-largest decreases in allocation.
- The prevalence of a high yield offering (4.8%) increased in 1Q20 by nearly a percentage point from the previous quarter and now sits at its highest mark since 2017. On the other hand, the percentage of plans offering U.S. small/mid-cap equity dipped for the second straight quarter following six consecutive quarters of 100% prevalence.
- The presence of company stock (20.0%) decreased by more than a percentage point from the previous quarter. Similarly, the percentage of plans offering a brokerage window (40.0%) also fell by more than a percentage point.

*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 (First Quarter 2020) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Stable Value	49.67%
U.S. Fixed Income	21.23%
U.S. Smid Cap	-26.03%
U.S. Large Cap	-54.30%
<b>Total Turnover**</b>	<b>0.96%</b>

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

Source: Callan DC Index

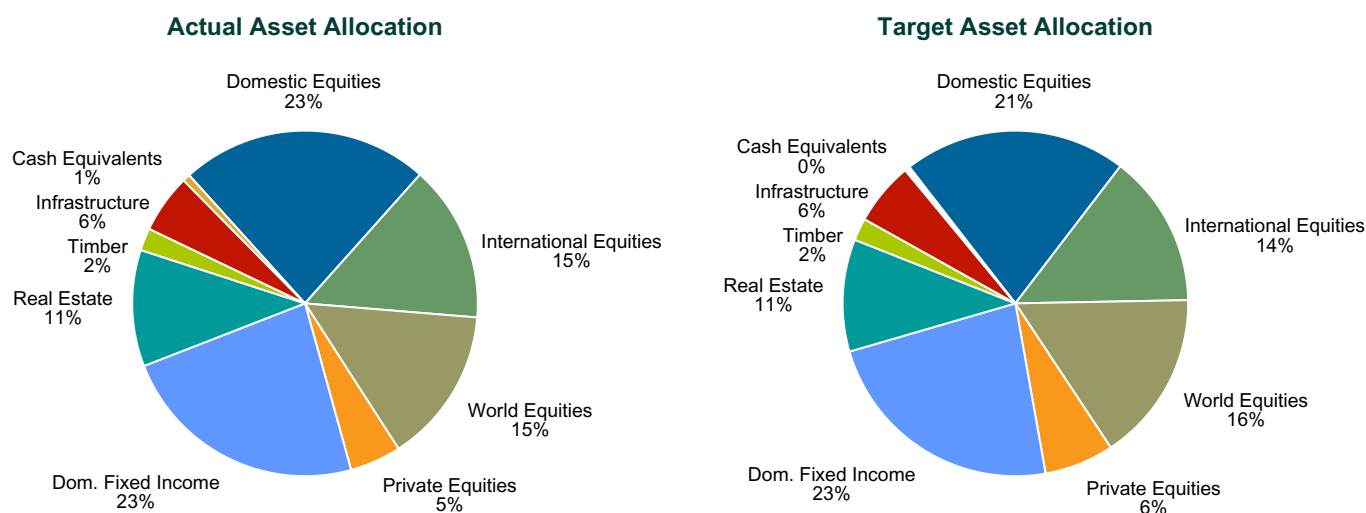
Note: DC Index inception date is January 2006.

\* 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.

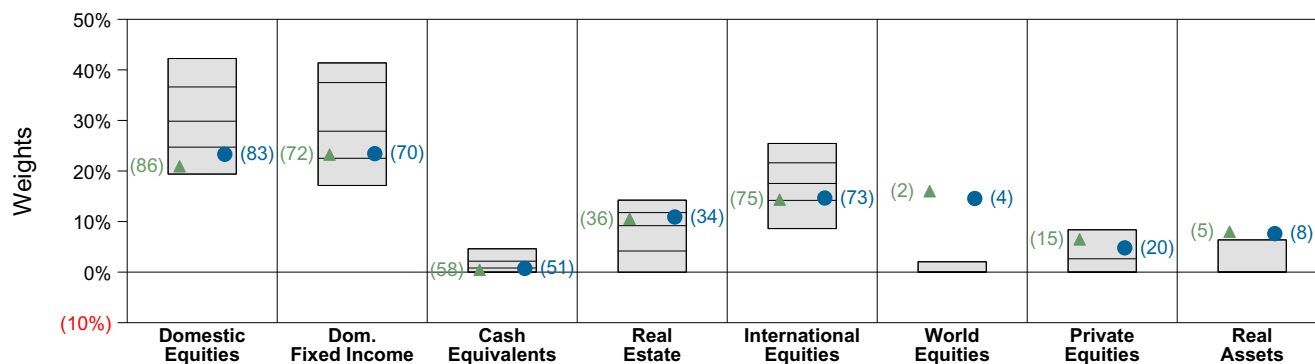
## Actual vs Target Asset Allocation As of June 30, 2020

The top left chart shows the Fund's asset allocation as of June 30, 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	1,409,633	23.3%	20.9%	2.4%	143,089
International Equities	886,643	14.7%	14.3%	0.3%	19,193
World Equities	880,741	14.6%	16.0%	(1.4%)	(87,130)
Private Equities	290,360	4.8%	6.5%	(1.7%)	(101,585)
Dom. Fixed Income	1,417,572	23.4%	23.3%	0.2%	11,081
Real Estate	659,447	10.9%	10.5%	0.4%	21,440
Timber	125,130	2.1%	2.1%	(0.0%)	(0)
Infrastructure	335,556	5.5%	5.9%	(0.4%)	(23,398)
Cash Equivalents	44,111	0.7%	0.4%	0.3%	17,310
<b>Total</b>	<b>6,049,194</b>	<b>100.0%</b>	<b>100.0%</b>		

### 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	42.25	41.38	4.62	14.23	25.44	2.05	8.38	6.38
25th Percentile	36.62	37.49	2.16	11.77	21.62	0.00	2.64	0.00
Median	29.85	27.87	0.81	9.19	17.54	0.00	0.00	0.00
75th Percentile	24.72	22.51	0.02	4.18	14.19	0.00	0.00	0.00
90th Percentile	19.39	17.13	0.00	0.00	8.61	0.00	0.00	0.00
<b>Fund</b>	● 23.30	23.43	0.73	10.90	14.66	14.56	4.80	7.62
<b>Target</b>	▲ 20.94	23.25	0.44	10.55	14.34	16.00	6.48	8.00
% Group Invested	96.38%	98.55%	76.09%	80.43%	94.20%	10.87%	29.71%	23.19%

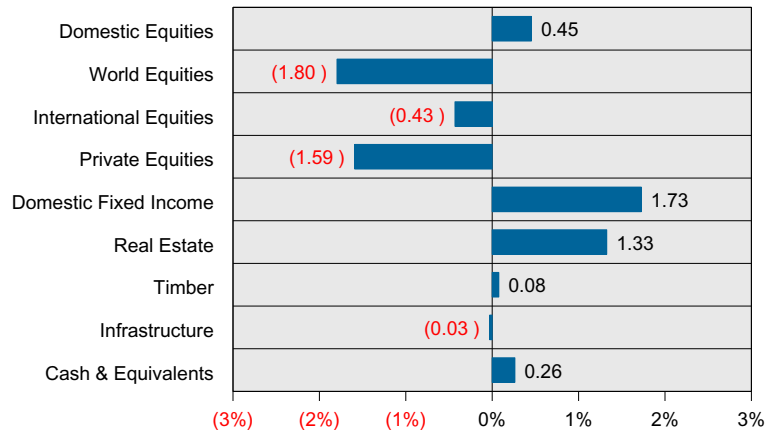
\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



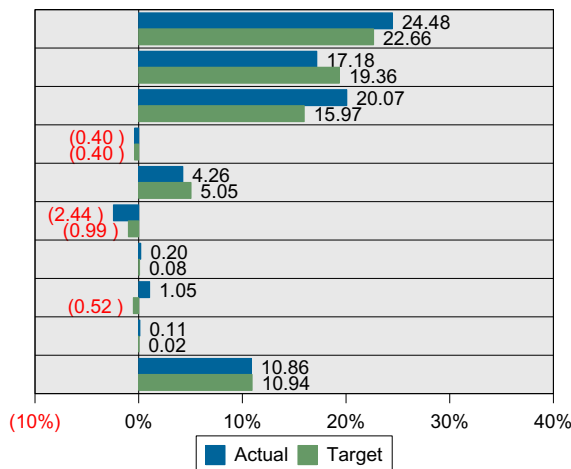
## Quarterly Total Fund Relative Attribution - June 30, 2020

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.

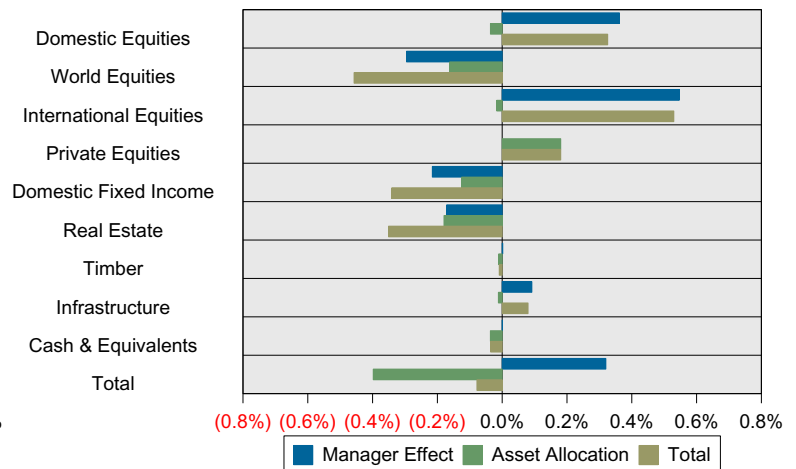
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2020

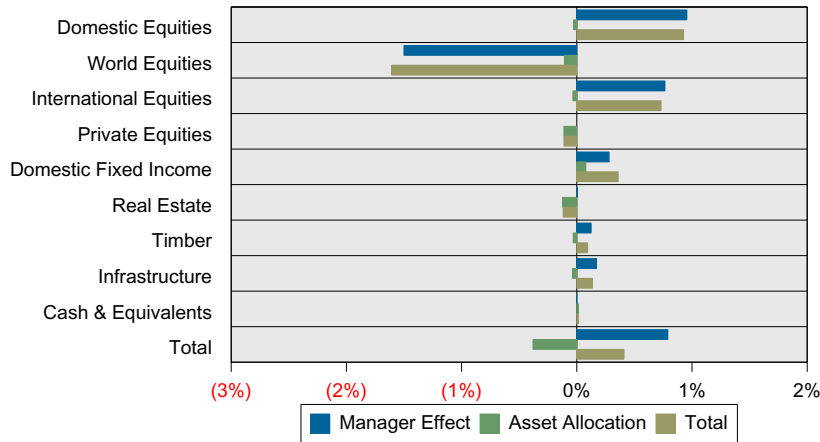
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	21%	21%	24.48%	22.66%	0.36%	(0.04%)	0.33%
World Equities	14%	16%	17.18%	19.36%	(0.30%)	(0.16%)	(0.46%)
International Equities	14%	14%	20.07%	15.97%	0.55%	(0.02%)	0.53%
Private Equities	5%	6%	(0.40%)	(0.40%)	0.00%	0.18%	0.18%
Domestic Fixed Income	25%	23%	4.26%	5.05%	(0.22%)	(0.13%)	(0.34%)
Real Estate	12%	11%	(2.44%)	(0.99%)	(0.17%)	(0.18%)	(0.35%)
Timber	2%	2%	0.20%	0.08%	0.00%	(0.01%)	(0.01%)
Infrastructure	6%	6%	1.05%	(0.52%)	0.09%	(0.01%)	0.08%
Cash & Equivalents	1%	0%	0.11%	0.02%	0.00%	(0.04%)	(0.04%)
<b>Total</b>			<b>10.86%</b>	<b>10.94%</b>	<b>+ 0.32%</b>	<b>+ (0.40%)</b>	<b>(0.08%)</b>

\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% 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, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

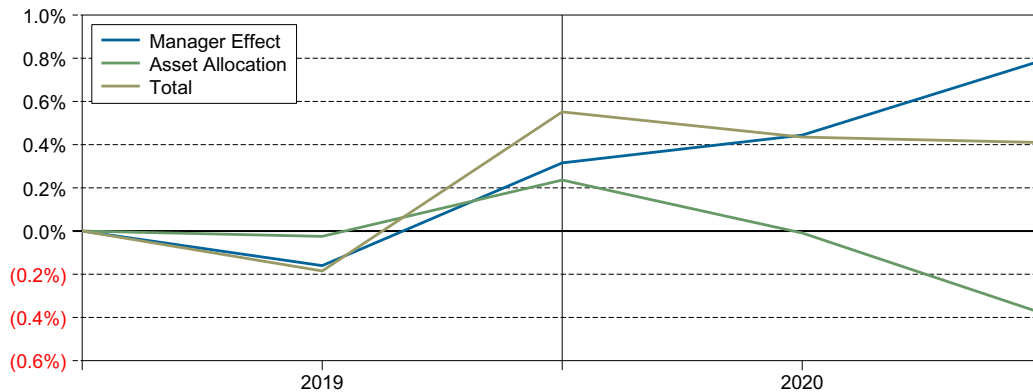
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

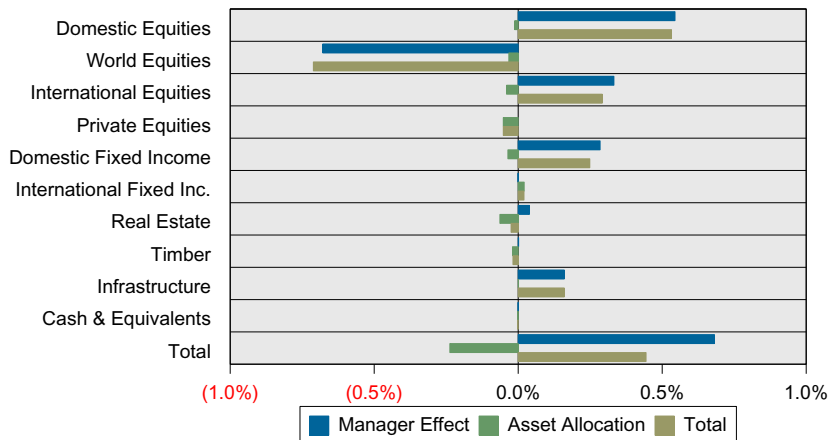
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	8.87%	4.13%	0.96%	(0.03%)	0.93%
World Equities	16%	16%	(6.83%)	2.84%	(1.50%)	(0.11%)	(1.61%)
International Equities	15%	14%	(0.03%)	(4.91%)	0.77%	(0.03%)	0.73%
Private Equities	4%	6%	3.05%	3.05%	0.00%	(0.11%)	(0.11%)
Domestic Fixed Income	24%	23%	7.36%	6.23%	0.28%	0.08%	0.36%
Real Estate	11%	11%	2.66%	2.69%	0.01%	(0.12%)	(0.12%)
Timber	2%	2%	6.29%	0.34%	0.12%	(0.03%)	0.09%
Infrastructure	5%	6%	4.84%	1.62%	0.17%	(0.04%)	0.13%
Cash & Equivalents	1%	0%	1.46%	1.63%	(0.00%)	0.01%	0.01%
<b>Total</b>			<b>3.64%</b>	<b>3.23%</b>	<b>+ 0.79%</b>	<b>+ (0.38%)</b>	<b>0.41%</b>

\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% 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, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

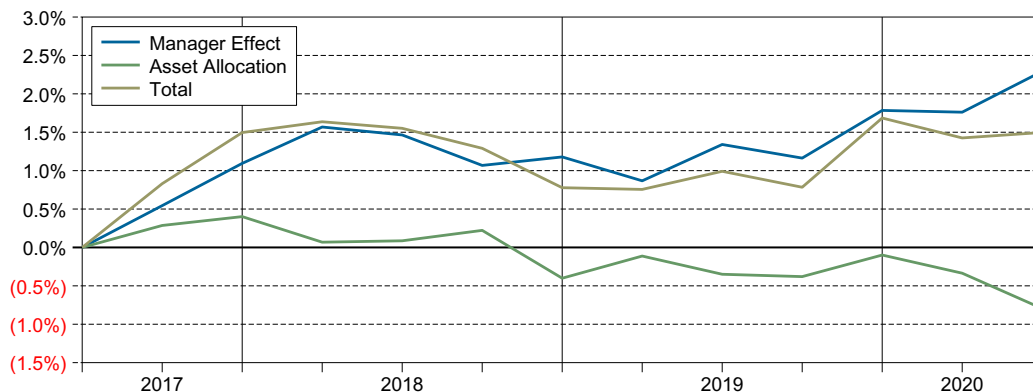
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

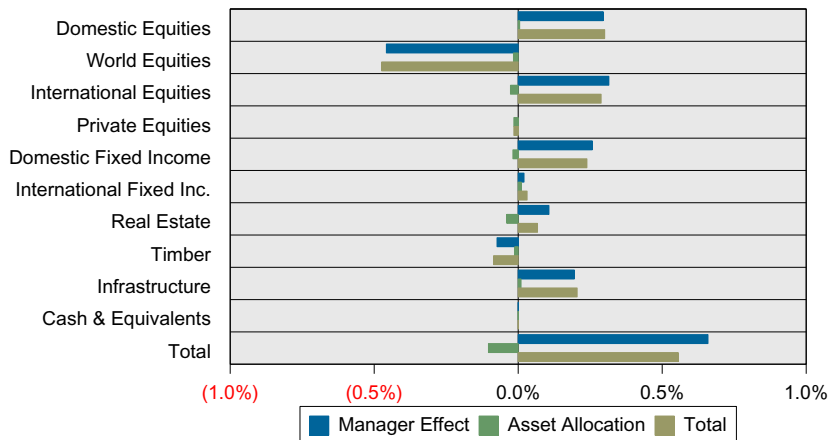
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	11.26%	8.64%	0.54%	(0.01%)	0.53%
World Equities	16%	16%	2.24%	6.70%	(0.68%)	(0.03%)	(0.71%)
International Equities	15%	14%	3.20%	1.13%	0.33%	(0.04%)	0.29%
Private Equities	4%	6%	5.61%	5.61%	0.00%	(0.05%)	(0.05%)
Domestic Fixed Income	22%	22%	6.03%	4.76%	0.28%	(0.04%)	0.25%
International Fixed Inc.	1%	1%	-	-	(0.00%)	0.02%	0.02%
Real Estate	11%	11%	5.79%	5.44%	0.04%	(0.06%)	(0.02%)
Timber	2%	2%	2.55%	2.28%	0.00%	(0.02%)	(0.02%)
Infrastructure	5%	6%	6.09%	2.87%	0.16%	(0.00%)	0.16%
Cash & Equivalents	1%	0%	1.73%	1.77%	(0.00%)	(0.00%)	(0.00%)
<b>Total</b>			<b>6.25%</b>	<b>5.80%</b>	<b>+ 0.68%</b>	<b>+ (0.24%)</b>	<b>0.44%</b>

\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% 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, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

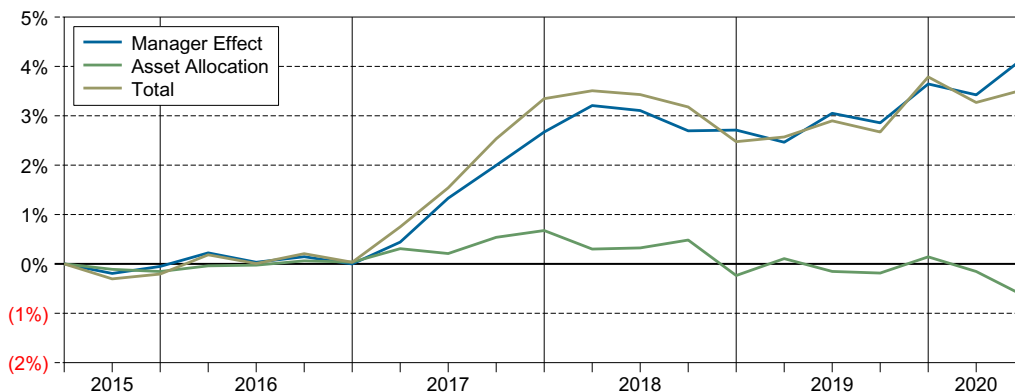
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

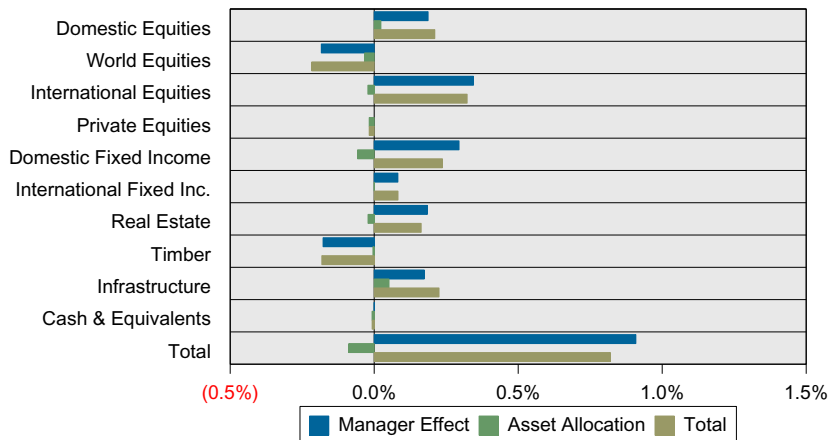
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	10.52%	9.08%	0.30%	0.01%	0.30%
World Equities	16%	16%	3.86%	6.90%	(0.46%)	(0.02%)	(0.47%)
International Equities	15%	14%	4.23%	2.22%	0.31%	(0.03%)	0.29%
Private Equities	4%	6%	3.97%	3.97%	0.00%	(0.02%)	(0.02%)
Domestic Fixed Income	21%	20%	5.68%	4.43%	0.26%	(0.02%)	0.24%
International Fixed Inc.	3%	3%	-	-	0.02%	0.01%	0.03%
Real Estate	11%	10%	7.75%	6.77%	0.11%	(0.04%)	0.07%
Timber	3%	3%	0.38%	2.71%	(0.07%)	(0.01%)	(0.09%)
Infrastructure	5%	5%	6.31%	2.14%	0.19%	0.01%	0.20%
Cash & Equivalents	1%	1%	1.24%	1.19%	0.00%	(0.00%)	0.00%
<b>Total</b>			<b>6.45%</b>	<b>5.90%</b>	<b>+ 0.66%</b>	<b>+ (0.10%)</b>	<b>0.56%</b>

\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% 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, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

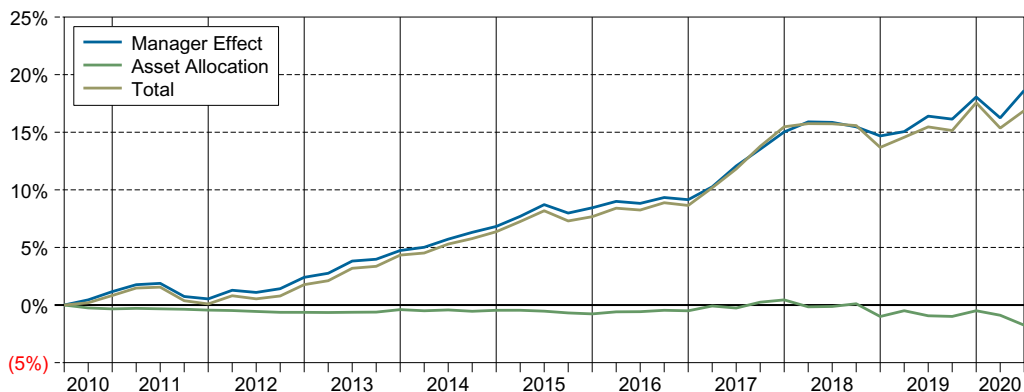
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

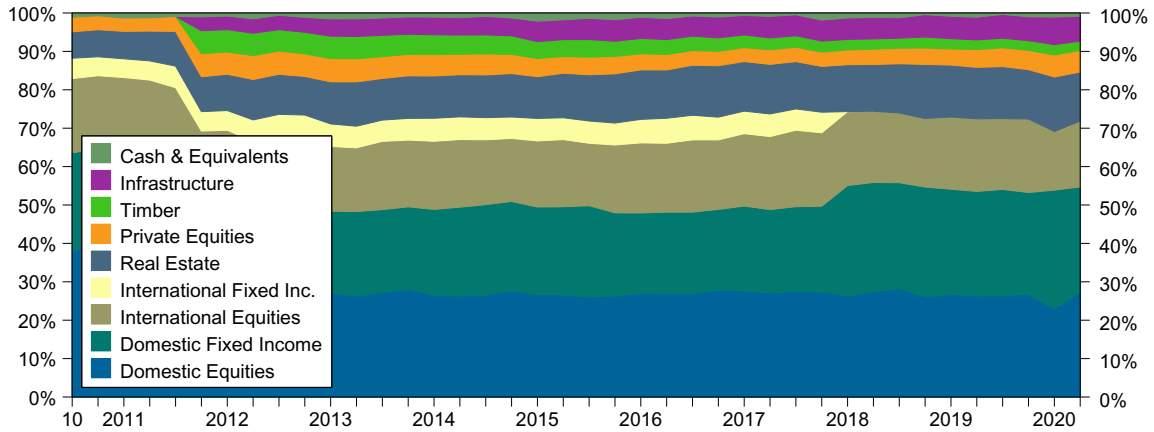
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	24%	14.22%	13.21%	0.19%	0.02%	0.21%
World Equities	13%	13%	-	-	(0.18%)	(0.03%)	(0.22%)
International Equities	16%	15%	6.92%	4.78%	0.34%	(0.02%)	0.32%
Private Equities	4%	6%	4.44%	4.44%	0.00%	(0.02%)	(0.02%)
Domestic Fixed Income	21%	20%	6.17%	4.60%	0.29%	(0.06%)	0.24%
International Fixed Inc.	4%	4%	-	-	0.08%	0.00%	0.08%
Real Estate	10%	10%	11.81%	9.70%	0.18%	(0.02%)	0.16%
Timber	3%	3%	-	-	(0.18%)	(0.00%)	(0.18%)
Infrastructure	4%	5%	-	-	0.17%	0.05%	0.23%
Cash & Equivalents	1%	1%	0.67%	0.64%	0.00%	(0.01%)	(0.01%)
<b>Total</b>			<b>8.76%</b>	<b>7.94%</b>	<b>+ 0.91%</b>	<b>+ (0.09%)</b>	<b>0.82%</b>

\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% 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, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

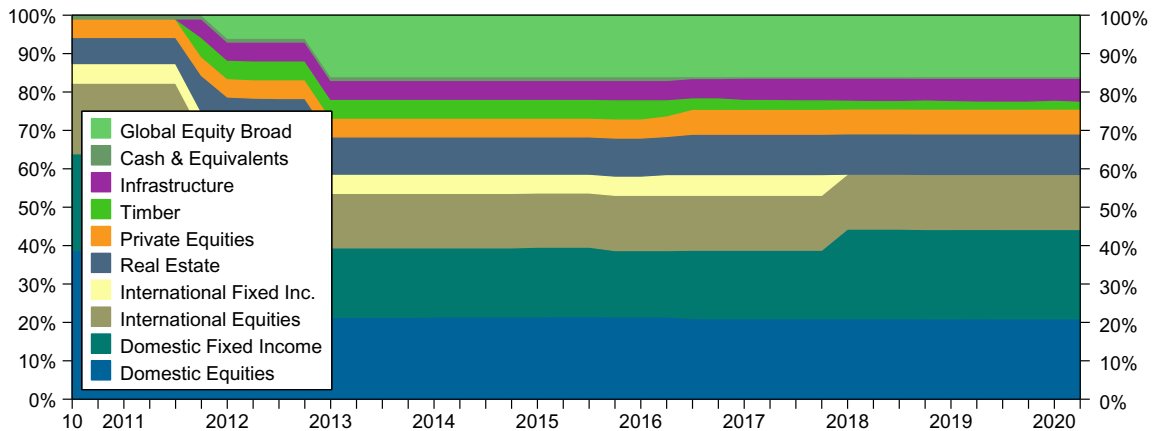
## Actual vs Target Historical Asset Allocation

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.

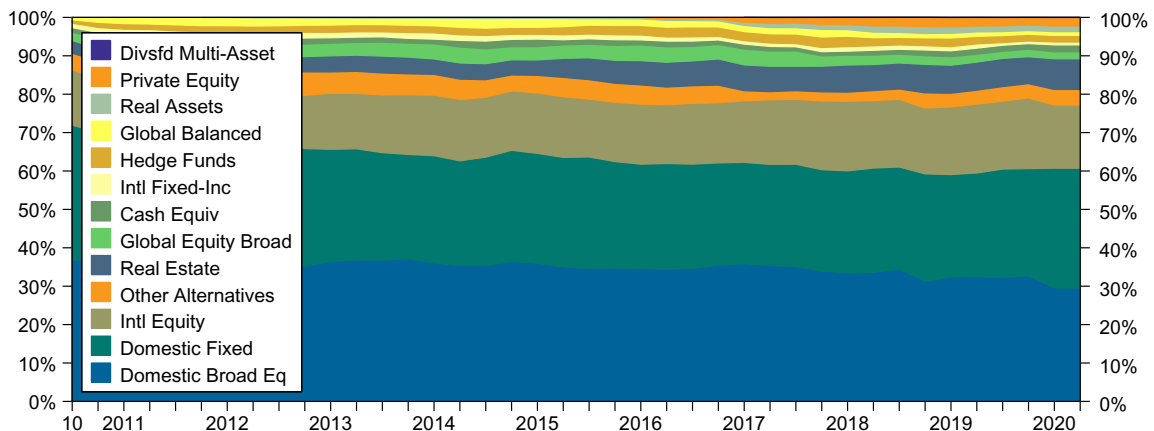
### Actual Historical Asset Allocation



### Target Historical Asset Allocation



### Average Callan Public Fund Sponsor Database Historical Asset Allocation

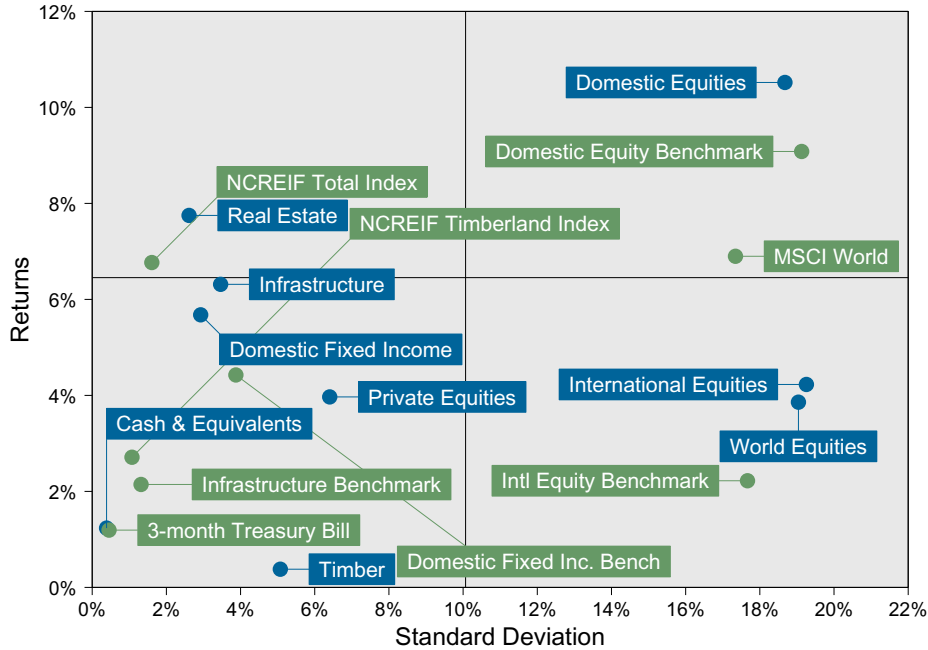


\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

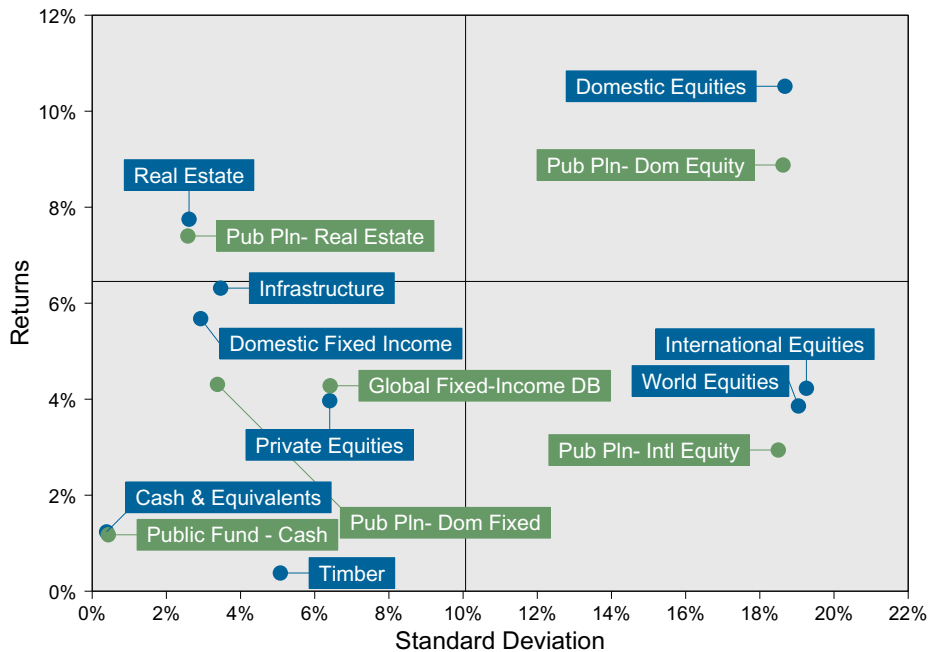
## Asset Class Risk and Return

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



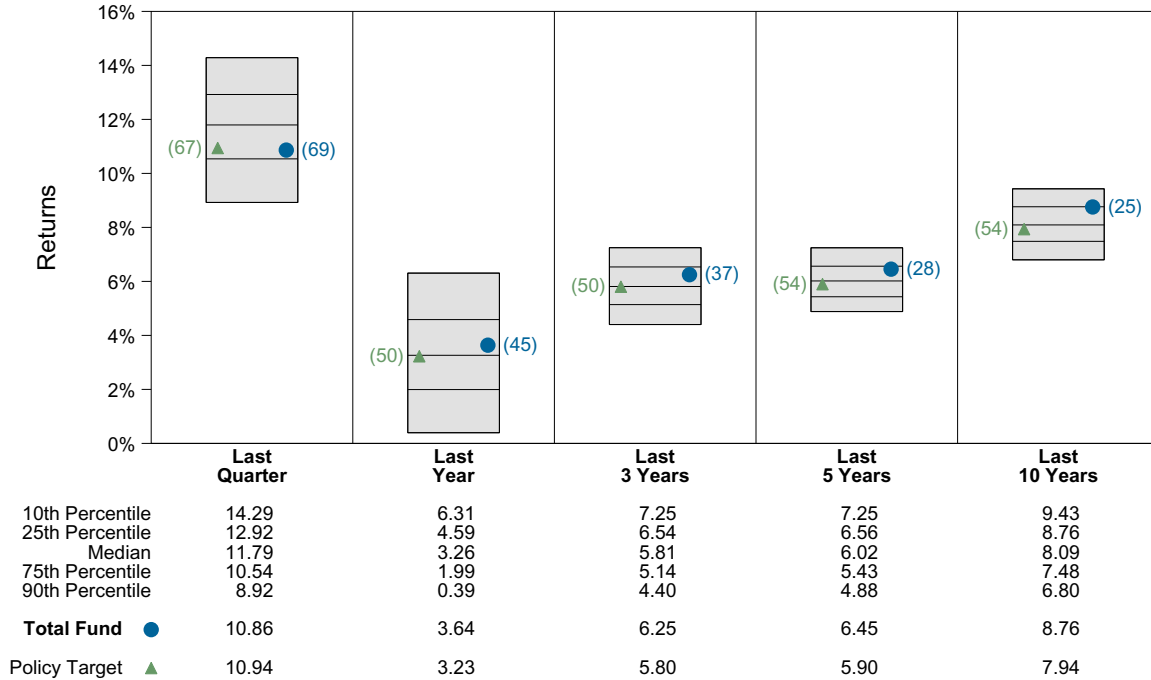
### Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median



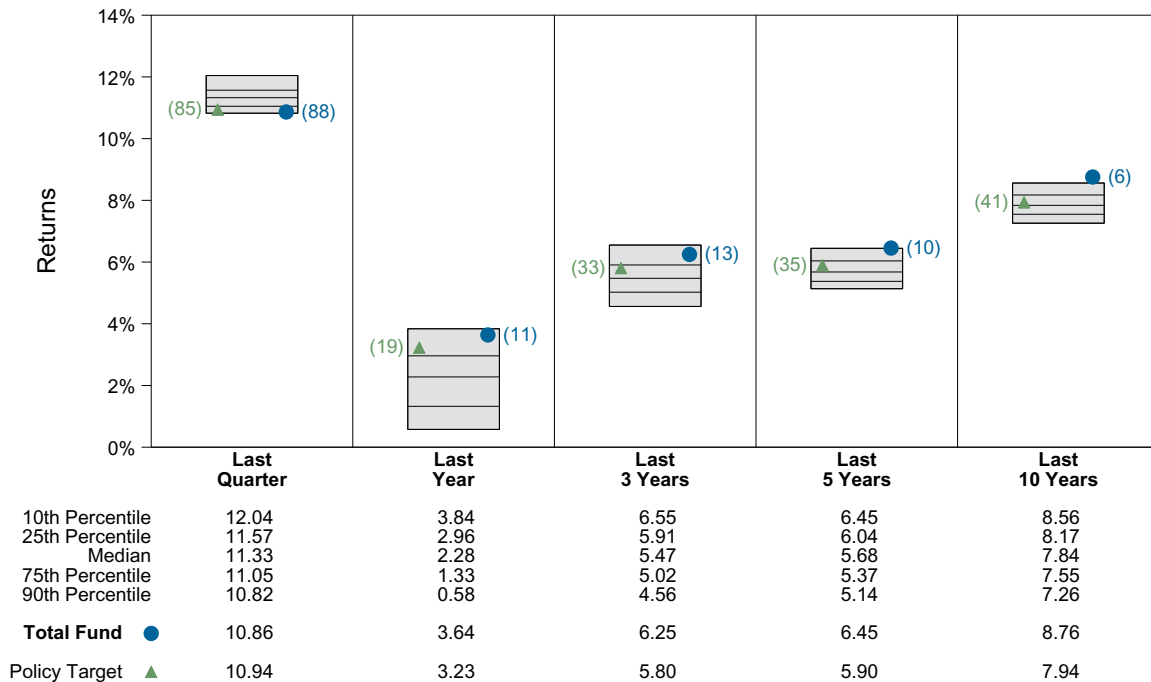
## Total Fund Ranking

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 June 30, 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



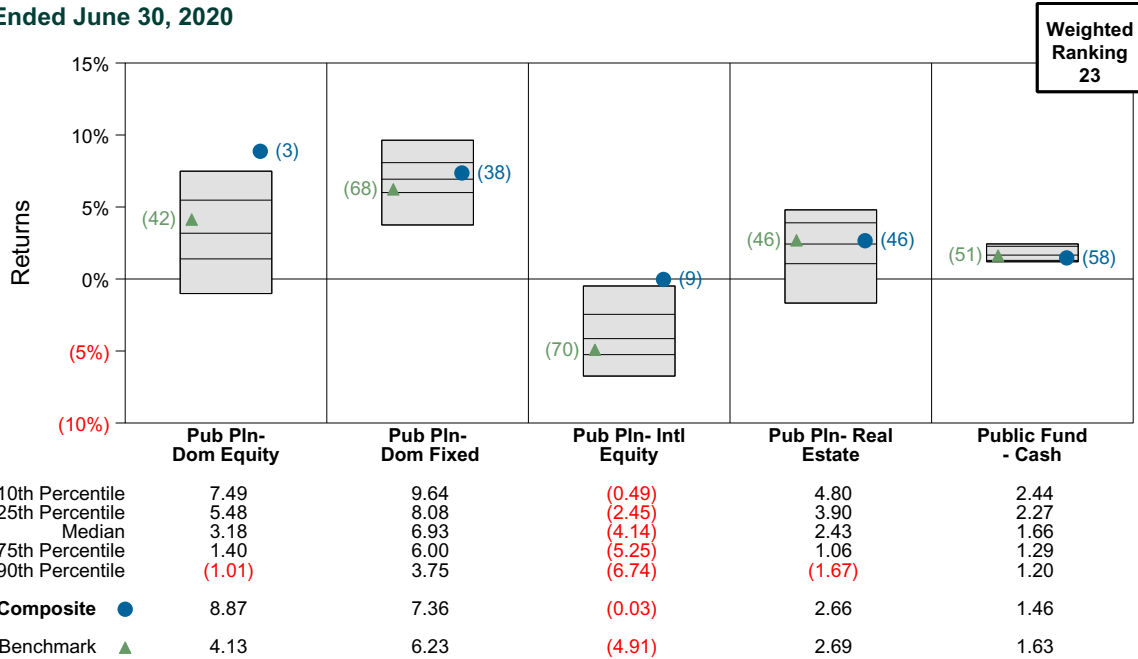
\* Current Quarter Target = 16.3% BImbg Aggregate, 16.1% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% BImbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.



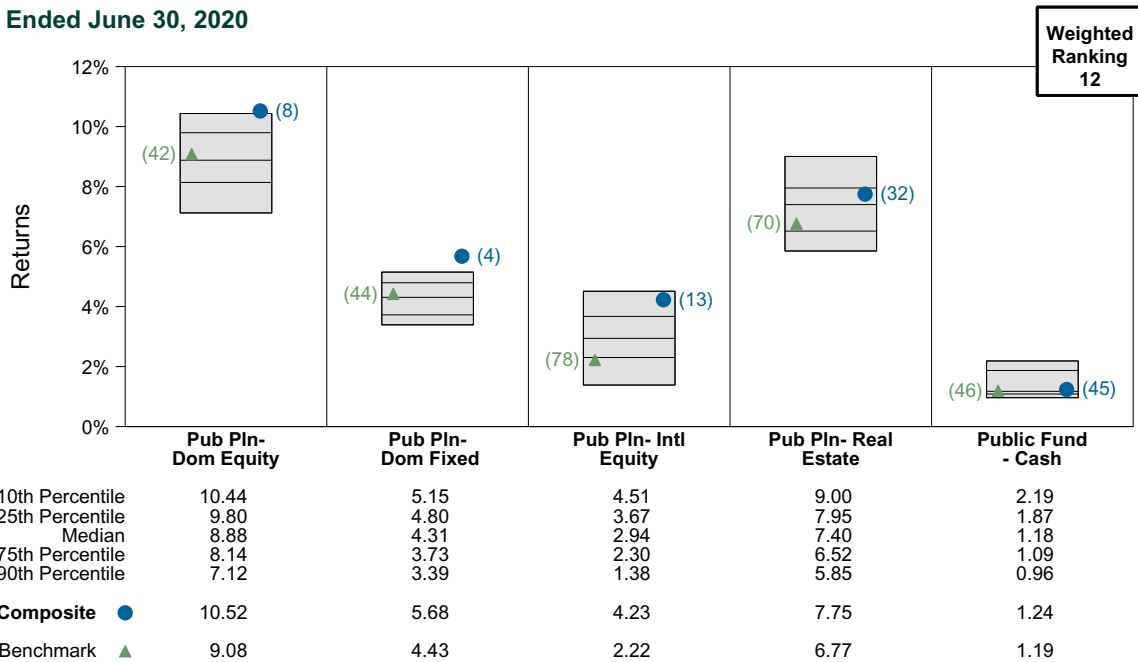
## Asset Class Rankings

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 June 30, 2020



### Total Asset Class Performance Five Years Ended June 30, 2020



\* Current Quarter Target = 16.3% Bimbg Aggregate, 16.1% 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, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% 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 June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
<b>Global Equities</b>	<b>\$3,467,377,006</b>	<b>57.32%</b>	<b>\$95,890,012</b>	<b>\$546,006,313</b>	<b>\$2,825,480,681</b>	<b>51.65%</b>
<b>Public Equities</b>	<b>\$3,177,016,971</b>	<b>52.52%</b>	<b>\$74,405,094</b>	<b>\$547,081,874</b>	<b>\$2,555,530,003</b>	<b>46.72%</b>
<b>World Equities</b>	<b>\$880,741,008</b>	<b>14.56%</b>	<b>\$(684,267)</b>	<b>\$129,182,573</b>	<b>\$752,242,703</b>	<b>13.75%</b>
EPOCH Investment Partners	435,815,791	7.20%	(590,058)	66,317,783	370,088,067	6.77%
LSV Asset Management	444,925,217	7.36%	(94,209)	62,864,790	382,154,636	6.99%
<b>Domestic Equities</b>	<b>\$1,409,632,590</b>	<b>23.30%</b>	<b>\$58,709,373</b>	<b>\$268,728,526</b>	<b>\$1,082,194,690</b>	<b>19.78%</b>
<b>Large Cap</b>	<b>\$1,115,486,033</b>	<b>18.44%</b>	<b>\$45,709,373</b>	<b>\$215,277,283</b>	<b>\$854,499,377</b>	<b>15.62%</b>
L.A. Capital	467,547,672	7.73%	(205,720)	103,173,762	364,579,629	6.66%
LACM Enhanced Index	207,524,148	3.43%	(51,177)	37,241,729	170,333,596	3.11%
Northern Trust AM Enh S&P 500	195,843,557	3.24%	0	31,799,295	164,044,263	3.00%
Parametric Enh S&P 500	244,568,480	4.04%	51,000,000	38,026,591	155,541,888	2.84%
Parametric Large Cap Overlay	2,176	0.00%	(5,033,730)	5,035,906	-	-
<b>Small Cap</b>	<b>\$294,146,557</b>	<b>4.86%</b>	<b>\$13,000,000</b>	<b>\$53,451,244</b>	<b>\$227,695,314</b>	<b>4.16%</b>
Atlanta Capital	144,383,507	2.39%	0	23,256,750	121,126,757	2.21%
Parametric Enh Small Cap	149,763,050	2.48%	13,000,000	30,194,494	106,568,556	1.95%
<b>International Equities</b>	<b>\$886,643,373</b>	<b>14.66%</b>	<b>\$16,379,988</b>	<b>\$149,170,775</b>	<b>\$721,092,610</b>	<b>13.18%</b>
<b>Developed</b>	<b>\$688,332,379</b>	<b>11.38%</b>	<b>\$16,379,988</b>	<b>\$112,059,753</b>	<b>\$559,892,637</b>	<b>10.24%</b>
DFA Int'l Small Cap	62,992,993	1.04%	3,000,000	9,775,704	50,217,289	0.92%
Northern Trust AM World Ex US	337,298,788	5.58%	19,971,469	42,072,308	275,255,010	5.03%
Wellington Management Co.	70,434,081	1.16%	(147,789)	11,951,831	58,630,039	1.07%
William Blair	217,602,222	3.60%	4,827,169	36,984,755	175,790,299	3.21%
Parametric Intl Equity Overlay	4,295	0.00%	(11,270,861)	11,275,155	-	-
<b>Emerging Markets</b>	<b>\$198,310,994</b>	<b>3.28%</b>	<b>\$0</b>	<b>\$37,111,021</b>	<b>\$161,199,973</b>	<b>2.95%</b>
Axiom	149,376,770	2.47%	0	26,854,019	122,522,751	2.24%
DFA	48,934,224	0.81%	0	10,257,002	38,677,222	0.71%

## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
<b>Private Equities</b>	<b>\$290,360,035</b>	<b>4.80%</b>	<b>\$21,484,918</b>	<b>\$(1,075,561)</b>	<b>\$269,950,678</b>	<b>4.93%</b>
Adams Street Direct Co-Invest Fd	258,712	0.00%	0	(235,010)	493,722	0.01%
Adams Street Direct Fund 2010	749,550	0.01%	(50,793)	(69,579)	869,922	0.02%
Adams Street 1998 Partnership	13,780	0.00%	0	378	13,402	0.00%
Adams Street 1999 Partnership	125,843	0.00%	0	3,016	122,827	0.00%
Adams Street 2000 Partnership	341,344	0.01%	0	19,815	321,529	0.01%
Adams Street 2001 Partnership	524,840	0.01%	0	(5,955)	530,795	0.01%
Adams Street 2002 Partnership	140,200	0.00%	0	3,877	136,323	0.00%
Adams Street 2003 Partnership	153,971	0.00%	0	(1,899)	155,870	0.00%
Adams Street 2010 Partnership	5,480,119	0.09%	(551,470)	118,380	5,913,209	0.11%
Adams Street 2008 Fund	6,267,946	0.10%	(559,689)	42,302	6,785,333	0.12%
Adams Street 1999 Non-US	73,046	0.00%	0	275	72,771	0.00%
Adams Street 2000 Non-US	373,005	0.01%	0	43,431	329,574	0.01%
Adams Street 2001 Non-US	97,263	0.00%	0	1,473	95,790	0.00%
Adams Street 2002 Non-US	89,932	0.00%	0	778	89,154	0.00%
Adams Street 2003 Non-US	163,673	0.00%	0	3,463	160,210	0.00%
Adams Street 2004 Non-US	179,804	0.00%	0	(4,292)	184,096	0.00%
Adams Street 2010 Non-US	2,554,295	0.04%	(371,034)	(62,759)	2,988,088	0.05%
Adams Street 2010 Non-US Emg	1,810,806	0.03%	(76,979)	60,758	1,827,027	0.03%
Adams Street 2015 Global Fd	28,794,433	0.48%	2,250,000	980,661	25,563,772	0.47%
Adams Street 2016 Global Fd	21,664,628	0.36%	2,250,000	446,111	18,968,517	0.35%
Adams Street 2017 Global Fd	39,202,809	0.65%	3,000,000	1,111,912	35,090,897	0.64%
Adams Street 2018 Global Fd	22,960,544	0.38%	3,575,000	903,641	18,481,903	0.34%
Adams Street 2019 Global Fd	6,280,758	0.10%	3,412,500	276,401	2,591,857	0.05%
Adams Street BVCF IV Fund	3,813	0.00%	0	(2,081)	5,894	0.00%
BlackRock	96,840,341	1.60%	8,659,954	(11,741)	88,192,128	1.61%
Capital International V	635,957	0.01%	0	(101,247)	737,204	0.01%
Capital International VI	27,734,534	0.46%	12,115	3,838,943	23,883,476	0.44%
CorsAir III	10,283,835	0.17%	(64,686)	(2,579,059)	12,927,580	0.24%
EIG Energy Fund XIV	2,296,133	0.04%	0	(870,380)	3,166,513	0.06%
Hearthstone Advisors MS II	46	0.00%	0	(3,632)	3,678	0.00%
Hearthstone Advisors MS III	90,793	0.00%	0	(34,072)	124,865	0.00%
Lewis & Clark, LP	1,407,750	0.02%	0	148,421	1,259,329	0.02%
Lewis & Clark II	5,296,368	0.09%	0	57,655	5,238,713	0.10%
Matlin Patterson II	1,311,598	0.02%	0	136,434	1,175,164	0.02%
Matlin Patterson III	5,113,405	0.08%	0	(5,163,262)	10,276,667	0.19%
Quantum Energy Partners	1,044,161	0.02%	0	(128,718)	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 June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020			March 31, 2020		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
<b>Global Fixed Income</b>	<b>\$1,417,572,171</b>	<b>23.43%</b>	<b>\$(102,099,867)</b>	<b>\$60,288,471</b>	<b>\$1,459,383,567</b>	<b>26.68%</b>
<b>Domestic Fixed Income</b>	<b>\$1,417,572,171</b>	<b>23.43%</b>	<b>\$(102,099,867)</b>	<b>\$60,288,471</b>	<b>\$1,459,383,567</b>	<b>26.68%</b>
<b>Investment Grade</b>	<b>\$995,750,221</b>	<b>16.46%</b>	<b>\$(101,638,284)</b>	<b>\$49,056,932</b>	<b>\$1,048,331,573</b>	<b>19.16%</b>
Declaration Total Return	123,598,969	2.04%	(71,014)	9,423,328	114,246,655	2.09%
PIMCO DiSCO II	107,101,266	1.77%	10,000,000	6,153,872	90,947,394	1.66%
PIMCO Core Plus Constrained	332,401,854	5.49%	(59,109,955)	14,958,896	376,552,913	6.88%
Prudential Core	333,888,880	5.52%	(53,104,482)	18,881,526	368,111,837	6.73%
SSgA Long US Treas Index	98,755,189	1.63%	(4,626)	287,040	98,472,774	1.80%
Parametric Fixed Inc Overlay	4,063	0.00%	651,793	(647,731)	-	-
<b>Below Investment Grade</b>	<b>\$421,821,950</b>	<b>6.97%</b>	<b>\$(461,583)</b>	<b>\$11,231,539</b>	<b>\$411,051,994</b>	<b>7.51%</b>
Ares ND Credit Strategies Fd	117,100,737	1.94%	0	(2,768,805)	119,869,542	2.19%
Cerberus ND Private Credit Fd	121,605,406	2.01%	0	2,506,926	119,098,480	2.18%
Goldman Sachs 2006 Offshore	65,384	0.00%	0	948	64,436	0.00%
Goldman Sachs Offshore V	163,777	0.00%	(275,559)	(54,381)	493,717	0.01%
Loomis Sayles	164,970,414	2.73%	(186,024)	16,337,472	148,818,966	2.72%
PIMCO Bravo II Fund	17,916,232	0.30%	0	(4,790,621)	22,706,853	0.42%
<b>Global Real Assets</b>	<b>\$1,120,133,385</b>	<b>18.52%</b>	<b>\$(2,602,138)</b>	<b>\$(12,700,138)</b>	<b>\$1,135,435,661</b>	<b>20.76%</b>
<b>Real Estate</b>	<b>\$659,447,086</b>	<b>10.90%</b>	<b>\$6,504,532</b>	<b>\$(16,487,763)</b>	<b>\$669,430,317</b>	<b>12.24%</b>
Invesco Core Real Estate	326,681,420	5.40%	(551,719)	(9,701,549)	336,934,688	6.16%
Invesco Fund III	3,006,465	0.05%	0	70,783	2,935,682	0.05%
Invesco Asia RE Feeder	-	-	0	(1)	1	0.00%
Invesco Asia RE Fund III	19,583,762	0.32%	(3,924,952)	(344,197)	23,852,911	0.44%
Invesco Value Added Fd IV	34,026,957	0.56%	1,475,325	(1,387,711)	33,939,343	0.62%
Invesco Value Added Fd V	29,764,070	0.49%	9,505,865	(1,130,342)	21,388,547	0.39%
JP Morgan	245,771,587	4.06%	0	(3,981,197)	249,752,784	4.57%
JP Morgan Greater European Opp Fd	612,825	0.01%	13	(13,548)	626,361	0.01%
<b>Other Real Assets</b>	<b>\$460,686,299</b>	<b>7.62%</b>	<b>\$(9,106,670)</b>	<b>\$3,787,625</b>	<b>\$466,005,344</b>	<b>8.52%</b>
<b>Infrastructure</b>	<b>\$335,556,322</b>	<b>5.55%</b>	<b>\$(6,606,670)</b>	<b>\$3,554,889</b>	<b>\$338,608,103</b>	<b>6.19%</b>
ISQ Global Infrastructure II	43,204,927	0.71%	0	3,262,154	39,942,773	0.73%
The Rohatyn Group	15,420,000	0.25%	0	(2,652,424)	18,072,424	0.33%
JP Morgan IIF	176,109,128	2.91%	(3,377,111)	57,776	179,428,463	3.28%
Grosvenor Cust. Infrastructure	20,559,066	0.34%	(2,498,055)	437,562	22,619,559	0.41%
Grosvenor Cust. Infrastructure II	18,339,842	0.30%	(695,961)	321,694	18,714,110	0.34%
Macquarie Infrac. Partners IV	61,923,359	1.02%	(35,542)	2,128,127	59,830,774	1.09%
<b>Timber</b>	<b>\$125,129,977</b>	<b>2.07%</b>	<b>\$(2,500,000)</b>	<b>\$232,736</b>	<b>\$127,397,241</b>	<b>2.33%</b>
TIR Teredo	27,726,922	0.46%	(2,500,000)	(67,877)	30,294,799	0.55%
TIR Springbank	97,403,055	1.61%	0	300,613	97,102,442	1.78%
<b>Cash</b>	<b>\$44,111,097</b>	<b>0.73%</b>	<b>\$(6,013,805)</b>	<b>\$52,958</b>	<b>\$50,071,944</b>	<b>0.92%</b>
Northern Trust Cash Account	33,527,815	0.55%	(6,013,805)	41,541	39,500,080	0.72%
Bank of ND	10,583,282	0.17%	0	11,417	10,571,865	0.19%
<b>Securities Lending Income</b>	<b>\$0</b>	<b>0.00%</b>	<b>\$(56,960)</b>	<b>\$56,960</b>	<b>-</b>	<b>-</b>
<b>Total Fund</b>	<b>\$6,049,193,660</b>	<b>100.0%</b>	<b>\$(14,882,758)</b>	<b>\$593,704,564</b>	<b>\$5,470,371,853</b>	<b>100.0%</b>

## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Equities</b>					
Gross	18.99%	1.47%	6.15%	6.55%	-
Net	18.94%	1.28%	5.93%	6.30%	-
Weighted Benchmark	17.40%	1.73%	6.11%	6.41%	-
<b>Public Equities</b>					
Gross	21.07%	1.44%	-	-	-
Net	21.02%	1.23%	-	-	-
Weighted Benchmark	19.77%	1.19%	-	-	-
<b>World Equities</b>					
Gross	17.18%	(6.83%)	2.24%	3.86%	-
Net	17.08%	(7.16%)	1.88%	3.40%	-
MSCI World	19.36%	2.84%	6.70%	6.90%	9.95%
EPOCH Investment - Gross(1)	17.93%	(3.33%)	6.06%	5.73%	-
EPOCH Investment - Net	17.76%	(3.92%)	5.41%	5.07%	-
MSCI World	19.36%	2.84%	6.70%	6.90%	9.95%
LSV Asset Management - Gross(2)	16.45%	(10.04%)	(0.91%)	2.24%	-
LSV Asset Management - Net	16.43%	(10.13%)	(1.04%)	1.95%	-
Benchmark(4)	19.83%	1.17%	6.19%	6.73%	-
<b>Domestic Equities</b>					
Gross	24.48%	8.87%	11.26%	10.52%	14.22%
Net	24.45%	8.72%	11.08%	10.33%	13.97%
Weighted Benchmark	22.66%	4.13%	8.64%	9.08%	13.21%
<b>Large Cap</b>					
Gross	24.77%	13.02%	13.09%	11.99%	14.95%
Net	24.74%	12.90%	12.97%	11.86%	14.78%
Large Cap Benchmark(3)	21.82%	7.48%	10.64%	10.47%	13.97%
L.A. Capital - Gross	28.31%	22.47%	18.04%	14.92%	16.97%
L.A. Capital - Net	28.24%	22.23%	17.80%	14.69%	16.73%
Russell 1000 Growth Index	27.84%	23.28%	18.99%	15.89%	17.23%
LACM Enhanced Index - Gross	21.87%	8.31%	10.58%	10.63%	14.19%
LACM Enhanced Index - Net	21.83%	8.20%	10.46%	10.51%	14.03%
Russell 1000 Index	21.82%	7.48%	10.64%	10.47%	13.97%
Northern Tr AM Enh S&P500 - Gross	19.38%	3.12%	7.91%	8.30%	13.18%
Northern Tr AM Enh S&P500 - Net	19.38%	3.12%	7.91%	8.30%	13.00%
S&P 500 Index	20.54%	7.51%	10.73%	10.73%	13.99%
Parametric Enh S&P500 - Gross	24.41%	7.67%	10.49%	10.73%	-
Parametric Enh S&P500 - Net	24.41%	7.67%	10.49%	10.68%	-
S&P 500 Index	20.54%	7.51%	10.73%	10.73%	13.99%
<b>Small Cap</b>					
Gross	23.43%	(4.33%)	5.33%	5.62%	11.65%
Net	23.43%	(4.57%)	4.98%	5.25%	11.19%
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	10.50%
Atlanta Capital - Gross	19.20%	(2.76%)	8.42%	-	-
Atlanta Capital - Net	19.20%	(3.25%)	7.74%	-	-
S&P 600 Small Cap Index	21.94%	(11.29%)	0.56%	4.48%	11.24%
Parametric Enh SmCap - Gross	28.32%	(5.93%)	2.12%	4.70%	11.37%
Parametric Enh SmCap - Net	28.32%	(5.93%)	2.09%	4.51%	11.03%
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	10.50%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>International Equities</b>					
Gross	20.07%	(0.03%)	3.20%	4.23%	6.92%
Net	20.02%	(0.20%)	3.02%	4.05%	6.63%
Weighted Benchmark	15.97%	(4.91%)	1.13%	2.22%	4.78%
<b>Developed</b>					
Gross	19.25%	(0.42%)	3.04%	4.13%	7.29%
Net	19.19%	(0.64%)	2.81%	3.90%	6.99%
Benchmark(1)	15.34%	(5.42%)	0.84%	1.94%	5.11%
DFA Int'l Small Cap Value - Net	19.38%	(11.98%)	(6.38%)	(0.84%)	5.78%
World ex US SC Value	16.41%	(11.36%)	(3.56%)	0.81%	5.59%
Northern Tr AM World ex US - Gross	15.25%	(4.94%)	1.24%	2.41%	-
Northern Tr AM World ex US - Net	15.24%	(4.97%)	1.20%	2.37%	-
MSCI World ex US	15.34%	(5.42%)	0.84%	2.01%	5.43%
Wellington Management - Gross	20.40%	(3.25%)	(0.49%)	3.90%	9.73%
Wellington Management - Net	20.13%	(4.08%)	(1.34%)	3.03%	8.80%
BMI, EPAC, <\$2 B	19.71%	(4.88%)	(1.81%)	2.03%	6.46%
William Blair - Gross	21.05%	8.68%	9.94%	-	-
William Blair - Net	20.94%	8.28%	9.55%	-	-
MSCI ACWI ex US IMI	16.96%	(4.74%)	0.96%	2.30%	5.11%
<b>Emerging Markets</b>					
Gross	23.02%	1.41%	3.67%	4.21%	5.27%
Net	23.02%	1.41%	3.67%	4.21%	5.01%
Emerging Mkts - Net	18.08%	(3.39%)	1.90%	2.86%	3.27%
Axiom - Net	21.92%	5.45%	5.65%	5.28%	-
Emerging Mkts - Net	18.08%	(3.39%)	1.90%	2.86%	3.27%
DFA - Net	26.52%	(9.26%)	(1.88%)	1.27%	3.75%
Emerging Mkts - Net	18.08%	(3.39%)	1.90%	2.86%	3.27%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Private Equities*</b>					
Net	(0.40%)	3.05%	5.61%	3.97%	4.39%
Adams Street Direct Co-Invest Fd	(47.60%)	(43.85%)	(31.42%)	(19.69%)	(3.95%)
Adams Street Direct Fund 2010	(7.94%)	(0.97%)	10.85%	10.40%	10.45%
Adams Street 1998 Partnership	2.82%	1.93%	3.44%	2.85%	3.00%
Adams Street 1999 Partnership	2.45%	5.34%	(0.20%)	2.12%	3.81%
Adams Street 2000 Partnership	6.16%	(3.14%)	6.31%	3.98%	5.28%
Adams Street 2001 Partnership	(1.12%)	(6.33%)	0.64%	(0.28%)	5.81%
Adams Street 2002 Partnership	2.84%	1.24%	(2.44%)	3.97%	6.57%
Adams Street 2003 Partnership	(1.22%)	(5.59%)	4.49%	4.38%	8.97%
Adams Street 2010 Partnership	2.21%	10.85%	15.51%	13.51%	14.94%
Adams Street 2008 Fund	0.68%	7.45%	13.85%	13.80%	12.32%
Adams Street 1999 Non-US	0.38%	1.39%	1.61%	3.87%	8.70%
Adams Street 2000 Non-US	13.18%	4.28%	7.59%	5.39%	5.50%
Adams Street 2001 Non-US	1.54%	3.48%	8.20%	8.36%	10.05%
Adams Street 2002 Non-US	0.87%	(0.06%)	1.07%	4.83%	6.74%
Adams Street 2003 Non-US	2.16%	(7.80%)	(6.25%)	4.25%	9.59%
Adams Street 2004 Non-US	(2.33%)	(2.73%)	4.13%	2.54%	6.87%
Adams Street 2010 Non-US	(2.40%)	11.49%	16.79%	16.26%	9.20%
Adams Street 2010 Non-US Emg	3.47%	8.03%	13.32%	12.11%	-
Adams Street 2015 Global Fd	3.53%	16.99%	17.37%	-	-
Adams Street 2016 Global Fd	2.10%	11.93%	12.05%	-	-
Adams Street 2017 Global Fd	3.12%	11.40%	-	-	-
Adams Street 2018 Global Fd	4.74%	18.93%	-	-	-
Adams Street 2019 Global Fd	9.84%	-	-	-	-
Adams Street BVCF IV Fund	(35.31%)	(99.89%)	(89.63%)	(74.02%)	(35.59%)
BlackRock	(0.16%)	1.34%	4.47%	-	-
Capital International V	(13.73%)	(22.49%)	(36.79%)	(37.54%)	(19.65%)
Capital International VI	16.06%	17.60%	10.40%	8.29%	-
CorsAir III	(20.05%)	(22.33%)	(2.44%)	5.90%	1.35%
EIG Energy Fund XIV	(27.49%)	(47.54%)	(21.88%)	(29.58%)	(17.14%)
Lewis & Clark, LP	11.79%	23.67%	11.30%	(3.86%)	(4.31%)
Lewis & Clark II	1.10%	18.49%	10.26%	8.64%	0.31%
Matlin Patterson II	11.61%	10.26%	4.27%	(2.85%)	(21.27%)
Matlin Patterson III	(50.24%)	(46.37%)	(16.16%)	(9.89%)	5.60%
Quantum Energy Partners	(10.97%)	(24.76%)	(43.45%)	(25.10%)	(7.34%)

\* 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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Fixed Income</b>					
Gross	4.26%	7.36%	6.33%	5.79%	-
Net	4.23%	7.22%	6.17%	5.59%	-
Weighted Benchmark	5.05%	6.23%	5.29%	4.73%	-
<b>Domestic Fixed Income</b>					
Gross	4.26%	7.36%	6.03%	5.68%	6.17%
Net	4.23%	7.22%	5.88%	5.50%	5.97%
Weighted Benchmark	5.05%	6.23%	4.76%	4.43%	4.60%
<b>Investment Grade</b>					
Gross	4.88%	9.79%	6.52%	5.69%	5.53%
Net	4.86%	9.68%	6.41%	5.57%	5.37%
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
Declaration Total Return - Net	8.25%	3.19%	4.32%	4.11%	-
Libor-3 Month	0.11%	1.57%	1.97%	1.48%	0.90%
PIMCO Core Plus Cons. - Gross(1)	4.37%	9.20%	6.35%	5.57%	-
PIMCO Core Plus Cons. - Net	4.34%	9.07%	6.20%	5.32%	-
Blended Benchmark(2)	2.90%	8.74%	6.07%	3.90%	-
PIMCO DiSCO II - Net	6.33%	2.93%	6.24%	7.95%	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
Prudential Core - Gross	5.58%	8.62%	-	-	-
Prudential Core - Net	5.55%	8.49%	-	-	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
SSgA Long US Treas Idx - Gross	0.29%	25.52%	12.08%	9.27%	-
SSgA Long US Treas Idx - Net	0.29%	25.50%	12.05%	9.24%	-
Blmbg Long Treas	0.25%	25.40%	12.04%	9.26%	7.74%
<b>Below Investment Grade</b>					
Gross	2.73%	1.20%	4.62%	5.50%	7.82%
Net	2.69%	0.98%	4.35%	5.17%	7.49%
Blmbg HY Corp 2% Issue	10.14%	(0.00%)	3.32%	4.79%	6.67%
Ares ND Credit Strategies Fd - Net	(2.31%)	1.72%	-	-	-
Cerberus ND Private Credit Fd - Net	2.10%	8.93%	-	-	-
S&P/LSTA Leveraged Loan B	11.12%	(1.14%)	2.48%	3.21%	4.74%
Goldman Sachs 2006 Offshore - Net	1.47%	6.28%	8.65%	16.12%	15.08%
Goldman Sachs Offshore V - Net	(17.39%)	25.90%	25.98%	10.47%	12.44%
PIMCO Bravo II Fund - Net	(21.10%)	(18.00%)	(3.59%)	1.69%	-
Blmbg HY Corp 2% Issue	10.14%	(0.00%)	3.32%	4.79%	6.67%
Loomis Sayles - Gross	10.99%	(0.77%)	3.14%	4.43%	7.02%
Loomis Sayles - Net	10.85%	(1.28%)	2.62%	3.91%	6.58%
Blmbg HY Corp 2% Issue	10.14%	(0.00%)	3.32%	4.79%	6.67%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Real Assets</b>					
Gross	(1.11%)	3.73%	5.44%	6.22%	-
Net	(1.22%)	3.35%	5.01%	5.77%	-
Weighted Benchmark	(0.72%)	2.07%	4.27%	4.77%	-
<b>Real Estate</b>					
Gross	(2.44%)	2.66%	5.79%	7.75%	11.81%
Net	(2.52%)	2.20%	5.28%	7.22%	11.16%
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%
Invesco Core Real Estate - Gross	(2.88%)	1.32%	5.51%	7.18%	11.00%
Invesco Core Real Estate - Net	(3.04%)	0.98%	5.15%	6.81%	10.58%
Invesco Fund III - Net	2.41%	27.02%	1.59%	5.98%	-
Invesco Asia RE Fund III - Net	(1.55%)	16.93%	35.49%	-	-
Invesco Value Added Fd IV - Net	(3.89%)	5.79%	9.94%	8.49%	-
Invesco Value Added Fd V - Net	(3.55%)	2.95%	-	-	-
JP Morgan - Gross	(1.59%)	3.15%	5.99%	7.63%	11.59%
JP Morgan - Net	(1.59%)	2.40%	5.11%	6.65%	10.61%
JPM Greater European Opp Fd - Net	(2.16%)	(29.62%)	(25.41%)	(12.47%)	*****%)
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%
<b>Other Real Assets</b>					
Gross	0.83%	5.30%	-	-	-
Net	0.69%	5.03%	-	-	-
Weighted Benchmark	(0.36%)	1.28%	-	-	-
<b>Infrastructure</b>					
Gross	1.05%	4.84%	6.09%	6.31%	-
Net	0.86%	4.46%	5.65%	5.79%	-
ISQ Global Infrastructure II - Net	8.17%	6.15%	-	-	-
The Rohatyn Group - Net	(14.68%)	(18.03%)	(14.26%)	(5.06%)	(0.51%)
JP Morgan IIF - Gross	0.04%	5.31%	7.81%	7.11%	6.85%
JP Morgan IIF - Net	(0.33%)	4.62%	7.11%	6.31%	5.85%
Grosvenor Cust. Infrastructure - Net	1.93%	3.38%	4.68%	6.21%	-
Grosvenor Cust. Infrastructure II - Net	1.72%	5.23%	9.76%	7.70%	-
Benchmark(1)	(0.52%)	1.62%	2.87%	2.14%	1.97%
Macquarie Infrs. Partners IV - Net	3.56%	9.14%	-	-	-
Benchmark(2)	(0.52%)	1.62%	-	-	-
<b>Timber</b>					
Net	0.20%	6.29%	2.55%	0.38%	-
TIR Teredo - Net	(0.23%)	0.16%	1.13%	1.00%	3.56%
TIR Springbank - Net	0.31%	8.35%	3.00%	0.22%	(0.98%)
NCREIF Timberland Index	0.08%	0.34%	2.28%	2.71%	4.39%
<b>Cash &amp; Cash Equivalents - Net</b>					
	<b>0.11%</b>	<b>1.46%</b>	<b>1.73%</b>	<b>1.24%</b>	<b>0.67%</b>
Cash Account - Net	0.12%	1.46%	1.71%	1.23%	0.66%
Bank of ND - Net	0.11%	1.49%	1.72%	-	-
3-month Treasury Bill	0.02%	1.63%	1.77%	1.19%	0.64%
<b>Total Fund</b>					
Gross	10.86%	3.64%	6.25%	6.45%	8.76%
Net	10.81%	3.42%	6.01%	6.18%	8.40%
Target*	10.94%	3.23%	5.80%	5.90%	7.94%

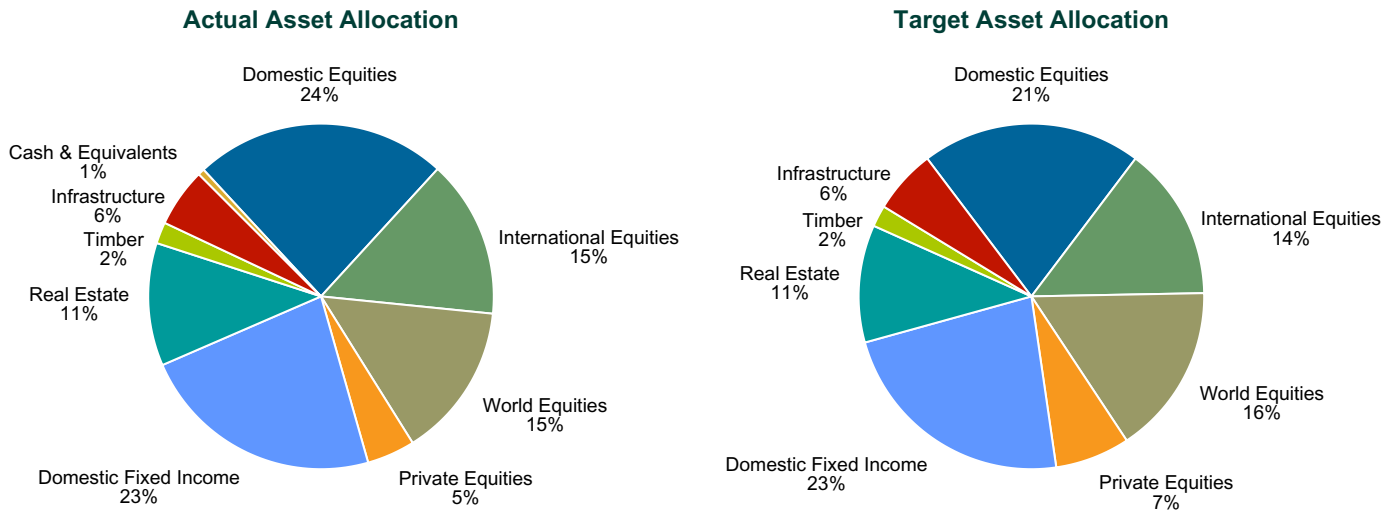
\* Current Quarter Target = 16.3% Blmbg Aggregate, 16.1% Russell 1000 Index, 16.0% MSCI World, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.5% NDSIB PEN - Private Equity, 4.9% Russell 2000 Index, 3.1% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net, 2.1% 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.

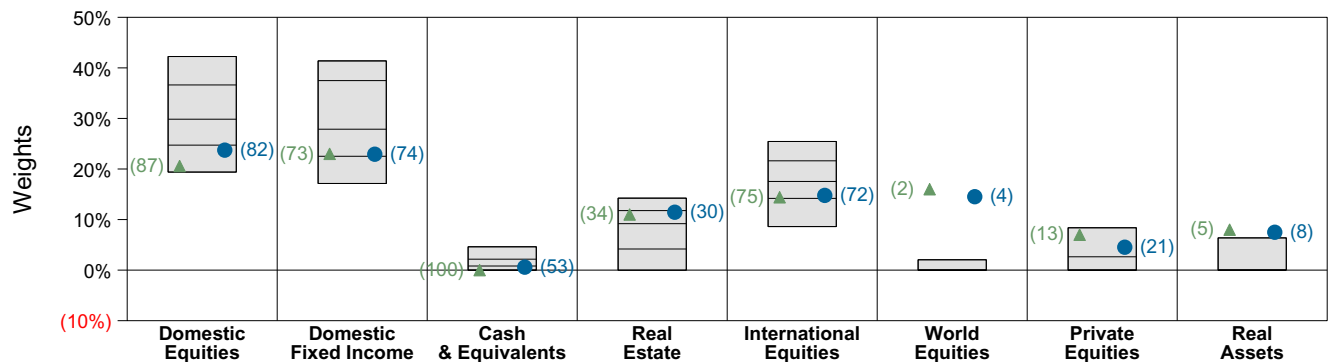
## Actual vs Target Asset Allocation As of June 30, 2020

The top left chart shows the Fund's asset allocation as of June 30, 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	762,118	23.7%	20.6%	3.1%	100,801
International Equities	474,643	14.8%	14.4%	0.4%	11,721
World Equities	466,460	14.5%	16.0%	(1.5%)	(47,478)
Private Equities	145,517	4.5%	7.0%	(2.5%)	(79,331)
Domestic Fixed Income	736,208	22.9%	23.0%	(0.1%)	(2,578)
Real Estate	367,791	11.5%	11.0%	0.5%	14,458
Timber	63,277	2.0%	2.0%	0.0%	0
Infrastructure	177,339	5.5%	6.0%	(0.5%)	(16,353)
Cash & Equivalents	18,760	0.6%	0.0%	0.6%	18,760
<b>Total</b>	<b>3,212,113</b>	<b>100.0%</b>	<b>100.0%</b>		

### Asset Class Weights vs Callan Public Fund Sponsor Database



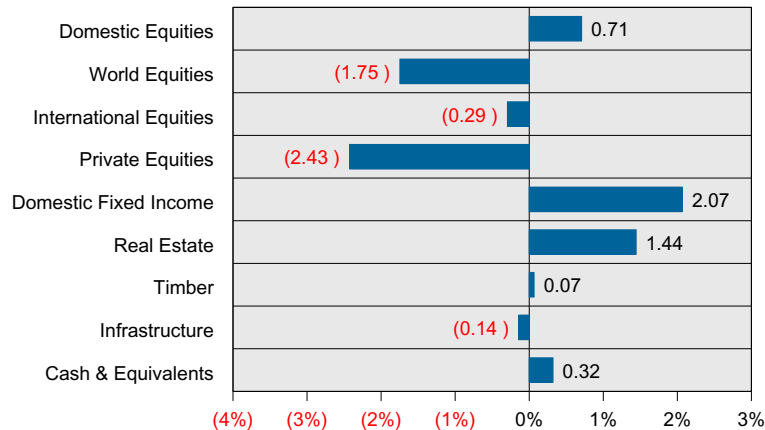
	Domestic Equities	Domestic Fixed Income	Cash & Equivalents	Real Estate	International Equities	World Equities	Private Equities	Real Assets
10th Percentile	42.25	41.38	4.62	14.23	25.44	2.05	8.38	6.38
25th Percentile	36.62	37.49	2.16	11.77	21.62	0.00	2.64	0.00
Median	29.85	27.87	0.81	9.19	17.54	0.00	0.00	0.00
75th Percentile	24.72	22.51	0.02	4.18	14.19	0.00	0.00	0.00
90th Percentile	19.39	17.13	0.00	0.00	8.61	0.00	0.00	0.00
<b>Fund</b>	● 23.73	● 22.92	● 0.58	● 11.45	● 14.78	● 14.52	● 4.53	● 7.49
<b>Target</b>	▲ 20.59	▲ 23.00	▲ 0.00	▲ 11.00	▲ 14.41	▲ 16.00	▲ 7.00	▲ 8.00
% Group Invested	96.38%	98.55%	76.09%	80.43%	94.20%	10.87%	29.71%	23.19%

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

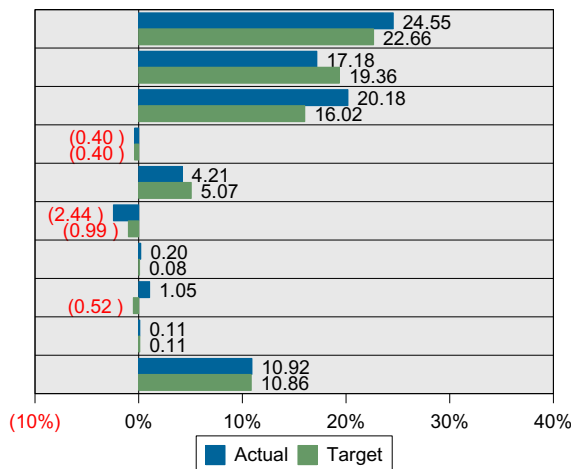
## Quarterly Total Fund Relative Attribution - June 30, 2020

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.

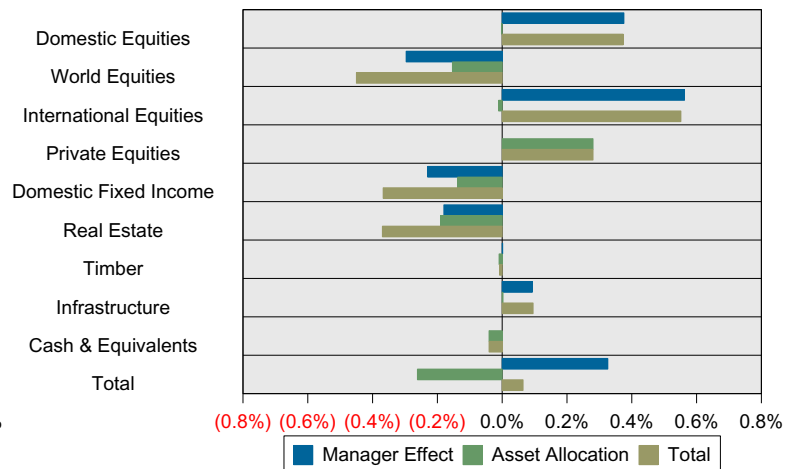
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2020

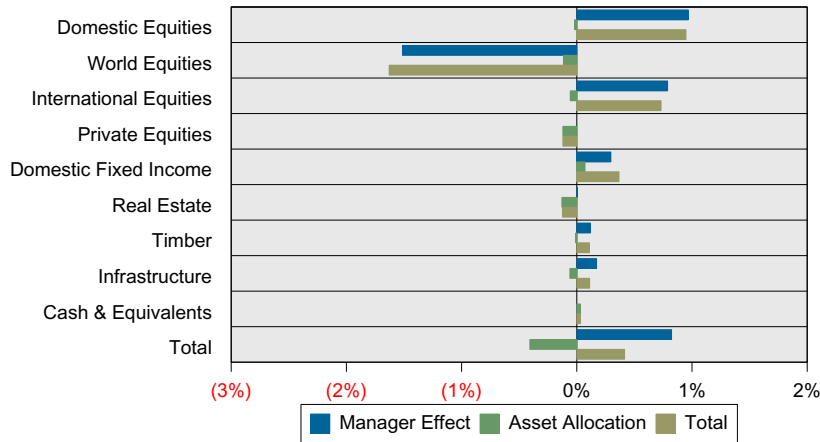
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	21%	21%	24.55%	22.66%	0.38%	(0.00%)	0.37%
World Equities	14%	16%	17.18%	19.36%	(0.30%)	(0.15%)	(0.45%)
International Equities	14%	14%	20.18%	16.02%	0.56%	(0.01%)	0.55%
Private Equities	5%	7%	(0.40%)	(0.40%)	0.00%	0.28%	0.28%
Domestic Fixed Income	25%	23%	4.21%	5.07%	(0.23%)	(0.14%)	(0.37%)
Real Estate	12%	11%	(2.44%)	(0.99%)	(0.18%)	(0.19%)	(0.37%)
Timber	2%	2%	0.20%	0.08%	0.00%	(0.01%)	(0.01%)
Infrastructure	6%	6%	1.05%	(0.52%)	0.09%	0.00%	0.10%
Cash & Equivalents	0%	0%	0.11%	0.11%	0.00%	(0.04%)	(0.04%)
<b>Total</b>			<b>10.92%</b>	<b>10.86%</b>	<b>+ 0.33%</b>	<b>+ (0.26%)</b>	<b>0.06%</b>

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

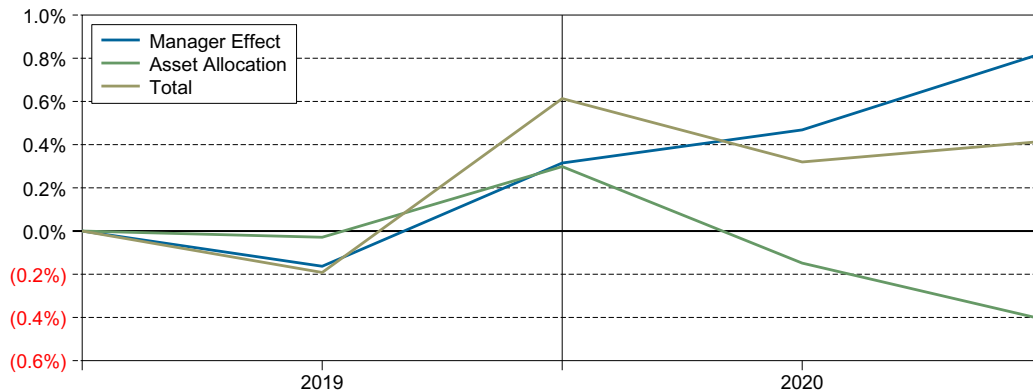
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

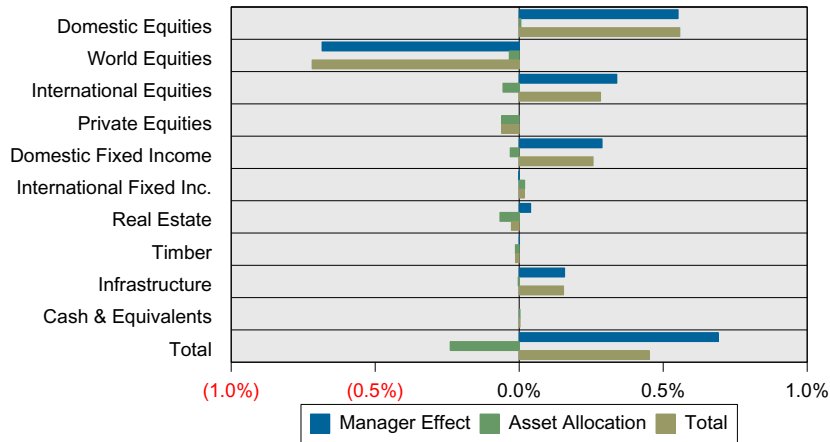
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	8.94%	4.13%	0.97%	(0.02%)	0.95%
World Equities	16%	16%	(6.82%)	2.84%	(1.51%)	(0.12%)	(1.63%)
International Equities	15%	14%	0.07%	(4.87%)	0.79%	(0.06%)	0.73%
Private Equities	4%	7%	3.05%	3.05%	0.00%	(0.12%)	(0.12%)
Domestic Fixed Income	23%	23%	7.40%	6.20%	0.30%	0.07%	0.37%
Real Estate	12%	11%	2.66%	2.69%	0.01%	(0.13%)	(0.12%)
Timber	2%	2%	6.28%	0.34%	0.12%	(0.01%)	0.11%
Infrastructure	5%	6%	4.84%	1.62%	0.17%	(0.06%)	0.11%
Cash & Equivalents	0%	0%	1.49%	1.49%	0.00%	0.03%	0.03%
<b>Total</b>			<b>3.63%</b>	<b>3.21%</b>	<b>+ 0.82%</b>	<b>+ (0.41%)</b>	<b>0.41%</b>

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

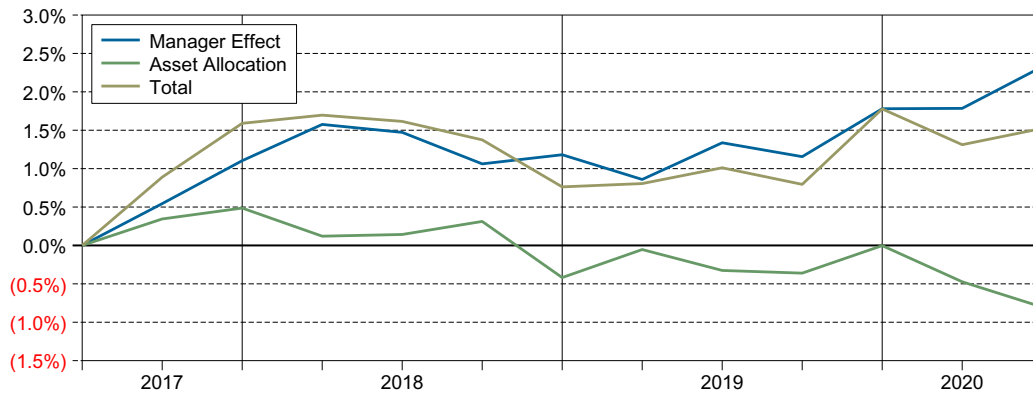
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

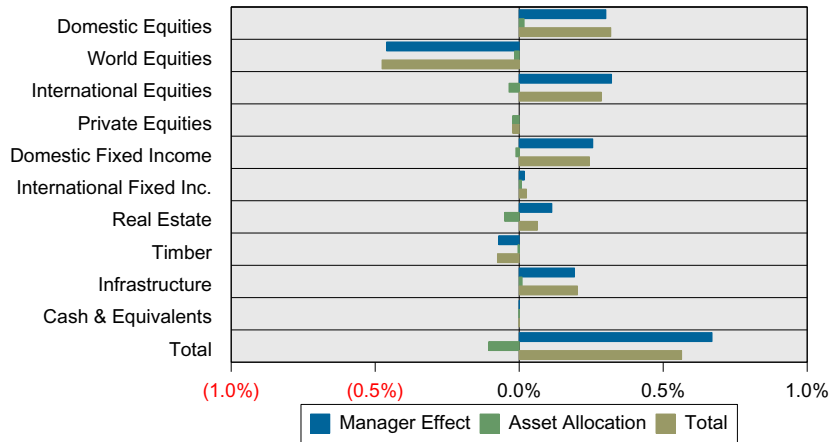
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	11.29%	8.65%	0.55%	0.01%	0.56%
World Equities	16%	16%	2.24%	6.70%	(0.68%)	(0.03%)	(0.72%)
International Equities	16%	14%	3.23%	1.15%	0.34%	(0.06%)	0.28%
Private Equities	3%	7%	5.62%	5.62%	0.00%	(0.06%)	(0.06%)
Domestic Fixed Income	22%	22%	6.06%	4.77%	0.29%	(0.03%)	0.26%
International Fixed Inc.	1%	1%	-	-	(0.00%)	0.02%	0.02%
Real Estate	11%	11%	5.79%	5.44%	0.04%	(0.07%)	(0.03%)
Timber	2%	2%	2.55%	2.28%	0.00%	(0.01%)	(0.01%)
Infrastructure	5%	6%	6.09%	2.87%	0.16%	(0.00%)	0.15%
Cash & Equivalents	1%	0%	1.76%	1.76%	0.00%	0.00%	0.00%
<b>Total</b>			<b>6.26%</b>	<b>5.80%</b>	<b>+ 0.69%</b>	<b>+ (0.24%)</b>	<b>0.45%</b>

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

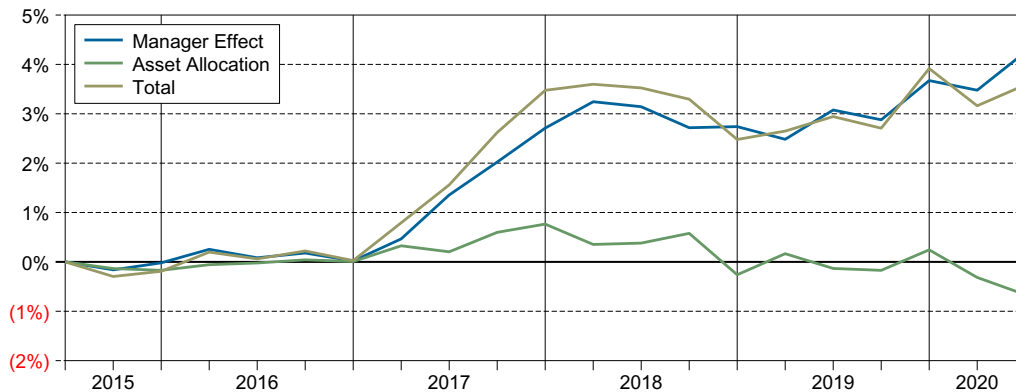
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

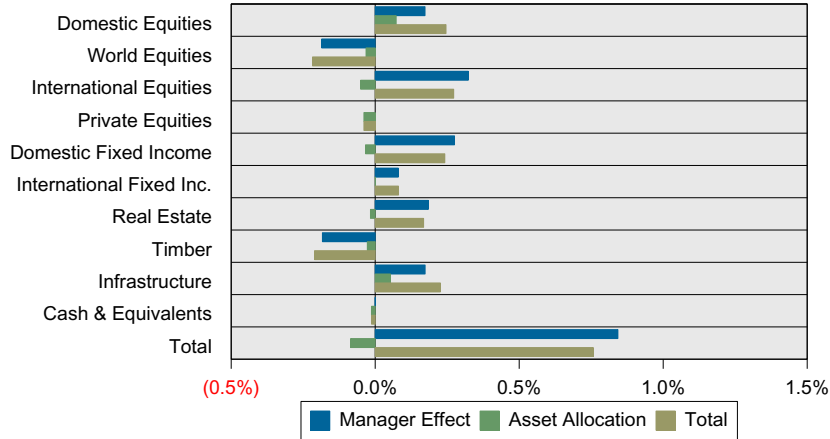
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	10.55%	9.09%	0.30%	0.02%	0.32%
World Equities	16%	16%	3.87%	6.90%	(0.46%)	(0.02%)	(0.48%)
International Equities	16%	14%	4.25%	2.24%	0.32%	(0.04%)	0.29%
Private Equities	3%	7%	3.98%	3.98%	0.00%	(0.02%)	(0.02%)
Domestic Fixed Income	20%	20%	5.71%	4.46%	0.26%	(0.01%)	0.24%
International Fixed Inc.	3%	3%	-	-	0.02%	-	0.03%
Real Estate	11%	11%	7.76%	6.77%	0.11%	(0.05%)	0.06%
Timber	3%	3%	0.38%	2.71%	(0.07%)	(0.00%)	(0.08%)
Infrastructure	5%	6%	6.31%	2.14%	0.19%	0.01%	0.20%
Cash & Equivalents	1%	0%	1.26%	1.23%	0.00%	(0.00%)	(0.00%)
<b>Total</b>			<b>6.47%</b>	<b>5.91%</b>	<b>+ 0.67%</b>	<b>+ (0.11%)</b>	<b>0.56%</b>

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

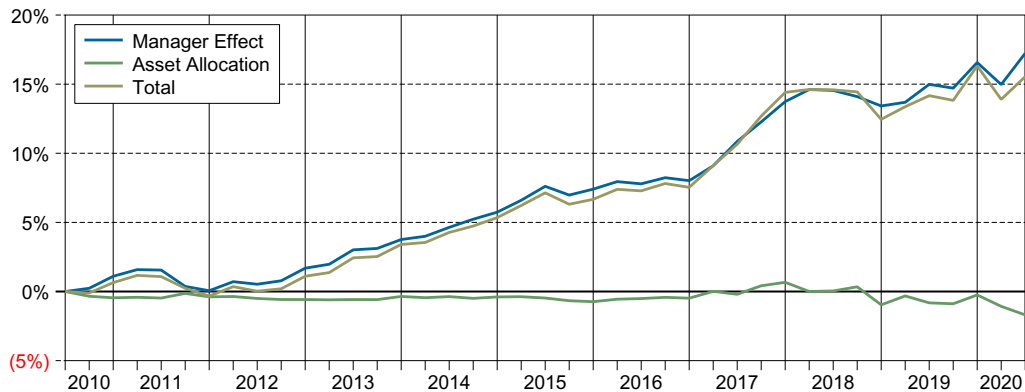
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

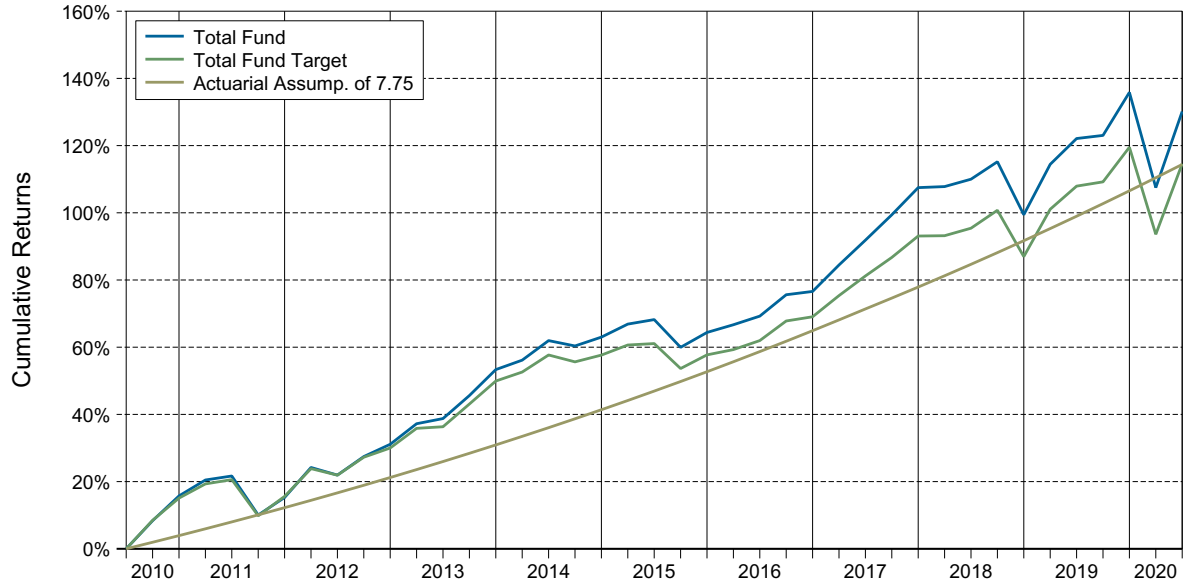
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	26%	24%	14.18%	13.21%	0.17%	0.07%	0.25%
World Equities	13%	13%	-	-	(0.19%)	(0.03%)	(0.22%)
International Equities	16%	15%	6.85%	4.75%	0.32%	(0.05%)	0.27%
Private Equities	4%	6%	4.42%	4.42%	0.00%	(0.04%)	(0.04%)
Domestic Fixed Income	21%	20%	6.18%	4.67%	0.28%	(0.03%)	0.24%
International Fixed Inc.	4%	4%	-	-	0.08%	0.00%	0.08%
Real Estate	10%	10%	11.89%	9.70%	0.18%	(0.02%)	0.17%
Timber	3%	3%	-	-	(0.18%)	(0.03%)	(0.21%)
Infrastructure	4%	5%	-	-	0.17%	0.05%	0.23%
Cash & Equivalents	1%	1%	0.67%	0.65%	0.00%	(0.01%)	(0.01%)
<b>Total</b>			<b>8.69%</b>	<b>7.94%</b>	<b>+ 0.84%</b>	<b>+ (0.09%)</b>	<b>0.76%</b>

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

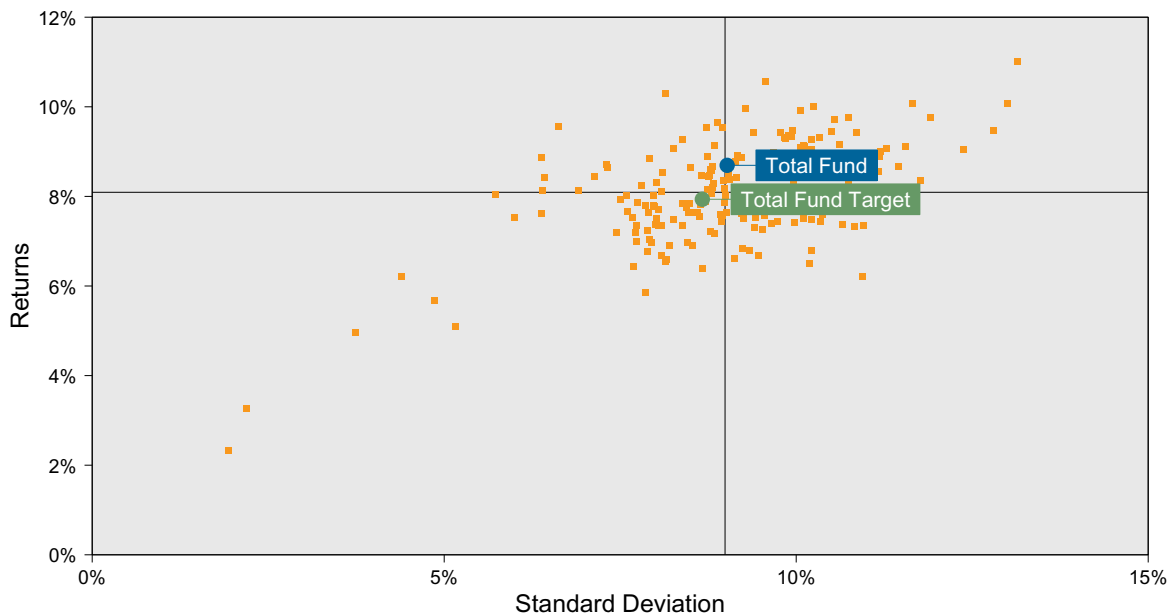
## Cumulative Performance Relative to Target

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



### Ten Year Annualized Risk vs Return



Squares represent membership of the Callan Public Fund Sponsor Database

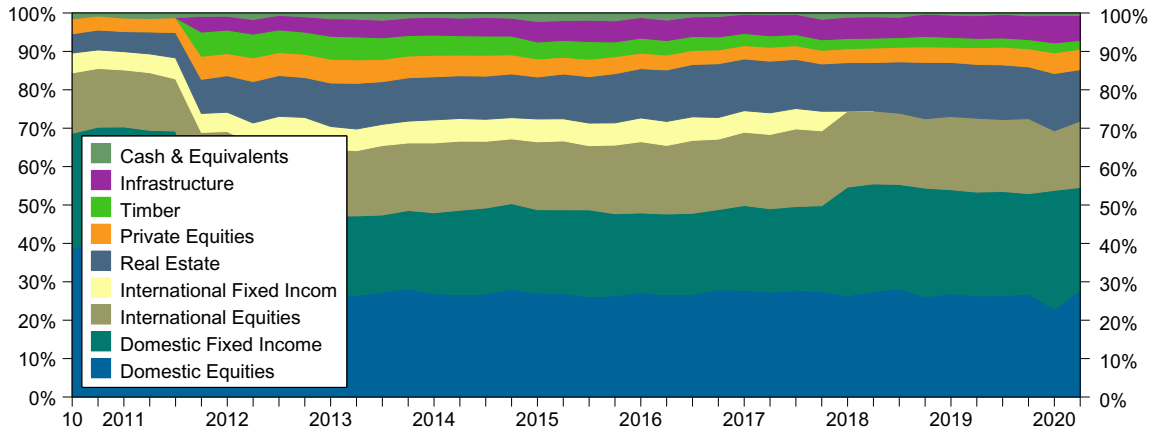
\* Current Quarter Target = 16.0% MSCI World, 16.0% Blmbg Aggregate, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% NDSIB PERS - Private Equity, 7.0% Blmbg:HY Corp 2% Iss Cap, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF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



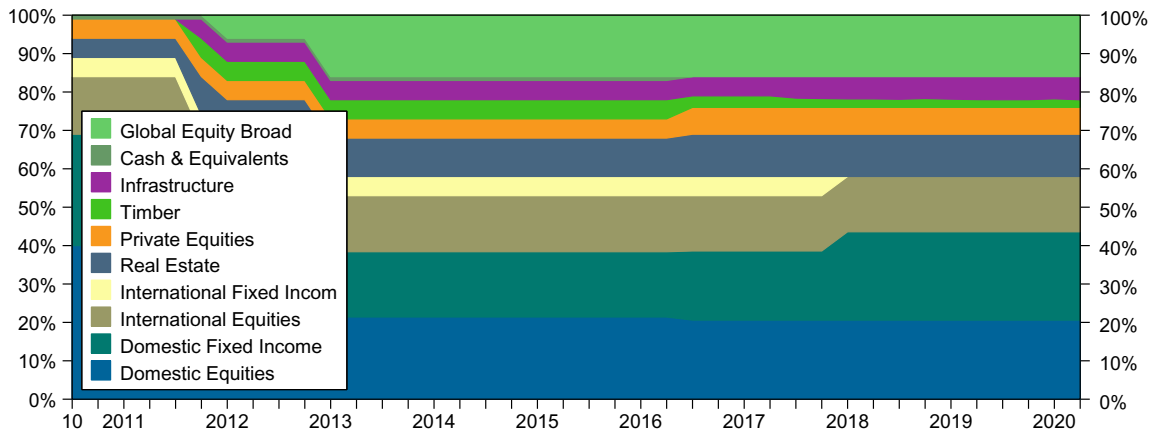
## Actual vs Target Historical Asset Allocation

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.

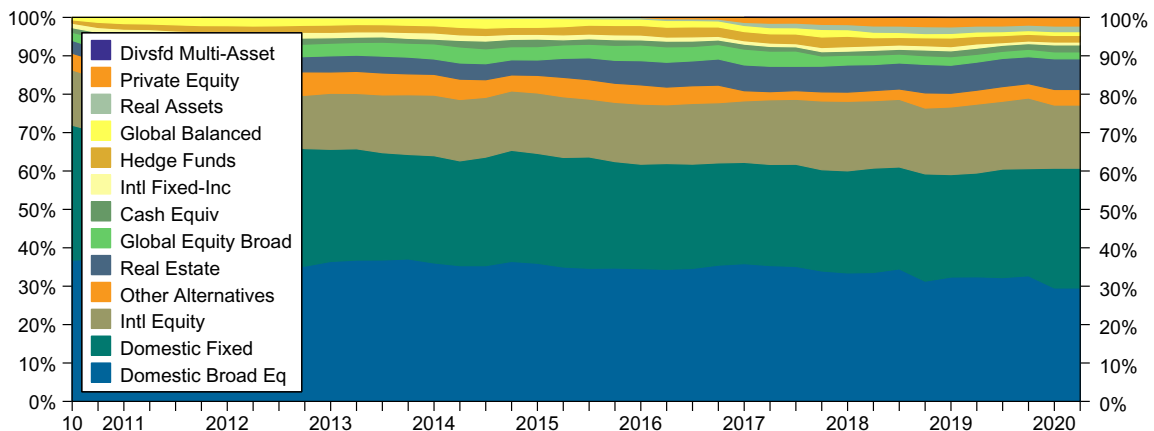
### Actual Historical Asset Allocation



### Target Historical Asset Allocation



### Average Callan Public Fund Sponsor Database Historical Asset Allocation

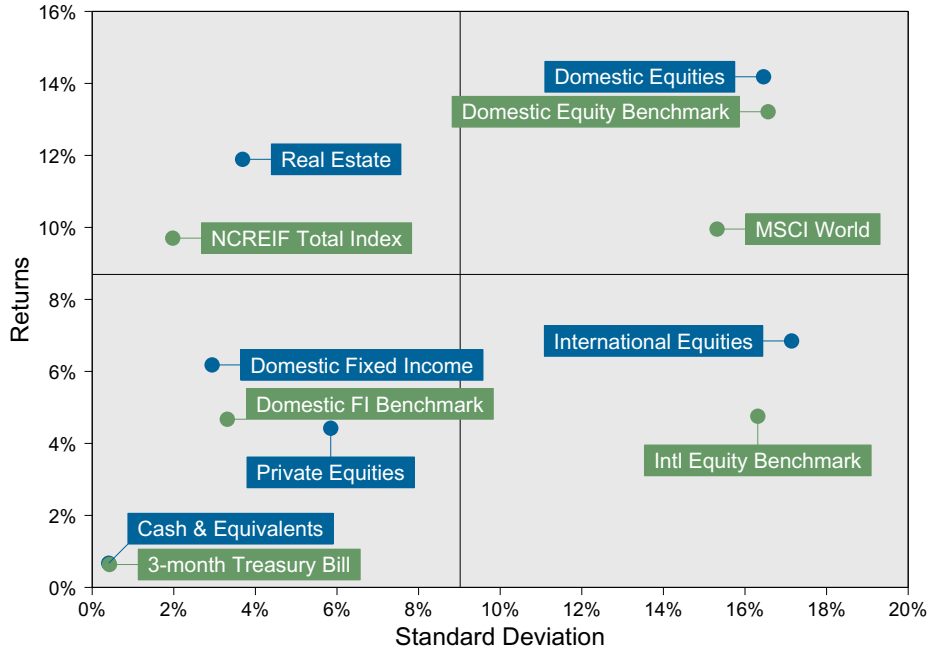


\* Current Quarter Target = 16.0% MSCI World, 16.0% Blmbg Aggregate, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% NDSIB PERS - Private Equity, 7.0% Blmbg:HY Corp 2% Iss Cap, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF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

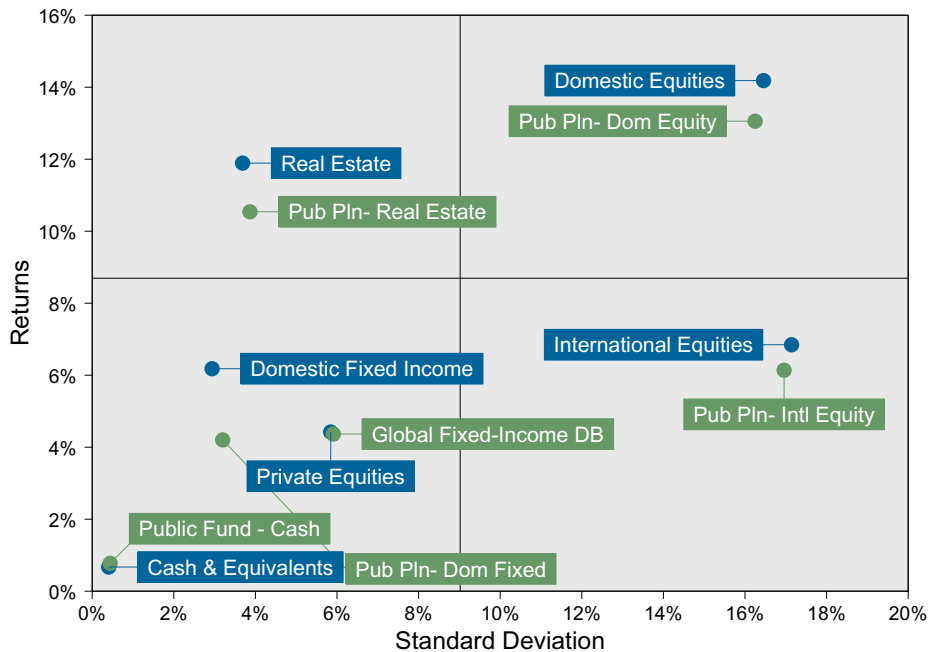
## Asset Class Risk and Return

The charts below show the ten 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.

**Ten Year Annualized Risk vs Return  
Asset Classes vs Benchmark Indices**



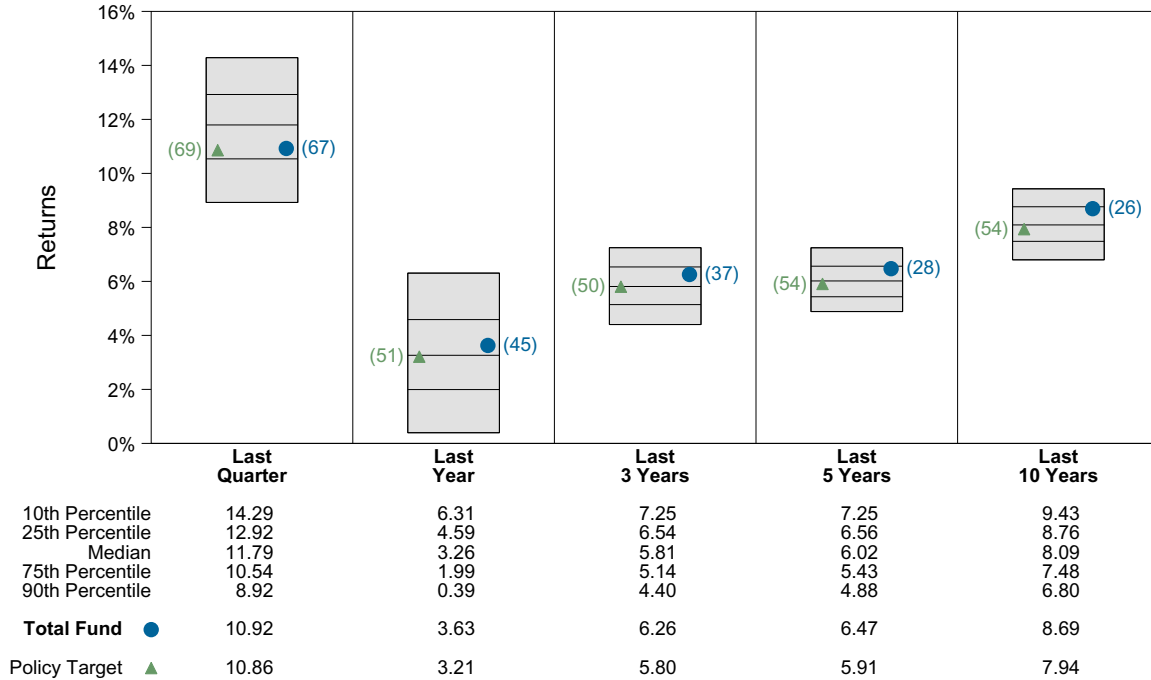
**Ten Year Annualized Risk vs Return  
Asset Classes vs Asset Class Median**



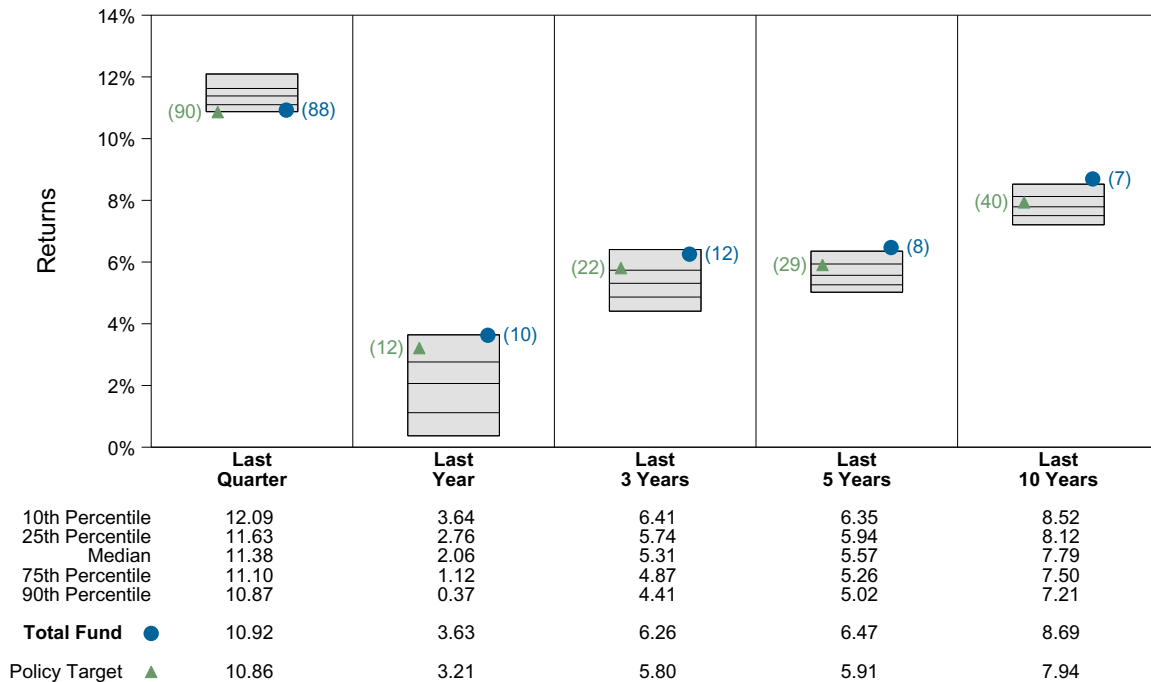
## Total Fund Ranking

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 June 30, 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

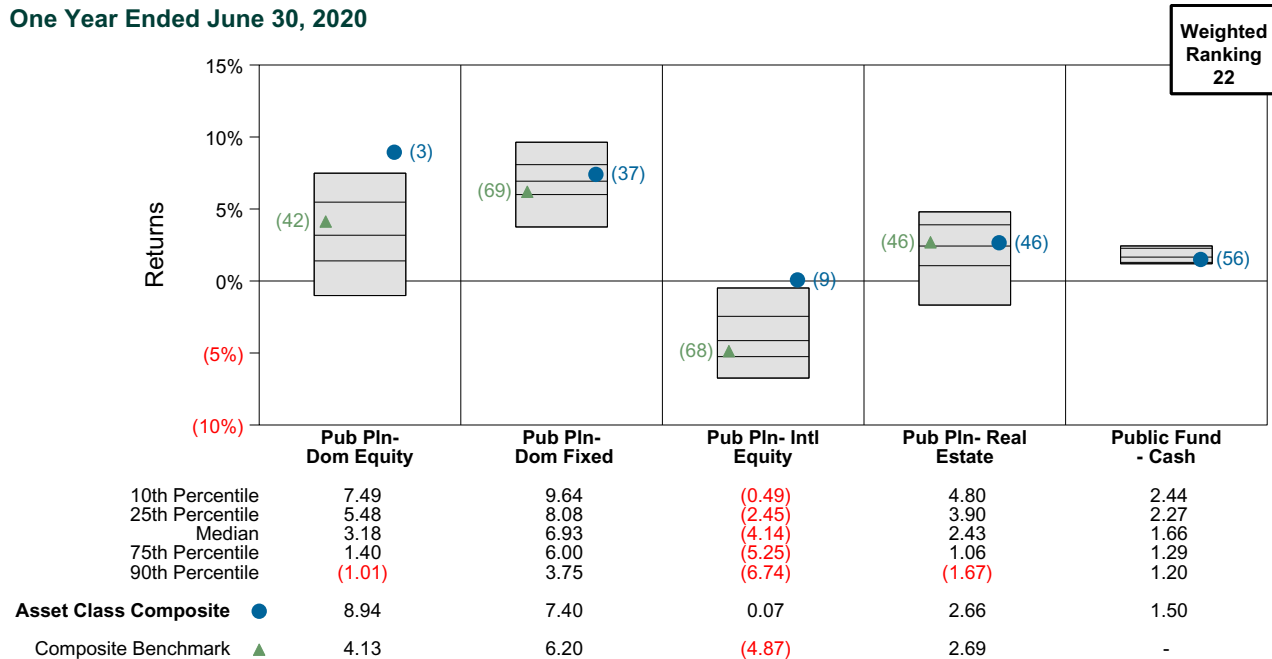


\* Current Quarter Target = 16.0% MSCI World, 16.0% Blmbg Aggregate, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% NDSIB PERS - Private Equity, 7.0% Blmbg:HY Corp 2% Iss Cap, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF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

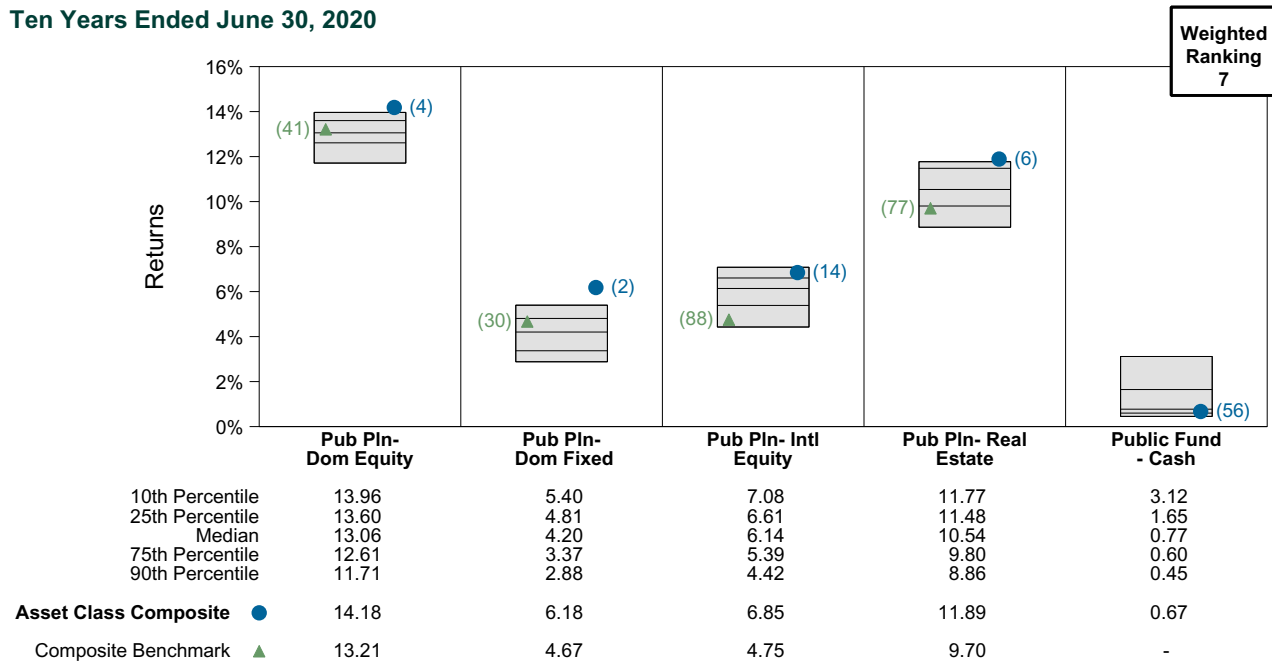
## Asset Class Rankings

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 June 30, 2020



### Total Asset Class Performance Ten Years Ended June 30, 2020



\* Current Quarter Target = 16.0% MSCI World, 16.0% Blmbg Aggregate, 15.8% Russell 1000 Index, 11.0% NCREIF Total Index, 11.0% MSCI World ex US, 7.0% NDSIB PERS - Private Equity, 7.0% Blmbg:HY Corp 2% Iss Cap, 4.8% Russell 2000 Index, 3.4% MSCI EM, 3.0% CPI All Urban Cons lagged 3 months, 3.0% NCREIF NFI-ODCE Eq Wt Net 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 June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
<b>Global Equities</b>	<b>\$1,848,738,325</b>	<b>57.56%</b>	<b>\$54,740,010</b>	<b>\$292,469,727</b>	<b>\$1,501,528,588</b>	<b>51.61%</b>
<b>Public Equities</b>	<b>\$1,703,221,360</b>	<b>53.02%</b>	<b>\$43,903,873</b>	<b>\$293,008,275</b>	<b>\$1,366,309,213</b>	<b>46.96%</b>
<b>World Equities</b>	<b>\$466,460,056</b>	<b>14.52%</b>	<b>\$(6,727,456)</b>	<b>\$69,222,445</b>	<b>\$403,965,067</b>	<b>13.88%</b>
<b>Domestic Equities</b>	<b>\$762,117,977</b>	<b>23.73%</b>	<b>\$46,018,019</b>	<b>\$142,937,247</b>	<b>\$573,162,711</b>	<b>19.70%</b>
Large Cap	608,426,651	18.94%	40,566,719	114,722,280	453,137,653	15.57%
Small Cap	153,691,326	4.78%	5,451,300	28,214,967	120,025,058	4.13%
<b>International Equities</b>	<b>\$474,643,327</b>	<b>14.78%</b>	<b>\$4,613,310</b>	<b>\$80,848,583</b>	<b>\$389,181,435</b>	<b>13.38%</b>
Developed	358,392,299	11.16%	4,446,810	59,129,663	294,815,826	10.13%
Emerging Markets	116,251,028	3.62%	166,500	21,718,920	94,365,608	3.24%
<b>Private Equities</b>	<b>\$145,516,965</b>	<b>4.53%</b>	<b>\$10,836,137</b>	<b>\$(538,548)</b>	<b>\$135,219,375</b>	<b>4.65%</b>
<b>Global Fixed Income</b>	<b>\$736,207,996</b>	<b>22.92%</b>	<b>\$(70,563,812)</b>	<b>\$31,717,798</b>	<b>\$775,054,010</b>	<b>26.64%</b>
<b>Domestic Fixed Income</b>	<b>\$736,207,996</b>	<b>22.92%</b>	<b>\$(70,563,812)</b>	<b>\$31,717,798</b>	<b>\$775,054,010</b>	<b>26.64%</b>
Investment Grade	511,444,245	15.92%	(69,724,425)	25,963,729	555,204,942	19.08%
Below Investment Grade	224,763,751	7.00%	(839,386)	5,754,069	219,849,068	7.56%
<b>Global Real Assets</b>	<b>\$608,406,953</b>	<b>18.94%</b>	<b>\$(1,855,260)</b>	<b>\$(7,197,490)</b>	<b>\$617,459,703</b>	<b>21.22%</b>
<b>Real Estate</b>	<b>\$367,790,954</b>	<b>11.45%</b>	<b>\$3,474,277</b>	<b>\$(9,199,372)</b>	<b>\$373,516,049</b>	<b>12.84%</b>
<b>Other Real Assets</b>	<b>\$240,615,999</b>	<b>7.49%</b>	<b>\$(5,329,537)</b>	<b>\$2,001,882</b>	<b>\$243,943,654</b>	<b>8.38%</b>
Infrastructure	177,338,953	5.52%	(4,065,311)	1,884,189	179,520,075	6.17%
Timber	63,277,045	1.97%	(1,264,226)	117,692	64,423,579	2.21%
<b>Cash</b>	<b>\$18,760,223</b>	<b>0.58%</b>	<b>\$3,262,452</b>	<b>\$11,858</b>	<b>\$15,485,913</b>	<b>0.53%</b>
<b>Securities Lending Income</b>	<b>\$0</b>	<b>0.00%</b>	<b>\$(30,255)</b>	<b>\$30,255</b>	<b>-</b>	<b>-</b>
<b>Total Fund</b>	<b>\$3,212,113,497</b>	<b>100.0%</b>	<b>\$(14,446,863)</b>	<b>\$317,032,147</b>	<b>\$2,909,528,213</b>	<b>100.0%</b>

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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Equities</b>					
Gross	19.18%	1.51%	6.15%	6.55%	-
Net	19.13%	1.32%	5.93%	6.31%	-
Weighted Benchmark	17.23%	1.83%	6.20%	6.45%	-
<b>Public Equities</b>					
Gross	21.15%	1.49%	-	-	-
Net	21.09%	1.27%	-	-	-
Weighted Benchmark	19.75%	1.16%	-	-	-
<b>World Equities</b>					
Gross	17.18%	(6.82%)	2.24%	3.87%	-
Net	17.09%	(7.14%)	1.88%	3.41%	-
MSCI World	19.36%	2.84%	6.70%	6.90%	9.95%
<b>Domestic Equities</b>					
Gross	24.55%	8.94%	11.29%	10.55%	14.18%
Net	24.53%	8.79%	11.12%	10.36%	13.95%
Weighted Benchmark	22.66%	4.13%	8.65%	9.09%	13.21%
<b>Large Cap</b>					
Gross	24.85%	13.10%	13.13%	12.00%	14.96%
Net	24.82%	12.98%	13.01%	11.88%	14.75%
Benchmark(1)	21.82%	7.48%	10.64%	10.47%	13.97%
<b>Small Cap Equity</b>					
Gross	23.47%	(4.23%)	5.36%	5.63%	11.55%
Net	23.47%	(4.48%)	5.01%	5.26%	11.24%
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	10.50%
<b>International Equities</b>					
Gross	20.18%	0.07%	3.23%	4.25%	6.85%
Net	20.13%	(0.09%)	3.07%	4.08%	6.58%
Weighted Benchmark	16.02%	(4.87%)	1.15%	2.24%	4.75%
<b>Developed</b>					
Gross	19.27%	(0.36%)	3.04%	4.15%	7.22%
Net	19.21%	(0.57%)	2.82%	3.91%	6.94%
Benchmark(2)	15.34%	(5.42%)	0.84%	1.94%	5.11%
<b>Emerging Markets</b>					
Gross	23.02%	1.44%	3.70%	4.22%	5.26%
Net	23.02%	1.44%	3.70%	4.22%	5.06%
Benchmark(3)	18.08%	(3.39%)	1.90%	2.86%	3.30%
<b>Private Equities</b>					
Net	(0.40%)	3.05%	5.62%	3.97%	4.37%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Fixed Income</b>					
Gross	4.21%	7.40%	6.36%	5.82%	-
Net	4.18%	7.27%	6.20%	5.62%	-
Weighted Benchmark	5.07%	6.20%	5.24%	4.72%	-
<b>Domestic Fixed Income</b>					
Gross	4.21%	7.40%	6.06%	5.71%	6.18%
Net	4.18%	7.27%	5.91%	5.53%	5.96%
Weighted Benchmark	5.07%	6.20%	4.77%	4.46%	4.67%
<b>Inv. Grade Fixed Income</b>					
Gross	4.88%	9.77%	6.51%	5.69%	5.52%
Net	4.86%	9.68%	6.41%	5.57%	5.37%
Bimbg Aggregate Index	2.90%	8.74%	5.32%	4.30%	3.82%
<b>Below Inv. Grade Fixed Income</b>					
Gross	2.62%	1.31%	4.66%	5.52%	7.82%
Net	2.58%	1.10%	4.40%	5.19%	7.44%
Bimbg HY Corp 2% Issue	10.14%	(0.00%)	3.32%	4.79%	6.67%
<b>Global Real Assets</b>					
Gross	(1.16%)	3.69%	5.46%	6.29%	-
Net	(1.26%)	3.30%	5.03%	5.84%	-
Weighted Benchmark	(0.73%)	2.10%	4.29%	4.80%	-
<b>Real Estate</b>					
Gross	(2.44%)	2.66%	5.79%	7.76%	11.89%
Net	(2.52%)	2.20%	5.28%	7.23%	11.34%
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%
<b>Other Real Assets</b>					
Gross	0.84%	5.29%	-	-	-
Net	0.69%	5.01%	-	-	-
Weighted Benchmark	(0.37%)	1.30%	-	-	-
<b>Infrastructure</b>					
Gross	1.05%	4.84%	6.09%	6.31%	-
Net	0.86%	4.47%	5.64%	5.79%	-
Benchmark(1)	(0.52%)	1.62%	2.87%	2.14%	-
<b>Timber</b>					
Net	0.20%	6.28%	2.55%	0.38%	-
NCREIF Timberland Index	0.08%	0.34%	2.28%	2.71%	4.39%
<b>Cash &amp; Equivalents - Net</b>					
3-month Treasury Bill	0.11%	1.50%	1.76%	1.26%	0.67%
	0.02%	1.63%	1.77%	1.19%	0.64%
<b>Total Fund</b>					
Gross	10.92%	3.63%	6.26%	6.47%	8.69%
Net	10.87%	3.41%	6.01%	6.20%	8.38%
Target*	10.86%	3.21%	5.80%	5.91%	7.94%

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

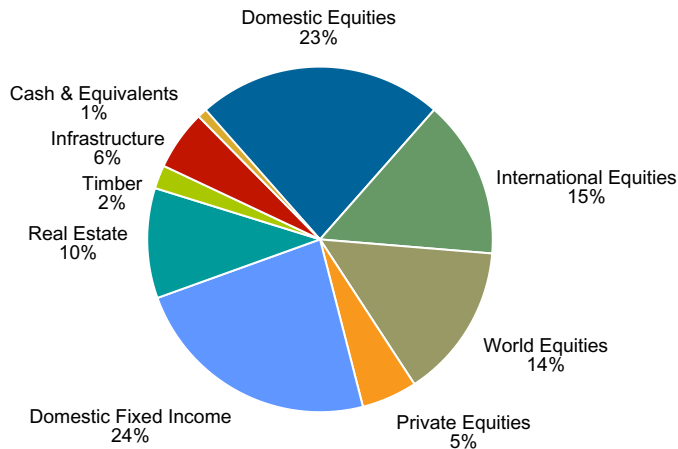
(1) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

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

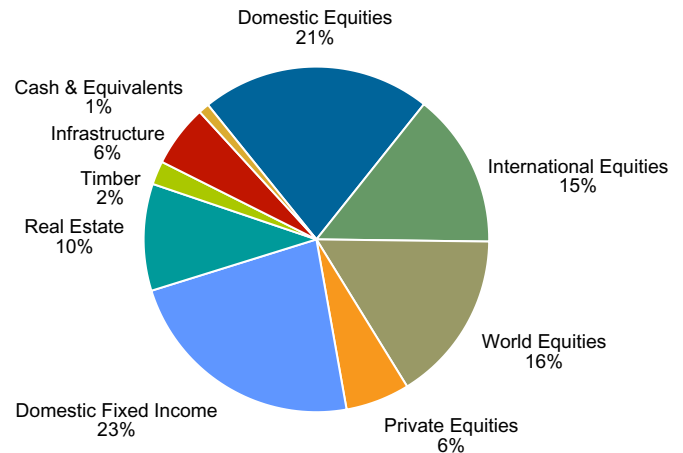
## Actual vs Target Asset Allocation As of June 30, 2020

The top left chart shows the Fund's asset allocation as of June 30, 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.

### Actual Asset Allocation

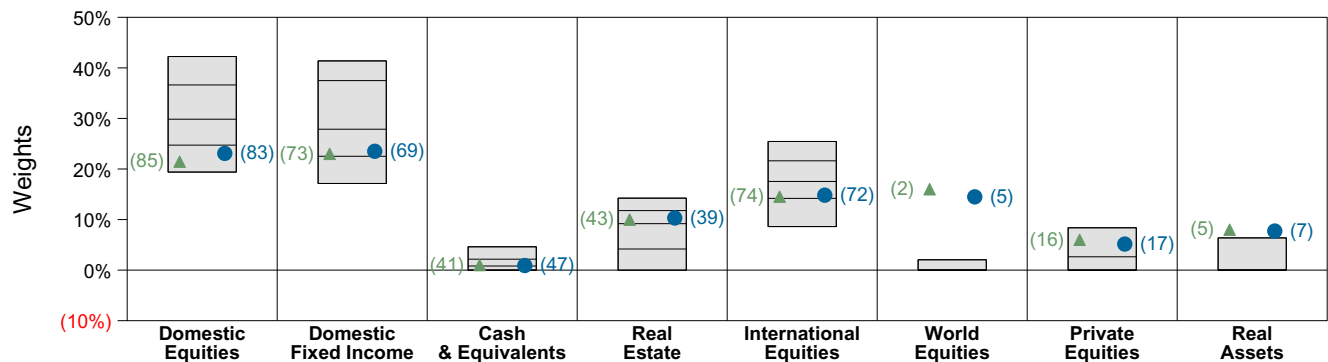


### Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equities	603,162	23.1%	21.5%	1.6%	42,434
International Equities	387,171	14.8%	14.5%	0.3%	7,323
World Equities	378,588	14.5%	16.0%	(1.5%)	(39,447)
Private Equities	134,642	5.2%	6.0%	(0.8%)	(22,121)
Domestic Fixed Income	614,035	23.5%	23.0%	0.5%	13,110
Real Estate	269,594	10.3%	10.0%	0.3%	8,323
Timber	56,483	2.2%	2.2%	(0.0%)	(0)
Infrastructure	145,357	5.6%	5.8%	(0.3%)	(7,178)
Cash & Equivalents	23,683	0.9%	1.0%	(0.1%)	(2,444)
Total	2,612,716	100.0%	100.0%		

### Asset Class Weights vs Callan Public Fund Sponsor Database



10th Percentile	42.25	41.38	4.62	14.23	25.44	2.05	8.38	6.38
25th Percentile	36.62	37.49	2.16	11.77	21.62	0.00	2.64	0.00
Median	29.85	27.87	0.81	9.19	17.54	0.00	0.00	0.00
75th Percentile	24.72	22.51	0.02	4.18	14.19	0.00	0.00	0.00
90th Percentile	19.39	17.13	0.00	0.00	8.61	0.00	0.00	0.00
<b>Fund</b>	● 23.09	23.50	0.91	10.32	14.82	14.49	5.15	7.73
<b>Target</b>	▲ 21.46	23.00	1.00	10.00	14.54	16.00	6.00	8.00
% Group Invested	96.38%	98.55%	76.09%	80.43%	94.20%	10.87%	29.71%	23.19%

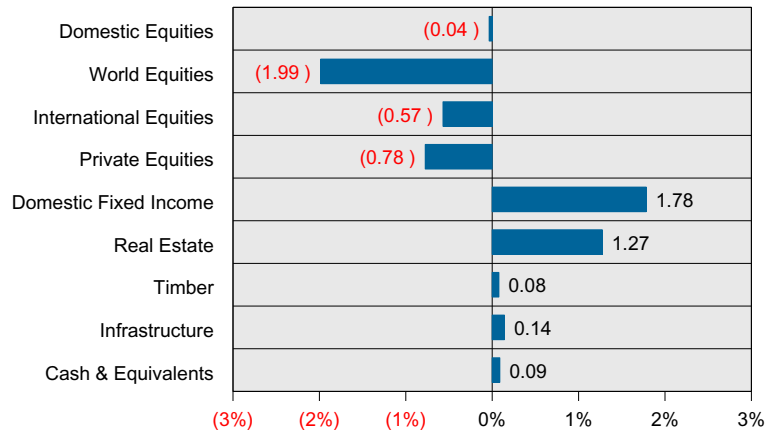
\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months,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



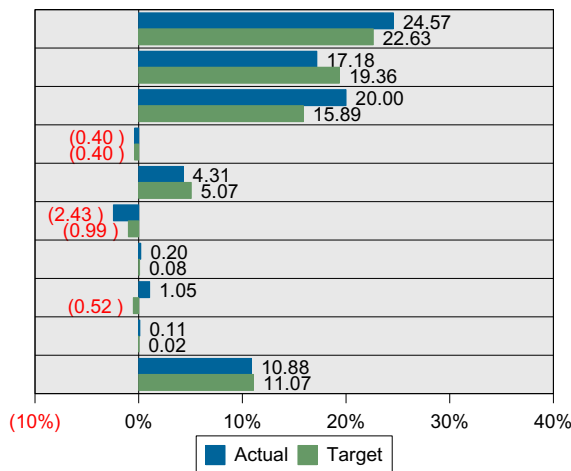
## Quarterly Total Fund Relative Attribution - June 30, 2020

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.

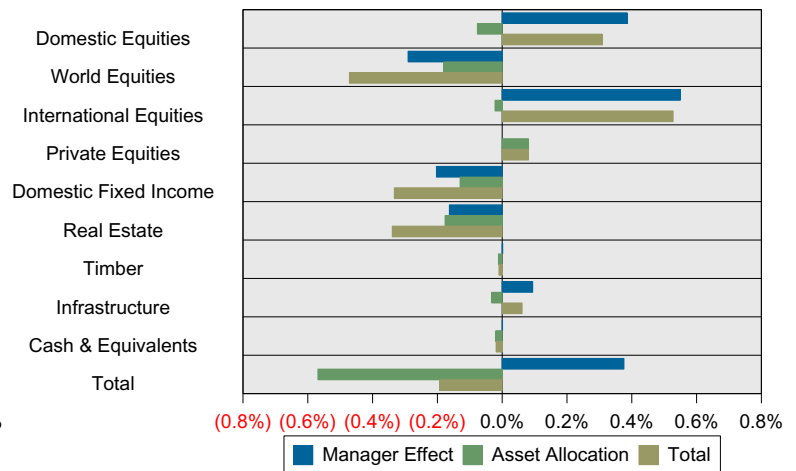
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2020

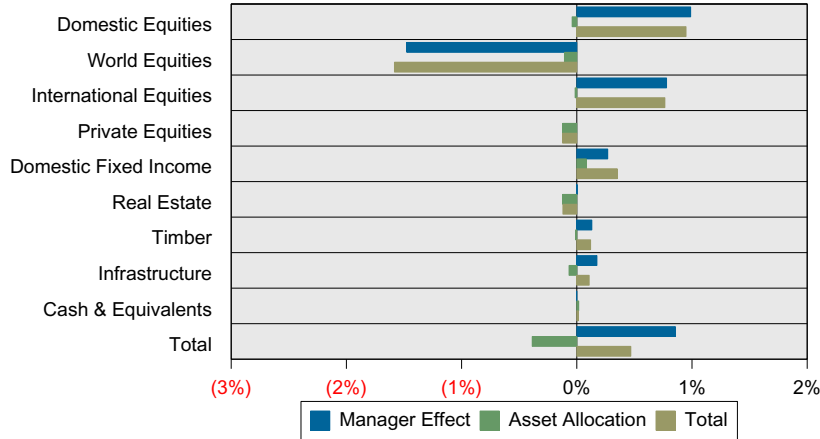
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	21%	21%	24.57%	22.63%	0.39%	(0.08%)	0.31%
World Equities	14%	16%	17.18%	19.36%	(0.29%)	(0.18%)	(0.47%)
International Equities	14%	15%	20.00%	15.89%	0.55%	(0.02%)	0.53%
Private Equities	5%	6%	(0.40%)	(0.40%)	0.00%	0.08%	0.08%
Domestic Fixed Income	25%	23%	4.31%	5.07%	(0.20%)	(0.13%)	(0.33%)
Real Estate	11%	10%	(2.43%)	(0.99%)	(0.16%)	(0.18%)	(0.34%)
Timber	2%	2%	0.20%	0.08%	0.00%	(0.01%)	(0.01%)
Infrastructure	6%	6%	1.05%	(0.52%)	0.09%	(0.03%)	0.06%
Cash & Equivalents	1%	1%	0.11%	0.02%	0.00%	(0.02%)	(0.02%)
<b>Total</b>			<b>10.88%</b>	<b>11.07%</b>	<b>+ 0.38%</b>	<b>+ (0.57%)</b>	<b>(0.19%)</b>

\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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.

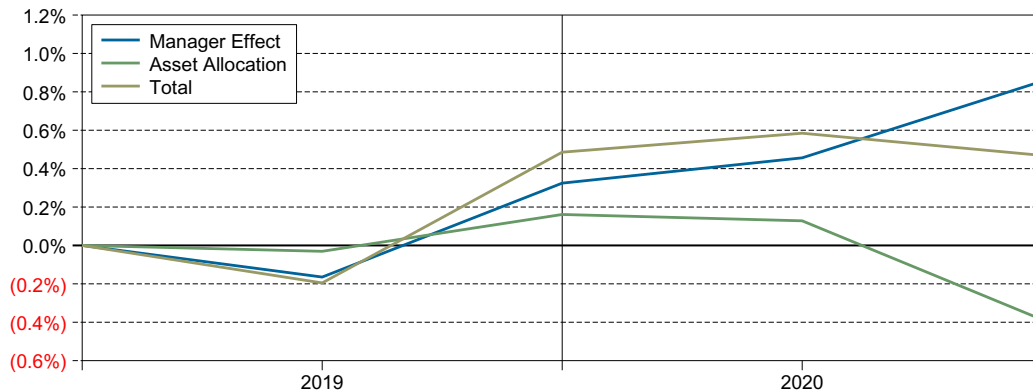
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

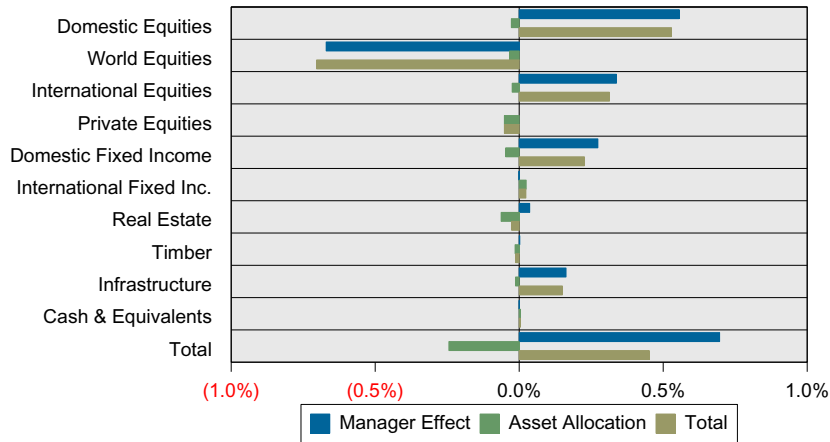
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	9.11%	4.24%	0.99%	(0.04%)	0.95%
World Equities	15%	16%	(6.82%)	2.84%	(1.48%)	(0.11%)	(1.58%)
International Equities	15%	15%	(0.02%)	(4.98%)	0.78%	(0.01%)	0.76%
Private Equities	5%	6%	3.04%	3.04%	0.00%	(0.12%)	(0.12%)
Domestic Fixed Income	24%	23%	7.28%	6.20%	0.27%	0.08%	0.35%
Real Estate	11%	10%	2.66%	2.69%	0.00%	(0.12%)	(0.12%)
Timber	2%	2%	6.28%	0.34%	0.13%	(0.01%)	0.12%
Infrastructure	5%	6%	4.84%	1.62%	0.17%	(0.07%)	0.11%
Cash & Equivalents	1%	1%	1.49%	1.63%	(0.00%)	0.02%	0.01%
<b>Total</b>			<b>3.66%</b>	<b>3.19%</b>	<b>+ 0.86%</b>	<b>+ (0.39%)</b>	<b>0.47%</b>

\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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.

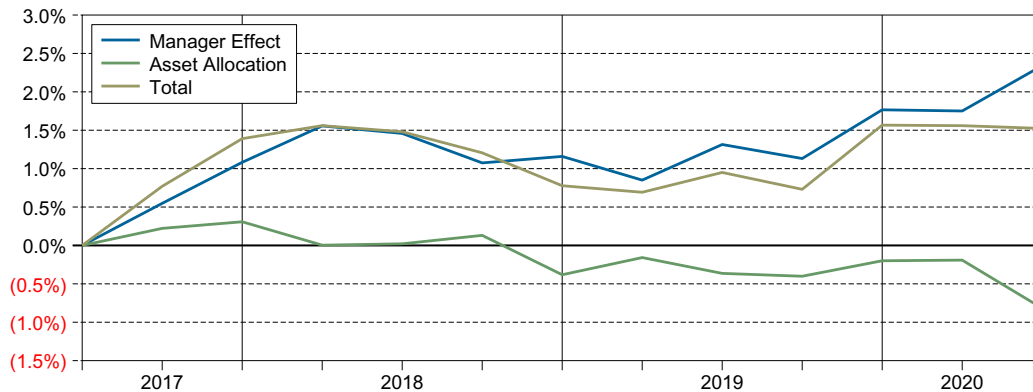
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

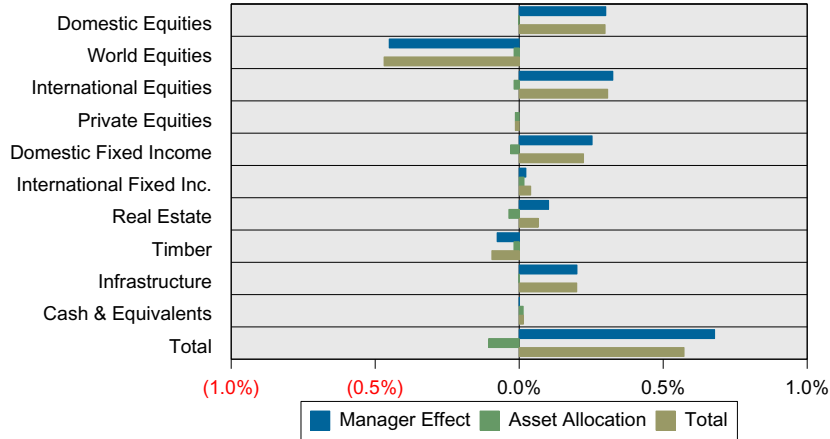
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	22%	21%	11.37%	8.71%	0.56%	(0.03%)	0.53%
World Equities	16%	16%	2.24%	6.70%	(0.67%)	(0.03%)	(0.70%)
International Equities	15%	15%	3.18%	1.09%	0.34%	(0.02%)	0.31%
Private Equities	4%	6%	5.62%	5.62%	0.00%	(0.05%)	(0.05%)
Domestic Fixed Income	22%	22%	5.97%	4.72%	0.27%	(0.05%)	0.23%
International Fixed Inc.	1%	1%	-	-	(0.00%)	0.02%	0.02%
Real Estate	10%	10%	5.79%	5.44%	0.04%	(0.06%)	(0.03%)
Timber	2%	2%	2.55%	2.28%	0.00%	(0.01%)	(0.01%)
Infrastructure	5%	6%	6.09%	2.87%	0.16%	(0.01%)	0.15%
Cash & Equivalents	1%	1%	1.76%	1.77%	(0.00%)	0.00%	0.00%
<b>Total</b>			<b>6.25%</b>	<b>5.80%</b>	<b>+ 0.70%</b>	<b>+ (0.24%)</b>	<b>0.45%</b>

\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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.

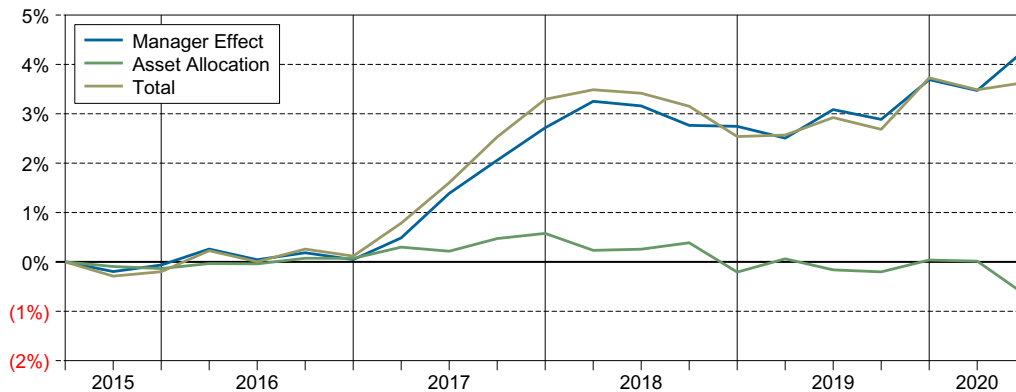
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

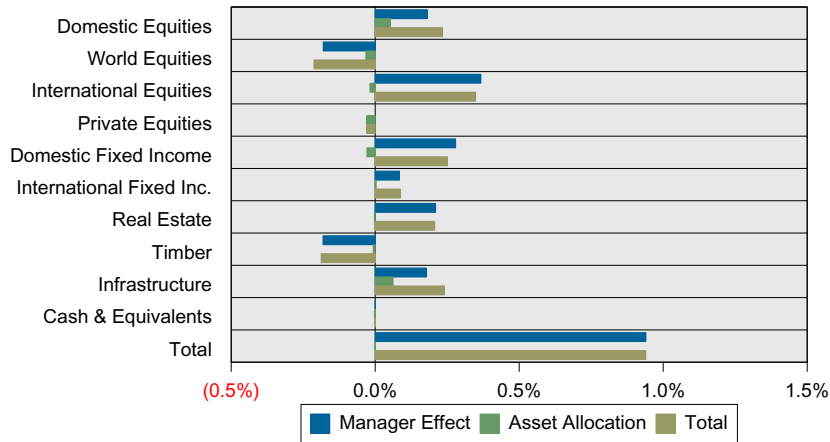
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	23%	21%	10.59%	9.12%	0.30%	(0.00%)	0.30%
World Equities	16%	16%	3.87%	6.90%	(0.45%)	(0.02%)	(0.47%)
International Equities	15%	15%	4.23%	2.18%	0.33%	(0.02%)	0.31%
Private Equities	4%	6%	3.97%	3.97%	0.00%	(0.01%)	(0.01%)
Domestic Fixed Income	20%	20%	5.59%	4.32%	0.25%	(0.03%)	0.22%
International Fixed Inc.	3%	3%	-	-	0.02%	0.02%	0.04%
Real Estate	10%	10%	7.76%	6.77%	0.10%	(0.04%)	0.07%
Timber	3%	3%	0.38%	2.71%	(0.08%)	(0.02%)	(0.09%)
Infrastructure	5%	5%	6.31%	2.14%	0.20%	(0.00%)	0.20%
Cash & Equivalents	1%	1%	1.26%	1.19%	0.00%	0.01%	0.01%
<b>Total</b>			<b>6.44%</b>	<b>5.87%</b>	<b>+ 0.68%</b>	<b>+ (0.11%)</b>	<b>0.57%</b>

\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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.

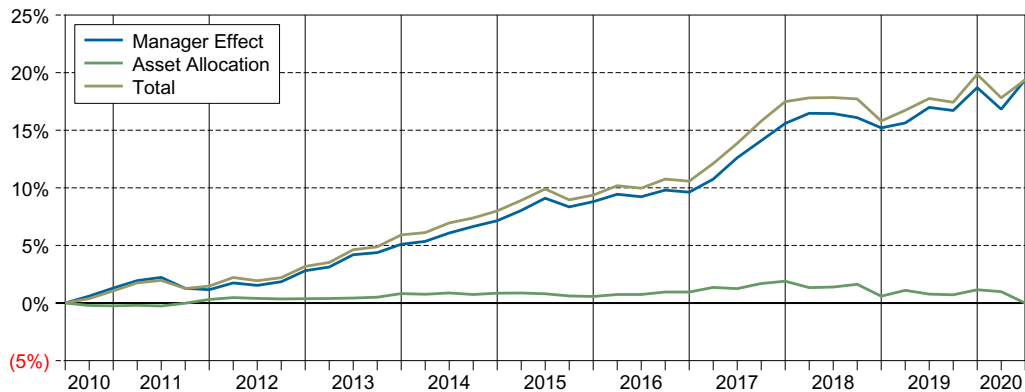
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

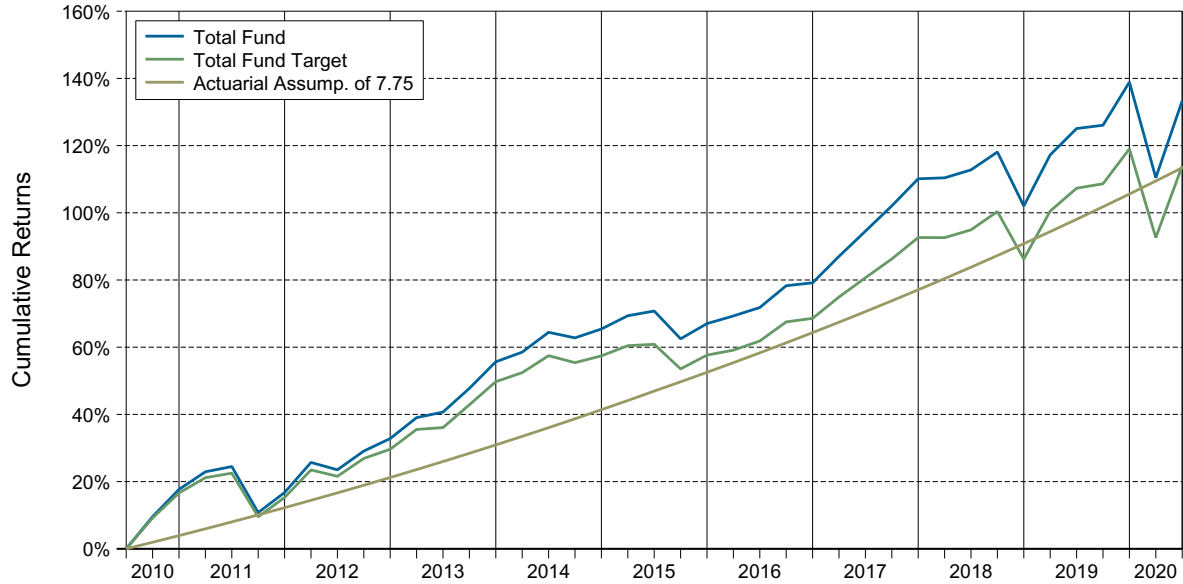
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	25%	24%	14.21%	13.22%	0.18%	0.05%	0.23%
World Equities	13%	13%	-	-	(0.18%)	(0.03%)	(0.21%)
International Equities	17%	16%	6.93%	4.83%	0.37%	(0.02%)	0.35%
Private Equities	4%	5%	4.44%	4.44%	0.00%	(0.03%)	(0.03%)
Domestic Fixed Income	19%	19%	6.13%	4.62%	0.28%	(0.03%)	0.25%
International Fixed Inc.	4%	4%	-	-	0.08%	0.00%	0.09%
Real Estate	10%	10%	11.89%	9.70%	0.21%	(0.00%)	0.21%
Timber	3%	3%	-	-	(0.18%)	(0.01%)	(0.19%)
Infrastructure	4%	5%	-	-	0.18%	0.06%	0.24%
Cash & Equivalents	1%	1%	0.67%	0.64%	0.00%	(0.00%)	(0.00%)
<b>Total</b>			<b>8.84%</b>	<b>7.90%</b>	<b>+ 0.94%</b>	<b>+ (0.00%)</b>	<b>0.94%</b>

\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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.

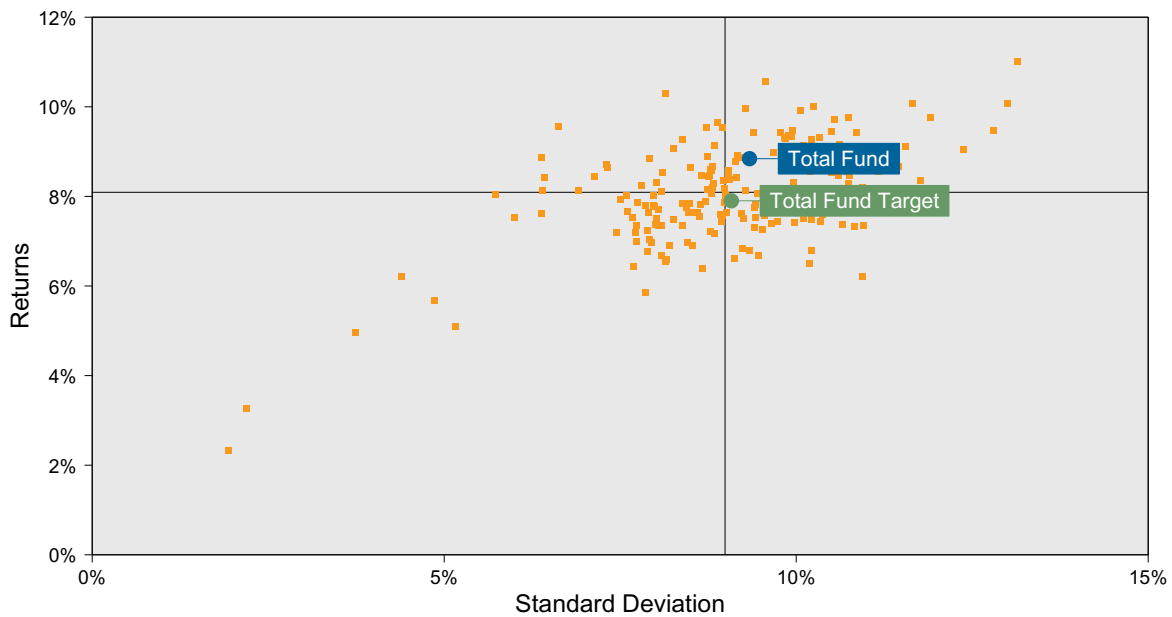
## Cumulative Performance Relative to Target

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



### Ten Year Annualized Risk vs Return



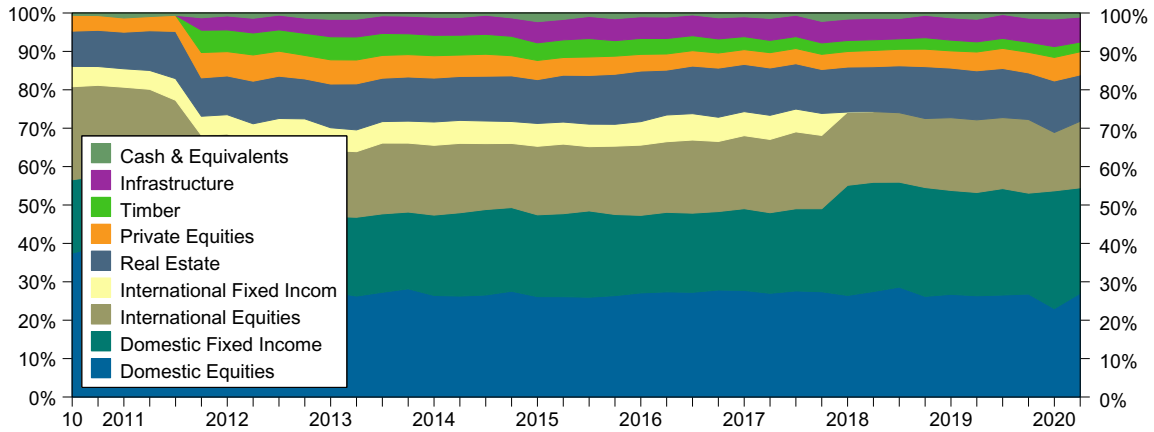
Squares represent membership of the Callan Public Fund Sponsor Database

\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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.

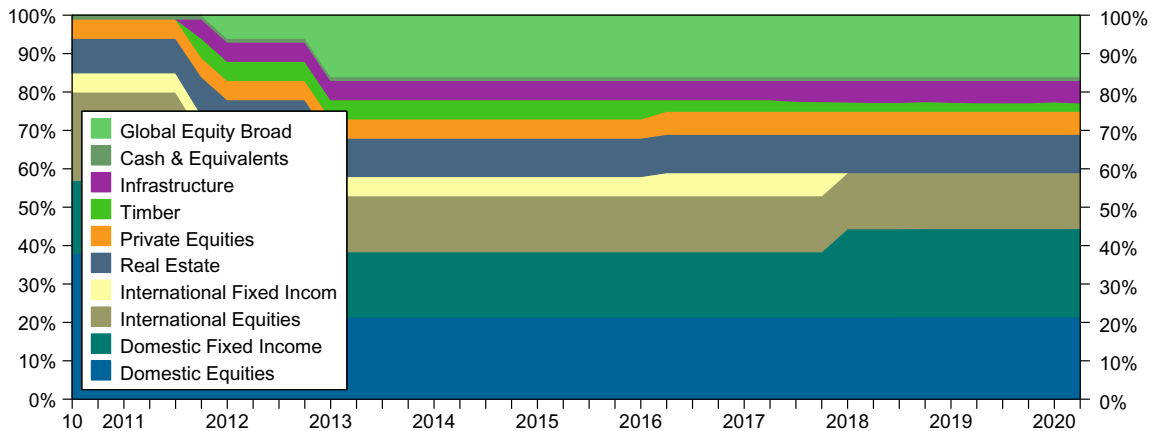
## Actual vs Target Historical Asset Allocation

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.

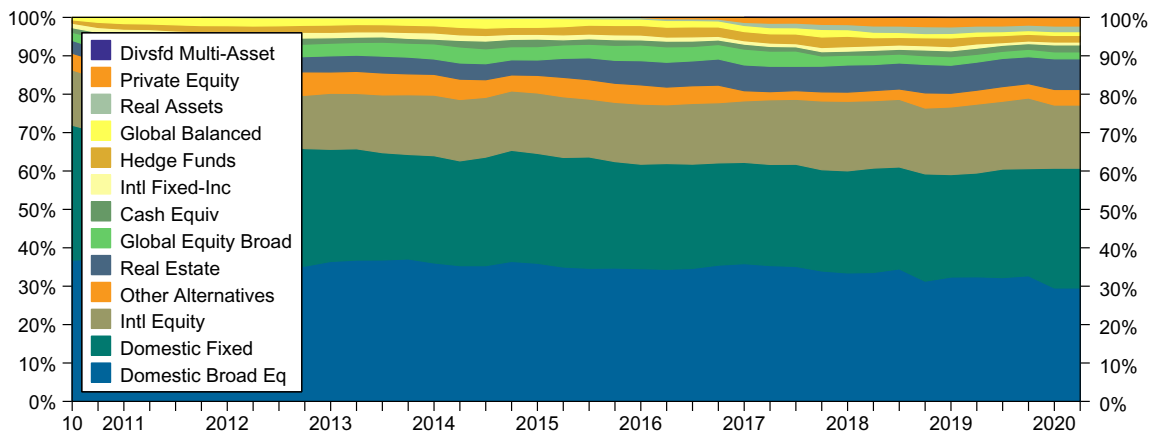
### Actual Historical Asset Allocation



### Target Historical Asset Allocation



### Average Callan Public Fund Sponsor Database Historical Asset Allocation

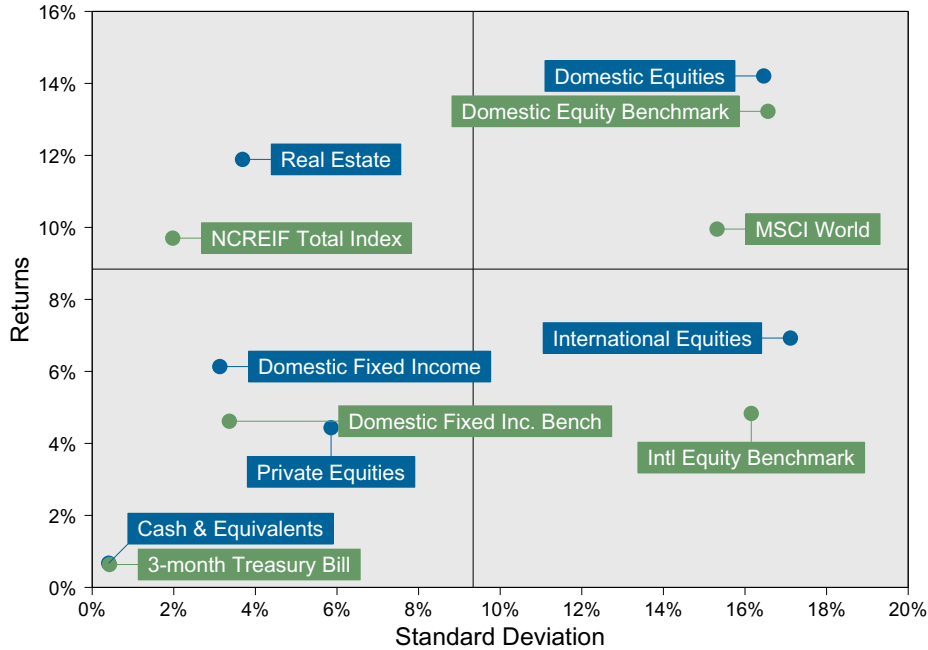


\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months,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

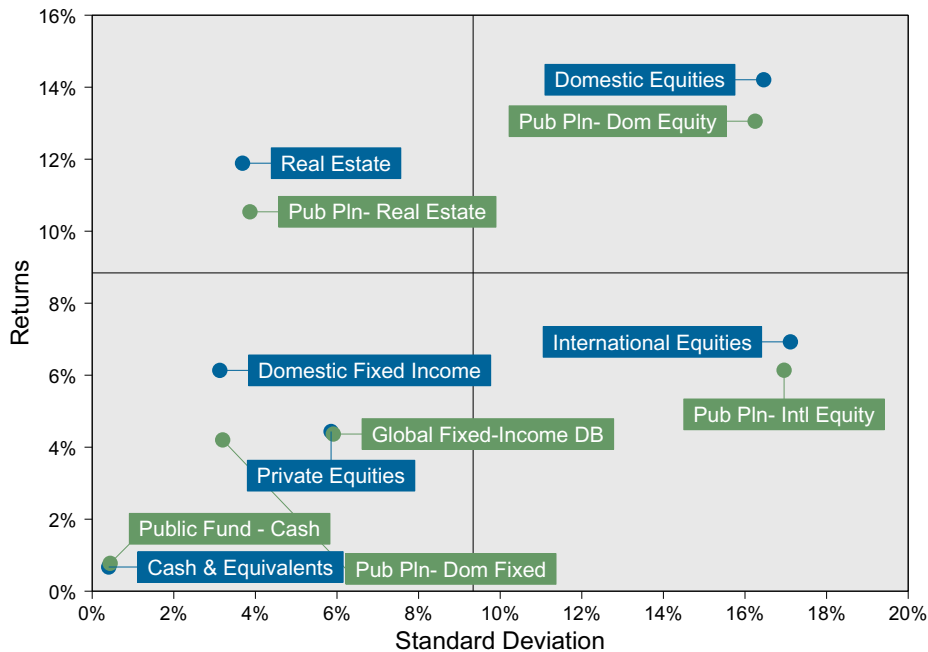
## Asset Class Risk and Return

The charts below show the ten 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.

### Ten Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



### Ten Year Annualized Risk vs Return Asset Classes vs Asset Class Median

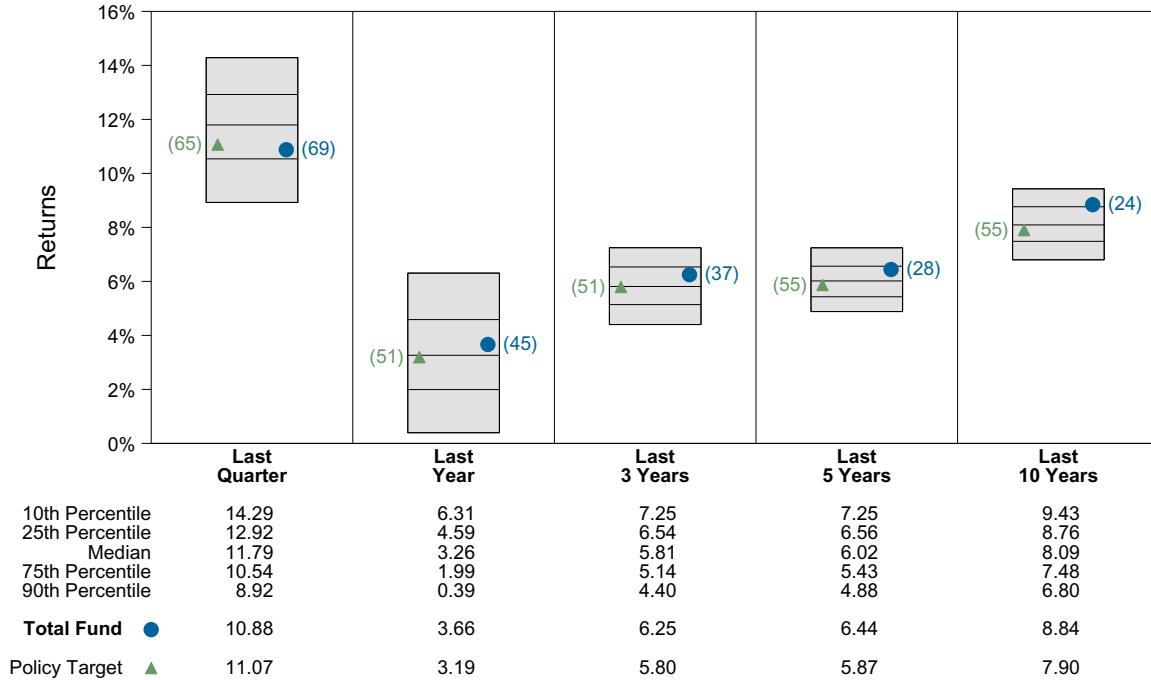




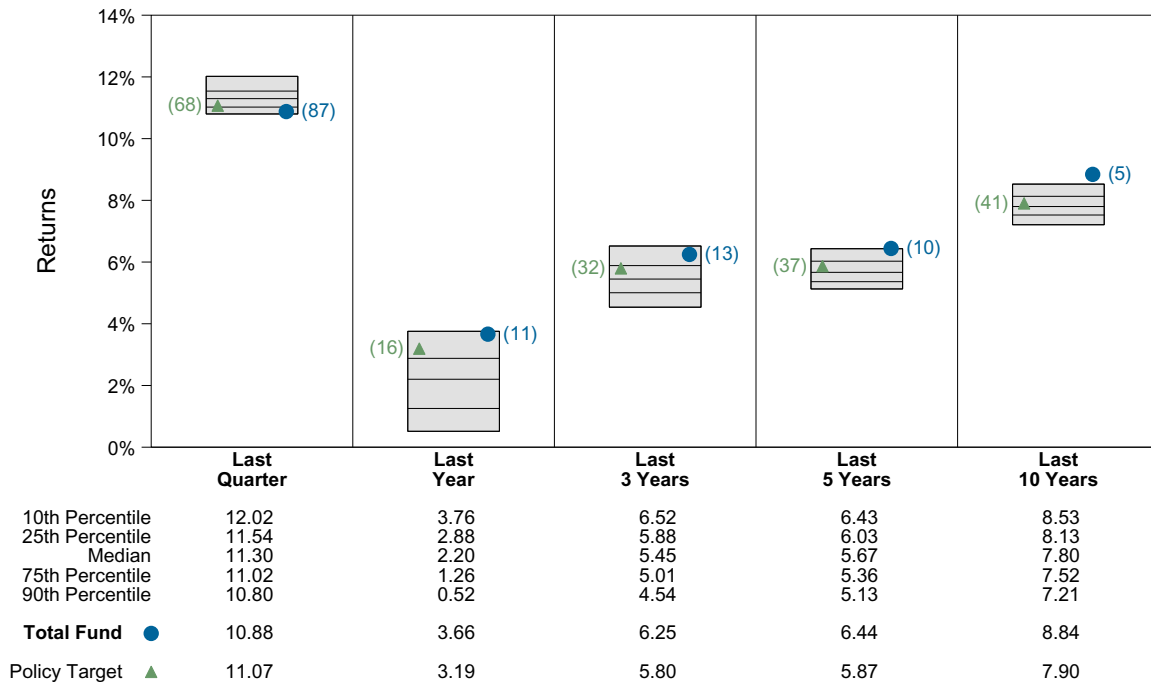
## Total Fund Ranking

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 June 30, 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

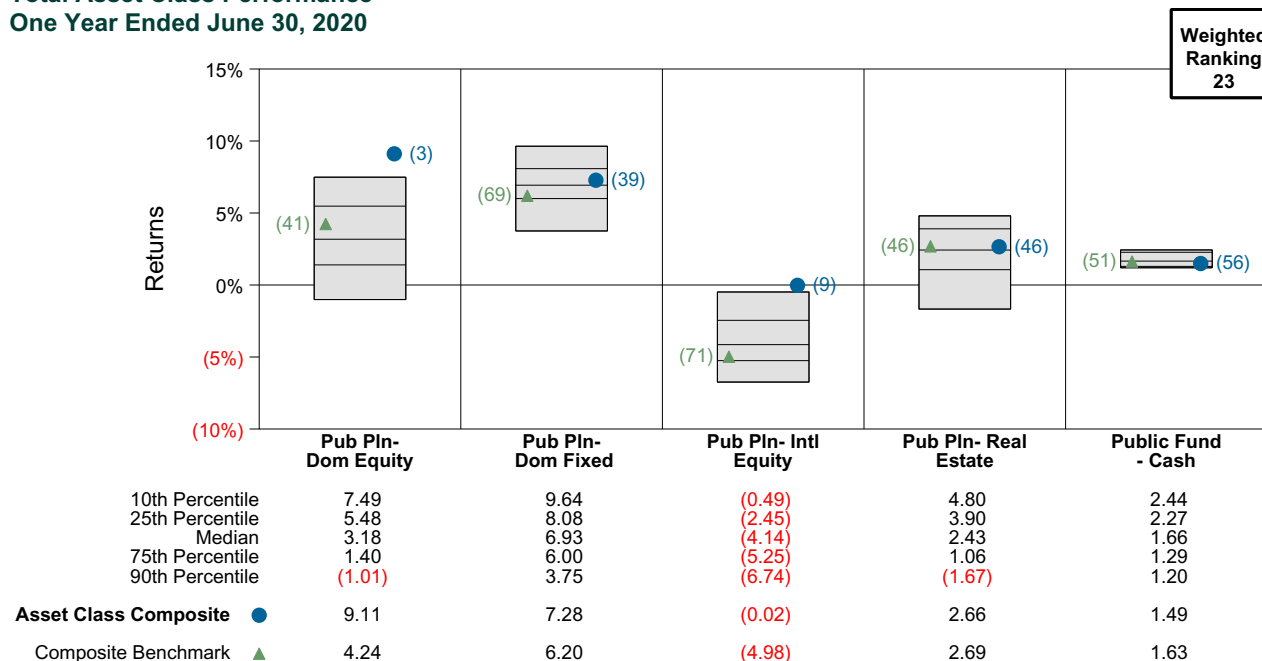


\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg:HY Corp 2% Iss Cap, 6.0% NDTFFR-Private Equity, 4.8% Russell 2000 Index, 2.9% NCREIF NFI-ODCE Eq Wt Net, 2.9% CPI All Urban Cons lagged 3 months,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

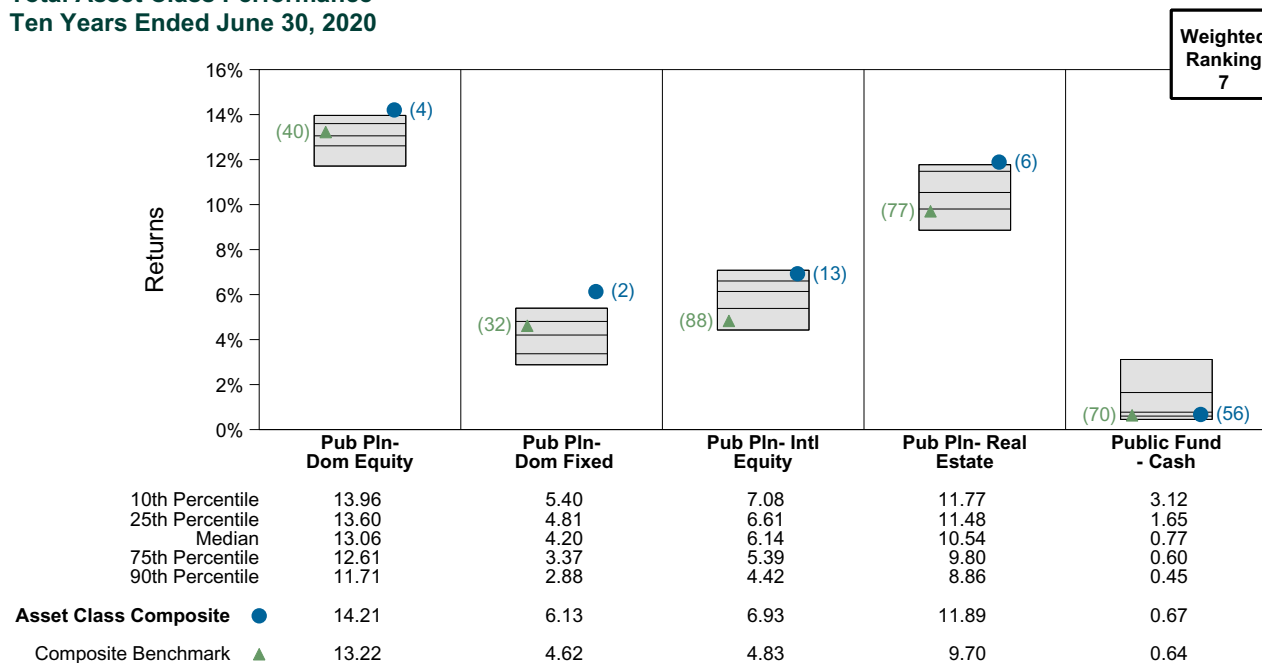
## Asset Class Rankings

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 June 30, 2020



### Total Asset Class Performance Ten Years Ended June 30, 2020



\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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 June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
<b>Global Equities</b>	<b>\$1,503,564,150</b>	<b>57.55%</b>	<b>\$45,681,866</b>	<b>\$235,214,026</b>	<b>\$1,222,668,258</b>	<b>51.83%</b>
<b>Public Equities</b>	<b>\$1,368,921,751</b>	<b>52.39%</b>	<b>\$35,433,445</b>	<b>\$235,710,695</b>	<b>\$1,097,777,611</b>	<b>46.54%</b>
<b>World Equities</b>	<b>\$378,588,023</b>	<b>14.49%</b>	<b>\$5,959,837</b>	<b>\$54,732,881</b>	<b>\$317,895,305</b>	<b>13.48%</b>
<b>Domestic Equities</b>	<b>\$603,162,444</b>	<b>23.09%</b>	<b>\$16,649,435</b>	<b>\$116,849,187</b>	<b>\$469,663,822</b>	<b>19.91%</b>
Large Cap	477,208,309	18.26%	7,624,135	94,572,839	375,011,335	15.90%
Small Cap	125,954,135	4.82%	9,025,300	22,276,348	94,652,487	4.01%
<b>International Equities</b>	<b>\$387,171,284</b>	<b>14.82%</b>	<b>\$12,824,173</b>	<b>\$64,128,627</b>	<b>\$310,218,484</b>	<b>13.15%</b>
Developed	313,070,972	11.98%	12,654,773	50,297,934	250,118,265	10.60%
Emerging Markets	74,100,312	2.84%	169,400	13,830,693	60,100,219	2.55%
<b>Private Equities</b>	<b>\$134,642,399</b>	<b>5.15%</b>	<b>\$10,248,421</b>	<b>\$(496,669)</b>	<b>\$124,890,647</b>	<b>5.29%</b>
<b>Global Fixed Income</b>	<b>\$614,035,046</b>	<b>23.50%</b>	<b>\$(37,999,745)</b>	<b>\$25,927,419</b>	<b>\$626,107,371</b>	<b>26.54%</b>
<b>Domestic Fixed Income</b>	<b>\$614,035,046</b>	<b>23.50%</b>	<b>\$(37,999,745)</b>	<b>\$25,927,419</b>	<b>\$626,107,371</b>	<b>26.54%</b>
Investment Grade	432,861,747	16.57%	(37,184,658)	20,741,171	449,305,234	19.05%
Below Investment Grade	181,173,299	6.93%	(815,087)	5,186,249	176,802,137	7.50%
<b>Global Real Assets</b>	<b>\$471,434,280</b>	<b>18.04%</b>	<b>\$(2,058,406)</b>	<b>\$(5,093,796)</b>	<b>\$478,586,482</b>	<b>20.29%</b>
<b>Real Estate</b>	<b>\$269,594,421</b>	<b>10.32%</b>	<b>\$2,505,705</b>	<b>\$(6,744,223)</b>	<b>\$273,832,939</b>	<b>11.61%</b>
<b>Other Real Assets</b>	<b>\$201,839,859</b>	<b>7.73%</b>	<b>\$(4,564,110)</b>	<b>\$1,650,426</b>	<b>\$204,753,543</b>	<b>8.68%</b>
Infrastructure	145,356,956	5.56%	(3,435,626)	1,545,371	147,247,211	6.24%
Timber	56,482,903	2.16%	(1,128,485)	105,056	57,506,332	2.44%
<b>Cash</b>	<b>\$23,683,023</b>	<b>0.91%</b>	<b>\$(7,785,945)</b>	<b>\$38,246</b>	<b>\$31,430,722</b>	<b>1.33%</b>
<b>Securities Lending Income</b>	<b>\$0</b>	<b>0.00%</b>	<b>\$(24,588)</b>	<b>\$24,588</b>	<b>-</b>	<b>-</b>
<b>Total Fund</b>	<b>\$2,612,716,499</b>	<b>100.0%</b>	<b>\$(2,186,816)</b>	<b>\$256,110,483</b>	<b>\$2,358,792,833</b>	<b>100.0%</b>

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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Equities</b>					
Gross	18.91%	1.64%	6.23%	6.59%	-
Net	18.86%	1.45%	6.01%	6.34%	-
Weighted Benchmark	17.56%	1.72%	6.11%	6.37%	-
<b>Public Equities</b>					
Gross	21.14%	1.63%	-	-	-
Net	21.09%	1.41%	-	-	-
Weighted Benchmark	19.74%	1.21%	-	-	-
<b>World Equities</b>					
Gross	17.18%	(6.82%)	2.24%	3.87%	-
Net	17.09%	(7.14%)	1.88%	3.41%	-
MSCI World	19.36%	2.84%	6.70%	6.90%	9.95%
<b>Domestic Equities</b>					
Gross	24.57%	9.11%	11.37%	10.59%	14.21%
Net	24.54%	8.96%	11.20%	10.40%	13.98%
Weighted Benchmark	22.63%	4.24%	8.71%	9.12%	13.22%
<b>Large Cap</b>					
Gross	24.87%	13.13%	13.13%	12.01%	14.95%
Net	24.83%	13.01%	13.02%	11.88%	14.74%
Benchmark(1)	21.82%	7.48%	10.64%	10.47%	13.97%
<b>Small Cap</b>					
Gross	23.47%	(4.25%)	5.35%	5.63%	11.57%
Net	23.47%	(4.50%)	5.00%	5.26%	11.26%
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	10.50%
<b>International Equities</b>					
Gross	20.00%	(0.02%)	3.18%	4.23%	6.93%
Net	19.94%	(0.20%)	3.00%	4.05%	6.66%
Weighted Benchmark	15.89%	(4.98%)	1.09%	2.18%	4.83%
<b>Developed</b>					
Gross	19.28%	(0.37%)	3.04%	4.14%	7.25%
Net	19.21%	(0.59%)	2.82%	3.91%	6.97%
Benchmark(2)	15.34%	(5.42%)	0.84%	1.94%	5.11%
<b>Emerging Markets</b>					
Gross	23.02%	1.44%	3.69%	4.22%	5.24%
Net	23.02%	1.44%	3.69%	4.22%	5.03%
Benchmark(3)	18.08%	(3.39%)	1.90%	2.86%	3.30%
<b>Private Equities</b>					
Net	(0.40%)	3.04%	5.62%	3.97%	4.38%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Fixed Income</b>					
Gross	4.31%	7.28%	6.31%	5.72%	-
Net	4.28%	7.14%	6.14%	5.51%	-
Weighted Benchmark	5.07%	6.20%	5.31%	4.63%	-
<b>Domestic Fixed Income</b>					
Gross	4.31%	7.28%	5.97%	5.59%	6.13%
Net	4.28%	7.14%	5.82%	5.41%	5.99%
Weighted Benchmark	5.07%	6.20%	4.72%	4.32%	4.62%
<b>Inv. Grade Fixed Income</b>					
Gross	4.88%	9.78%	6.51%	5.69%	5.53%
Net	4.86%	9.69%	6.41%	5.57%	5.38%
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
<b>Below Inv. Grade Fixed Income</b>					
Gross	2.94%	1.14%	4.61%	5.48%	7.80%
Net	2.89%	0.91%	4.33%	5.15%	7.41%
Blmbg HY Corp 2% Issue	10.14%	(0.00%)	3.32%	4.79%	6.67%
<b>Global Real Assets</b>					
Gross	(1.06%)	3.78%	5.42%	6.16%	-
Net	(1.17%)	3.40%	5.00%	5.72%	-
Weighted Benchmark	(0.71%)	2.06%	4.22%	4.75%	-
<b>Real Estate</b>					
Gross	(2.43%)	2.66%	5.79%	7.76%	11.89%
Net	(2.52%)	2.20%	5.28%	7.23%	11.34%
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%
<b>Other Real Assets</b>					
Gross	0.82%	5.31%	-	-	-
Net	0.68%	5.04%	-	-	-
Weighted Benchmark	(0.35%)	1.27%	-	-	-
<b>Infrastructure</b>					
Gross	1.05%	4.84%	6.09%	6.31%	-
Net	0.86%	4.47%	5.64%	5.79%	-
Benchmark(1)	(0.52%)	1.62%	2.87%	2.14%	-
<b>Timber</b>					
Net	0.20%	6.28%	2.55%	0.38%	-
NCREIF Timberland Index	0.08%	0.34%	2.28%	2.71%	4.39%
<b>Cash &amp; Equivalents - Net</b>	<b>0.11%</b>	<b>1.49%</b>	<b>1.76%</b>	<b>1.26%</b>	<b>0.67%</b>
3-month Treasury Bill	0.02%	1.63%	1.77%	1.19%	0.64%
<b>Total Fund</b>					
Gross	10.88%	3.66%	6.25%	6.44%	8.84%
Net	10.82%	3.45%	6.01%	6.17%	8.53%
Target*	11.07%	3.19%	5.80%	5.87%	7.90%

\* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 16.0% Blmbg Aggregate, 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 June 30, 2020

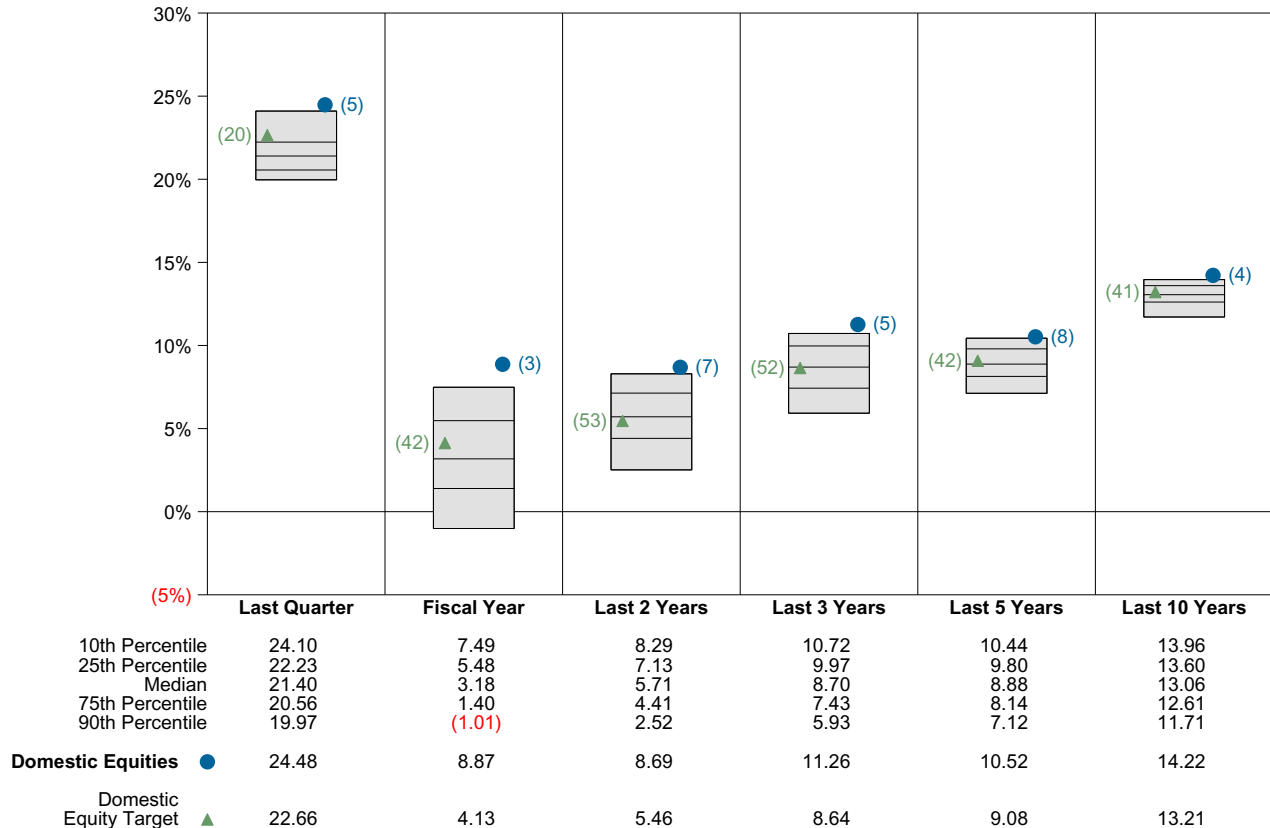
### Quarterly Summary and Highlights

- Domestic Equities's portfolio posted a 24.48% return for the quarter placing it in the 5 percentile of the Public Fund - Domestic Equity group for the quarter and in the 3 percentile for the last year.
- Domestic Equities's portfolio outperformed the Domestic Equity Target by 1.82% for the quarter and outperformed the Domestic Equity Target for the year by 4.74%.

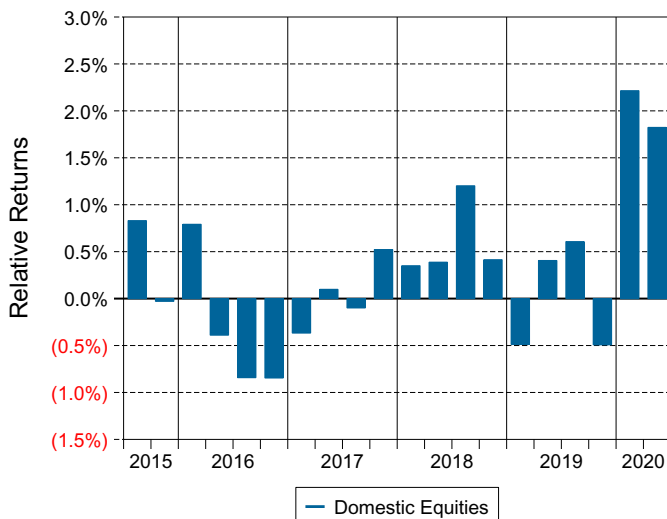
### Quarterly Asset Growth

Beginning Market Value	\$1,082,194,690
Net New Investment	\$58,709,373
Investment Gains/(Losses)	\$268,728,526
Ending Market Value	\$1,409,632,590

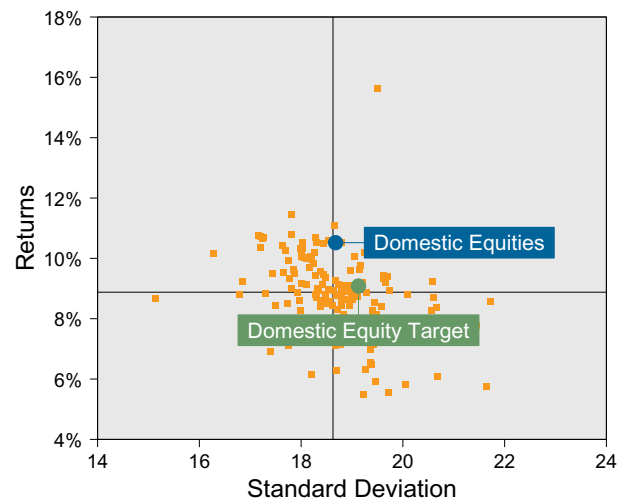
### Performance vs Public Fund - Domestic Equity (Gross)



### Relative Return vs Domestic Equity Target



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



# L.A. Capital Period Ended June 30, 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.

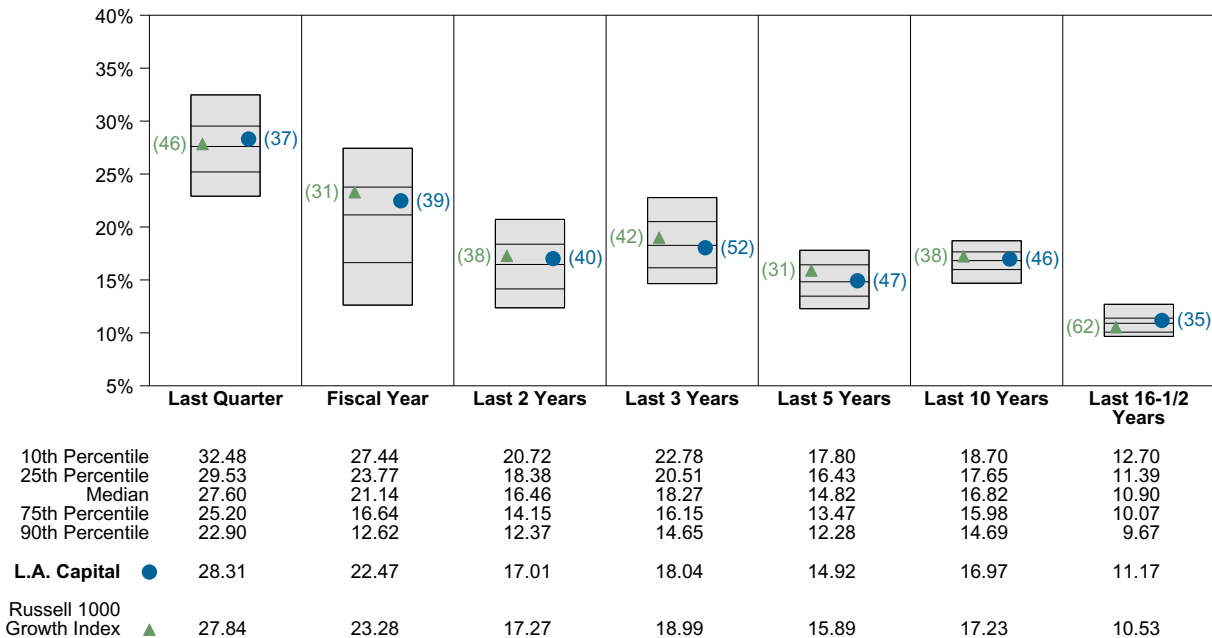
## Quarterly Summary and Highlights

- L.A. Capital's portfolio posted a 28.31% return for the quarter placing it in the 37 percentile of the Callan Large Cap Growth group for the quarter and in the 39 percentile for the last year.
- L.A. Capital's portfolio outperformed the Russell 1000 Growth Index by 0.47% for the quarter and underperformed the Russell 1000 Growth Index for the year by 0.81%.

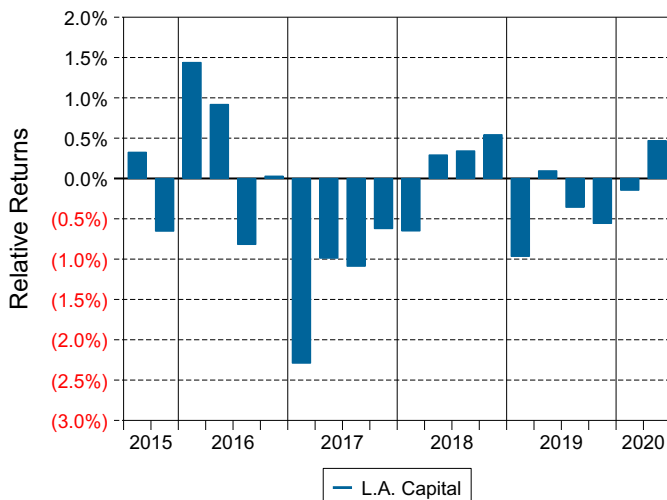
## Quarterly Asset Growth

Beginning Market Value	\$364,579,629
Net New Investment	\$-205,720
Investment Gains/(Losses)	\$103,173,762
Ending Market Value	\$467,547,672

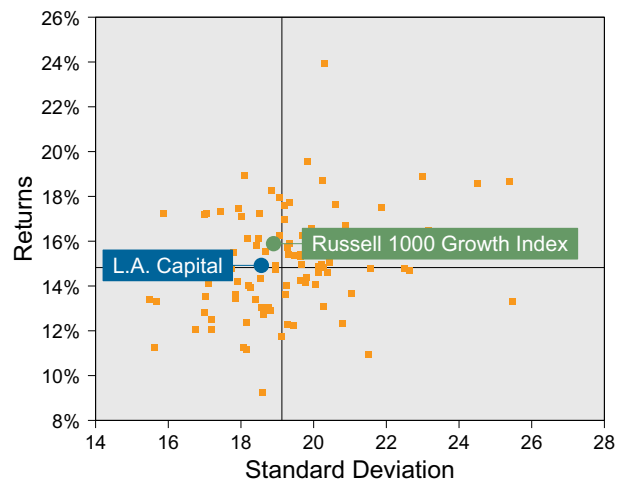
## Performance vs Callan Large Cap Growth (Gross)



## 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 June 30, 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.

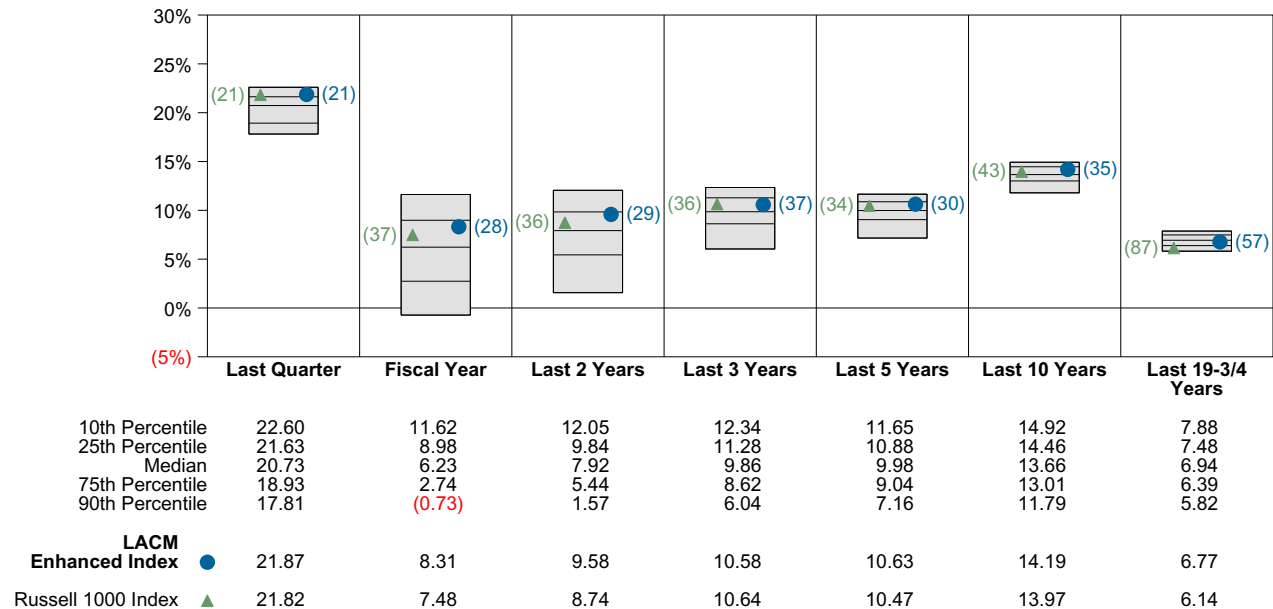
## Quarterly Summary and Highlights

- LACM Enhanced Index's portfolio posted a 21.87% return for the quarter placing it in the 21 percentile of the Callan Large Cap Core group for the quarter and in the 28 percentile for the last year.
- LACM Enhanced Index's portfolio outperformed the Russell 1000 Index by 0.04% for the quarter and outperformed the Russell 1000 Index for the year by 0.83%.

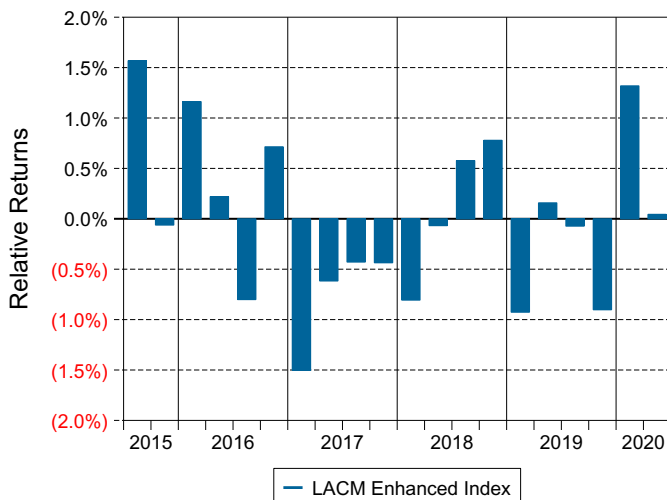
## Quarterly Asset Growth

Beginning Market Value	\$170,333,596
Net New Investment	\$-51,177
Investment Gains/(Losses)	\$37,241,729
Ending Market Value	\$207,524,148

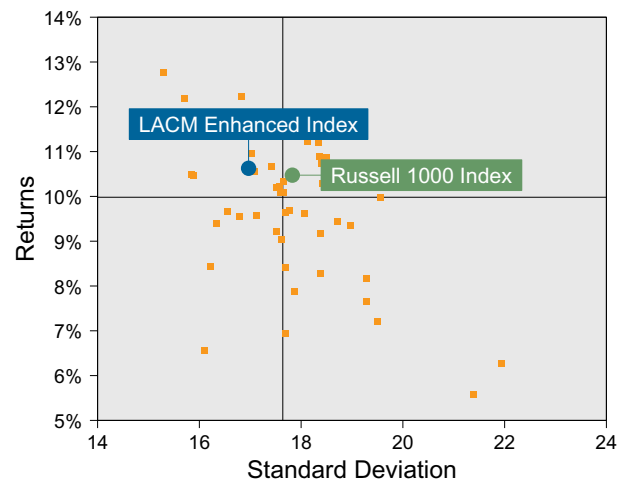
## Performance vs Callan Large Cap Core (Gross)



## 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 June 30, 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.

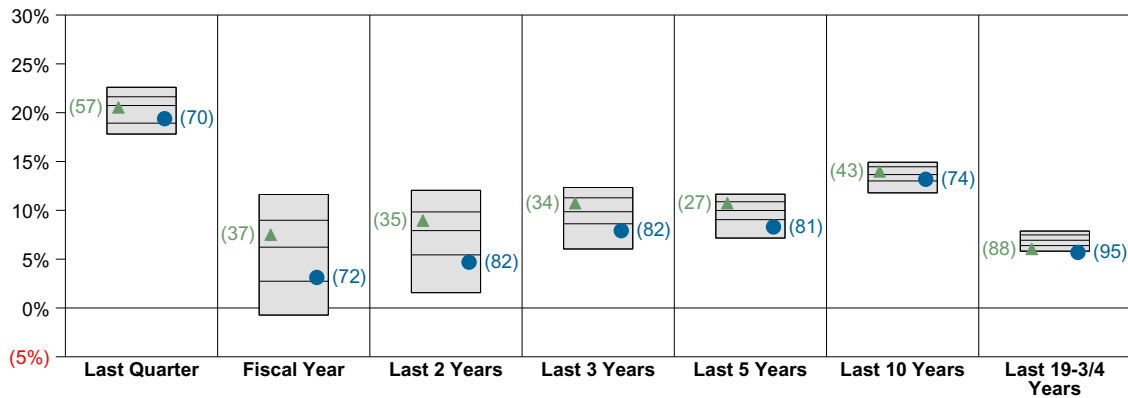
## Quarterly Summary and Highlights

- Northern Trust AM Enh S&P500's portfolio posted a 19.38% return for the quarter placing it in the 70 percentile of the Callan Large Cap Core group for the quarter and in the 72 percentile for the last year.
- Northern Trust AM Enh S&P500's portfolio underperformed the S&P 500 Index by 1.16% for the quarter and underperformed the S&P 500 Index for the year by 4.38%.

## Quarterly Asset Growth

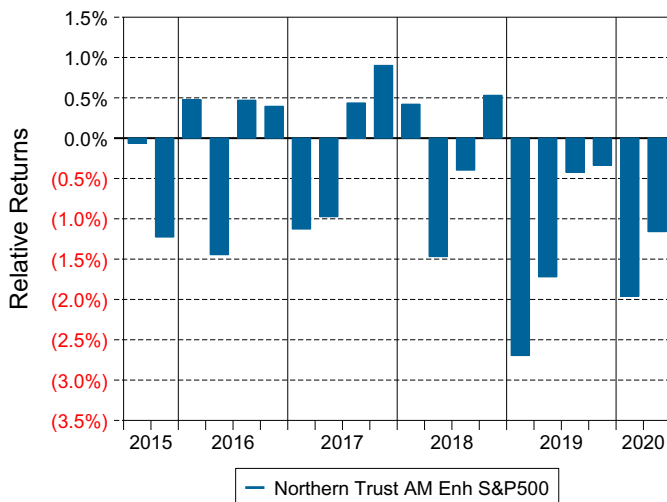
Beginning Market Value	\$164,044,263
Net New Investment	\$-0
Investment Gains/(Losses)	\$31,799,295
Ending Market Value	\$195,843,557

## Performance vs Callan Large Cap Core (Gross)

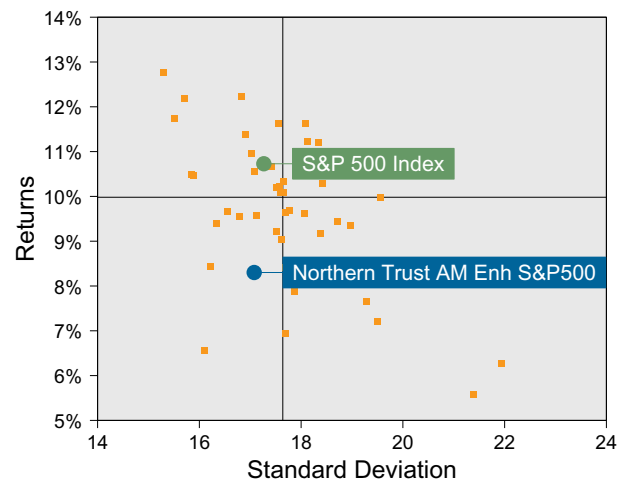


10th Percentile	22.60	11.62	12.05	12.34	11.65	14.92	7.88
25th Percentile	21.63	8.98	9.84	11.28	10.88	14.46	7.48
Median	20.73	6.23	7.92	9.86	9.98	13.66	6.94
75th Percentile	18.93	2.74	5.44	8.62	9.04	13.01	6.39
90th Percentile	17.81	(0.73)	1.57	6.04	7.16	11.79	5.82
<b>Northern Trust AM Enh S&amp;P500</b>	● 19.38	3.12	4.69	7.91	8.30	13.18	5.69
S&P 500 Index	▲ 20.54	7.51	8.95	10.73	10.73	13.99	6.04

## Relative Return vs S&P 500 Index



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



# Parametric Enh S&P 500 Period Ended June 30, 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.

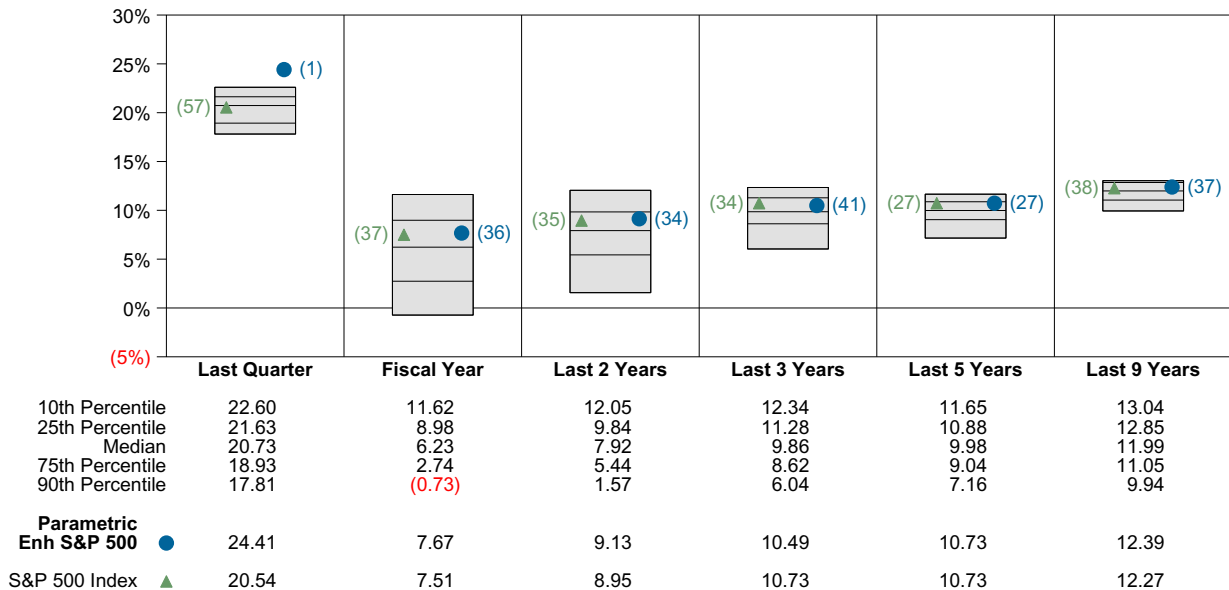
## Quarterly Summary and Highlights

- Parametric Enh S&P 500's portfolio posted a 24.41% return for the quarter placing it in the 1 percentile of the Callan Large Cap Core group for the quarter and in the 36 percentile for the last year.
- Parametric Enh S&P 500's portfolio outperformed the S&P 500 Index by 3.87% for the quarter and outperformed the S&P 500 Index for the year by 0.17%.

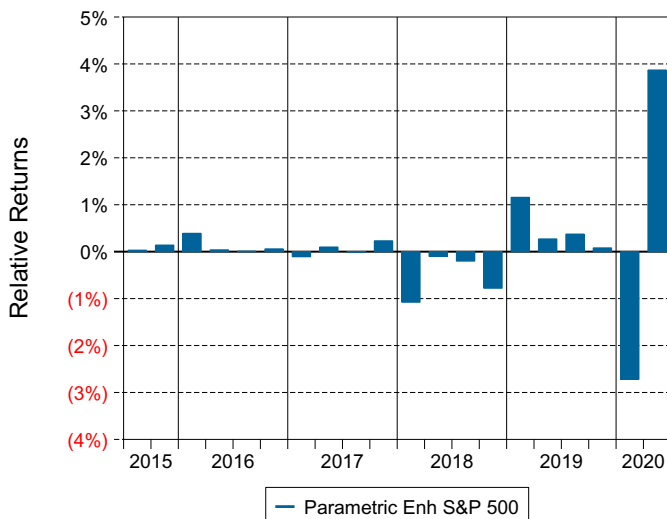
## Quarterly Asset Growth

Beginning Market Value	\$155,541,888
Net New Investment	\$51,000,000
Investment Gains/(Losses)	\$38,026,591
Ending Market Value	\$244,568,480

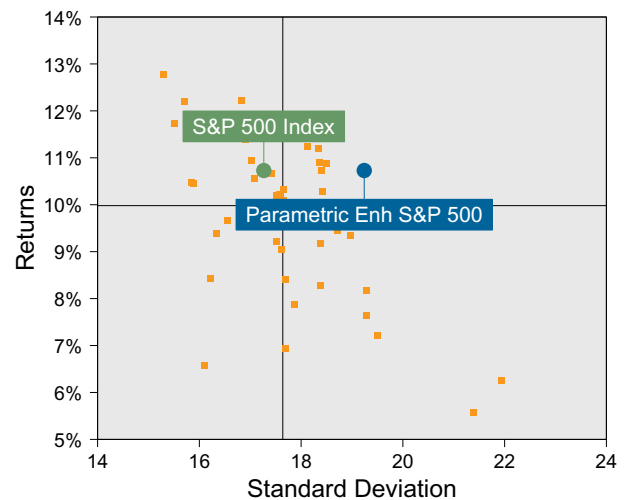
## Performance vs Callan Large Cap Core (Gross)



## Relative Return vs S&P 500 Index



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



# Atlanta Capital Period Ended June 30, 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.

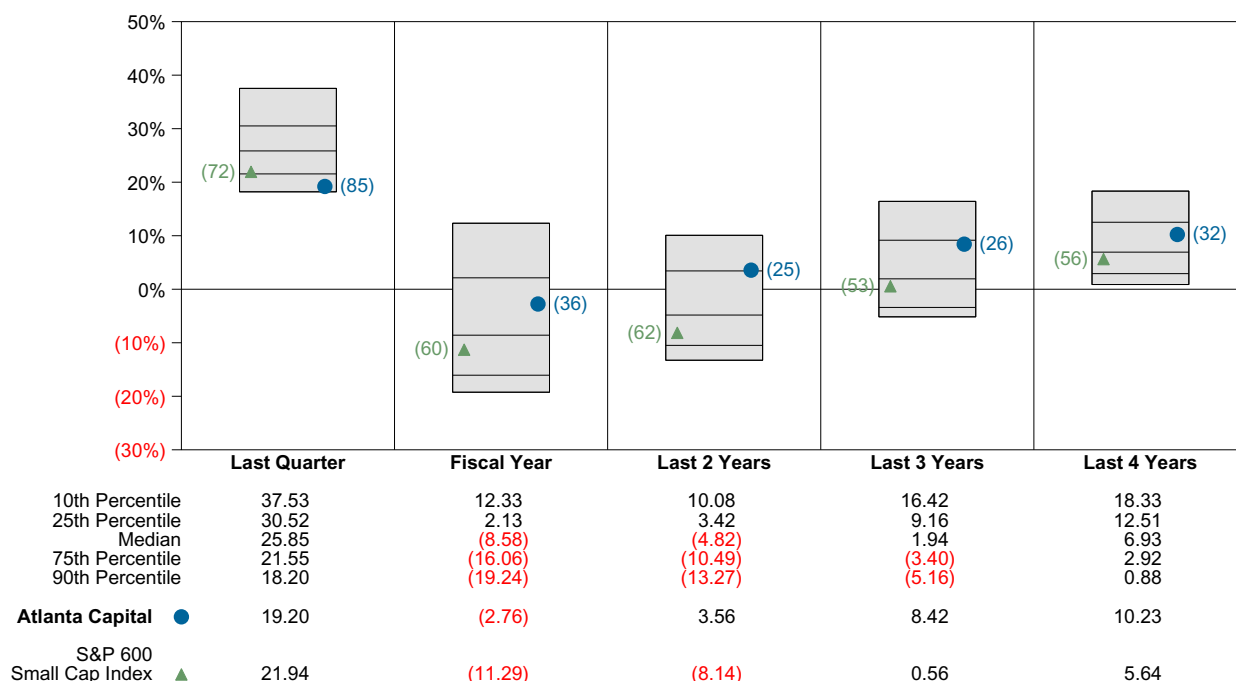
## Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a 19.20% return for the quarter placing it in the 85 percentile of the Callan Small Capitalization group for the quarter and in the 36 percentile for the last year.
- Atlanta Capital's portfolio underperformed the S&P 600 Small Cap Index by 2.74% for the quarter and outperformed the S&P 600 Small Cap Index for the year by 8.52%.

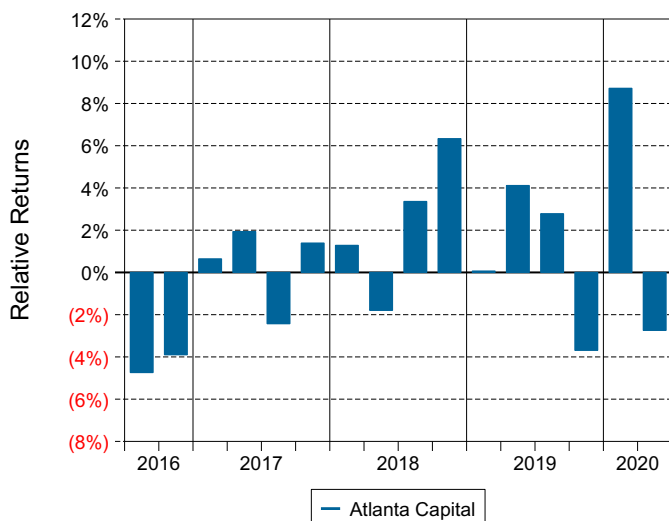
## Quarterly Asset Growth

Beginning Market Value	\$121,126,757
Net New Investment	\$-0
Investment Gains/(Losses)	\$23,256,750
Ending Market Value	\$144,383,507

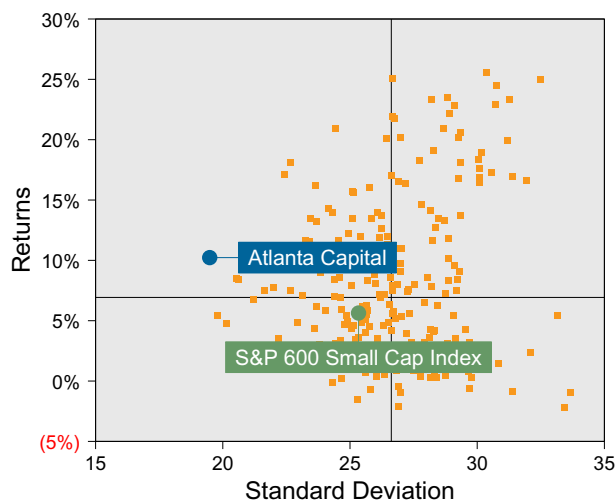
## Performance vs Callan Small Capitalization (Gross)



## Relative Return vs S&P 600 Small Cap Index



## Callan Small Capitalization (Gross) Annualized Four Year Risk vs Return



# Parametric Enh SmCap Period Ended June 30, 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.

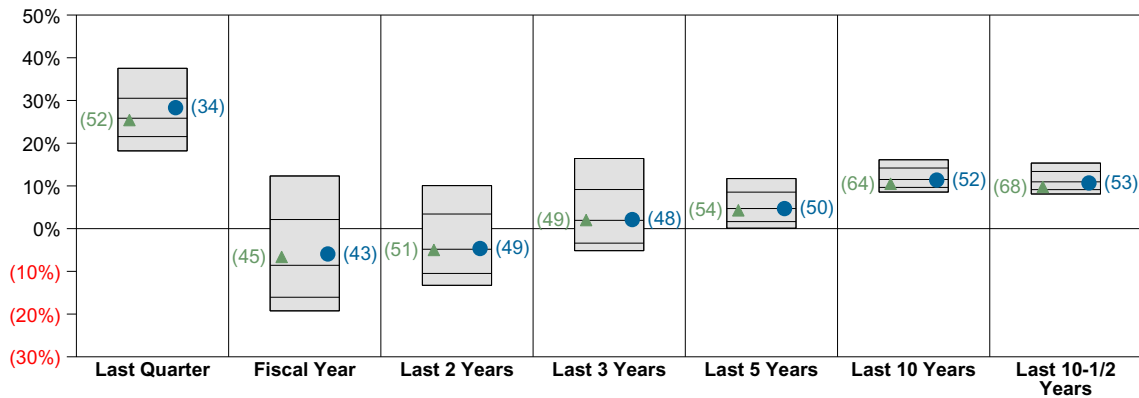
## Quarterly Summary and Highlights

- Parametric Enh SmCap's portfolio posted a 28.32% return for the quarter placing it in the 34 percentile of the Callan Small Capitalization group for the quarter and in the 43 percentile for the last year.
- Parametric Enh SmCap's portfolio outperformed the Russell 2000 Index by 2.90% for the quarter and outperformed the Russell 2000 Index for the year by 0.69%.

## Quarterly Asset Growth

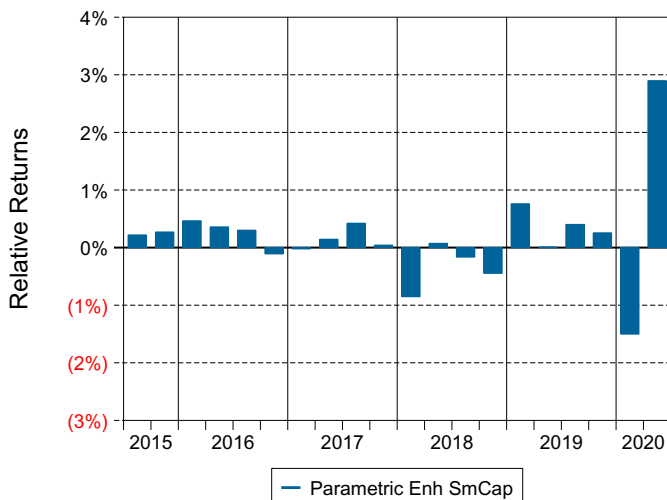
Beginning Market Value	\$106,568,556
Net New Investment	\$13,000,000
Investment Gains/(Losses)	\$30,194,494
Ending Market Value	\$149,763,050

## Performance vs Callan Small Capitalization (Gross)

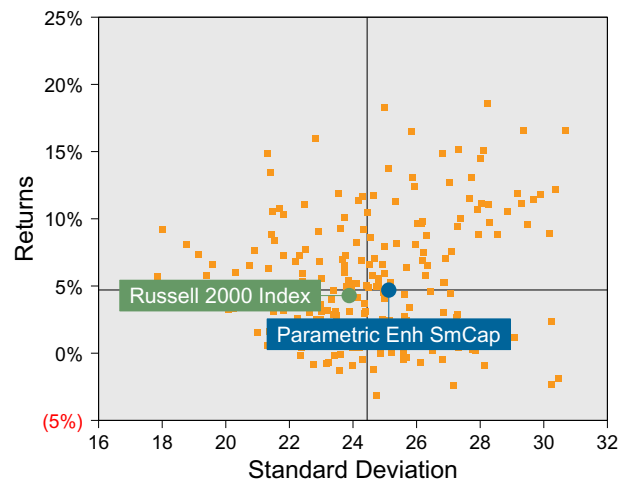


10th Percentile	37.53	12.33	10.08	16.42	11.73	16.12	15.35
25th Percentile	30.52	2.13	3.42	9.16	8.55	14.19	13.38
Median	25.85	(8.58)	(4.82)	1.94	4.70	11.50	10.96
75th Percentile	21.55	(16.06)	(10.49)	(3.40)	1.65	9.65	9.13
90th Percentile	18.20	(19.24)	(13.27)	(5.16)	0.09	8.56	8.11
<b>Parametric Enh SmCap</b> ●	28.32	(5.93)	(4.65)	2.12	4.70	11.37	10.70
Russell 2000 Index ▲	25.42	(6.63)	(4.98)	2.01	4.29	10.50	9.77

## Relative Return vs Russell 2000 Index



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



# International Equities Period Ended June 30, 2020

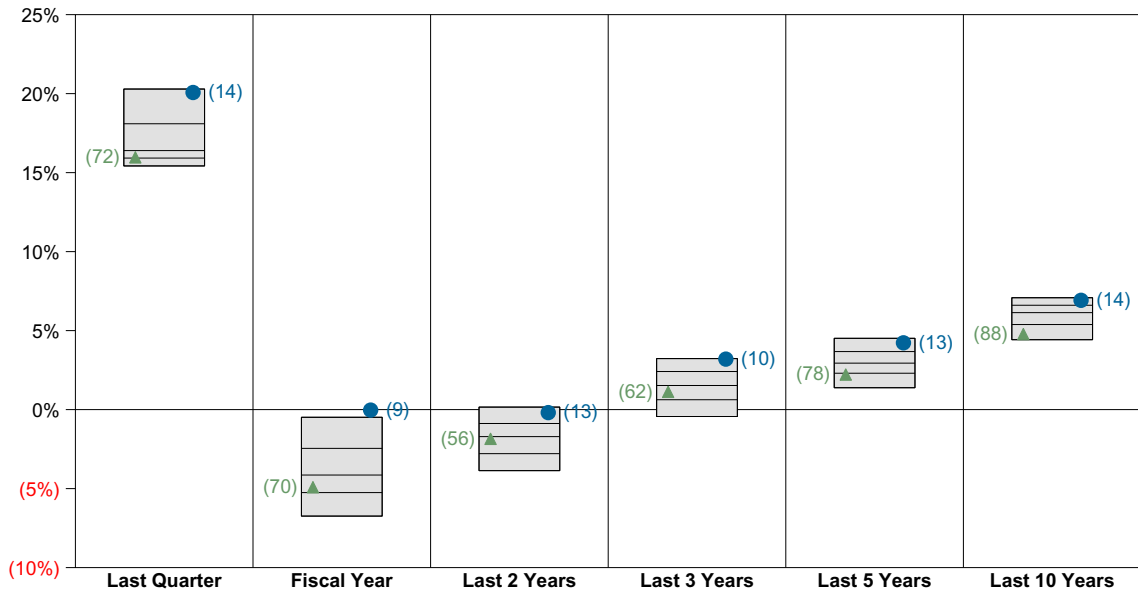
## Quarterly Summary and Highlights

- International Equities's portfolio posted a 20.07% return for the quarter placing it in the 14 percentile of the Public Fund - International Equity group for the quarter and in the 9 percentile for the last year.
- International Equities's portfolio outperformed the International Equity Target by 4.10% for the quarter and outperformed the International Equity Target for the year by 4.88%.

## Quarterly Asset Growth

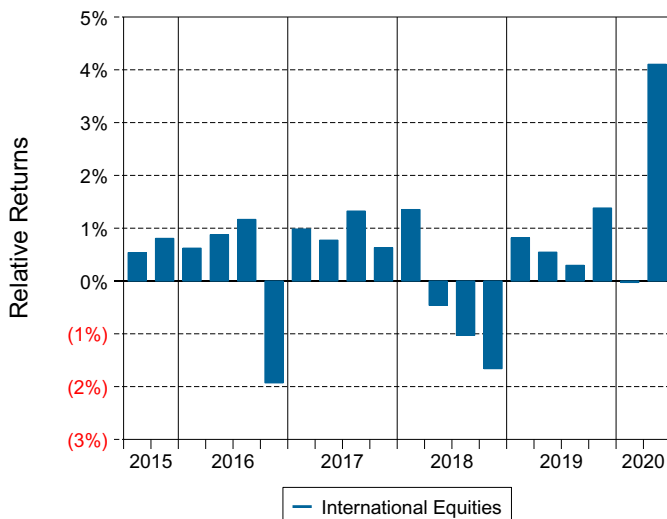
Beginning Market Value	\$721,092,610
Net New Investment	\$16,379,988
Investment Gains/(Losses)	\$149,170,775
Ending Market Value	\$886,643,373

## Performance vs Public Fund - International Equity (Gross)

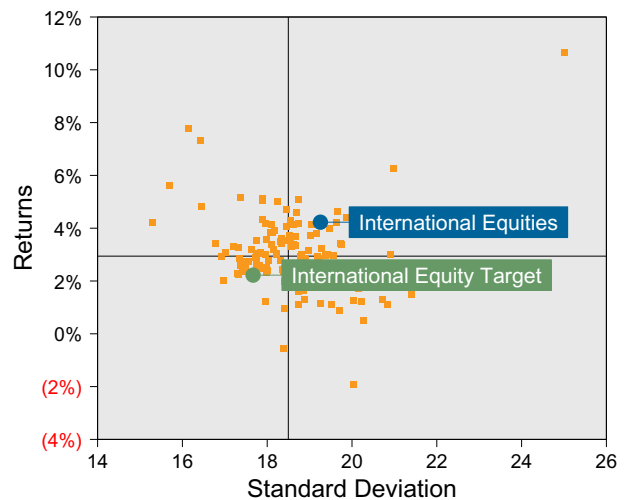


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	20.29	(0.49)	0.16	3.23	4.51	7.08
25th Percentile	18.09	(2.45)	(0.88)	2.41	3.67	6.61
Median	16.40	(4.14)	(1.71)	1.53	2.94	6.14
75th Percentile	15.92	(5.25)	(2.79)	0.62	2.30	5.39
90th Percentile	15.42	(6.74)	(3.86)	(0.44)	1.38	4.42
<b>International Equities</b>	● 20.07	(0.03)	(0.19)	3.20	4.23	6.92
International Equity Target	▲ 15.97	(4.91)	(1.85)	1.13	2.22	4.78

## 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 June 30, 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.

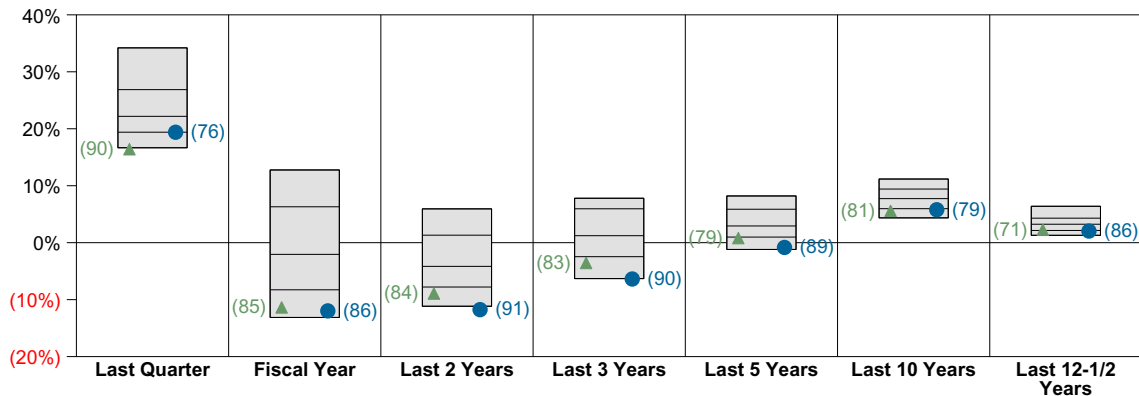
### Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 19.38% return for the quarter placing it in the 76 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 86 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 2.98% for the quarter and underperformed the World ex US SC Value for the year by 0.62%.

### Quarterly Asset Growth

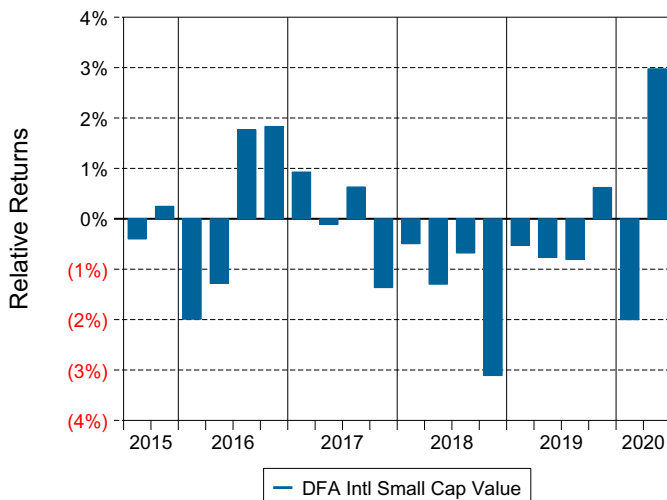
Beginning Market Value	\$50,217,289
Net New Investment	\$3,000,000
Investment Gains/(Losses)	\$9,775,704
Ending Market Value	\$62,992,993

### Performance vs Callan International Small Cap Mut Funds (Net)

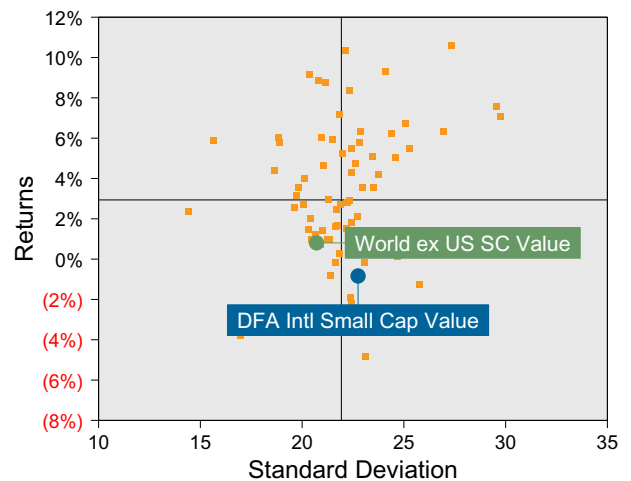


10th Percentile	34.20	12.77	5.94	7.80	8.20	11.18	6.39
25th Percentile	26.87	6.30	1.32	5.95	5.87	9.41	4.30
Median	22.18	(2.05)	(4.16)	1.23	2.94	7.73	3.24
75th Percentile	19.40	(8.27)	(7.78)	(2.46)	0.98	5.97	2.15
90th Percentile	16.66	(13.13)	(11.16)	(6.31)	(1.19)	4.36	1.29
<b>DFA Intl Small Cap Value</b>	● 19.38	(11.98)	(11.76)	(6.38)	(0.84)	5.78	2.04
World ex US SC Value	▲ 16.41	(11.36)	(8.92)	(3.56)	0.81	5.59	2.26

### 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 June 30, 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.

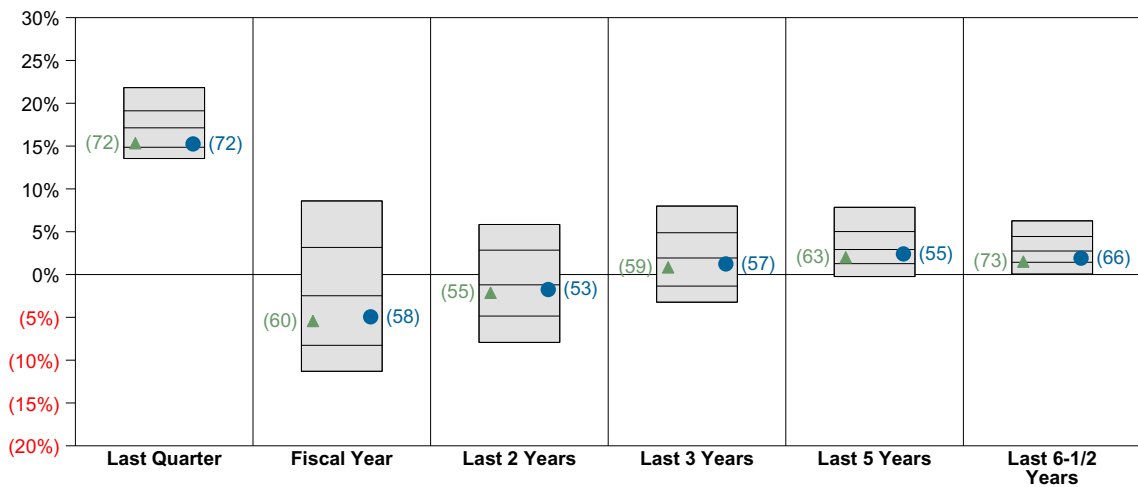
## Quarterly Summary and Highlights

- Northern Tr AM Wrld ex US's portfolio posted a 15.25% return for the quarter placing it in the 72 percentile of the Callan Non-US Equity group for the quarter and in the 58 percentile for the last year.
- Northern Tr AM Wrld ex US's portfolio underperformed the MSCI World ex US by 0.09% for the quarter and outperformed the MSCI World ex US for the year by 0.48%.

## Quarterly Asset Growth

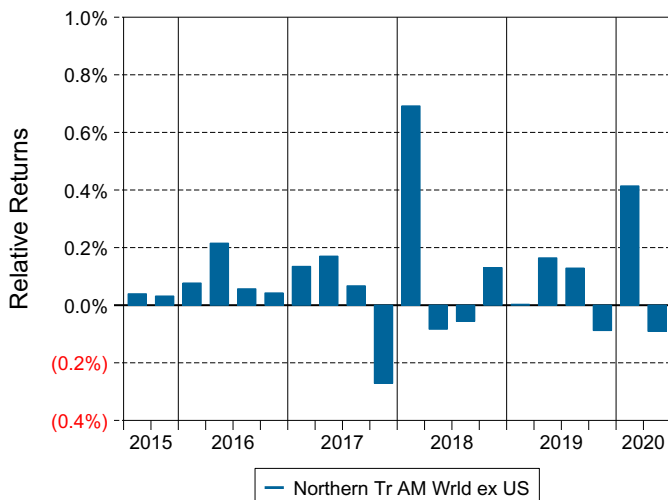
Beginning Market Value	\$275,255,010
Net New Investment	\$19,971,469
Investment Gains/(Losses)	\$42,072,308
Ending Market Value	\$337,298,788

## Performance vs Callan Non-US Equity (Gross)

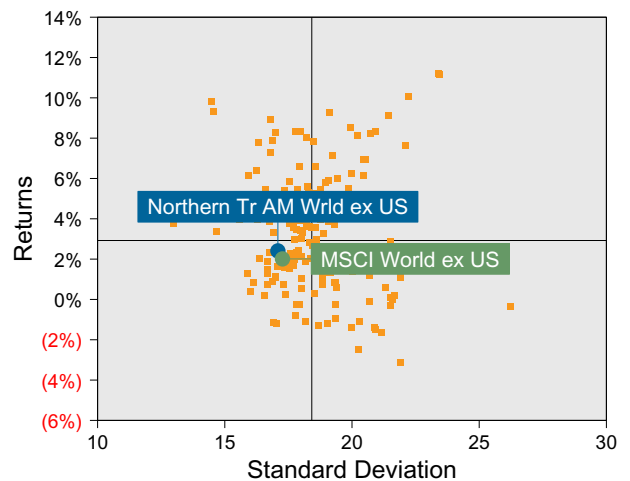


10th Percentile	21.83	8.60	5.84	8.00	7.85	6.27	
25th Percentile	19.12	3.17	2.85	4.88	5.02	4.44	
Median	17.13	(2.48)	(1.20)	1.93	2.92	2.75	
75th Percentile	14.86	(8.27)	(4.85)	(1.35)	1.27	1.43	
90th Percentile	13.55	(11.30)	(7.93)	(3.23)	(0.23)	0.04	
<b>Northern Tr AM Wrld ex US</b>	●	15.25	(4.94)	(1.75)	1.24	2.41	1.91
MSCI World ex US	▲	15.34	(5.42)	(2.12)	0.84	2.01	1.52

## Relative Return vs MSCI World ex US



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



# Wellington Management Period Ended June 30, 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.

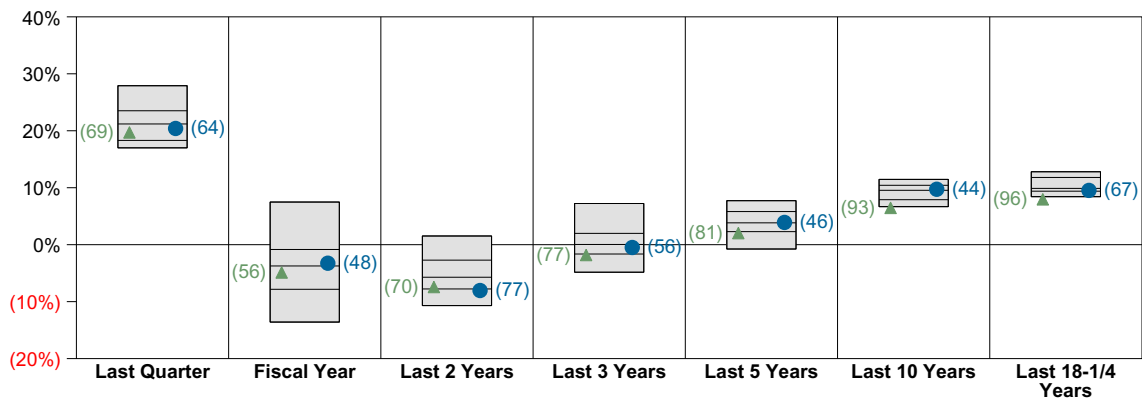
## Quarterly Summary and Highlights

- Wellington Management's portfolio posted a 20.40% return for the quarter placing it in the 64 percentile of the Callan International Small Cap group for the quarter and in the 48 percentile for the last year.
- Wellington Management's portfolio outperformed the S&P BMI EPAC <\$2 B by 0.70% for the quarter and outperformed the S&P BMI EPAC <\$2 B for the year by 1.63%.

## Quarterly Asset Growth

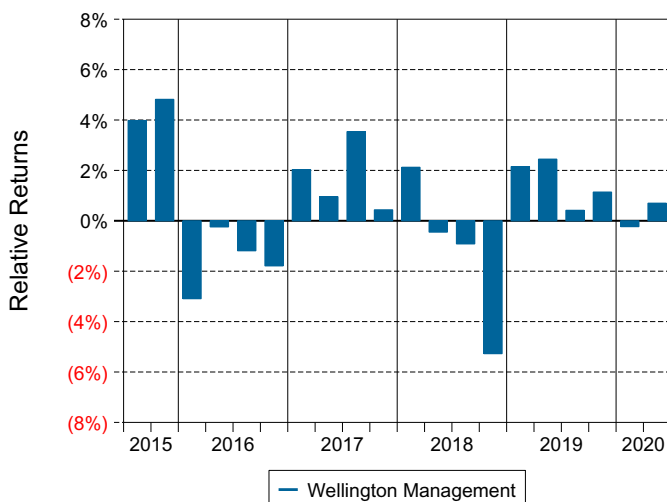
Beginning Market Value	\$58,630,039
Net New Investment	\$-147,789
Investment Gains/(Losses)	\$11,951,831
Ending Market Value	\$70,434,081

## Performance vs Callan International Small Cap (Gross)

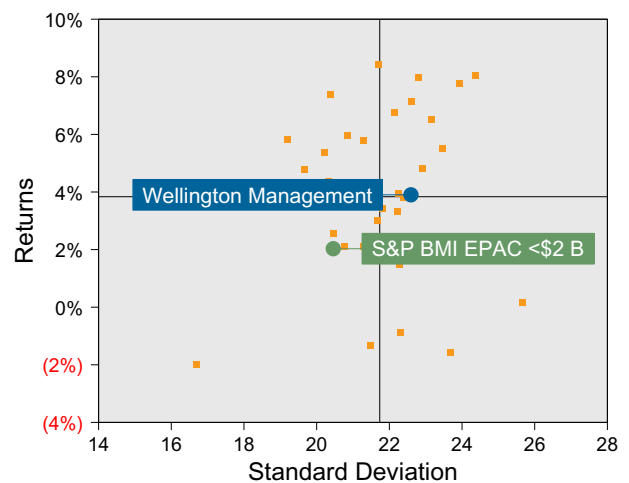


10th Percentile	27.91	7.49	1.53	7.23	7.73	11.46	12.80
25th Percentile	23.51	(0.85)	(2.71)	1.99	5.82	10.43	11.80
Median	21.20	(3.74)	(5.72)	0.04	3.84	9.55	9.88
75th Percentile	18.31	(7.83)	(7.77)	(1.64)	2.29	7.90	9.39
90th Percentile	17.00	(13.58)	(10.69)	(4.83)	(0.76)	6.68	8.43
<b>Wellington Management</b>	<b>● 20.40</b>	<b>(3.25)</b>	<b>(8.05)</b>	<b>(0.49)</b>	<b>3.90</b>	<b>9.73</b>	<b>9.52</b>
<b>S&amp;P BMI EPAC &lt;\$2 B</b>	<b>▲ 19.71</b>	<b>(4.88)</b>	<b>(7.43)</b>	<b>(1.81)</b>	<b>2.03</b>	<b>6.46</b>	<b>7.96</b>

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



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





# William Blair

## Period Ended June 30, 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.

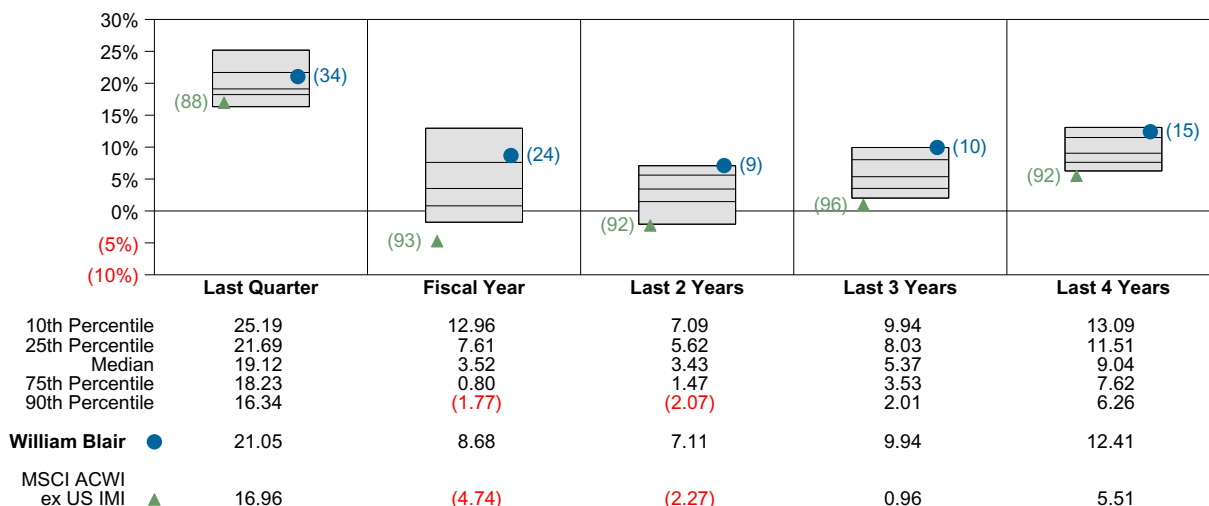
### Quarterly Summary and Highlights

- William Blair's portfolio posted a 21.05% return for the quarter placing it in the 34 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 24 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 4.09% for the quarter and outperformed the MSCI ACWI ex US IMI for the year by 13.42%.

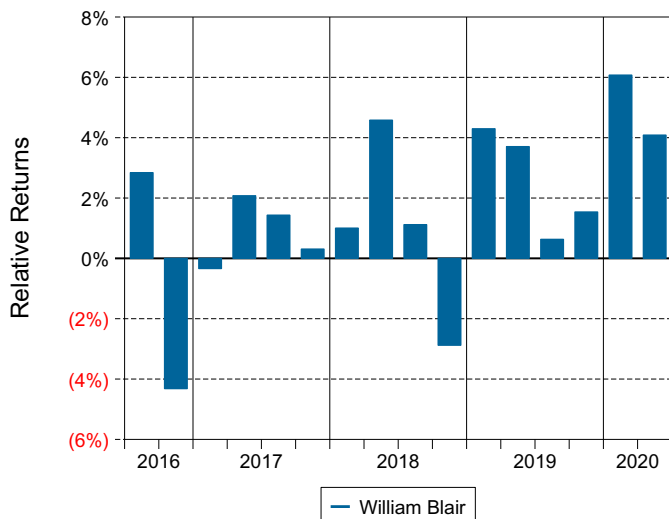
### Quarterly Asset Growth

Beginning Market Value	\$175,790,299
Net New Investment	\$4,827,169
Investment Gains/(Losses)	\$36,984,755
Ending Market Value	\$217,602,222

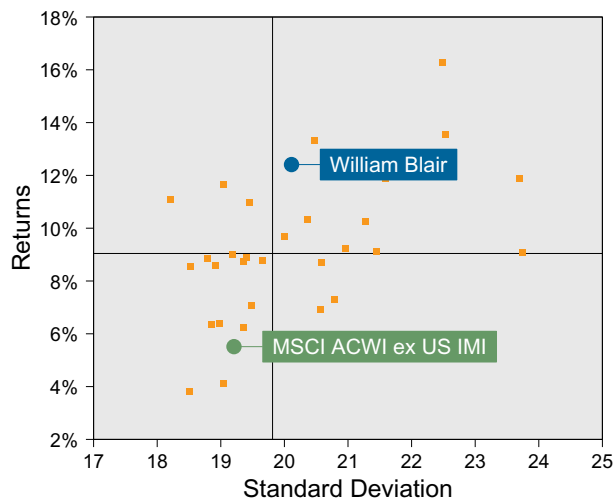
### Performance vs Callan Non-US All Country Growth Equity (Gross)



### Relative Return vs MSCI ACWI ex US IMI



### Callan Non-US All Country Growth Equity (Gross) Annualized Four Year Risk vs Return



# Axiom Emerging Markets Period Ended June 30, 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.

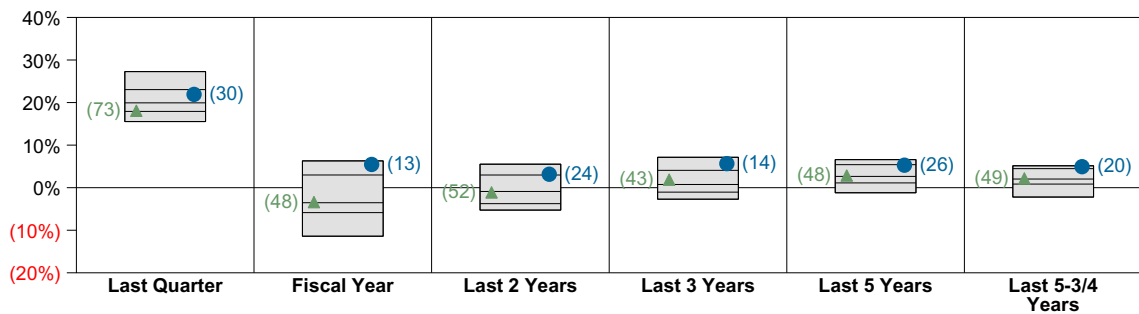
## Quarterly Summary and Highlights

- Axiom Emerging Markets's portfolio posted a 21.92% return for the quarter placing it in the 30 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter and in the 13 percentile for the last year.
- Axiom Emerging Markets's portfolio outperformed the MSCI EM by 3.84% for the quarter and outperformed the MSCI EM for the year by 8.84%.

## Quarterly Asset Growth

Beginning Market Value	\$122,522,751
Net New Investment	\$0
Investment Gains/(Losses)	\$26,854,019
Ending Market Value	\$149,376,770

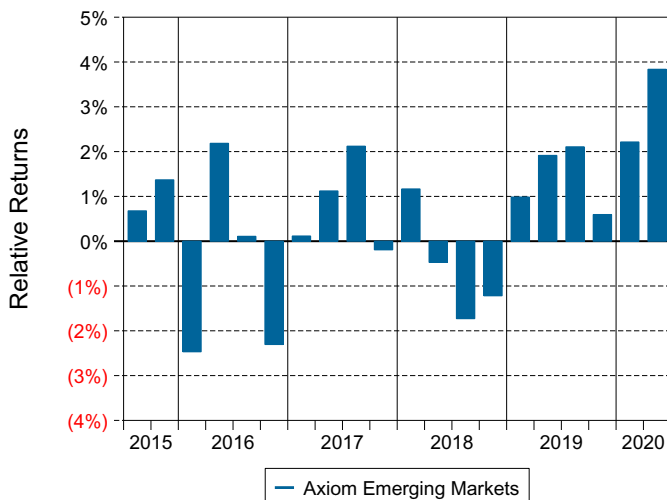
## Performance vs Callan Emerging Markets Equity Mut Funds (Net)



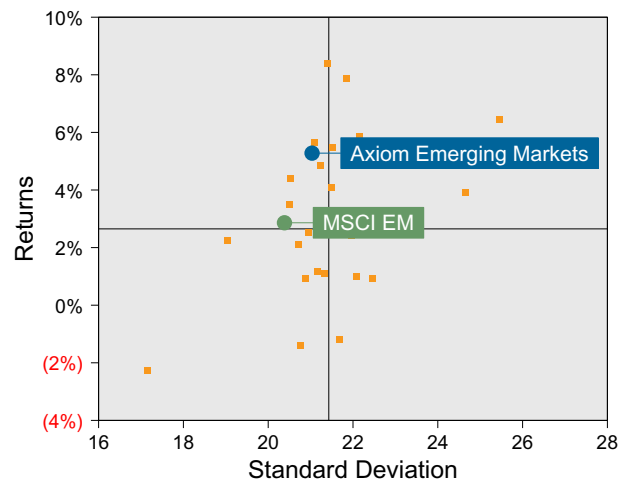
	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 5-3/4 Years
10th Percentile	27.27	6.29	5.52	7.14	6.59	5.15
25th Percentile	23.05	2.99	2.98	4.08	5.41	4.48
Median	19.93	(3.53)	(0.89)	0.75	2.65	2.03
75th Percentile	17.92	(5.86)	(3.75)	(1.05)	1.12	0.84
90th Percentile	15.53	(11.40)	(5.27)	(2.70)	(1.20)	(2.20)

	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 5-3/4 Years
Axiom Emerging Markets	21.92	5.45	3.15	5.65	5.28	4.93
MSCI EM	18.08	(3.39)	(1.11)	1.90	2.86	2.18

## Relative Return vs MSCI EM



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



# DFA Emerging Markets Period Ended June 30, 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.

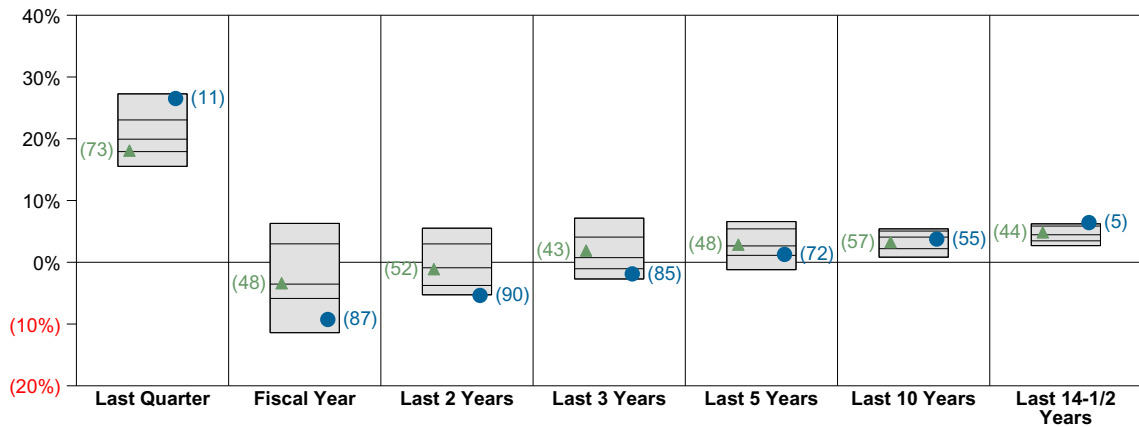
## Quarterly Summary and Highlights

- DFA Emerging Markets's portfolio posted a 26.52% return for the quarter placing it in the 11 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter and in the 87 percentile for the last year.
- DFA Emerging Markets's portfolio outperformed the MSCI EM by 8.44% for the quarter and underperformed the MSCI EM for the year by 5.87%.

## Quarterly Asset Growth

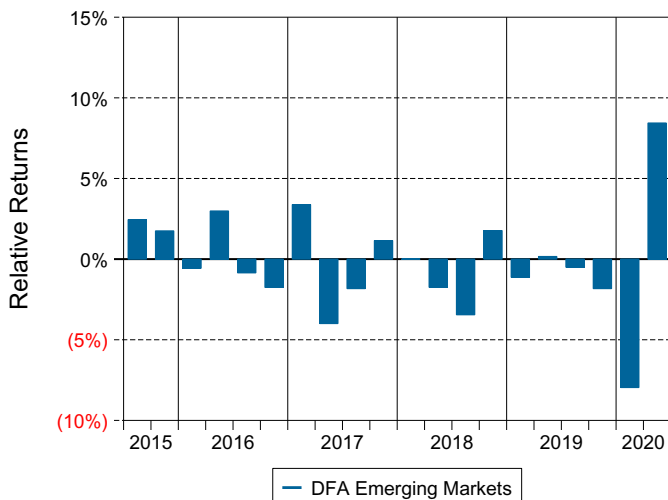
Beginning Market Value	\$38,677,222
Net New Investment	\$0
Investment Gains/(Losses)	\$10,257,002
Ending Market Value	\$48,934,224

## Performance vs Callan Emerging Markets Equity Mut Funds (Net)

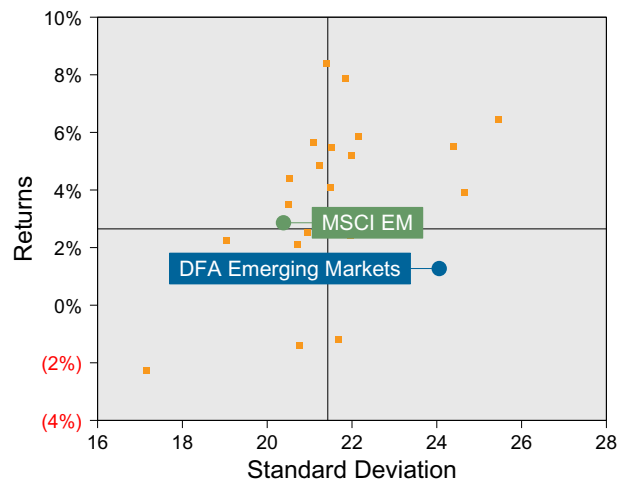


10th Percentile	27.27	6.29	5.52	7.14	6.59	5.41	6.23
25th Percentile	23.05	2.99	2.98	4.08	5.41	5.06	5.86
Median	19.93	(3.53)	(0.89)	0.75	2.65	4.07	4.46
75th Percentile	17.92	(5.86)	(3.75)	(1.05)	1.12	2.20	3.47
90th Percentile	15.53	(11.40)	(5.27)	(2.70)	(1.20)	0.82	2.70
<b>DFA Emerging Markets</b>	● 26.52	(9.26)	(5.37)	(1.88)	1.27	3.75	6.42
MSCI EM	▲ 18.08	(3.39)	(1.11)	1.90	2.86	3.27	4.85

## Relative Return vs MSCI EM



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



# EPOCH Investment Period Ended June 30, 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.

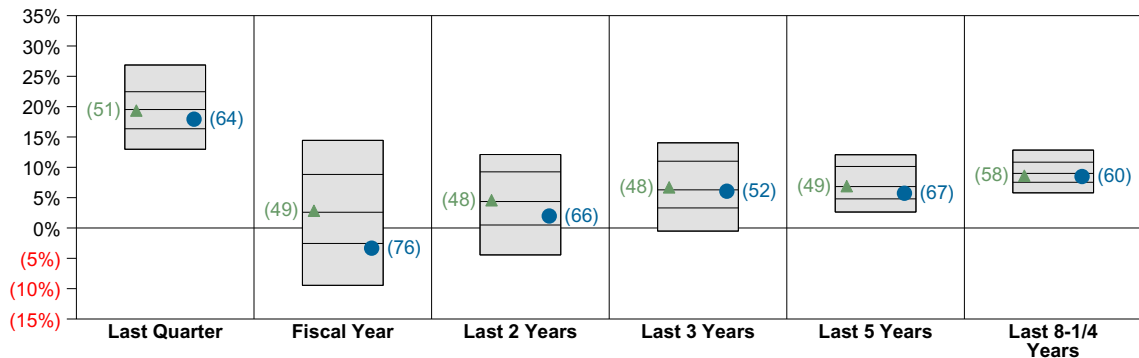
## Quarterly Summary and Highlights

- EPOCH Investment's portfolio posted a 17.93% return for the quarter placing it in the 64 percentile of the Callan Global Equity group for the quarter and in the 76 percentile for the last year.
- EPOCH Investment's portfolio underperformed the MSCI World by 1.43% for the quarter and underperformed the MSCI World for the year by 6.17%.

## Quarterly Asset Growth

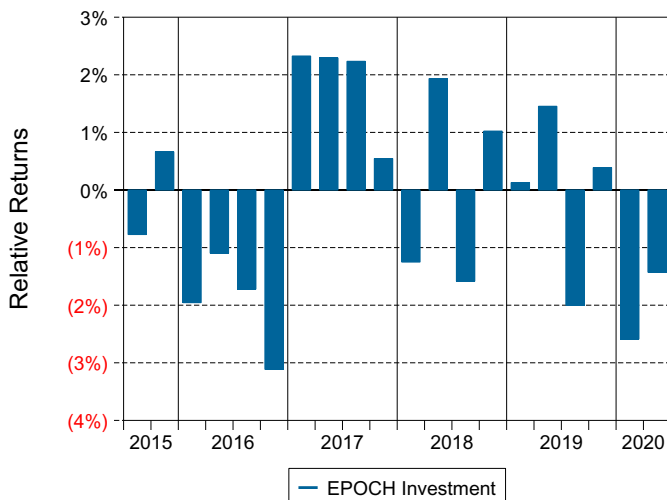
Beginning Market Value	\$370,088,067
Net New Investment	\$-590,058
Investment Gains/(Losses)	\$66,317,783
Ending Market Value	\$435,815,791

## Performance vs Callan Global Equity (Gross)

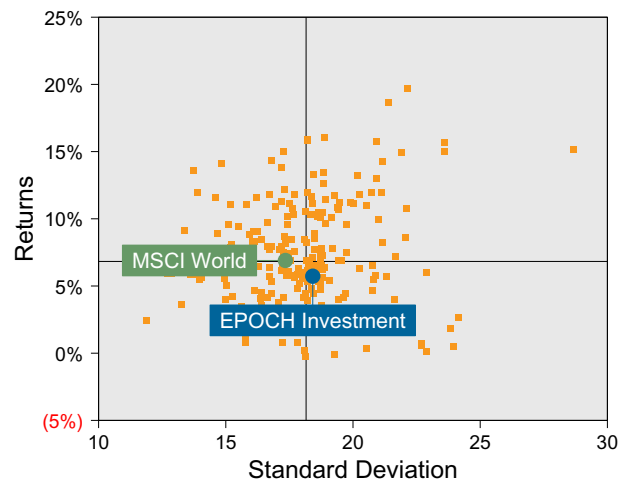


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 8-1/4 Years
10th Percentile	26.87	14.44	12.11	14.04	12.07	12.84
25th Percentile	22.46	8.83	9.25	11.01	10.14	10.85
Median	19.53	2.59	4.36	6.29	6.83	9.00
75th Percentile	16.36	(2.55)	0.49	3.30	4.80	7.53
90th Percentile	12.97	(9.45)	(4.44)	(0.51)	2.63	5.79
<b>EPOCH Investment</b>	<b>17.93</b>	<b>(3.33)</b>	<b>1.97</b>	<b>6.06</b>	<b>5.73</b>	<b>8.48</b>
MSCI World	19.36	2.84	4.57	6.70	6.90	8.61

## Relative Return vs MSCI World



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



# LSV Asset Management

## Period Ended June 30, 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 explainers of performance. **The Benchmark is comprised of MSCI ACWI through June 30, 2019; MSCI ACWI IMI Index thereafter.**

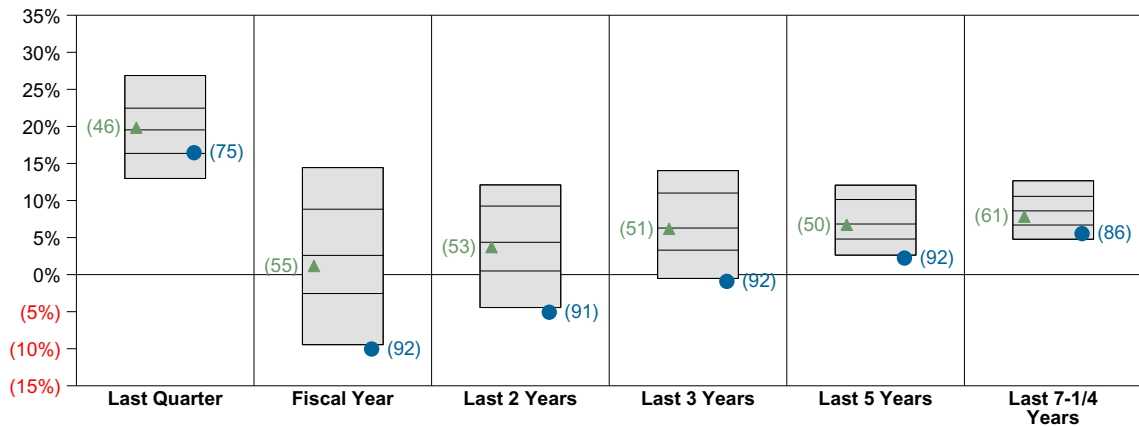
### Quarterly Summary and Highlights

- LSV Asset Management's portfolio posted a 16.45% return for the quarter placing it in the 75 percentile of the Callan Global Equity group for the quarter and in the 92 percentile for the last year.
- LSV Asset Management's portfolio underperformed the Benchmark by 3.38% for the quarter and underperformed the Benchmark for the year by 11.21%.

### Quarterly Asset Growth

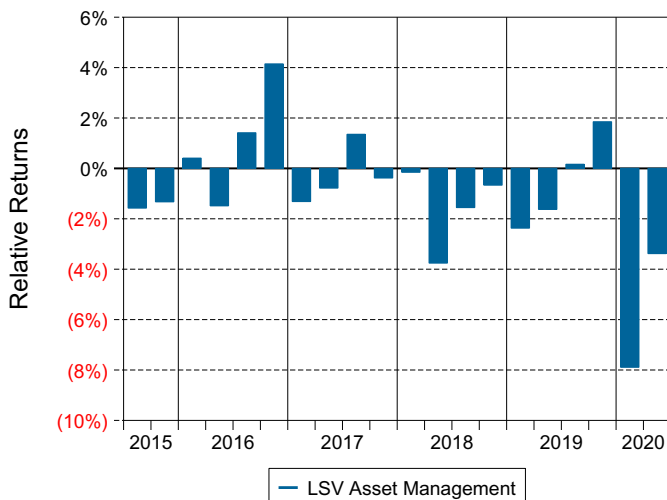
Beginning Market Value	\$382,154,636
Net New Investment	\$-94,209
Investment Gains/(Losses)	\$62,864,790
Ending Market Value	\$444,925,217

### Performance vs Callan Global Equity (Gross)

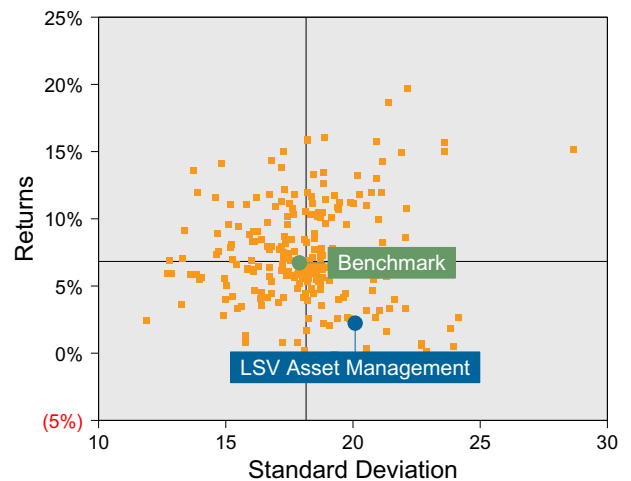


10th Percentile	26.87	14.44	12.11	14.04	12.07	12.67
25th Percentile	22.46	8.83	9.25	11.01	10.14	10.56
Median	19.53	2.59	4.36	6.29	6.83	8.60
75th Percentile	16.36	(2.55)	0.49	3.30	4.80	6.69
90th Percentile	12.97	(9.45)	(4.44)	(0.51)	2.63	4.77
<b>LSV Asset Management</b>	● 16.45	(10.04)	(5.07)	(0.91)	2.24	5.53
<b>Benchmark</b>	▲ 19.83	1.17	3.72	6.19	6.73	7.84

### 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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 19-1/2 Years
<b>Private Equity</b>	<b>(0.40%)</b>	<b>3.05%</b>	<b>5.61%</b>	<b>3.97%</b>	<b>2.86%</b>
Adams Street Direct Co-Invest Fd	(47.60%)	(43.85%)	(31.42%)	(19.69%)	-
Adams Street Direct Fd 2010	(7.94%)	(0.97%)	10.85%	10.40%	-
Adams Street 1998 Partnership	2.82%	1.93%	3.44%	2.85%	1.94%
Adams Street 1999 Partnership	2.45%	5.34%	(0.20%)	2.12%	2.28%
Adams Street 2000 Partnership	6.16%	(3.14%)	6.31%	3.98%	3.68%
Adams Street 2001 Partnership	(1.12%)	(6.33%)	0.64%	(0.28%)	3.23%
Adams Street 2002 Partnership	2.84%	1.24%	(2.44%)	3.97%	-
Adams Street 2003 Partnership	(1.22%)	(5.59%)	4.49%	4.38%	-
Adams Street 2010 Partnership	2.21%	10.85%	15.51%	13.51%	-
Adams Street 2008 Fund	0.68%	7.45%	13.85%	13.80%	-
Adams Street 1999 Non-US	0.38%	1.39%	1.61%	3.87%	5.49%
Adams Street 2000 Non-US	13.18%	4.28%	7.59%	5.39%	3.82%
Adams Street 2001 Non-US	1.54%	3.48%	8.20%	8.36%	-
Adams Street 2002 Non-US	0.87%	(0.06%)	1.07%	4.83%	-
Adams Street 2003 Non-US	2.16%	(7.80%)	(6.25%)	4.25%	-
Adams Street 2004 Non-US	(2.33%)	(2.73%)	4.13%	2.54%	-
Adams Street 2010 Non-US	(2.40%)	11.49%	16.79%	16.26%	-
Adams Street 2010 NonUS Emg	3.47%	8.03%	13.32%	12.11%	-
Adams Street 2015 Global Fd	3.53%	16.99%	17.37%	-	-
Adams Street 2016 Global Fd	2.10%	11.93%	12.05%	-	-
Adams Street 2017 Global Fd	3.12%	11.40%	-	-	-
Adams Street 2018 Global Fd	4.74%	18.93%	-	-	-
Adams Street 2019 Global Fd	9.84%	-	-	-	-
Adams Street BVCF IV Fund	(35.31%)	(99.89%)	(89.63%)	(74.02%)	(18.87%)
BlackRock	(0.16%)	1.34%	4.47%	-	-
Capital International V	(13.73%)	(22.49%)	(36.79%)	(37.54%)	-
Capital International VI	16.06%	17.60%	10.40%	8.29%	-
CorsAir III	(20.05%)	(22.33%)	(2.44%)	5.90%	-
EIG Energy Fund XIV	(27.49%)	(47.54%)	(21.88%)	(29.58%)	-
Lewis & Clark	11.79%	23.67%	11.30%	(3.86%)	-
Lewis & Clark II	1.10%	18.49%	10.26%	8.64%	-
Matlin Patterson II	11.61%	10.26%	4.27%	(2.85%)	-
Matlin Patterson III	(50.24%)	(46.37%)	(16.16%)	(9.89%)	-
Quantum Energy Partners	(10.97%)	(24.76%)	(43.45%)	(25.10%)	-
Russell 1000 Index	21.82%	7.48%	10.64%	10.47%	6.75%
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	7.20%

# Domestic Fixed Income Period Ended June 30, 2020

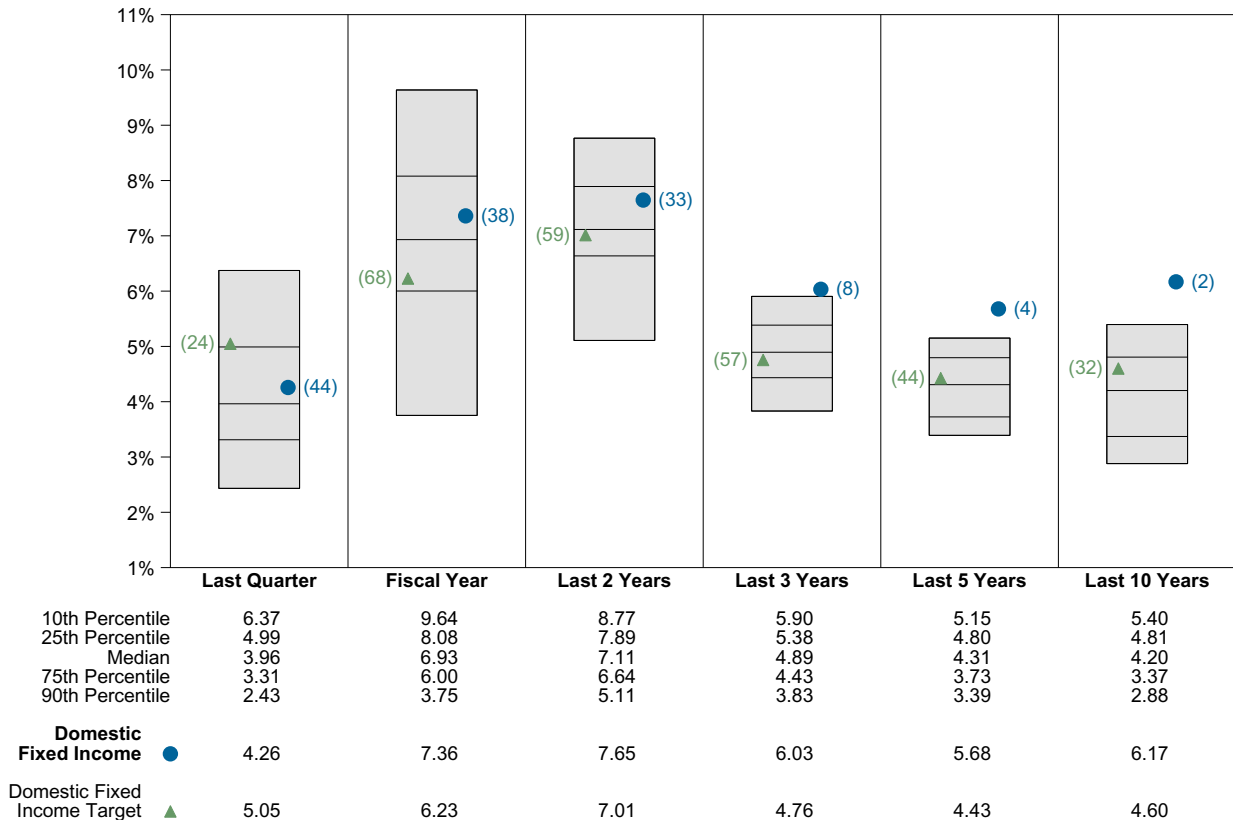
## Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 4.26% return for the quarter placing it in the 44 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 38 percentile for the last year.
- Domestic Fixed Income's portfolio underperformed the Domestic Fixed Income Target by 0.79% for the quarter and outperformed the Domestic Fixed Income Target for the year by 1.13%.

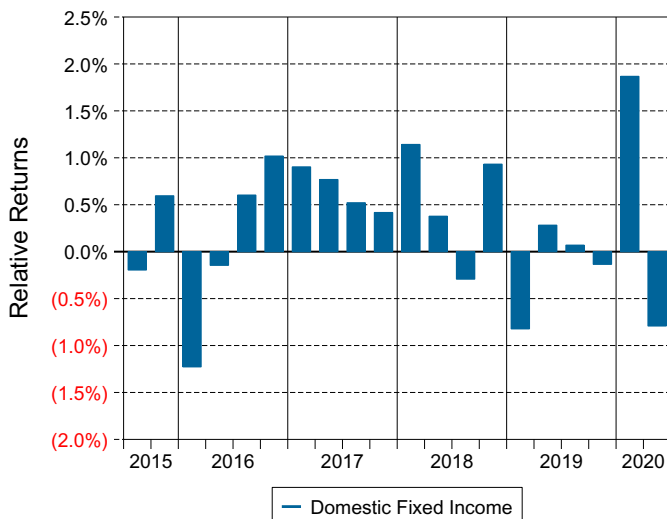
## Quarterly Asset Growth

Beginning Market Value	\$1,459,383,567
Net New Investment	\$-102,099,867
Investment Gains/(Losses)	\$60,288,471
Ending Market Value	\$1,417,572,171

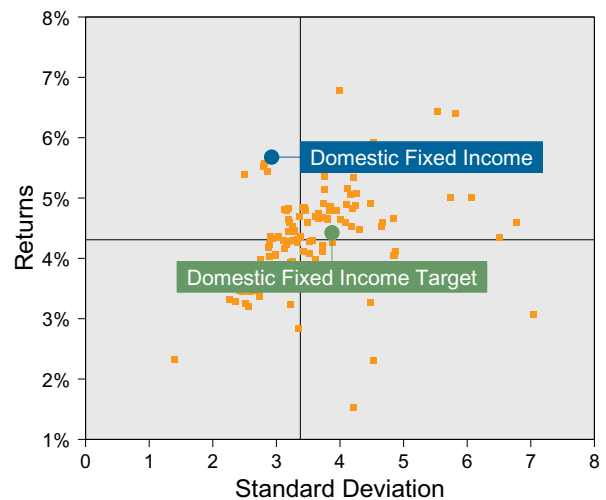
## Performance vs Public Fund - Domestic Fixed (Gross)



## Relative Returns vs Domestic Fixed Income Target



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



# Declaration Total Return Period Ended June 30, 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.

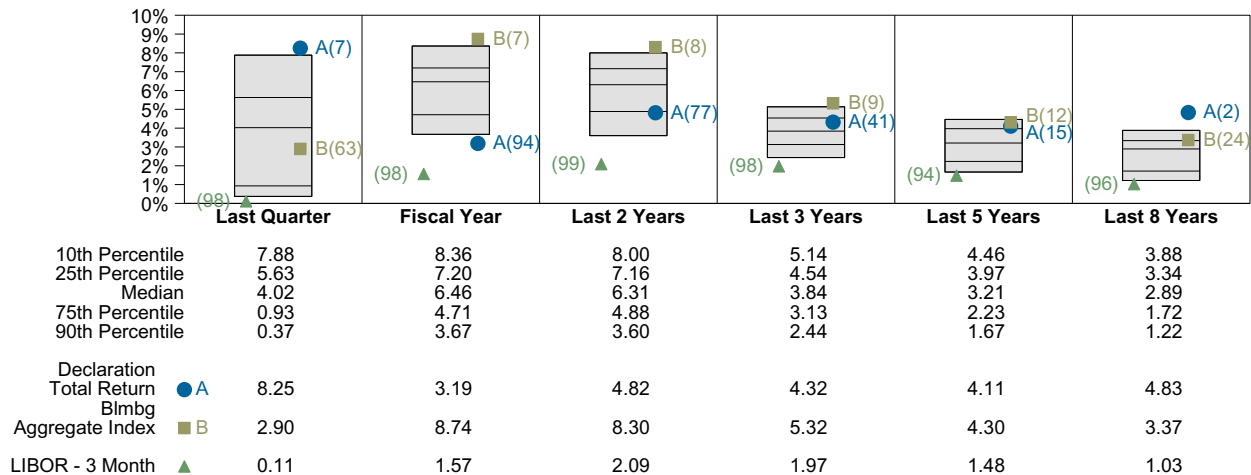
## Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a 8.25% return for the quarter placing it in the 7 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 94 percentile for the last year.
- Declaration Total Return's portfolio outperformed the LIBOR - 3 Month by 8.14% for the quarter and outperformed the LIBOR - 3 Month for the year by 1.62%.

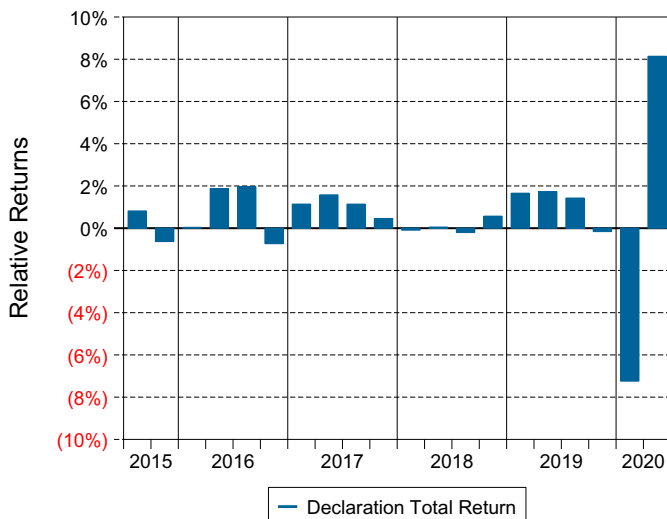
## Quarterly Asset Growth

Beginning Market Value	\$114,246,655
Net New Investment	-\$71,014
Investment Gains/(Losses)	\$9,423,328
Ending Market Value	\$123,598,969

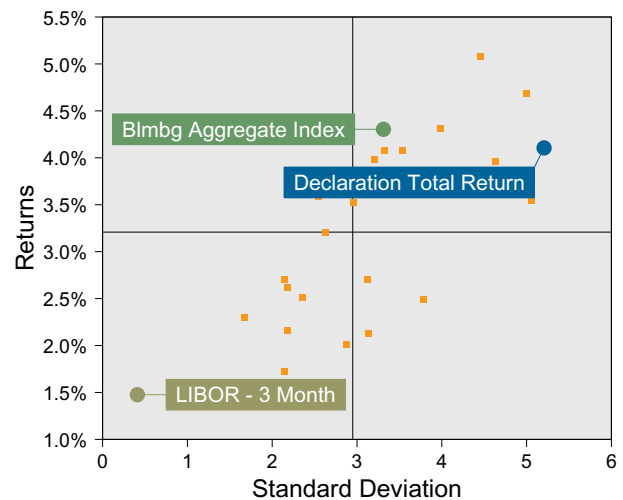
## Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)



## Relative Return vs LIBOR - 3 Month



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





# PIMCO DiSCO II

## Period Ended June 30, 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.

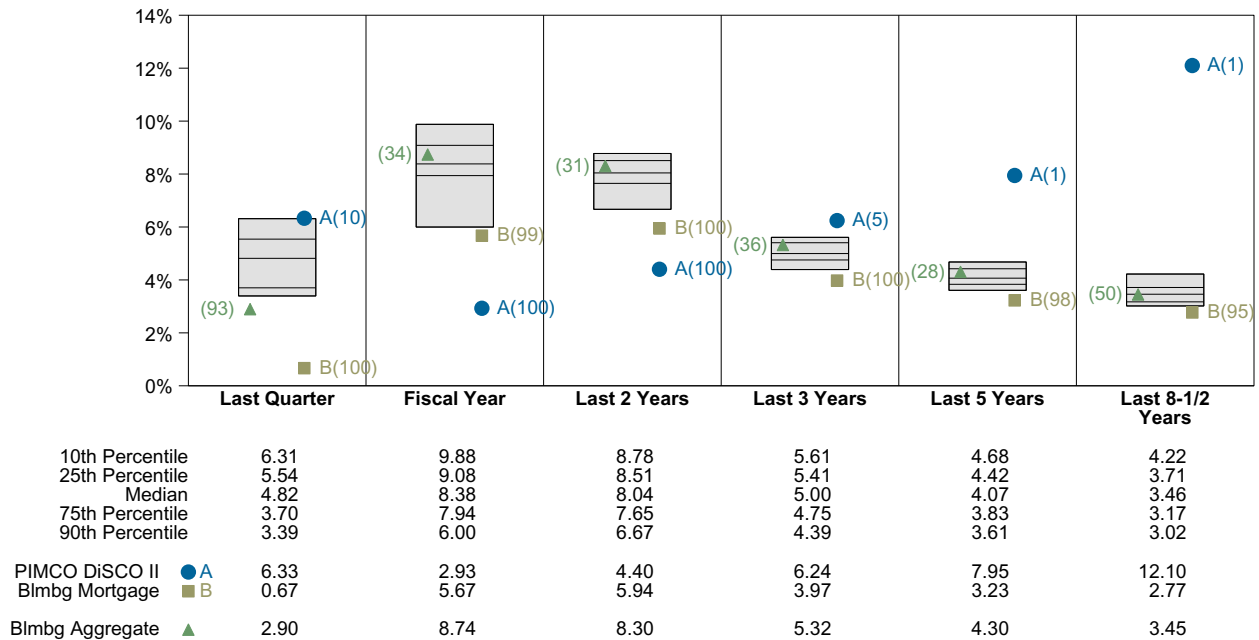
### Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a 6.33% return for the quarter placing it in the 10 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 outperformed the Blmbg Aggregate by 3.43% for the quarter and underperformed the Blmbg Aggregate for the year by 5.81%.

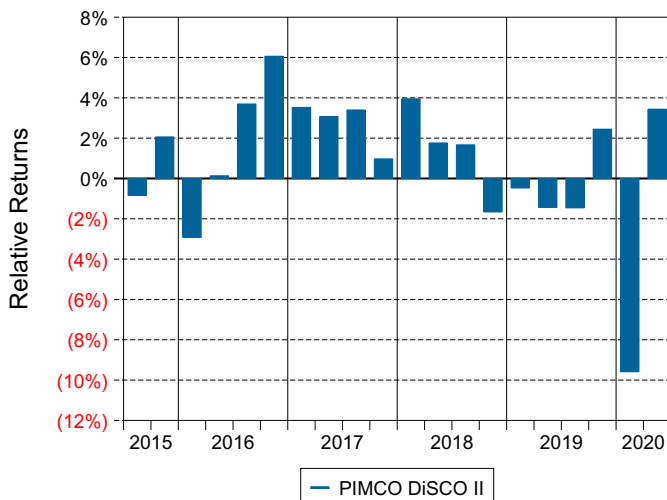
### Quarterly Asset Growth

Beginning Market Value	\$90,947,394
Net New Investment	\$10,000,000
Investment Gains/(Losses)	\$6,153,872
Ending Market Value	\$107,101,266

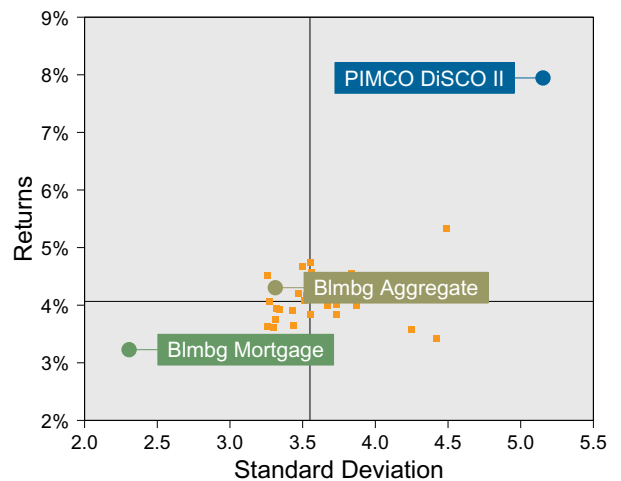
### Performance vs Callan Core Bond Mutual Funds (Net)



### Relative Return vs Blmbg Aggregate



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



# PIMCO Core Plus Constrained Period Ended June 30, 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.**

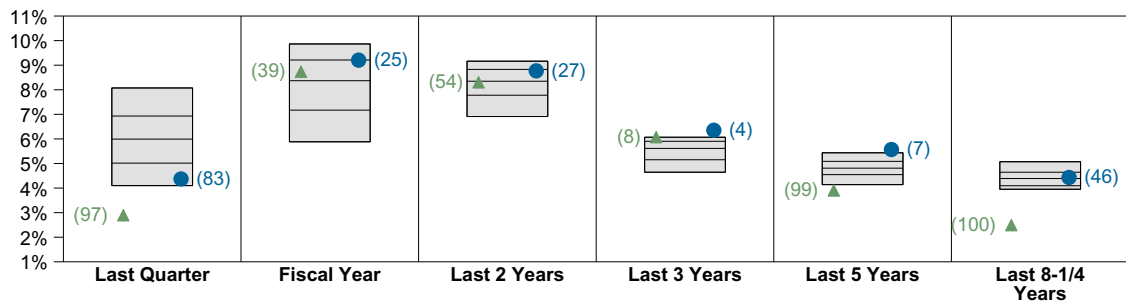
## Quarterly Summary and Highlights

- PIMCO Core Plus Constrained's portfolio posted a 4.37% return for the quarter placing it in the 83 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 25 percentile for the last year.
- PIMCO Core Plus Constrained's portfolio outperformed the Blended Benchmark\* by 1.47% for the quarter and outperformed the Blended Benchmark\* for the year by 0.47%.

## Quarterly Asset Growth

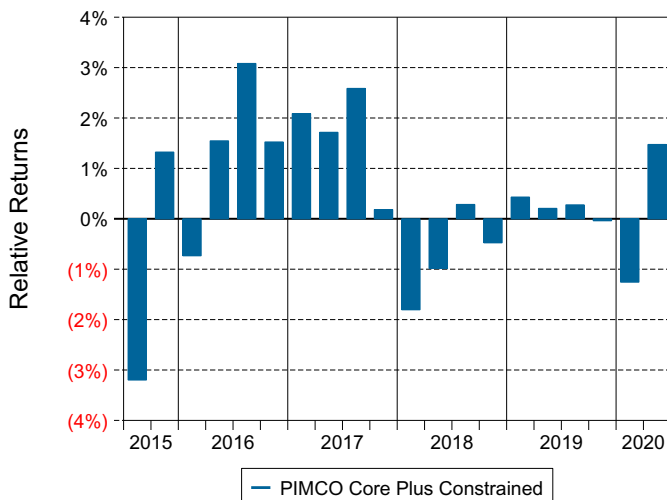
Beginning Market Value	\$376,552,913
Net New Investment	\$-59,109,955
Investment Gains/(Losses)	\$14,958,896
Ending Market Value	\$332,401,854

## Performance vs Callan Core Plus Fixed Income (Gross)

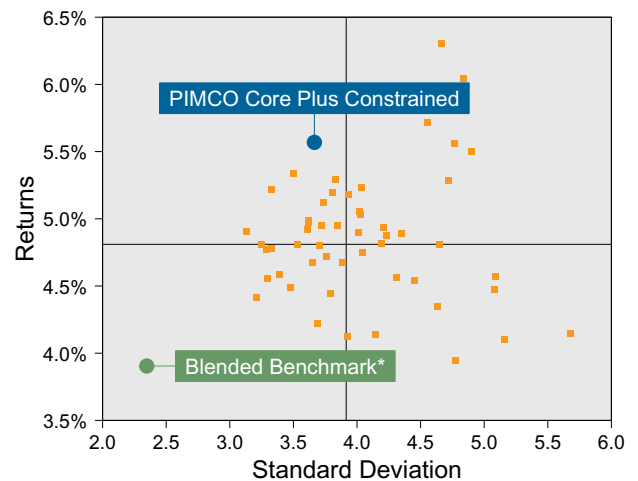


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 8-1/4 Years
10th Percentile	8.07	9.86	9.16	6.07	5.44	5.07
25th Percentile	6.93	9.21	8.83	5.90	5.09	4.64
Median	5.99	8.37	8.35	5.61	4.81	4.39
75th Percentile	5.02	7.17	7.78	5.15	4.55	4.09
90th Percentile	4.10	5.88	6.91	4.65	4.14	3.95
<b>PIMCO Core Plus Constrained</b>	<b>4.37</b>	<b>9.20</b>	<b>8.77</b>	<b>6.35</b>	<b>5.57</b>	<b>4.43</b>
Blended Benchmark*	2.90	8.74	8.30	6.07	3.90	2.49

## Relative Return vs Blended Benchmark\*



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



# Prudential Core Period Ended June 30, 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.

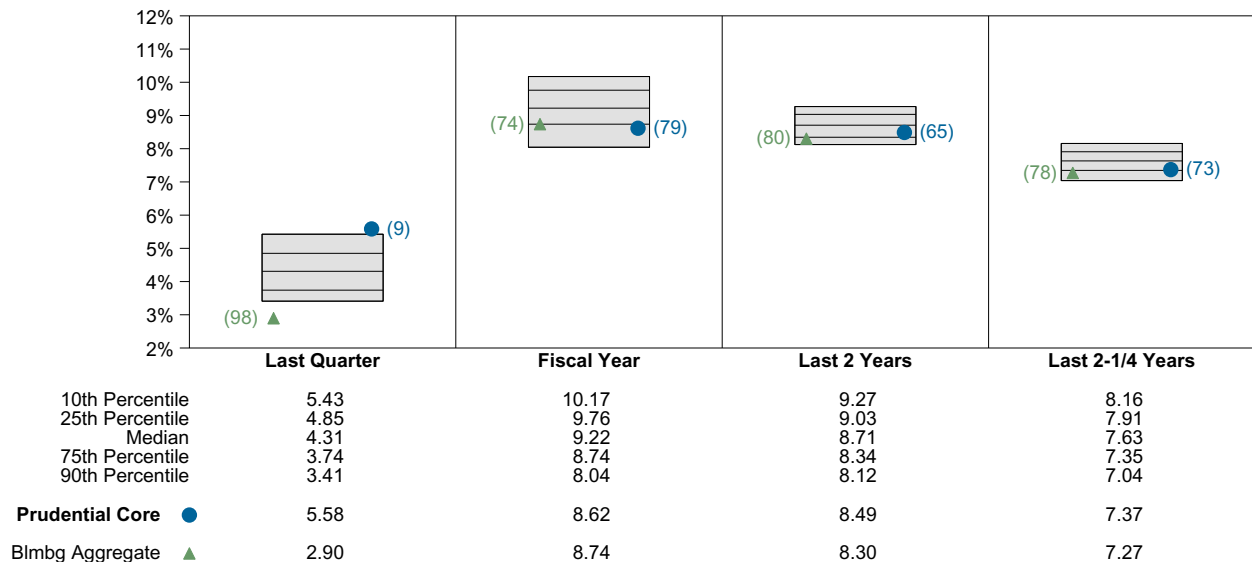
## Quarterly Summary and Highlights

- Prudential Core's portfolio posted a 5.58% return for the quarter placing it in the 9 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 79 percentile for the last year.
- Prudential Core's portfolio outperformed the Blmbg Aggregate by 2.69% for the quarter and underperformed the Blmbg Aggregate for the year by 0.12%.

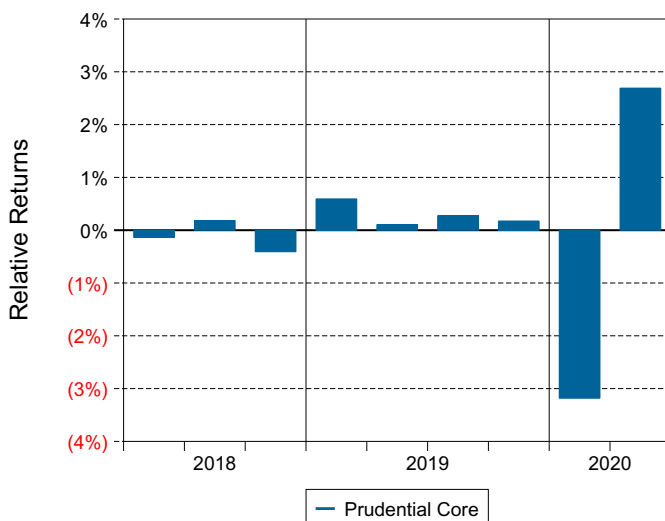
## Quarterly Asset Growth

Beginning Market Value	\$368,111,837
Net New Investment	\$-53,104,482
Investment Gains/(Losses)	\$18,881,526
Ending Market Value	\$333,888,880

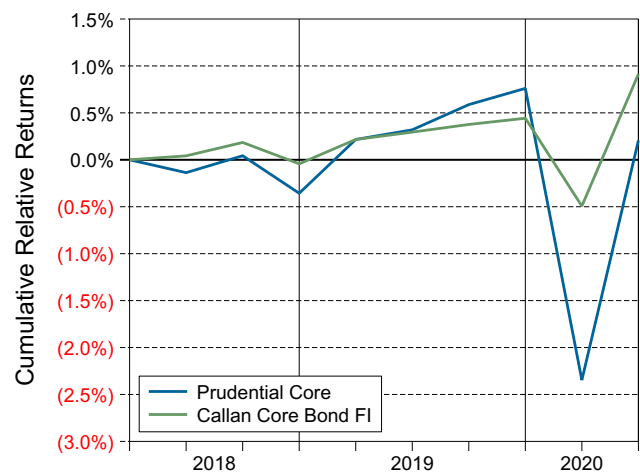
## Performance vs Callan Core Bond Fixed Income (Gross)



## Relative Return vs Blmbg Aggregate



## Cumulative Returns vs Blmbg Aggregate



# SSgA Long US Treas Index Period Ended June 30, 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.

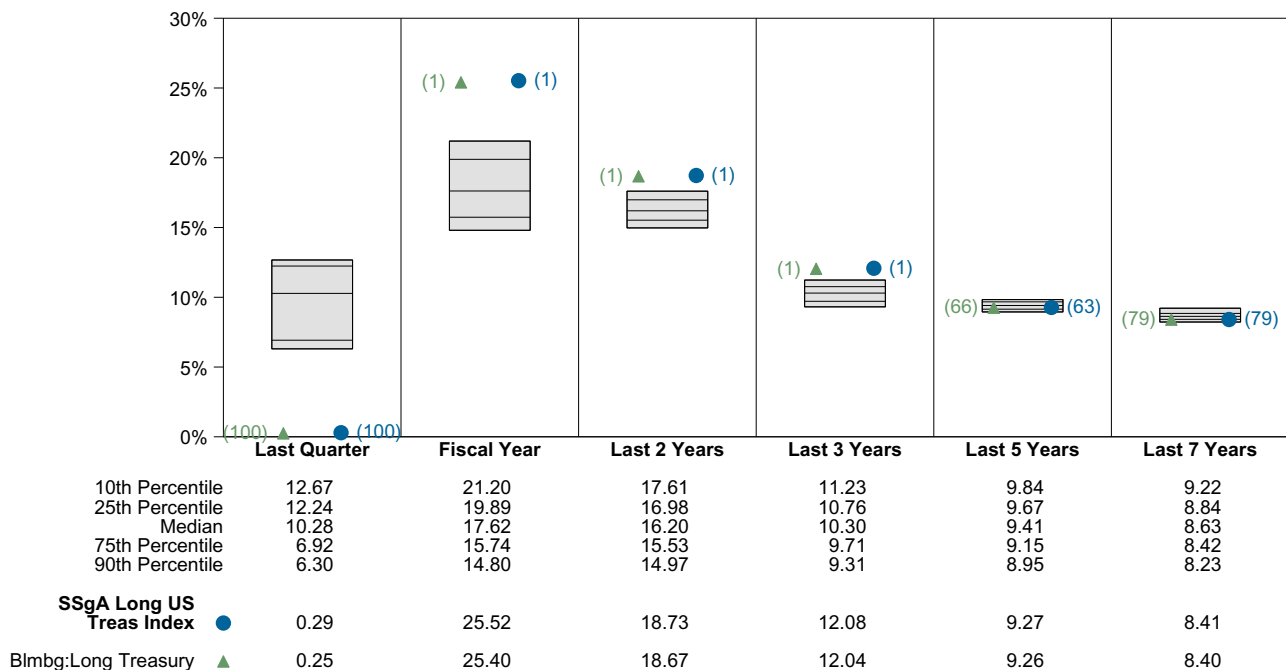
## Quarterly Summary and Highlights

- SSgA Long US Treas Index's portfolio posted a 0.29% return for the quarter placing it in the 100 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 0.04% for the quarter and outperformed the Blmbg:Long Treasury for the year by 0.12%.

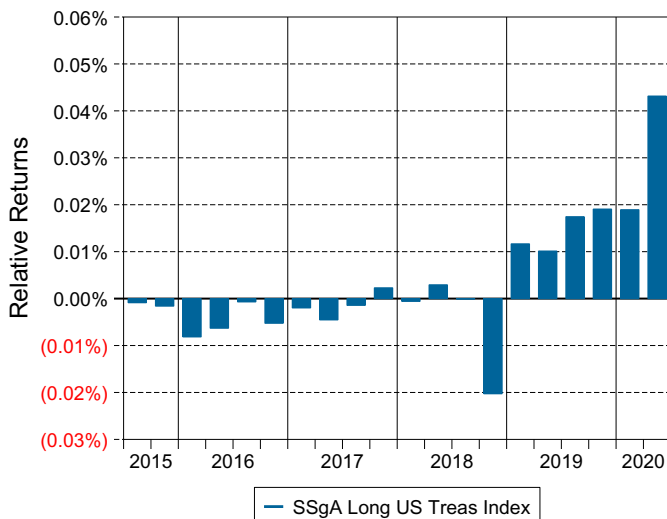
## Quarterly Asset Growth

Beginning Market Value	\$98,472,774
Net New Investment	\$-4,626
Investment Gains/(Losses)	\$287,040
Ending Market Value	\$98,755,189

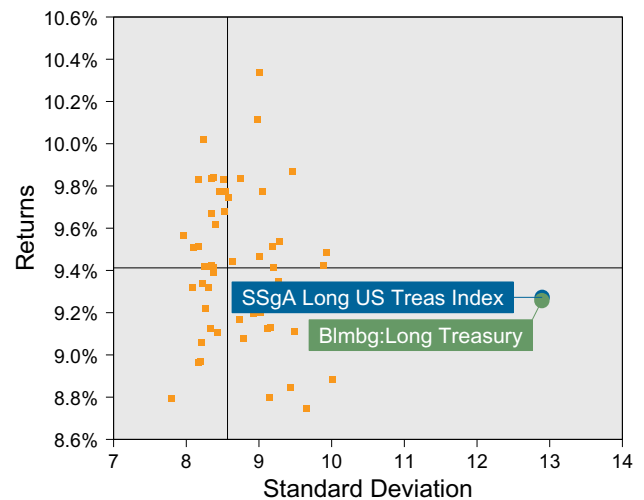
## Performance vs Callan Extended Maturity Fixed Income (Gross)



## 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 June 30, 2020

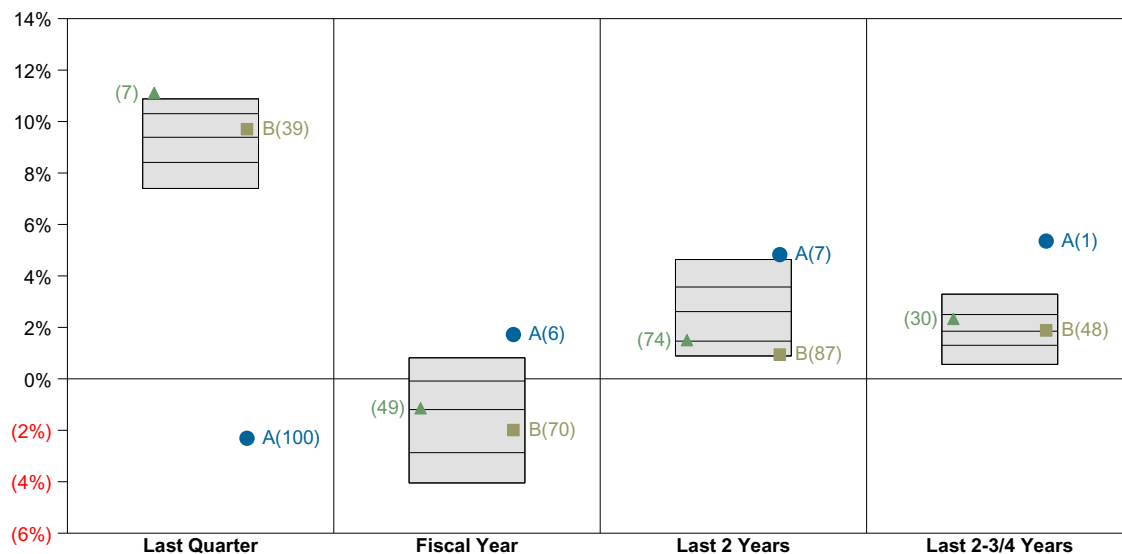
## Quarterly Summary and Highlights

- Ares ND Credit Strategies Fd's portfolio posted a (2.31)% return for the quarter placing it in the 100 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 6 percentile for the last year.
- Ares ND Credit Strategies Fd's portfolio underperformed the S&P/LSTA Leveraged Loan B Index by 13.43% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 2.86%.

## Quarterly Asset Growth

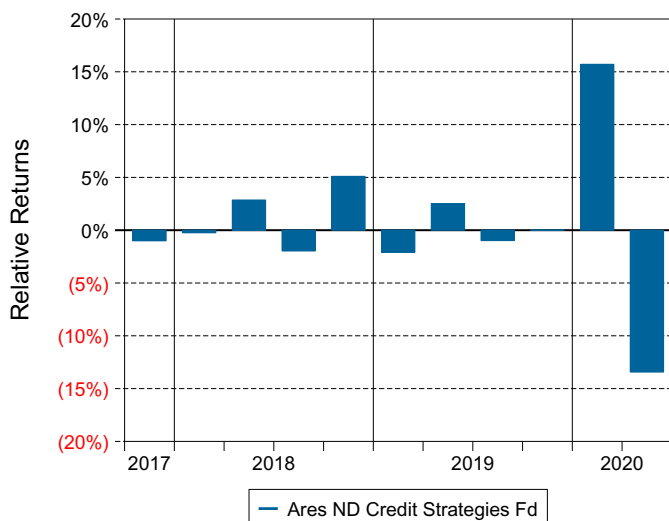
Beginning Market Value	\$119,869,542
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,768,805
Ending Market Value	\$117,100,737

## Performance vs Callan High Yield Mutual Funds (Net)

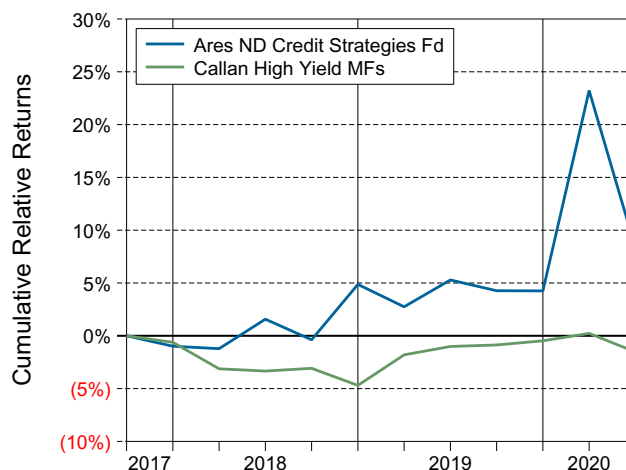


	Last Quarter	Fiscal Year	Last 2 Years	Last 2-3/4 Years
10th Percentile	10.88	0.82	4.64	3.29
25th Percentile	10.31	(0.09)	3.57	2.50
Median	9.39	(1.20)	2.61	1.85
75th Percentile	8.41	(2.87)	1.46	1.30
90th Percentile	7.40	(4.05)	0.89	0.56
Ares ND Credit Strategies Fd S&P/LSTA Leveraged Loan	● A (2.31)	● A (1.72)	● A (4.83)	● A (5.35)
S&P/LSTA Leveraged Loan B Index	▲ (11.12)	▲ (1.14)	▲ (1.50)	▲ (2.33)

## 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 June 30, 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.

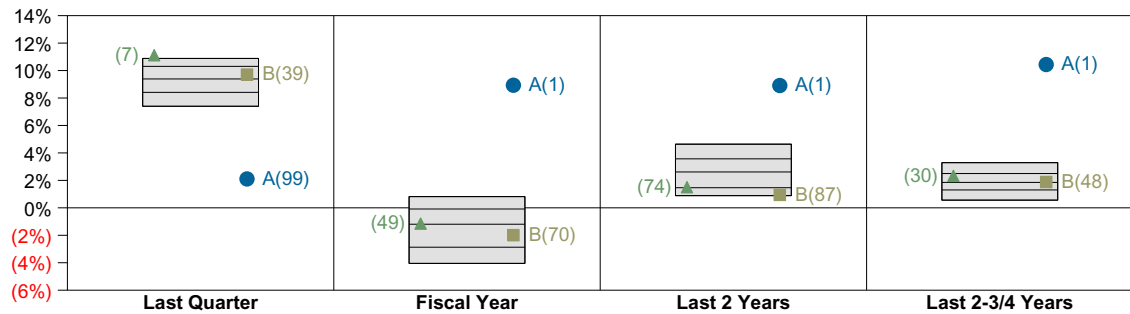
## Quarterly Summary and Highlights

- Cerberus ND Private Credit Fd's portfolio posted a 2.10% return for the quarter placing it in the 99 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 underperformed the S&P/LSTA Leveraged Loan B Index by 9.01% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 10.07%.

## Quarterly Asset Growth

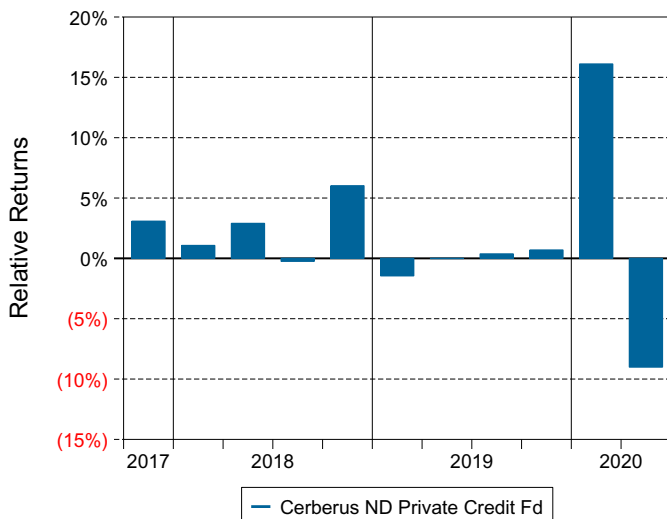
Beginning Market Value	\$119,098,480
Net New Investment	\$0
Investment Gains/(Losses)	\$2,506,926
Ending Market Value	\$121,605,406

## Performance vs Callan High Yield Mutual Funds (Net)

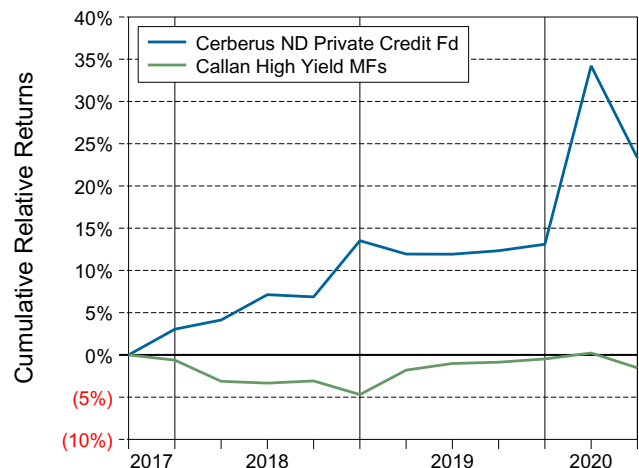


	Last Quarter	Fiscal Year	Last 2 Years	Last 2-3/4 Years
10th Percentile	10.88	0.82	4.64	3.29
25th Percentile	10.31	(0.09)	3.57	2.50
Median	9.39	(1.20)	2.61	1.85
75th Percentile	8.41	(2.87)	1.46	1.30
90th Percentile	7.40	(4.05)	0.89	0.56
Cerberus ND Private Credit Fd S&P/LSTA Leveraged Loan	● A 2.10	● A 8.93	● A 8.91	● A 10.44
S&P/LSTA Leveraged Loan B Index	▲ B 9.70	▲ B (1.99)	▲ B 0.94	▲ B 1.88

## 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 June 30, 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.

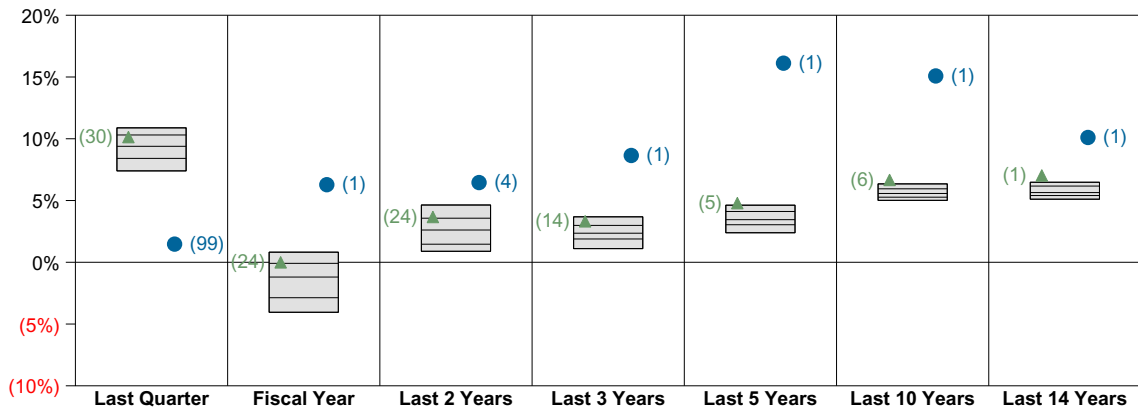
## Quarterly Summary and Highlights

- Goldman Sachs's portfolio posted a 1.47% return for the quarter placing it in the 99 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 underperformed the Blmbg:HY Corp 2% Iss Cap by 8.67% for the quarter and outperformed the Blmbg:HY Corp 2% Iss Cap for the year by 6.28%.

## Quarterly Asset Growth

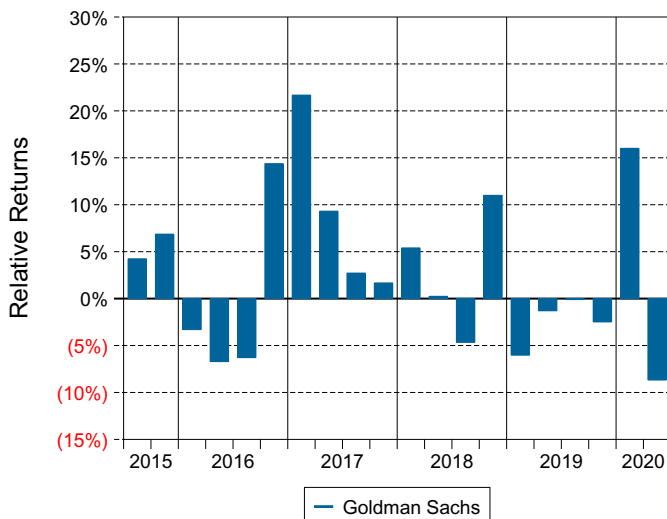
Beginning Market Value	\$64,436
Net New Investment	\$0
Investment Gains/(Losses)	\$948
Ending Market Value	\$65,384

## Performance vs Callan High Yield Mutual Funds (Net)

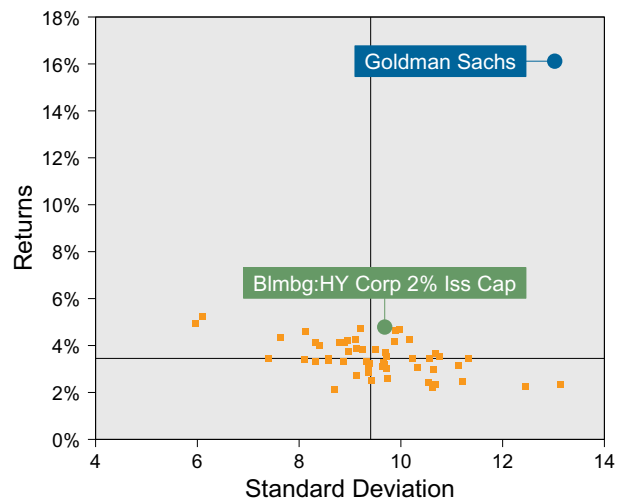


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 14 Years
10th Percentile	10.88	0.82	4.64	3.68	4.62	6.35	6.48
25th Percentile	10.31	(0.09)	3.57	2.99	4.11	5.95	6.17
Median	9.39	(1.20)	2.61	2.35	3.45	5.57	5.64
75th Percentile	8.41	(2.87)	1.46	1.89	3.04	5.27	5.40
90th Percentile	7.40	(4.05)	0.89	1.10	2.39	5.01	5.11
<b>Goldman Sachs</b>	● 1.47	6.28	6.45	8.65	16.12	15.08	10.10
Blmbg:HY Corp 2% Iss Cap	▲ 10.14	(0.00)	3.67	3.32	4.79	6.67	7.03

## 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 June 30, 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.

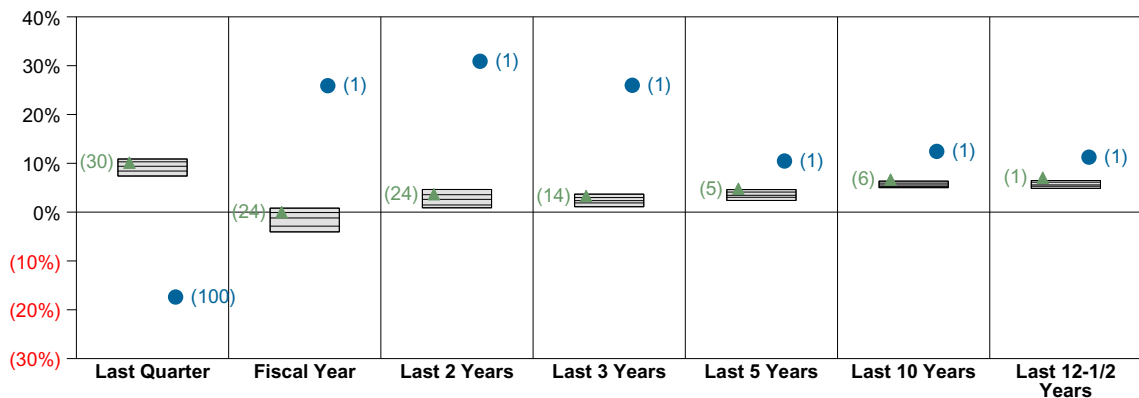
### Quarterly Summary and Highlights

- Goldman Sachs Offshore V's portfolio posted a (17.39)% return for the quarter placing it in the 100 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 underperformed the Blmbg:HY Corp 2% Iss Cap by 27.52% for the quarter and outperformed the Blmbg:HY Corp 2% Iss Cap for the year by 25.90%.

### Quarterly Asset Growth

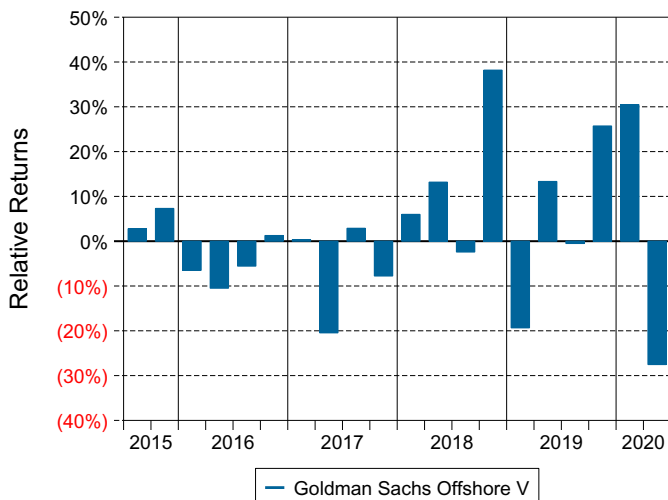
Beginning Market Value	\$493,717
Net New Investment	\$-275,559
Investment Gains/(Losses)	\$-54,381
Ending Market Value	\$163,777

### Performance vs Callan High Yield Mutual Funds (Net)

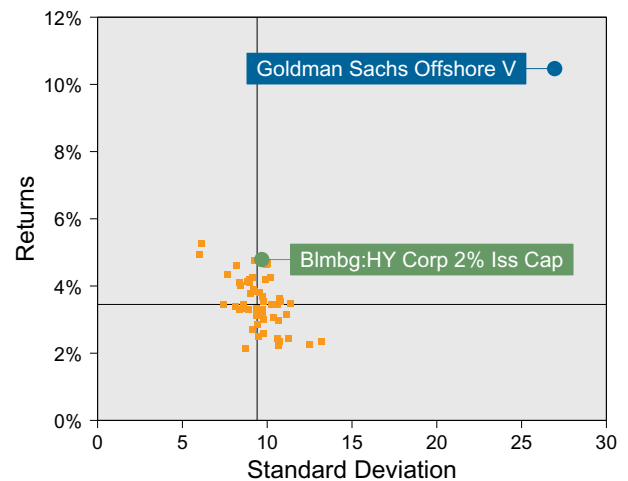


10th Percentile	10.88	0.82	4.64	3.68	4.62	6.35	6.47
25th Percentile	10.31	(0.09)	3.57	2.99	4.11	5.95	6.13
Median	9.39	(1.20)	2.61	2.35	3.45	5.57	5.57
75th Percentile	8.41	(2.87)	1.46	1.89	3.04	5.27	5.31
90th Percentile	7.40	(4.05)	0.89	1.10	2.39	5.01	4.87
<b>Goldman Sachs Offshore V</b>	● (17.39)	25.90	30.90	25.98	10.47	12.44	11.26
Blmbg:HY Corp 2% Iss Cap	▲ 10.14	(0.00)	3.67	3.32	4.79	6.67	7.05

### 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 June 30, 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.

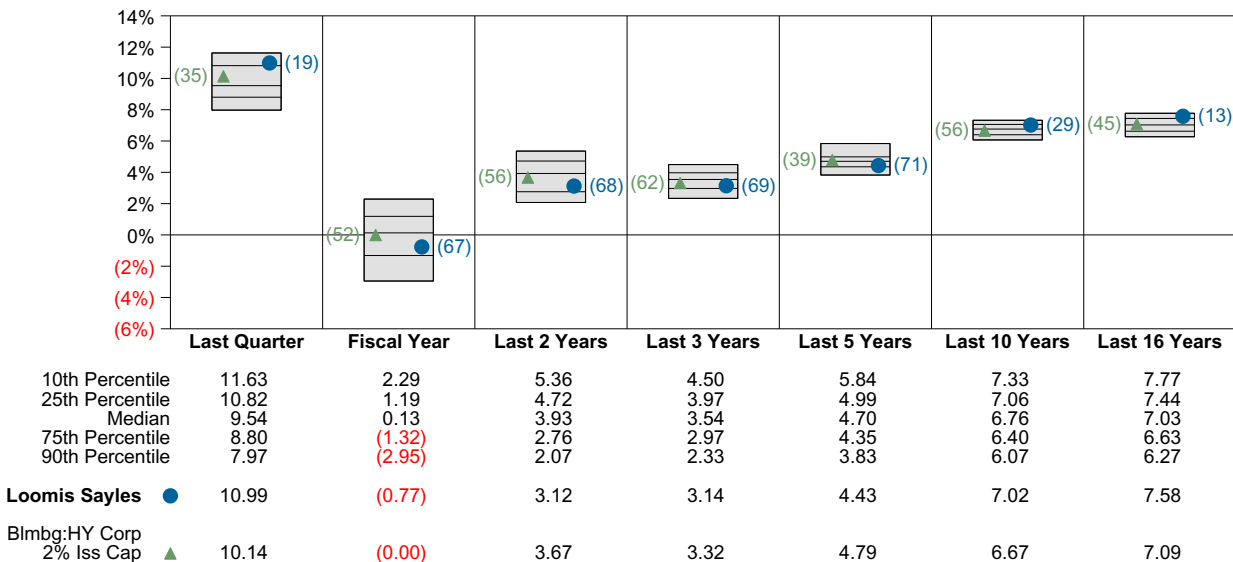
### Quarterly Summary and Highlights

- Loomis Sayles's portfolio posted a 10.99% return for the quarter placing it in the 19 percentile of the Callan High Yield Fixed Income group for the quarter and in the 67 percentile for the last year.
- Loomis Sayles's portfolio outperformed the Blmbg:HY Corp 2% Iss Cap by 0.85% for the quarter and underperformed the Blmbg:HY Corp 2% Iss Cap for the year by 0.76%.

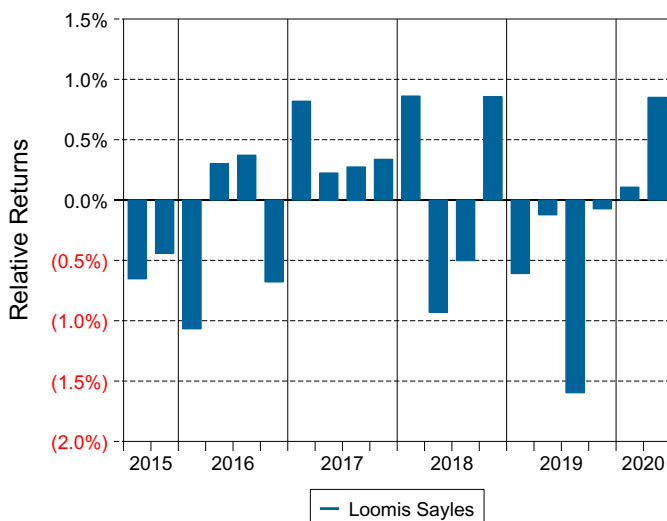
### Quarterly Asset Growth

Beginning Market Value	\$148,818,966
Net New Investment	\$-186,024
Investment Gains/(Losses)	\$16,337,472
Ending Market Value	\$164,970,414

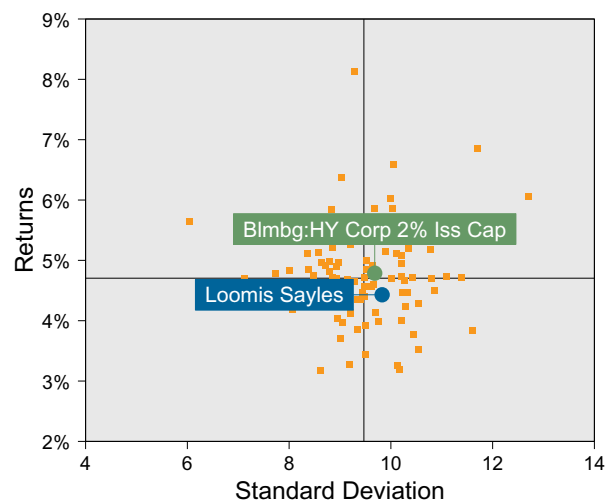
### Performance vs Callan High Yield Fixed Income (Gross)



### 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 June 30, 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.

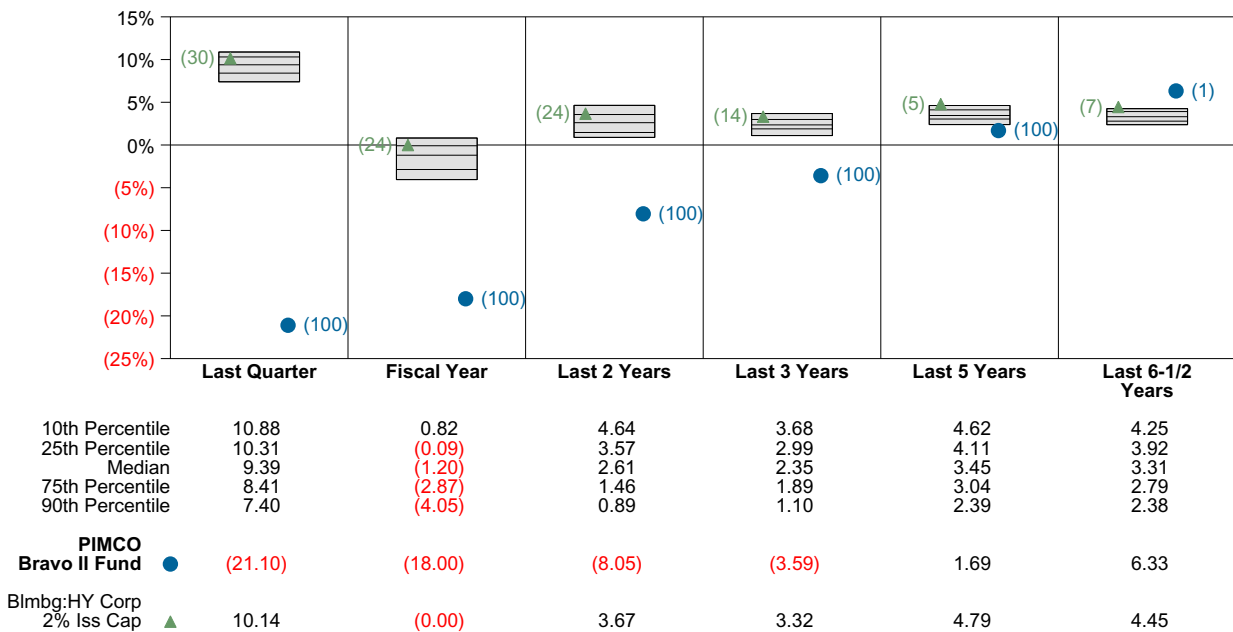
### Quarterly Summary and Highlights

- PIMCO Bravo II Fund's portfolio posted a (21.10)% return for the quarter placing it in the 100 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 100 percentile for the last year.
- PIMCO Bravo II Fund's portfolio underperformed the Blmbg:HY Corp 2% Iss Cap by 31.23% for the quarter and underperformed the Blmbg:HY Corp 2% Iss Cap for the year by 18.00%.

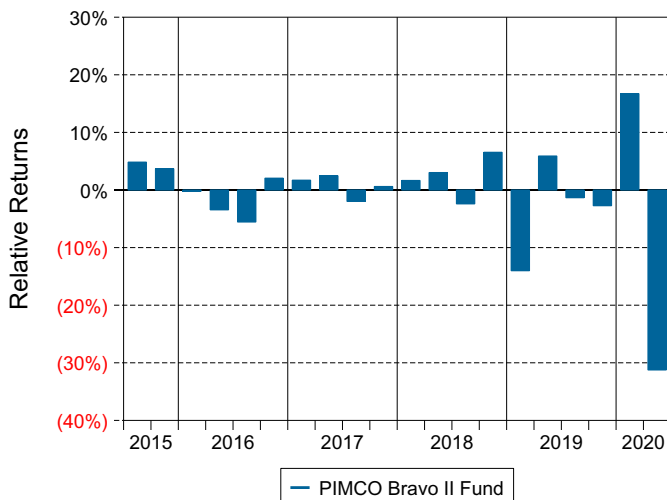
### Quarterly Asset Growth

Beginning Market Value	\$22,706,853
Net New Investment	\$0
Investment Gains/(Losses)	\$-4,790,621
Ending Market Value	\$17,916,232

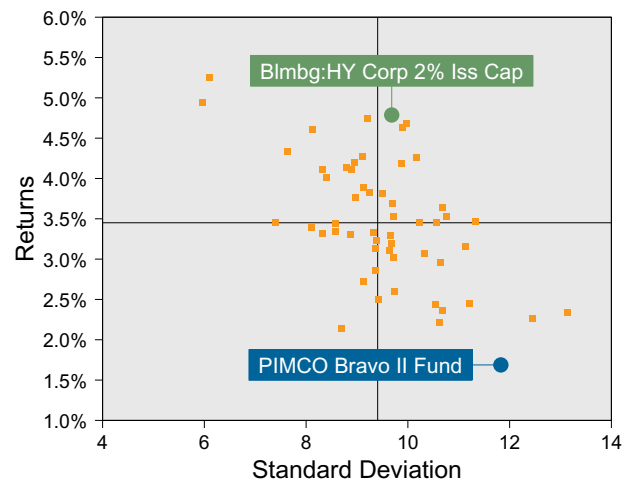
### Performance vs Callan High Yield Mutual Funds (Net)



### 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 June 30, 2020

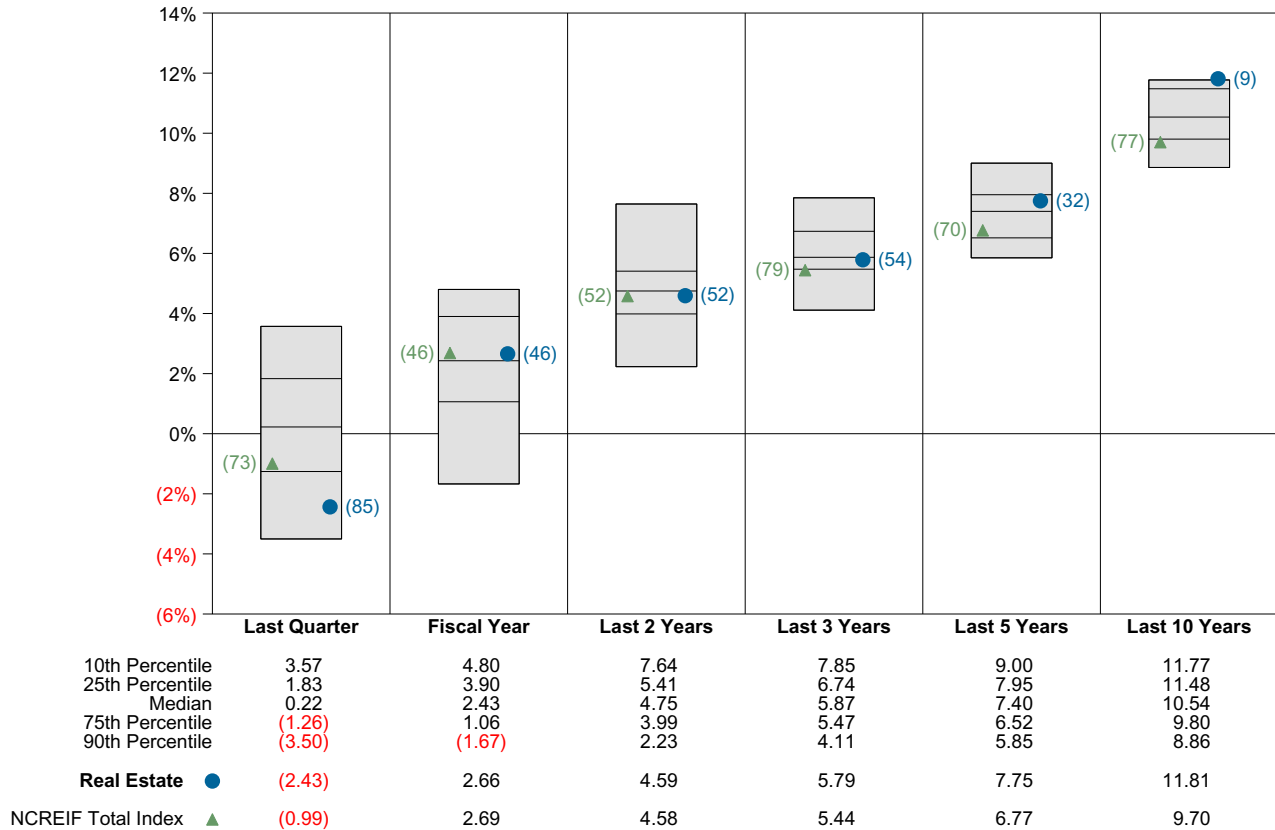
## Quarterly Summary and Highlights

- Real Estate's portfolio posted a (2.43)% return for the quarter placing it in the 85 percentile of the Public Fund - Real Estate group for the quarter and in the 46 percentile for the last year.
- Real Estate's portfolio underperformed the NCREIF Total Index by 1.44% for the quarter and underperformed the NCREIF Total Index for the year by 0.03%.

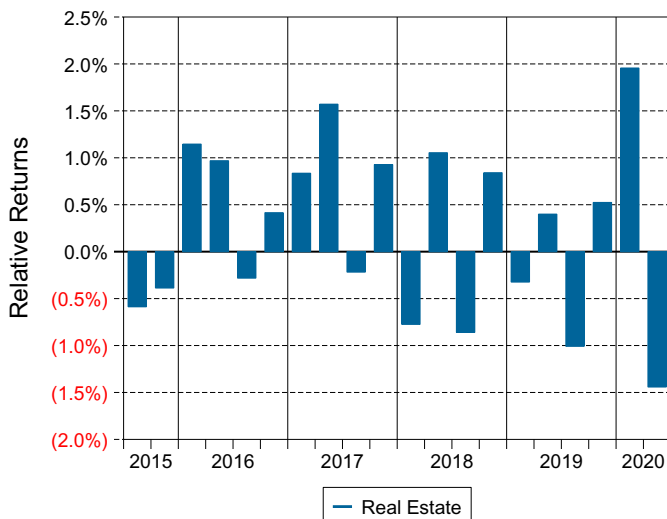
## Quarterly Asset Growth

Beginning Market Value	\$669,430,317
Net New Investment	\$6,504,532
Investment Gains/(Losses)	\$-16,487,763
Ending Market Value	\$659,447,086

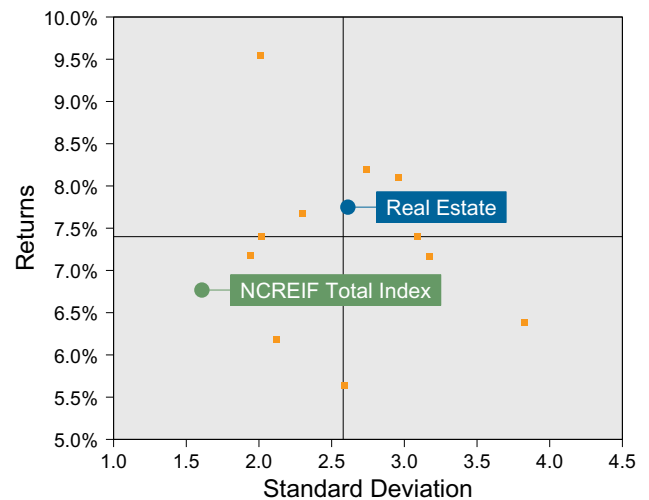
## Performance vs Public Fund - Real Estate (Gross)



## Relative Return vs NCREIF Total Index



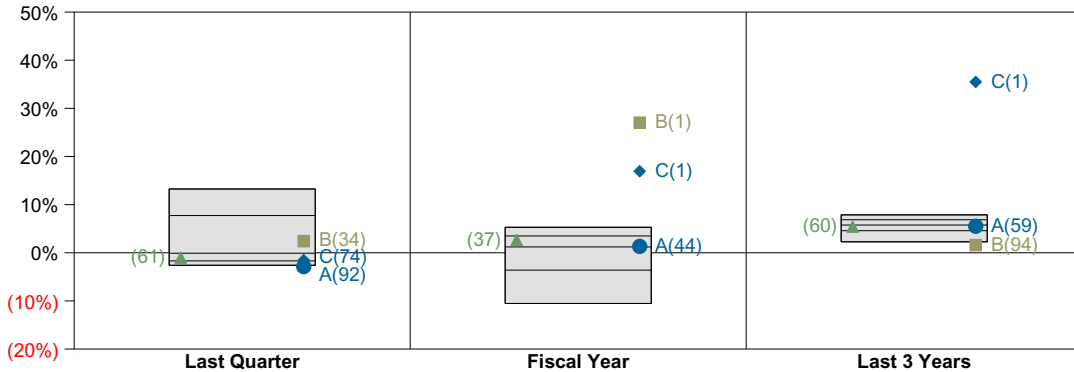
## Public Fund - Real Estate (Gross) Annualized Five Year Risk vs Return



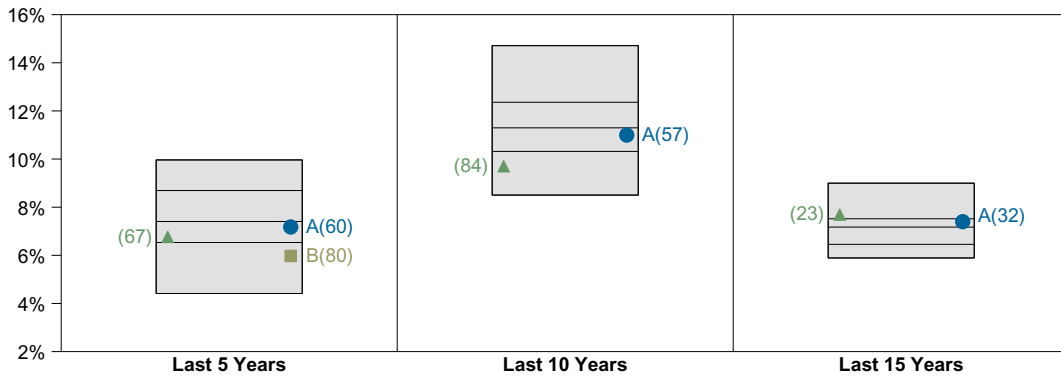
# North Dakota State Investment Board Pension Funds Performance vs Callan Total Domestic Real Estate DB Periods Ended June 30, 2020

## 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.



Invesco Core Real Estate	● A	(2.88)	1.32	5.51
Invesco Fund III	■ B	2.41	27.02	1.59
Invesco Asia RE Fund III	◆ C	(1.55)	16.93	35.49
NCREIF Total Index	▲	(0.99)	2.69	5.44

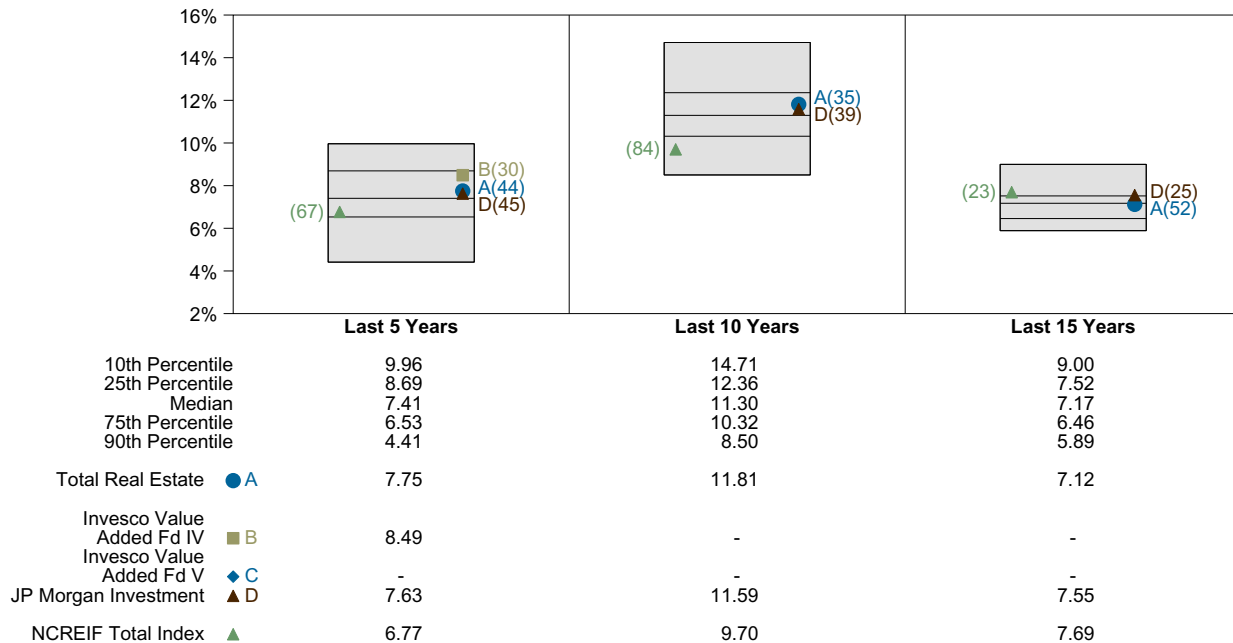
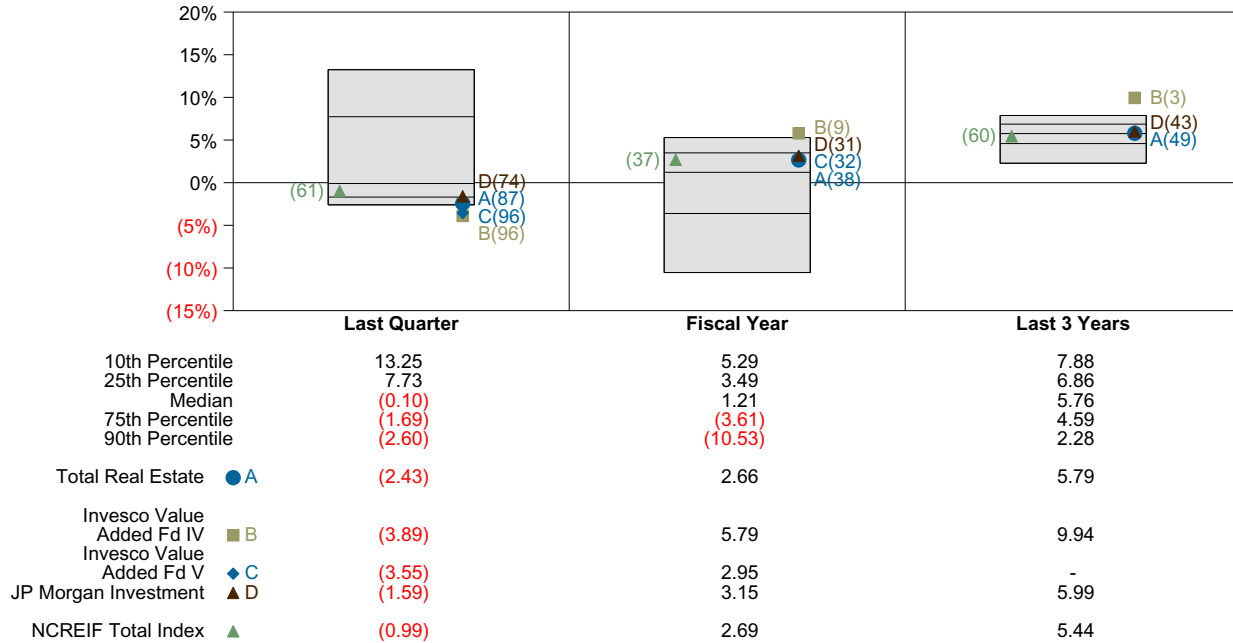


Invesco Core Real Estate	● A	7.18	11.00	7.40
Invesco Fund III	■ B	5.98	-	-
Invesco Asia RE Fund III	◆ C	-	-	-
NCREIF Total Index	▲	6.77	9.70	7.69

# North Dakota State Investment Board Pension Funds Performance vs Callan Total Domestic Real Estate DB Periods Ended June 30, 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 June 30, 2020

### Investment Philosophy

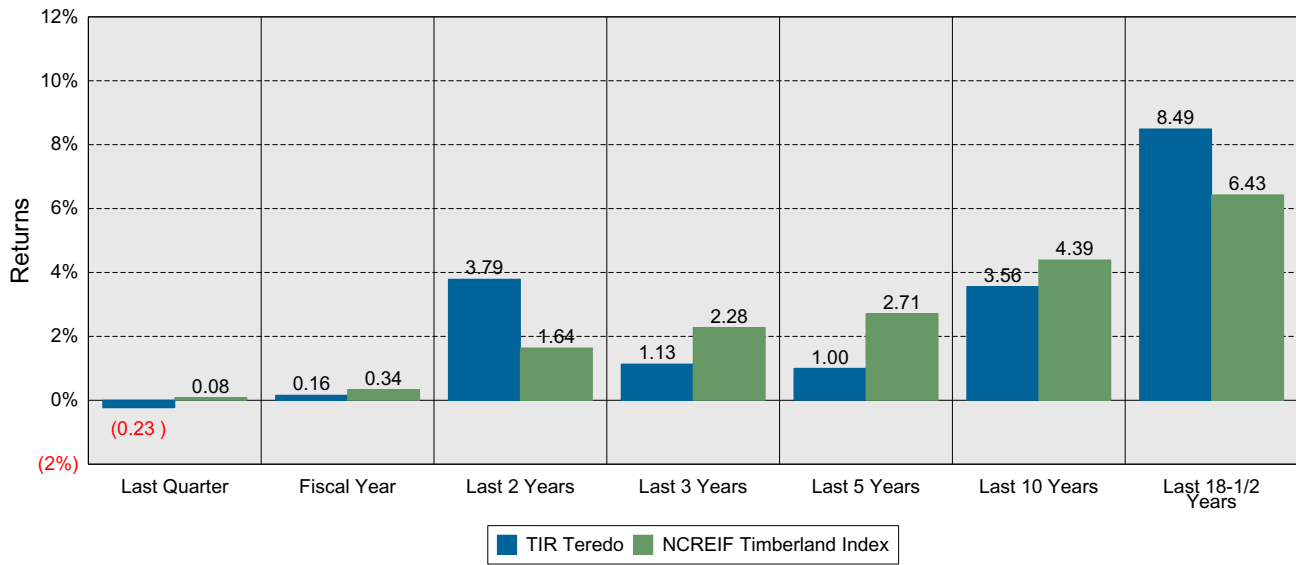
Teredo Timber LLC - The investment objective of Teredo is to provide competitive investment returns from increasing saw timber production through the 20 year term of the partnership. TIR's management strategy is to maximize saw timber volume by applying intensive forest management techniques which accelerate 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

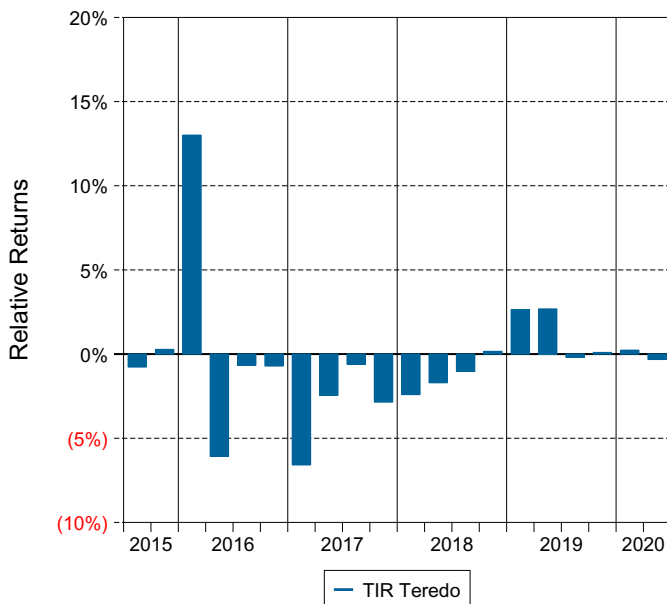
- TIR Teredo's portfolio underperformed the NCREIF Timberland Index by 0.32% for the quarter and underperformed the NCREIF Timberland Index for the year by 0.18%.

### Quarterly Asset Growth

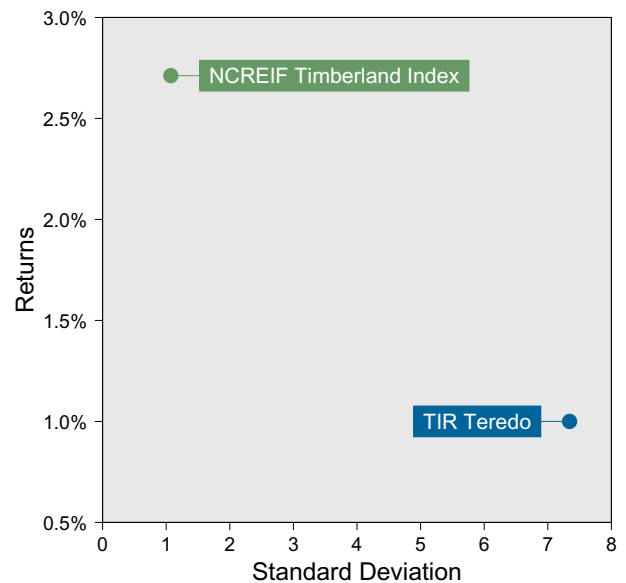
Beginning Market Value	\$30,294,799
Net New Investment	\$-2,500,000
Investment Gains/(Losses)	\$-67,877
Ending Market Value	\$27,726,922



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



# TIR Springbank

## Period Ended June 30, 2020

### Investment Philosophy

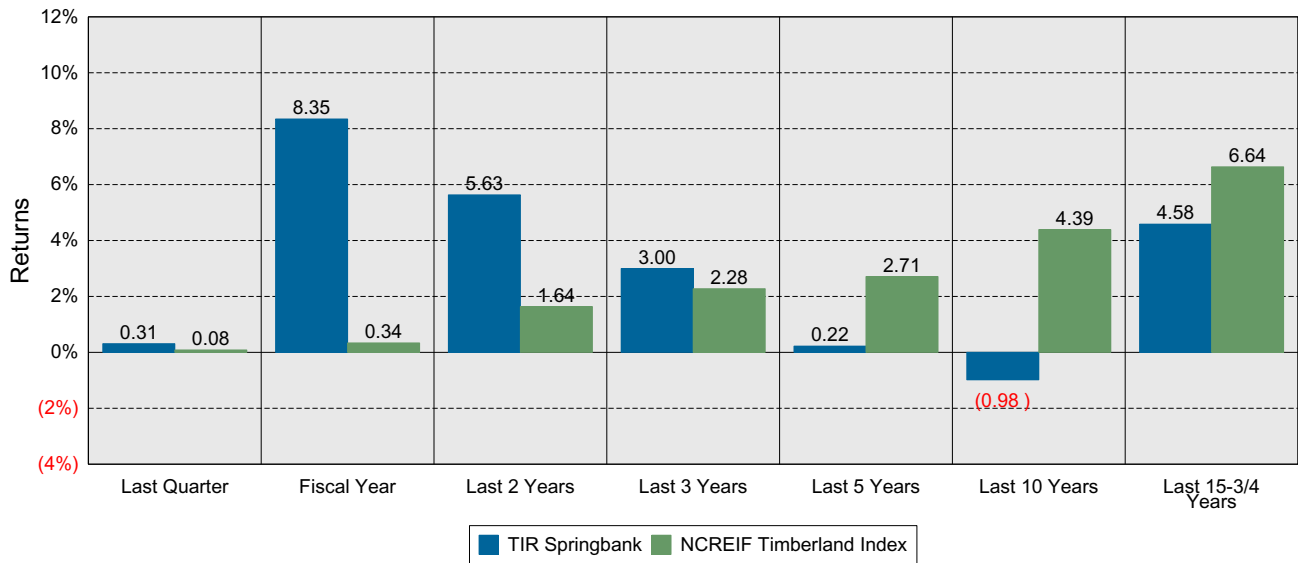
Springbank LLC - The investment objective of Springbank is to maximize long-term investment potential by means of the formation of a dedicated land management group, intensive timber management to increase timber production, the coordination of timber harvesting with land management activities and direct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

### Quarterly Summary and Highlights

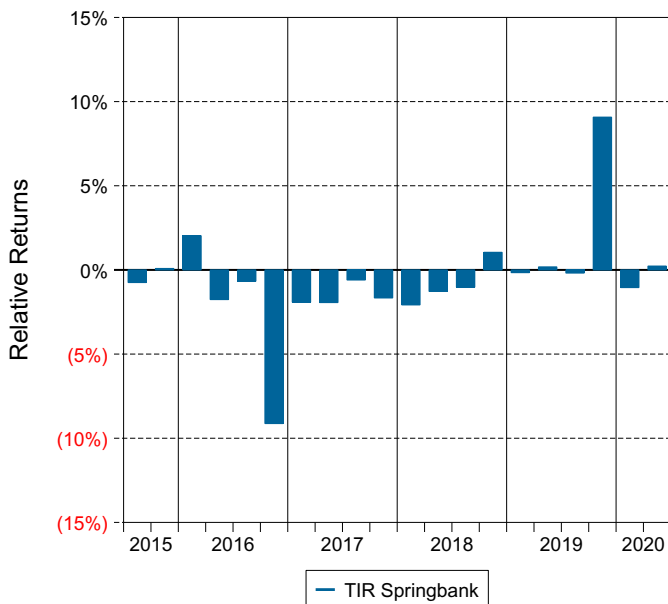
- TIR Springbank's portfolio outperformed the NCREIF Timberland Index by 0.23% for the quarter and outperformed the NCREIF Timberland Index for the year by 8.01%.

### Quarterly Asset Growth

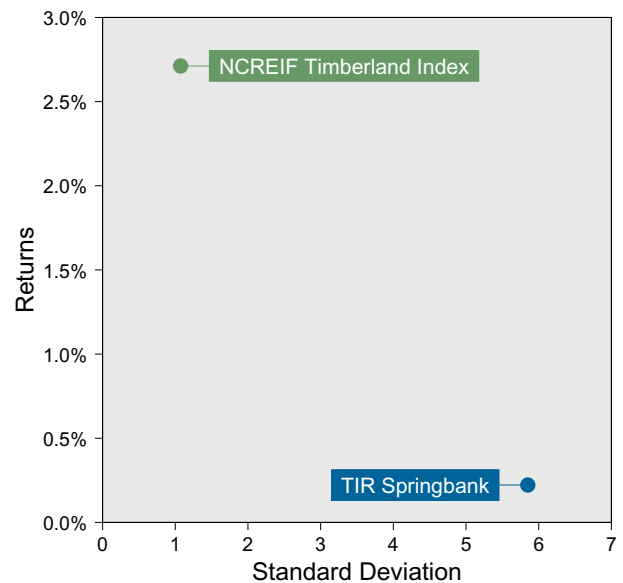
Beginning Market Value	\$97,102,442
Net New Investment	\$0
Investment Gains/(Losses)	\$300,613
Ending Market Value	\$97,403,055



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



# ISQ Global Infrastructure II Period Ended June 30, 2020

## Investment Philosophy

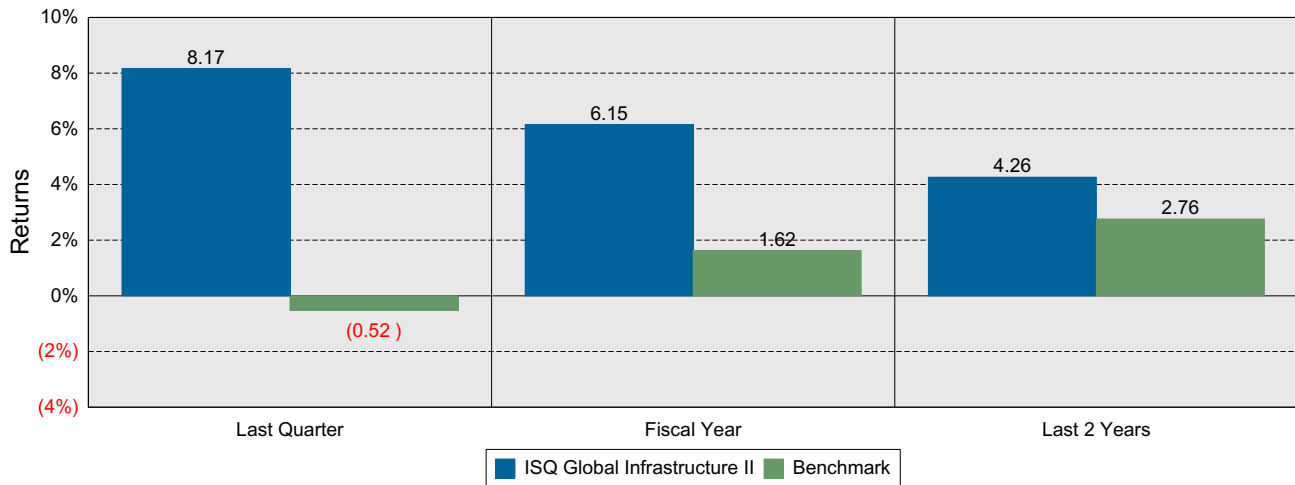
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia 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

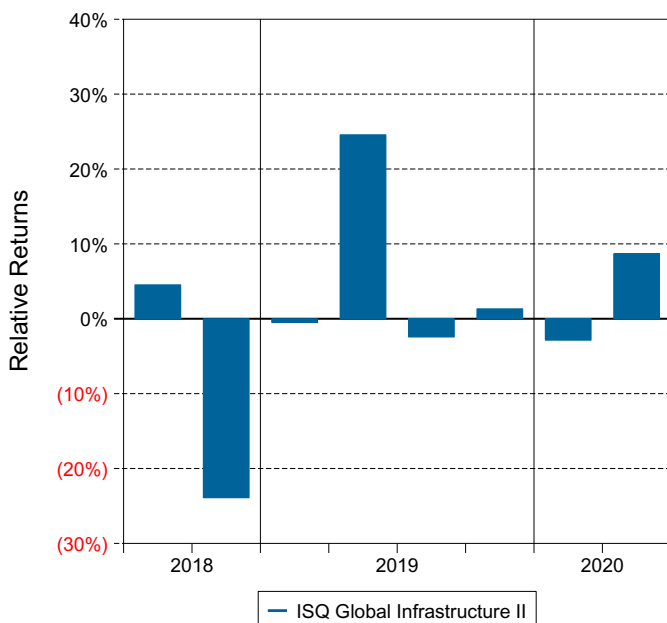
- ISQ Global Infrastructure II's portfolio outperformed the Benchmark by 8.68% for the quarter and outperformed the Benchmark for the year by 4.53%.

## Quarterly Asset Growth

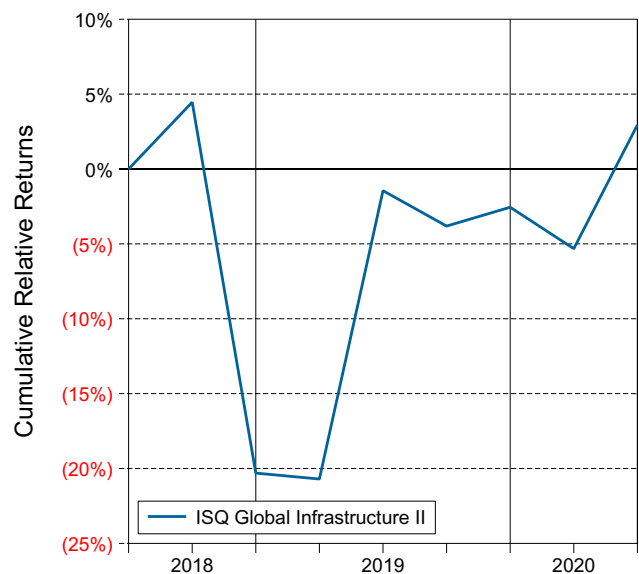
Beginning Market Value	\$39,942,773
Net New Investment	\$0
Investment Gains/(Losses)	\$3,262,154
Ending Market Value	\$43,204,927



Relative Return vs Benchmark



Cumulative Returns vs Benchmark





# The Rohatyn Group

## Period Ended June 30, 2020

### Investment Philosophy

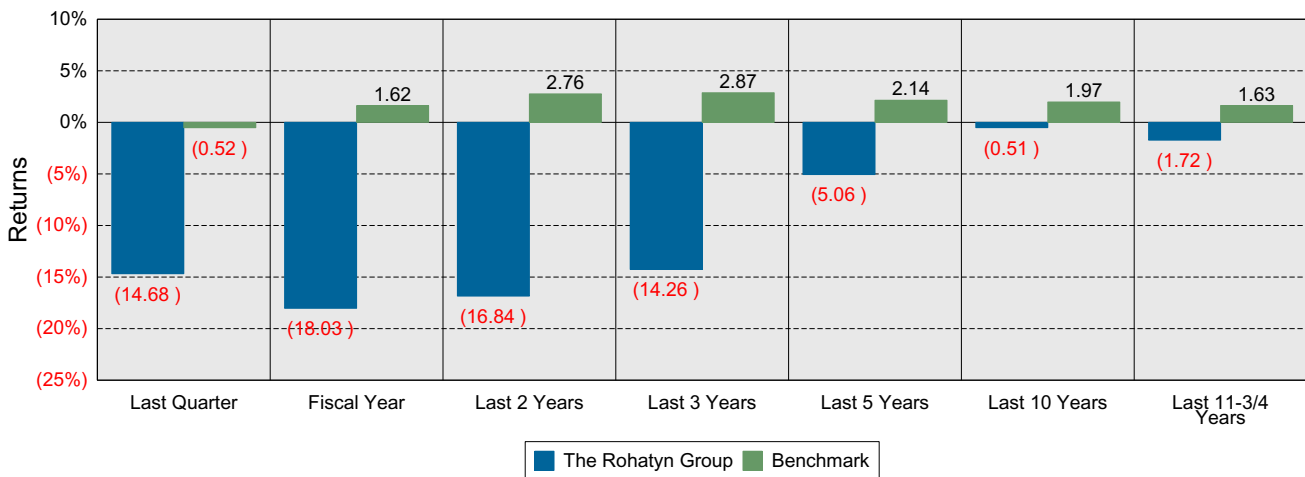
The Rohatyn Group's Asian Infrastructure & Related Resources Opportunity (AIRRO) Fund seeks to invest in infrastructure and related resources opportunities across the greater Asia Pacific region. The Fund seeks to invest in a broad range of assets, including: core infrastructure, power both from conventional 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

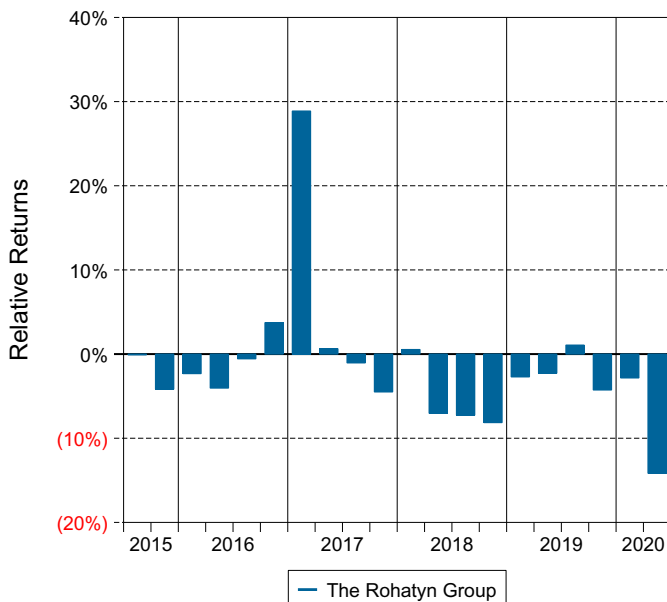
- The Rohatyn Group's portfolio underperformed the Benchmark by 14.16% for the quarter and underperformed the Benchmark for the year by 19.65%.

### Quarterly Asset Growth

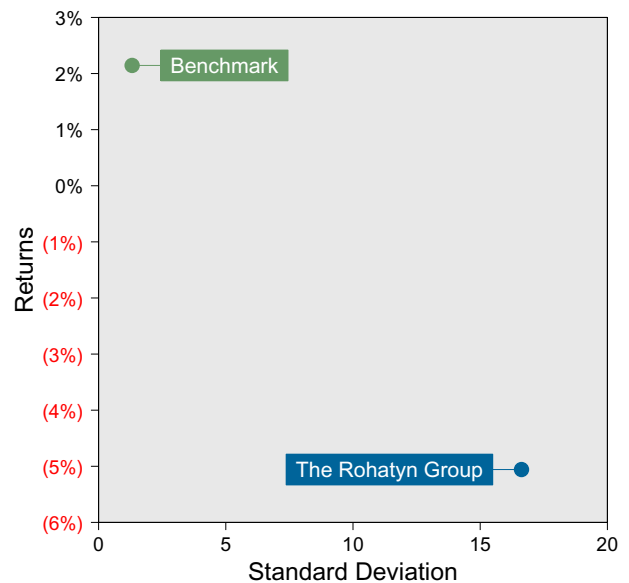
Beginning Market Value	\$18,072,424
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,652,424
Ending Market Value	\$15,420,000



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



# JPM Infrastructure Fund

## Period Ended June 30, 2020

### Investment Philosophy

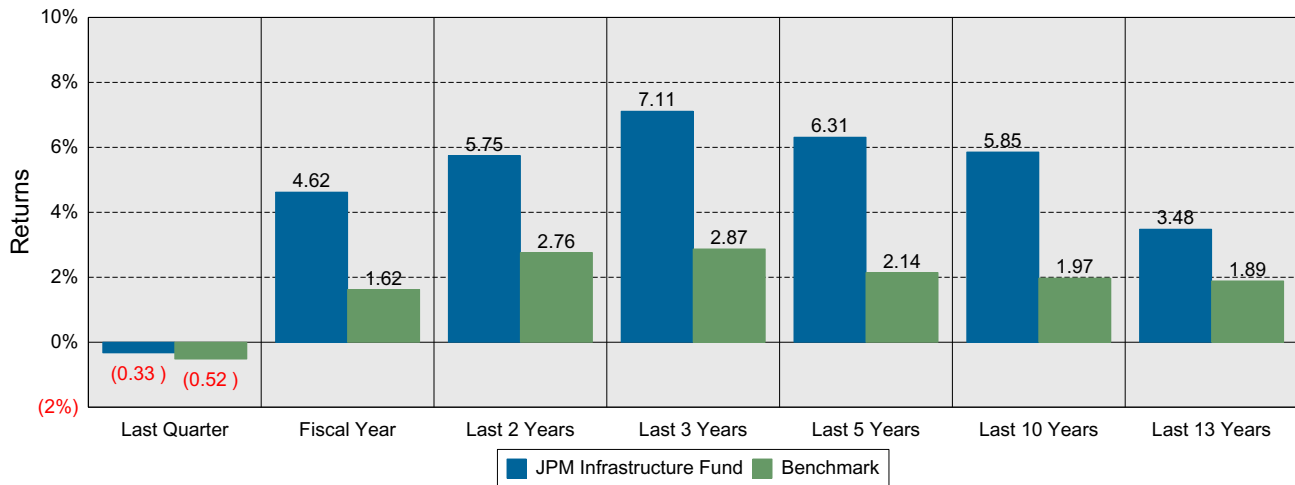
The only open-ended private commingled infrastructure fund in the U.S., the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and 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

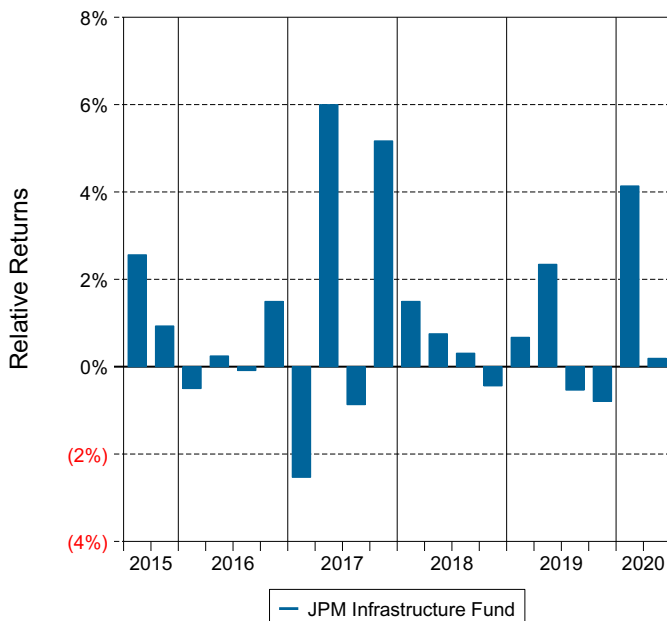
- JPM Infrastructure Fund's portfolio outperformed the Benchmark by 0.19% for the quarter and outperformed the Benchmark for the year by 3.00%.

### Quarterly Asset Growth

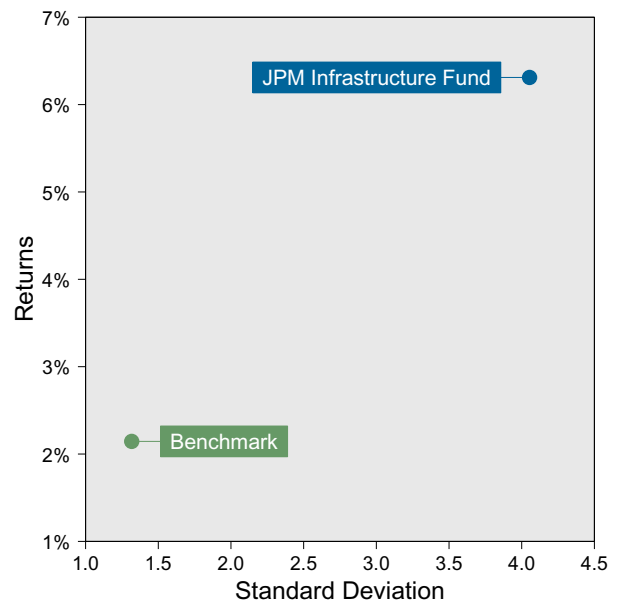
Beginning Market Value	\$179,428,463
Net New Investment	\$-2,729,353
Investment Gains/(Losses)	\$-589,983
Ending Market Value	\$176,109,128



### Relative Return vs Benchmark



### Annualized Five Year Risk vs Return



# Grosvenor Cust. Infrastructure Period Ended June 30, 2020

## Investment Philosophy

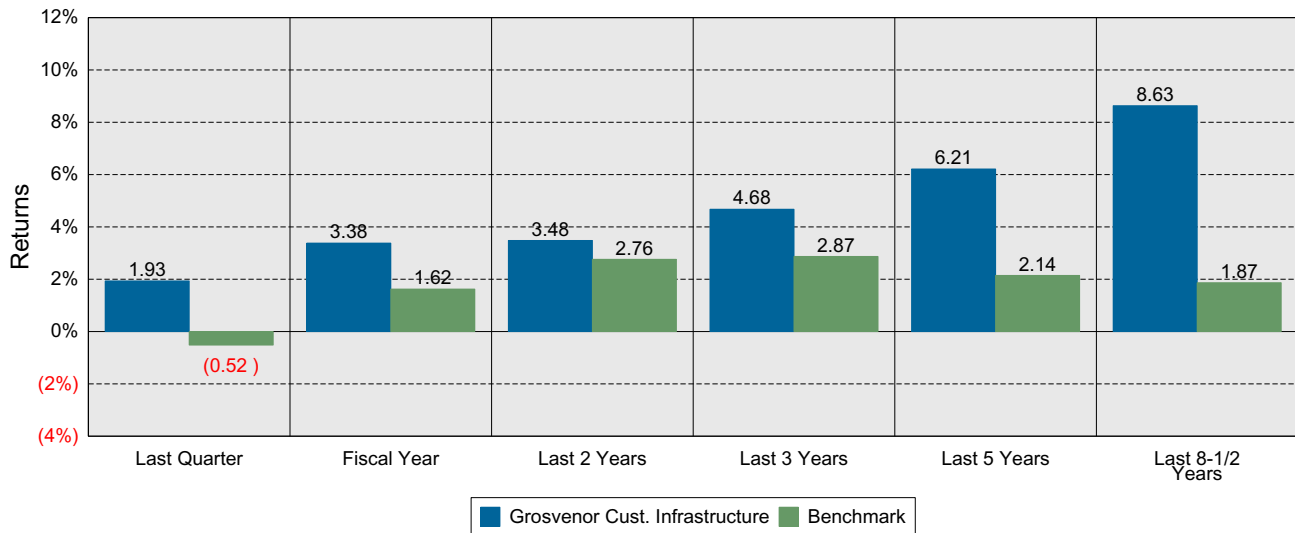
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified 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

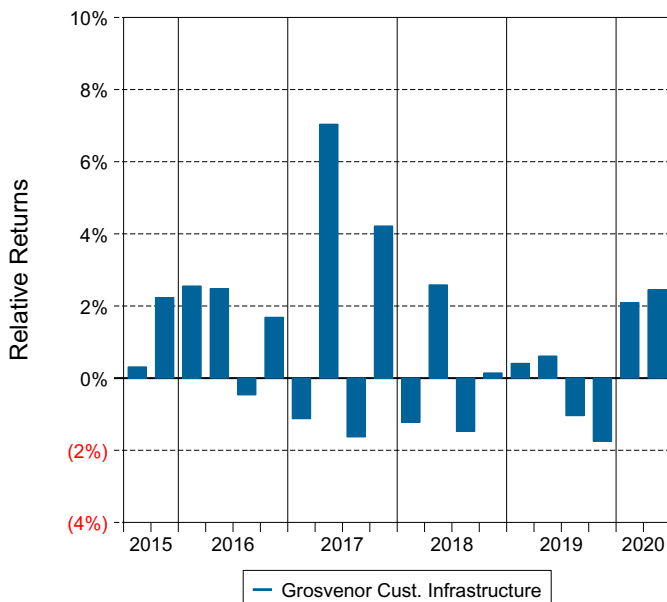
- Grosvenor Cust. Infrastructure's portfolio outperformed the Benchmark by 2.45% for the quarter and outperformed the Benchmark for the year by 1.76%.

## Quarterly Asset Growth

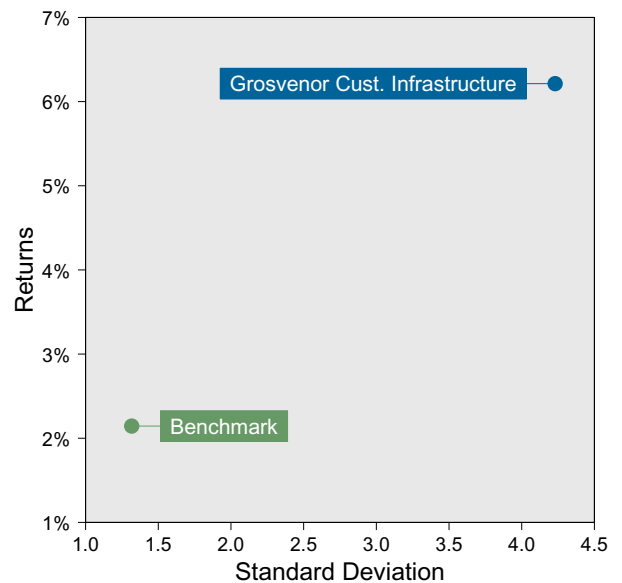
Beginning Market Value	\$22,619,559
Net New Investment	-\$2,498,055
Investment Gains/(Losses)	\$437,562
Ending Market Value	\$20,559,066



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



# Grosvenor Cust. Infrastructure II

## Period Ended June 30, 2020

### Investment Philosophy

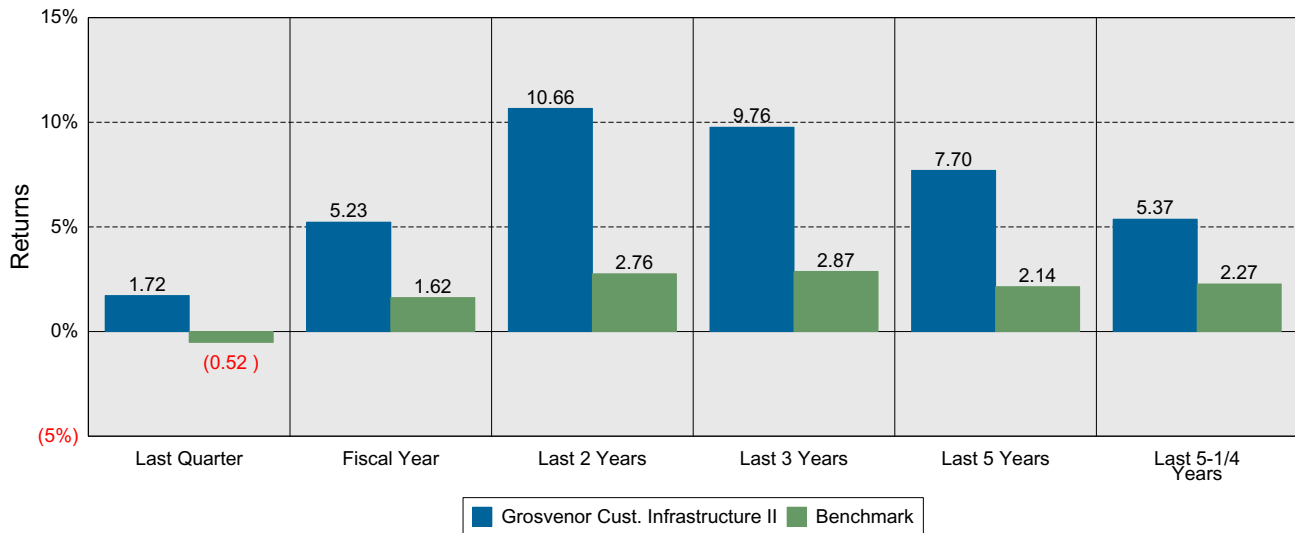
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure yields (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

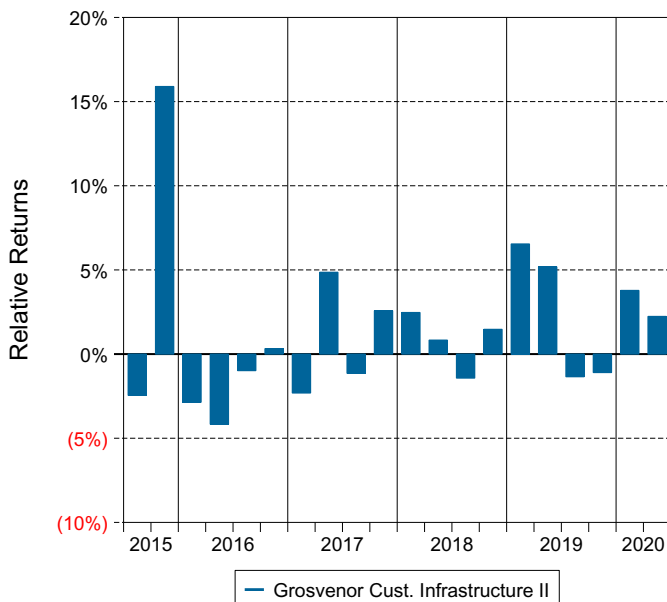
- Grosvenor Cust. Infrastructure II's portfolio outperformed the Benchmark by 2.24% for the quarter and outperformed the Benchmark for the year by 3.60%.

### Quarterly Asset Growth

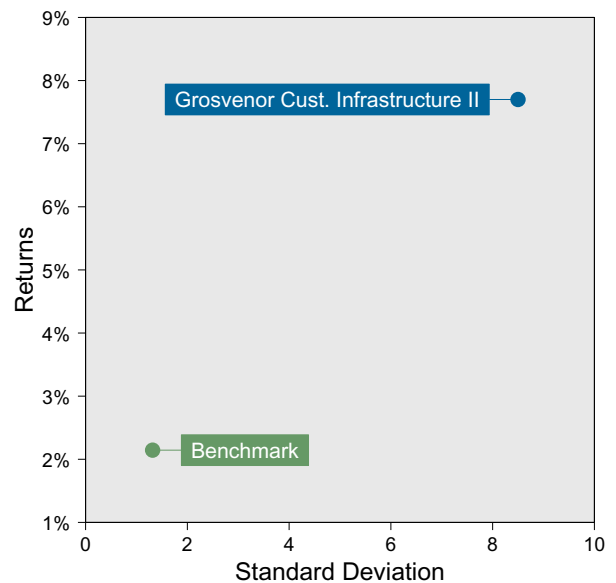
Beginning Market Value	\$18,714,110
Net New Investment	\$-695,961
Investment Gains/(Losses)	\$321,694
Ending Market Value	\$18,339,842



### Relative Return vs Benchmark



### Annualized Five Year Risk vs Return



# Macquarie Infras. Partners IV Period Ended June 30, 2020

## Investment Philosophy

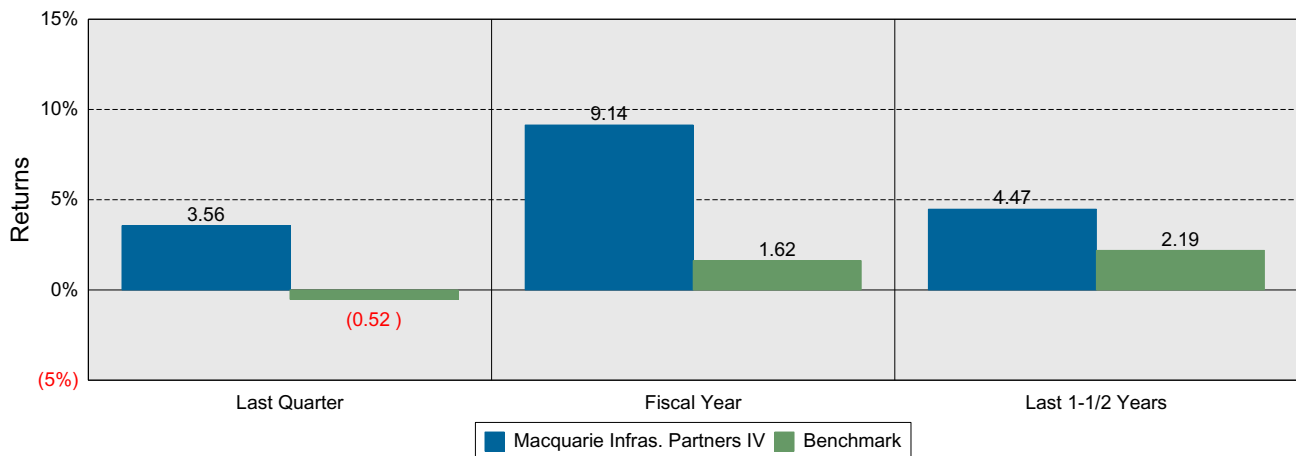
Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience 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

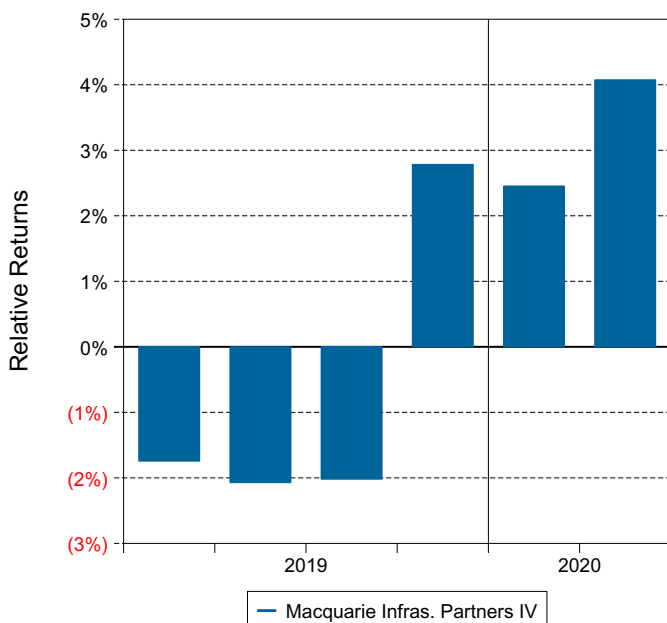
- Macquarie Infras. Partners IV's portfolio outperformed the Benchmark by 4.07% for the quarter and outperformed the Benchmark for the year by 7.51%.

## Quarterly Asset Growth

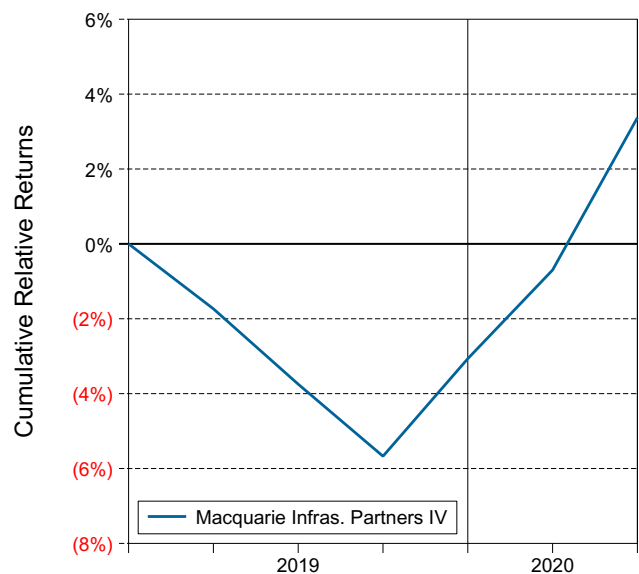
Beginning Market Value	\$59,830,774
Net New Investment	\$-35,542
Investment Gains/(Losses)	\$2,128,127
Ending Market Value	\$61,923,359



## 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](http://www.callan.com/library) to see all of our publications, and [www.callan.com/blog](http://www.callan.com/blog) to view our blog “Perspectives.” For more information contact Barb Gerraty at 415-274-3093 / [institute@callan.com](mailto:institute@callan.com).

## New Research from Callan’s Experts

**[Coping with COVID-19: How Work Is Evolving for Investment Managers](#)** | Callan surveyed over 100 investment managers regarding how their firms were responding to the COVID-19 pandemic, focusing on office closures and reopenings, work-from-home approaches, business travel, and meetings. Respondents reflected a wide variety of firms by location, employee size, assets under management, and ownership structure.

**[Breaking Bad: Better Call Hedge Funds?](#)** | In his latest *Hedge Fund Monitor*, Callan’s Jim McKee discusses four opportunities for hedge fund investors arising from the market dislocations stemming from the COVID-19 pandemic.

**[Real Estate Indicators: Too Hot to Touch or Cool Enough to Handle?](#)** | Callan’s Real Assets Consulting group identifies seven indicators, based on spreads in real estate and fixed income markets, that, combined with an understanding of prevailing market dynamics, have helped signal when the institutional real estate market is overheated or cooled.

### Blog Highlights

**[Guidance on Substantial Workforce Cuts and DC Plan Terminations](#)** | Employers that reduce their workforce or discontinue defined contribution (DC) plan eligibility for certain employee groups may experience an inadvertent “partial plan termination.” If not properly managed, this event could result in a disqualification of the entire plan.

**[‘Social Washing’ and How COVID-19 Has Emphasized the ‘S’ in ESG](#)** | While ESG-savvy investors are most likely familiar with “greenwashing,” which refers to the misrepresentation of environmental impact, the term “social washing” has gained new prominence as the investment community evaluates corporations’

responses to the sudden challenges presented by the coronavirus. Social washing refers to statements or policies that make a company appear more socially responsible than it actually is.

**[Nonprofits and the Pandemic: What to Do Now](#)** | For nonprofits, this environment creates unique challenges, with many organizations not only contending with the health crisis but also the impact of portfolio returns on their organization’s ability to fund grants, provide scholarships, and support programs and operations essential to their constituents. At the same time, these organizations face a potential decline in philanthropic contributions.

### Quarterly Periodicals

**[Private Equity Trends, 1Q20](#)** | A high-level summary of private equity activity in the quarter through all the investment stages

**[Active vs. Passive Charts, 1Q20](#)** | A comparison of active managers alongside relevant benchmarks over the long term

**[Market Pulse Flipbook, 1Q20](#)** | 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, 1Q20](#)** | 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, 1Q20](#)** | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

**[Real Assets Reporter, 1Q20](#)** | In this quarter’s edition, we discuss the implications of the COVID-19 pandemic on the prospects for farmland investments. In addition, it includes analysis of the performance of real estate and other real assets in 1Q20.

## Events

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

Please mark your calendar and look forward to upcoming invitations:

### Upcoming Webinars

#### August 20

*Credit Dislocation—Opportunities in Private Credit*

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

## Education: By the Numbers

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**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

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## Education

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Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

### Introduction to Investments—Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It is held over three days with virtual modules of 2.5-3 hours. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$950 per person and includes instruction and digital materials.

**Next Session: October 13-15, 2020**

Additional information including registration can be found at: [www.callan.com/cc-introduction-virtual/](http://www.callan.com/cc-introduction-virtual/)

### Introduction to Investments—In Person

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/](http://www.callan.com/callan-college-intro-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 ongoing 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.

AEW Capital Management

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.

### Manager Name

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 &amp; Steers Capital Management, Inc.

Columbia Management Investments

Columbus Circle Investors

Credit Suisse Asset Management

D.E. Shaw Investment Management, L.L.C.

DePrince, Race &amp; Zollo, Inc.

Diamond Hill Capital Management, Inc.

Dimensional Fund Advisors LP

Doubleline

Duff &amp; Phelps Investment Management Co.

DWS

EARNEST Partners, LLC

Eaton Vance Management

Epoch Investment Partners, Inc.

Fayez Sarofim &amp; Company

Federated Hermes, Inc.

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Hawaiian Bank Wealth Management Division

First State Investments

Fisher Investments

Fortress Investment Group

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&amp;K Investment Management

Harbor Capital Group Trust

Hartford Investment Management Co.

Heitman LLC

Hotchkis &amp; Wiley Capital Management, LLC

HPS Investment Partners, LLC

Income Research + Management, Inc.

Insight Investment Management Limited

Intech Investment Management, LLC

**Manager Name**

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 &amp; General Investment Management America

Lincoln National Corporation

Longview Partners

Loomis, Sayles &amp; Company, L.P.

Lord Abbett &amp; 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 &amp; Caldwell, LLC

Morgan Stanley Investment Management

Mountain Pacific Advisors, LLC

MUFJ 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

**Manager Name**

Parametric Portfolio Associates LLC

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 &amp; Co. Asset Management US

S&amp;P Dow Jones Indices

Schroder Investment Management North America Inc.

SLC Management

Smith Graham &amp; Co. Investment Advisors, L.P.

State Street Global Advisors

Stone Harbor Investment Partners L.P.

**Manager Name**

Strategic Global Advisors

T. Rowe Price Associates, Inc.

The TCW Group, Inc.

Thompson, Siegel &amp; 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 &amp; Company LLC

June 30, 2020



## **North Dakota State Investment Board Insurance Trust**

**Investment Measurement Service  
Quarterly Review**

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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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## Table of Contents

### June 30, 2020

---

#### Executive Summary

Active Management Overview	2
Capital Market Review	3

---

#### NDSIB - Consolidated

##### Insurance Trust

Actual vs Target Asset Allocation	19
Quarterly Total Fund Attribution	20
Cumulative Total Fund Attribution	21
Cumulative Performance	25
Historical Asset Allocation	26
Asset Class Risk and Return	27
Total Fund Ranking	28
Asset Class Rankings	29
Investment Manager Asset Allocation	30
Investment Manager Returns	31

---

#### NDSIB - Workforce Safety & Insurance

Actual vs Target Asset Allocation	35
Quarterly Total Fund Attribution	36
Cumulative Total Fund Attribution	37
Cumulative Performance	41
Historical Asset Allocation	42
Asset Class Rankings	43
Asset Class Allocation	44
Asset Class Returns	45

---

#### NDSIB - Budget Stabilization Fund

Actual vs Target Asset Allocation	47
Quarterly Total Fund Attribution	48
Cumulative Total Fund Attribution	49
Cumulative Performance	53
Historical Asset Allocation	54
Asset Class Allocation	55
Asset Class Returns	56

---

## Table of Contents

### June 30, 2020

---

#### Domestic Equity

Large Cap Composite	58
Parametric Large Cap	59
L.A. Capital Large Cap Growth	60
L.A. Capital Enhanced	61
LSV Large Cap Value	62
Small Cap Composite	63
Atlanta Capital	64
Parametric Small Cap	65

---

#### International Equity

International Equity Composite	67
DFA International Small Cap Value	68
LSV Intl Value	69
Vanguard Intl Explorer Fund	70
William Blair	71

---

#### Domestic Fixed Income

Domestic Fixed Income Composite	73
Declaration Total Return	74
PIMCO Core Plus Constrained	75
PIMCO DiSCO II	76
PIMCO Bravo II	77
Prudential Core Plus	78
SSgA US Government Credit Bond Index	79
Wells Capital	80
Western Asset Management Company	81

---

#### Real Estate

Real Estate Composite	83
Invesco Core Real Estate	84
JP Morgan	85

---

#### Diversified

Western Asset Management TIPS	87
Eastern Timber Opportunities	88
JP Morgan Infrastructure	89
Grosvenor Cust. Infrastructure	90

---

#### Short Term Fixed Income

Short Term Fixed Income Composite	92
Barings Active Short Duration	93
JP Morgan Short Term Bonds - Budget Stabilization Fund	94

---

---

**Table of Contents**  
**June 30, 2020**

---

<b>Callan Research/Education</b>	<b>95</b>
<b>Disclosures</b>	<b>98</b>

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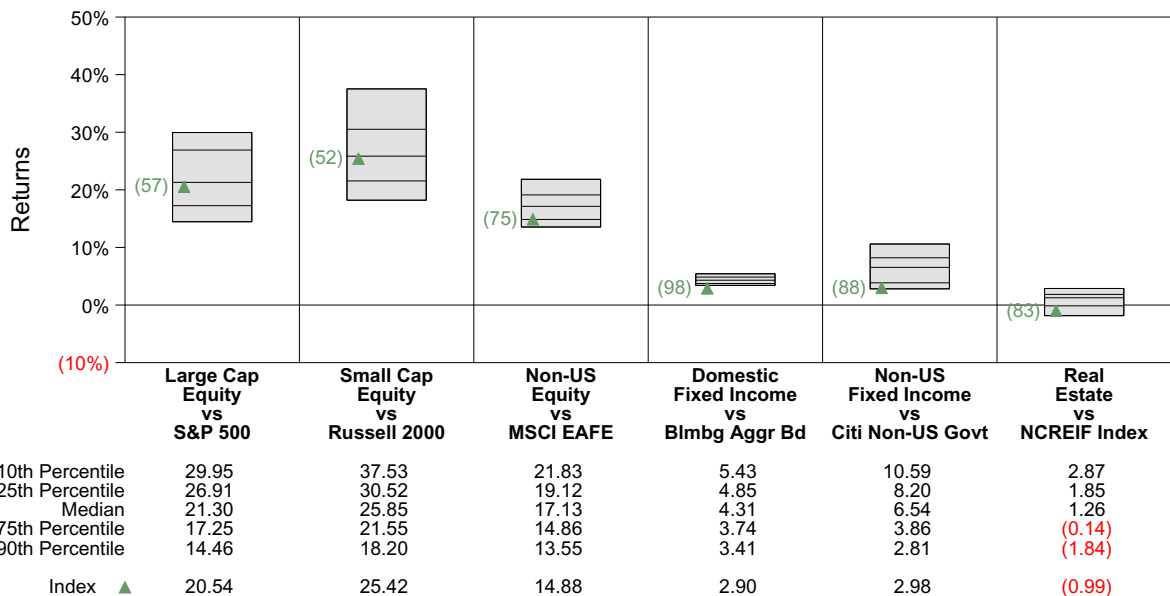
## Market Overview

### Active Management vs Index Returns

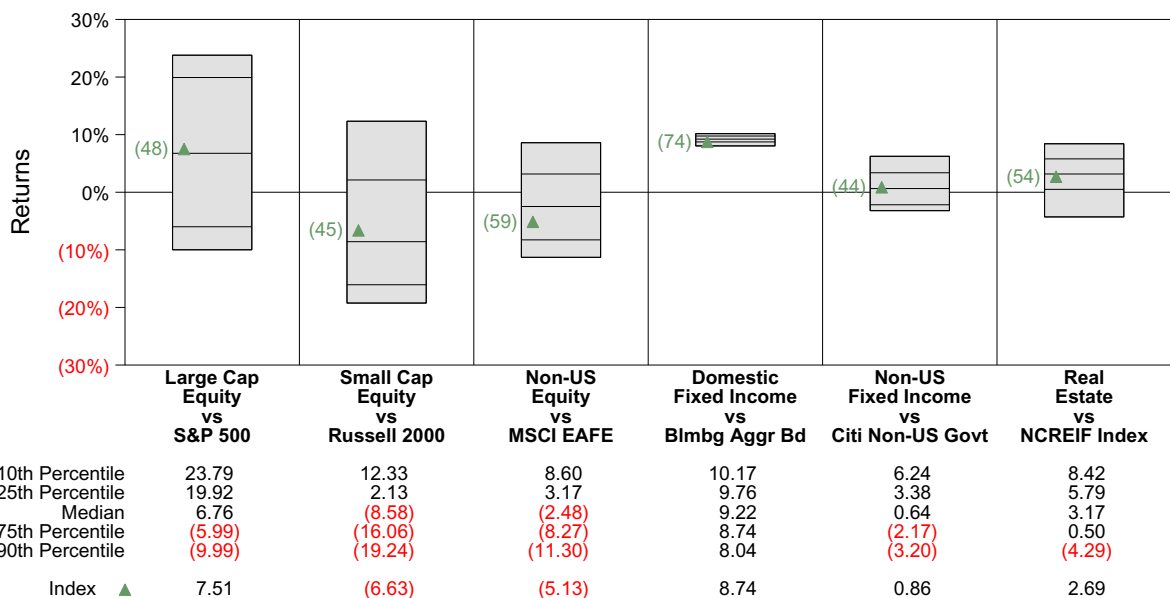
#### Market Overview

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 June 30, 2020



#### Range of Separate Account Manager Returns by Asset Class One Year Ended June 30, 2020





# Capital Market Review

## The Stock Market Is Not the Economy

### ECONOMY

**2** While equities rebounded in 2Q20, economies around the world face significant challenges as the pandemic creates an unprecedented environment. U.S. GDP, for instance, fell an astonishing 9.5% in the quarter, or 32.9% on an annualized basis, while a quarter of all jobs evaporated.

## Returns Positive After 1st Quarter Volatility

### INSTITUTIONAL INVESTORS

**4** Every type of institutional investor showed gains over the one year ending with the second quarter, rebounding from the first quarter. And while all lagged a 60% stocks/40% bonds benchmark over that time period, over longer periods they have roughly matched its performance.

## Bounceback Leads Indices to Soar in 2Q

### EQUITY

**6** U.S. equity markets bounced back from March lows in 2Q20, with three sectors (Technology, Consumer Discretionary, Energy) posting returns in excess of 30%. Accommodative monetary policies helped fuel the market recovery for global equities.

## Mixed Performance Around the World

### FIXED INCOME

**8** After strong performance in 1Q20, U.S. Treasury returns lagged other "spread" sectors in 2Q20 as risk appetites rebounded. Developed market sovereign bond yields ended lower amid rate cuts overseas. Emerging market debt rebounded, helped by rising oil prices.

## Appreciation Falters; REITs Underperform

### REAL ESTATE/REAL ASSETS

**10** All sectors of the NCREIF Property Index saw negative appreciation in 2Q20, but income remained positive except for Hotels. Transaction volume dropped off with the exception of Industrial assets that have tenants with strong credit. REITs underperformed equity benchmarks.

## Heightened Focus on Portfolio Holdings

### PRIVATE EQUITY

**12** Activity slowed in 2Q20, although larger transactions helped prop up dollar volumes. The market is in a period of both price discovery and a heightened focus on existing portfolio holdings. First quarter returns were down, but by less than half those of public equity.

## Beta Leads, and Alpha Follows

### HEDGE FUNDS/MACs

**13** Global markets reverted to risk-on mode in 2Q20, and most hedge fund strategies benefited. The CS HFI rose 6.2%, while the median manager in the Callan Hedge Fund-of-Funds Database Group gained 7.7%. The Callan Institutional Hedge Fund Peer Group increased 6.0%.

## Index Posts Largest Drop Since 4Q08

### DEFINED CONTRIBUTION

**15** The equity downturn in 1Q20 led to the decline and ended four straight quarters of gains. Balances saw the biggest plunge ever. Stable value funds saw the biggest inflows as participants sought safety. Allocation to equity reached the lowest level since 2012.

## Broad Market Quarterly Returns

**U.S. Equity**  
Russell 3000



**22.0%**

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



**16.1%**

**U.S. Fixed Income**  
Bloomberg Barclays Agg



**2.9%**

**Global ex-U.S. Fixed Income**  
Bloomberg Barclays GBI ex US



**3.4%**

Sources: Bloomberg Barclays, FTSE Russell, MSCI



# The Stock Market Is Not the Economy

ECONOMY | Jay Kloepfer

Stock markets around the globe staged spectacularly swift recoveries in the second quarter from their sudden and equally spectacular plunge in the first quarter, providing investors with the hallowed V-shaped recovery that once seemed impossible. While major equity indices are headed back toward all-time highs, the economies underlying these markets face a path quite different from a V-shaped recovery. The sectors driving the U.S. stock market, technology in particular, are not the sectors like retail and hospitality that employ the largest number of workers.

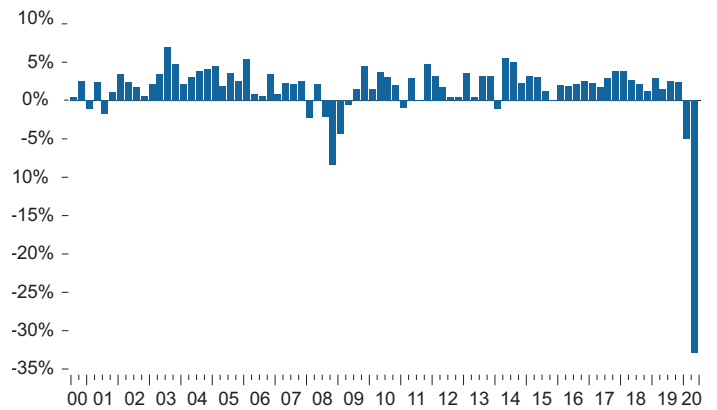
The staggered reopening of states within the U.S. and economies around the globe drove a sharp rise in economic activity in May and June, but a range of high-frequency indicators suggests the pace of recovery has since softened following a resurgence in COVID-19 infections and deaths. The prospect for many locales to pause or roll back easing, and the observed retrenchment in spending by businesses and consumers, looms over the path to recovery. Government belt tightening may undermine the rebound, as tax revenues for localities have plummeted in the face of a surge in demand for services. Revenue shortfalls for state and local governments for fiscal year 2021 may total \$200 billion, according to IHS Markit. Consensus forecasts still call for a strong rebound in the third quarter followed by a more gradual recovery, but the risk has risen for a W-shaped trajectory, where a decline follows the third quarter pop, and then a more durable recovery begins with a delay, perhaps in the second half of 2021.

The word “unprecedented” to describe the current environment may seem overused, but the speed and depth of the economic disruption was indeed unprecedented. The total output of the U.S. economy as measured by GDP dropped 9.5% in the second quarter, or an annualized decline of 32.9%, unheard of in modern times. Approximately one quarter of all jobs disappeared in a matter of weeks.

GDP is an admittedly challenged measure of true economic activity even in normal times, and annualized percent changes around the chasm of the COVID-19 economic shutdown are

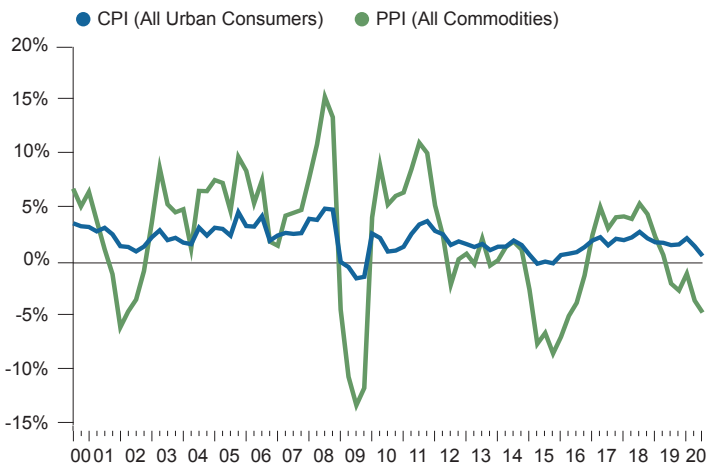
## Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

## Inflation Year-Over-Year



Source: Bureau of Labor Statistics

problematic in context. Adding to the data confusion is the seasonal adjustment methodology, which under normal circumstances greatly reduces the signal-to-noise ratio in monthly and quarterly GDP estimates but exacerbates the severity of data swings in times of extreme stress. These limitations aside, GDP remains the most comprehensive metric for examining U.S. and global activity. For the whole year, projections by forecaster Capital Economics suggest a GDP decline of close to 5% in the U.S. and Japan, 7.5% in the euro zone, and greater than 10% in the U.K. Official estimates for China peg 2020 GDP growth

at 2%, while unofficial estimates show a small loss (-1%). The focus going forward will be on the level of GDP, employment, unemployment, sales, and production, and when we can recover pre-pandemic levels of economic activity. Consensus estimates peg U.S. GDP regaining its pre-pandemic level in the second half of 2021, barring the appearance of the W-shaped recovery.

The most immediate and severe impact to the U.S. economy has been in the job market. Initial unemployment claims spiked to 6.9 million in the last week of March. The weekly claims have since subsided, but remain at levels unprecedented before the pandemic, topping 1 million every week since then. In addition to regular state unemployment programs, the CARES Act expanded benefits to many not typically covered by states and extended regular benefits for up to 13 weeks. The sum of these programs provided unemployment benefits for over 30 million persons through the end of June, off a starting job base of 155 million in February. The job market staged a surprising surge in May and June, but the high-frequency data are suggesting a marked softening into the summer.

U.S. inflation perked up in June following declines for three consecutive months, but year-over-year CPI is up just 0.6%, well below recent trends and the Fed's long-term target of 2%. By some measures, second quarter inflation fell to its lowest point in SEVEN decades. CPI measures consumer prices against a basket of typical goods and services purchased. GDP and consumption price deflators measure price changes of goods and services as actually transacted, and both measures saw almost 2% declines in the second quarter. While concerns are rising that the fiscal and monetary stimulus enacted to rescue the global economies will be highly inflationary, the prospect

### The Long-Term View

Index	2Q20	Periods Ended 6/30/20			
		Year	5 Yrs	10 Yrs	25 Yrs
<b>U.S. Equity</b>					
Russell 3000	22.0	6.5	10.0	13.7	9.3
S&P 500	20.5	7.5	10.7	14.0	9.3
Russell 2000	25.4	-6.6	4.3	10.5	8.2
<b>Global ex-U.S. Equity</b>					
MSCI EAFE	14.9	-5.1	2.1	5.7	4.5
MSCI ACWI ex USA	16.1	-4.8	2.3	5.0	--
MSCI Emerging Markets	18.1	-3.4	2.9	3.3	--
MSCI ACWI ex USA Small Cap	22.8	-4.3	2.5	6.0	5.5
<b>Fixed Income</b>					
Bloomberg Barclays Agg	2.9	8.7	4.3	3.8	5.4
90-Day T-Bill	0.0	1.6	1.2	0.6	2.4
Bloomberg Barclays Long G/C	6.2	18.9	9.0	7.8	7.7
Bloomberg Barclays GI Agg ex US	3.4	0.7	2.9	2.0	3.7
<b>Real Estate</b>					
NCREIF Property	-1.0	2.7	6.8	9.7	9.1
FTSE Nareit Equity	11.8	-13.0	4.1	9.1	9.5
<b>Alternatives</b>					
CS Hedge Fund	6.2	-0.7	1.6	3.8	7.5
Cambridge PE*	-7.8	2.1	10.4	12.3	14.7
Bloomberg Commodity	5.1	-17.4	-7.7	-5.8	0.7
Gold Spot Price	12.8	27.4	9.0	3.8	6.4
<b>Inflation – CPI-U</b>	-0.1	0.6	1.6	1.7	2.1

\*Data for most recent period lags by a quarter. Data as of 3/31/20.

Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices, Refinitiv/Cambridge

of near-term deflation is real, and holds the potential to derail the recovery—falling prices could slow consumer and business spending, especially if deflation becomes a spiral rather than a temporary dip.

### Recent Quarterly Economic Indicators

	2Q20	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18
Employment Cost–Total Compensation Growth	2.7%	2.8%	2.7%	2.8%	2.7%	2.8%	2.9%	2.8%
Nonfarm Business–Productivity Growth	2.5%*	-0.8%	1.2%	-0.3%	2.7%	3.9%	0.5%	1.6%
GDP Growth	-32.9%	-5.0%	2.4%	2.6%	1.5%	2.9%	1.3%	2.1%
Manufacturing Capacity Utilization	63.1%	73.5%	75.0%	75.4%	75.5%	76.4%	77.0%	76.9%
Consumer Sentiment Index (1966=100)	74.0	96.4	97.2	93.8	98.4	94.5	98.2	98.1

\* Estimate

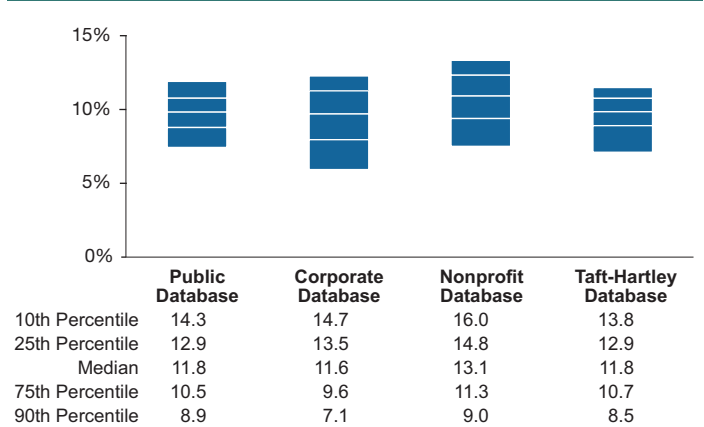
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

# Returns Positive After 1st Quarter Volatility

## INSTITUTIONAL INVESTORS

- After the pandemic-induced market volatility in 1Q20, all types of institutional investors rebounded to positive performance for the 12 months ending with the second quarter. Corporate defined benefit (DB) plans fared notably better than others, gaining 6.4%. Other types of investors saw increases of roughly 2%-3%. All fell short of major U.S. stock and bond indices, as well as a 60% S&P 500/40% Bloomberg Barclays Aggregate benchmark, but outperformed global ex-U.S. equities by a wide margin.
- Over the last 20 years, institutional investors have performed in line with the 60%/40% benchmark, with returns in a range of 5.7%-5.9% annualized.
- The V-shaped equity market decline and recovery experienced in the first half of 2020 revealed levels of volatility not seen since the Global Financial Crisis of 2008-09. Investors' recent experience with volatility may reveal their "true" tolerance for risk.
- We note that the stock market is not the economy and the path out of recession remains undiscovered.

### Quarterly Returns, Callan Database Groups



Source: Callan

- For institutional investors, the key is to stay the course: rebalance; manage liquidity; evaluate their portfolios for impairment or unexpected performance; and watch for opportunity, both inside the portfolio and across the markets.

### Callan Database Median and Index Returns\* for Periods Ended 6/30/20

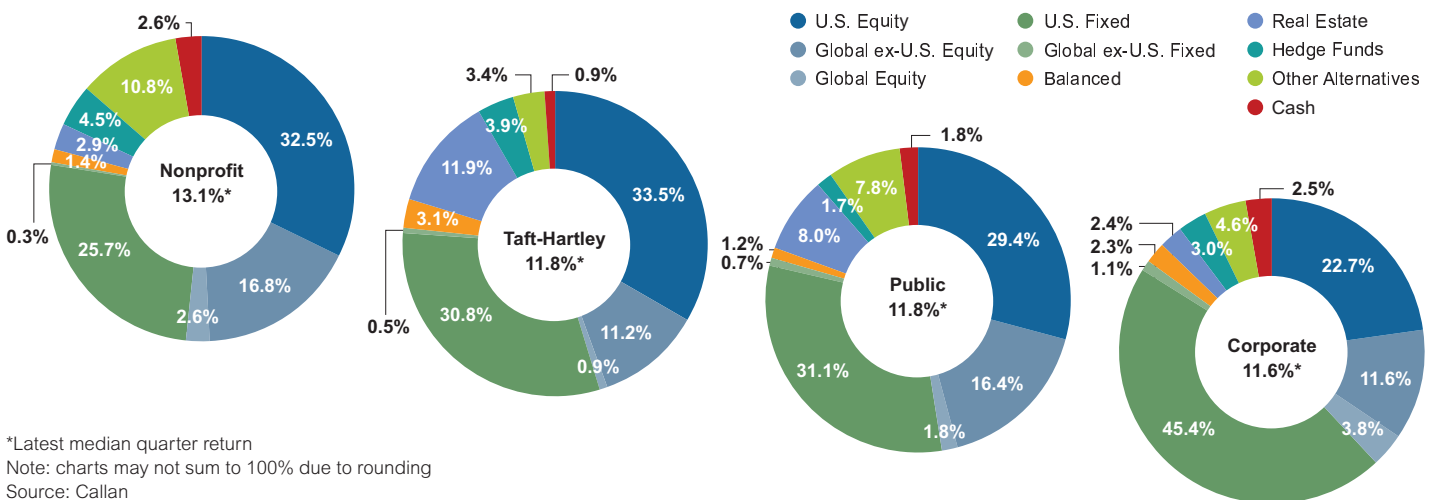
Database Group	Quarter	Year-to-date	Year	3 Years	5 Years	10 Years
Public Database	11.79	-2.34	3.26	5.81	6.02	8.09
Corporate Database	11.64	0.00	6.36	6.89	6.74	8.47
Nonprofit Database	13.10	-3.26	2.67	5.52	5.59	7.89
Taft-Hartley Database	11.82	-2.74	3.21	5.93	6.21	8.55
All Institutional Investors	12.04	-2.26	3.63	5.88	6.03	8.24
Large (>\$1 billion)	10.87	-1.62	4.09	6.39	6.40	8.48
Medium (\$100mm - \$1bn)	11.99	-2.18	3.62	5.94	6.12	8.24
Small (<\$100 million)	12.71	-2.71	3.31	5.65	5.76	8.07

\*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.

- The massive monetary and fiscal intervention by governments will change the landscape:
  - The continuing low-yield environment and the capital markets going forward favor growth.
  - Investors need to remember the purpose of capital market assumptions: To define an investor’s return expectation, while matching the investor’s risk tolerance and investment time horizon. Importantly, they are not point estimates: they define a range of possible outcomes.
  - Investors also need to assess what can serve as an equity diversifier equal to bonds with the return of zero interest rates. Are they willing to pay for the benefit of fixed income?
- Some decisions are on hold, particularly serious restructuring of asset class exposures, but strategic planning continues apace.
- Based on Callan’s client activity, many types of institutional investors plan to adjust their strategic allocations by shifting out of publicly traded asset classes and into alternatives, including private equity, private credit, and real assets.
- This interest has led to a surge in asset allocation reviews and discussions about the capital markets with investors.
- As part of those assessments, investors are re-examining the purposes of all diversifiers, including real assets, hedge funds and liquid alternatives, fixed income, and private equity and private credit.
- Private credit in particular drew attention. All institutional investor types had some interest in increasing private credit, and none indicated an intention to cut their allocations.
- Corporate DB plans indicated they intended to reduce allocations to equities but increase allocations to fixed income. The capital market upheaval has not derailed the trend toward de-risking; the commitment to de-risking is solid.
- Public DB plans expressed interest in a range of opportunistic strategies, such as unconstrained fixed income.
- Nonprofits continued to emphasize return enhancement. Strategic asset allocation work is focused on evaluating investment portfolios that can support the desired distribution rate in order to balance intergenerational equity.
- The top concern for insurance clients was yield.
- In terms of their strategic allocations, insurance clients indicated they planned to shift out of equities, both U.S. and global ex-U.S., and increase allocations to a variety of credit and alternative investments.
- Institutional investors expressed strong interest in educational topics relevant to the current market environment.
- Finally, COVID-19 was top of mind for all investor types. One noticeable impact was a dramatic shift in meetings. Virtually all clients in an exclusive Callan survey said that the vast bulk of their meetings were now occurring virtually, and a third were doing all of their meetings that way.

Average Asset Allocation, Callan Database Groups



# Equity

## U.S. Equities

U.S. equity markets bounced back from March lows in 2Q20 (Russell 1000: +21.8%). The S&P 500 (+20.5%) recorded its best quarterly performance since 1998. Three sectors (Technology, Consumer Discretionary, and Energy) posted returns in excess of 30%. Information Technology (+30.5%) continues to be a top performer with the “FAAMG” stocks (Facebook, Amazon, Apple, Microsoft, and Google) up 35% in the quarter. Many Technology stocks benefited from the “stay at home” environment. Energy stocks (+30.5%) rebounded after OPEC+ and non-OPEC production cuts buoyed crude prices.

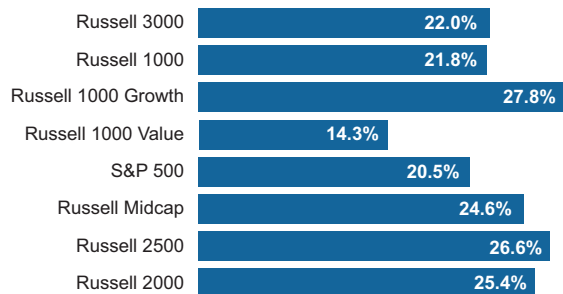
### Small cap outgained large cap

- From the first to the second quarter, the Russell 2000 swung from its worst quarterly performance to one of its three best quarterly returns since the inception of the index.
- The Russell 2000 still lags the Russell 1000 on a year-to-date and trailing one-year basis, exemplifying the extreme dislocation between large and small cap performance in the first quarter.
- Better-than-expected economic data and Fed actions helped shift investment sentiment in favor of small cap.

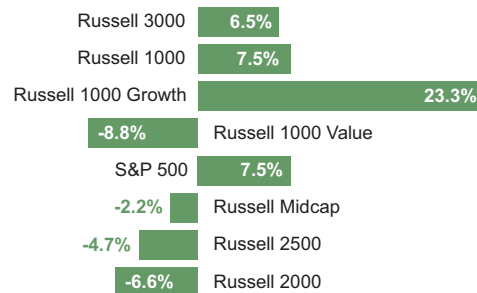
### Growth outpaced value across market capitalizations

- Russell’s value indices underperformed their growth counterparts across the market cap spectrum during the first quarter decline as well as during the second quarter recovery (Russell 1000 Growth: +27.8%; Russell 1000 Value: +14.3%; Russell 2000 Growth: +30.6%; Russell 2000 Value: +18.9%).

## U.S. Equity: Quarterly Returns



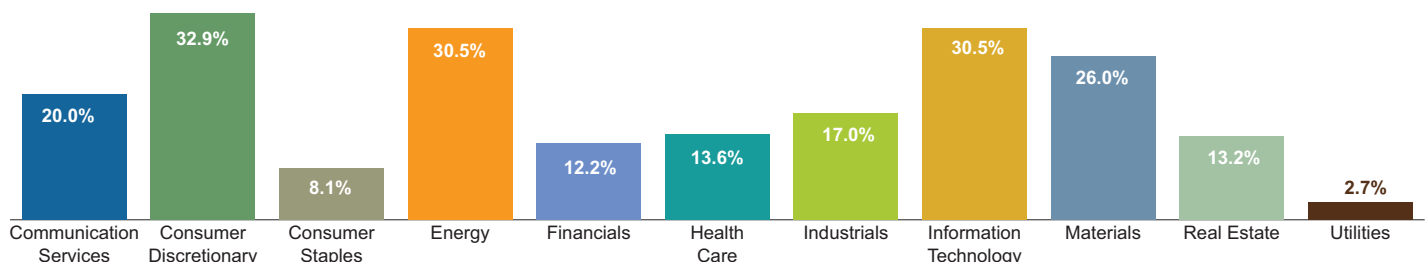
## U.S. Equity: One-Year Returns



Sources: FTSE Russell and S&P Dow Jones Indices

- Persistently low interest rates, a flatter yield curve, and slower economic growth are some of the headwinds for the value factor.

## Quarterly Performance of Industry Sectors



Source: S&P Dow Jones Indices

## Global/Global ex-U.S. Equity

Accommodative monetary policies coupled with massive fiscal stimulus helped fuel the second quarter market recovery after the first quarter's declines.

### Global/Developed ex-U.S.

- Developed markets with the most success at mitigating the coronavirus led; Australia (+28.9%), New Zealand (+28.1%), and Germany (+26.5%) were the top performers.
- Countries' inability to "flatten the curve" acted as headwinds to their equity markets, namely the U.K. (+7.8%).
- Every sector in MSCI EAFE except Energy (-0.03%) posted positive returns, led by cyclical stocks, whose prices are highly sensitive to changes in the economy; Information Technology (+23.4%) companies also provided strong returns as working-from-home trends continued to support the sector.
- Factor performance in developed ex-U.S. markets was led by momentum and quality, reflecting the cyclical rebound (momentum) coupled with continued pandemic uncertainty (quality, flight to safety); growth continued to outperform value (EAFE Growth: +17.0% vs. EAFE Value: +12.4%).

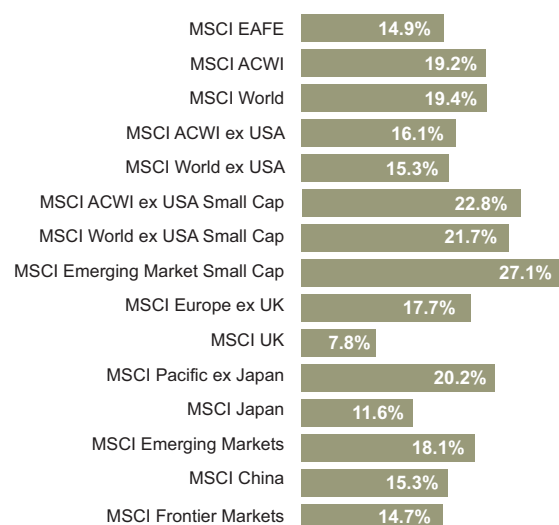
## Emerging Markets

- Emerging markets produced their strongest quarterly gains in over a decade as fiscal and monetary stimulus from countries aided the second quarter rebound across all countries and sectors.
- Most EM countries ended lockdowns during the period, but Latin America, India, and some parts of Southeast Asia ended the second quarter with cases surging.
- Commodity-linked economies such as South Africa (+27.2%), Brazil (+22.9%), and Russia (+18.7%) recovered on the strength of metals, mining, and oil-related securities after being some of the worst-performing countries in 1Q20.
- China (+15.6%) lagged the index as U.S.-China trade tensions reignited and additional sanctions were imposed.
- Every sector posted positive returns, most in double digits.
- Growth outperformed value (EM Growth: +22.1% vs. EM Value: +13.8%)

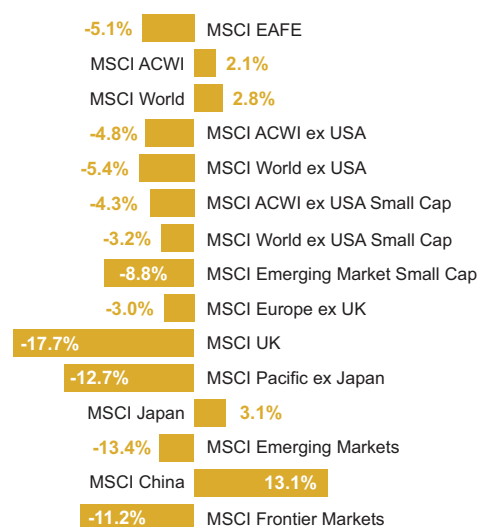
## Global ex-U.S. Small Cap

- Global ex-U.S. small caps rallied during the second quarter as lockdowns eased and economies reopened.
- A risk-on mindset pervaded the global ex-U.S. small cap market that fueled double-digit returns for every sector in the MSCI ACWI ex-USA Small Cap Index.
- Australia (+47.1%) was the top-performing country; Japan (+12.8%) and the U.K. (+14.8%) were two of the weakest.

### 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

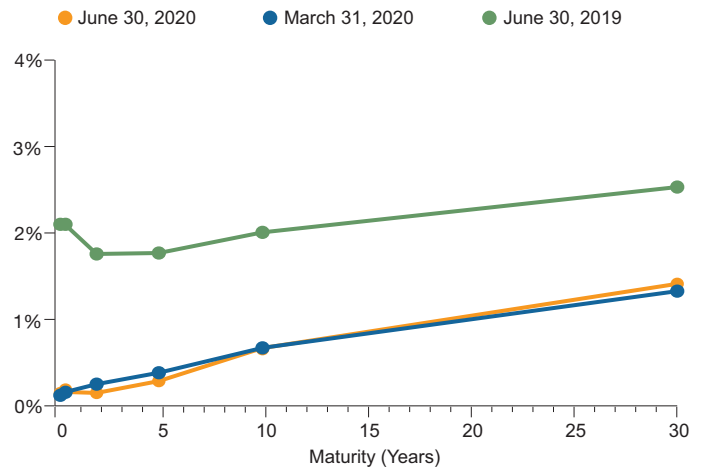
### U.S. Treasury yields were range-bound

- The 10-year U.S. Treasury yield reached a high of 0.91% in June before closing the quarter at 0.66%, down slightly from the 1Q20 quarter-end level of 0.70%.
- After strong performance in 1Q20, U.S. Treasury returns lagged other “spread” sectors as risk appetites rebounded, fueled by massive Fed stimulus programs as well as improved liquidity.
- The Fed left rates on hold at 0% – 0.25% for the foreseeable future, anchoring the low end of the yield curve.
- TIPS outperformed nominal Treasuries as expectations for inflation rose. The 10-year breakeven spread ended the quarter at 1.34%, up from 0.87% as of the end of 1Q20.

### Corporate credit rallied due to spread narrowing

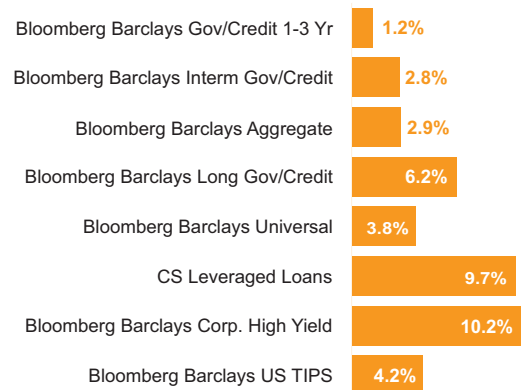
- Corporate credit rebounded amid improving investor confidence and economic data. However, fallen angels continued to spark concern with nearly half the investment grade bond market now rated BBB.
- Investment grade corporate spreads narrowed by 122 bps to 150 bps despite companies issuing record amounts of debt totaling \$1.4 trillion; the Fed provided continued support through the announcements of the Primary and Secondary Market Corporate Credit Facilities.
- In a reversal from 1Q20, lower quality outperformed as BBB-rated credit (+11.2%) outperformed single A (+7.0%), AA (+5.0%), and AAA (+1.7%).
- High yield corporates also posted sharp returns (+10.2%). CCC-rated high yield corporates (+9.1%) lagged BB-rated corporates (+11.5%).
- The high yield default rate reached a 10-year high (6.2%).
- Energy (+40.0%) was the highest-performing high yield bond sub-sector, reflecting sharply higher oil prices.

## U.S. Treasury Yield Curves



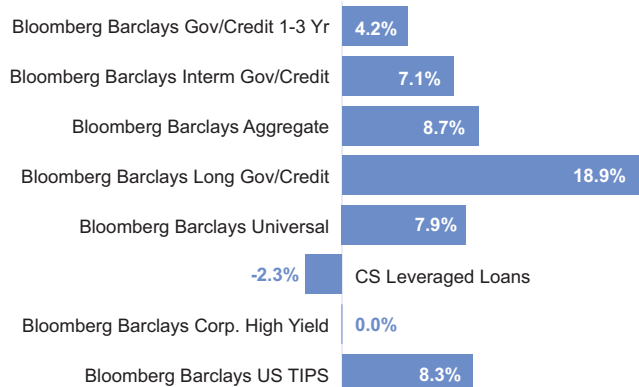
Source: Bloomberg

## 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

### Global ex-U.S. fixed income rose amid rate cuts

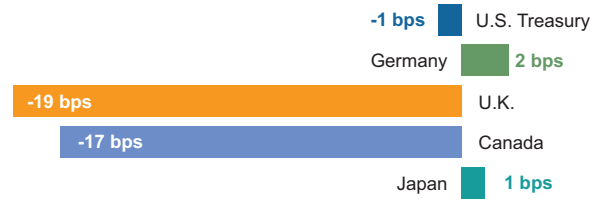
- The U.S. dollar depreciated modestly against a basket of developed market currencies, most notably the Australian and New Zealand dollars (-12.5%, -8.4%, respectively). The dollar was roughly flat versus the yen.
- Developed market sovereign bond yields ended the quarter lower amid rate cuts overseas, and the unhedged Bloomberg Barclays Global Aggregate ex-US benchmark posted positive returns (+3.4%)
- The ECB expanded the stimulus program announced in March from €750 billion to €1.35 trillion.

### Emerging market debt made up ground

- The J.P. Morgan EMBI Global Diversified dollar-denominated benchmark posted strong returns (+12.3%) as oil prices rose and central bank liquidity measures took effect. However, the index remains slightly below year-end 2019 levels.
- Higher-yielding countries led the way in 2Q20 (+16.6%); however they remain down (-12.7%) relative to investment grade constituents year-to-date, according to index data from J.P. Morgan.
- Within the J.P. Morgan GBI-EM Global Diversified local currency-denominated benchmark (+9.8%), returns were positive for the vast majority of constituents. Oil-sensitive economies such as Mexico, Colombia, and South Africa rebounded to some degree, but remained down year-to-date.

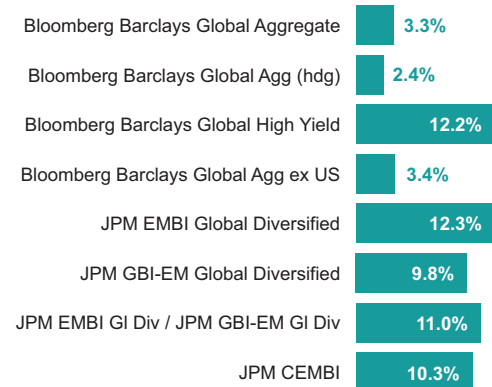
## Change in 10-Year Global Government Bond Yields

1Q20 to 2Q20



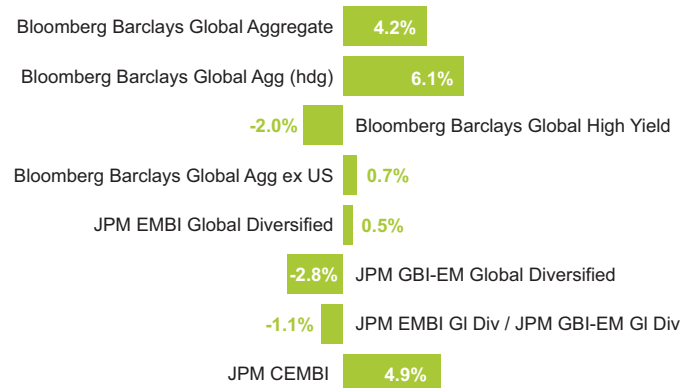
Source: Bloomberg Barclays

## Global Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

## Global Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase



# Pandemic Has Muted Impact on Private Real Estate; REITs Underperform

REAL ESTATE/REAL ASSETS | Munir Iman

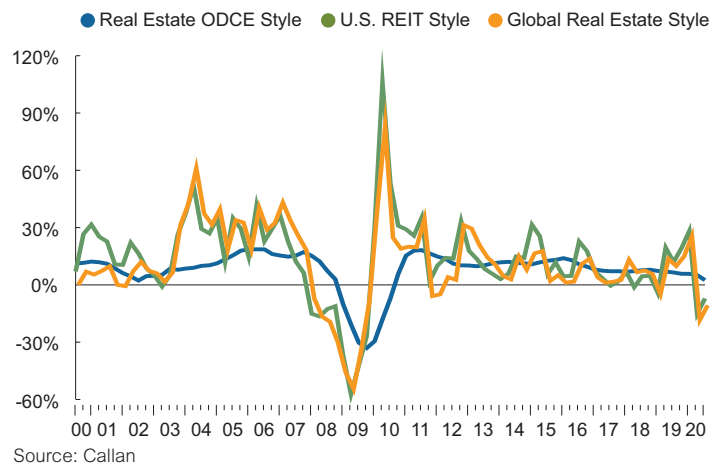
## Private U.S. Real Estate

- The continued impact of the pandemic was reflected in 2Q20 results.
- All sectors of the NCREIF Property Index saw negative appreciation, but income remained positive except in the Hotel sector.
- Industrial remains the best performer.
- The dispersion of returns by manager within the NFI ODCE Index was due to both the composition of underlying portfolios and different valuation methodologies/approaches.
- Negative returns are expected over the next few quarters.
- Vacancy rates for all property types are or will be impacted.
- Net operating income has declined as retail experienced the largest drop-off in over 20 years.
- Second quarter rent collections show relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors. The Retail sector remains challenged, with regional malls impacted most heavily.
- Class A/B urban apartments were relatively strong, followed by certain types of Industrial and Office.
- Supply was in check before the pandemic.
- Construction is limited to finishing up existing projects but has been hampered by shelter-in-place policies and shortages of materials.
- New construction will be basically halted in future quarters except for pre-leased properties.
- Transaction volume has dropped off during the quarter with the exception of Industrial assets that have tenants with strong credit, which are trading at pre-COVID-19 levels.
- 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 may 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.

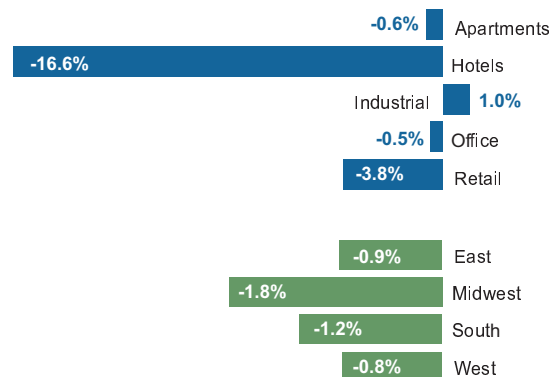
## U.S. and Global REITs

- Global REITs underperformed in 2Q20, gaining 10.1% compared to 19.4% for global equities (MSCI World).
- U.S. REITs rose 11.8% in 2Q20, lagging the S&P 500 Index, which jumped 20.5%.
- Globally, REITs (except in Singapore) are trading at a discount to NAV.
- In some regions the discount is at a five-year low.
- All property types except for data centers, hotels, and life sciences are trading at the bottom of their range.
- Ongoing volatility in REIT share prices offers opportunities to purchase mispriced securities, individual assets from REIT

## Rolling One-Year Returns



## Sector Quarterly Returns by Property Type and Region



Source: NCREIF

## REAL ESTATE/REAL ASSETS (Continued)

owners, and discounted debt, as well as lend to companies and/or execute take-privates of public companies.

utilities) fared better than assets with GDP/demand-based revenue (e.g. airports, seaports, and midstream-related).

### Infrastructure

- 1Q20 was the third-largest quarter for closed-end infrastructure fundraising (\$37 billion), following 4Q19 (\$43 billion) and 3Q18 (\$38 billion). The closed-end fund market continues to expand, with infrastructure debt, emerging markets, and 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, and

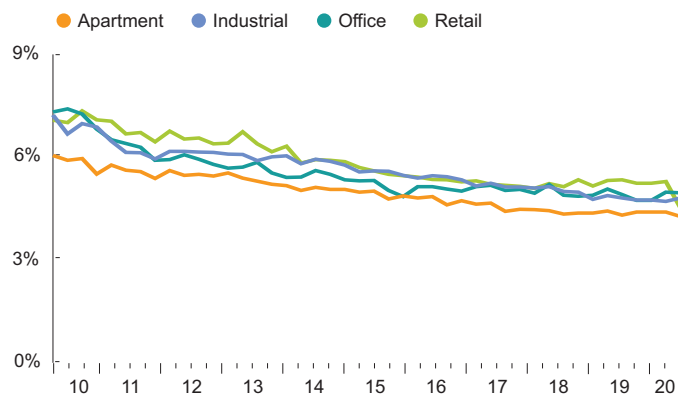
### Real estate investment opportunities

- Primary opportunity: purchase of mispriced publicly traded real estate, both equity and debt
- Emerging opportunity: purchase of mezzanine loans from forced sellers

### Infrastructure investment opportunities

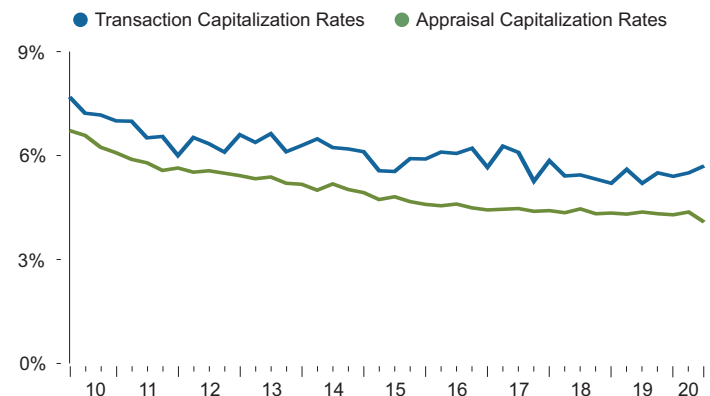
- Primary opportunity: purchase of mispriced publicly traded infrastructure
- Infrastructure lending if traditional lenders retrench

### 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 6/30/20

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
<b>Real Estate ODCE Style</b>	<b>-0.6</b>	<b>-0.2</b>	<b>2.5</b>	<b>5.5</b>	<b>7.2</b>	<b>10.1</b>	<b>6.0</b>
NFI-ODCE (value wt net)	-1.7	-1.0	1.3	4.7	6.3	9.8	6.0
NCREIF Property	-1.0	-0.3	2.7	5.4	6.8	9.7	7.7
NCREIF Farmland	0.6	0.5	2.5	4.9	6.2	10.7	12.9
NCREIF Timberland	0.1	0.2	0.3	2.3	2.7	4.4	6.2
<b>Public Real Estate</b>							
<b>Global Real Estate Style</b>	<b>10.5</b>	<b>-17.0</b>	<b>-10.7</b>	<b>2.2</b>	<b>3.7</b>	<b>8.4</b>	<b>5.6</b>
FTSE EPRA Nareit Developed	10.1	-21.3	-16.3	-1.6	1.3	6.3	--
<b>Global ex-U.S. Real Estate Style</b>	<b>10.1</b>	<b>-17.2</b>	<b>-9.2</b>	<b>3.1</b>	<b>3.5</b>	<b>7.9</b>	<b>5.6</b>
FTSE EPRA Nareit Dev ex US	8.6	-21.5	-15.9	-0.9	0.6	5.4	--
<b>U.S. REIT Style</b>	<b>12.1</b>	<b>-13.9</b>	<b>-7.1</b>	<b>2.9</b>	<b>5.8</b>	<b>10.3</b>	<b>7.1</b>
EPRA Nareit Equity REITs	11.8	-18.7	-13.0	0.0	4.1	9.1	6.0

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

# Activity Falls but Dollars Continue to Flow

PRIVATE EQUITY | Gary Robertson

Private equity metrics such as fundraising, company purchase prices, and private M&A exits plunged by count in the second quarter, but dollar volumes held relatively steady as larger transactions were able to proceed. Only IPOs increased in the second quarter, supported by the public market rally. Private equity returns in the first quarter fell, but by less than half of public equity's decline.

**Fundraising** ► Final closes for private equity partnerships in the second quarter totaled \$149 billion of commitments in 229 partnerships, based on preliminary data. (Unless otherwise noted, all data come from PitchBook.) The dollar volume fell 18% but the number of funds rose 1% from the first quarter. For the first half, 2020 is running \$26 billion or 10% ahead of a year ago, although the number of funds raised has fallen by 25%. We expect the second half of 2020 will decline from the first half, as general partners are slowing the deployment pace of their current funds and focusing on existing companies, resulting in fewer new funds coming to market.

**Buyouts** ► Funds closed 973 investments with \$75 billion in disclosed deal value, a 51% fall in count and a 29% drop in dollar value from the first quarter. Average buyout prices plunged to 9.2x EBITDA in the second quarter, 2.3x lower than pricing for the full year 2019. Average leverage multiples fell to 4.9x.

## Funds Closed 1/1/20 to 6/30/20

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	261	59,755	20%
Growth Equity	42	29,669	10%
Buyouts	123	125,411	42%
Mezzanine Debt	4	2,888	1%
Distressed	5	8,000	3%
Energy	3	6,175	2%
Secondary and Other	46	50,431	17%
Fund-of-Funds	25	14,879	5%
<b>Totals</b>	<b>509</b>	<b>297,209</b>	<b>100%</b>

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

**Venture Capital** ► New rounds of financing in VC companies totaled 5,741, with \$65 billion of announced value. The number of investments fell 20% but value rose 2% from the first quarter.

**Exits** ► There were 219 private M&A exits of private equity-backed companies, with disclosed values totaling \$121 billion. The count fell 59% but values rose 68%. There were 15 private equity-backed IPOs in the second quarter raising an aggregate \$11 billion, up 15% and 57%, respectively, from the first quarter. Venture-backed M&A exits totaled 283 with disclosed value of \$23 billion. The number of sales declined 31% from the first quarter, but value rose 35%. There were 74 VC-backed IPOs in the second quarter with a combined float of \$11 billion; the count jumped 40% and the issuance grew 83%.

## Private Equity Performance (%) (Pooled Horizon IRRs through 3/31/20\*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-2.85	9.10	14.62	11.29	14.85	11.36	5.71	28.09
Growth Equity	-5.45	5.44	13.53	11.77	12.82	12.60	10.35	14.17
All Buyouts	-9.93	0.79	10.71	11.31	13.28	12.32	10.95	12.78
Mezzanine	-4.78	2.38	8.70	8.84	10.57	10.16	7.51	9.56
Credit Opportunities	-12.06	-9.91	1.44	3.50	7.84	8.33	9.13	9.32
Control Distressed	-12.20	-8.67	2.09	5.02	9.25	8.92	9.56	10.09
<b>All Private Equity</b>	<b>-7.84</b>	<b>2.24</b>	<b>10.93</b>	<b>10.53</b>	<b>12.85</b>	<b>11.72</b>	<b>9.33</b>	<b>13.77</b>
S&P 500	-19.60	-6.98	5.10	6.73	10.53	7.58	4.79	8.85
Russell 3000	-20.90	-9.13	4.00	5.77	10.15	7.50	4.91	8.81

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.

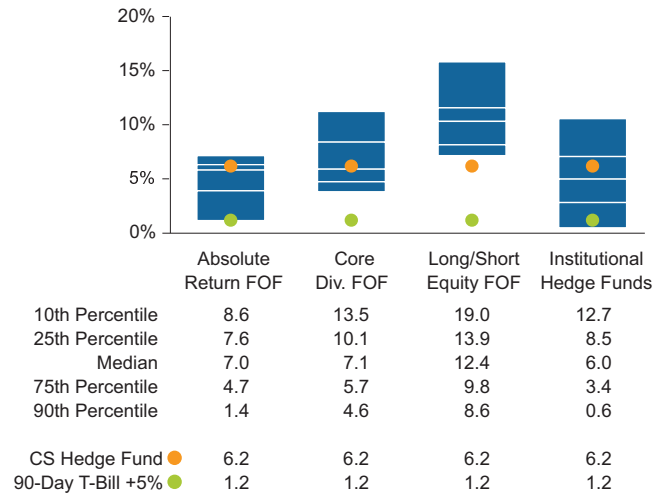
# Beta Leads, Alpha Follows

HEDGE FUNDS/MACs | Jim McKee

Emboldened by dramatic monetary and fiscal stimulus, global markets reverted to full risk-on mode in the second quarter, and most hedge fund strategies benefited. Illustrating raw hedge fund performance without implementation costs, the Credit Suisse Hedge Fund Index (CS HFI) rose 6.2% in the second quarter, its strongest quarterly performance since 2009. The median manager in the Callan Hedge Fund-of-Funds Database Group, representing actual hedge fund portfolios, advanced 7.7% net of all fees and expenses.

The median manager in the Callan Institutional Hedge Fund Peer Group, tracking 50 of the largest, broadly diversified hedge funds with low-beta exposure to equity markets, gained 6.0%. Those funds focused on market neutral equity or rates arbitrage edged ahead 3% to 5%; those more exposed to illiquid credit strategies rebounded over 7%.

## Hedge Fund Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

## Callan Peer Group Median and Index Returns\* for Periods Ended 6/30/20

Hedge Fund Universe	Quarter	Year to Date	Year	3 Years	5 Years	10 Years
Callan Institutional Hedge Fund Peer Group	6.0	-0.6	1.3	3.9	4.1	5.4
Callan Fund-of-Funds Peer Group	7.7	-0.8	1.2	3.1	2.6	4.3
Callan Absolute Return FOF Style	7.0	-2.8	-1.8	2.3	2.2	3.5
Callan Core Diversified FOF Style	7.1	0.2	2.1	3.4	2.2	4.2
Callan Long/Short Equity FOF Style	12.4	-1.2	1.7	3.5	3.0	5.2
Credit Suisse Hedge Fund	6.2	-3.3	-0.7	2.1	1.6	3.8
CS Convertible Arbitrage	5.9	0.2	3.2	2.8	3.0	3.9
CS Distressed	5.6	-5.7	-7.9	-1.0	0.3	3.3
CS Emerging Markets	13.2	1.3	4.7	4.1	4.1	4.8
CS Equity Market Neutral	3.4	-2.1	-2.7	0.0	0.0	1.6
CS Event-Driven Multi	12.0	-9.0	-7.3	-0.6	-1.3	2.1
CS Fixed Income Arb	2.7	-3.2	-0.7	2.1	2.9	4.5
CS Global Macro	4.6	-3.9	-1.1	3.2	1.8	3.9
CS Long/Short Equity	9.8	-2.5	2.6	3.5	2.7	5.2
CS Managed Futures	-2.9	-2.9	-2.0	2.2	-0.4	1.2
CS Multi-Strategy	3.9	-2.8	-0.9	1.6	3.0	5.7
CS Risk Arbitrage	7.5	0.2	2.4	2.3	3.0	2.8
HFRI Asset Wtd Composite	4.5	-7.4	-5.0	0.9	1.1	3.6
90-Day T-Bill + 5%	1.2	3.1	6.6	6.8	6.2	5.6

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

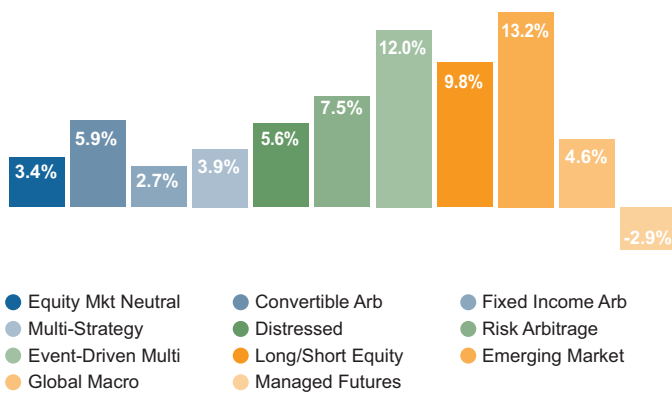
Within CS HFI, the best-performing strategies last quarter were *Emerging Markets* (+13.2%), *Event-Driven Multi-Strategy* (+12.0%), and *Long/Short Equity* (+9.8%). Arbitrage strategies also benefited from the risk-on rally, but their hedges limited gains to mid-single digits or less. As the worst-performing strategy in CS HFI, *Managed Futures* (-2.9%) was caught flat-footed in the sudden equity rally.

Within the Hedge FOF Group, market exposures notably affected performance in the second quarter. Given its net long equity exposure, the median *Callan Long/Short Equity FOF* (+12.4%) decidedly beat the *Callan Absolute Return FOF* (+7.0%).

Within Callan's database of liquid alternative solutions, the median managers of the Callan Multi-Asset Class (MAC)

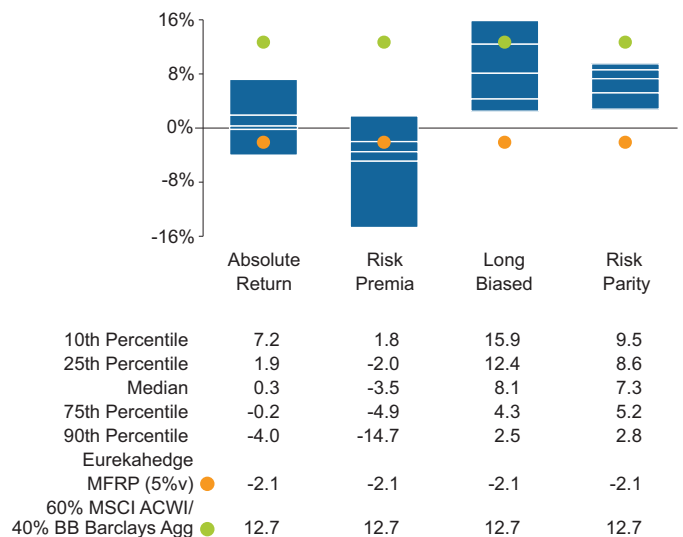
Style Group generated mixed returns, gross of fees, consistent with their underlying risk exposures. Typically targeting equal risk-weighted allocations to major asset classes with leverage, the *Callan Risk Parity MAC* added 7.3%. However, the more traditional equity-centric benchmark of 60% MSCI ACWI and 40% Bloomberg Barclays US Aggregate Bond Index rose 12.7%. Given a usually long equity bias within dynamic asset allocation models, the *Callan Long-Biased MAC* (+8.1%) also trailed the global benchmark. As the most conservative MAC style focused on non-directional strategies of long and short asset class exposures, the *Callan Absolute Return MAC* edged ahead 0.3%. Reflecting the second quarter's challenging environment for alternative betas, such as the equity value and momentum factors, the median *Callan Risk Premia MAC* fell 3.5%.

### Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

### MAC Style Group Returns



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

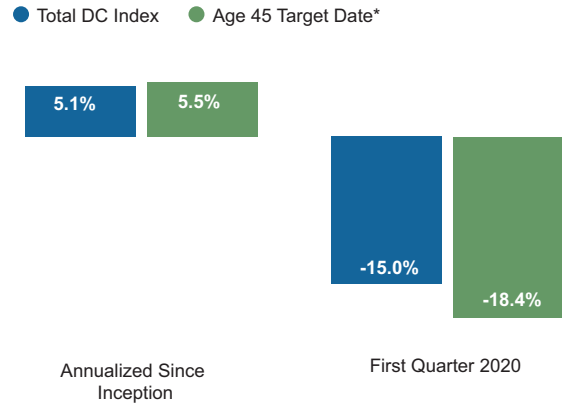
# Index Posts Largest Quarterly Drop Since 4Q08

DEFINED CONTRIBUTION | Patrick Wisdom

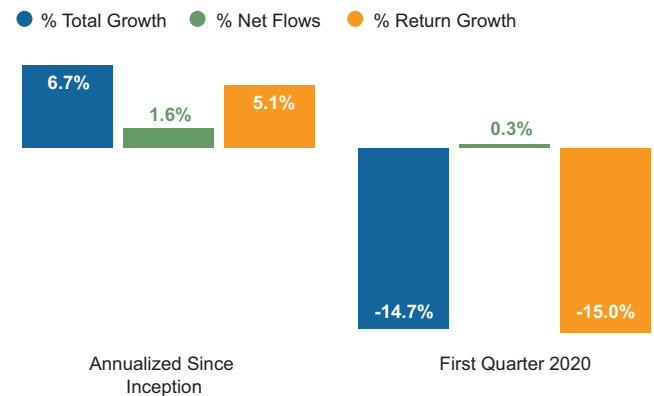
- The Callan DC Index™ lost 15.0% in 1Q20, the sharpest plunge since 4Q08, ending four consecutive quarters of gains. The Age 45 Target Date Fund posted a larger loss (-18.4%), attributable to its higher allocation to equity, which underperformed fixed income.
- The Index’s sharp drop in balances (-14.7%) reversed four straight quarters of growth and was the biggest since the Index’s inception. Poor investment returns (-15.0%) were the sole driver; quarterly net flows (0.3%) played a small mitigating role.
- With investors seeking less-risky investments, stable value funds saw the largest inflows (49.7%). U.S. large cap equity (-54.3%) and U.S. small/mid cap equity (-26.0%) had the largest outflows.
- Turnover in the DC Index (i.e., net transfer activity levels within DC plans) increased dramatically to 0.96% from the previous quarter’s 0.38%, the highest since 3Q12.
- The allocation to equity fell to 66.0% in 1Q20 from 70.2% in the previous quarter, the lowest since 2012. The allocation to stable value increased to 11.8%.
- The allocations to large cap equity (23.8%) and small/mid cap equity (7.0%) both decreased by more than 1.4 percentage points. Global ex-U.S. equity (4.6%) and company stock (1.8%) had the next-largest decreases in allocation.
- The prevalence of a high yield offering (4.8%) increased in 1Q20 by nearly a percentage point from the previous quarter and now sits at its highest mark since 2017. On the other hand, the percentage of plans offering U.S. small/mid-cap equity dipped for the second straight quarter following six consecutive quarters of 100% prevalence.
- The presence of company stock (20.0%) decreased by more than a percentage point from the previous quarter. Similarly, the percentage of plans offering a brokerage window (40.0%) also fell by more than a percentage point.

*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 (First Quarter 2020) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Stable Value	49.67%
U.S. Fixed Income	21.23%
U.S. Smid Cap	-26.03%
U.S. Large Cap	-54.30%
<b>Total Turnover**</b>	<b>0.96%</b>

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

Source: Callan DC Index

Note: DC Index inception date is January 2006.

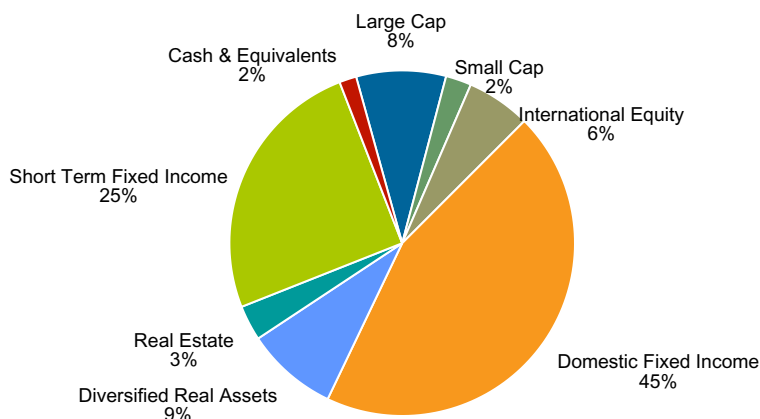
\* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

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

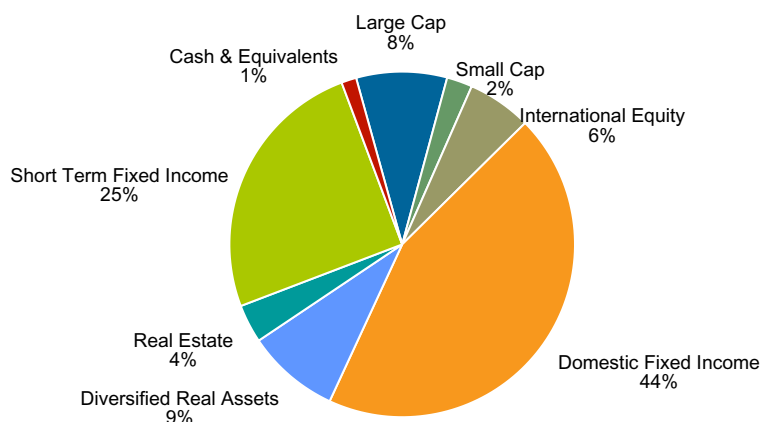
## Actual vs Target Asset Allocation As of June 30, 2020

The first chart below shows the Fund's asset allocation as of June 30, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

**Actual Asset Allocation**



**Target Asset Allocation**



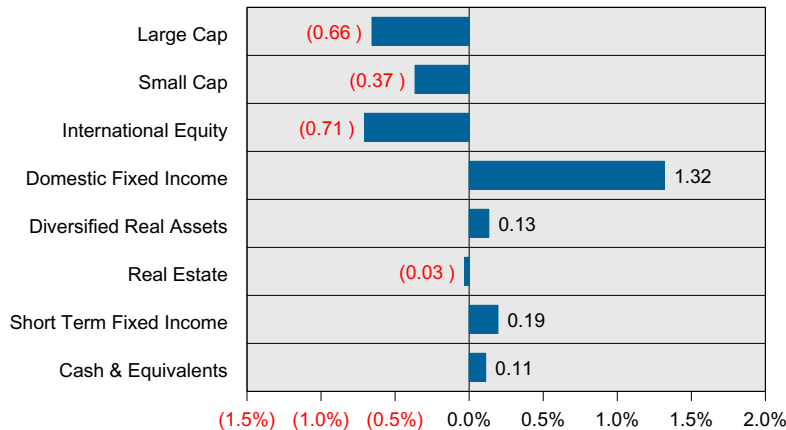
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	251,975	8.4%	8.5%	(0.1%)	(1,592)
Small Cap	71,336	2.4%	2.4%	(0.0%)	(787)
International Equity	179,663	6.0%	6.0%	(0.0%)	(1,027)
Domestic Fixed Income	1,334,281	44.6%	44.3%	0.3%	8,907
Diversified Real Assets	255,746	8.6%	8.7%	(0.1%)	(3,746)
Real Estate	98,564	3.3%	3.6%	(0.3%)	(7,919)
Short Term Fixed Income	749,106	25.1%	25.1%	(0.0%)	(0)
Cash & Equivalents	48,294	1.6%	1.4%	0.2%	6,165
<b>Total</b>	<b>2,988,966</b>	<b>100.0%</b>	<b>100.0%</b>		

\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

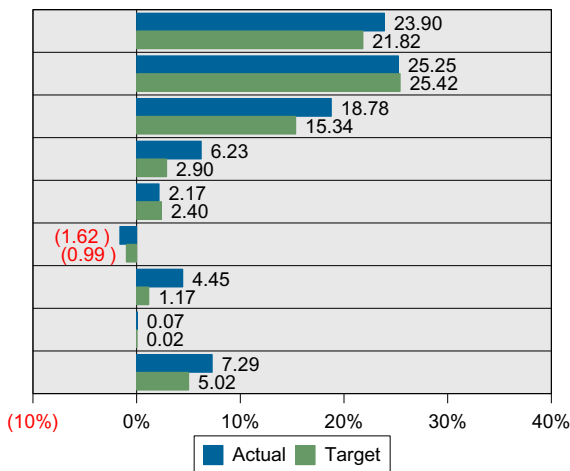
## Quarterly Total Fund Relative Attribution - June 30, 2020

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.

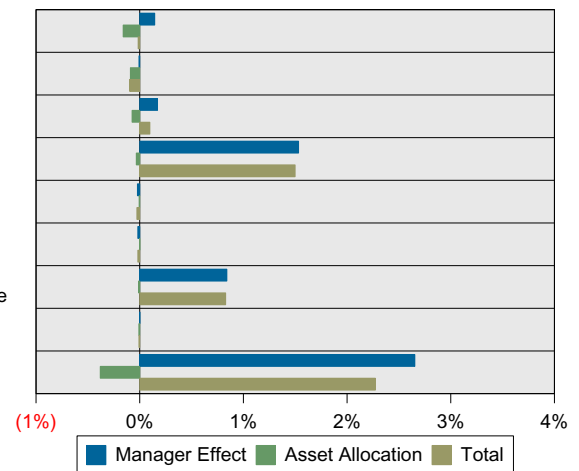
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2020

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	8%	8%	23.90%	21.82%	0.14%	(0.16%)	(0.01%)
Small Cap	2%	2%	25.25%	25.42%	(0.01%)	(0.09%)	(0.10%)
International Equity	5%	6%	18.78%	15.34%	0.17%	(0.07%)	0.10%
Domestic Fixed Income	46%	44%	6.23%	2.90%	1.53%	(0.03%)	1.50%
Diversified Real Assets	9%	9%	2.17%	2.40%	(0.02%)	(0.01%)	(0.03%)
Real Estate	4%	4%	(1.62%)	(0.99%)	(0.02%)	(0.02%)	(0.02%)
Short Term Fixed Income	25%	25%	4.45%	1.17%	0.84%	(0.01%)	0.83%
Cash & Equivalents	2%	1%	0.07%	0.02%	0.00%	(0.01%)	(0.01%)
<b>Total</b>			<b>7.29%</b>	<b>5.02%</b>	<b>+ 2.65%</b>	<b>+ (0.38%)</b>	<b>2.27%</b>

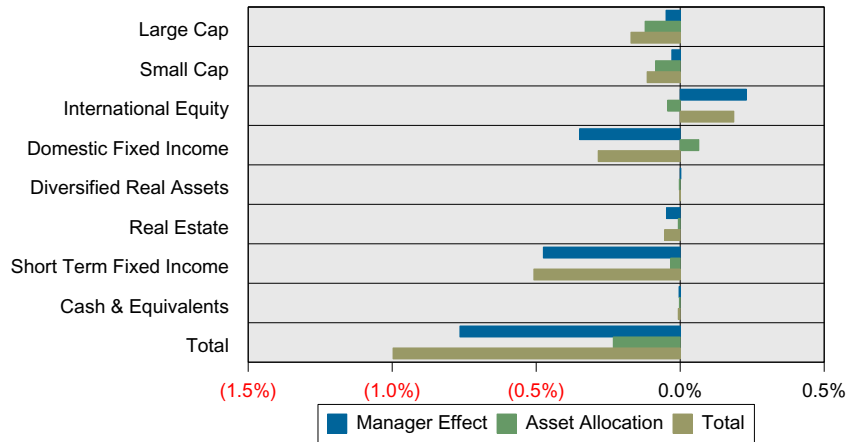
\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.



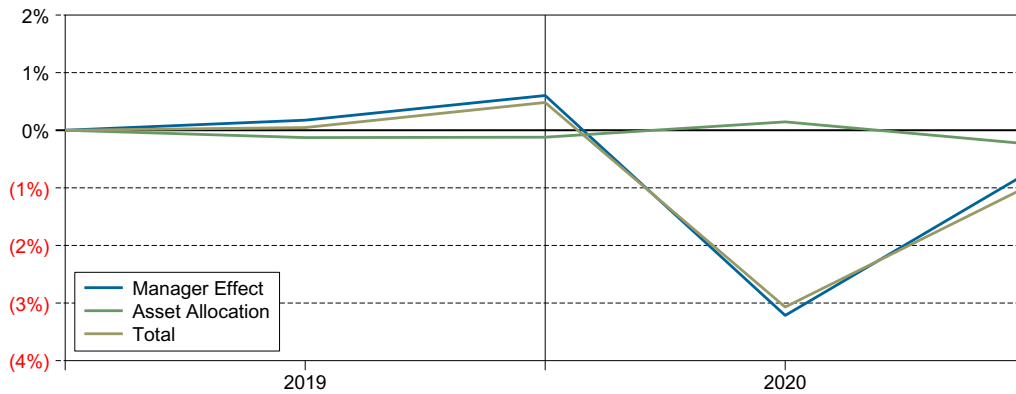
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

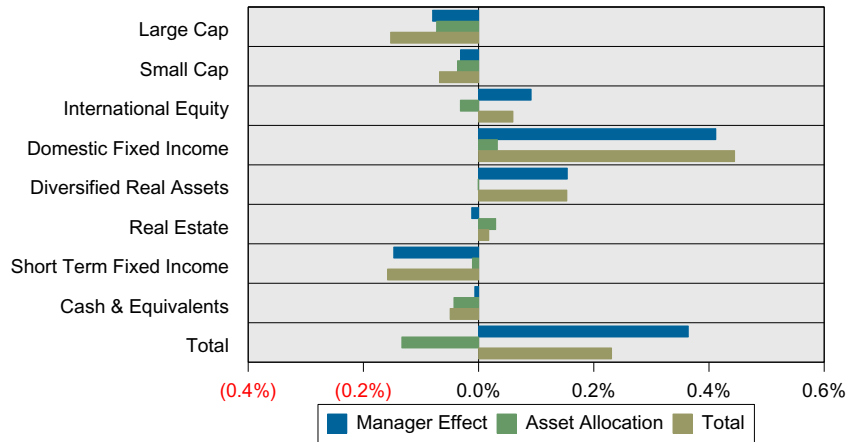
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	9%	9%	6.75%	7.48%	(0.05%)	(0.12%)	(0.17%)
Small Cap	2%	2%	(7.88%)	(6.63%)	(0.03%)	(0.09%)	(0.11%)
International Equity	6%	6%	(2.20%)	(5.42%)	0.23%	(0.04%)	0.19%
Domestic Fixed Income	47%	46%	8.02%	8.74%	(0.35%)	0.06%	(0.28%)
Diversified Real Assets	9%	9%	5.47%	5.42%	0.00%	(0.00%)	(0.00%)
Real Estate	4%	4%	1.41%	2.69%	(0.05%)	(0.01%)	(0.05%)
Short Term Fixed Income	22%	23%	2.44%	4.20%	(0.48%)	(0.03%)	(0.51%)
Cash & Equivalents	1%	1%	1.37%	1.63%	(0.00%)	(0.00%)	(0.01%)
<b>Total</b>			<b>5.12%</b>	<b>6.12%</b>	<b>+(0.76%)</b>	<b>+(0.23%)</b>	<b>(1.00%)</b>

\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

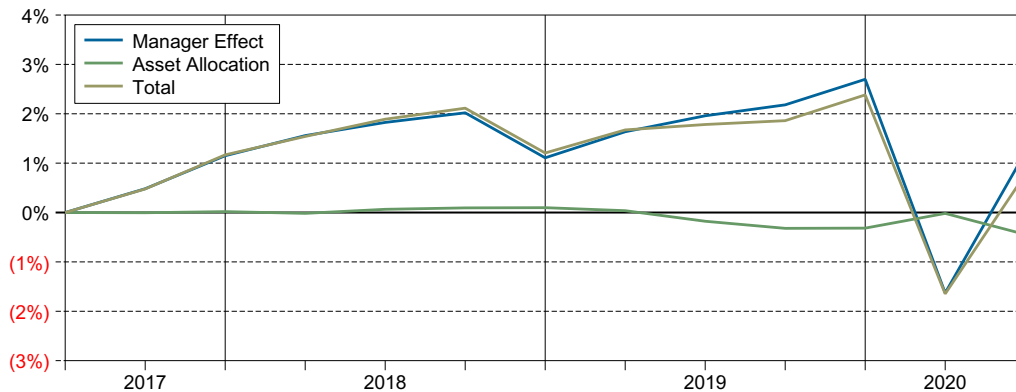
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

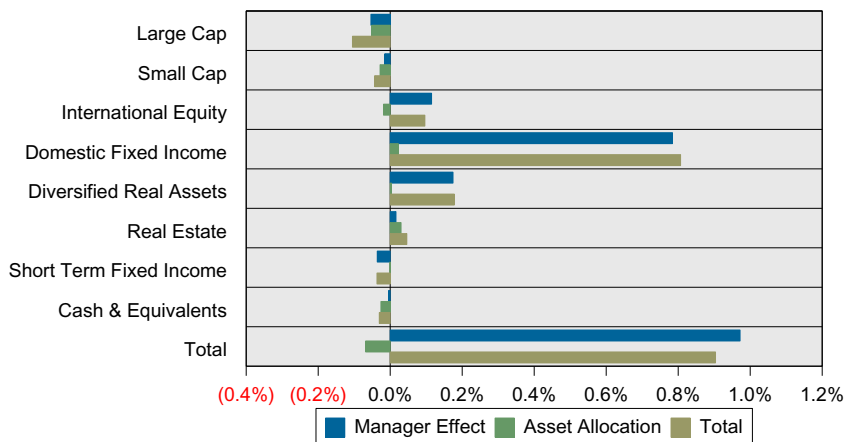
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	10%	9.70%	10.64%	(0.08%)	(0.07%)	(0.15%)
Small Cap	3%	3%	0.84%	2.01%	(0.03%)	(0.04%)	(0.07%)
International Equity	7%	7%	1.81%	0.84%	0.09%	(0.03%)	0.06%
Domestic Fixed Income	50%	50%	6.12%	5.32%	0.41%	0.03%	0.44%
Diversified Real Assets	11%	11%	5.74%	4.45%	0.15%	(0.00%)	0.15%
Real Estate	5%	4%	4.97%	5.44%	(0.01%)	0.03%	0.02%
Short Term Fixed Income	11%	11%	2.50%	2.87%	(0.15%)	(0.01%)	(0.16%)
Cash & Equivalents	3%	3%	1.57%	1.77%	(0.01%)	(0.04%)	(0.05%)
<b>Total</b>			<b>5.70%</b>	<b>5.47%</b>	<b>+ 0.36%</b>	<b>+ (0.13%)</b>	<b>0.23%</b>

\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

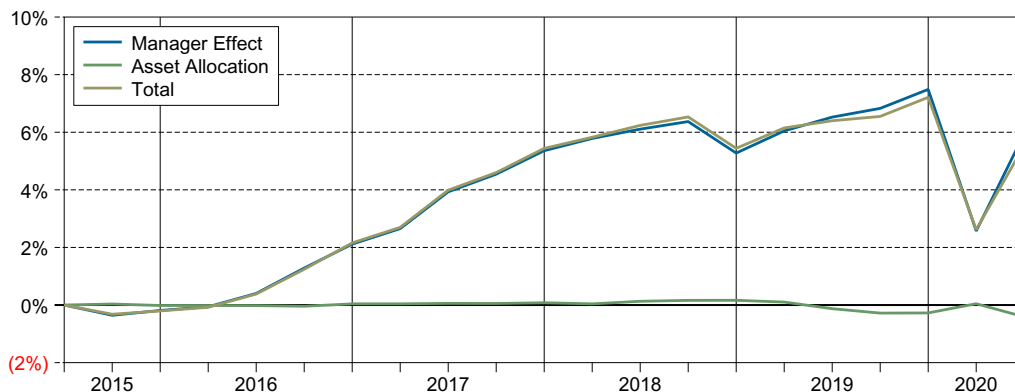
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

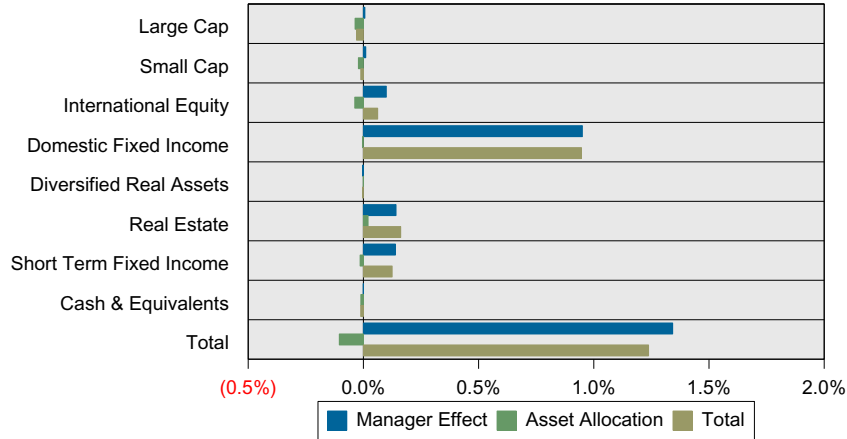
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	10%	9.87%	10.47%	(0.05%)	(0.05%)	(0.10%)
Small Cap	3%	3%	3.77%	4.29%	(0.02%)	(0.03%)	(0.04%)
International Equity	7%	7%	3.33%	1.94%	0.11%	(0.02%)	0.10%
Domestic Fixed Income	48%	48%	5.92%	4.30%	0.78%	0.02%	0.81%
Diversified Real Assets	11%	11%	4.87%	3.40%	0.17%	0.00%	0.18%
Real Estate	5%	5%	6.81%	6.77%	0.02%	0.03%	0.05%
Short Term Fixed Income	12%	12%	2.06%	1.99%	(0.04%)	(0.00%)	(0.04%)
Cash & Equivalents	3%	3%	1.05%	1.19%	(0.00%)	(0.03%)	(0.03%)
<b>Total</b>			<b>5.68%</b>	<b>4.78%</b>	<b>+ 0.97%</b>	<b>+ (0.07%)</b>	<b>0.90%</b>

\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

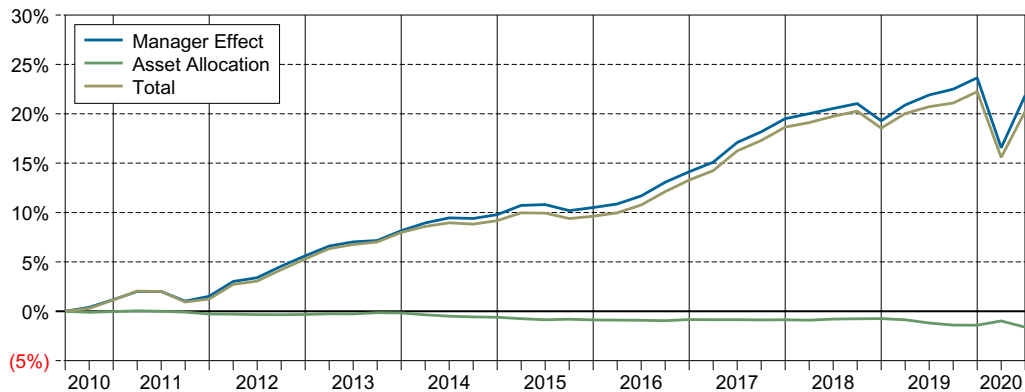
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

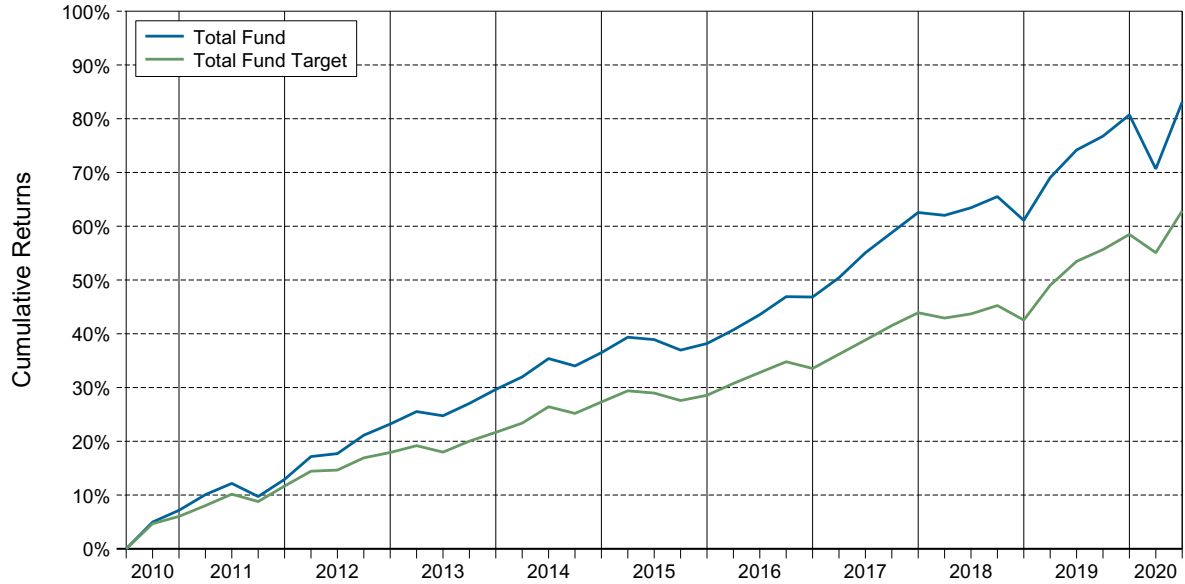
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	10%	14.10%	13.97%	0.01%	(0.04%)	(0.03%)
Small Cap	3%	3%	10.87%	10.50%	0.01%	(0.02%)	(0.01%)
International Equity	7%	7%	6.72%	5.11%	0.10%	(0.04%)	0.06%
Domestic Fixed Income	42%	42%	6.22%	3.82%	0.95%	(0.00%)	0.95%
Diversified Real Assets	12%	12%	4.73%	4.33%	(0.00%)	(0.00%)	(0.00%)
Real Estate	5%	4%	12.86%	9.70%	0.14%	0.02%	0.16%
Short Term Fixed Income	18%	18%	1.97%	1.25%	0.14%	(0.01%)	0.12%
Cash & Equivalents	3%	3%	0.61%	0.64%	(0.00%)	(0.01%)	(0.01%)
<b>Total</b>			<b>6.24%</b>	<b>5.00%</b>	<b>+ 1.34%</b>	<b>+ (0.10%)</b>	<b>1.24%</b>

\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

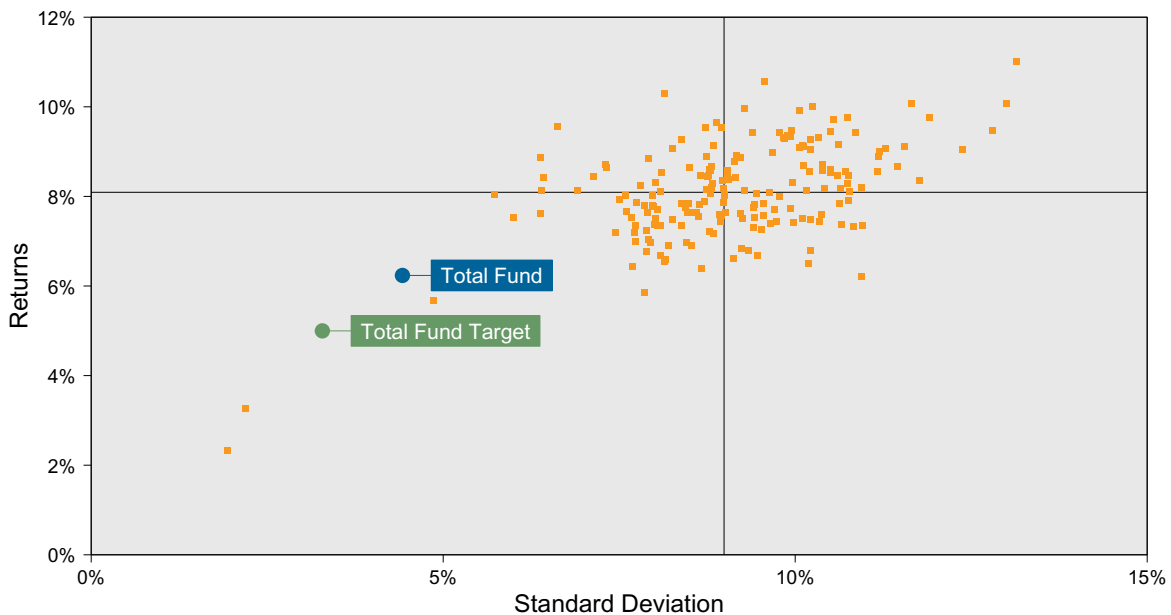
## Cumulative Performance Relative to Target

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



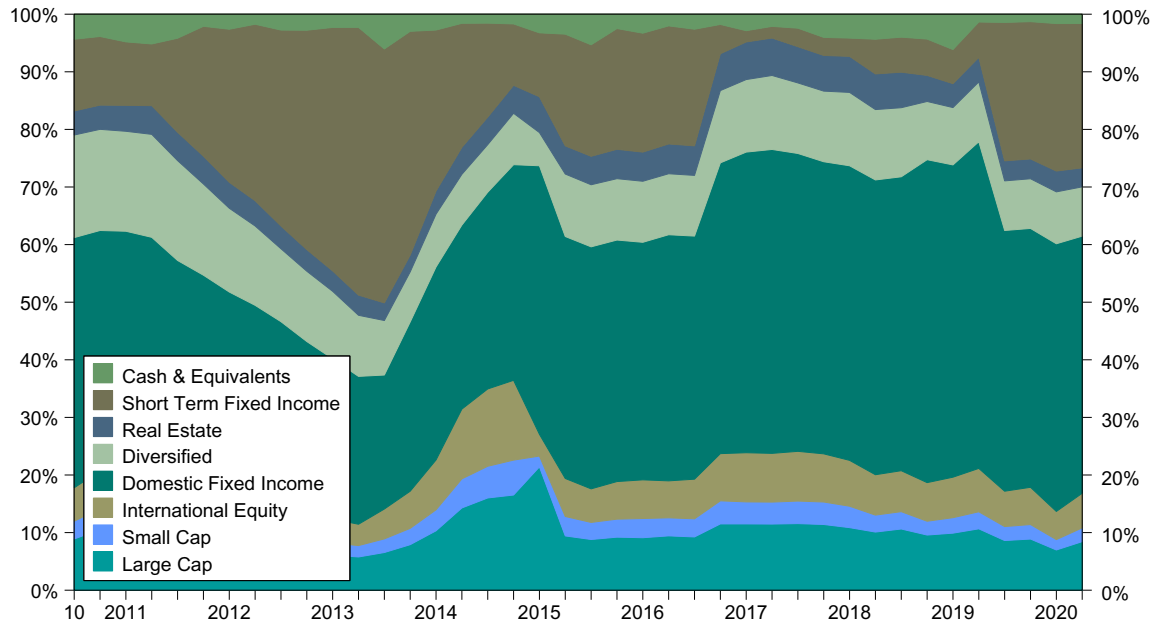
Squares represent membership of the Callan Public Fund Sponsor Database

\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

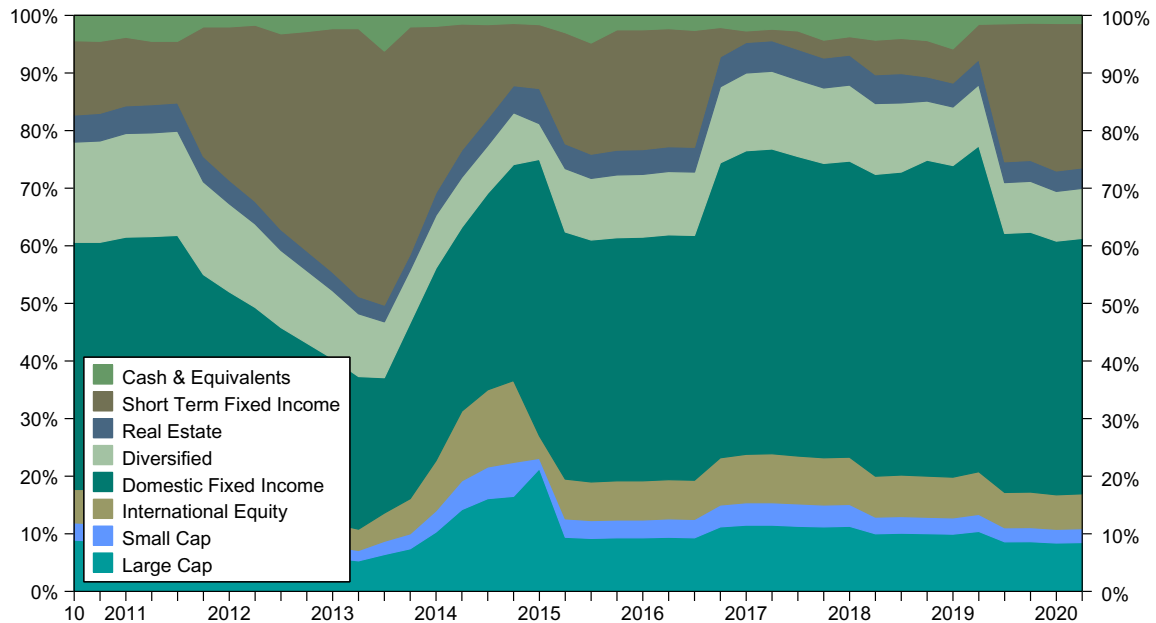
## Actual vs Target Historical Asset Allocation

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

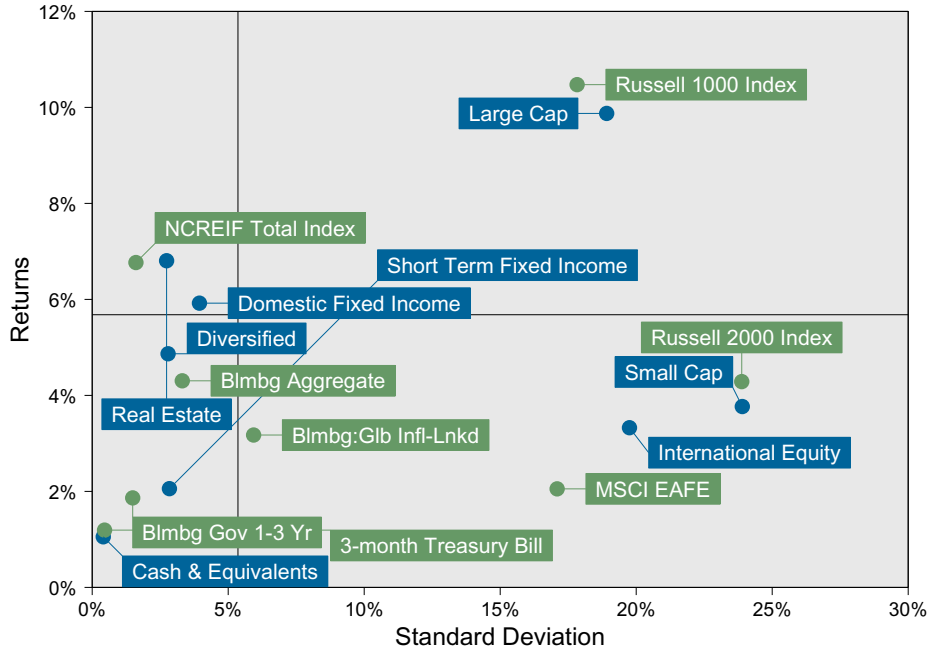


\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.

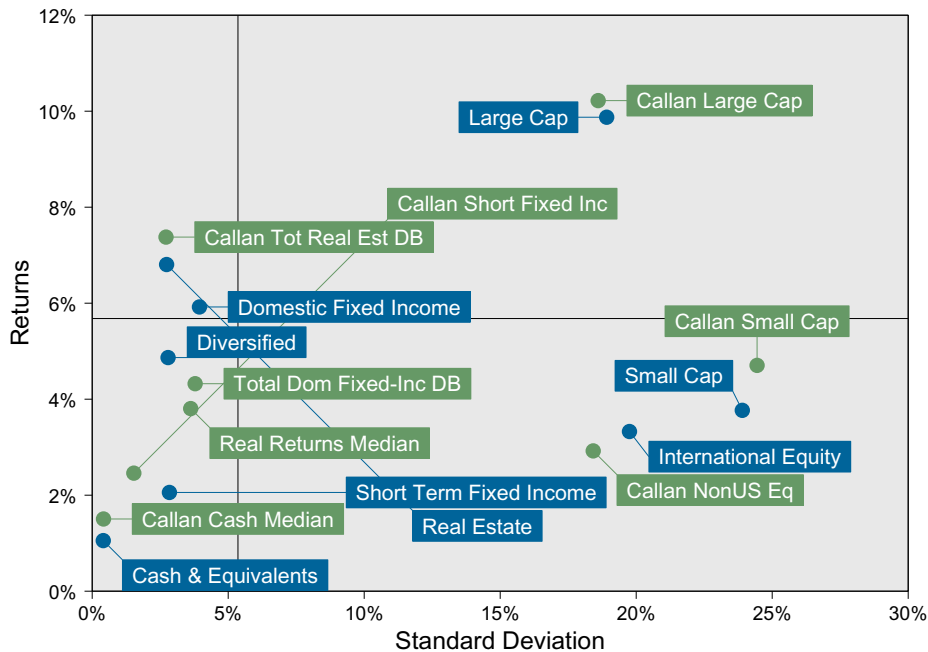
## Asset Class Risk and Return

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



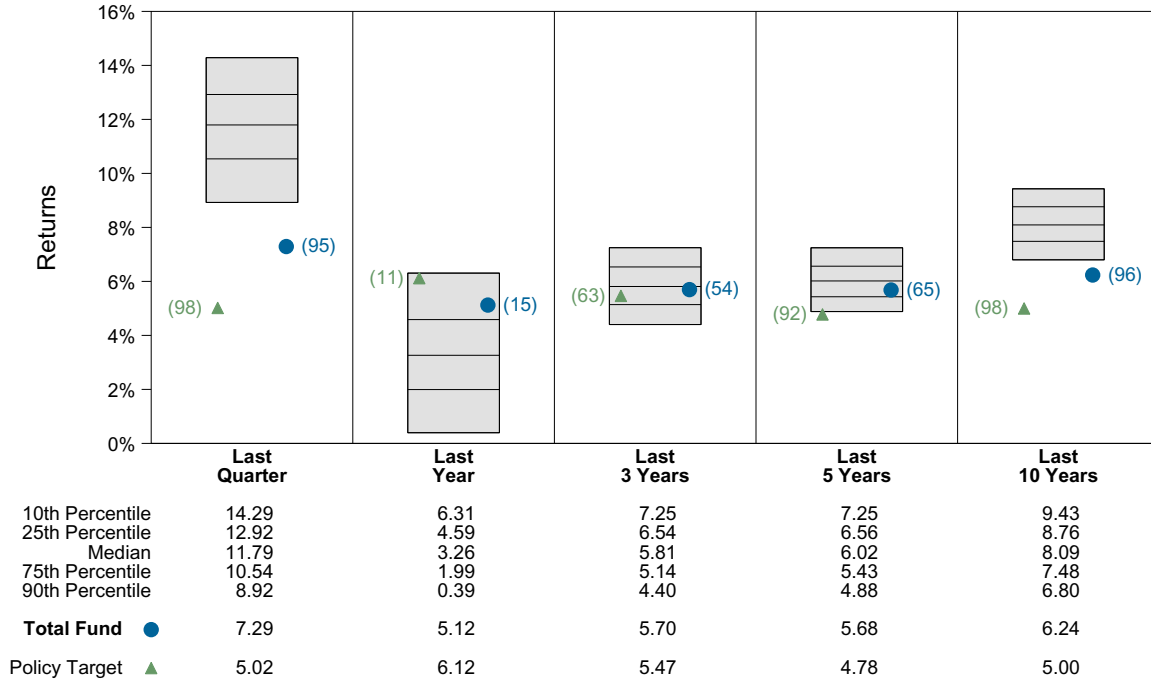
### Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median



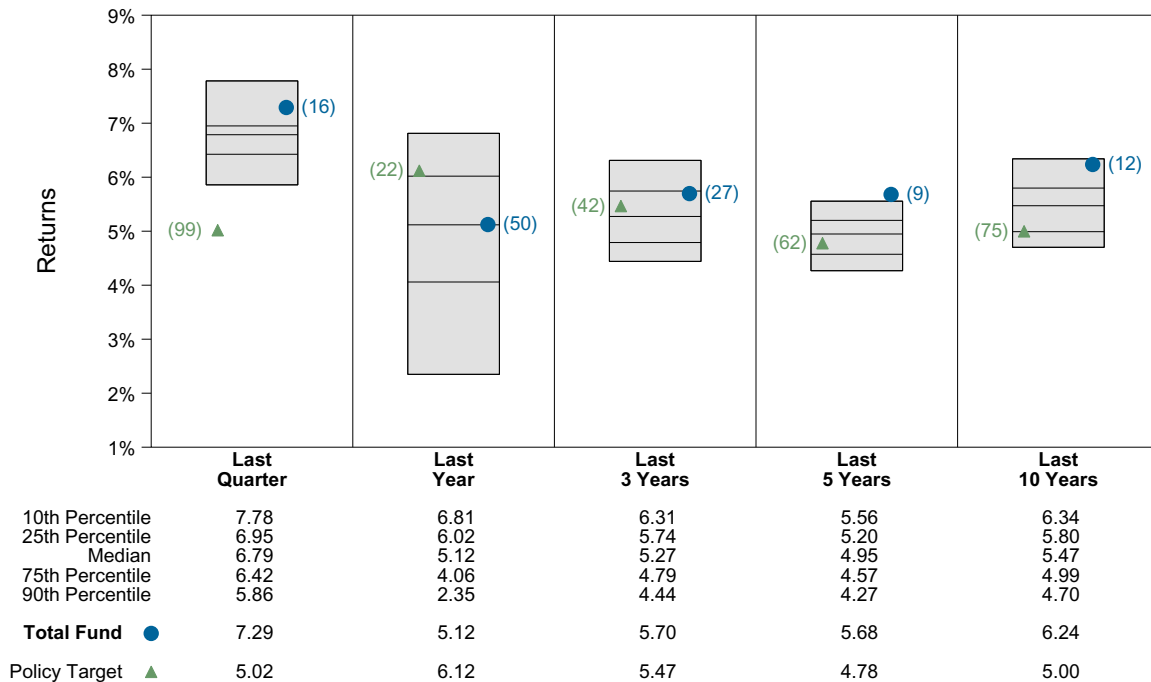
## Total Fund Ranking

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 June 30, 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



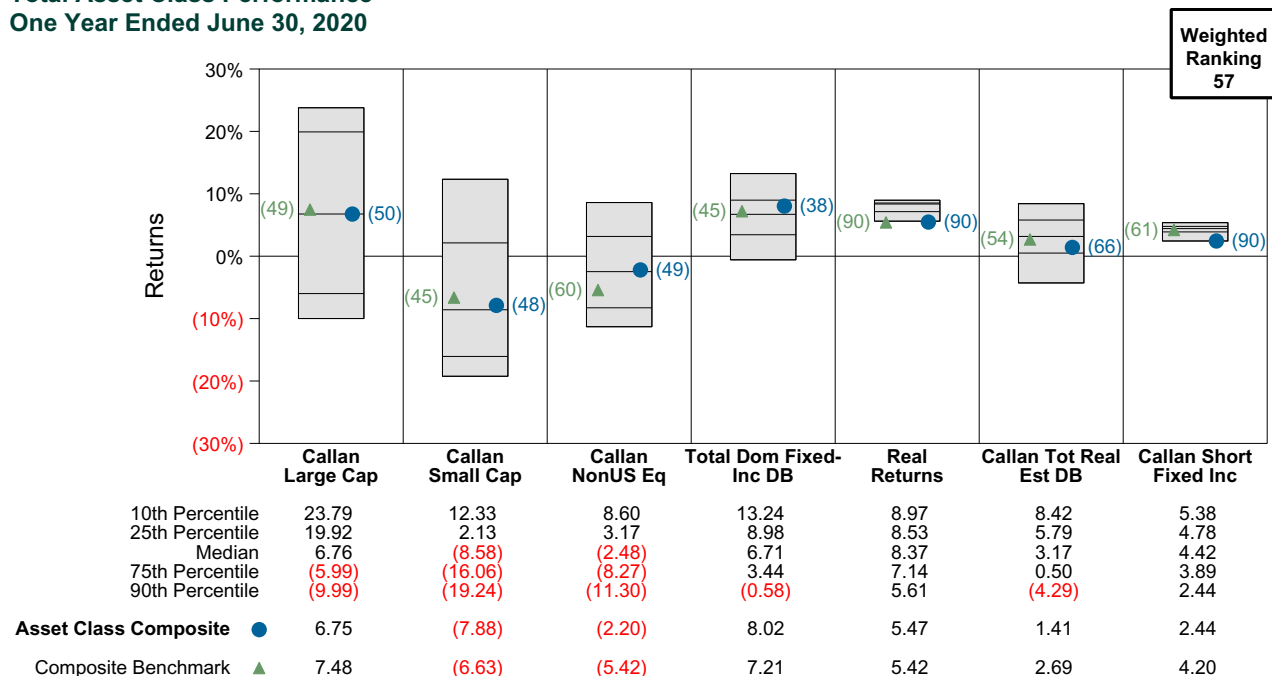
\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% NCREIF Total Index, 2.4% Russell 2000 Index and 1.4% 3-month Treasury Bill.



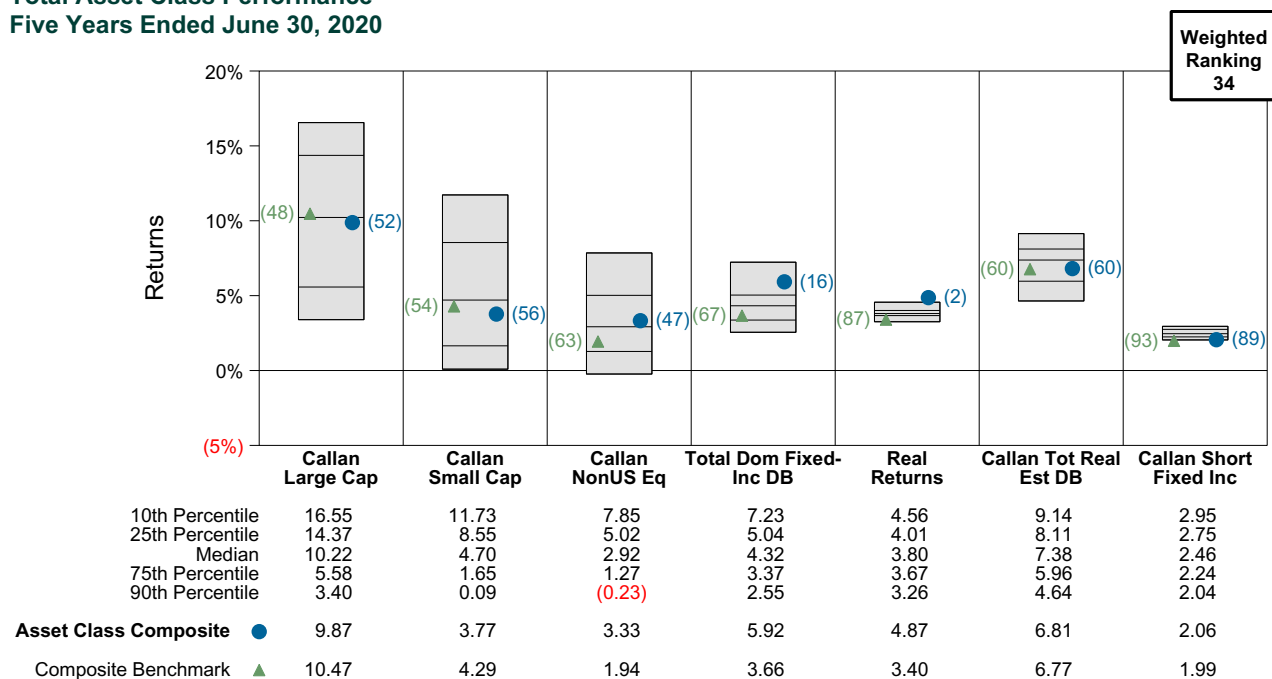
## Asset Class Rankings

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 June 30, 2020



### Total Asset Class Performance Five Years Ended June 30, 2020



\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% 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 June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
<b>Global Equity</b>	<b>\$502,973,946</b>	<b>16.83%</b>	<b>\$31,390,471</b>	<b>\$88,613,111</b>	<b>\$382,970,364</b>	<b>13.67%</b>
<b>Domestic Equity</b>	<b>\$323,310,821</b>	<b>10.82%</b>	<b>\$15,763,098</b>	<b>\$61,516,983</b>	<b>\$246,030,740</b>	<b>8.78%</b>
<b>Large Cap</b>	<b>\$251,975,200</b>	<b>8.43%</b>	<b>\$7,511,972</b>	<b>\$48,918,928</b>	<b>\$195,544,300</b>	<b>6.98%</b>
Parametric Large Cap	59,337,408	1.99%	11,000,000	9,373,035	38,964,373	1.39%
L.A. Capital Large Cap Growth	82,731,900	2.77%	(36,358)	18,284,458	64,483,800	2.30%
L.A. Capital Enhanced	51,436,191	1.72%	(12,075)	9,230,648	42,217,617	1.51%
LSV Large Cap Value	58,467,460	1.96%	(37,255)	8,626,206	49,878,509	1.78%
Parametric Large Cap Overlay	2,241	0.00%	(3,402,340)	3,404,581	-	-
<b>Small Cap</b>	<b>\$71,335,622</b>	<b>2.39%</b>	<b>\$8,251,126</b>	<b>\$12,598,055</b>	<b>\$50,486,440</b>	<b>1.80%</b>
Atlanta Capital	30,715,575	1.03%	13,508,791	3,062,371	14,144,414	0.50%
Parametric Small Cap	40,619,602	1.36%	9,000,000	7,299,802	24,319,799	0.87%
PIMCO RAE	445	0.00%	(14,257,665)	2,235,881	12,022,228	0.43%
<b>International Equity</b>	<b>\$179,663,125</b>	<b>6.01%</b>	<b>\$15,627,373</b>	<b>\$27,096,128</b>	<b>\$136,939,624</b>	<b>4.89%</b>
DFA Int'l Small Cap Value	17,713,017	0.59%	2,000,000	2,574,335	13,138,682	0.47%
LSV Intl Value	58,847,743	1.97%	(50,759)	6,578,558	52,319,944	1.87%
Vanguard Intl Explorer Fund	15,902,083	0.53%	0	3,011,758	12,890,325	0.46%
William Blair	87,199,134	2.92%	15,939,554	12,668,907	58,590,673	2.09%
Parametric Intl Equity Overlay	1,148	0.00%	(2,261,422)	2,262,570	-	-
<b>Domestic Fixed Income</b>	<b>\$1,334,281,419</b>	<b>44.64%</b>	<b>\$(47,747,215)</b>	<b>\$80,133,580</b>	<b>\$1,301,895,054</b>	<b>46.47%</b>
Declaration Total Return	94,660,256	3.17%	(55,473)	7,218,093	87,497,636	3.12%
PIMCO Core Plus Constrained	180,688,607	6.05%	(50,562)	7,781,968	172,957,202	6.17%
PIMCO DiSCO II	44,416,146	1.49%	0	2,644,128	41,772,018	1.49%
PIMCO Bravo II Fund	9,153,359	0.31%	0	(2,447,497)	11,600,856	0.41%
Prudential	350,368,246	11.72%	(9,676,713)	24,132,947	335,912,012	11.99%
SSgA US Govt Credit Bd Idx	191,048,804	6.39%	(8,007,082)	7,221,401	191,834,485	6.85%
Wells Capital	110,665,831	3.70%	(5,050,220)	12,236,756	103,479,296	3.69%
Western Asset Management	353,278,652	11.82%	(25,105,606)	21,542,708	356,841,550	12.74%
Parametric Fixed Inc Overlay	1,518	0.00%	198,442	(196,924)	-	-
<b>Global Real Assets</b>	<b>\$354,309,611</b>	<b>11.85%</b>	<b>\$(3,214,489)</b>	<b>\$3,861,474</b>	<b>\$353,662,625</b>	<b>12.62%</b>
<b>Real Estate</b>	<b>\$98,563,788</b>	<b>3.30%</b>	<b>\$(1,125,963)</b>	<b>\$(1,609,096)</b>	<b>\$101,298,848</b>	<b>3.62%</b>
Invesco Core Real Estate	51,435,881	1.72%	(518,762)	(1,520,619)	53,475,262	1.91%
JP Morgan RE Inc & Growth	47,127,907	1.58%	(607,201)	(88,478)	47,823,586	1.71%
<b>Diversified</b>	<b>\$255,745,823</b>	<b>8.56%</b>	<b>\$(2,088,525)</b>	<b>\$5,470,571</b>	<b>\$252,363,778</b>	<b>9.01%</b>
Western Asset TIPS	150,809,552	5.05%	(42,053)	7,121,796	143,729,808	5.13%
JP Morgan Infrastructure	41,585,042	1.39%	(797,445)	13,643	42,368,844	1.51%
Eastern Timber Opportunities	53,071,696	1.78%	0	(1,883,660)	54,955,356	1.96%
Grosvenor Cust. Infrastructure	10,279,534	0.34%	(1,249,028)	218,792	11,309,770	0.40%
<b>Short Term Fixed Income</b>	<b>\$749,106,415</b>	<b>25.06%</b>	<b>\$(104,369)</b>	<b>\$31,896,818</b>	<b>\$717,313,967</b>	<b>25.61%</b>
Barings Active Short Duration	365,982,519	12.24%	(104,369)	21,997,126	344,089,762	12.28%
JP Morgan Short Term Bonds	383,123,897	12.82%	0	9,899,692	373,224,205	13.32%
<b>Cash</b>	<b>\$48,294,174</b>	<b>1.62%</b>	<b>\$2,757,790</b>	<b>\$37,076</b>	<b>\$45,499,307</b>	<b>1.62%</b>
Northern Trust Cash Account	28,034,400	0.94%	2,757,790	15,220	25,261,390	0.90%
Bank of ND	20,259,774	0.68%	0	21,856	20,237,917	0.72%
<b>Securities Lending Income</b>	<b>\$0</b>	<b>0.00%</b>	<b>\$(24,602)</b>	<b>\$24,602</b>	<b>-</b>	<b>-</b>
<b>Total Fund</b>	<b>\$2,988,965,565</b>	<b>100.0%</b>	<b>\$(16,942,414)</b>	<b>\$204,566,661</b>	<b>\$2,801,341,318</b>	<b>100.0%</b>

## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Equity</b>					
Gross	22.19%	1.34%	-	-	-
Net	22.13%	1.13%	-	-	-
Weighted Benchmark	20.02%	0.79%	-	-	-
<b>Domestic Equity</b>					
Gross	24.09%	3.31%	7.75%	8.52%	13.37%
Net	24.05%	3.15%	7.57%	8.30%	13.07%
Weighted Benchmark	22.61%	4.30%	-	-	-
<b>Large Cap</b>					
Gross	23.90%	6.75%	9.70%	9.87%	14.10%
Net	23.86%	6.58%	9.51%	9.67%	13.86%
Benchmark(1)	21.82%	7.48%	10.64%	10.47%	13.97%
Parametric Clifton Large Cap - Gross	24.03%	7.47%	10.50%	10.87%	14.26%
Parametric Clifton Large Cap - Net	24.03%	7.47%	10.49%	10.81%	14.04%
S&P 500 Index	20.54%	7.51%	10.73%	10.73%	13.99%
L.A. Capital - Gross	28.36%	22.75%	17.99%	14.84%	16.90%
L.A. Capital - Net	28.30%	22.50%	17.75%	14.60%	16.66%
Russell 1000 Growth Index	27.84%	23.28%	18.99%	15.89%	17.23%
L.A. Capital Enhanced - Gross	21.87%	8.65%	10.66%	10.68%	14.25%
L.A. Capital Enhanced - Net	21.84%	8.54%	10.54%	10.55%	14.09%
Russell 1000 Index	21.82%	7.48%	10.64%	10.47%	13.97%
LSV Asset Management - Gross	17.31%	(12.95%)	(1.06%)	2.72%	10.53%
LSV Asset Management - Net	17.23%	(13.20%)	(1.35%)	2.42%	10.20%
Russell 1000 Value Index	14.29%	(8.84%)	1.82%	4.64%	10.41%
<b>Small Cap</b>					
Gross	25.25%	(7.88%)	0.84%	3.77%	10.87%
Net	25.21%	(8.00%)	0.68%	3.49%	10.42%
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	10.50%
Atlanta Capital - Gross	19.91%	-	-	-	-
Atlanta Capital - Net	19.91%	-	-	-	-
S&P 600 Small Cap Index	21.94%	(11.29%)	0.56%	4.48%	11.24%
Parametric Clifton Small Cap - Gross	29.95%	(5.50%)	2.23%	4.80%	11.47%
Parametric Clifton SmallCap - Net	29.95%	(5.50%)	2.16%	4.55%	10.96%
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	10.50%
<b>International Equity</b>					
Gross	18.78%	(2.20%)	1.81%	3.33%	6.72%
Net	18.69%	(2.50%)	1.50%	3.01%	6.39%
Benchmark(2)	15.34%	(5.42%)	0.84%	1.94%	5.11%
DFA Intl Small Cap Value - Net	19.38%	(11.98%)	(6.38%)	(0.84%)	5.78%
World ex US SC Va	16.41%	(11.36%)	(3.56%)	0.81%	5.59%
LSV Asset Management - Gross	12.58%	(11.64%)	(3.87%)	0.06%	4.70%
LSV Asset Management - Net	12.48%	(11.98%)	(4.24%)	(0.33%)	4.30%
Benchmark(3)	14.88%	(5.13%)	0.81%	2.05%	5.17%
Vanguard Intl Explorer Fund - Net	23.36%	(3.97%)	(1.87%)	2.10%	6.84%
BMI, EPAC, <\$2 B	19.71%	(4.88%)	(1.81%)	2.03%	6.46%
William Blair - Gross	21.01%	8.58%	9.90%	-	-
William Blair - Net	20.89%	8.16%	9.48%	-	-
MSCI ACWI ex US IMI	16.96%	(4.74%)	0.96%	2.30%	5.11%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Domestic Fixed Income</b>					
Gross	6.23%	8.02%	6.12%	5.92%	6.22%
Net	6.20%	7.90%	6.00%	5.80%	6.07%
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
Declaration Total Return - Net	8.25%	3.19%	4.32%	4.11%	-
Libor-3 Month	0.11%	1.57%	1.97%	1.48%	0.90%
PIMCO Core Plus Cons. - Gross	4.50%	9.33%	-	-	-
PIMCO Core Plus Cons. - Net	4.47%	9.23%	-	-	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
PIMCO DiSCO II - Net	6.33%	2.93%	6.24%	7.95%	-
PIMCO Bravo II Fund - Net	(21.10%)	(18.00%)	(3.59%)	1.69%	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
Prudential - Gross	7.29%	8.48%	6.17%	5.67%	5.70%
Prudential - Net	7.24%	8.26%	5.93%	5.42%	5.49%
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
Wells Capital - Gross	11.83%	8.91%	6.78%	6.59%	6.60%
Wells Capital - Net	11.78%	8.70%	6.61%	6.41%	6.40%
Blmbg Credit Baa	11.24%	8.19%	6.21%	5.82%	5.64%
Western Asset - Gross	6.34%	8.47%	5.98%	5.48%	5.51%
Western Asset - Net	6.31%	8.34%	5.85%	5.35%	5.36%
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
SSgA US Govt Cr Bd Idx - Gross	3.77%	10.22%	5.96%	4.80%	-
SSgA US Govt Cr Bd Idx - Net	3.76%	10.20%	5.93%	4.77%	-
Blmbg Govt/Credit Bd	3.71%	10.02%	5.87%	4.74%	4.13%
<b>Global Real Assets</b>					
Gross	1.09%	4.31%	-	-	-
Net	0.97%	4.04%	-	-	-
Weighted Benchmark	1.40%	4.63%	-	-	-
<b>Real Estate</b>					
Gross	(1.62%)	1.41%	4.97%	6.81%	12.86%
Net	(1.86%)	0.93%	4.43%	6.20%	11.99%
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%
Invesco Core Real Estate - Gross	(2.88%)	1.34%	5.52%	7.19%	-
Invesco Core Real Estate - Net	(3.04%)	1.00%	5.16%	6.82%	-
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%
JP Morgan - Gross	(0.21%)	1.50%	4.37%	6.39%	13.03%
JP Morgan - Net	(0.54%)	0.87%	3.65%	5.57%	11.93%
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%

## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 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 June 30, 2020				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Diversified</b>					
Gross	2.17%	5.47%	5.74%	4.87%	4.73%
Net	2.09%	5.29%	5.52%	4.60%	4.43%
Weighted Benchmark	2.40%	5.42%	4.45%	3.40%	4.33%
Western Asset TIPS - Gross	4.96%	8.48%	4.90%	3.66%	3.82%
Western Asset TIPS - Net	4.93%	8.36%	4.77%	3.53%	3.67%
Benchmark(1)	4.36%	8.74%	5.53%	3.99%	4.32%
JP Morgan Infrastructure - Gross	0.04%	5.32%	7.81%	7.12%	6.73%
JP Morgan Infrastructure - Net	(0.33%)	4.63%	7.13%	6.33%	5.72%
Benchmark(2)	(0.52%)	1.62%	2.87%	2.14%	1.97%
Eastern Timber Opportunities - Net	(3.43%)	(1.57%)	3.75%	3.05%	3.40%
NCREIF Timberland Index	0.08%	0.34%	2.28%	2.71%	4.39%
Grosvenor Cust. Infrastructure - Net	1.93%	3.38%	4.67%	6.21%	-
Benchmark(2)	(0.52%)	1.62%	2.87%	2.14%	1.97%
<b>Short Term Fixed Income</b>					
Gross	4.45%	2.44%	2.50%	2.06%	1.97%
Net	4.43%	2.36%	2.39%	1.89%	1.85%
Benchmark(3)	1.17%	4.20%	2.87%	1.99%	1.25%
Barings Active Short Duration - Gross	6.39%	-	-	-	-
Barings Active Short Duration - Net	6.36%	-	-	-	-
Blmbg Gov/Cred 1-3 Yr	1.17%	4.20%	2.87%	2.11%	1.63%
JP Morgan Short Term Bds - Gross	2.65%	5.03%	3.36%	2.43%	-
JP Morgan Short Term Bds - Net	2.65%	4.97%	3.25%	2.29%	-
Blmbg Gov/Credit 1-3 Yr	1.17%	4.20%	2.87%	2.11%	1.63%
<b>Cash &amp; Equivalents - Net</b>					
Cash Account- Net	0.07%	1.37%	1.57%	1.05%	0.61%
Bank of ND - Net	0.05%	1.26%	1.48%	0.97%	0.57%
Bank of ND - Net	0.11%	1.49%	1.72%	-	-
90 Day Treasury Bills	0.02%	1.63%	1.77%	1.19%	0.64%
<b>Total Fund</b>					
Gross	7.29%	5.12%	5.70%	5.68%	6.24%
Net	7.25%	5.00%	5.54%	5.50%	6.02%
Target*	5.02%	6.12%	5.47%	4.78%	5.00%

\* Current Quarter Target = 44.3% Blmbg Aggregate, 25.1% Blmbg Gov/Cred 1-3 Yr, 8.7% NDSIB INS DRA Weighted Benchmark, 8.5% Russell 1000 Index, 6.0% MSCI World ex US, 3.6% 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.

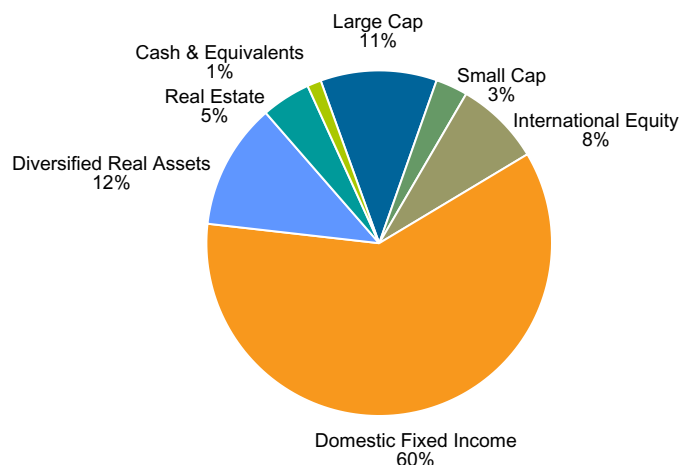
(2) CPI-W through June 30, 2018; 50% CPI-U lagged one quarter and 50% NFI-ODCE Equal Weight Net thereafter.

(3) Blmbg Gov 1-3 Yr through March 31, 2017 and Blmbg Gov/Credit 1-3 Yr thereafter.

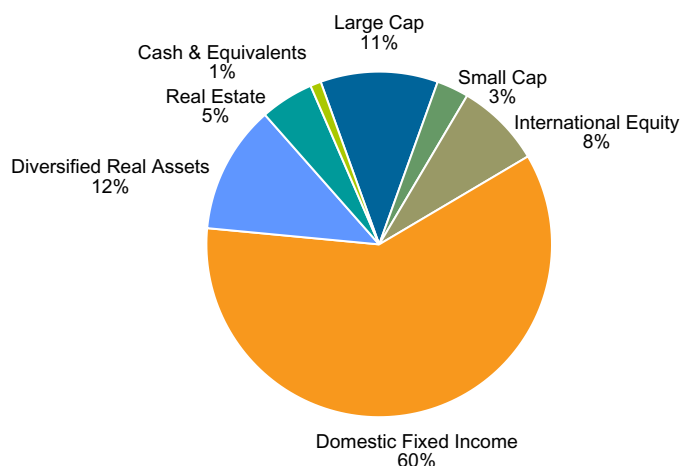
## Actual vs Target Asset Allocation As of June 30, 2020

The first chart below shows the Fund's asset allocation as of June 30, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

**Actual Asset Allocation**



**Target Asset Allocation**



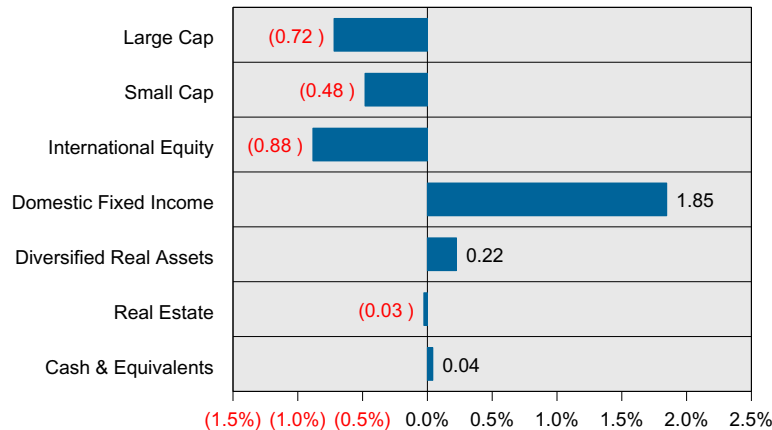
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	232,276	10.9%	11.0%	(0.1%)	(1,571)
Small Cap	63,132	3.0%	3.0%	(0.0%)	(644)
International Equity	169,018	8.0%	8.0%	(0.0%)	(1,053)
Domestic Fixed Income	1,284,237	60.4%	60.0%	0.4%	8,708
Diversified Real Assets	251,371	11.8%	12.0%	(0.2%)	(3,735)
Real Estate	98,386	4.6%	5.0%	(0.4%)	(7,908)
Cash & Equivalents	27,461	1.3%	1.0%	0.3%	6,202
<b>Total</b>	<b>2,125,881</b>	<b>100.0%</b>	<b>100.0%</b>		

\* 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.

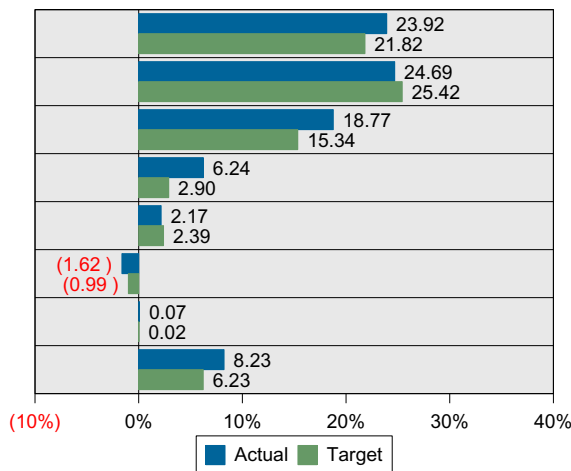
## Quarterly Total Fund Relative Attribution - June 30, 2020

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.

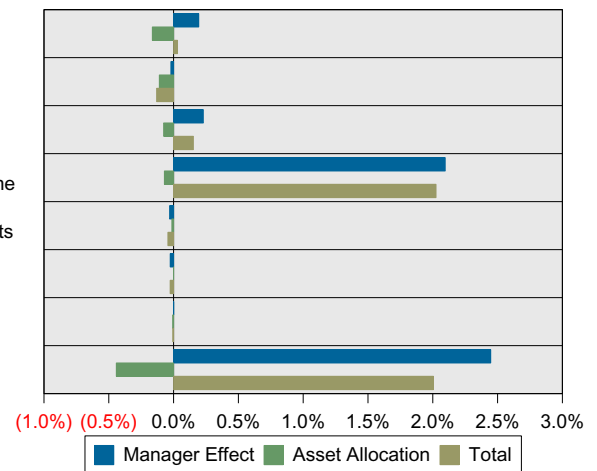
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2020

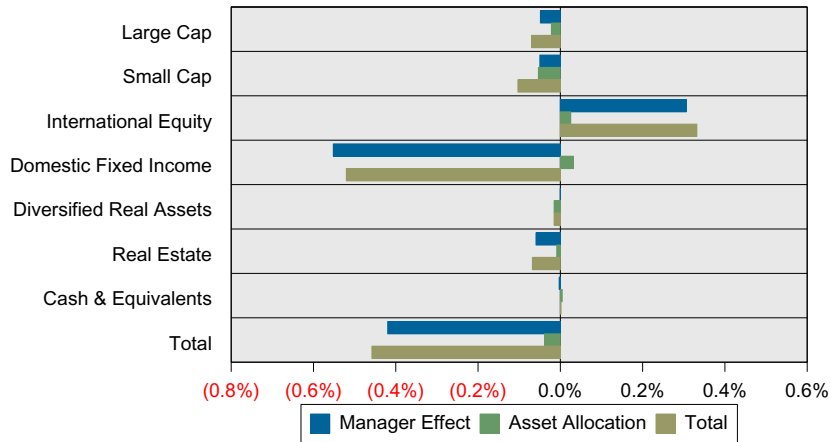
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	10%	11%	23.92%	21.82%	0.19%	(0.16%)	0.03%
Small Cap	3%	3%	24.69%	25.42%	(0.02%)	(0.11%)	(0.13%)
International Equity	7%	8%	18.77%	15.34%	0.23%	(0.08%)	0.15%
Domestic Fixed Income	62%	60%	6.24%	2.90%	2.10%	(0.07%)	2.02%
Diversified Real Assets	12%	12%	2.17%	2.39%	(0.03%)	(0.01%)	(0.04%)
Real Estate	5%	5%	(1.62%)	(0.99%)	(0.03%)	(0.00%)	(0.03%)
Cash & Equivalents	1%	1%	0.07%	0.02%	0.00%	(0.01%)	(0.01%)
<b>Total</b>			<b>8.23%</b>	<b>6.23%</b>	<b>2.45%</b>	<b>(0.44%)</b>	<b>2.01%</b>

\* 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.

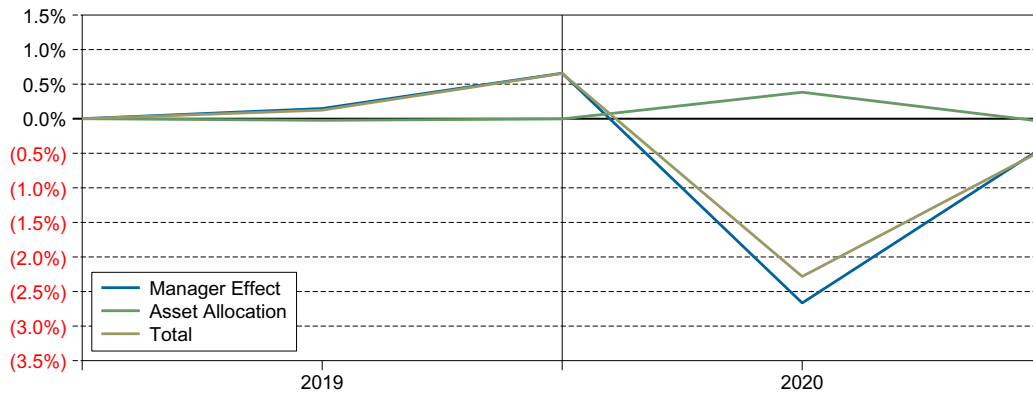
## Cumulative Total Fund Relative Attribution - June 30, 2020

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%	6.78%	7.48%	(0.05%)	(0.02%)	(0.07%)
Small Cap	3%	3%	(8.23%)	(6.63%)	(0.05%)	(0.05%)	(0.10%)
International Equity	8%	8%	(2.18%)	(5.42%)	0.31%	0.03%	0.33%
Domestic Fixed Income	61%	60%	8.03%	8.74%	(0.55%)	0.03%	(0.52%)
Diversified Real Assets	12%	12%	5.46%	5.41%	(0.00%)	(0.02%)	(0.02%)
Real Estate	5%	5%	1.41%	2.69%	(0.06%)	(0.01%)	(0.07%)
Cash & Equivalents	1%	1%	1.37%	1.63%	(0.00%)	0.00%	0.00%
<b>Total</b>			<b>6.16%</b>	<b>6.62%</b>	<b>(0.42%)</b>	<b>(0.04%)</b>	<b>(0.46%)</b>

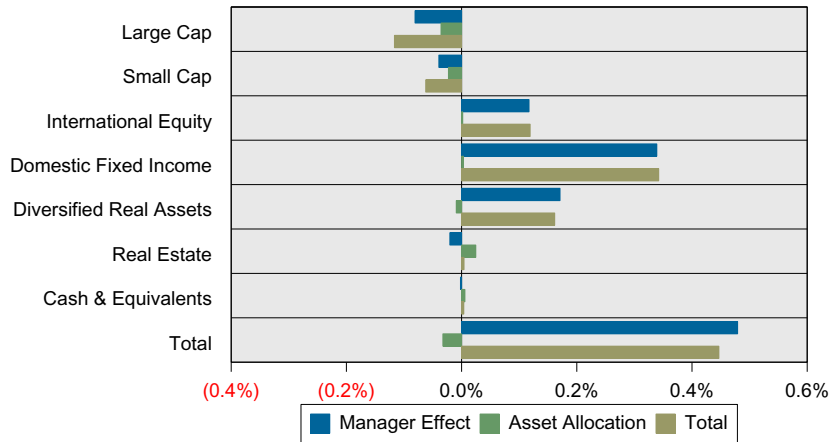
\* Current Quarter Target = 60.0% Blmbg Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.



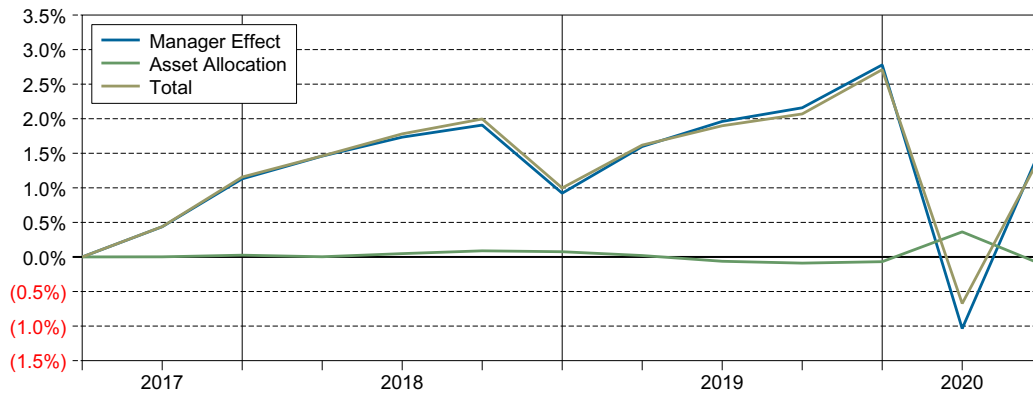
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

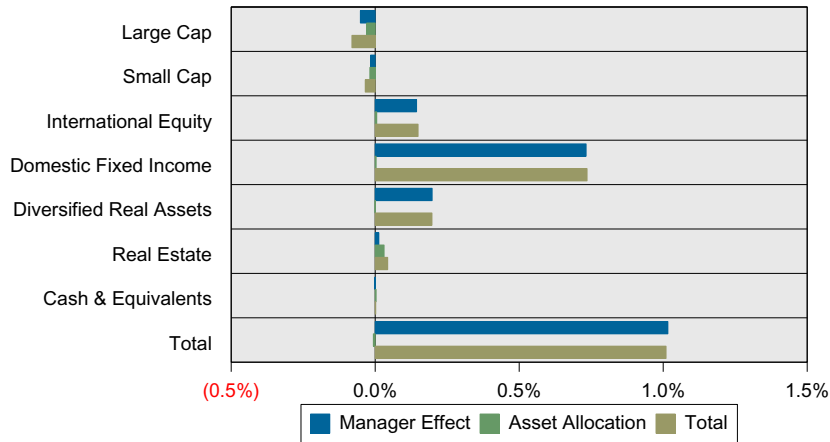
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	9.77%	10.64%	(0.08%)	(0.04%)	(0.12%)
Small Cap	3%	3%	0.72%	2.01%	(0.04%)	(0.02%)	(0.06%)
International Equity	8%	8%	1.86%	0.84%	0.12%	0.00%	0.12%
Domestic Fixed Income	57%	57%	6.05%	5.32%	0.34%	0.00%	0.34%
Diversified Real Assets	13%	13%	5.76%	4.50%	0.17%	(0.01%)	0.16%
Real Estate	6%	5%	4.97%	5.44%	(0.02%)	0.02%	0.00%
Cash & Equivalents	1%	1%	1.58%	1.77%	(0.00%)	0.01%	0.00%
<b>Total</b>			<b>6.25%</b>	<b>5.80%</b>	<b>+ 0.48%</b>	<b>+ (0.03%)</b>	<b>0.45%</b>

\* 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.

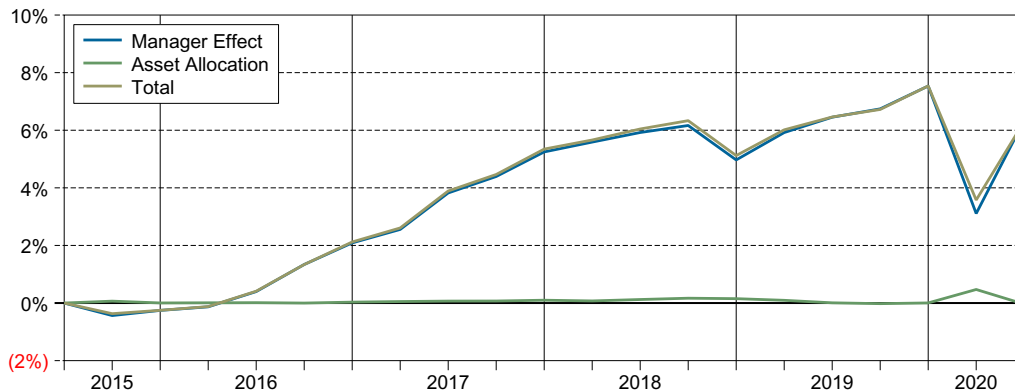
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

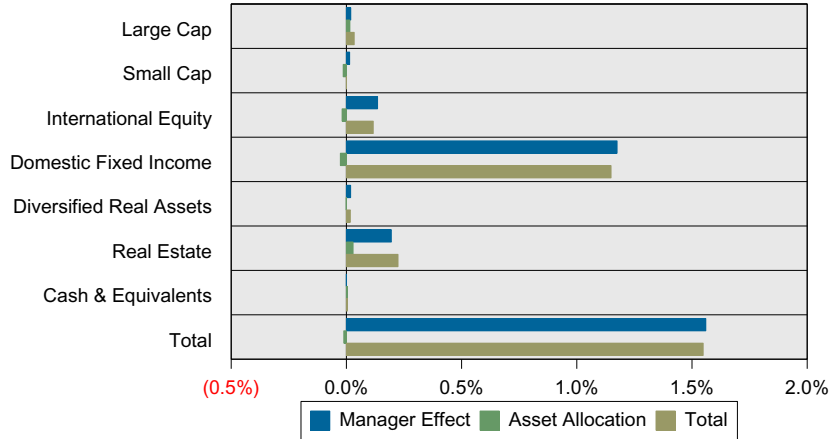
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	12%	12%	9.93%	10.47%	(0.05%)	(0.03%)	(0.08%)
Small Cap	4%	4%	3.69%	4.29%	(0.02%)	(0.02%)	(0.03%)
International Equity	8%	9%	3.36%	1.94%	0.14%	0.01%	0.15%
Domestic Fixed Income	55%	56%	5.75%	4.30%	0.73%	0.00%	0.74%
Diversified Real Assets	14%	14%	4.89%	3.47%	0.20%	(0.00%)	0.20%
Real Estate	6%	6%	6.81%	6.77%	0.01%	0.03%	0.04%
Cash & Equivalents	1%	1%	1.06%	1.19%	(0.00%)	0.00%	0.00%
<b>Total</b>			<b>6.21%</b>	<b>5.20%</b>	<b>+ 1.02%</b>	<b>+ (0.01%)</b>	<b>1.01%</b>

\* 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.

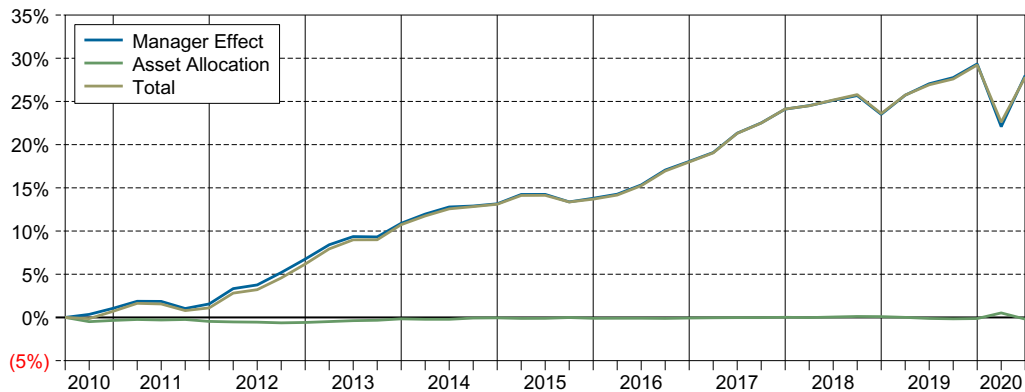
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

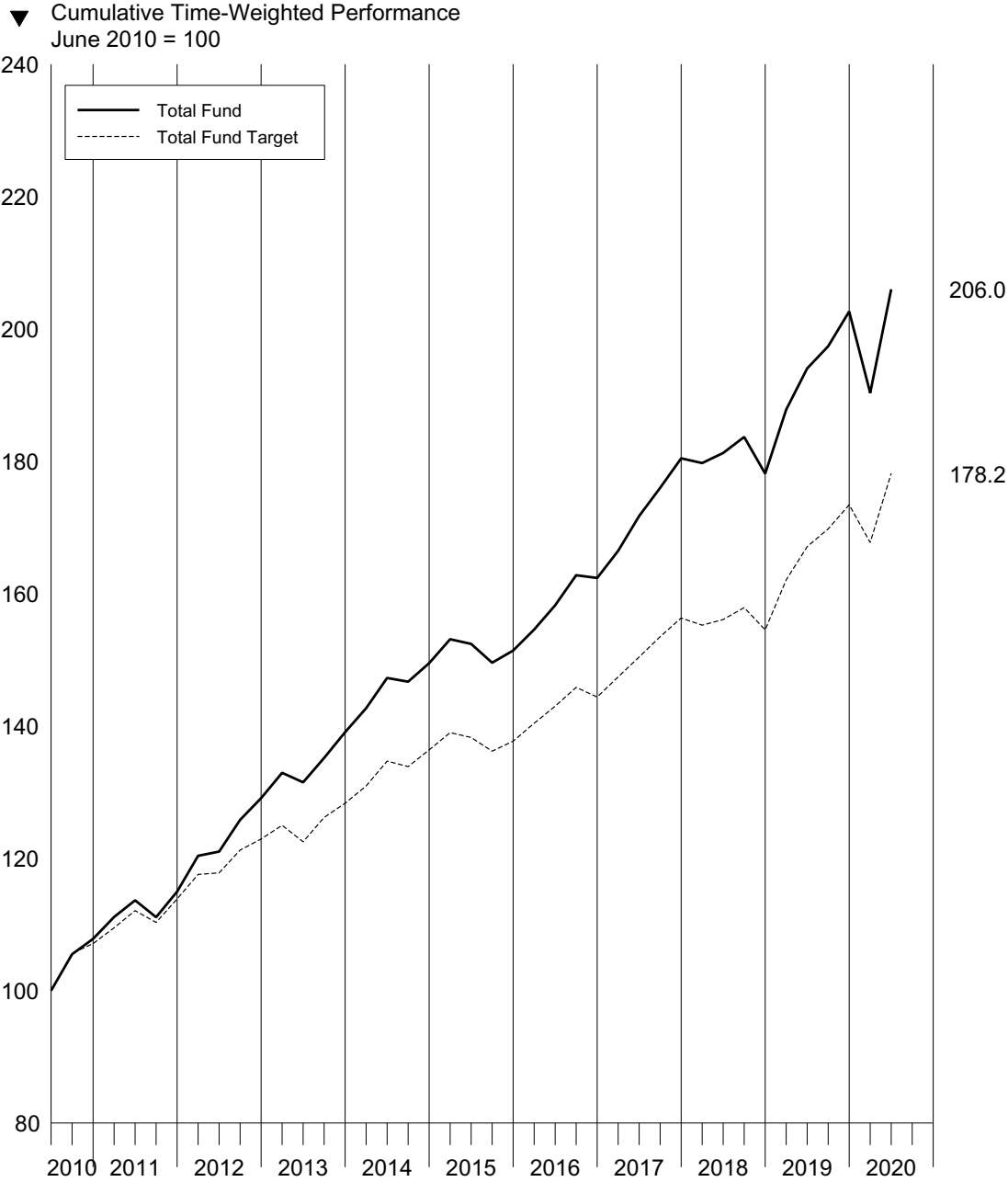


### Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	11%	11%	14.11%	13.97%	0.02%	0.02%	0.03%
Small Cap	4%	3%	10.83%	10.50%	0.01%	(0.01%)	0.00%
International Equity	8%	8%	6.66%	5.11%	0.14%	(0.02%)	0.12%
Domestic Fixed Income	53%	54%	6.09%	3.82%	1.17%	(0.03%)	1.15%
Diversified Real Assets	17%	17%	4.83%	4.56%	0.02%	(0.00%)	0.02%
Real Estate	6%	6%	12.85%	9.70%	0.20%	0.03%	0.22%
Cash & Equivalents	1%	1%	0.61%	0.64%	(0.00%)	0.00%	0.00%
<b>Total</b>			<b>7.49%</b>	<b>5.95%</b>	<b>+ 1.56%</b>	<b>+ (0.01%)</b>	<b>1.55%</b>

\* 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.

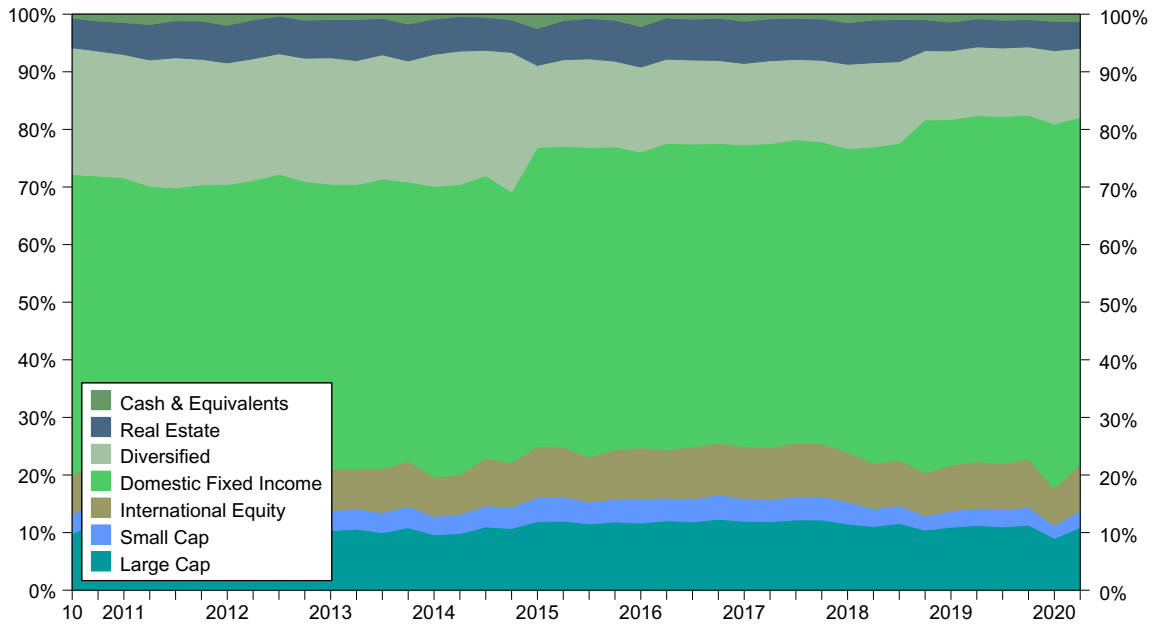
**NDSIB - Workforce Safety & Insurance  
Cumulative Results**



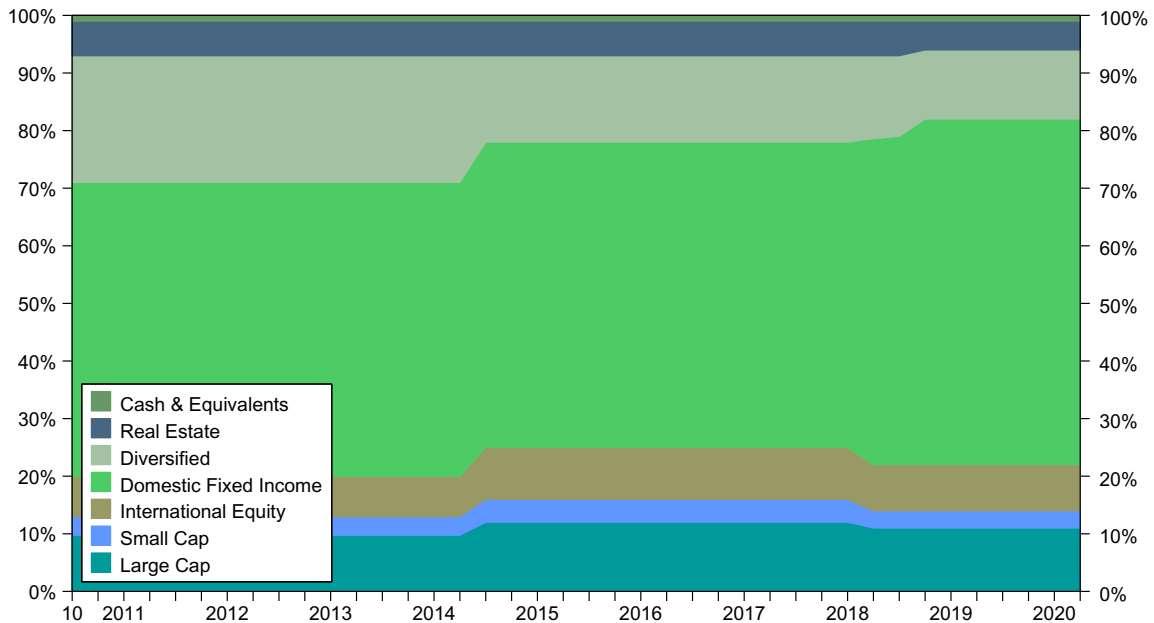
## Actual vs Target Historical Asset Allocation

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

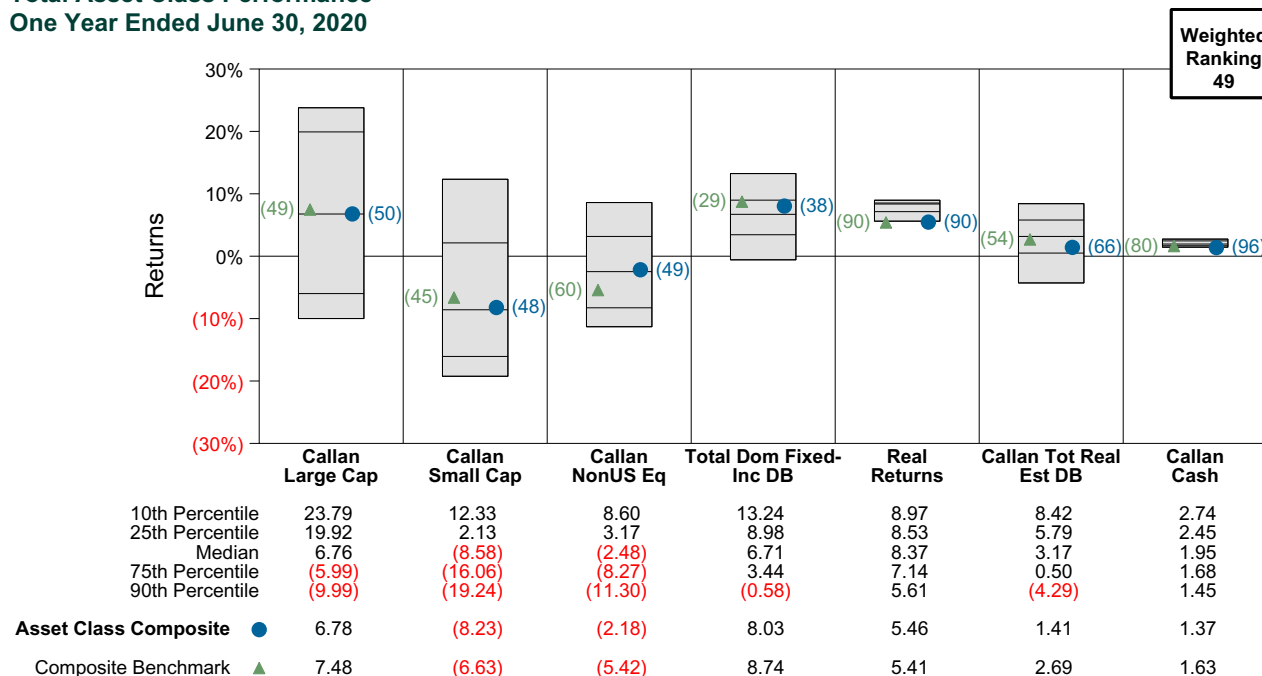


\* Current Quarter Target = 60.0% Blmgb Aggregate, 12.0% NDSIB WSI DRA Weighted Benchmark, 11.0% Russell 1000 Index, 8.0% MSCI World ex US, 5.0% NCREIF Total Index, 3.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

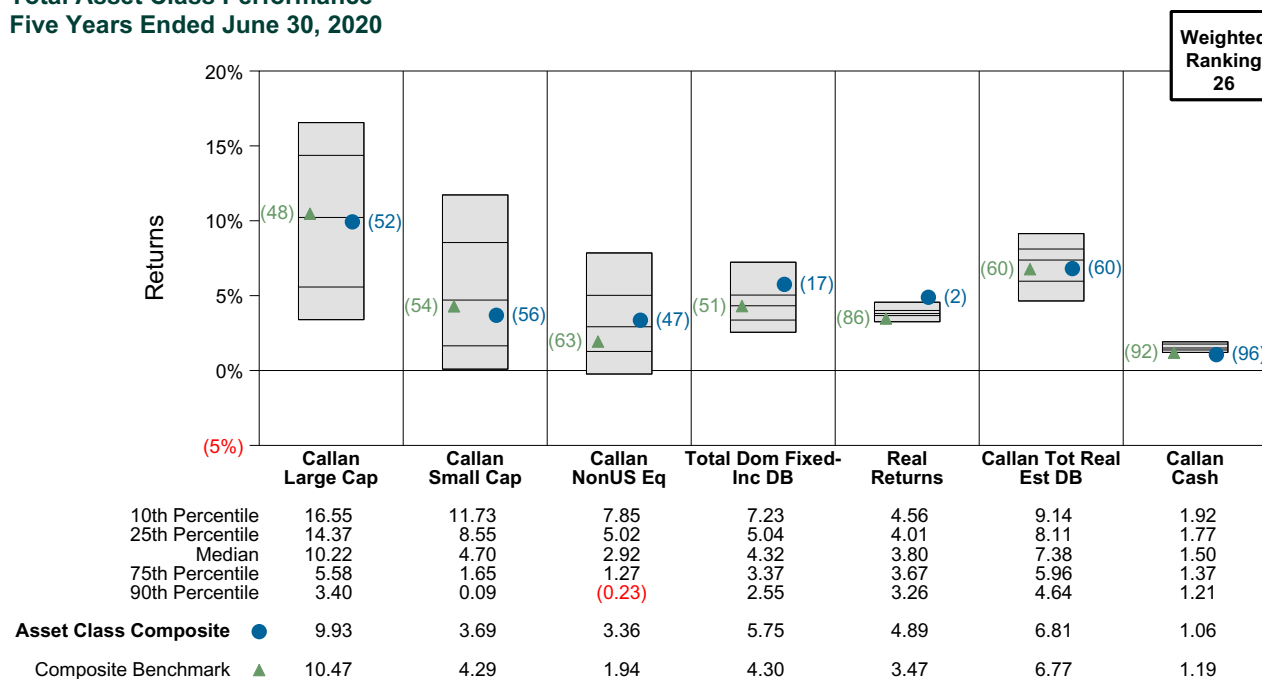
## Asset Class Rankings

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 June 30, 2020



### Total Asset Class Performance Five Years Ended June 30, 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 June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
<b>Global Equity</b>	<b>\$464,425,535</b>	<b>21.85%</b>	<b>\$31,362,999</b>	<b>\$81,632,266</b>	<b>\$351,430,269</b>	<b>17.72%</b>
<b>Domestic Equity</b>	<b>\$295,407,677</b>	<b>13.90%</b>	<b>\$16,030,230</b>	<b>\$56,142,899</b>	<b>\$223,234,547</b>	<b>11.26%</b>
Large Cap	232,275,541	10.93%	8,030,525	45,157,243	179,087,772	9.03%
Small Cap	63,132,136	2.97%	7,999,705	10,985,656	44,146,775	2.23%
<b>International Equity</b>	<b>\$169,017,858</b>	<b>7.95%</b>	<b>\$15,332,769</b>	<b>\$25,489,367</b>	<b>\$128,195,723</b>	<b>6.46%</b>
<b>Domestic Fixed Income</b>	<b>\$1,284,237,065</b>	<b>60.41%</b>	<b>\$(50,613,365)</b>	<b>\$77,266,245</b>	<b>\$1,257,584,185</b>	<b>63.41%</b>
<b>Global Real Assets</b>	<b>\$349,757,341</b>	<b>16.45%</b>	<b>\$(3,610,814)</b>	<b>\$3,768,477</b>	<b>\$349,599,678</b>	<b>17.63%</b>
Real Estate	98,386,162	4.63%	(1,122,319)	(1,606,223)	101,114,704	5.10%
Diversified	251,371,179	11.82%	(2,488,495)	5,374,700	248,484,974	12.53%
<b>Cash</b>	<b>\$27,461,280</b>	<b>1.29%</b>	<b>\$2,791,490</b>	<b>\$17,717</b>	<b>\$24,652,073</b>	<b>1.24%</b>
<b>Securities Lending Income</b>	<b>\$0</b>	<b>0.00%</b>	<b>\$(20,664)</b>	<b>\$20,664</b>	<b>-</b>	<b>-</b>
<b>Total Fund</b>	<b>\$2,125,881,220</b>	<b>100.0%</b>	<b>\$(20,090,354)</b>	<b>\$162,705,369</b>	<b>\$1,983,266,205</b>	<b>100.0%</b>

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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Global Equity</b>					
Gross	22.12%	1.40%	-	-	-
Net	22.06%	1.19%	-	-	-
Weighted Benchmark	19.95%	0.78%	-	-	-
<b>Domestic Equity</b>					
Gross	24.01%	3.42%	7.84%	8.59%	13.41%
Net	23.97%	3.26%	7.66%	8.37%	13.11%
Weighted Benchmark	22.59%	4.40%	-	-	-
<b>Large Cap</b>					
Gross	23.92%	6.78%	9.77%	9.93%	14.11%
Net	23.88%	6.60%	9.58%	9.73%	13.87%
Benchmark(1)	21.82%	7.48%	10.64%	10.47%	13.97%
<b>Small Cap</b>					
Gross	24.69%	(8.23%)	0.72%	3.69%	10.83%
Net	24.65%	(8.34%)	0.55%	3.41%	10.38%
Russell 2000	25.42%	(6.63%)	2.01%	4.29%	10.50%
<b>International Equity</b>					
Gross	18.77%	(2.18%)	1.86%	3.36%	6.66%
Net	18.68%	(2.48%)	1.54%	3.04%	6.29%
Benchmark(2)	15.34%	(5.42%)	0.84%	1.94%	5.11%
<b>Domestic Fixed Income</b>					
Gross	6.24%	8.03%	6.05%	5.75%	6.09%
Net	6.21%	7.91%	5.92%	5.62%	5.94%
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.82%
<b>Global Real Assets</b>					
Gross	1.08%	4.29%	-	-	-
Net	0.95%	4.02%	-	-	-
Weighted Benchmark	1.39%	4.61%	-	-	-
<b>Real Estate</b>					
Gross	(1.62%)	1.41%	4.97%	6.81%	12.85%
Net	(1.86%)	0.93%	4.43%	6.20%	11.99%
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	9.70%
<b>Diversified</b>					
Gross	2.17%	5.46%	5.76%	4.89%	4.83%
Net	2.09%	5.28%	5.54%	4.62%	4.52%
Weighted Benchmark	2.39%	5.41%	4.50%	3.47%	4.56%
<b>Cash &amp; Equivalents - Net</b>	<b>0.07%</b>	<b>1.37%</b>	<b>1.58%</b>	<b>1.06%</b>	<b>0.61%</b>
90 Day Treasury Bills	0.02%	1.63%	1.77%	1.19%	0.64%
<b>Total Fund</b>					
Gross	8.23%	6.16%	6.25%	6.21%	7.49%
Net	8.18%	6.00%	6.07%	6.00%	7.23%
Target*	6.23%	6.62%	5.80%	5.20%	5.95%

\* 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.

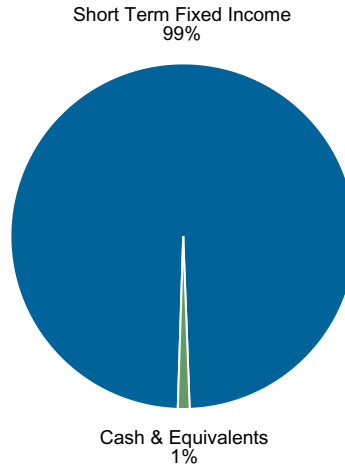
PLEASE REFER TO PAGE 31-33 FOR INVESTMENT MANAGER LEVEL RETURNS.



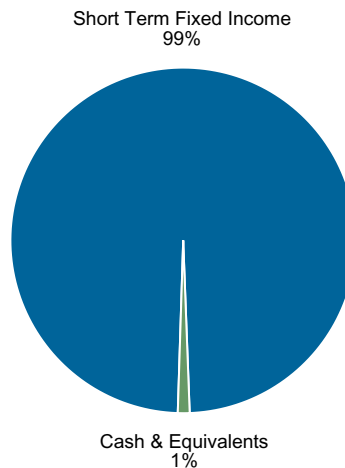
## Actual vs Target Asset Allocation As of June 30, 2020

The first chart below shows the Fund's asset allocation as of June 30, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

### Actual Asset Allocation



### Target Asset Allocation



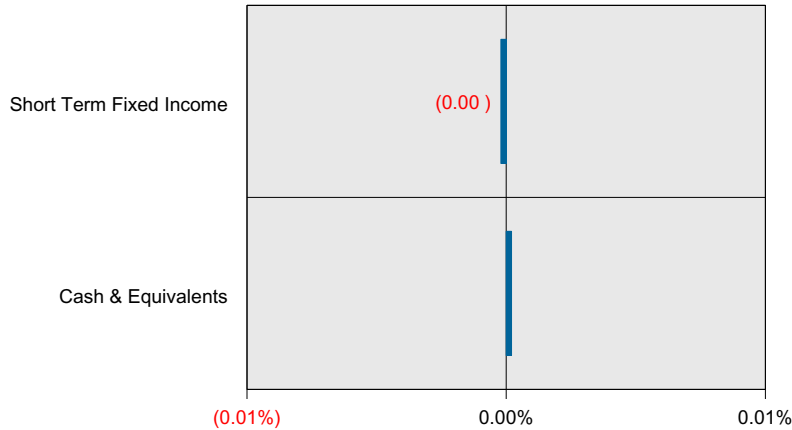
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Short Term Fixed Income	719,272	98.9%	98.9%	0.0%	143
Cash & Equivalents	8,003	1.1%	1.1%	(0.0%)	(143)
Total	727,275	100.0%	100.0%		

\* Current Quarter Target = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 3-month Treasury Bill.

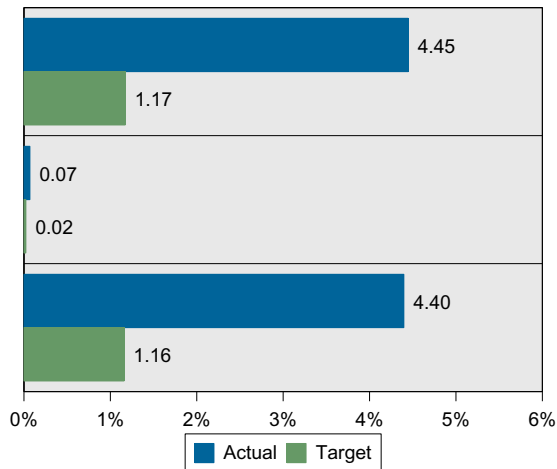
## Quarterly Total Fund Relative Attribution - June 30, 2020

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.

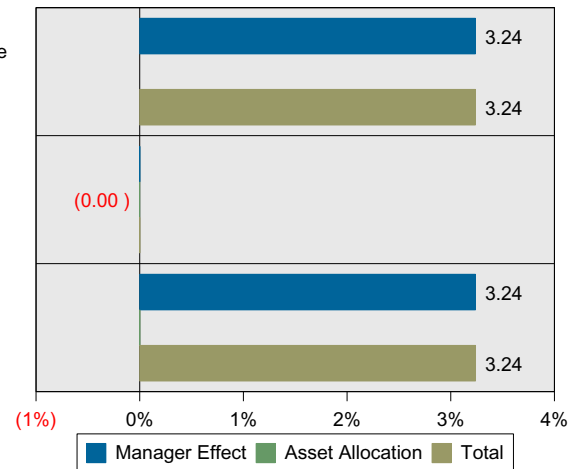
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2020

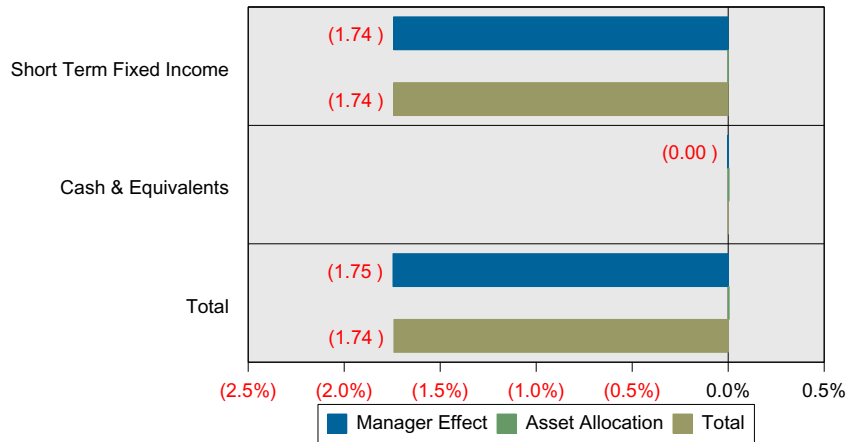
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	99%	99%	4.45%	1.17%	3.24%	0.00%	3.24%
Cash & Equivalents	1%	1%	0.07%	0.02%	0.00%	(0.00%)	0.00%
<b>Total</b>			<b>4.40%</b>	<b>1.16%</b>	<b>+ 3.24%</b>	<b>+ 0.00%</b>	<b>3.24%</b>

\* Current Quarter Target = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 3-month Treasury Bill.

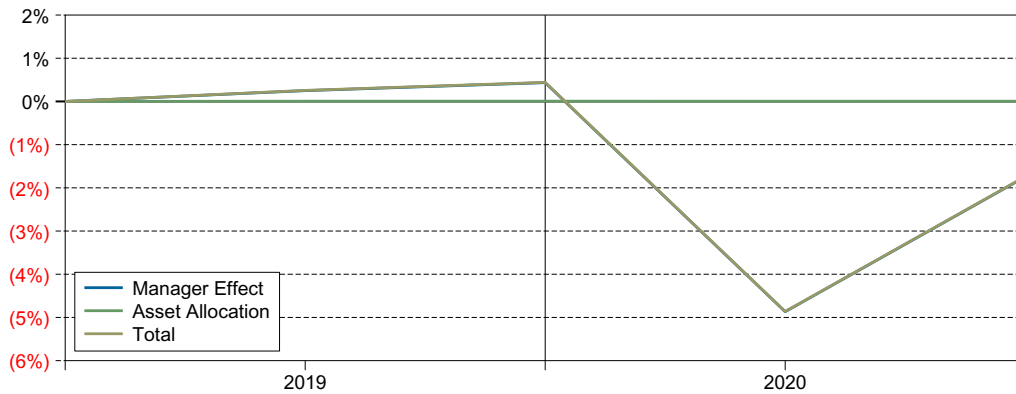
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

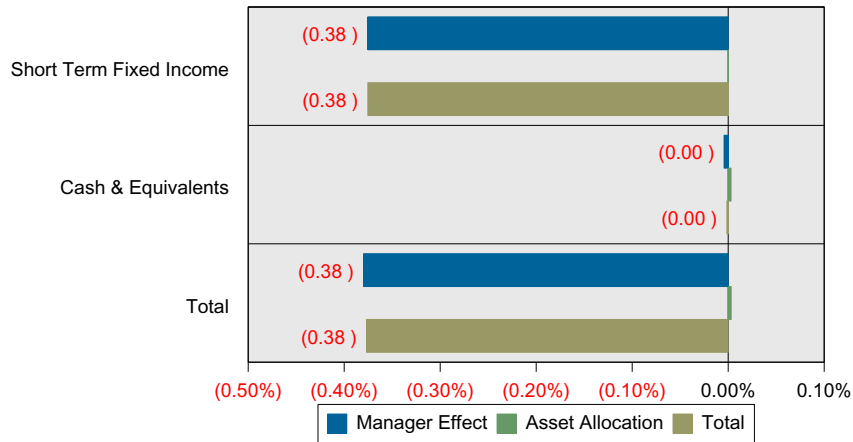
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	99%	99%	2.44%	4.20%	(1.74%)	0.00%	(1.74%)
Cash & Equivalents	1%	1%	1.37%	1.63%	(0.00%)	0.00%	0.00%
<b>Total</b>			<b>2.43%</b>	<b>4.17%</b>	<b>+ (1.75%)</b>	<b>+ 0.00%</b>	<b>(1.74%)</b>

\* Current Quarter Target = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 3-month Treasury Bill.

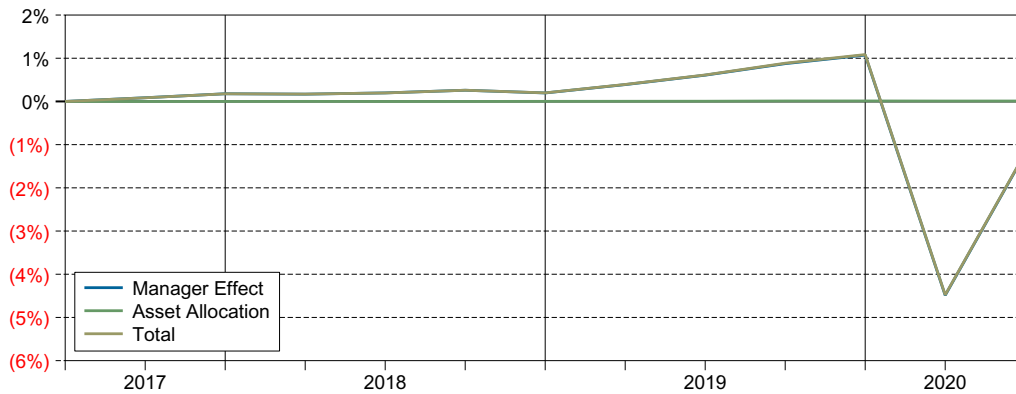
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

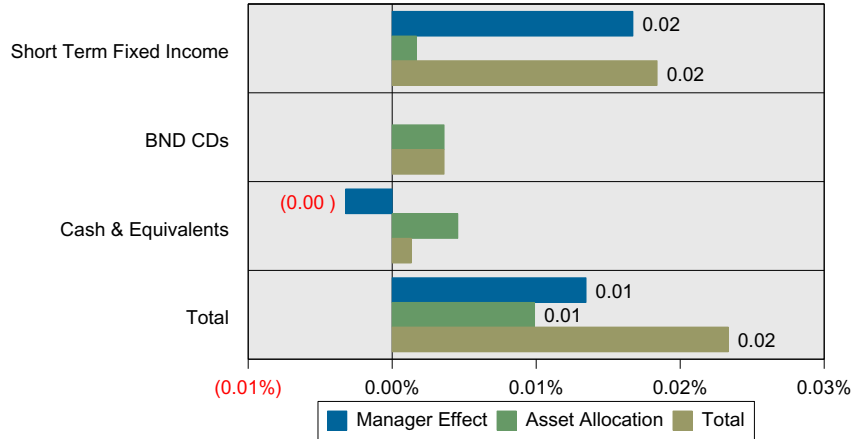
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	97%	98%	2.50%	2.87%	(0.38%)	0.00%	(0.38%)
Cash & Equivalents	3%	2%	1.58%	1.77%	(0.00%)	0.00%	(0.00%)
<b>Total</b>			<b>2.49%</b>	<b>2.86%</b>	<b>+ (0.38%)</b>	<b>+ 0.00%</b>	<b>(0.38%)</b>

\* Current Quarter Target = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 3-month Treasury Bill.

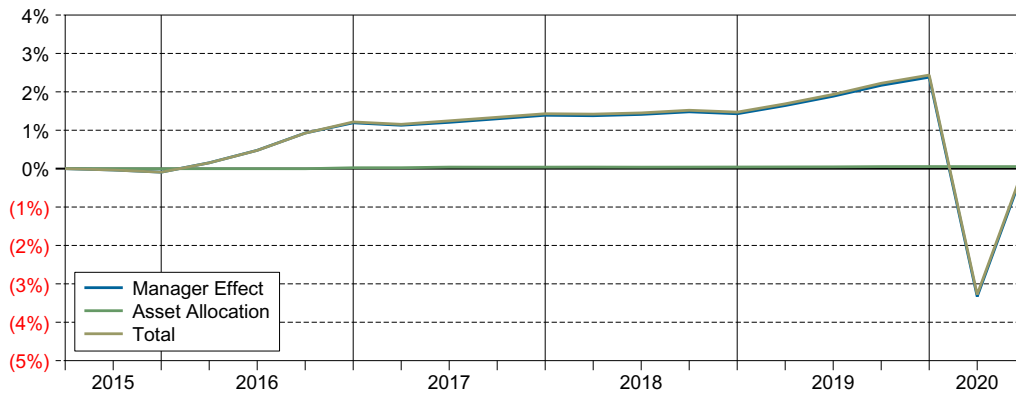
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

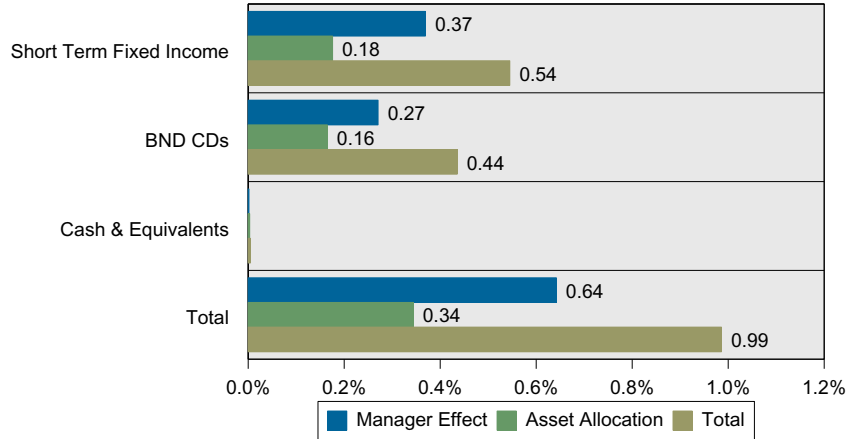
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	92%	92%	2.05%	1.99%	0.02%	0.00%	0.02%
BND CDs	5%	5%	-	-	0.00%	0.00%	0.00%
Cash & Equivalents	3%	3%	1.06%	1.19%	(0.00%)	0.00%	0.00%
<b>Total</b>			<b>2.11%</b>	<b>2.09%</b>	<b>+ 0.01%</b>	<b>+ 0.01%</b>	<b>0.02%</b>

\* Current Quarter Target = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 3-month Treasury Bill.

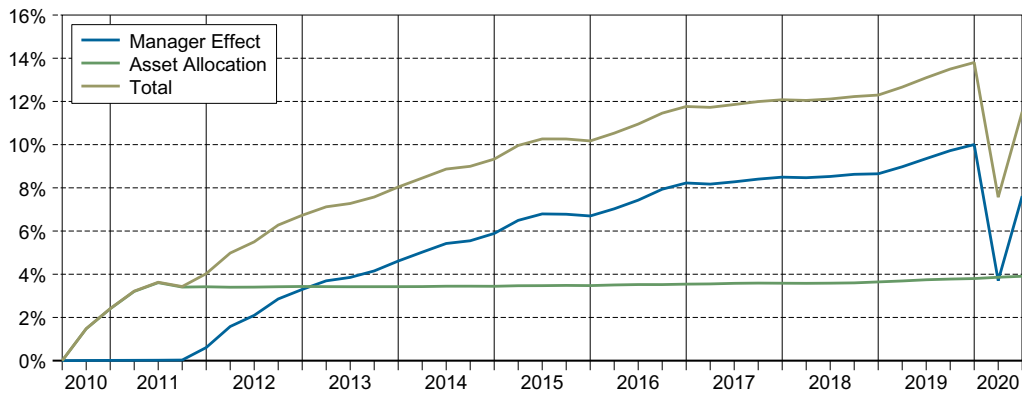
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

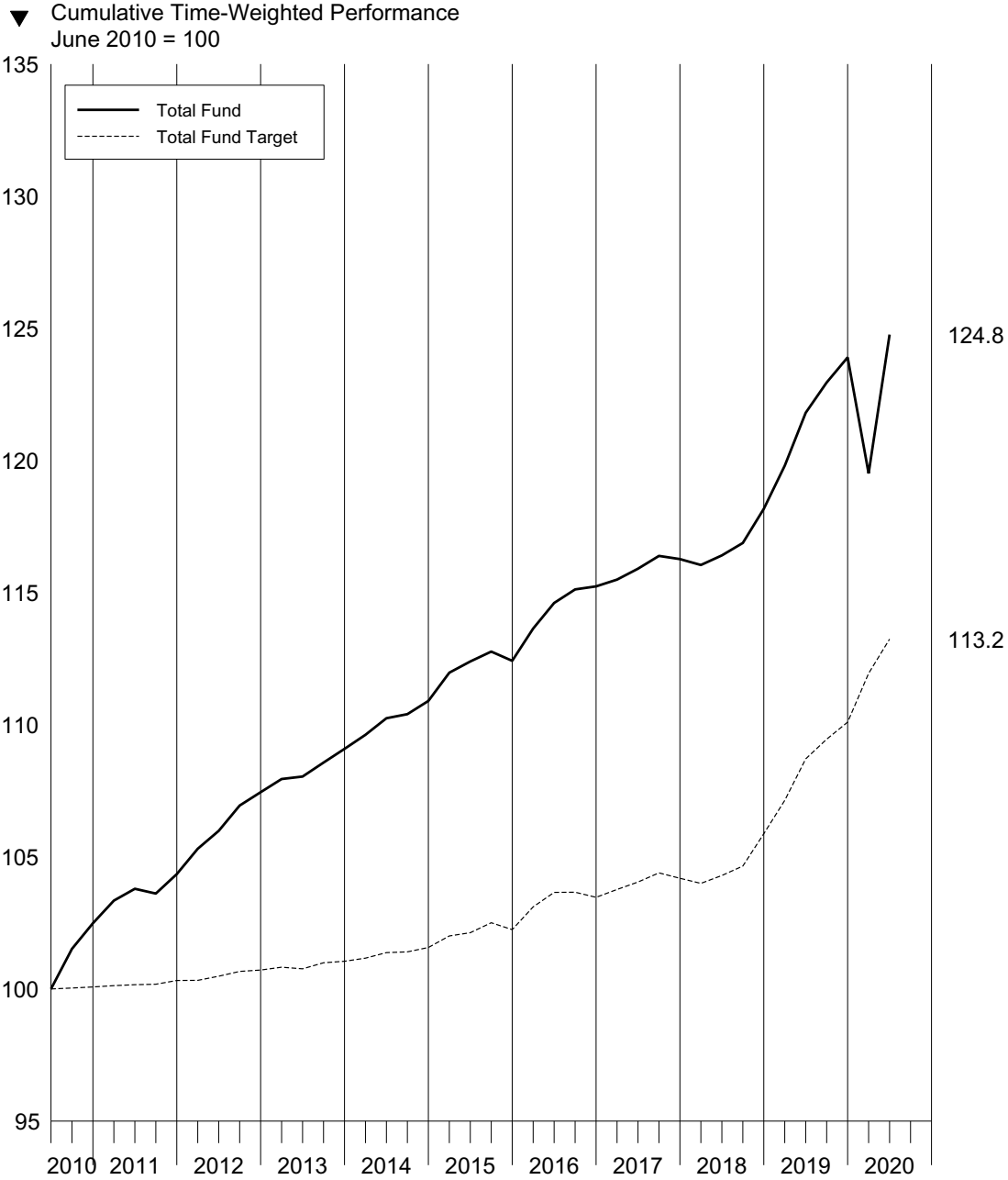


### Ten Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Short Term Fixed Income	82%	75%	2.05%	1.54%	0.37%	0.18%	0.54%
BND CDs	15%	11%	-	-	0.27%	0.16%	0.44%
Cash & Equivalents	4%	15%	0.61%	0.64%	0.00%	0.00%	0.00%
<b>Total</b>			<b>2.24%</b>	<b>1.25%</b>	<b>+ 0.64%</b>	<b>+ 0.34%</b>	<b>0.99%</b>

\* Current Quarter Target = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 3-month Treasury Bill.

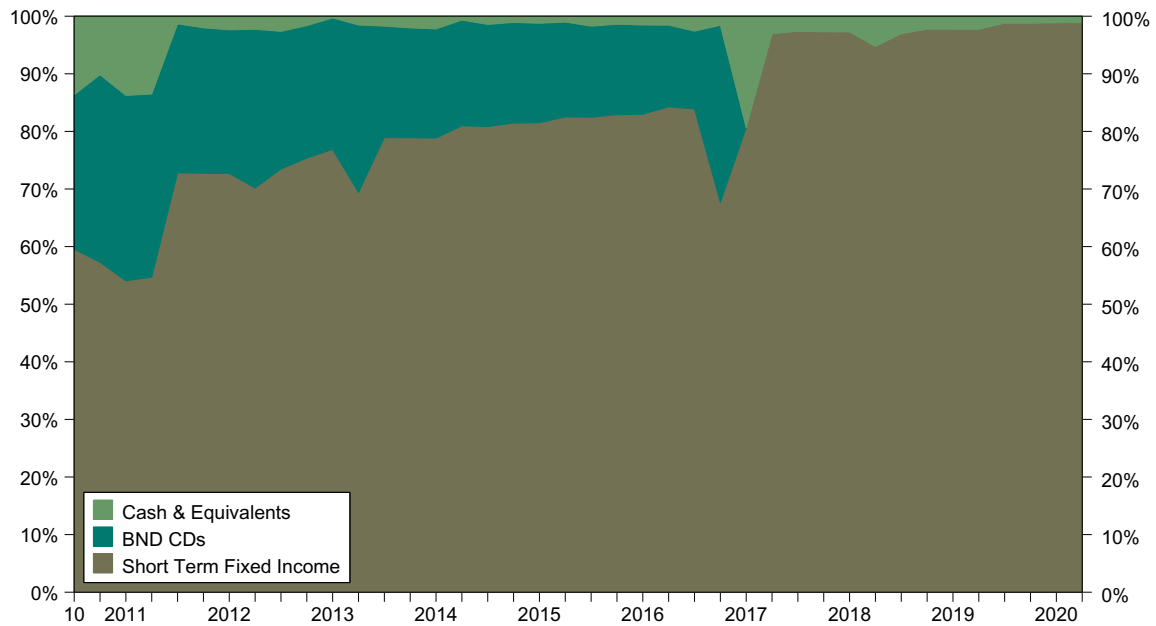
**NDSIB - Budget Stabilization Fund  
Cumulative Results**



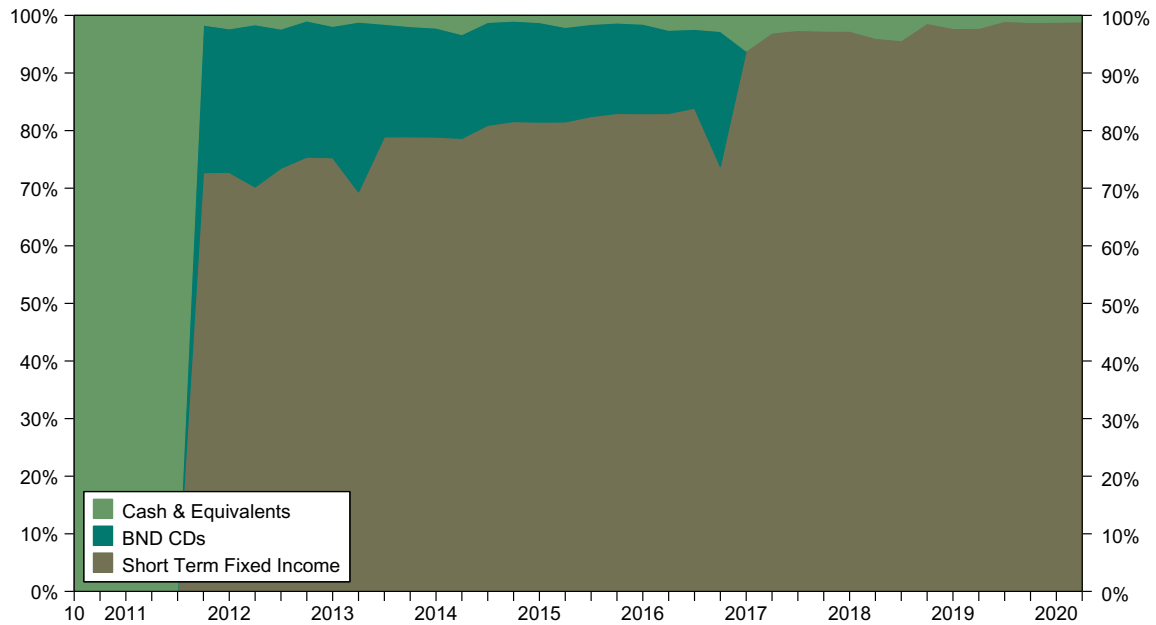
## Actual vs Target Historical Asset Allocation

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 = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 3-month Treasury Bill.



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## Asset Class Allocation

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The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
Short Term Fixed Income	\$719,272,275	98.90%	\$(100,212)	\$30,626,485	\$688,746,002	98.85%
Cash & Equivalents	\$8,002,787	1.10%	\$(32,730)	\$5,529	\$8,029,988	1.15%
Securities Lending Income	\$0	0.00%	\$(2,290)	\$2,290	-	-
Total Fund	\$727,275,063	100.0%	\$(135,232)	\$30,634,304	\$696,775,990	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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Short Term Fixed Income</b>					
Gross	4.45%	2.44%	2.50%	2.05%	2.05%
Net	4.43%	2.36%	2.39%	1.87%	1.91%
Blended Benchmark(1)	1.17%	4.20%	2.87%	1.99%	-
<b>Cash &amp; Equivalents - Net</b>	<b>0.07%</b>	<b>1.37%</b>	<b>1.58%</b>	<b>1.06%</b>	<b>0.61%</b>
3-month Treasury Bill	0.02%	1.63%	1.77%	1.19%	0.64%
<b>Total Fund</b>					
Gross	4.40%	2.43%	2.49%	2.11%	2.24%
Net	4.38%	2.35%	2.38%	1.95%	2.12%
Target*	1.16%	4.17%	2.86%	2.09%	1.25%

\* Current Quarter Target = 98.9% Blmbg Gov/Cred 1-3 Yr and 1.1% 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 June 30, 2020

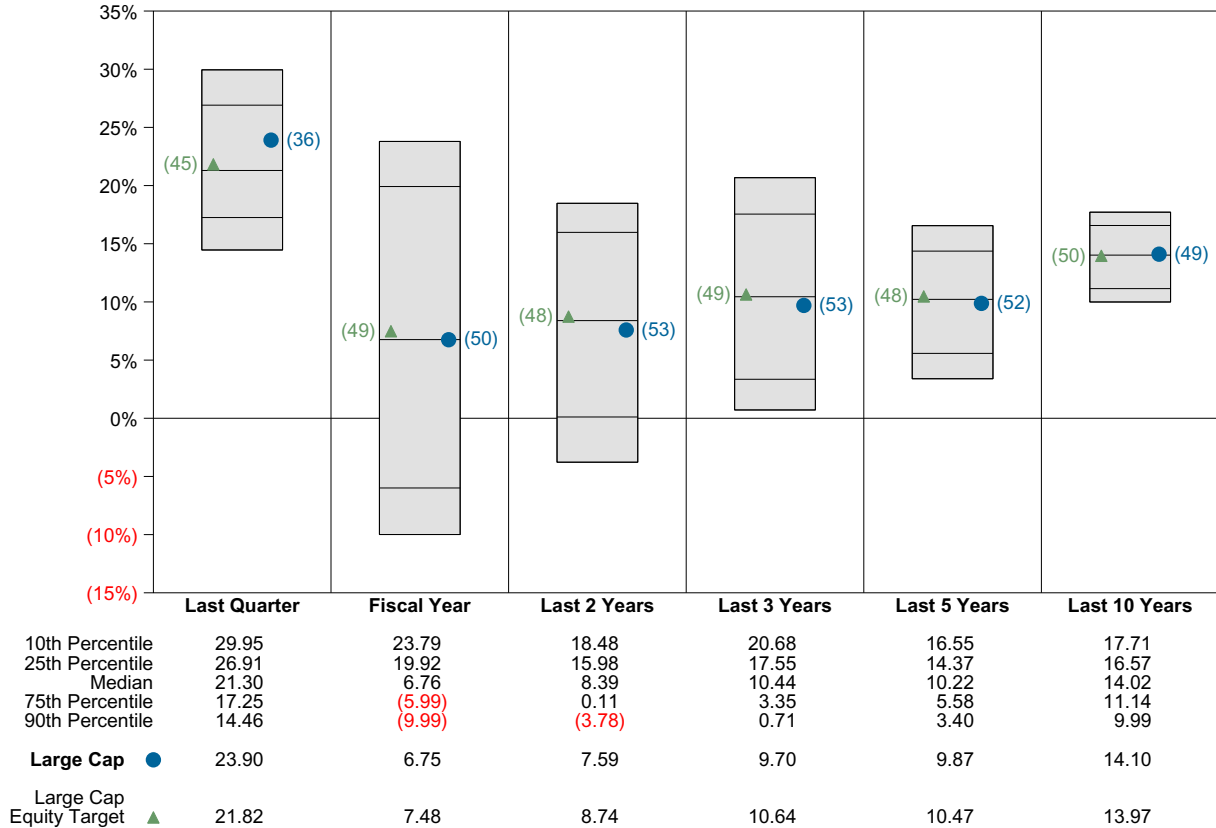
## Quarterly Summary and Highlights

- Large Cap's portfolio posted a 23.90% return for the quarter placing it in the 36 percentile of the Callan Large Capitalization group for the quarter and in the 50 percentile for the last year.
- Large Cap's portfolio outperformed the Large Cap Equity Target by 2.08% for the quarter and underperformed the Large Cap Equity Target for the year by 0.73%.

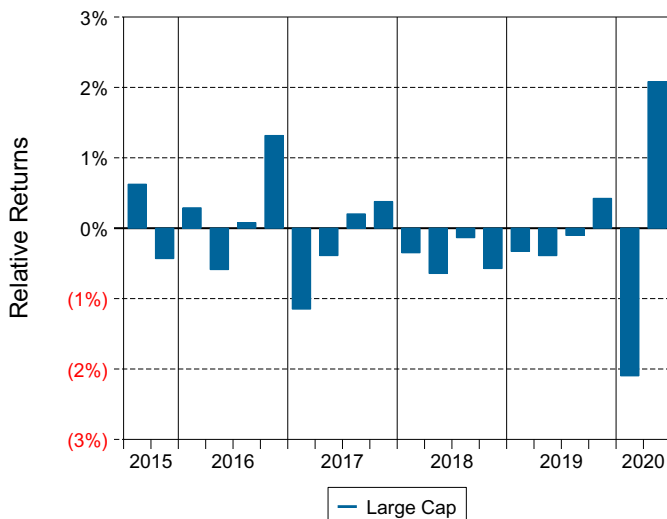
## Quarterly Asset Growth

Beginning Market Value	\$195,544,300
Net New Investment	\$7,511,972
Investment Gains/(Losses)	\$48,918,928
Ending Market Value	\$251,975,200

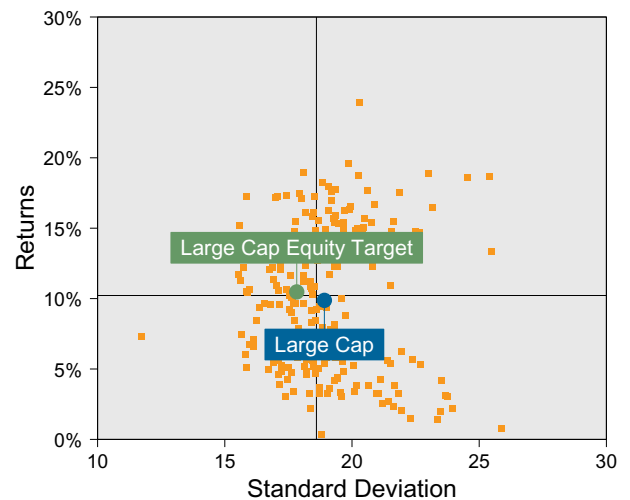
## Performance vs Callan Large Capitalization (Gross)



## Relative Return vs Large Cap Equity Target



## Callan Large Capitalization (Gross) Annualized Five Year Risk vs Return



# Parametric Large Cap Period Ended June 30, 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.

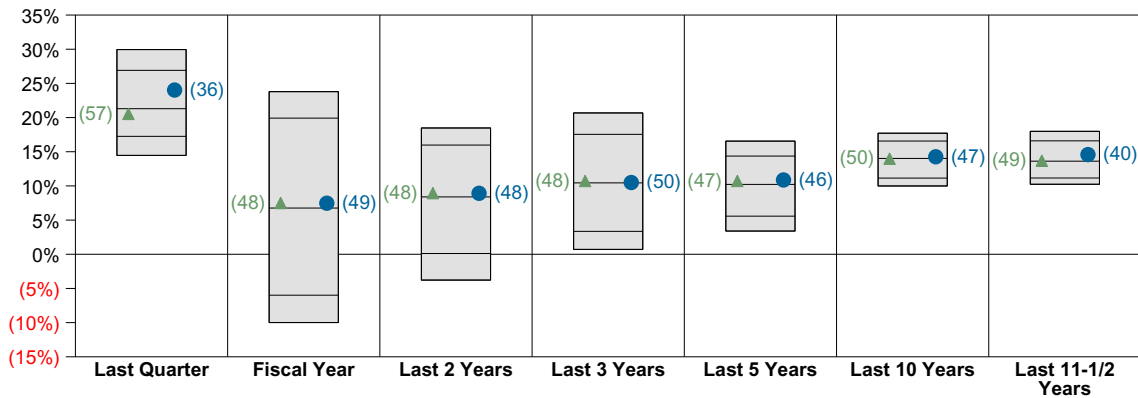
## Quarterly Summary and Highlights

- Parametric Large Cap's portfolio posted a 24.03% return for the quarter placing it in the 36 percentile of the Callan Large Capitalization group for the quarter and in the 49 percentile for the last year.
- Parametric Large Cap's portfolio outperformed the S&P 500 Index by 3.48% for the quarter and underperformed the S&P 500 Index for the year by 0.04%.

## Quarterly Asset Growth

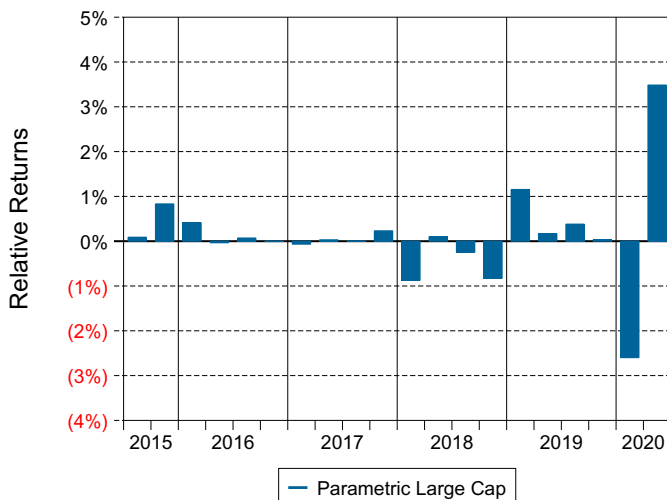
Beginning Market Value	\$38,964,373
Net New Investment	\$11,000,000
Investment Gains/(Losses)	\$9,373,035
Ending Market Value	\$59,337,408

## Performance vs Callan Large Capitalization (Gross)

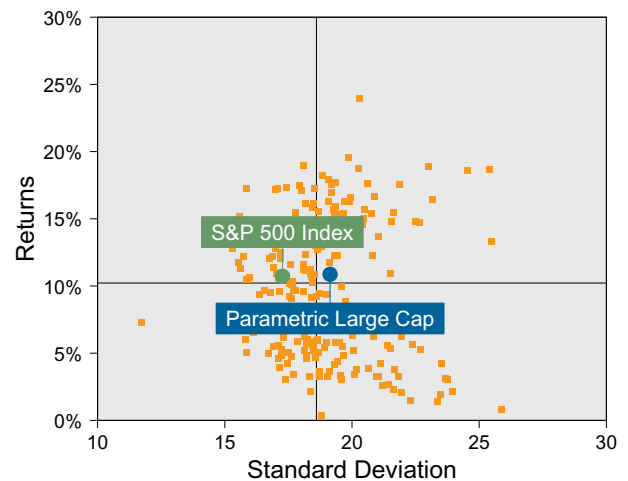


10th Percentile	29.95	23.79	18.48	20.68	16.55	17.71	17.98
25th Percentile	26.91	19.92	15.98	17.55	14.37	16.57	16.59
Median	21.30	6.76	8.39	10.44	10.22	14.02	13.62
75th Percentile	17.25	(5.99)	0.11	3.35	5.58	11.14	11.16
90th Percentile	14.46	(9.99)	(3.78)	0.71	3.40	9.99	10.24
<b>Parametric Large Cap</b>	● 24.03	7.47	8.92	10.50	10.87	14.26	14.58
S&P 500 Index	▲ 20.54	7.51	8.95	10.73	10.73	13.99	13.69

## Relative Return vs S&P 500 Index



## Callan Large Capitalization (Gross) Annualized Five Year Risk vs Return



# L.A. Capital Period Ended June 30, 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.

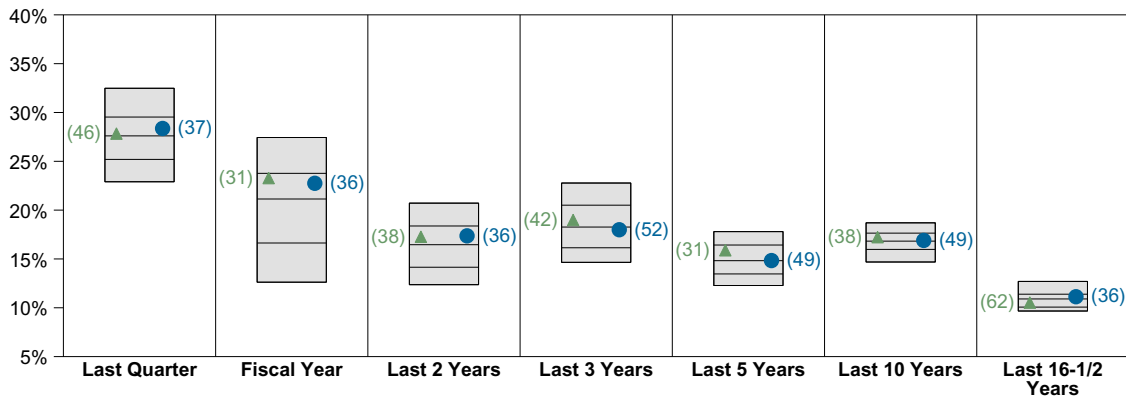
## Quarterly Summary and Highlights

- L.A. Capital Large Cap Growth's portfolio posted a 28.36% return for the quarter placing it in the 37 percentile of the Callan Large Cap Growth group for the quarter and in the 36 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio outperformed the Russell 1000 Growth Index by 0.53% for the quarter and underperformed the Russell 1000 Growth Index for the year by 0.53%.

## Quarterly Asset Growth

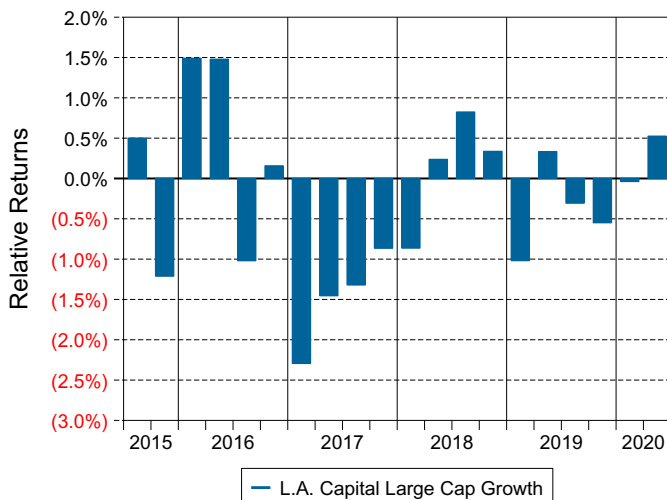
Beginning Market Value	\$64,483,800
Net New Investment	\$-36,358
Investment Gains/(Losses)	\$18,284,458
Ending Market Value	\$82,731,900

## Performance vs Callan Large Cap Growth (Gross)

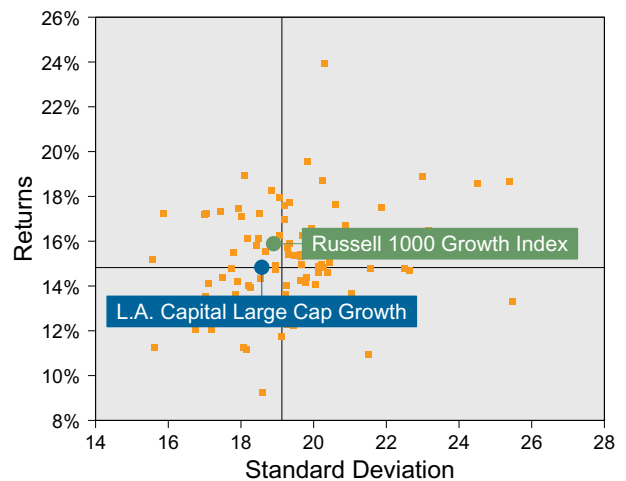


10th Percentile	32.48	27.44	20.72	22.78	17.80	18.70	12.70
25th Percentile	29.53	23.77	18.38	20.51	16.43	17.65	11.39
Median	27.60	21.14	16.46	18.27	14.82	16.82	10.90
75th Percentile	25.20	16.64	14.15	16.15	13.47	15.98	10.07
90th Percentile	22.90	12.62	12.37	14.65	12.28	14.69	9.67
<b>L.A. Capital Large Cap Growth</b>	<b>● 28.36</b>	<b>22.75</b>	<b>17.36</b>	<b>17.99</b>	<b>14.84</b>	<b>16.90</b>	<b>11.13</b>
Russell 1000 Growth Index	<b>▲ 27.84</b>	<b>23.28</b>	<b>17.27</b>	<b>18.99</b>	<b>15.89</b>	<b>17.23</b>	<b>10.53</b>

## Relative Return vs Russell 1000 Growth Index



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



# L.A. Capital Enhanced Period Ended June 30, 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.

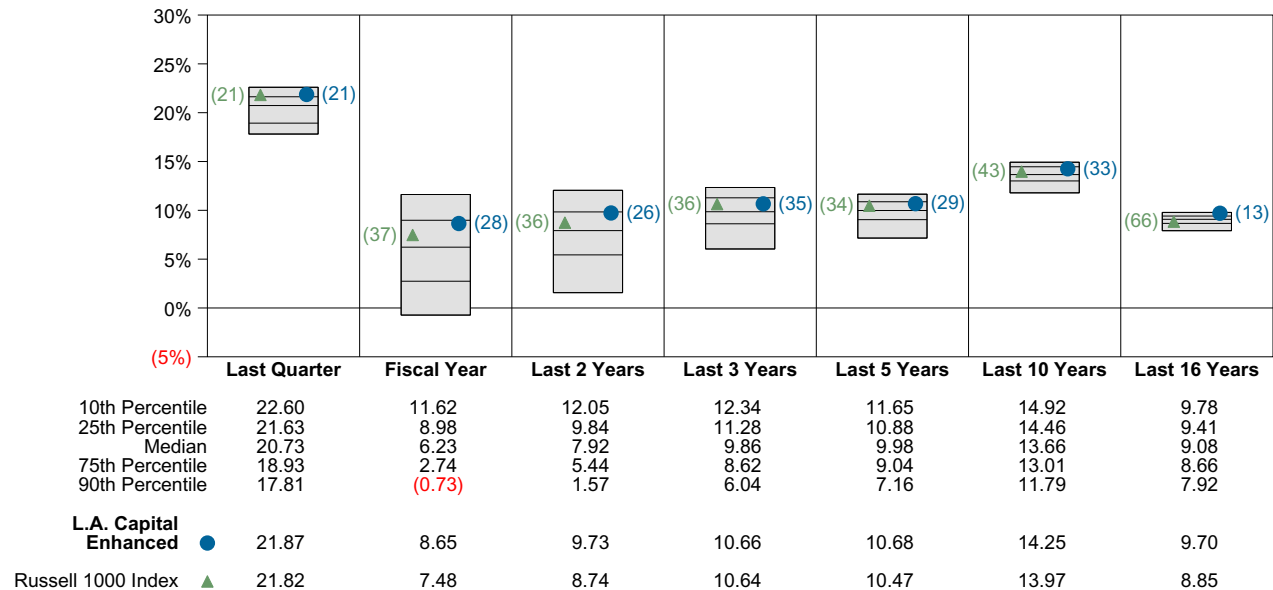
## Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a 21.87% return for the quarter placing it in the 21 percentile of the Callan Large Cap Core group for the quarter and in the 28 percentile for the last year.
- L.A. Capital Enhanced's portfolio outperformed the Russell 1000 Index by 0.04% for the quarter and outperformed the Russell 1000 Index for the year by 1.17%.

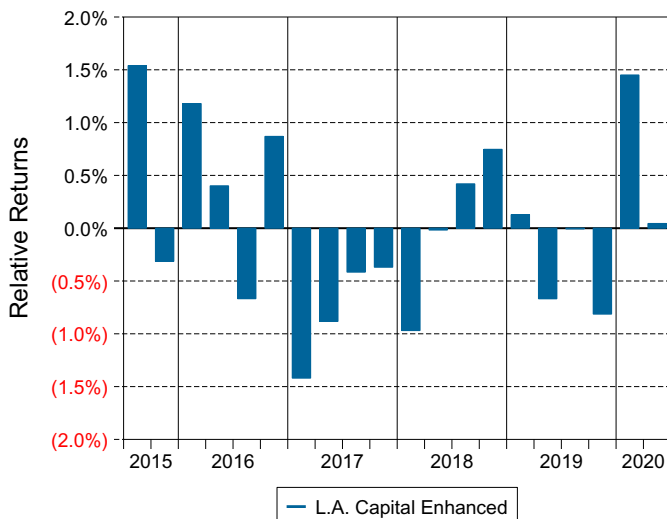
## Quarterly Asset Growth

Beginning Market Value	\$42,217,617
Net New Investment	\$-12,075
Investment Gains/(Losses)	\$9,230,648
Ending Market Value	\$51,436,191

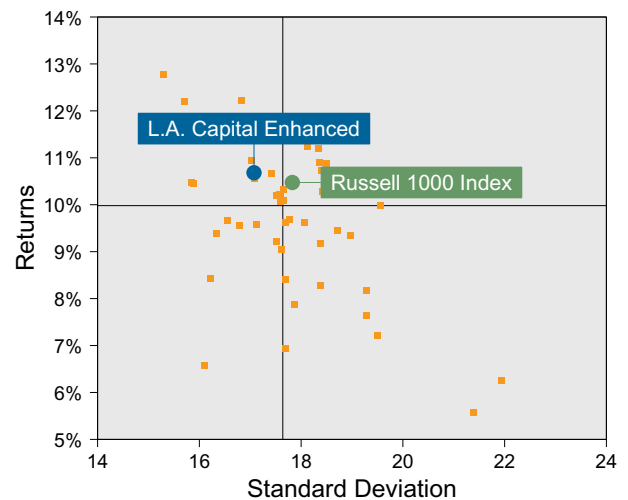
## Performance vs Callan Large Cap Core (Gross)



## Relative Return vs Russell 1000 Index



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



# LSV Asset Management

## Period Ended June 30, 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.

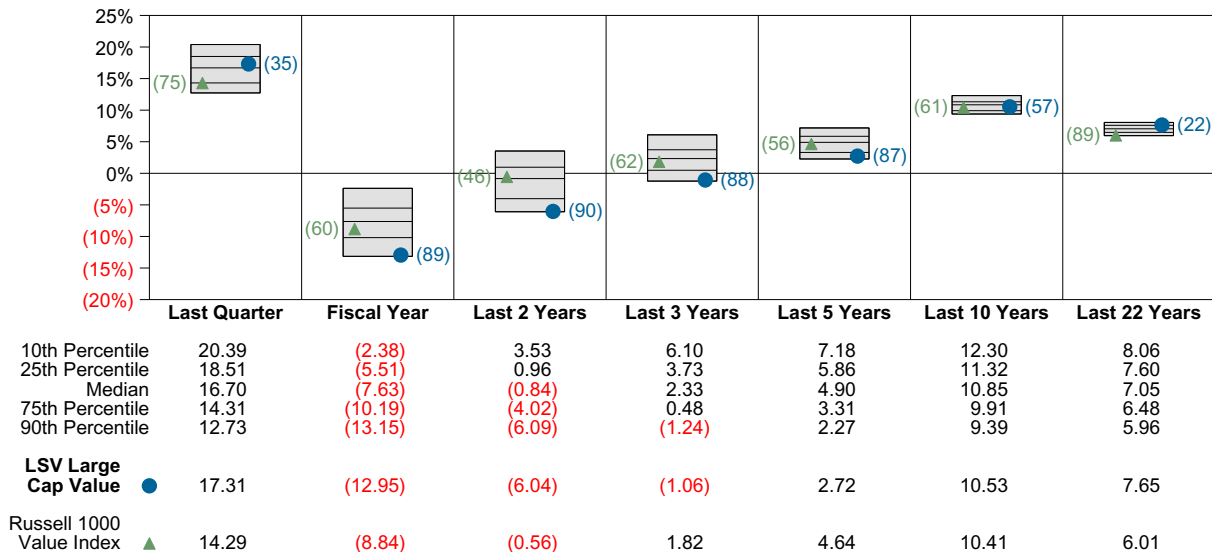
### Quarterly Summary and Highlights

- LSV Large Cap Value's portfolio posted a 17.31% return for the quarter placing it in the 35 percentile of the Callan Large Cap Value group for the quarter and in the 89 percentile for the last year.
- LSV Large Cap Value's portfolio outperformed the Russell 1000 Value Index by 3.02% for the quarter and underperformed the Russell 1000 Value Index for the year by 4.11%.

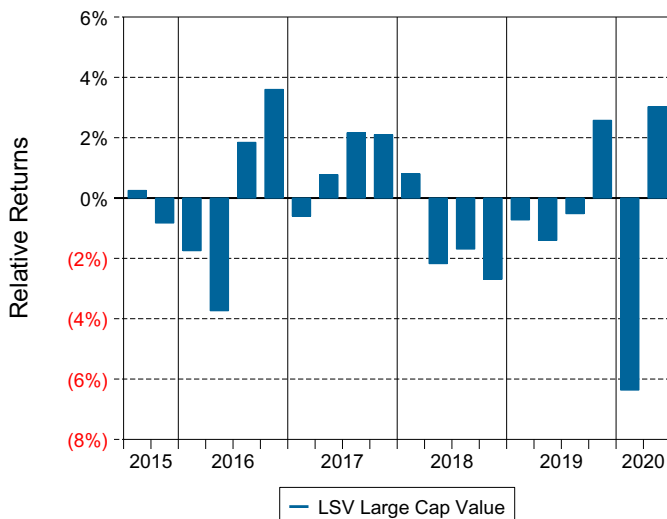
### Quarterly Asset Growth

Beginning Market Value	\$49,878,509
Net New Investment	\$-37,255
Investment Gains/(Losses)	\$8,626,206
Ending Market Value	\$58,467,460

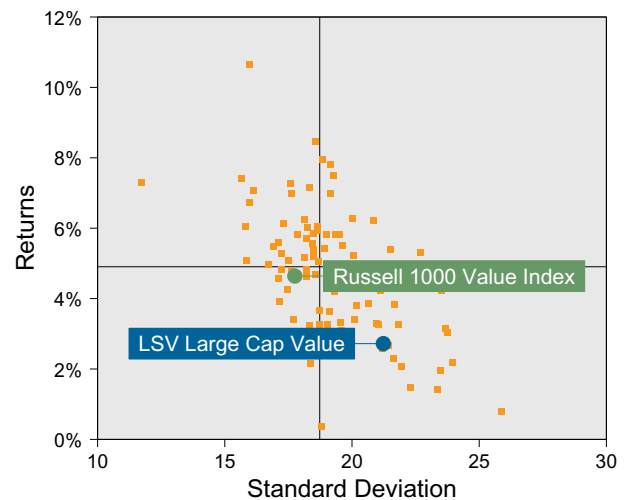
### Performance vs Callan Large Cap Value (Gross)



### Relative Return vs Russell 1000 Value Index



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



# Small Cap Period Ended June 30, 2020

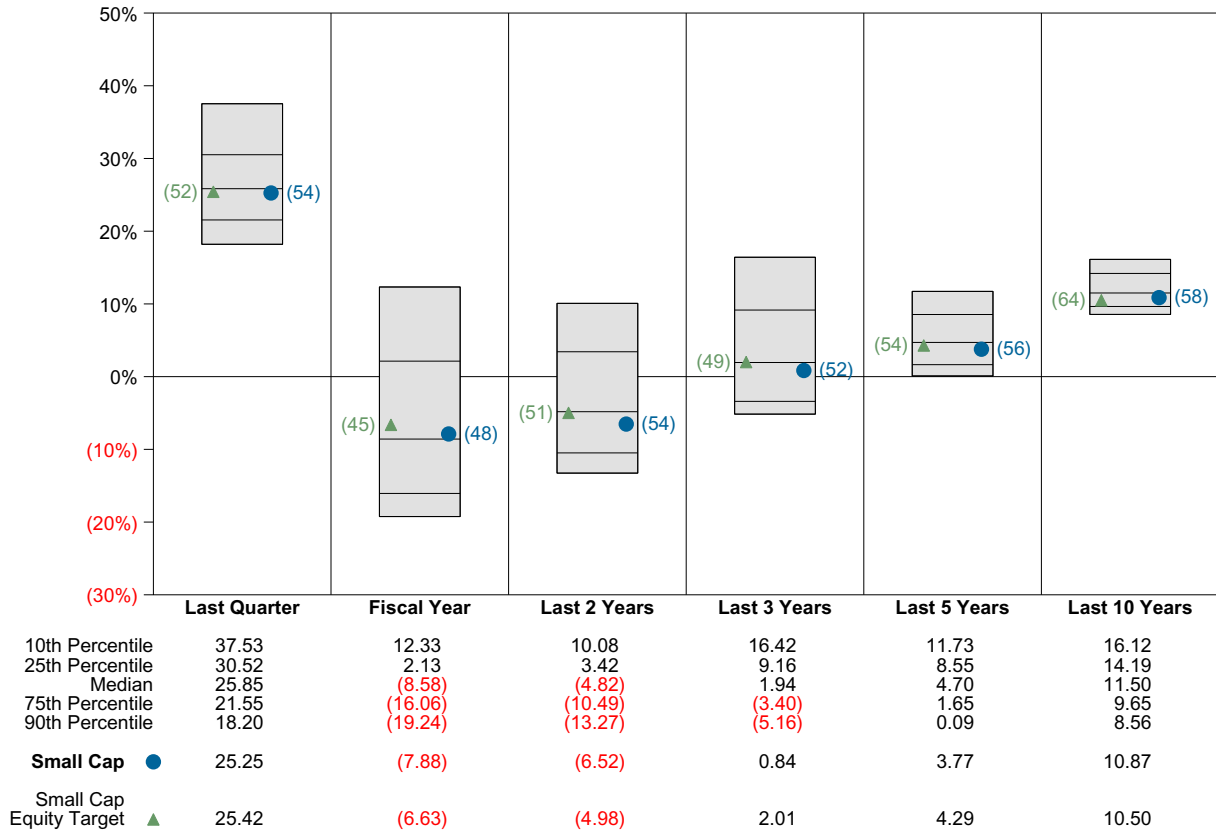
## Quarterly Summary and Highlights

- Small Cap's portfolio posted a 25.25% return for the quarter placing it in the 54 percentile of the Callan Small Capitalization group for the quarter and in the 48 percentile for the last year.
- Small Cap's portfolio underperformed the Small Cap Equity Target by 0.17% for the quarter and underperformed the Small Cap Equity Target for the year by 1.26%.

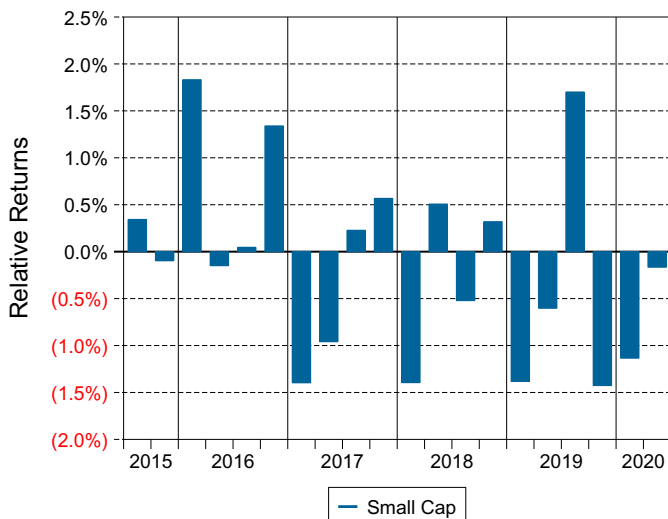
## Quarterly Asset Growth

Beginning Market Value	\$50,486,440
Net New Investment	\$8,251,126
Investment Gains/(Losses)	\$12,598,055
Ending Market Value	\$71,335,622

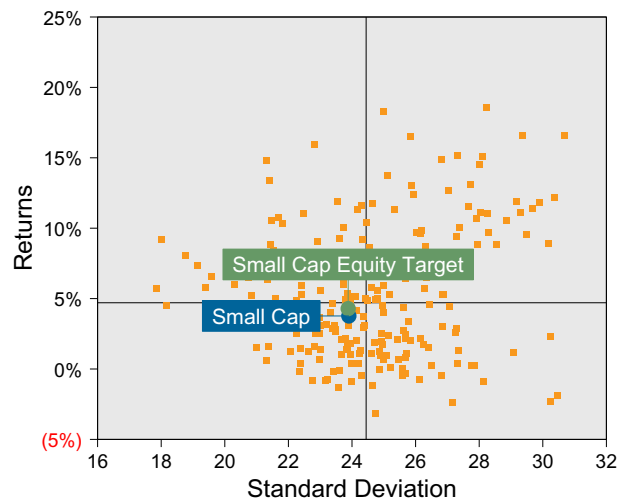
## Performance vs Callan Small Capitalization (Gross)



## Relative Return vs Small Cap Equity Target



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





# Atlanta Capital

## Period Ended June 30, 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.

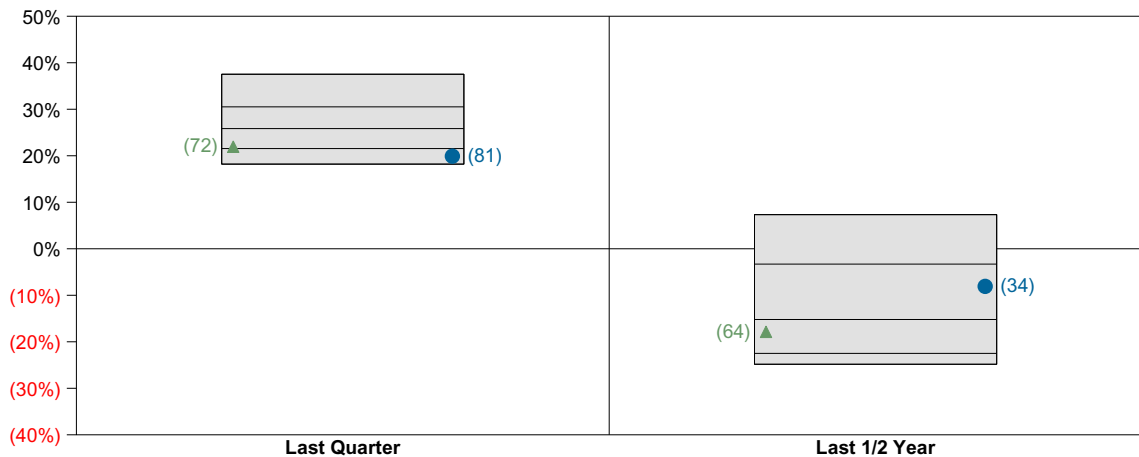
### Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a 19.91% return for the quarter placing it in the 81 percentile of the Callan Small Capitalization group for the quarter and in the 34 percentile for the last one-half year.
- Atlanta Capital's portfolio underperformed the S&P 600 Small Cap Index by 2.03% for the quarter and outperformed the S&P 600 Small Cap Index for the one-half year by 9.77%.

### Quarterly Asset Growth

Beginning Market Value	\$14,144,414
Net New Investment	\$13,508,791
Investment Gains/(Losses)	\$3,062,371
Ending Market Value	\$30,715,575

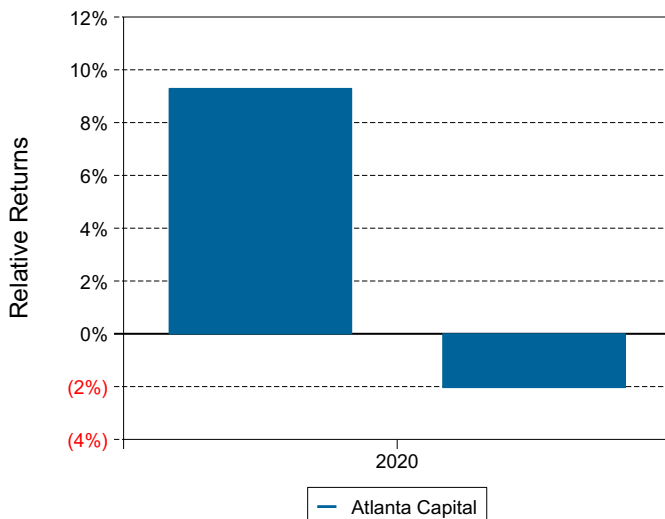
### Performance vs Callan Small Capitalization (Gross)



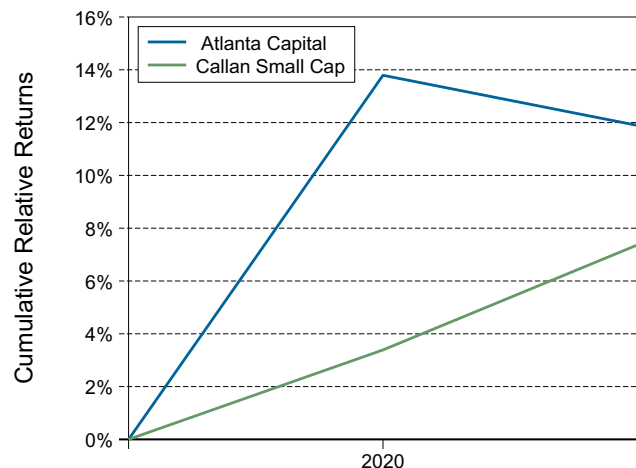
10th Percentile	37.53
25th Percentile	30.52
Median	25.85
75th Percentile	21.55
90th Percentile	18.20
<b>Atlanta Capital</b>	<b>19.91</b>
S&P 600 Small Cap Index	21.94

7.34
(3.29)
(15.21)
(22.49)
(24.83)
(8.08)
(17.85)

### Relative Return vs S&P 600 Small Cap Index



### Cumulative Returns vs S&P 600 Small Cap Index



# Parametric SmallCap Period Ended June 30, 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.

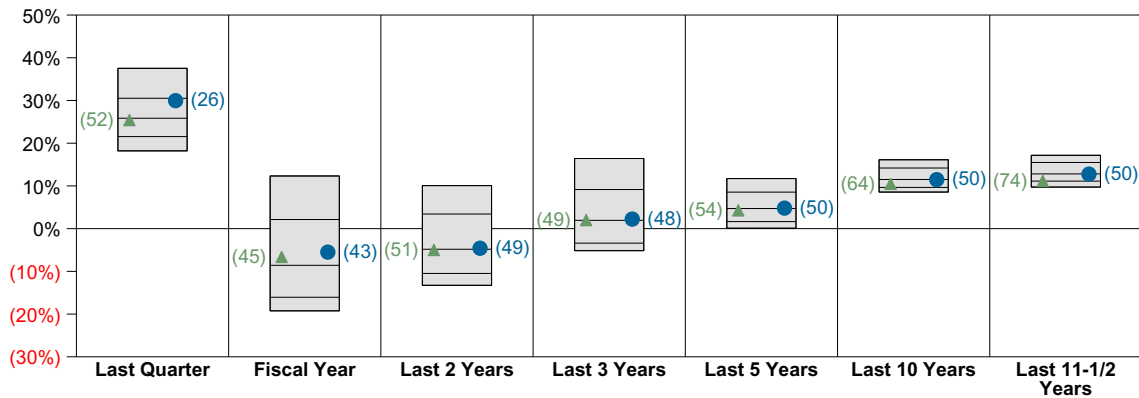
## Quarterly Summary and Highlights

- Parametric SmallCap's portfolio posted a 29.95% return for the quarter placing it in the 26 percentile of the Callan Small Capitalization group for the quarter and in the 43 percentile for the last year.
- Parametric SmallCap's portfolio outperformed the Russell 2000 Index by 4.53% for the quarter and outperformed the Russell 2000 Index for the year by 1.12%.

## Quarterly Asset Growth

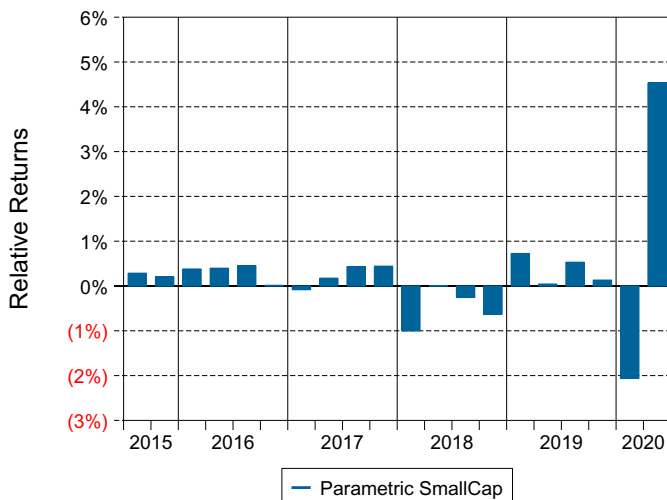
Beginning Market Value	\$24,319,799
Net New Investment	\$9,000,000
Investment Gains/(Losses)	\$7,299,802
Ending Market Value	\$40,619,602

## Performance vs Callan Small Capitalization (Gross)

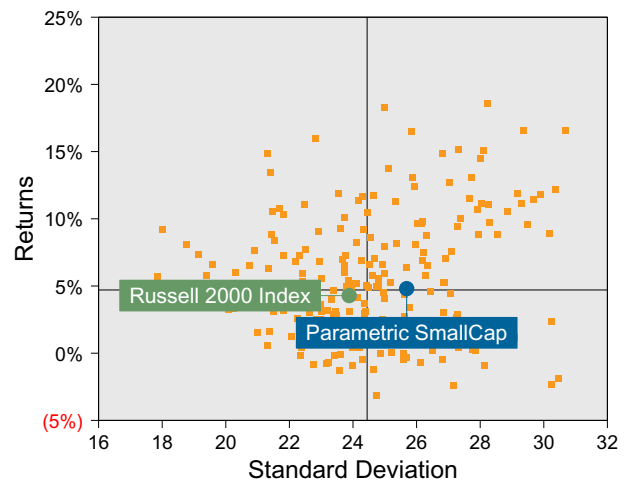


10th Percentile	37.53	12.33	10.08	16.42	11.73	16.12	17.16
25th Percentile	30.52	2.13	3.42	9.16	8.55	14.19	15.49
Median	25.85	(8.58)	(4.82)	1.94	4.70	11.50	12.81
75th Percentile	21.55	(16.06)	(10.49)	(3.40)	1.65	9.65	11.12
90th Percentile	18.20	(19.24)	(13.27)	(5.16)	0.09	8.56	9.73
<b>Parametric SmallCap</b>	● 29.95	(5.50)	(4.59)	2.23	4.80	11.47	12.75
Russell 2000 Index	▲ 25.42	(6.63)	(4.98)	2.01	4.29	10.50	11.18

## Relative Return vs Russell 2000 Index



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



# International Equity Period Ended June 30, 2020

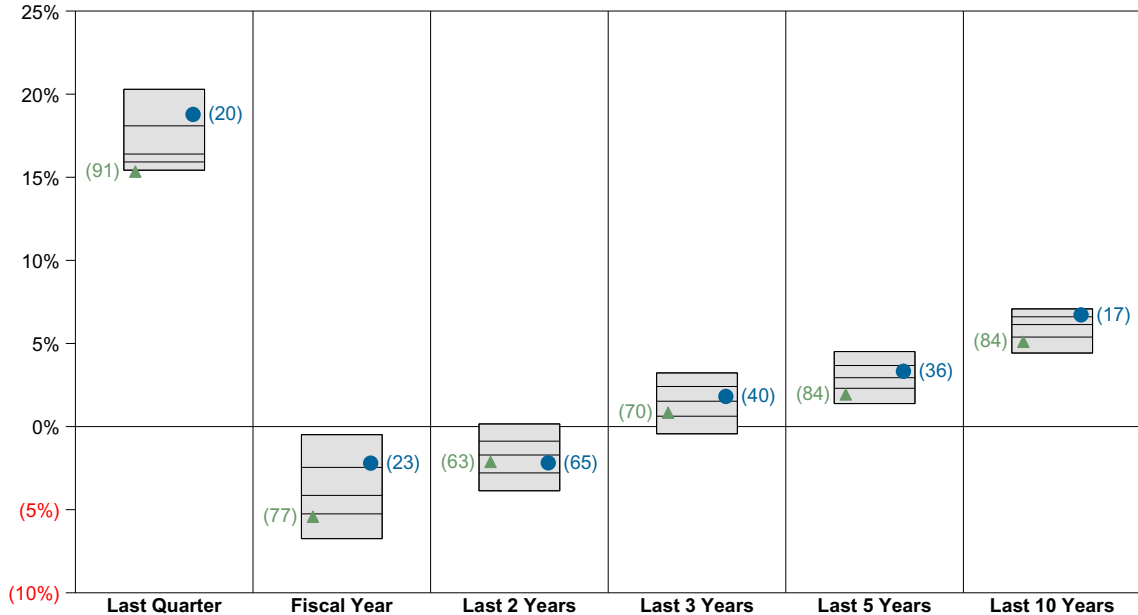
## Quarterly Summary and Highlights

- International Equity's portfolio posted a 18.78% return for the quarter placing it in the 20 percentile of the Public Fund - International Equity group for the quarter and in the 23 percentile for the last year.
- International Equity's portfolio outperformed the International Equity Target by 3.44% for the quarter and outperformed the International Equity Target for the year by 3.22%.

## Quarterly Asset Growth

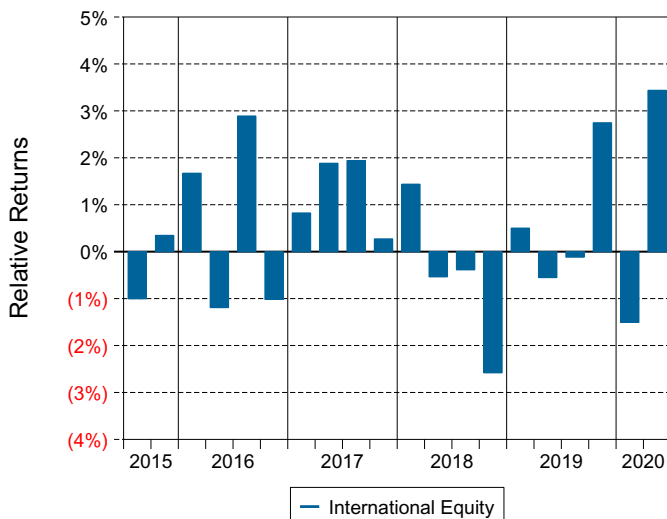
Beginning Market Value	\$136,939,624
Net New Investment	\$15,627,373
Investment Gains/(Losses)	\$27,096,128
Ending Market Value	\$179,663,125

## Performance vs Public Fund - International Equity (Gross)

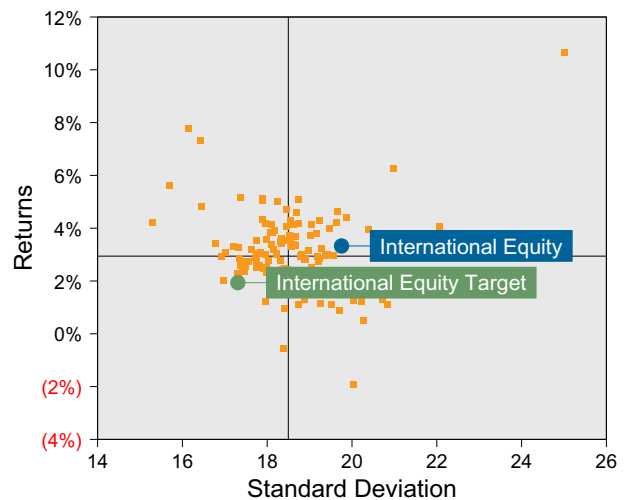


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	20.29	(0.49)	0.16	3.23	4.51	7.08
25th Percentile	18.09	(2.45)	(0.88)	2.41	3.67	6.61
Median	16.40	(4.14)	(1.71)	1.53	2.94	6.14
75th Percentile	15.92	(5.25)	(2.79)	0.62	2.30	5.39
90th Percentile	15.42	(6.74)	(3.86)	(0.44)	1.38	4.42
<b>International Equity</b> ●	18.78	(2.20)	(2.18)	1.81	3.33	6.72
International Equity Target ▲	15.34	(5.42)	(2.12)	0.84	1.94	5.11

## Relative Return vs International Equity Target



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



# DFA Intl Small Cap Value Period Ended June 30, 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.

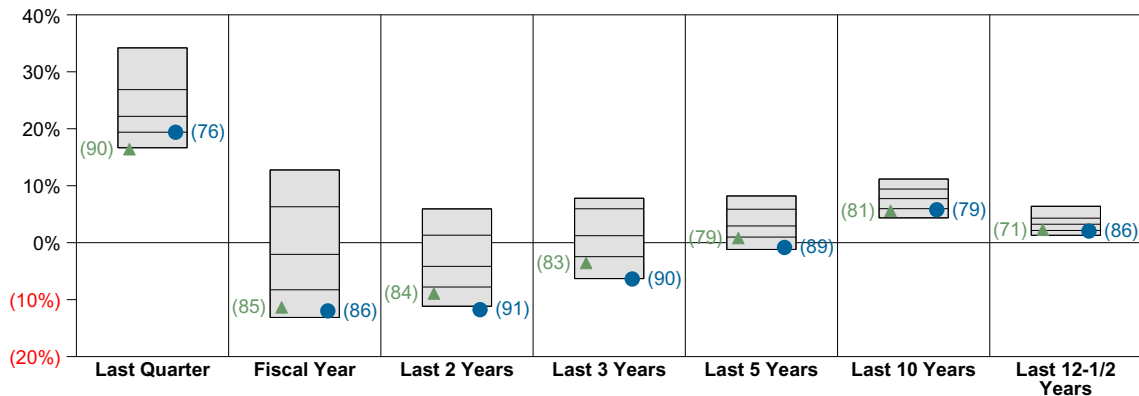
## Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 19.38% return for the quarter placing it in the 76 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 86 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 2.98% for the quarter and underperformed the World ex US SC Value for the year by 0.62%.

## Quarterly Asset Growth

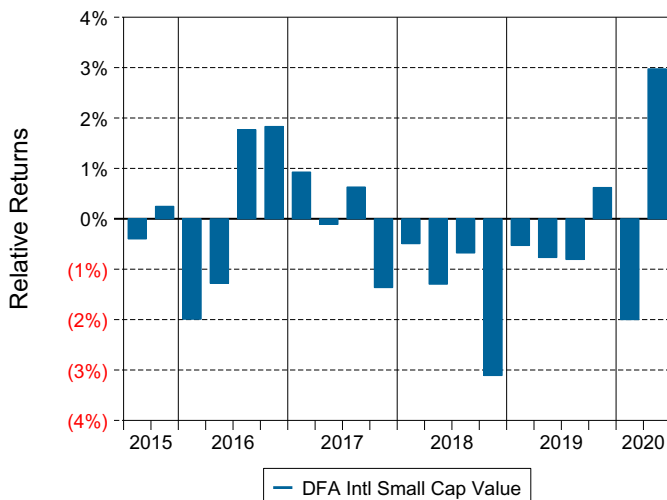
Beginning Market Value	\$13,138,682
Net New Investment	\$2,000,000
Investment Gains/(Losses)	\$2,574,335
Ending Market Value	\$17,713,017

## Performance vs Callan International Small Cap Mut Funds (Net)

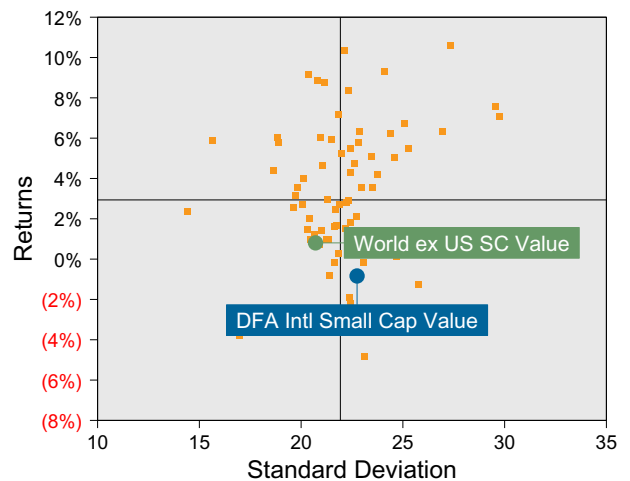


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 12-1/2 Years
10th Percentile	34.20	12.77	5.94	7.80	8.20	11.18	6.39
25th Percentile	26.87	6.30	1.32	5.95	5.87	9.41	4.30
Median	22.18	(2.05)	(4.16)	1.23	2.94	7.73	3.24
75th Percentile	19.40	(8.27)	(7.78)	(2.46)	0.98	5.97	2.15
90th Percentile	16.66	(13.13)	(11.16)	(6.31)	(1.19)	4.36	1.29
<b>DFA Intl Small Cap Value</b>	● 19.38	(11.98)	(11.76)	(6.38)	(0.84)	5.78	2.04
World ex US SC Value	▲ 16.41	(11.36)	(8.92)	(3.56)	0.81	5.59	2.26

## 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 June 30, 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.**

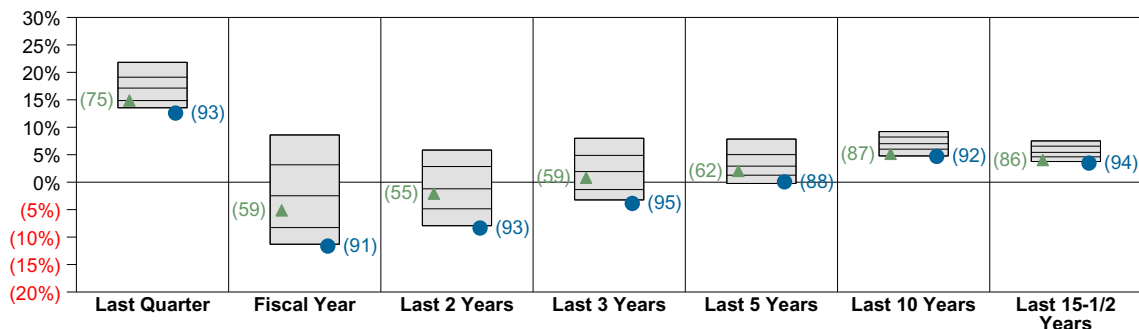
### Quarterly Summary and Highlights

- LSV Intl Value's portfolio posted a 12.58% return for the quarter placing it in the 93 percentile of the Callan Non-US Equity group for the quarter and in the 91 percentile for the last year.
- LSV Intl Value's portfolio underperformed the Benchmark by 2.30% for the quarter and underperformed the Benchmark for the year by 6.51%.

### Quarterly Asset Growth

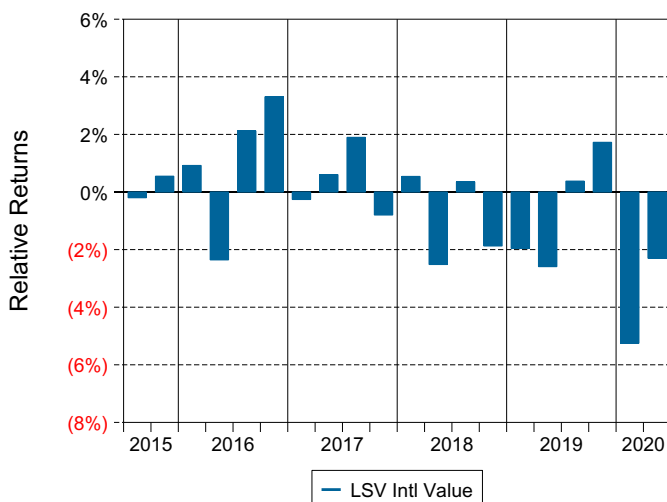
Beginning Market Value	\$52,319,944
Net New Investment	\$-50,759
Investment Gains/(Losses)	\$6,578,558
Ending Market Value	\$58,847,743

### Performance vs Callan Non-US Equity (Gross)

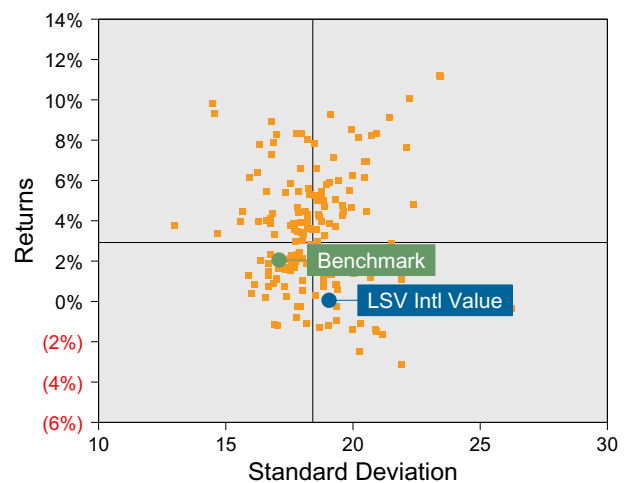


10th Percentile	21.83	8.60	5.84	8.00	7.85	9.21	7.51
25th Percentile	19.12	3.17	2.85	4.88	5.02	8.22	6.56
Median	17.13	(2.48)	(1.20)	1.93	2.92	7.01	5.43
75th Percentile	14.86	(8.27)	(4.85)	(1.35)	1.27	6.01	4.62
90th Percentile	13.55	(11.30)	(7.93)	(3.23)	(0.23)	4.77	3.76
<b>LSV Intl Value</b>	<b>12.58</b>	<b>(11.64)</b>	<b>(8.35)</b>	<b>(3.87)</b>	<b>0.06</b>	<b>4.70</b>	<b>3.47</b>
<b>Benchmark</b>	<b>14.88</b>	<b>(5.13)</b>	<b>(2.08)</b>	<b>0.81</b>	<b>2.05</b>	<b>5.17</b>	<b>4.04</b>

### Relative Return vs Benchmark



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



# Vanguard Intl Explorer Fund

## Period Ended June 30, 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.

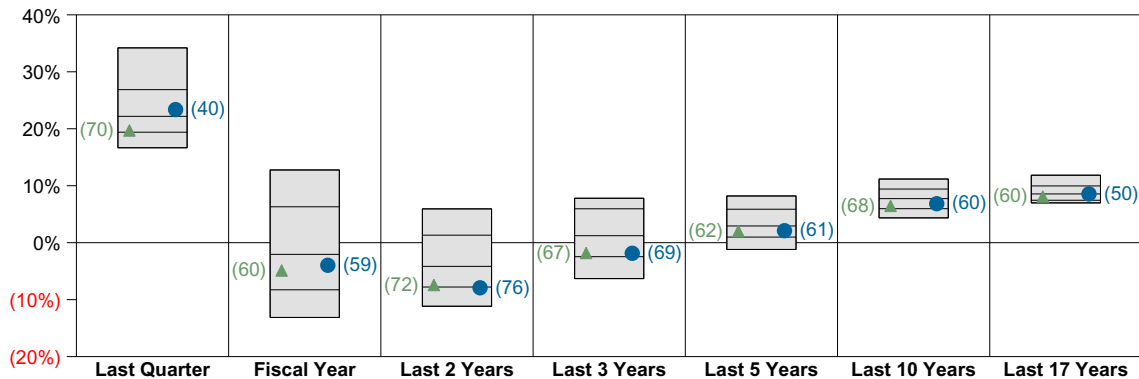
### Quarterly Summary and Highlights

- Vanguard Intl Explorer Fund's portfolio posted a 23.36% return for the quarter placing it in the 40 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 59 percentile for the last year.
- Vanguard Intl Explorer Fund's portfolio outperformed the S&P BMI EPAC <\$2 B by 3.66% for the quarter and outperformed the S&P BMI EPAC <\$2 B for the year by 0.91%.

### Quarterly Asset Growth

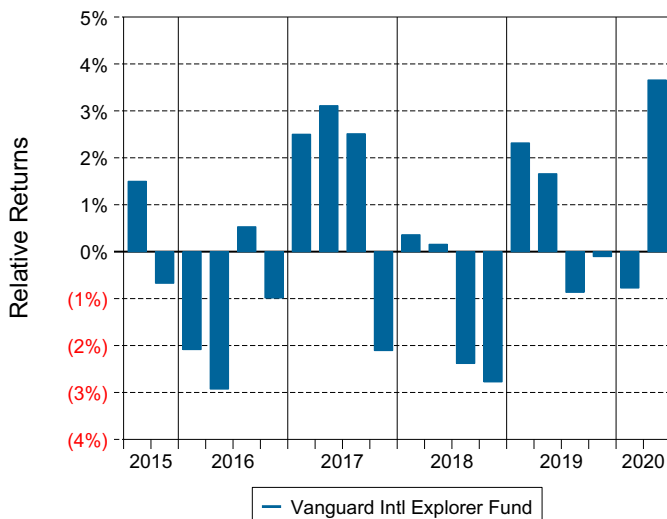
Beginning Market Value	\$12,890,325
Net New Investment	\$0
Investment Gains/(Losses)	\$3,011,758
Ending Market Value	\$15,902,083

### Performance vs Callan International Small Cap Mut Funds (Net)

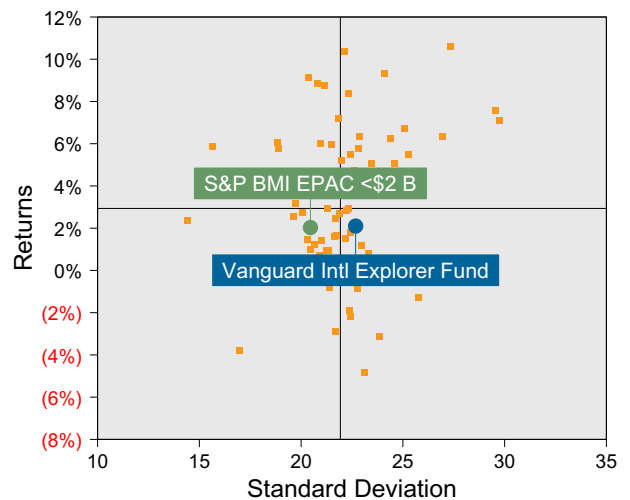


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 17 Years
10th Percentile	34.20	12.77	5.94	7.80	8.20	11.18	11.85
25th Percentile	26.87	6.30	1.32	5.95	5.87	9.41	9.96
Median	22.18	(2.05)	(4.16)	1.23	2.94	7.73	8.56
75th Percentile	19.40	(8.27)	(7.78)	(2.46)	0.98	5.97	7.45
90th Percentile	16.66	(13.13)	(11.16)	(6.31)	(1.19)	4.36	6.99
<b>Vanguard Intl Explorer Fund</b>	<b>23.36</b>	<b>(3.97)</b>	<b>(7.92)</b>	<b>(1.87)</b>	<b>2.10</b>	<b>6.84</b>	<b>8.56</b>
S&P BMI EPAC <\$2 B	19.71	(4.88)	(7.43)	(1.81)	2.03	6.46	8.09

### 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 June 30, 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.

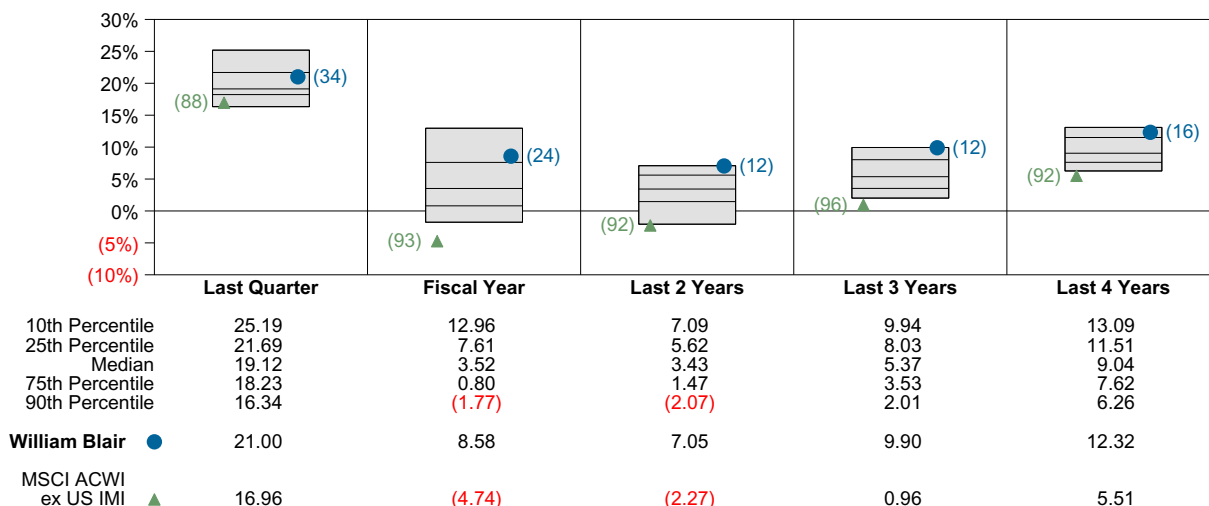
### Quarterly Summary and Highlights

- William Blair's portfolio posted a 21.00% return for the quarter placing it in the 34 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 24 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 4.05% for the quarter and outperformed the MSCI ACWI ex US IMI for the year by 13.31%.

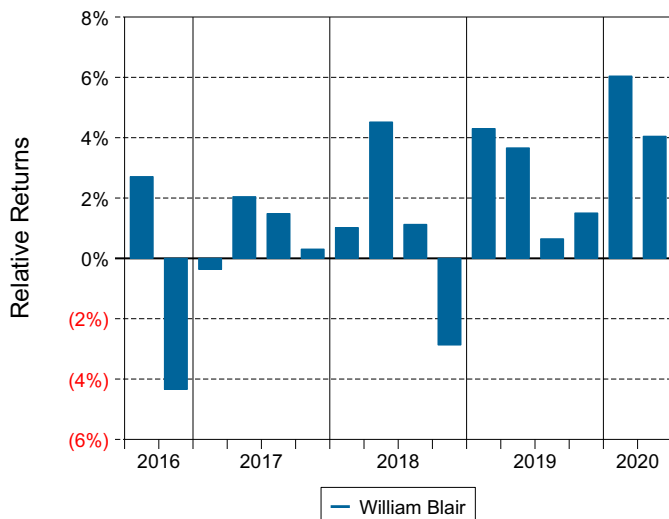
### Quarterly Asset Growth

Beginning Market Value	\$58,590,673
Net New Investment	\$15,939,554
Investment Gains/(Losses)	\$12,668,907
Ending Market Value	\$87,199,134

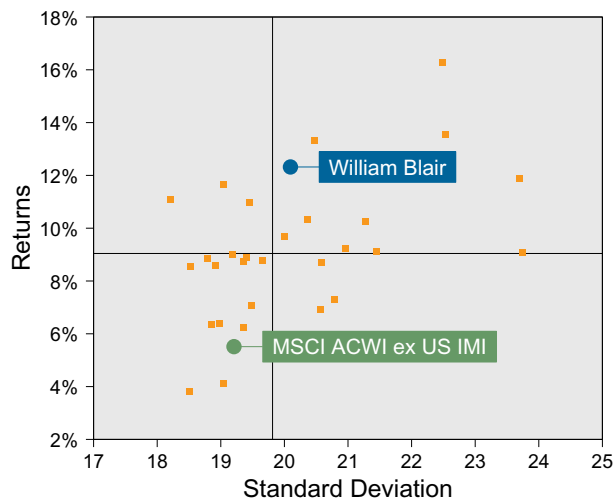
### Performance vs Callan Non-US All Country Growth Equity (Gross)



### Relative Return vs MSCI ACWI ex US IMI



### Callan Non-US All Country Growth Equity (Gross) Annualized Four Year Risk vs Return



# Domestic Fixed Income Period Ended June 30, 2020

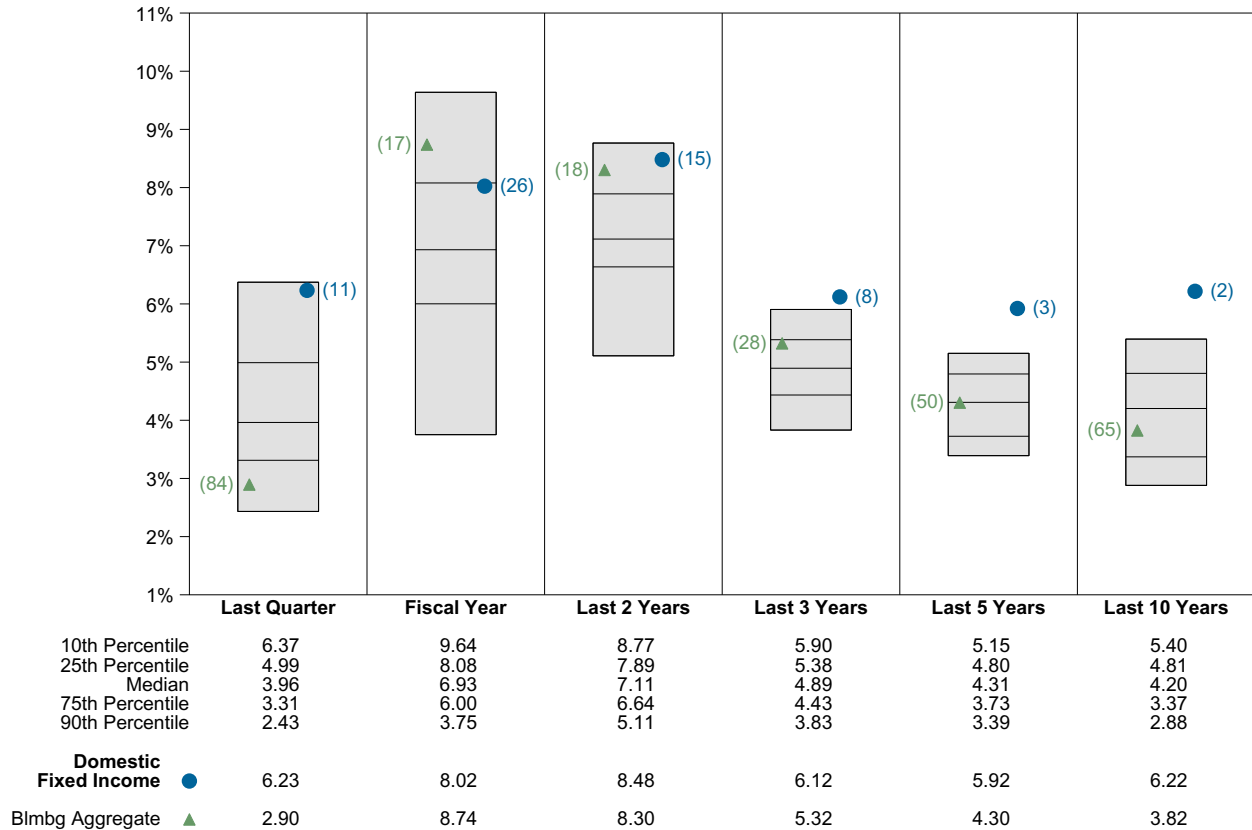
## Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 6.23% return for the quarter placing it in the 11 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 26 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Blmbg Aggregate by 3.34% for the quarter and underperformed the Blmbg Aggregate for the year by 0.72%.

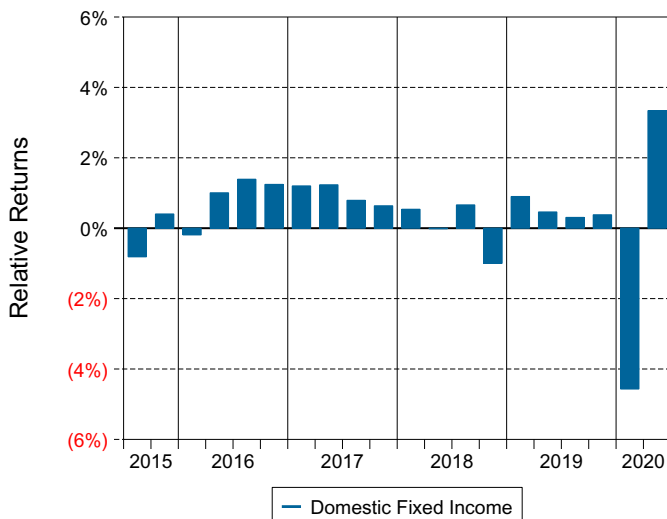
## Quarterly Asset Growth

Beginning Market Value	\$1,301,895,054
Net New Investment	\$-47,747,215
Investment Gains/(Losses)	\$80,133,580
Ending Market Value	\$1,334,281,419

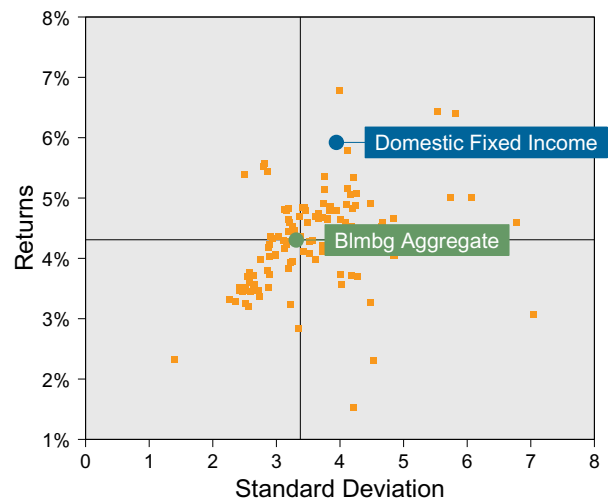
## Performance vs Public Fund - Domestic Fixed (Gross)



## Relative Return vs Blmbg Aggregate



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





# Declaration Total Return Period Ended June 30, 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.

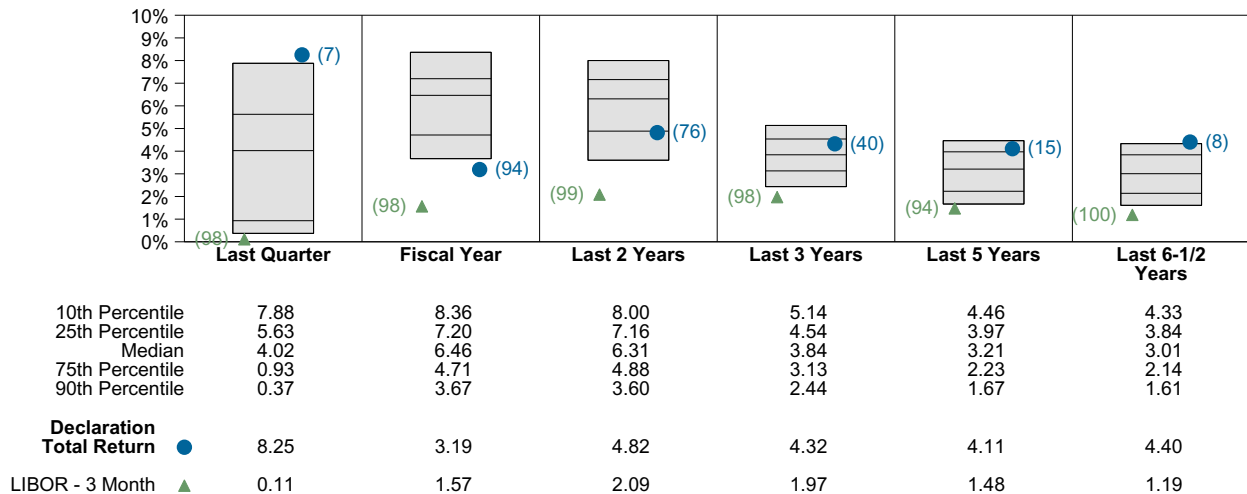
## Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a 8.25% return for the quarter placing it in the 7 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 94 percentile for the last year.
- Declaration Total Return's portfolio outperformed the LIBOR - 3 Month by 8.14% for the quarter and outperformed the LIBOR - 3 Month for the year by 1.62%.

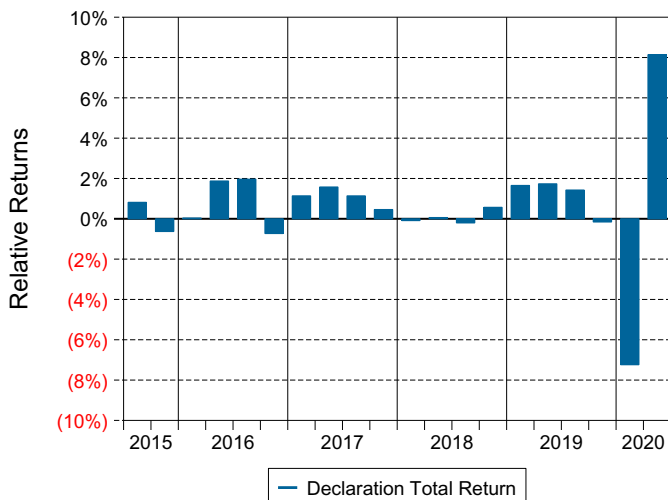
## Quarterly Asset Growth

Beginning Market Value	\$87,497,636
Net New Investment	\$-55,473
Investment Gains/(Losses)	\$7,218,093
Ending Market Value	\$94,660,256

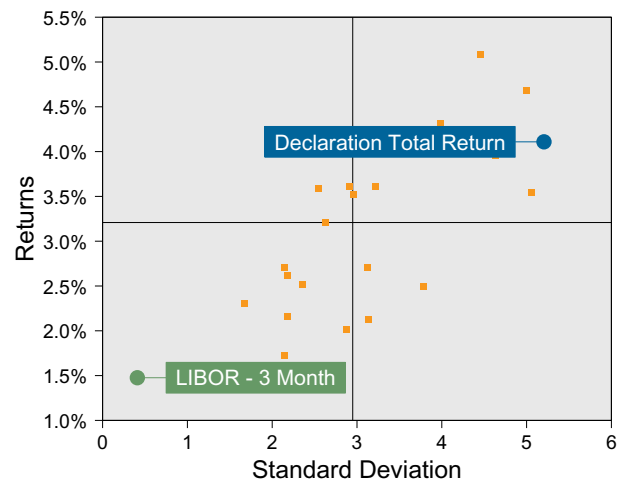
## Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)



## 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 June 30, 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.

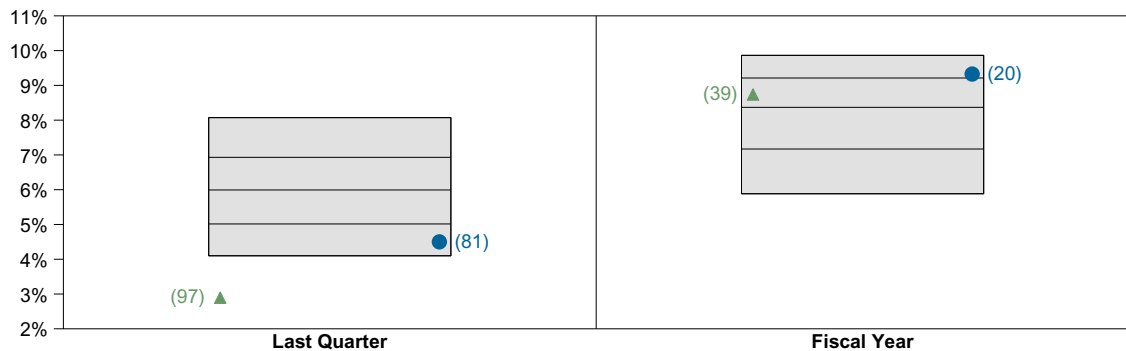
## Quarterly Summary and Highlights

- PIMCO Core Plus Constrained's portfolio posted a 4.50% return for the quarter placing it in the 81 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 20 percentile for the last year.
- PIMCO Core Plus Constrained's portfolio outperformed the Blmbg Aggregate by 1.60% for the quarter and outperformed the Blmbg Aggregate for the year by 0.59%.

## Quarterly Asset Growth

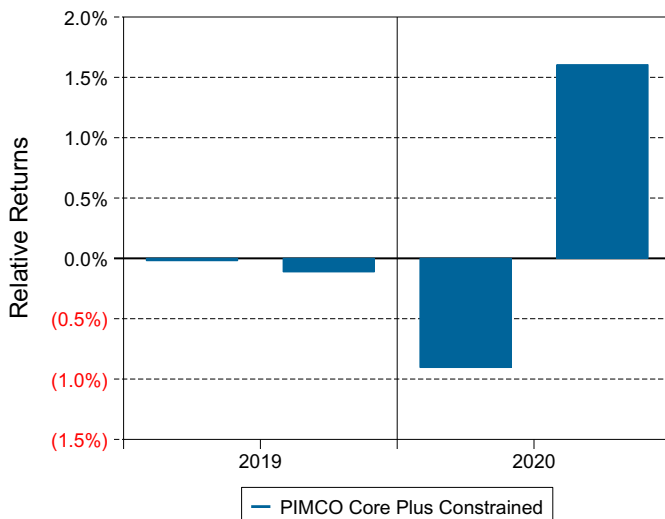
Beginning Market Value	\$172,957,202
Net New Investment	\$-50,562
Investment Gains/(Losses)	\$7,781,968
Ending Market Value	\$180,688,607

## Performance vs Callan Core Plus Fixed Income (Gross)

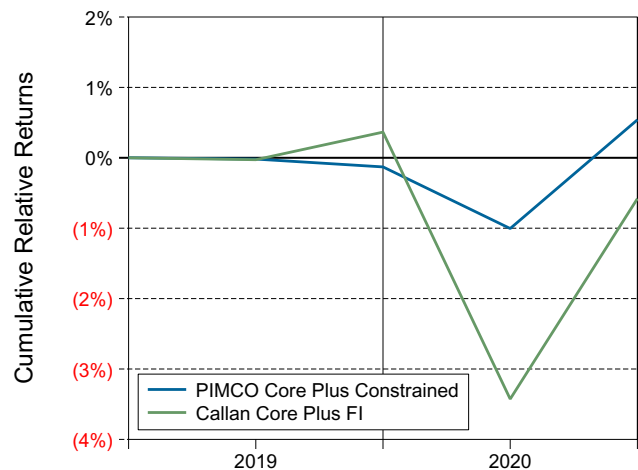


10th Percentile	8.07	9.86
25th Percentile	6.93	9.21
Median	5.99	8.37
75th Percentile	5.02	7.17
90th Percentile	4.10	5.88
<b>PIMCO Core Plus Constrained</b>	<b>4.50</b>	<b>9.33</b>
Blmbg Aggregate	2.90	8.74

## Relative Return vs Blmbg Aggregate



## Cumulative Returns vs Blmbg Aggregate



# PIMCO DiSCO II

## Period Ended June 30, 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.

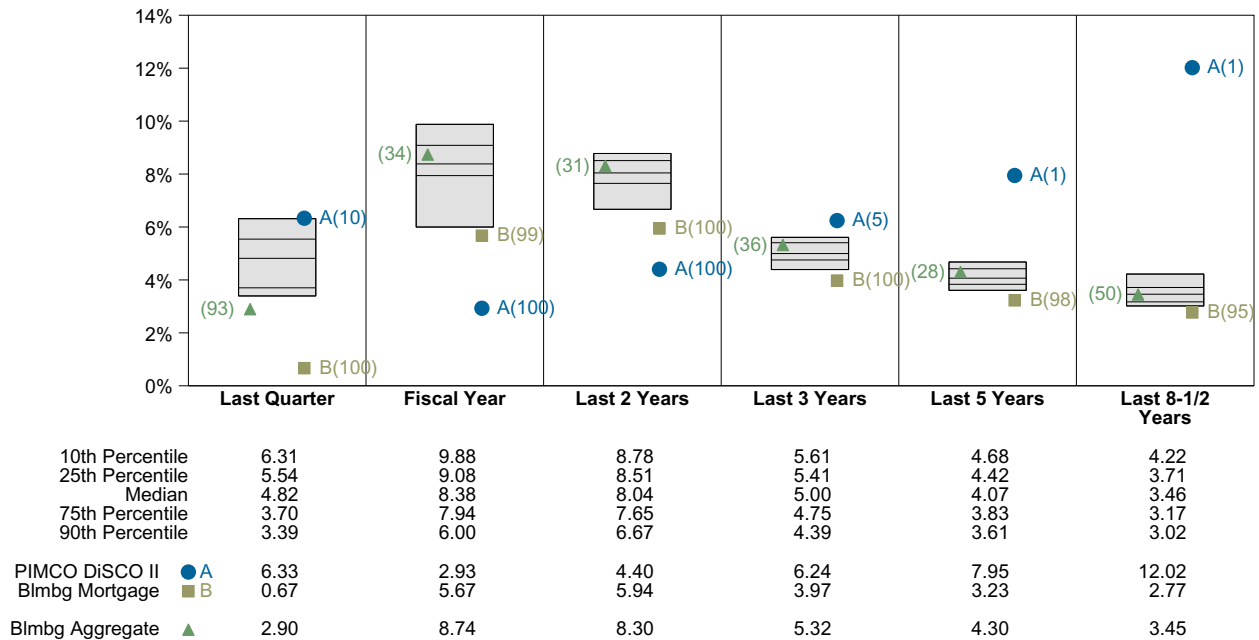
### Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a 6.33% return for the quarter placing it in the 10 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 outperformed the Blmbg Aggregate by 3.43% for the quarter and underperformed the Blmbg Aggregate for the year by 5.81%.

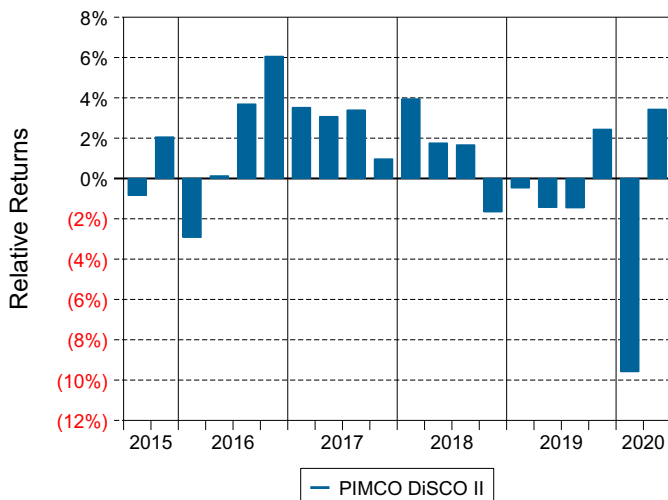
### Quarterly Asset Growth

Beginning Market Value	\$41,772,018
Net New Investment	\$0
Investment Gains/(Losses)	\$2,644,128
Ending Market Value	\$44,416,146

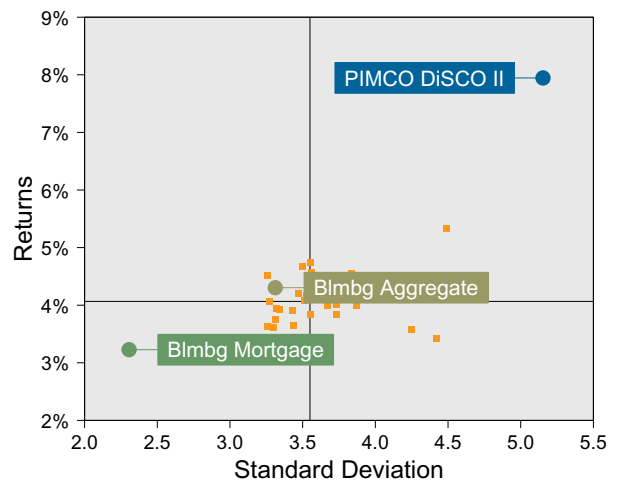
### Performance vs Callan Core Bond Mutual Funds (Net)



### Relative Return vs Blmbg Aggregate



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



# PIMCO Bravo II Fund

## Period Ended June 30, 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.

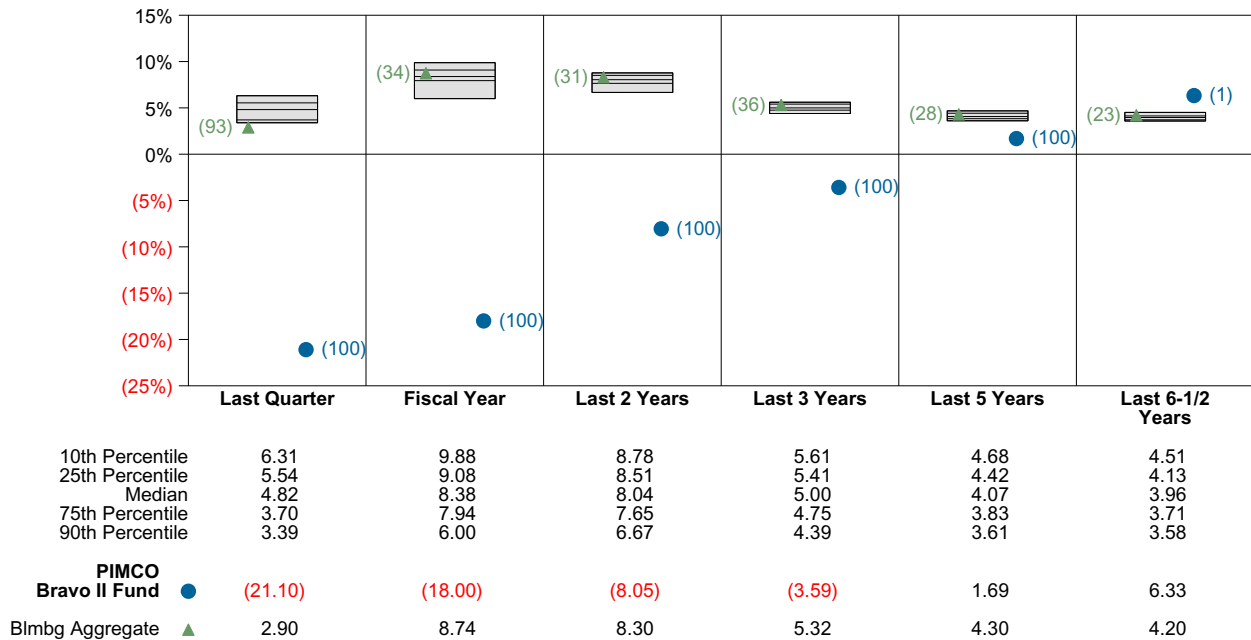
### Quarterly Summary and Highlights

- PIMCO Bravo II Fund's portfolio posted a (21.10)% 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 Bravo II Fund's portfolio underperformed the Blmbg Aggregate by 23.99% for the quarter and underperformed the Blmbg Aggregate for the year by 26.74%.

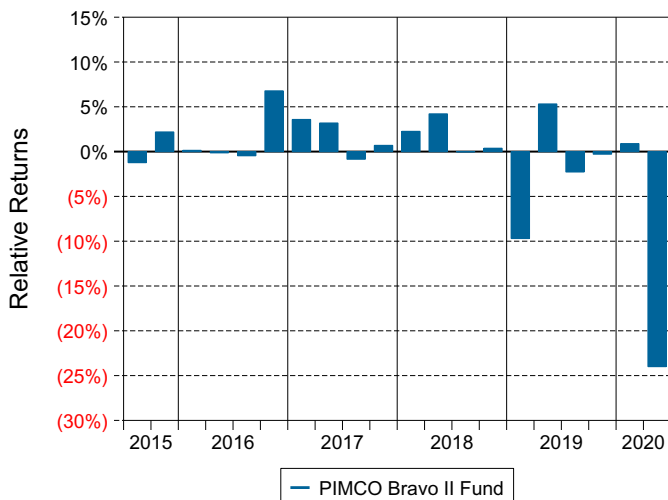
### Quarterly Asset Growth

Beginning Market Value	\$11,600,856
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,447,497
Ending Market Value	\$9,153,359

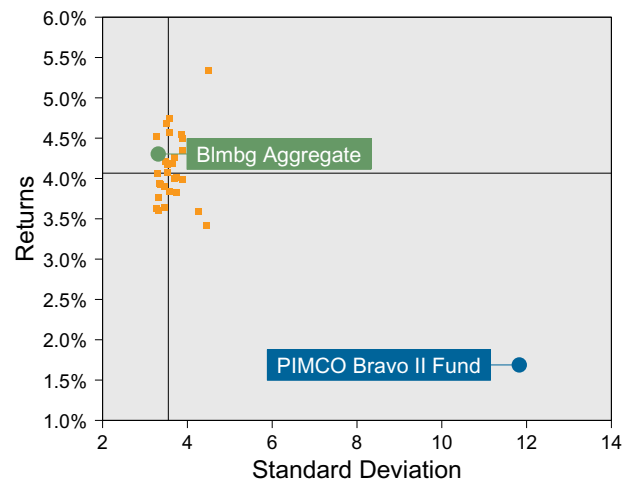
### Performance vs Callan Core Bond Mutual Funds (Net)



### Relative Return vs Blmbg Aggregate



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



# Prudential Core Plus Period Ended June 30, 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.

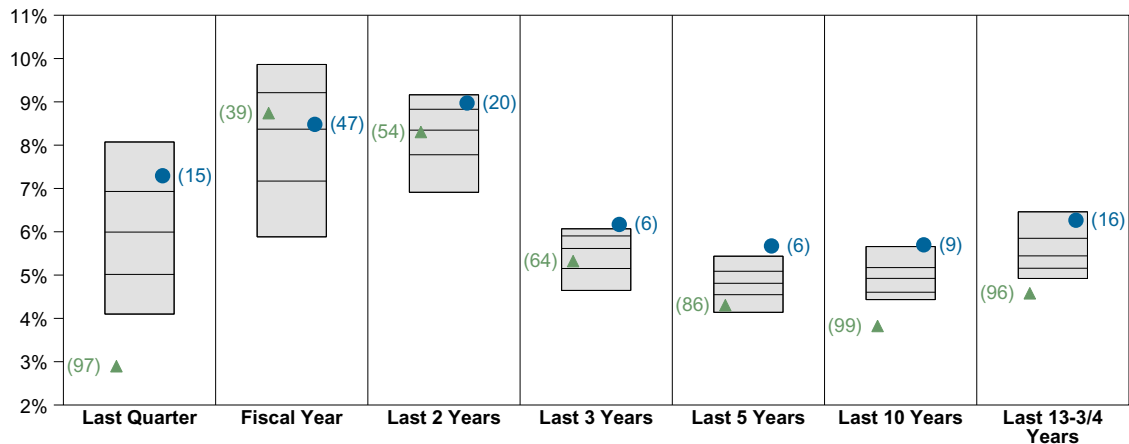
## Quarterly Summary and Highlights

- Prudential Core Plus's portfolio posted a 7.29% return for the quarter placing it in the 15 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 47 percentile for the last year.
- Prudential Core Plus's portfolio outperformed the Blmbg Aggregate by 4.40% for the quarter and underperformed the Blmbg Aggregate for the year by 0.26%.

## Quarterly Asset Growth

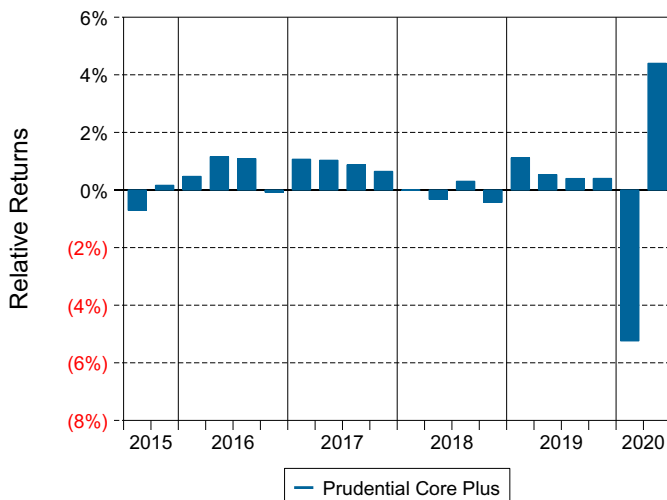
Beginning Market Value	\$335,912,012
Net New Investment	\$-9,676,713
Investment Gains/(Losses)	\$24,132,947
Ending Market Value	\$350,368,246

## Performance vs Callan Core Plus Fixed Income (Gross)

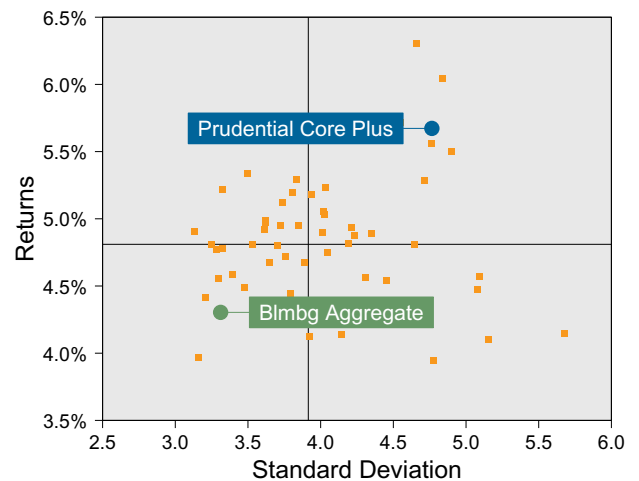


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 13-3/4 Years
10th Percentile	8.07	9.86	9.16	6.07	5.44	5.66	6.46
25th Percentile	6.93	9.21	8.83	5.90	5.09	5.17	5.85
Median	5.99	8.37	8.35	5.61	4.81	4.92	5.44
75th Percentile	5.02	7.17	7.78	5.15	4.55	4.60	5.16
90th Percentile	4.10	5.88	6.91	4.65	4.14	4.43	4.92
<b>Prudential Core Plus</b> ●	7.29	8.48	8.97	6.17	5.67	5.70	6.27
Blmbg Aggregate ▲	2.90	8.74	8.30	5.32	4.30	3.82	4.58

## 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 June 30, 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.

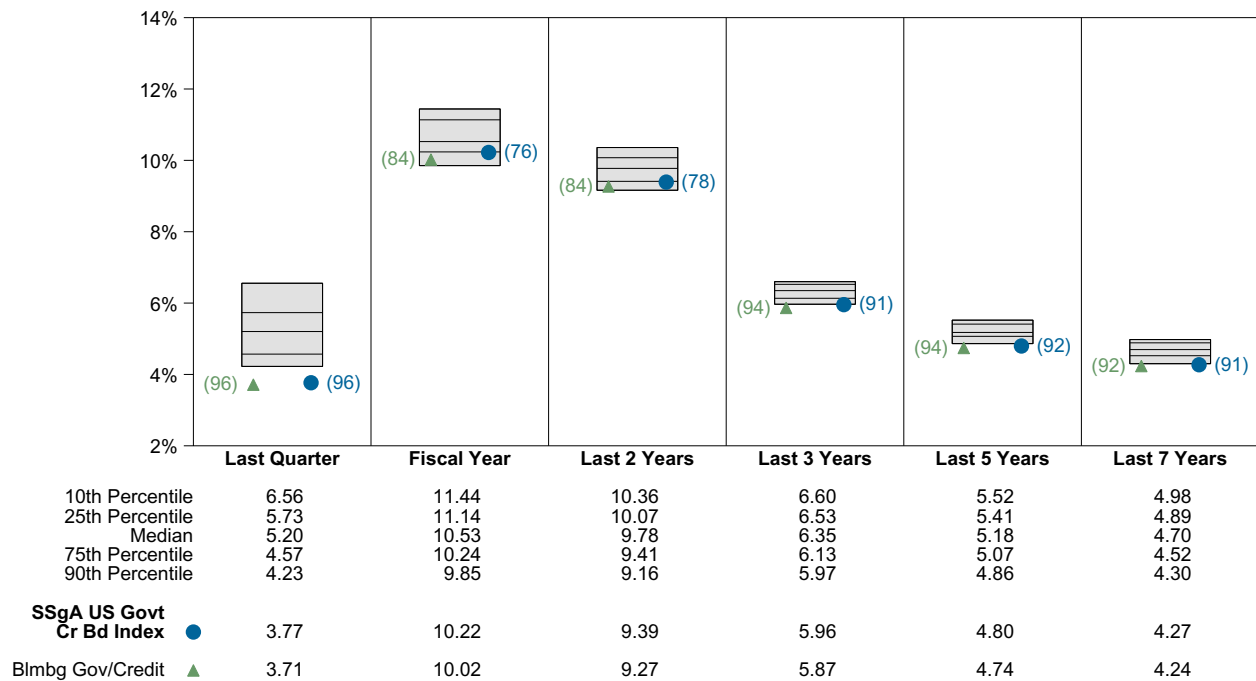
## Quarterly Summary and Highlights

- SSgA US Govt Cr Bd Index's portfolio posted a 3.77% return for the quarter placing it in the 96 percentile of the Callan Government/Credit group for the quarter and in the 76 percentile for the last year.
- SSgA US Govt Cr Bd Index's portfolio outperformed the Blmbg Gov/Credit by 0.05% for the quarter and outperformed the Blmbg Gov/Credit for the year by 0.20%.

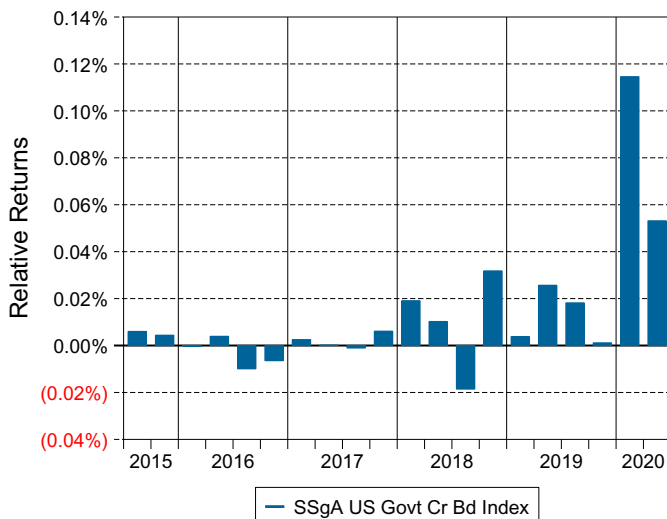
## Quarterly Asset Growth

Beginning Market Value	\$191,834,485
Net New Investment	\$-8,007,082
Investment Gains/(Losses)	\$7,221,401
Ending Market Value	\$191,048,804

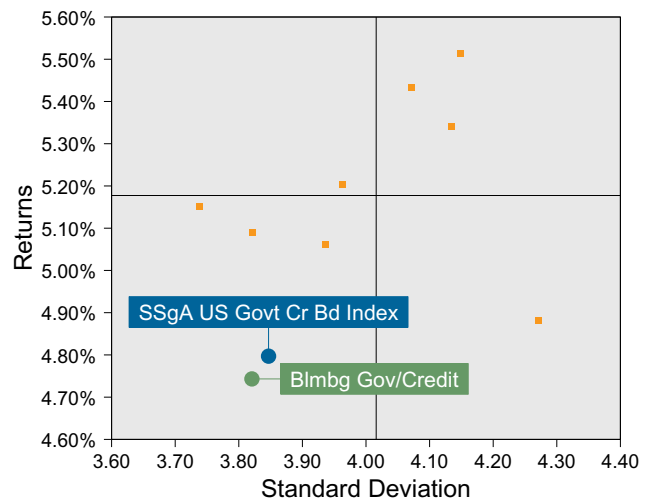
## Performance vs Callan Government/Credit (Gross)



## Relative Return vs Blmbg Gov/Credit



## Callan Government/Credit (Gross) Annualized Five Year Risk vs Return



# Wells Capital Period Ended June 30, 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.

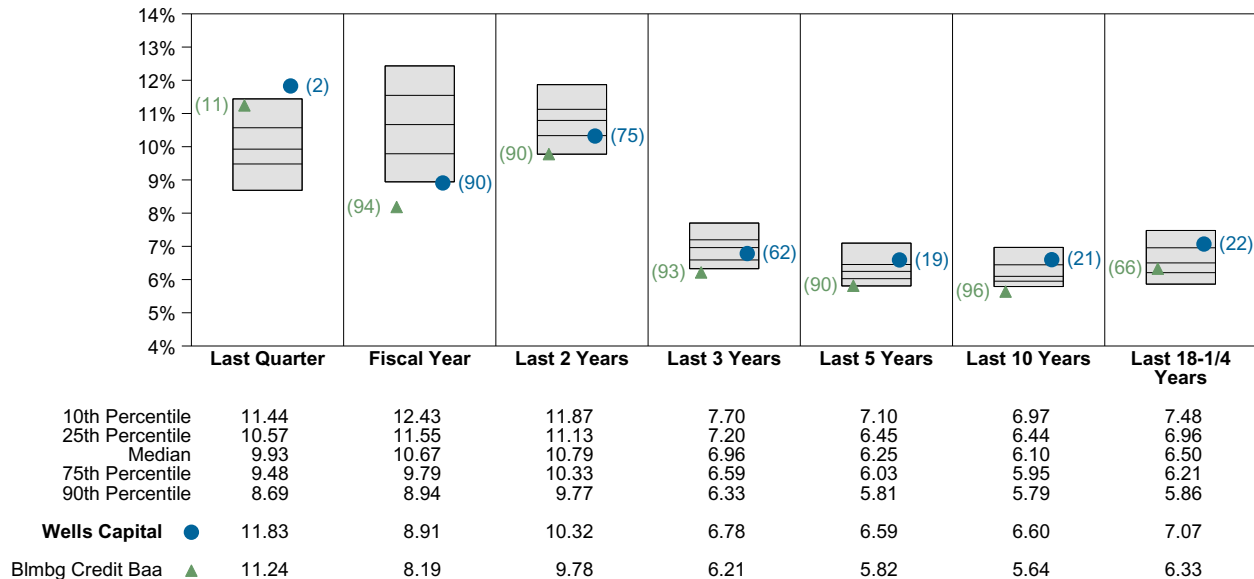
## Quarterly Summary and Highlights

- Wells Capital's portfolio posted a 11.83% return for the quarter placing it in the 2 percentile of the Callan Investment Grade Credit Fixed Inc group for the quarter and in the 90 percentile for the last year.
- Wells Capital's portfolio outperformed the Blmbg Credit Baa by 0.58% for the quarter and outperformed the Blmbg Credit Baa for the year by 0.72%.

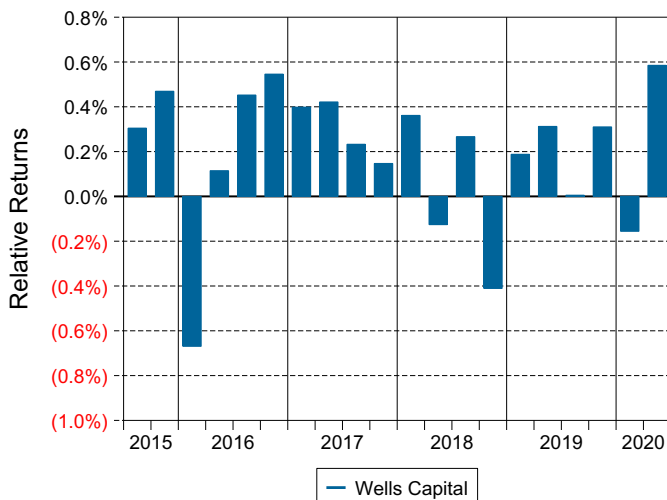
## Quarterly Asset Growth

Beginning Market Value	\$103,479,296
Net New Investment	\$-5,050,220
Investment Gains/(Losses)	\$12,236,756
Ending Market Value	\$110,665,831

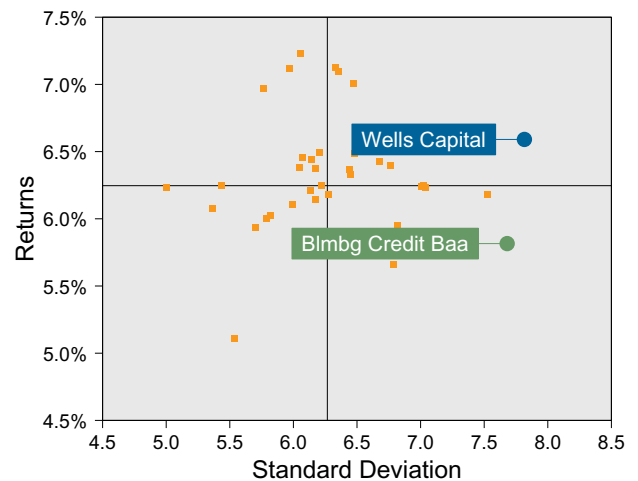
## Performance vs Callan Investment Grade Credit Fixed Inc (Gross)



## 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 June 30, 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.

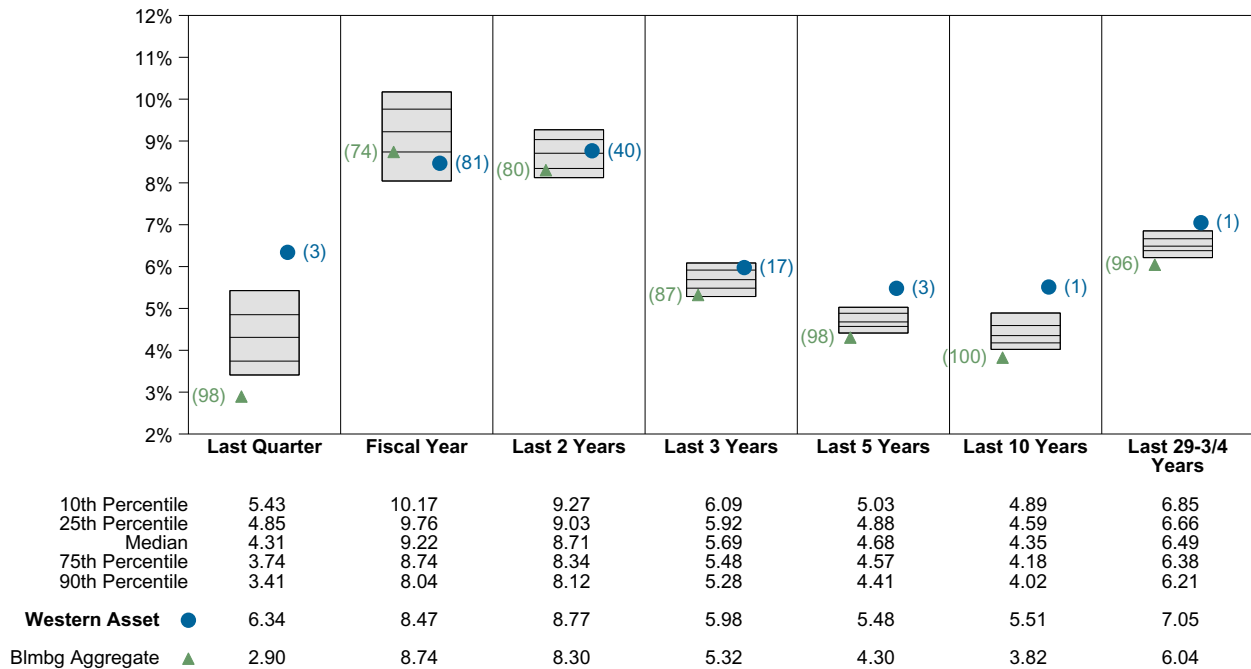
### Quarterly Summary and Highlights

- Western Asset's portfolio posted a 6.34% return for the quarter placing it in the 3 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 81 percentile for the last year.
- Western Asset's portfolio outperformed the Blmbg Aggregate by 3.44% for the quarter and underperformed the Blmbg Aggregate for the year by 0.27%.

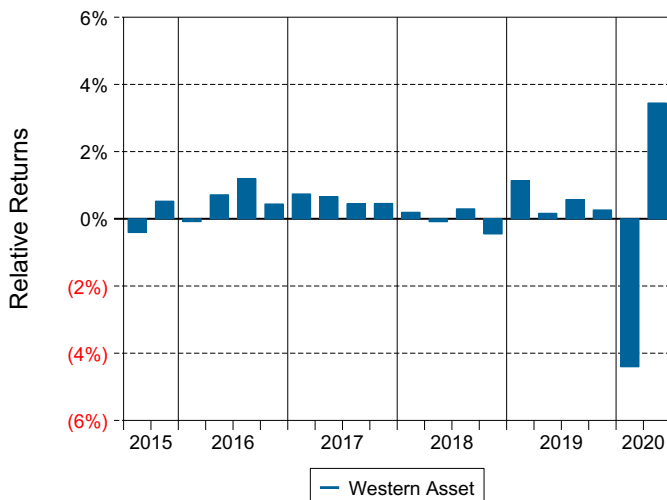
### Quarterly Asset Growth

Beginning Market Value	\$356,841,550
Net New Investment	\$-25,105,606
Investment Gains/(Losses)	\$21,542,708
Ending Market Value	\$353,278,652

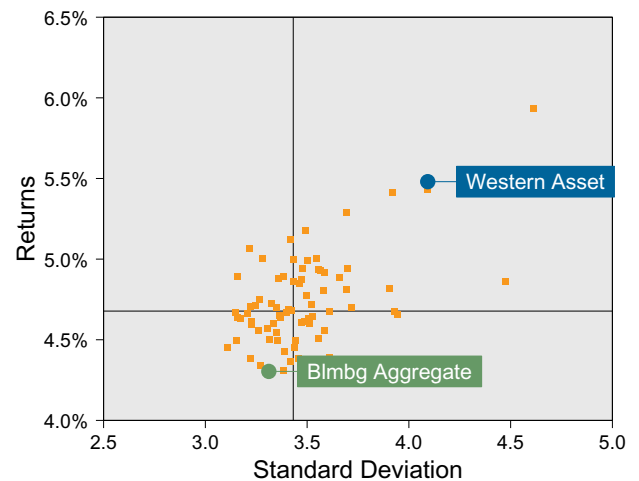
### Performance vs Callan Core Bond Fixed Income (Gross)



### Relative Return vs Blmbg Aggregate



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





# Real Estate Period Ended June 30, 2020

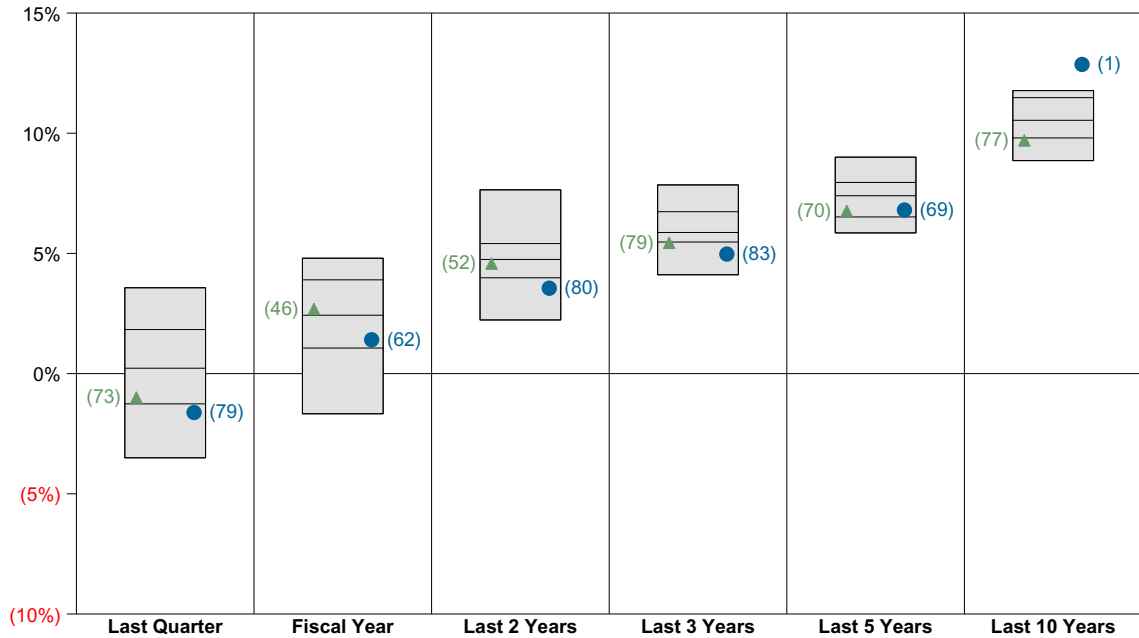
## Quarterly Summary and Highlights

- Real Estate's portfolio posted a (1.62)% return for the quarter placing it in the 79 percentile of the Public Fund - Real Estate group for the quarter and in the 62 percentile for the last year.
- Real Estate's portfolio underperformed the NCREIF Total Index by 0.63% for the quarter and underperformed the NCREIF Total Index for the year by 1.28%.

## Quarterly Asset Growth

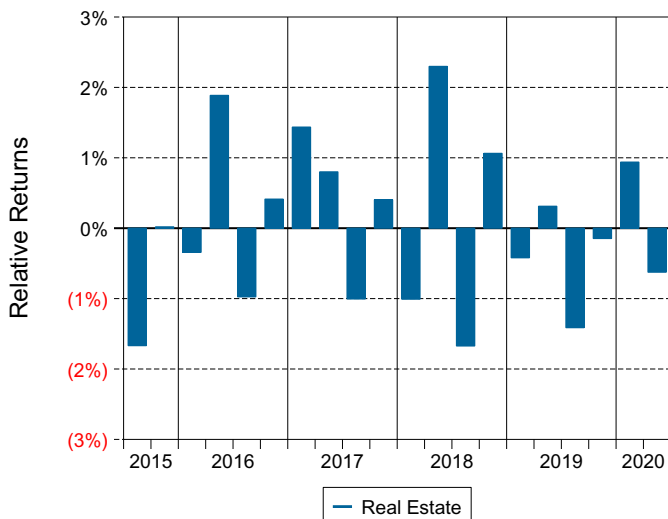
Beginning Market Value	\$101,298,848
Net New Investment	\$-1,125,963
Investment Gains/(Losses)	\$-1,609,096
Ending Market Value	\$98,563,788

## Performance vs Public Fund - Real Estate (Gross)

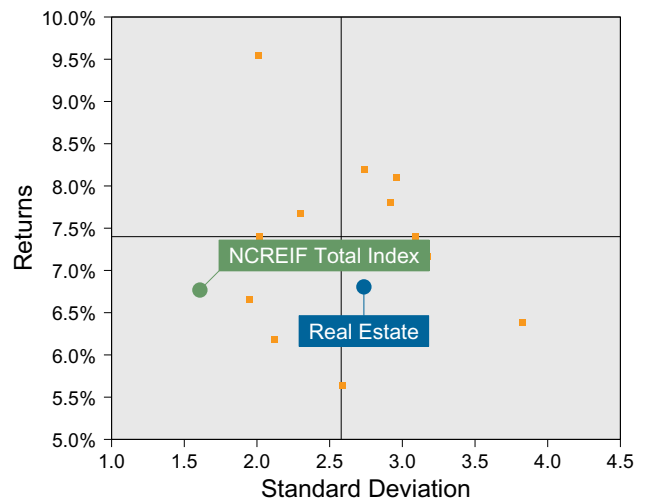


10th Percentile	3.57	4.80	7.64	7.85	9.00	11.77
25th Percentile	1.83	3.90	5.41	6.74	7.95	11.48
Median	0.22	2.43	4.75	5.87	7.40	10.54
75th Percentile	(1.26)	1.06	3.99	5.47	6.52	9.80
90th Percentile	(3.50)	(1.67)	2.23	4.11	5.85	8.86
<b>Real Estate</b>	● (1.62)	1.41	3.55	4.97	6.81	12.86
NCREIF Total Index	▲ (0.99)	2.69	4.58	5.44	6.77	9.70

## Relative Return vs NCREIF Total Index



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



# Invesco Core Real Estate Period Ended June 30, 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.

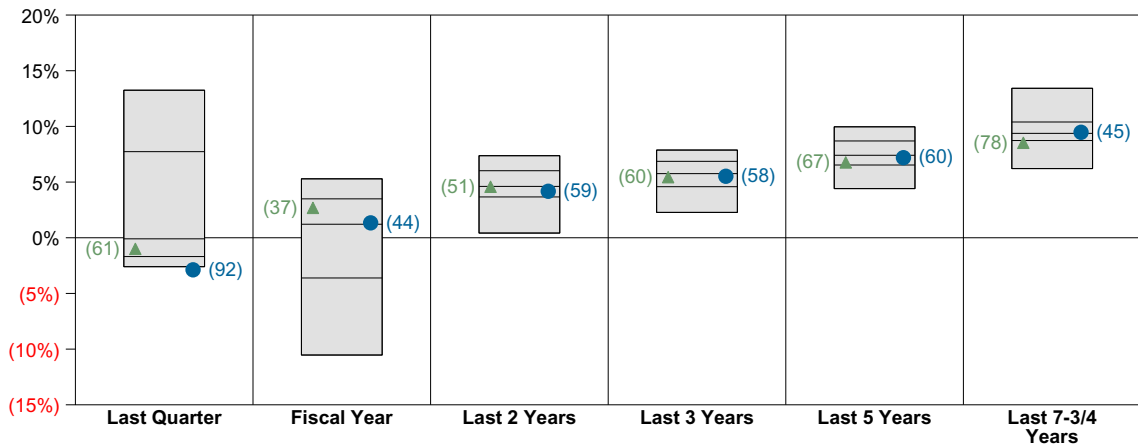
## Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a (2.88)% return for the quarter placing it in the 92 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 44 percentile for the last year.
- Invesco Core Real Estate's portfolio underperformed the NCREIF Total Index by 1.89% for the quarter and underperformed the NCREIF Total Index for the year by 1.35%.

## Quarterly Asset Growth

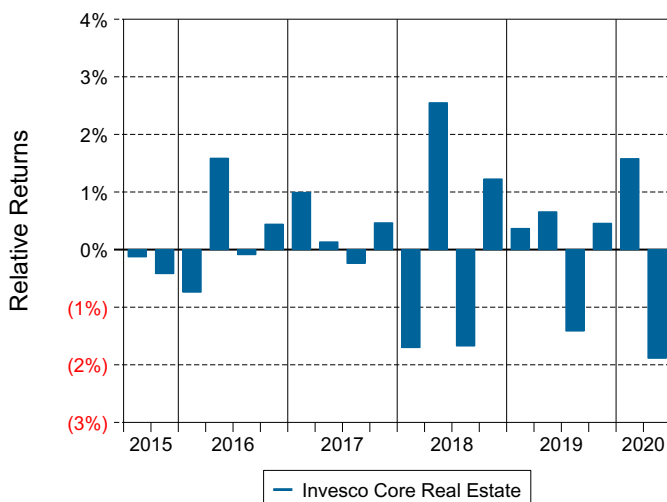
Beginning Market Value	\$53,475,262
Net New Investment	\$-518,762
Investment Gains/(Losses)	\$-1,520,619
Ending Market Value	\$51,435,881

## Performance vs Callan Total Domestic Real Estate DB (Gross)

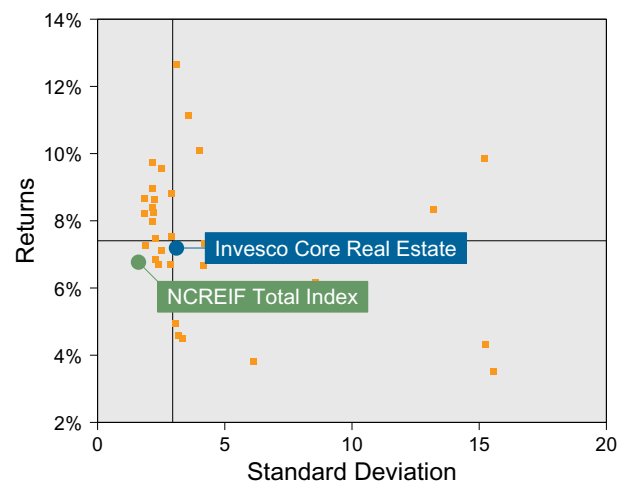


10th Percentile	13.25	5.29	7.37	7.88	9.96	13.42
25th Percentile	7.73	3.49	6.02	6.86	8.69	10.39
Median	(0.10)	1.21	4.61	5.76	7.41	9.38
75th Percentile	(1.69)	(3.61)	3.67	4.59	6.53	8.73
90th Percentile	(2.60)	(10.53)	0.42	2.28	4.41	6.21
<b>Invesco Core Real Estate</b>	● (2.88)	1.34	4.17	5.52	7.19	9.47
<b>NCREIF Total Index</b>	▲ (0.99)	2.69	4.58	5.44	6.77	8.53

## 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 June 30, 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.

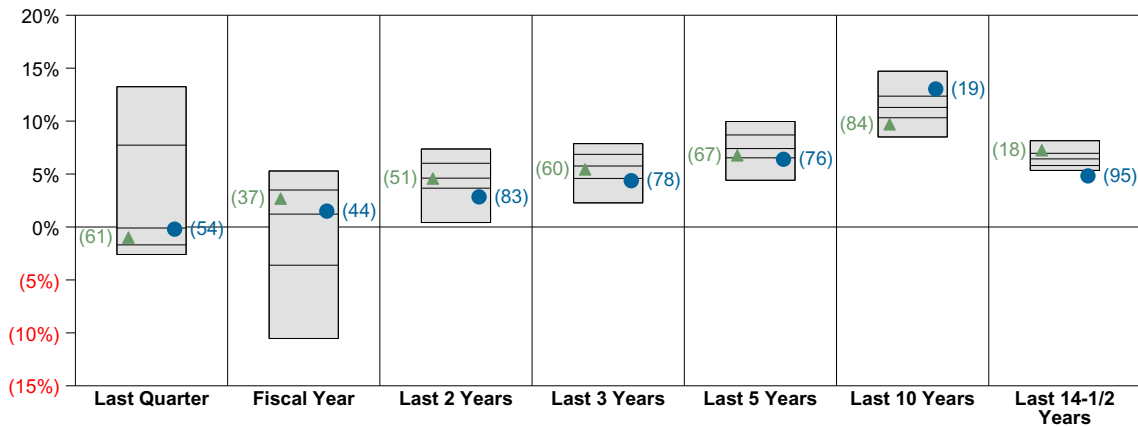
## Quarterly Summary and Highlights

- JP Morgan Real Estate's portfolio posted a (0.21)% return for the quarter placing it in the 54 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 44 percentile for the last year.
- JP Morgan Real Estate's portfolio outperformed the NCREIF Total Index by 0.79% for the quarter and underperformed the NCREIF Total Index for the year by 1.19%.

## Quarterly Asset Growth

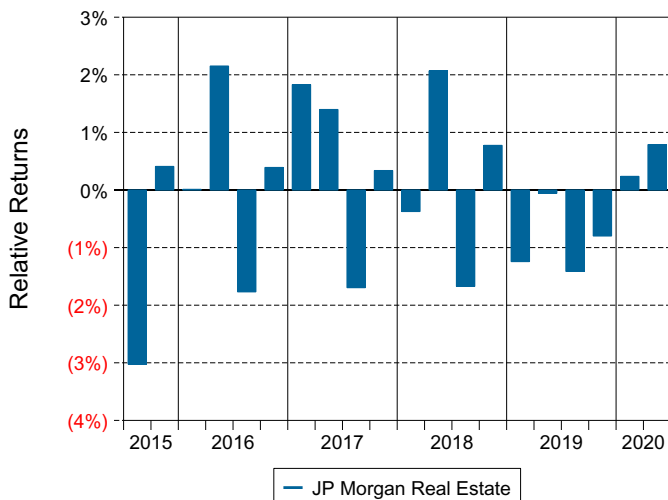
Beginning Market Value	\$47,823,586
Net New Investment	\$-607,201
Investment Gains/(Losses)	\$-88,478
Ending Market Value	\$47,127,907

## Performance vs Callan Total Domestic Real Estate DB (Gross)

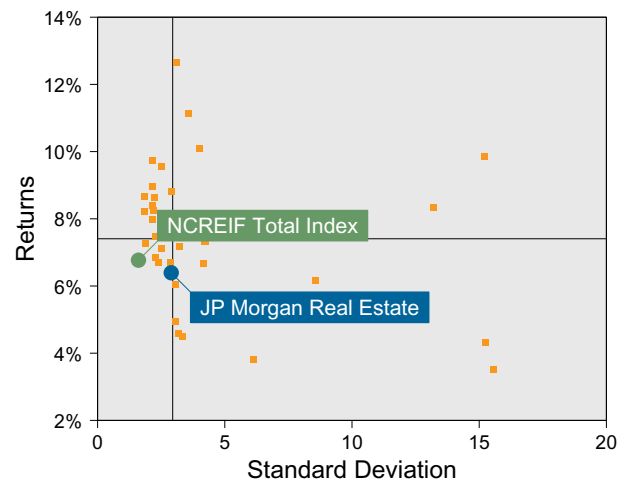


10th Percentile	13.25	5.29	7.37	7.88	9.96	14.71	8.15
25th Percentile	7.73	3.49	6.02	6.86	8.69	12.36	6.96
Median	(0.10)	1.21	4.61	5.76	7.41	11.30	6.43
75th Percentile	(1.69)	(3.61)	3.67	4.59	6.53	10.32	5.80
90th Percentile	(2.60)	(10.53)	0.42	2.28	4.41	8.50	5.34
<b>JP Morgan Real Estate</b>	● (0.21)	1.50	2.84	4.37	6.39	13.03	4.82
<b>NCREIF Total Index</b>	▲ (0.99)	2.69	4.58	5.44	6.77	9.70	7.25

## Relative Return vs NCREIF Total Index



## Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return



# Western Asset TIPS Period Ended June 30, 2020

## Investment Philosophy

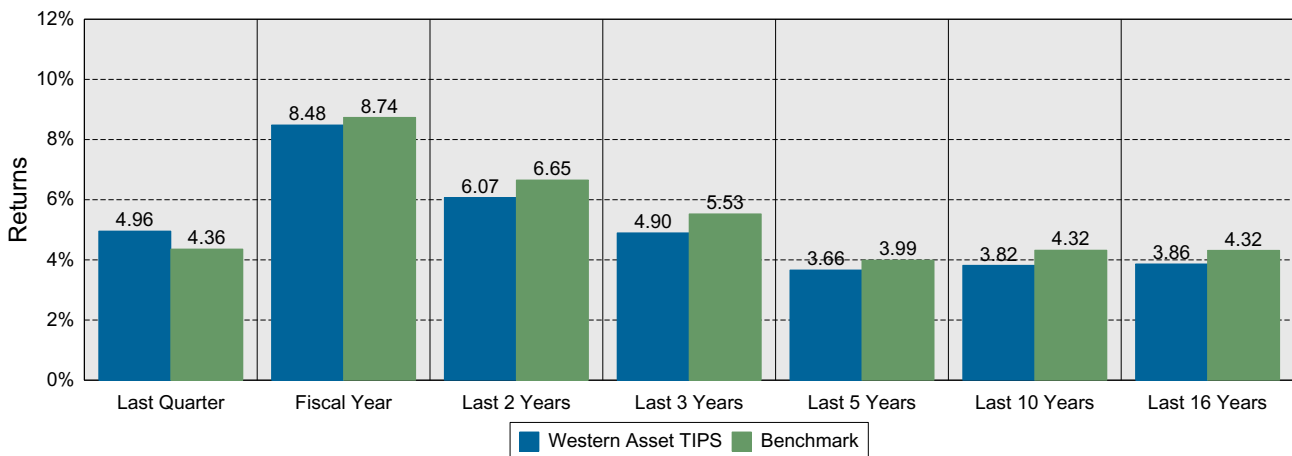
The Western Asset US TIPS Full Discretion strategy is an inflation-protected strategy that aims to maximize total return and add value through duration and curve positioning, sector allocation, and security selection, while approximating benchmark risk. The strategy invests in a diversified portfolio 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

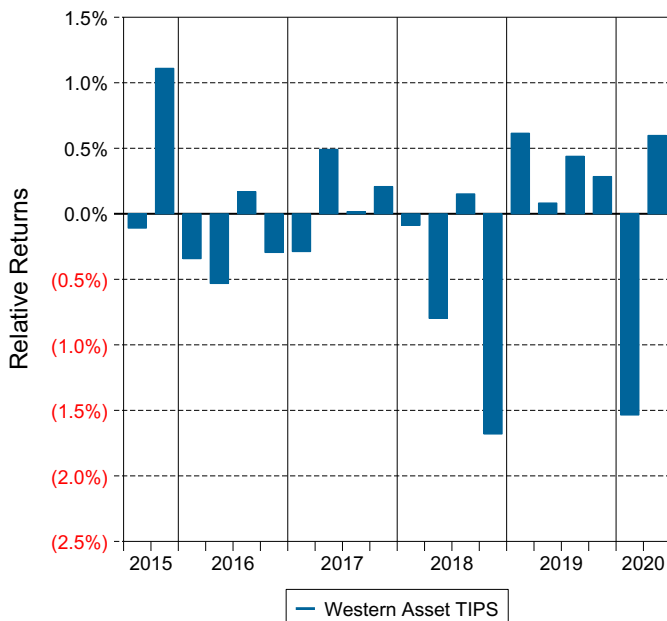
- Western Asset TIPS's portfolio outperformed the Benchmark by 0.60% for the quarter and underperformed the Benchmark for the year by 0.25%.

## Quarterly Asset Growth

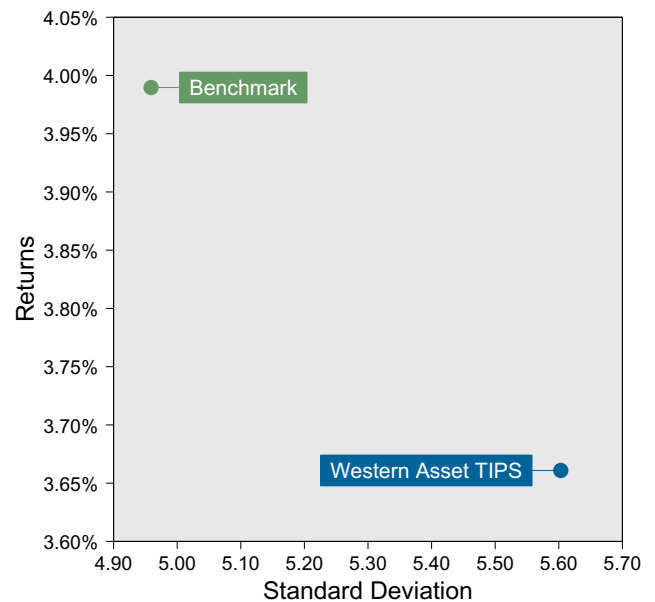
Beginning Market Value	\$143,729,808
Net New Investment	\$-42,053
Investment Gains/(Losses)	\$7,121,796
Ending Market Value	\$150,809,552



## Relative Return vs Benchmark



## Annualized Five Year Risk vs Return



# Eastern Timber Opportunities

## Period Ended June 30, 2020

### Investment Philosophy

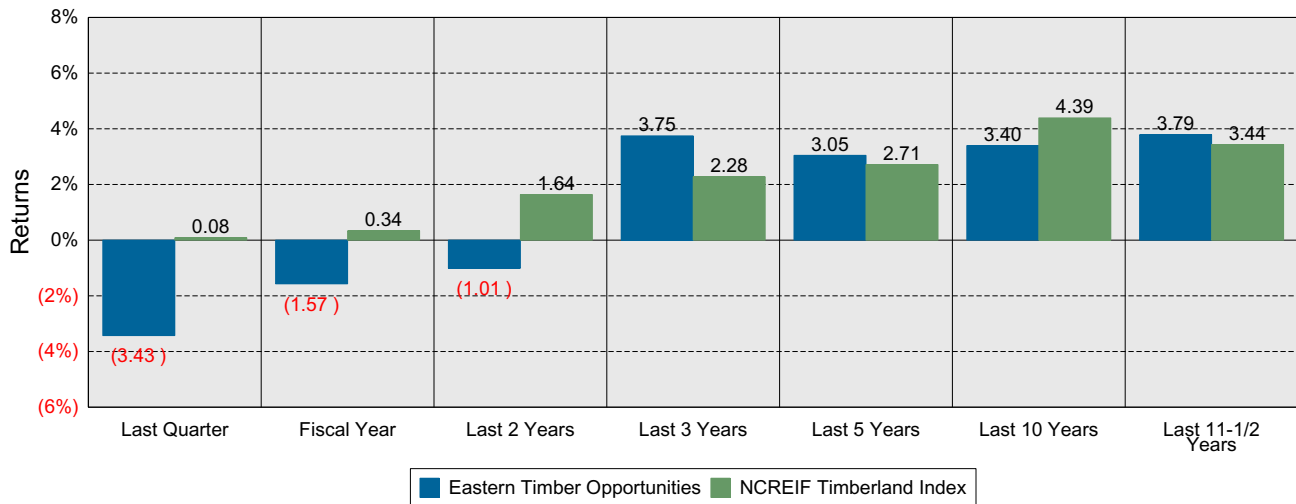
The investment objective of the Eastern Timberland Opportunities fund is to provide competitive timberland investment returns from Eastern US timberland investments by pursuing management strategies to increase timber production and land values through the investment term. TIR will maximize timber values 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

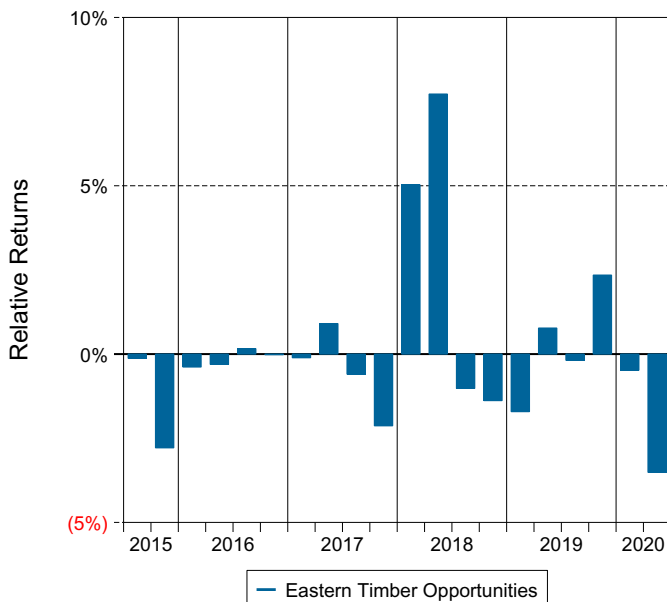
- Eastern Timber Opportunities's portfolio underperformed the NCREIF Timberland Index by 3.51% for the quarter and underperformed the NCREIF Timberland Index for the year by 1.90%.

### Quarterly Asset Growth

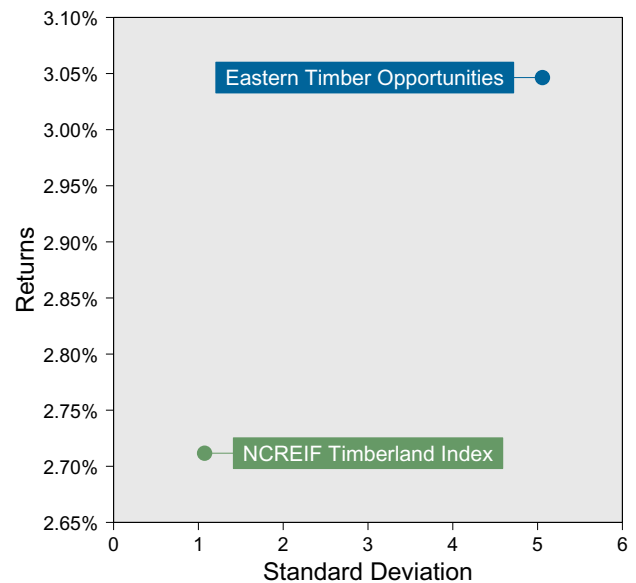
Beginning Market Value	\$54,955,356
Net New Investment	\$0
Investment Gains/(Losses)	-\$1,883,660
Ending Market Value	\$53,071,696



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



# JP Morgan Infrastructure Period Ended June 30, 2020

## Investment Philosophy

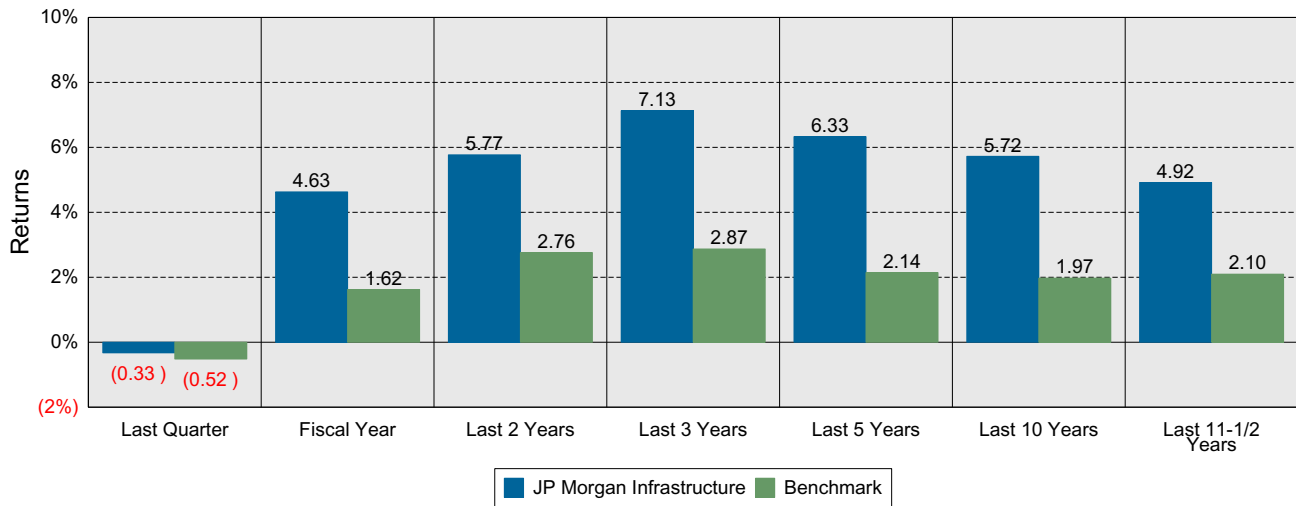
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas 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

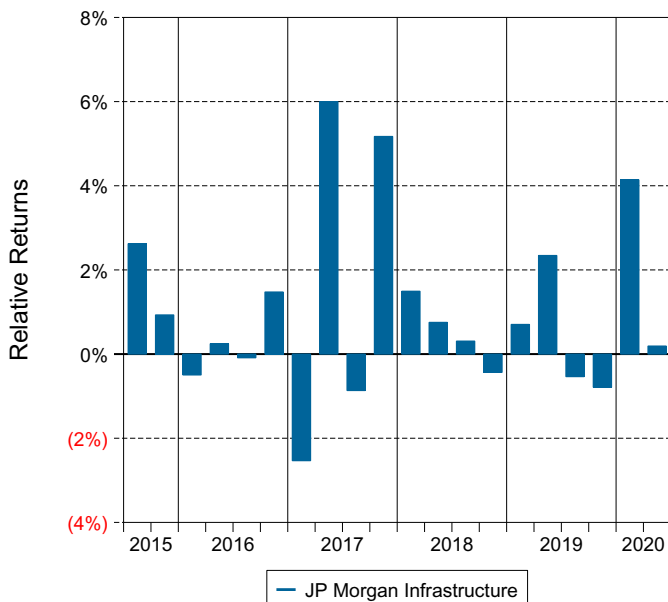
- JP Morgan Infrastructure's portfolio outperformed the Benchmark by 0.19% for the quarter and outperformed the Benchmark for the year by 3.01%.

## Quarterly Asset Growth

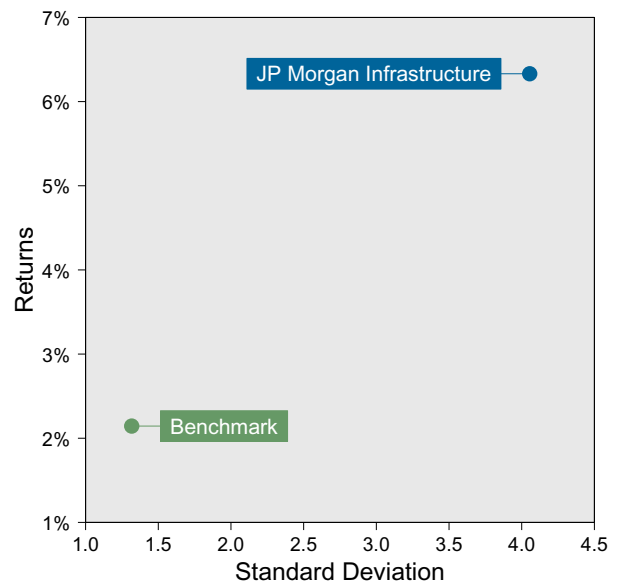
Beginning Market Value	\$42,368,844
Net New Investment	\$-644,488
Investment Gains/(Losses)	\$-139,314
Ending Market Value	\$41,585,042



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



# Grosvenor Cust. Infrastructure Period Ended June 30, 2020

## Investment Philosophy

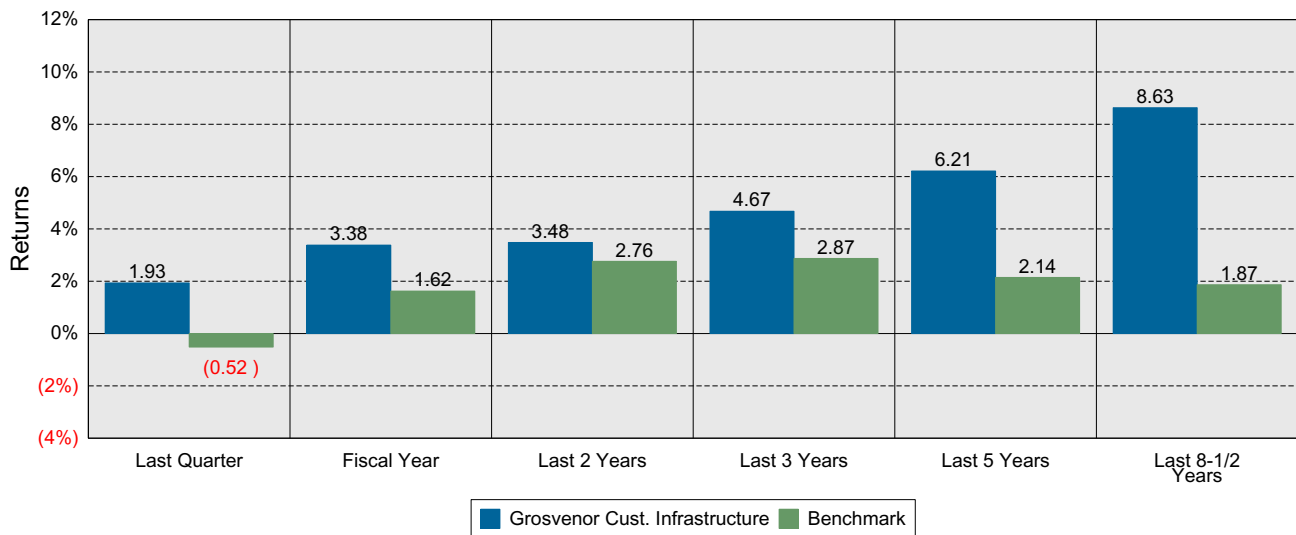
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified 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

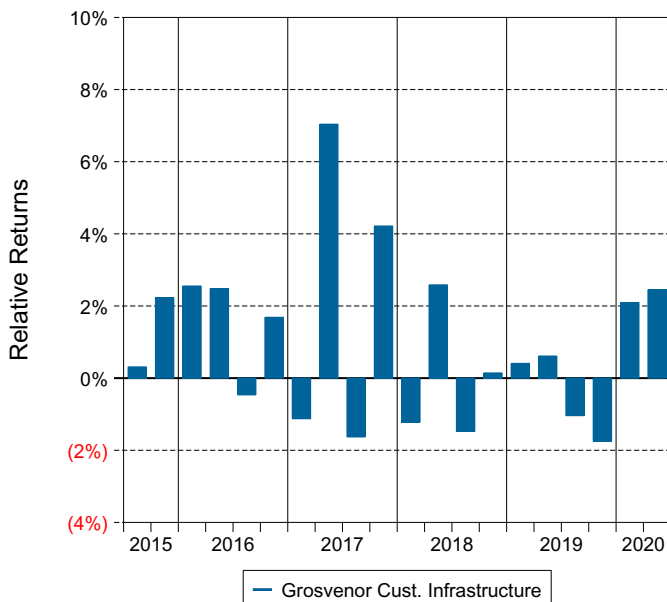
- Grosvenor Cust. Infrastructure's portfolio outperformed the Benchmark by 2.45% for the quarter and outperformed the Benchmark for the year by 1.76%.

## Quarterly Asset Growth

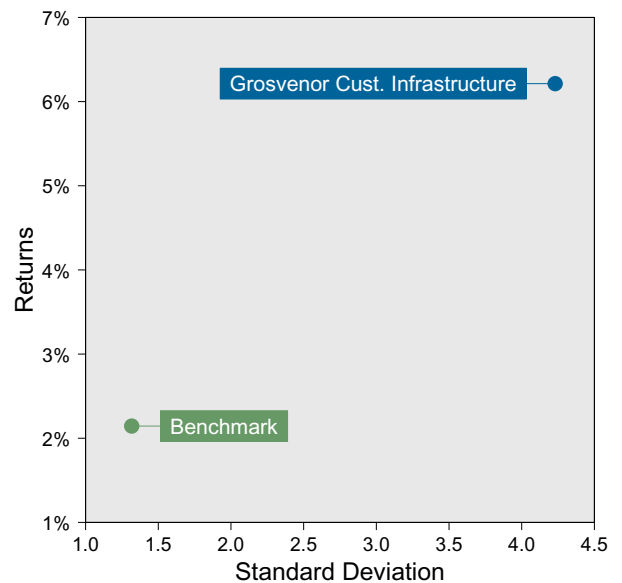
Beginning Market Value	\$11,309,770
Net New Investment	-\$1,249,028
Investment Gains/(Losses)	\$218,792
Ending Market Value	\$10,279,534



Relative Return vs Benchmark



Annualized Five Year Risk vs Return



# Short Term Fixed Income Period Ended June 30, 2020

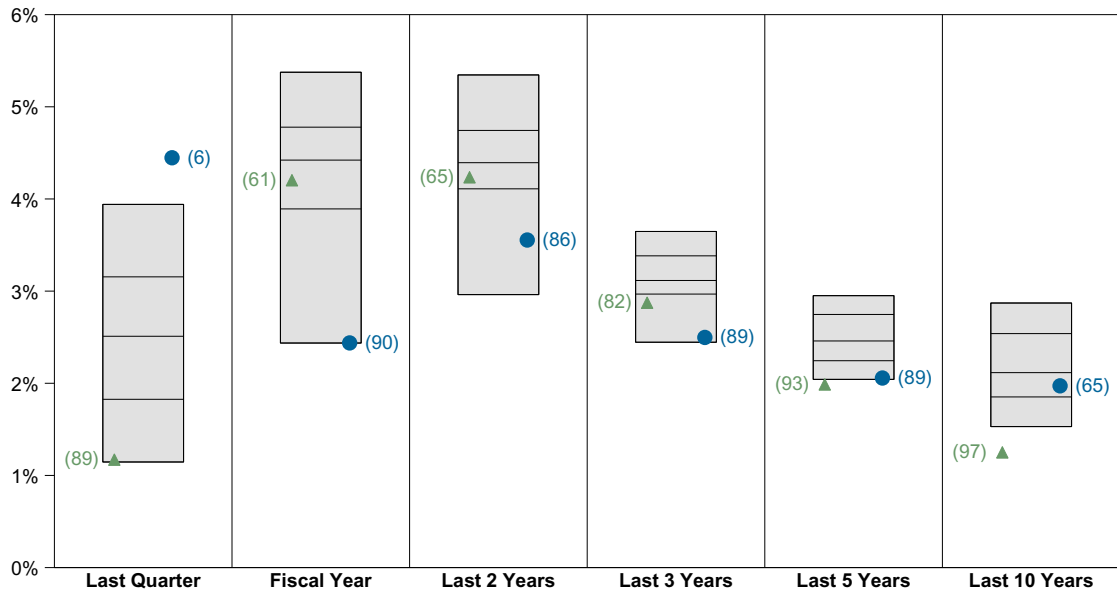
## Quarterly Summary and Highlights

- Short Term Fixed Income's portfolio posted a 4.45% return for the quarter placing it in the 6 percentile of the Callan Short Term Fixed Income group for the quarter and in the 90 percentile for the last year.
- Short Term Fixed Income's portfolio outperformed the Short Term Fixed Target by 3.28% for the quarter and underperformed the Short Term Fixed Target for the year by 1.77%.

## Quarterly Asset Growth

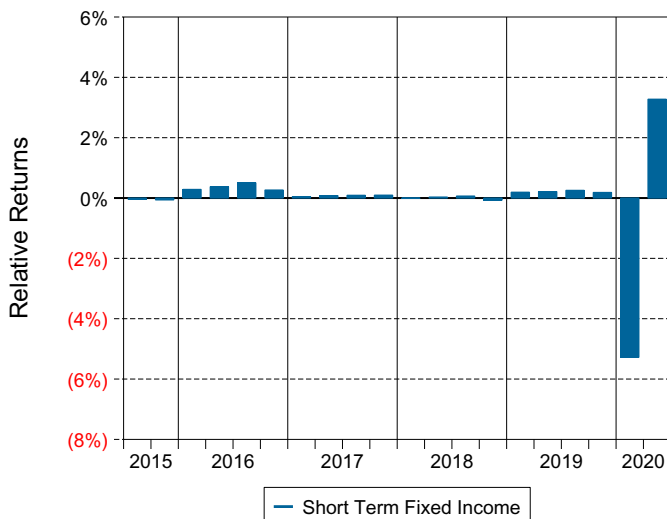
Beginning Market Value	\$717,313,967
Net New Investment	\$-104,369
Investment Gains/(Losses)	\$31,896,818
Ending Market Value	\$749,106,415

## Performance vs Callan Short Term Fixed Income (Gross)

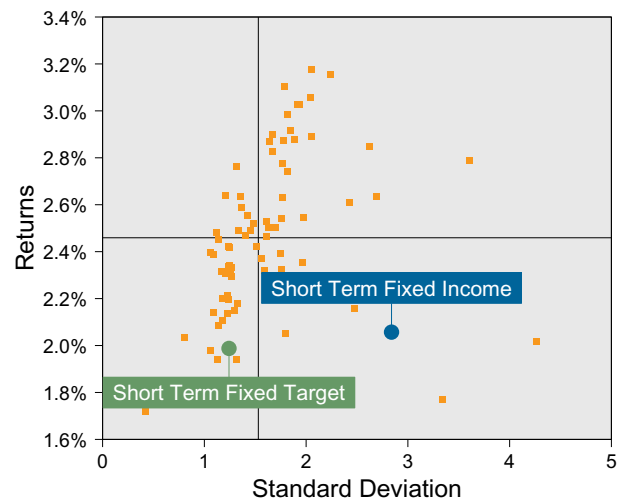


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	3.94	5.38	5.35	3.65	2.95	2.87
25th Percentile	3.15	4.78	4.74	3.38	2.75	2.54
Median	2.51	4.42	4.39	3.12	2.46	2.12
75th Percentile	1.83	3.89	4.11	2.97	2.24	1.85
90th Percentile	1.15	2.44	2.96	2.45	2.04	1.53
<b>Short Term Fixed Income</b> ●	4.45	2.44	3.55	2.50	2.06	1.97
Short Term Fixed Target ▲	1.17	4.20	4.24	2.87	1.99	1.25

## 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 June 30, 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.

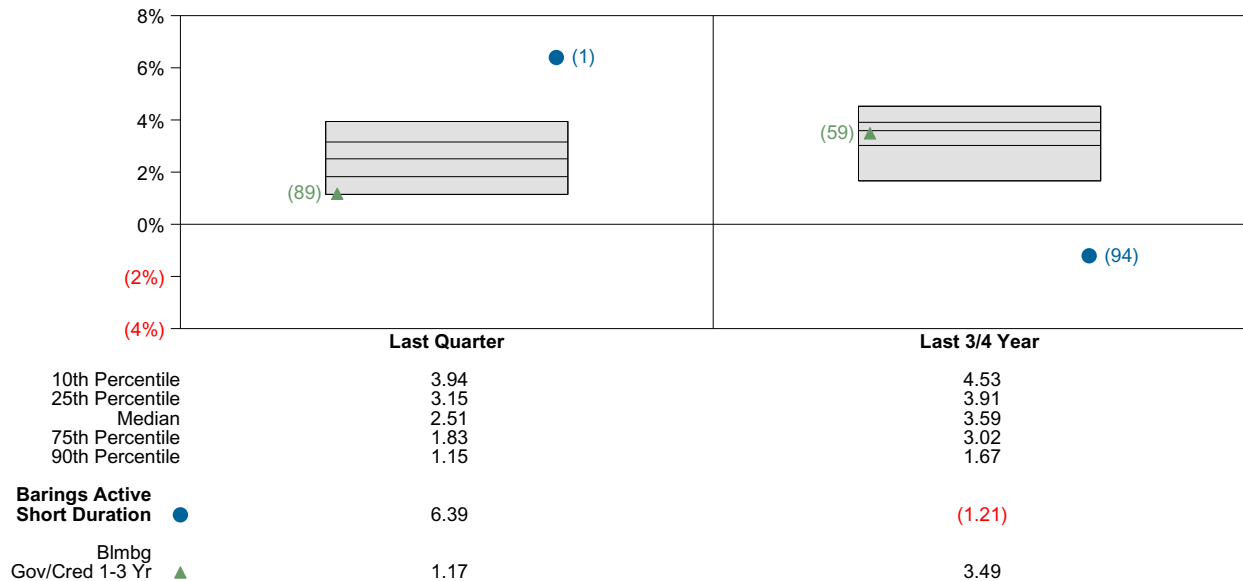
## Quarterly Summary and Highlights

- Barings Active Short Duration's portfolio posted a 6.39% return for the quarter placing it in the 1 percentile of the Callan Short Term Fixed Income group for the quarter and in the 94 percentile for the last three-quarter year.
- Barings Active Short Duration's portfolio outperformed the Blmbg Gov/Cred 1-3 Yr by 5.22% for the quarter and underperformed the Blmbg Gov/Cred 1-3 Yr for the three-quarter year by 4.70%.

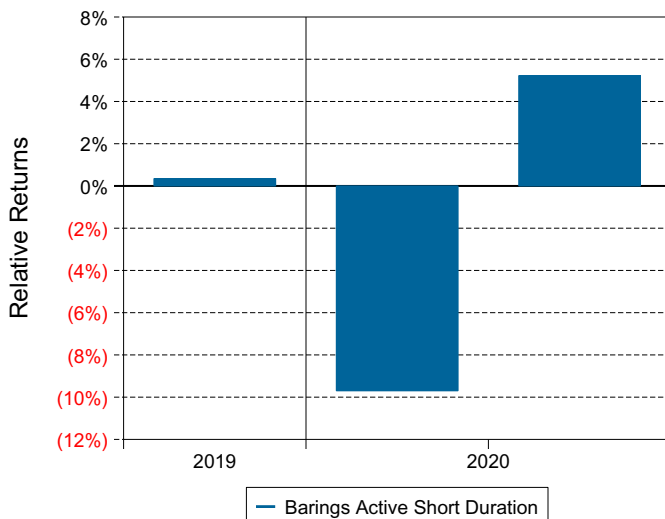
## Quarterly Asset Growth

Beginning Market Value	\$344,089,762
Net New Investment	\$-104,369
Investment Gains/(Losses)	\$21,997,126
Ending Market Value	\$365,982,519

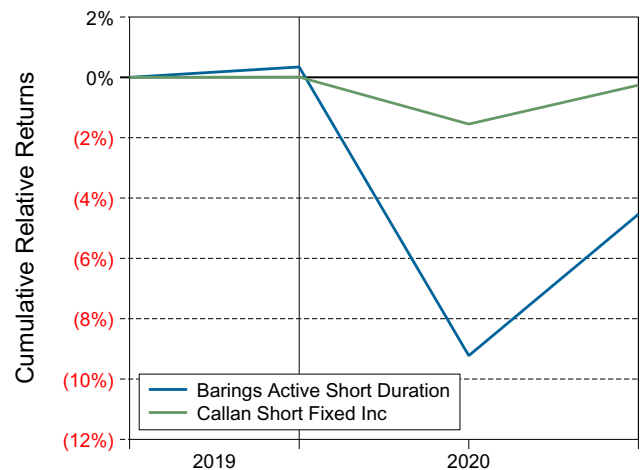
## Performance vs Callan Short Term Fixed Income (Gross)



## 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 June 30, 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.

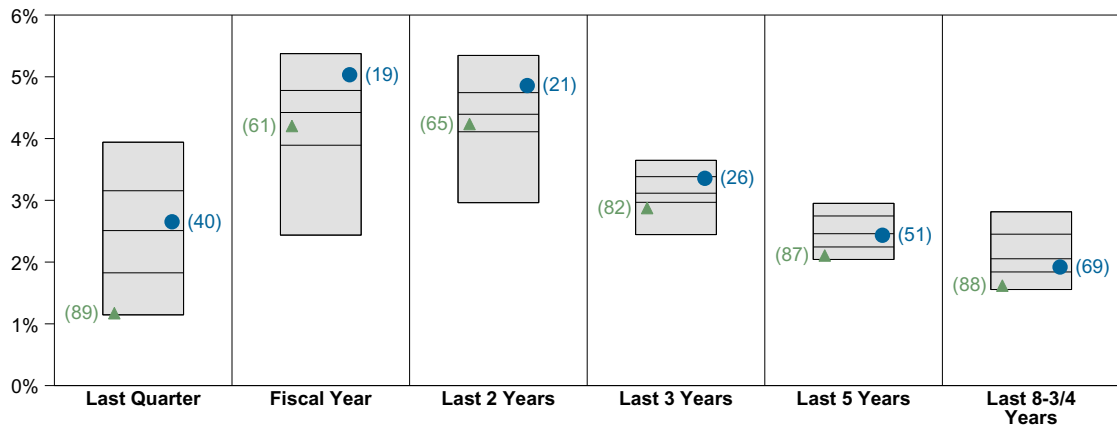
## Quarterly Summary and Highlights

- JP Morgan Short Term Bonds's portfolio posted a 2.65% return for the quarter placing it in the 40 percentile of the Callan Short Term Fixed Income group for the quarter and in the 19 percentile for the last year.
- JP Morgan Short Term Bonds's portfolio outperformed the Blmbg Gov/Cred 1-3 Yr by 1.48% for the quarter and outperformed the Blmbg Gov/Cred 1-3 Yr for the year by 0.83%.

## Quarterly Asset Growth

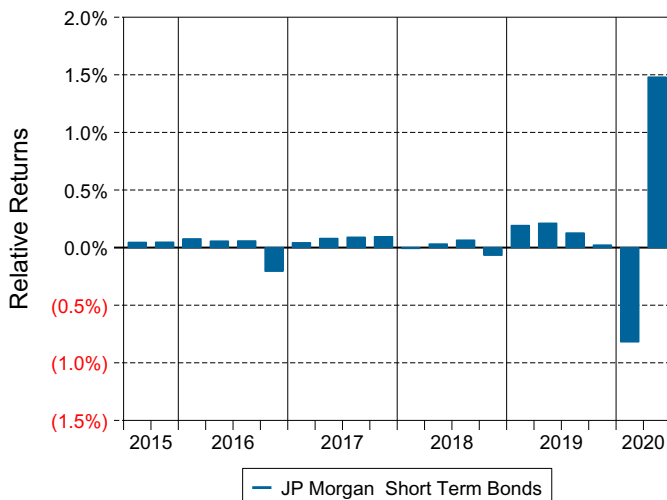
Beginning Market Value	\$373,224,205
Net New Investment	\$0
Investment Gains/(Losses)	\$9,899,692
Ending Market Value	\$383,123,897

## Performance vs Callan Short Term Fixed Income (Gross)

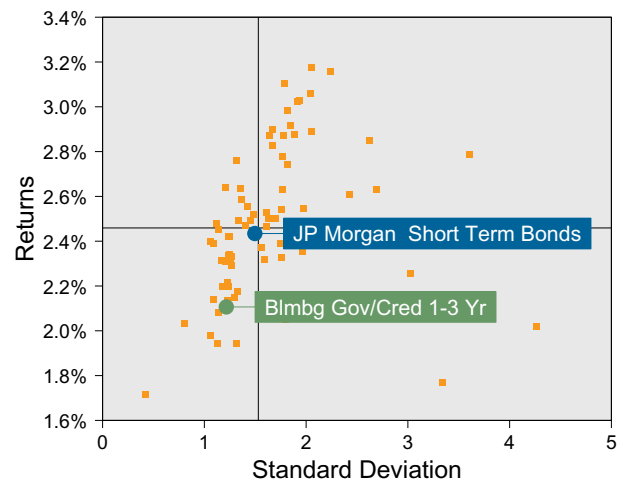


10th Percentile	3.94	5.38	5.35	3.65	2.95	2.81
25th Percentile	3.15	4.78	4.74	3.38	2.75	2.45
Median	2.51	4.42	4.39	3.12	2.46	2.05
75th Percentile	1.83	3.89	4.11	2.97	2.24	1.84
90th Percentile	1.15	2.44	2.96	2.45	2.04	1.56
<b>JP Morgan Short Term Bonds</b>	● 2.65	5.03	4.86	3.36	2.43	1.92
<b>Blmbg Gov/Cred 1-3 Yr</b>	▲ 1.17	4.20	4.24	2.87	2.11	1.62

## 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](http://www.callan.com/library) to see all of our publications, and [www.callan.com/blog](http://www.callan.com/blog) to view our blog “Perspectives.” For more information contact Barb Gerraty at 415-274-3093 / [institute@callan.com](mailto:institute@callan.com).

## New Research from Callan’s Experts

**[Coping with COVID-19: How Work Is Evolving for Investment Managers](#)** | Callan surveyed over 100 investment managers regarding how their firms were responding to the COVID-19 pandemic, focusing on office closures and reopenings, work-from-home approaches, business travel, and meetings. Respondents reflected a wide variety of firms by location, employee size, assets under management, and ownership structure.

**[Breaking Bad: Better Call Hedge Funds?](#)** | In his latest *Hedge Fund Monitor*, Callan’s Jim McKee discusses four opportunities for hedge fund investors arising from the market dislocations stemming from the COVID-19 pandemic.

**[Real Estate Indicators: Too Hot to Touch or Cool Enough to Handle?](#)** | Callan’s Real Assets Consulting group identifies seven indicators, based on spreads in real estate and fixed income markets, that, combined with an understanding of prevailing market dynamics, have helped signal when the institutional real estate market is overheated or cooled.

### Blog Highlights

**[Guidance on Substantial Workforce Cuts and DC Plan Terminations](#)** | Employers that reduce their workforce or discontinue defined contribution (DC) plan eligibility for certain employee groups may experience an inadvertent “partial plan termination.” If not properly managed, this event could result in a disqualification of the entire plan.

**[‘Social Washing’ and How COVID-19 Has Emphasized the ‘S’ in ESG](#)** | While ESG-savvy investors are most likely familiar with “greenwashing,” which refers to the misrepresentation of environmental impact, the term “social washing” has gained new prominence as the investment community evaluates corporations’

responses to the sudden challenges presented by the coronavirus. Social washing refers to statements or policies that make a company appear more socially responsible than it actually is.

**[Nonprofits and the Pandemic: What to Do Now](#)** | For nonprofits, this environment creates unique challenges, with many organizations not only contending with the health crisis but also the impact of portfolio returns on their organization’s ability to fund grants, provide scholarships, and support programs and operations essential to their constituents. At the same time, these organizations face a potential decline in philanthropic contributions.

### Quarterly Periodicals

**[Private Equity Trends, 1Q20](#)** | A high-level summary of private equity activity in the quarter through all the investment stages

**[Active vs. Passive Charts, 1Q20](#)** | A comparison of active managers alongside relevant benchmarks over the long term

**[Market Pulse Flipbook, 1Q20](#)** | 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, 1Q20](#)** | 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, 1Q20](#)** | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

**[Real Assets Reporter, 1Q20](#)** | In this quarter’s edition, we discuss the implications of the COVID-19 pandemic on the prospects for farmland investments. In addition, it includes analysis of the performance of real estate and other real assets in 1Q20.

## Events

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

Please mark your calendar and look forward to upcoming invitations:

### Upcoming Webinars

#### August 20

*Credit Dislocation—Opportunities in Private Credit*

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

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

### Introduction to Investments—Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It is held over three days with virtual modules of 2.5-3 hours. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$950 per person and includes instruction and digital materials.

**Next Session: October 13-15, 2020**

Additional information including registration can be found at: [www.callan.com/cc-introduction-virtual/](http://www.callan.com/cc-introduction-virtual/)

### Introduction to Investments—In Person

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/](http://www.callan.com/callan-college-intro-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 ongoing 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.

AEW Capital Management

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.

### Manager Name

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 &amp; Steers Capital Management, Inc.

Columbia Management Investments

Columbus Circle Investors

Credit Suisse Asset Management

D.E. Shaw Investment Management, L.L.C.

DePrince, Race &amp; Zollo, Inc.

Diamond Hill Capital Management, Inc.

Dimensional Fund Advisors LP

Doubleline

Duff &amp; Phelps Investment Management Co.

DWS

EARNEST Partners, LLC

Eaton Vance Management

Epoch Investment Partners, Inc.

Fayez Sarofim &amp; Company

Federated Hermes, Inc.

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Hawaiian Bank Wealth Management Division

First State Investments

Fisher Investments

Fortress Investment Group

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&amp;K Investment Management

Harbor Capital Group Trust

Hartford Investment Management Co.

Heitman LLC

Hotchkis &amp; Wiley Capital Management, LLC

HPS Investment Partners, LLC

Income Research + Management, Inc.

Insight Investment Management Limited

Intech Investment Management, LLC

**Manager Name**

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 &amp; General Investment Management America

Lincoln National Corporation

Longview Partners

Loomis, Sayles &amp; Company, L.P.

Lord Abbett &amp; 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 &amp; Caldwell, LLC

Morgan Stanley Investment Management

Mountain Pacific Advisors, LLC

MUFU 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

**Manager Name**

Parametric Portfolio Associates LLC

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 &amp; Co. Asset Management US

S&amp;P Dow Jones Indices

Schroder Investment Management North America Inc.

SLC Management

Smith Graham &amp; Co. Investment Advisors, L.P.

State Street Global Advisors

Stone Harbor Investment Partners L.P.

**Manager Name**

Strategic Global Advisors

T. Rowe Price Associates, Inc.

The TCW Group, Inc.

Thompson, Siegel &amp; 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 &amp; Company LLC

June 30, 2020



## **North Dakota State Investment Board Legacy Fund**

**Investment Measurement Service  
Quarterly Review**

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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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## Table of Contents

### June 30, 2020

---

#### Executive Summary

Active Management Overview	2
Capital Market Review	3

---

#### Asset Allocation and Performance

Actual vs Target Asset Allocation	19
Quarterly Total Fund Attribution	20
Cumulative Total Fund Attribution	21
Historical Asset Allocation	25
Asset Class Rankings	26
Asset Class Allocation	27
Asset Class Returns	28

---

#### Manager Evaluation

##### Domestic Equity

Domestic Equity Composite	32
Parametric Large Cap	33
L.A. Capital Large Cap Growth	34
L.A. Capital Enhanced	35
LSV Large Cap Value	36
Atlanta Capital	37
Parametric Small Cap	38

---

##### International Equity

International Equity Composite	40
DFA International Small Cap Value	41
LSV International Value	42
Vanguard Intl Explorer Fund	43
William Blair	44

---

##### Domestic Fixed Income

Domestic Fixed Income Composite	46
Ares ND Credit Strategies Fund	47
Cerberus ND Private Credit Fund	48
Declaration Total Return	49
PIMCO Bravo II	50
PIMCO DiSCO II	51
Prudential	52
SSgA US Government Credit Bond Index	53
Wells Capital	54
Western Asset Management Company	55

---

## Table of Contents

### June 30, 2020

---

#### Real Estate

Invesco Core Real Estate	57
JP Morgan RE Income & Growth	58

---

#### Diversified

Western Asset Management TIPS	60
ISQ Global Infrastructure II	61
JP Morgan Infrastructure	62
Grosvenor Cust. Infrastructure	63
Macquarie Infrastructure Partners IV	64

---

Callan Research/Education	65
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Disclosures	68
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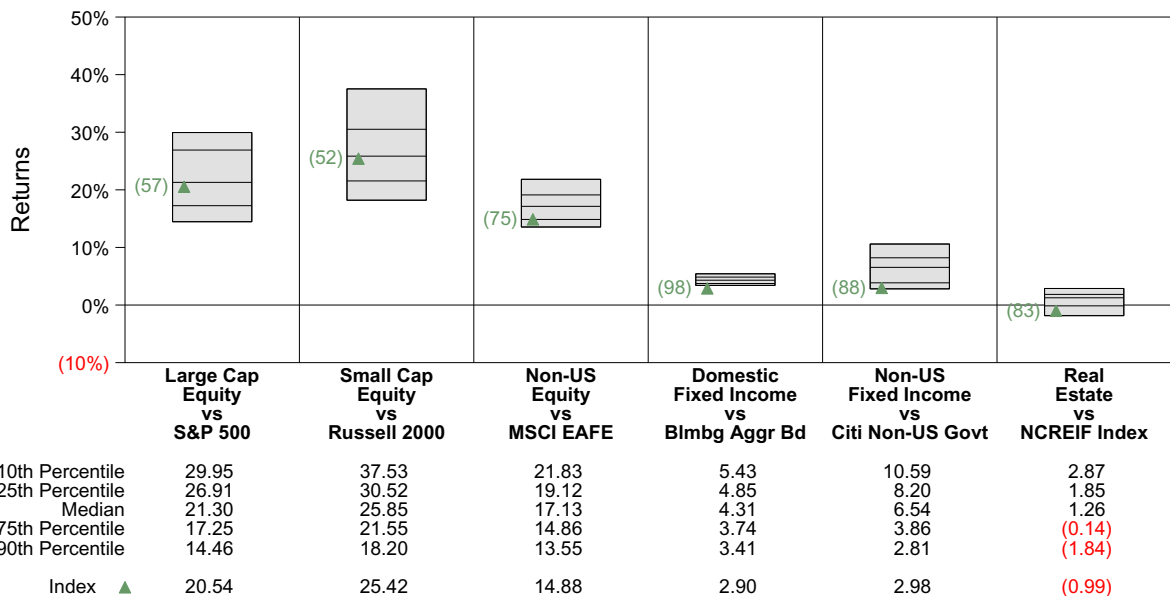
## Market Overview

### Active Management vs Index Returns

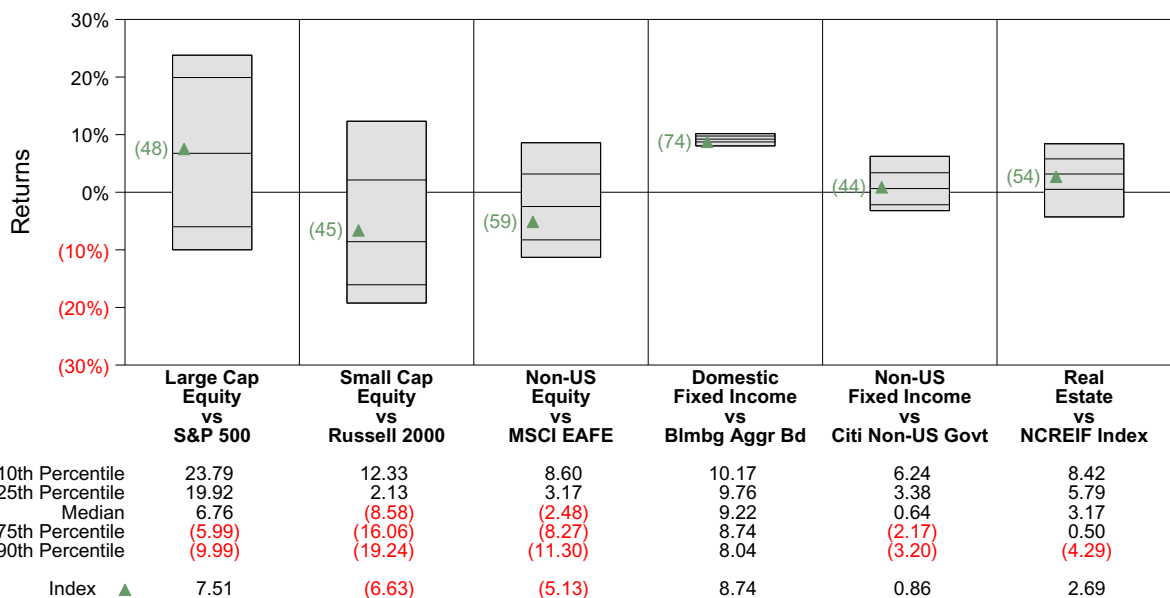
#### Market Overview

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 June 30, 2020



#### Range of Separate Account Manager Returns by Asset Class One Year Ended June 30, 2020





# Capital Market Review

## The Stock Market Is Not the Economy

### ECONOMY

**2** While equities rebounded in 2Q20, economies around the world face significant challenges as the pandemic creates an unprecedented environment. U.S. GDP, for instance, fell an astonishing 9.5% in the quarter, or 32.9% on an annualized basis, while a quarter of all jobs evaporated.

## Returns Positive After 1st Quarter Volatility

### INSTITUTIONAL INVESTORS

**4** Every type of institutional investor showed gains over the one year ending with the second quarter, rebounding from the first quarter. And while all lagged a 60% stocks/40% bonds benchmark over that time period, over longer periods they have roughly matched its performance.

## Bounceback Leads Indices to Soar in 2Q

### EQUITY

**6** U.S. equity markets bounced back from March lows in 2Q20, with three sectors (Technology, Consumer Discretionary, Energy) posting returns in excess of 30%. Accommodative monetary policies helped fuel the market recovery for global equities.

## Mixed Performance Around the World

### FIXED INCOME

**8** After strong performance in 1Q20, U.S. Treasury returns lagged other "spread" sectors in 2Q20 as risk appetites rebounded. Developed market sovereign bond yields ended lower amid rate cuts overseas. Emerging market debt rebounded, helped by rising oil prices.

## Appreciation Falters; REITs Underperform

### REAL ESTATE/REAL ASSETS

**10** All sectors of the NCREIF Property Index saw negative appreciation in 2Q20, but income remained positive except for Hotels. Transaction volume dropped off with the exception of Industrial assets that have tenants with strong credit. REITs underperformed equity benchmarks.

## Heightened Focus on Portfolio Holdings

### PRIVATE EQUITY

**12** Activity slowed in 2Q20, although larger transactions helped prop up dollar volumes. The market is in a period of both price discovery and a heightened focus on existing portfolio holdings. First quarter returns were down, but by less than half those of public equity.

## Beta Leads, and Alpha Follows

### HEDGE FUNDS/MACs

**13** Global markets reverted to risk-on mode in 2Q20, and most hedge fund strategies benefited. The CS HFI rose 6.2%, while the median manager in the Callan Hedge Fund-of-Funds Database Group gained 7.7%. The Callan Institutional Hedge Fund Peer Group increased 6.0%.

## Index Posts Largest Drop Since 4Q08

### DEFINED CONTRIBUTION

**15** The equity downturn in 1Q20 led to the decline and ended four straight quarters of gains. Balances saw the biggest plunge ever. Stable value funds saw the biggest inflows as participants sought safety. Allocation to equity reached the lowest level since 2012.

## Broad Market Quarterly Returns

**U.S. Equity**  
Russell 3000



**22.0%**

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



**16.1%**

**U.S. Fixed Income**  
Bloomberg Barclays Agg



**2.9%**

**Global ex-U.S. Fixed Income**  
Bloomberg Barclays GBI ex US



**3.4%**

Sources: Bloomberg Barclays, FTSE Russell, MSCI

# The Stock Market Is Not the Economy

ECONOMY | Jay Kloepfer

Stock markets around the globe staged spectacularly swift recoveries in the second quarter from their sudden and equally spectacular plunge in the first quarter, providing investors with the hallowed V-shaped recovery that once seemed impossible. While major equity indices are headed back toward all-time highs, the economies underlying these markets face a path quite different from a V-shaped recovery. The sectors driving the U.S. stock market, technology in particular, are not the sectors like retail and hospitality that employ the largest number of workers.

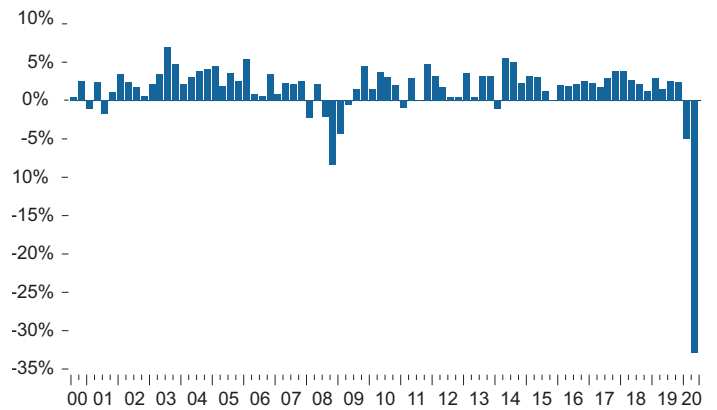
The staggered reopening of states within the U.S. and economies around the globe drove a sharp rise in economic activity in May and June, but a range of high-frequency indicators suggests the pace of recovery has since softened following a resurgence in COVID-19 infections and deaths. The prospect for many locales to pause or roll back easing, and the observed retrenchment in spending by businesses and consumers, looms over the path to recovery. Government belt tightening may undermine the rebound, as tax revenues for localities have plummeted in the face of a surge in demand for services. Revenue shortfalls for state and local governments for fiscal year 2021 may total \$200 billion, according to IHS Markit. Consensus forecasts still call for a strong rebound in the third quarter followed by a more gradual recovery, but the risk has risen for a W-shaped trajectory, where a decline follows the third quarter pop, and then a more durable recovery begins with a delay, perhaps in the second half of 2021.

The word “unprecedented” to describe the current environment may seem overused, but the speed and depth of the economic disruption was indeed unprecedented. The total output of the U.S. economy as measured by GDP dropped 9.5% in the second quarter, or an annualized decline of 32.9%, unheard of in modern times. Approximately one quarter of all jobs disappeared in a matter of weeks.

GDP is an admittedly challenged measure of true economic activity even in normal times, and annualized percent changes around the chasm of the COVID-19 economic shutdown are

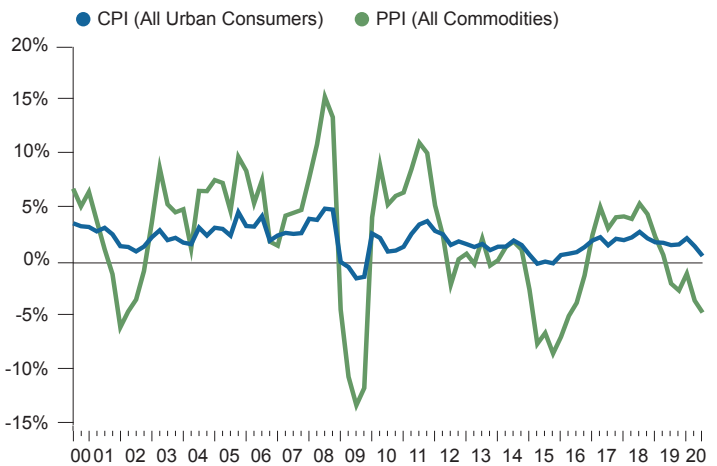
## Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

## Inflation Year-Over-Year



Source: Bureau of Labor Statistics

problematic in context. Adding to the data confusion is the seasonal adjustment methodology, which under normal circumstances greatly reduces the signal-to-noise ratio in monthly and quarterly GDP estimates but exacerbates the severity of data swings in times of extreme stress. These limitations aside, GDP remains the most comprehensive metric for examining U.S. and global activity. For the whole year, projections by forecaster Capital Economics suggest a GDP decline of close to 5% in the U.S. and Japan, 7.5% in the euro zone, and greater than 10% in the U.K. Official estimates for China peg 2020 GDP growth

at 2%, while unofficial estimates show a small loss (-1%). The focus going forward will be on the level of GDP, employment, unemployment, sales, and production, and when we can recover pre-pandemic levels of economic activity. Consensus estimates peg U.S. GDP regaining its pre-pandemic level in the second half of 2021, barring the appearance of the W-shaped recovery.

The most immediate and severe impact to the U.S. economy has been in the job market. Initial unemployment claims spiked to 6.9 million in the last week of March. The weekly claims have since subsided, but remain at levels unprecedented before the pandemic, topping 1 million every week since then. In addition to regular state unemployment programs, the CARES Act expanded benefits to many not typically covered by states and extended regular benefits for up to 13 weeks. The sum of these programs provided unemployment benefits for over 30 million persons through the end of June, off a starting job base of 155 million in February. The job market staged a surprising surge in May and June, but the high-frequency data are suggesting a marked softening into the summer.

U.S. inflation perked up in June following declines for three consecutive months, but year-over-year CPI is up just 0.6%, well below recent trends and the Fed's long-term target of 2%. By some measures, second quarter inflation fell to its lowest point in SEVEN decades. CPI measures consumer prices against a basket of typical goods and services purchased. GDP and consumption price deflators measure price changes of goods and services as actually transacted, and both measures saw almost 2% declines in the second quarter. While concerns are rising that the fiscal and monetary stimulus enacted to rescue the global economies will be highly inflationary, the prospect

### The Long-Term View

Index	2Q20	Periods Ended 6/30/20			
		Year	5 Yrs	10 Yrs	25 Yrs
<b>U.S. Equity</b>					
Russell 3000	22.0	6.5	10.0	13.7	9.3
S&P 500	20.5	7.5	10.7	14.0	9.3
Russell 2000	25.4	-6.6	4.3	10.5	8.2
<b>Global ex-U.S. Equity</b>					
MSCI EAFE	14.9	-5.1	2.1	5.7	4.5
MSCI ACWI ex USA	16.1	-4.8	2.3	5.0	--
MSCI Emerging Markets	18.1	-3.4	2.9	3.3	--
MSCI ACWI ex USA Small Cap	22.8	-4.3	2.5	6.0	5.5
<b>Fixed Income</b>					
Bloomberg Barclays Agg	2.9	8.7	4.3	3.8	5.4
90-Day T-Bill	0.0	1.6	1.2	0.6	2.4
Bloomberg Barclays Long G/C	6.2	18.9	9.0	7.8	7.7
Bloomberg Barclays GI Agg ex US	3.4	0.7	2.9	2.0	3.7
<b>Real Estate</b>					
NCREIF Property	-1.0	2.7	6.8	9.7	9.1
FTSE Nareit Equity	11.8	-13.0	4.1	9.1	9.5
<b>Alternatives</b>					
CS Hedge Fund	6.2	-0.7	1.6	3.8	7.5
Cambridge PE*	-7.8	2.1	10.4	12.3	14.7
Bloomberg Commodity	5.1	-17.4	-7.7	-5.8	0.7
Gold Spot Price	12.8	27.4	9.0	3.8	6.4
<b>Inflation – CPI-U</b>	-0.1	0.6	1.6	1.7	2.1

\*Data for most recent period lags by a quarter. Data as of 3/31/20.

Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices, Refinitiv/Cambridge

of near-term deflation is real, and holds the potential to derail the recovery—falling prices could slow consumer and business spending, especially if deflation becomes a spiral rather than a temporary dip.

### Recent Quarterly Economic Indicators

	2Q20	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18
Employment Cost–Total Compensation Growth	2.7%	2.8%	2.7%	2.8%	2.7%	2.8%	2.9%	2.8%
Nonfarm Business–Productivity Growth	2.5%*	-0.8%	1.2%	-0.3%	2.7%	3.9%	0.5%	1.6%
GDP Growth	-32.9%	-5.0%	2.4%	2.6%	1.5%	2.9%	1.3%	2.1%
Manufacturing Capacity Utilization	63.1%	73.5%	75.0%	75.4%	75.5%	76.4%	77.0%	76.9%
Consumer Sentiment Index (1966=100)	74.0	96.4	97.2	93.8	98.4	94.5	98.2	98.1

\* Estimate

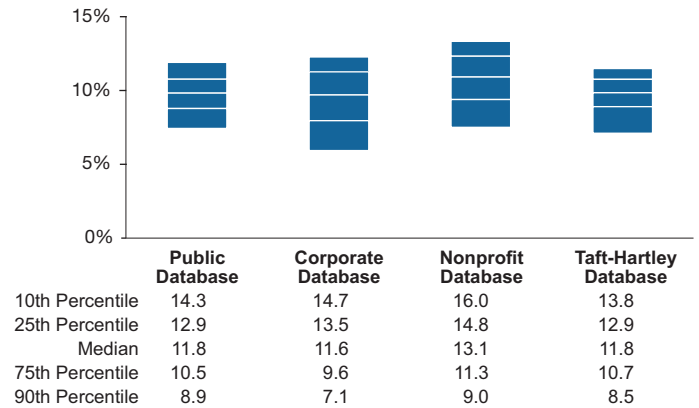
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

# Returns Positive After 1st Quarter Volatility

## INSTITUTIONAL INVESTORS

- After the pandemic-induced market volatility in 1Q20, all types of institutional investors rebounded to positive performance for the 12 months ending with the second quarter. Corporate defined benefit (DB) plans fared notably better than others, gaining 6.4%. Other types of investors saw increases of roughly 2%-3%. All fell short of major U.S. stock and bond indices, as well as a 60% S&P 500/40% Bloomberg Barclays Aggregate benchmark, but outperformed global ex-U.S. equities by a wide margin.
- Over the last 20 years, institutional investors have performed in line with the 60%/40% benchmark, with returns in a range of 5.7%-5.9% annualized.
- The V-shaped equity market decline and recovery experienced in the first half of 2020 revealed levels of volatility not seen since the Global Financial Crisis of 2008-09. Investors' recent experience with volatility may reveal their "true" tolerance for risk.
- We note that the stock market is not the economy and the path out of recession remains undiscovered.

### Quarterly Returns, Callan Database Groups



Source: Callan

- For institutional investors, the key is to stay the course: rebalance; manage liquidity; evaluate their portfolios for impairment or unexpected performance; and watch for opportunity, both inside the portfolio and across the markets.

### Callan Database Median and Index Returns\* for Periods Ended 6/30/20

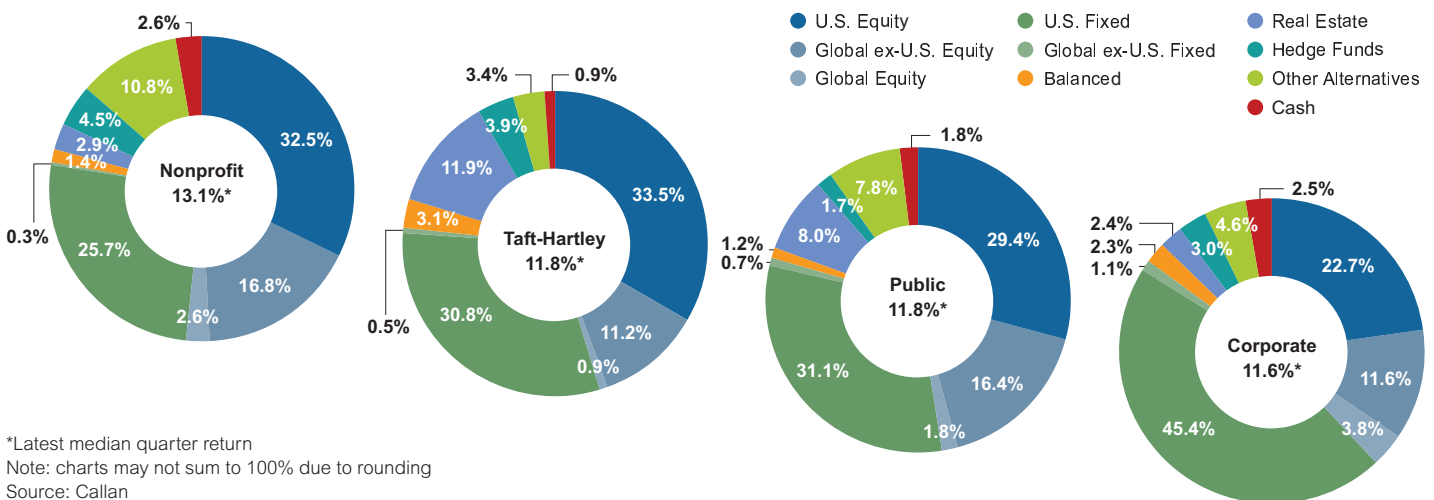
Database Group	Quarter	Year-to-date	Year	3 Years	5 Years	10 Years
Public Database	11.79	-2.34	3.26	5.81	6.02	8.09
Corporate Database	11.64	0.00	6.36	6.89	6.74	8.47
Nonprofit Database	13.10	-3.26	2.67	5.52	5.59	7.89
Taft-Hartley Database	11.82	-2.74	3.21	5.93	6.21	8.55
All Institutional Investors	12.04	-2.26	3.63	5.88	6.03	8.24
Large (>\$1 billion)	10.87	-1.62	4.09	6.39	6.40	8.48
Medium (\$100mm - \$1bn)	11.99	-2.18	3.62	5.94	6.12	8.24
Small (<\$100 million)	12.71	-2.71	3.31	5.65	5.76	8.07

\*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.

- The massive monetary and fiscal intervention by governments will change the landscape:
  - The continuing low-yield environment and the capital markets going forward favor growth.
  - Investors need to remember the purpose of capital market assumptions: To define an investor’s return expectation, while matching the investor’s risk tolerance and investment time horizon. Importantly, they are not point estimates: they define a range of possible outcomes.
  - Investors also need to assess what can serve as an equity diversifier equal to bonds with the return of zero interest rates. Are they willing to pay for the benefit of fixed income?
- Some decisions are on hold, particularly serious restructuring of asset class exposures, but strategic planning continues apace.
- Based on Callan’s client activity, many types of institutional investors plan to adjust their strategic allocations by shifting out of publicly traded asset classes and into alternatives, including private equity, private credit, and real assets.
- This interest has led to a surge in asset allocation reviews and discussions about the capital markets with investors.
- As part of those assessments, investors are re-examining the purposes of all diversifiers, including real assets, hedge funds and liquid alternatives, fixed income, and private equity and private credit.
- Private credit in particular drew attention. All institutional investor types had some interest in increasing private credit, and none indicated an intention to cut their allocations.
- Corporate DB plans indicated they intended to reduce allocations to equities but increase allocations to fixed income. The capital market upheaval has not derailed the trend toward de-risking; the commitment to de-risking is solid.
- Public DB plans expressed interest in a range of opportunistic strategies, such as unconstrained fixed income.
- Nonprofits continued to emphasize return enhancement. Strategic asset allocation work is focused on evaluating investment portfolios that can support the desired distribution rate in order to balance intergenerational equity.
- The top concern for insurance clients was yield.
- In terms of their strategic allocations, insurance clients indicated they planned to shift out of equities, both U.S. and global ex-U.S., and increase allocations to a variety of credit and alternative investments.
- Institutional investors expressed strong interest in educational topics relevant to the current market environment.
- Finally, COVID-19 was top of mind for all investor types. One noticeable impact was a dramatic shift in meetings. Virtually all clients in an exclusive Callan survey said that the vast bulk of their meetings were now occurring virtually, and a third were doing all of their meetings that way.

Average Asset Allocation, Callan Database Groups





# Equity

## U.S. Equities

U.S. equity markets bounced back from March lows in 2Q20 (Russell 1000: +21.8%). The S&P 500 (+20.5%) recorded its best quarterly performance since 1998. Three sectors (Technology, Consumer Discretionary, and Energy) posted returns in excess of 30%. Information Technology (+30.5%) continues to be a top performer with the “FAAMG” stocks (Facebook, Amazon, Apple, Microsoft, and Google) up 35% in the quarter. Many Technology stocks benefited from the “stay at home” environment. Energy stocks (+30.5%) rebounded after OPEC+ and non-OPEC production cuts buoyed crude prices.

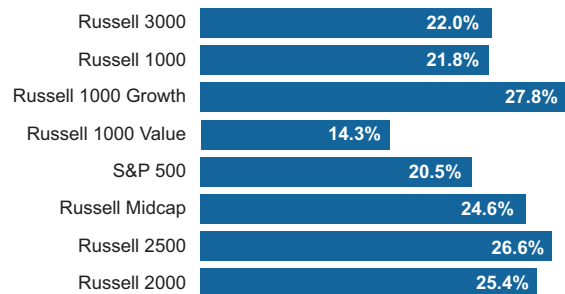
### Small cap outgained large cap

- From the first to the second quarter, the Russell 2000 swung from its worst quarterly performance to one of its three best quarterly returns since the inception of the index.
- The Russell 2000 still lags the Russell 1000 on a year-to-date and trailing one-year basis, exemplifying the extreme dislocation between large and small cap performance in the first quarter.
- Better-than-expected economic data and Fed actions helped shift investment sentiment in favor of small cap.

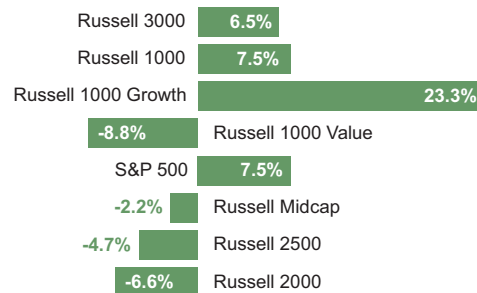
### Growth outpaced value across market capitalizations

- Russell’s value indices underperformed their growth counterparts across the market cap spectrum during the first quarter decline as well as during the second quarter recovery (Russell 1000 Growth: +27.8%; Russell 1000 Value: +14.3%; Russell 2000 Growth: +30.6%; Russell 2000 Value: +18.9%).

## U.S. Equity: Quarterly Returns



## U.S. Equity: One-Year Returns

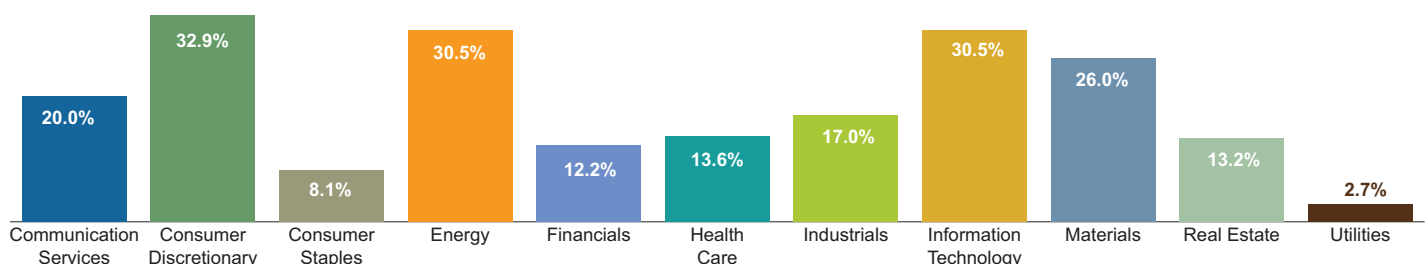


Sources: FTSE Russell and S&P Dow Jones Indices

+14.3%; Russell 2000 Growth: +30.6%; Russell 2000 Value: +18.9%).

- Persistently low interest rates, a flatter yield curve, and slower economic growth are some of the headwinds for the value factor.

## Quarterly Performance of Industry Sectors



Source: S&P Dow Jones Indices

### Global/Global ex-U.S. Equity

Accommodative monetary policies coupled with massive fiscal stimulus helped fuel the second quarter market recovery after the first quarter's declines.

#### Global/Developed ex-U.S.

- Developed markets with the most success at mitigating the coronavirus led; Australia (+28.9%), New Zealand (+28.1%), and Germany (+26.5%) were the top performers.
- Countries' inability to "flatten the curve" acted as headwinds to their equity markets, namely the U.K. (+7.8%).
- Every sector in MSCI EAFE except Energy (-0.03%) posted positive returns, led by cyclical stocks, whose prices are highly sensitive to changes in the economy; Information Technology (+23.4%) companies also provided strong returns as working-from-home trends continued to support the sector.
- Factor performance in developed ex-U.S. markets was led by momentum and quality, reflecting the cyclical rebound (momentum) coupled with continued pandemic uncertainty (quality, flight to safety); growth continued to outperform value (EAFE Growth: +17.0% vs. EAFE Value: +12.4%).

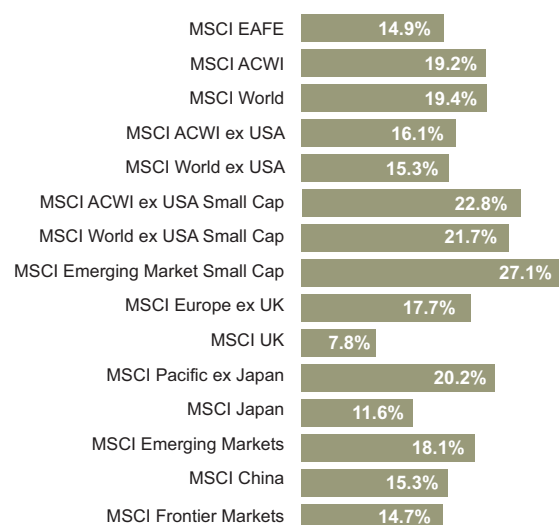
### Emerging Markets

- Emerging markets produced their strongest quarterly gains in over a decade as fiscal and monetary stimulus from countries aided the second quarter rebound across all countries and sectors.
- Most EM countries ended lockdowns during the period, but Latin America, India, and some parts of Southeast Asia ended the second quarter with cases surging.
- Commodity-linked economies such as South Africa (+27.2%), Brazil (+22.9%), and Russia (+18.7%) recovered on the strength of metals, mining, and oil-related securities after being some of the worst-performing countries in 1Q20.
- China (+15.6%) lagged the index as U.S.-China trade tensions reignited and additional sanctions were imposed.
- Every sector posted positive returns, most in double digits.
- Growth outperformed value (EM Growth: +22.1% vs. EM Value: +13.8%)

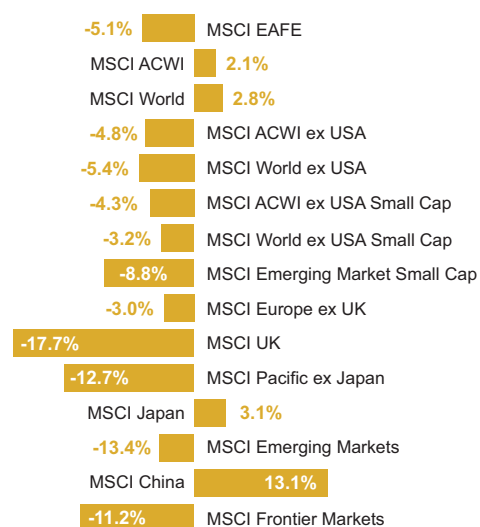
### Global ex-U.S. Small Cap

- Global ex-U.S. small caps rallied during the second quarter as lockdowns eased and economies reopened.
- A risk-on mindset pervaded the global ex-U.S. small cap market that fueled double-digit returns for every sector in the MSCI ACWI ex-USA Small Cap Index.
- Australia (+47.1%) was the top-performing country; Japan (+12.8%) and the U.K. (+14.8%) were two of the weakest.

#### 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

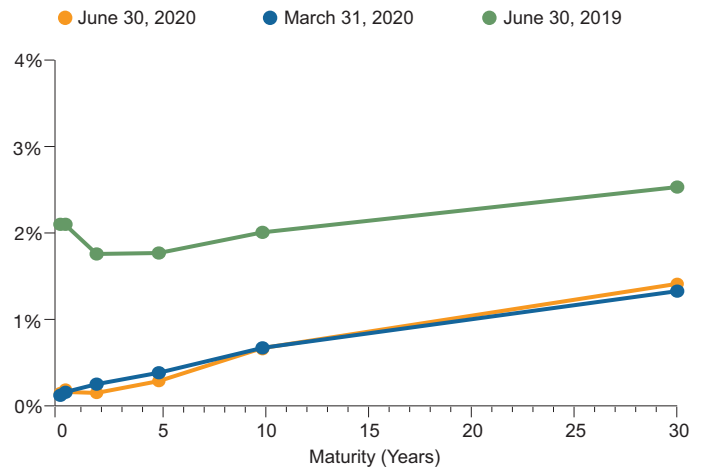
### U.S. Treasury yields were range-bound

- The 10-year U.S. Treasury yield reached a high of 0.91% in June before closing the quarter at 0.66%, down slightly from the 1Q20 quarter-end level of 0.70%.
- After strong performance in 1Q20, U.S. Treasury returns lagged other “spread” sectors as risk appetites rebounded, fueled by massive Fed stimulus programs as well as improved liquidity.
- The Fed left rates on hold at 0% – 0.25% for the foreseeable future, anchoring the low end of the yield curve.
- TIPS outperformed nominal Treasuries as expectations for inflation rose. The 10-year breakeven spread ended the quarter at 1.34%, up from 0.87% as of the end of 1Q20.

### Corporate credit rallied due to spread narrowing

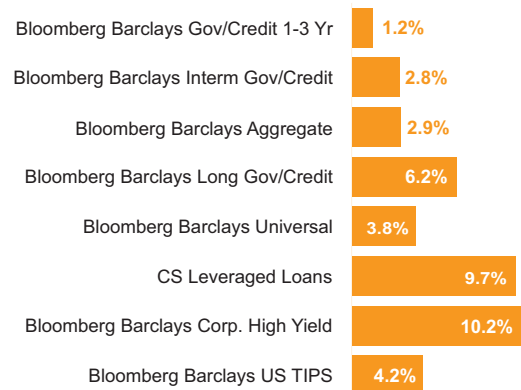
- Corporate credit rebounded amid improving investor confidence and economic data. However, fallen angels continued to spark concern with nearly half the investment grade bond market now rated BBB.
- Investment grade corporate spreads narrowed by 122 bps to 150 bps despite companies issuing record amounts of debt totaling \$1.4 trillion; the Fed provided continued support through the announcements of the Primary and Secondary Market Corporate Credit Facilities.
- In a reversal from 1Q20, lower quality outperformed as BBB-rated credit (+11.2%) outperformed single A (+7.0%), AA (+5.0%), and AAA (+1.7%).
- High yield corporates also posted sharp returns (+10.2%). CCC-rated high yield corporates (+9.1%) lagged BB-rated corporates (+11.5%).
- The high yield default rate reached a 10-year high (6.2%).
- Energy (+40.0%) was the highest-performing high yield bond sub-sector, reflecting sharply higher oil prices.

## U.S. Treasury Yield Curves



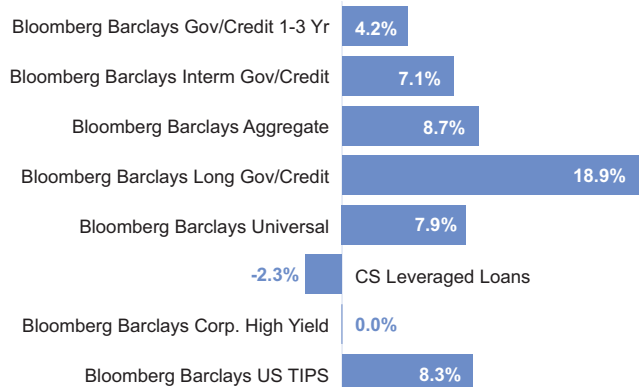
Source: Bloomberg

## 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

### Global ex-U.S. fixed income rose amid rate cuts

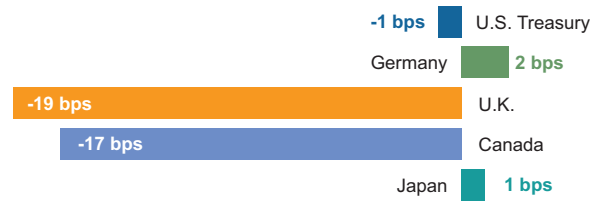
- The U.S. dollar depreciated modestly against a basket of developed market currencies, most notably the Australian and New Zealand dollars (-12.5%, -8.4%, respectively). The dollar was roughly flat versus the yen.
- Developed market sovereign bond yields ended the quarter lower amid rate cuts overseas, and the unhedged Bloomberg Barclays Global Aggregate ex-US benchmark posted positive returns (+3.4%)
- The ECB expanded the stimulus program announced in March from €750 billion to €1.35 trillion.

### Emerging market debt made up ground

- The J.P. Morgan EMBI Global Diversified dollar-denominated benchmark posted strong returns (+12.3%) as oil prices rose and central bank liquidity measures took effect. However, the index remains slightly below year-end 2019 levels.
- Higher-yielding countries led the way in 2Q20 (+16.6%); however they remain down (-12.7%) relative to investment grade constituents year-to-date, according to index data from J.P. Morgan.
- Within the J.P. Morgan GBI-EM Global Diversified local currency-denominated benchmark (+9.8%), returns were positive for the vast majority of constituents. Oil-sensitive economies such as Mexico, Colombia, and South Africa rebounded to some degree, but remained down year-to-date.

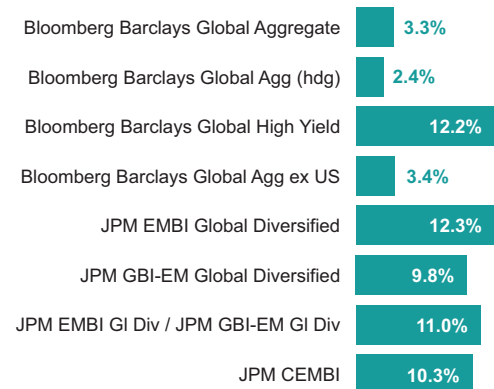
## Change in 10-Year Global Government Bond Yields

1Q20 to 2Q20



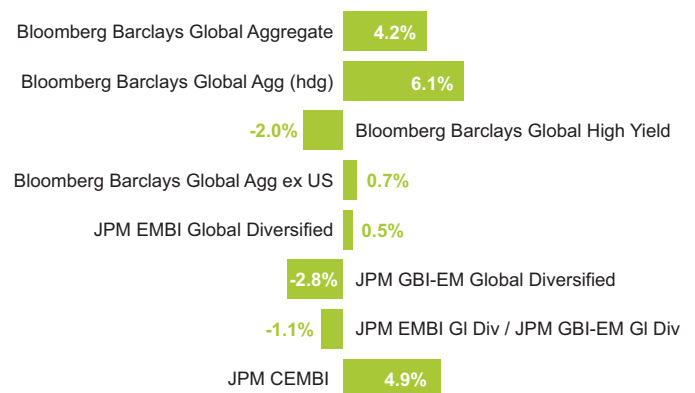
Source: Bloomberg Barclays

## Global Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

## Global Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

# Pandemic Has Muted Impact on Private Real Estate; REITs Underperform

REAL ESTATE/REAL ASSETS | Munir Iman

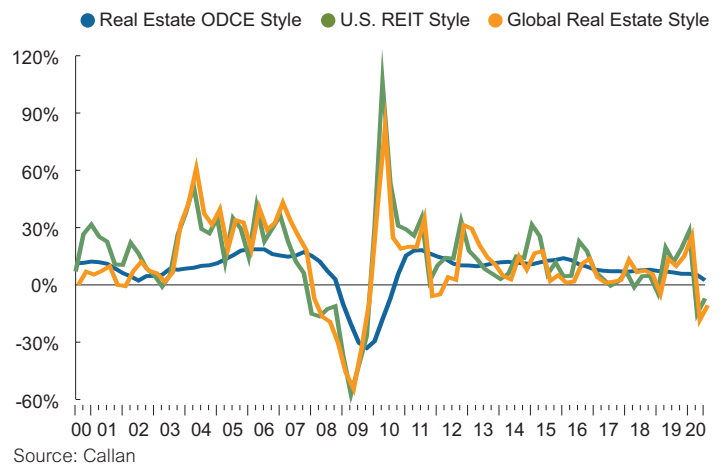
## Private U.S. Real Estate

- The continued impact of the pandemic was reflected in 2Q20 results.
- All sectors of the NCREIF Property Index saw negative appreciation, but income remained positive except in the Hotel sector.
- Industrial remains the best performer.
- The dispersion of returns by manager within the NFI ODCE Index was due to both the composition of underlying portfolios and different valuation methodologies/approaches.
- Negative returns are expected over the next few quarters.
- Vacancy rates for all property types are or will be impacted.
- Net operating income has declined as retail experienced the largest drop-off in over 20 years.
- Second quarter rent collections show relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors. The Retail sector remains challenged, with regional malls impacted most heavily.
- Class A/B urban apartments were relatively strong, followed by certain types of Industrial and Office.
- Supply was in check before the pandemic.
- Construction is limited to finishing up existing projects but has been hampered by shelter-in-place policies and shortages of materials.
- New construction will be basically halted in future quarters except for pre-leased properties.
- Transaction volume has dropped off during the quarter with the exception of Industrial assets that have tenants with strong credit, which are trading at pre-COVID-19 levels.
- 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 may 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.

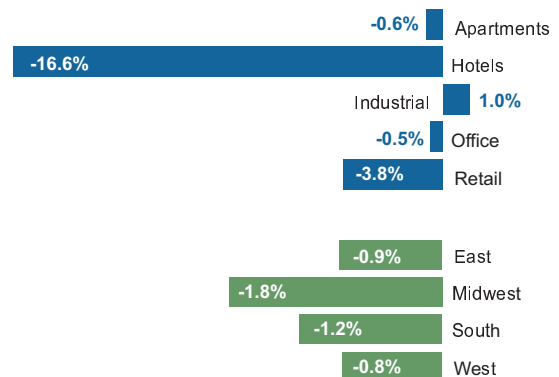
## U.S. and Global REITs

- Global REITs underperformed in 2Q20, gaining 10.1% compared to 19.4% for global equities (MSCI World).
- U.S. REITs rose 11.8% in 2Q20, lagging the S&P 500 Index, which jumped 20.5%.
- Globally, REITs (except in Singapore) are trading at a discount to NAV.
- In some regions the discount is at a five-year low.
- All property types except for data centers, hotels, and life sciences are trading at the bottom of their range.
- Ongoing volatility in REIT share prices offers opportunities to purchase mispriced securities, individual assets from REIT

## Rolling One-Year Returns



## Sector Quarterly Returns by Property Type and Region



Source: NCREIF

## REAL ESTATE/REAL ASSETS (Continued)

owners, and discounted debt, as well as lend to companies and/or execute take-privates of public companies.

utilities) fared better than assets with GDP/demand-based revenue (e.g. airports, seaports, and midstream-related).

### Infrastructure

- 1Q20 was the third-largest quarter for closed-end infrastructure fundraising (\$37 billion), following 4Q19 (\$43 billion) and 3Q18 (\$38 billion). The closed-end fund market continues to expand, with infrastructure debt, emerging markets, and 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, and

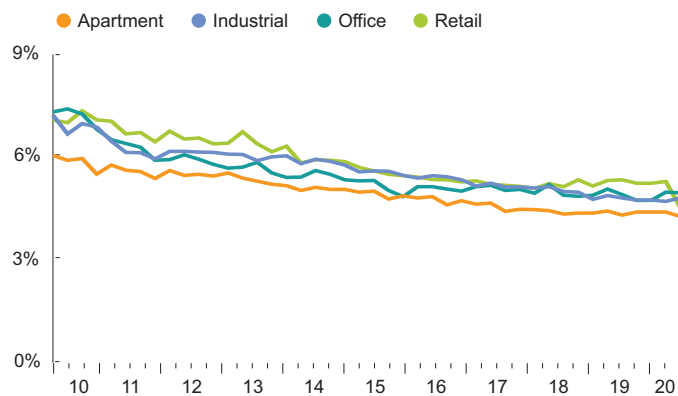
### Real estate investment opportunities

- Primary opportunity: purchase of mispriced publicly traded real estate, both equity and debt
- Emerging opportunity: purchase of mezzanine loans from forced sellers

### Infrastructure investment opportunities

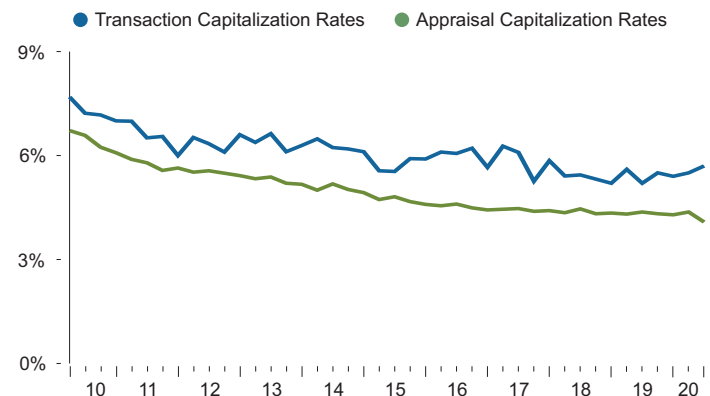
- Primary opportunity: purchase of mispriced publicly traded infrastructure
- Infrastructure lending if traditional lenders retrench

### 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 6/30/20

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
<b>Real Estate ODCE Style</b>	<b>-0.6</b>	<b>-0.2</b>	<b>2.5</b>	<b>5.5</b>	<b>7.2</b>	<b>10.1</b>	<b>6.0</b>
NFI-ODCE (value wt net)	-1.7	-1.0	1.3	4.7	6.3	9.8	6.0
NCREIF Property	-1.0	-0.3	2.7	5.4	6.8	9.7	7.7
NCREIF Farmland	0.6	0.5	2.5	4.9	6.2	10.7	12.9
NCREIF Timberland	0.1	0.2	0.3	2.3	2.7	4.4	6.2
<b>Public Real Estate</b>							
<b>Global Real Estate Style</b>	<b>10.5</b>	<b>-17.0</b>	<b>-10.7</b>	<b>2.2</b>	<b>3.7</b>	<b>8.4</b>	<b>5.6</b>
FTSE EPRA Nareit Developed	10.1	-21.3	-16.3	-1.6	1.3	6.3	--
<b>Global ex-U.S. Real Estate Style</b>	<b>10.1</b>	<b>-17.2</b>	<b>-9.2</b>	<b>3.1</b>	<b>3.5</b>	<b>7.9</b>	<b>5.6</b>
FTSE EPRA Nareit Dev ex US	8.6	-21.5	-15.9	-0.9	0.6	5.4	--
<b>U.S. REIT Style</b>	<b>12.1</b>	<b>-13.9</b>	<b>-7.1</b>	<b>2.9</b>	<b>5.8</b>	<b>10.3</b>	<b>7.1</b>
EPRA Nareit Equity REITs	11.8	-18.7	-13.0	0.0	4.1	9.1	6.0

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

# Activity Falls but Dollars Continue to Flow

PRIVATE EQUITY | Gary Robertson

Private equity metrics such as fundraising, company purchase prices, and private M&A exits plunged by count in the second quarter, but dollar volumes held relatively steady as larger transactions were able to proceed. Only IPOs increased in the second quarter, supported by the public market rally. Private equity returns in the first quarter fell, but by less than half of public equity's decline.

**Fundraising** ► Final closes for private equity partnerships in the second quarter totaled \$149 billion of commitments in 229 partnerships, based on preliminary data. (Unless otherwise noted, all data come from PitchBook.) The dollar volume fell 18% but the number of funds rose 1% from the first quarter. For the first half, 2020 is running \$26 billion or 10% ahead of a year ago, although the number of funds raised has fallen by 25%. We expect the second half of 2020 will decline from the first half, as general partners are slowing the deployment pace of their current funds and focusing on existing companies, resulting in fewer new funds coming to market.

**Buyouts** ► Funds closed 973 investments with \$75 billion in disclosed deal value, a 51% fall in count and a 29% drop in dollar value from the first quarter. Average buyout prices plunged to 9.2x EBITDA in the second quarter, 2.3x lower than pricing for the full year 2019. Average leverage multiples fell to 4.9x.

## Funds Closed 1/1/20 to 6/30/20

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	261	59,755	20%
Growth Equity	42	29,669	10%
Buyouts	123	125,411	42%
Mezzanine Debt	4	2,888	1%
Distressed	5	8,000	3%
Energy	3	6,175	2%
Secondary and Other	46	50,431	17%
Fund-of-Funds	25	14,879	5%
<b>Totals</b>	<b>509</b>	<b>297,209</b>	<b>100%</b>

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

**Venture Capital** ► New rounds of financing in VC companies totaled 5,741, with \$65 billion of announced value. The number of investments fell 20% but value rose 2% from the first quarter.

**Exits** ► There were 219 private M&A exits of private equity-backed companies, with disclosed values totaling \$121 billion. The count fell 59% but values rose 68%. There were 15 private equity-backed IPOs in the second quarter raising an aggregate \$11 billion, up 15% and 57%, respectively, from the first quarter. Venture-backed M&A exits totaled 283 with disclosed value of \$23 billion. The number of sales declined 31% from the first quarter, but value rose 35%. There were 74 VC-backed IPOs in the second quarter with a combined float of \$11 billion; the count jumped 40% and the issuance grew 83%.

## Private Equity Performance (%) (Pooled Horizon IRRs through 3/31/20\*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-2.85	9.10	14.62	11.29	14.85	11.36	5.71	28.09
Growth Equity	-5.45	5.44	13.53	11.77	12.82	12.60	10.35	14.17
All Buyouts	-9.93	0.79	10.71	11.31	13.28	12.32	10.95	12.78
Mezzanine	-4.78	2.38	8.70	8.84	10.57	10.16	7.51	9.56
Credit Opportunities	-12.06	-9.91	1.44	3.50	7.84	8.33	9.13	9.32
Control Distressed	-12.20	-8.67	2.09	5.02	9.25	8.92	9.56	10.09
<b>All Private Equity</b>	<b>-7.84</b>	<b>2.24</b>	<b>10.93</b>	<b>10.53</b>	<b>12.85</b>	<b>11.72</b>	<b>9.33</b>	<b>13.77</b>
S&P 500	-19.60	-6.98	5.10	6.73	10.53	7.58	4.79	8.85
Russell 3000	-20.90	-9.13	4.00	5.77	10.15	7.50	4.91	8.81

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.

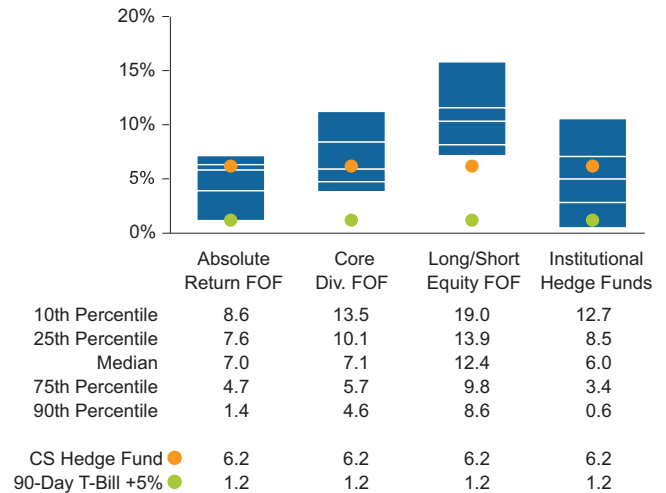
# Beta Leads, Alpha Follows

HEDGE FUNDS/MACs | Jim McKee

Emboldened by dramatic monetary and fiscal stimulus, global markets reverted to full risk-on mode in the second quarter, and most hedge fund strategies benefited. Illustrating raw hedge fund performance without implementation costs, the Credit Suisse Hedge Fund Index (CS HFI) rose 6.2% in the second quarter, its strongest quarterly performance since 2009. The median manager in the Callan Hedge Fund-of-Funds Database Group, representing actual hedge fund portfolios, advanced 7.7% net of all fees and expenses.

The median manager in the Callan Institutional Hedge Fund Peer Group, tracking 50 of the largest, broadly diversified hedge funds with low-beta exposure to equity markets, gained 6.0%. Those funds focused on market neutral equity or rates arbitrage edged ahead 3% to 5%; those more exposed to illiquid credit strategies rebounded over 7%.

## Hedge Fund Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

## Callan Peer Group Median and Index Returns\* for Periods Ended 6/30/20

Hedge Fund Universe	Quarter	Year to Date	Year	3 Years	5 Years	10 Years
<b>Callan Institutional Hedge Fund Peer Group</b>	<b>6.0</b>	<b>-0.6</b>	<b>1.3</b>	<b>3.9</b>	<b>4.1</b>	<b>5.4</b>
<b>Callan Fund-of-Funds Peer Group</b>	<b>7.7</b>	<b>-0.8</b>	<b>1.2</b>	<b>3.1</b>	<b>2.6</b>	<b>4.3</b>
<b>Callan Absolute Return FOF Style</b>	<b>7.0</b>	<b>-2.8</b>	<b>-1.8</b>	<b>2.3</b>	<b>2.2</b>	<b>3.5</b>
<b>Callan Core Diversified FOF Style</b>	<b>7.1</b>	<b>0.2</b>	<b>2.1</b>	<b>3.4</b>	<b>2.2</b>	<b>4.2</b>
<b>Callan Long/Short Equity FOF Style</b>	<b>12.4</b>	<b>-1.2</b>	<b>1.7</b>	<b>3.5</b>	<b>3.0</b>	<b>5.2</b>
Credit Suisse Hedge Fund	6.2	-3.3	-0.7	2.1	1.6	3.8
CS Convertible Arbitrage	5.9	0.2	3.2	2.8	3.0	3.9
CS Distressed	5.6	-5.7	-7.9	-1.0	0.3	3.3
CS Emerging Markets	13.2	1.3	4.7	4.1	4.1	4.8
CS Equity Market Neutral	3.4	-2.1	-2.7	0.0	0.0	1.6
CS Event-Driven Multi	12.0	-9.0	-7.3	-0.6	-1.3	2.1
CS Fixed Income Arb	2.7	-3.2	-0.7	2.1	2.9	4.5
CS Global Macro	4.6	-3.9	-1.1	3.2	1.8	3.9
CS Long/Short Equity	9.8	-2.5	2.6	3.5	2.7	5.2
CS Managed Futures	-2.9	-2.9	-2.0	2.2	-0.4	1.2
CS Multi-Strategy	3.9	-2.8	-0.9	1.6	3.0	5.7
CS Risk Arbitrage	7.5	0.2	2.4	2.3	3.0	2.8
HFRI Asset Wtd Composite	4.5	-7.4	-5.0	0.9	1.1	3.6
90-Day T-Bill + 5%	1.2	3.1	6.6	6.8	6.2	5.6

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



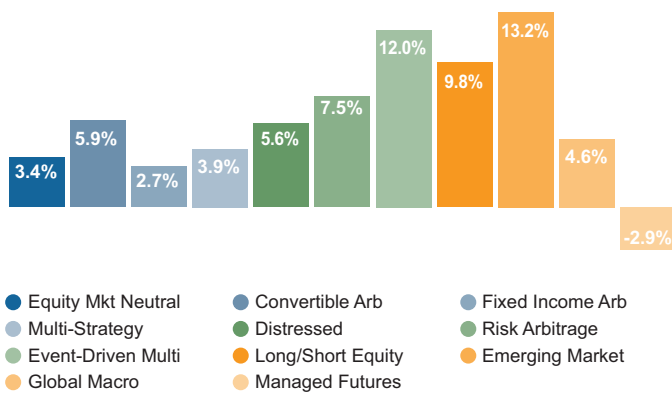
Within CS HFI, the best-performing strategies last quarter were *Emerging Markets* (+13.2%), *Event-Driven Multi-Strategy* (+12.0%), and *Long/Short Equity* (+9.8%). Arbitrage strategies also benefited from the risk-on rally, but their hedges limited gains to mid-single digits or less. As the worst-performing strategy in CS HFI, *Managed Futures* (-2.9%) was caught flat-footed in the sudden equity rally.

Within the Hedge FOF Group, market exposures notably affected performance in the second quarter. Given its net long equity exposure, the median *Callan Long/Short Equity FOF* (+12.4%) decidedly beat the *Callan Absolute Return FOF* (+7.0%).

Within Callan's database of liquid alternative solutions, the median managers of the Callan Multi-Asset Class (MAC)

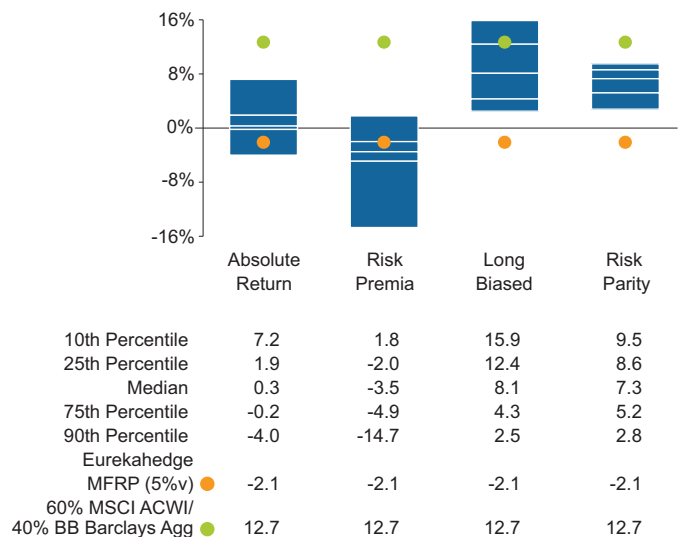
Style Group generated mixed returns, gross of fees, consistent with their underlying risk exposures. Typically targeting equal risk-weighted allocations to major asset classes with leverage, the *Callan Risk Parity MAC* added 7.3%. However, the more traditional equity-centric benchmark of 60% MSCI ACWI and 40% Bloomberg Barclays US Aggregate Bond Index rose 12.7%. Given a usually long equity bias within dynamic asset allocation models, the *Callan Long-Biased MAC* (+8.1%) also trailed the global benchmark. As the most conservative MAC style focused on non-directional strategies of long and short asset class exposures, the *Callan Absolute Return MAC* edged ahead 0.3%. Reflecting the second quarter's challenging environment for alternative betas, such as the equity value and momentum factors, the median *Callan Risk Premia MAC* fell 3.5%.

### Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

### MAC Style Group Returns



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

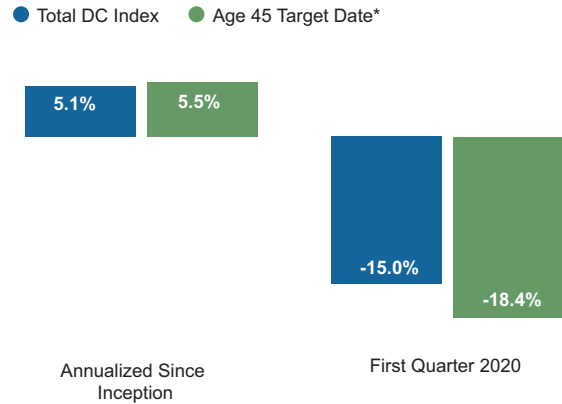
# Index Posts Largest Quarterly Drop Since 4Q08

DEFINED CONTRIBUTION | Patrick Wisdom

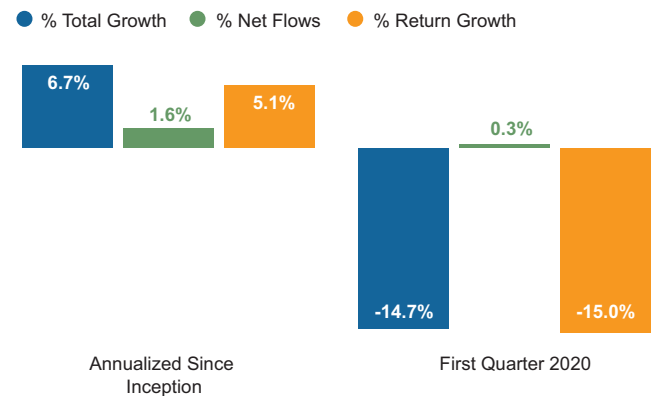
- The Callan DC Index™ lost 15.0% in 1Q20, the sharpest plunge since 4Q08, ending four consecutive quarters of gains. The Age 45 Target Date Fund posted a larger loss (-18.4%), attributable to its higher allocation to equity, which underperformed fixed income.
- The Index’s sharp drop in balances (-14.7%) reversed four straight quarters of growth and was the biggest since the Index’s inception. Poor investment returns (-15.0%) were the sole driver; quarterly net flows (0.3%) played a small mitigating role.
- With investors seeking less-risky investments, stable value funds saw the largest inflows (49.7%). U.S. large cap equity (-54.3%) and U.S. small/mid cap equity (-26.0%) had the largest outflows.
- Turnover in the DC Index (i.e., net transfer activity levels within DC plans) increased dramatically to 0.96% from the previous quarter’s 0.38%, the highest since 3Q12.
- The allocation to equity fell to 66.0% in 1Q20 from 70.2% in the previous quarter, the lowest since 2012. The allocation to stable value increased to 11.8%.
- The allocations to large cap equity (23.8%) and small/mid cap equity (7.0%) both decreased by more than 1.4 percentage points. Global ex-U.S. equity (4.6%) and company stock (1.8%) had the next-largest decreases in allocation.
- The prevalence of a high yield offering (4.8%) increased in 1Q20 by nearly a percentage point from the previous quarter and now sits at its highest mark since 2017. On the other hand, the percentage of plans offering U.S. small/mid-cap equity dipped for the second straight quarter following six consecutive quarters of 100% prevalence.
- The presence of company stock (20.0%) decreased by more than a percentage point from the previous quarter. Similarly, the percentage of plans offering a brokerage window (40.0%) also fell by more than a percentage point.

*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 (First Quarter 2020) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Stable Value	49.67%
U.S. Fixed Income	21.23%
U.S. Smid Cap	-26.03%
U.S. Large Cap	-54.30%
<b>Total Turnover**</b>	<b>0.96%</b>

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

Source: Callan DC Index

Note: DC Index inception date is January 2006.

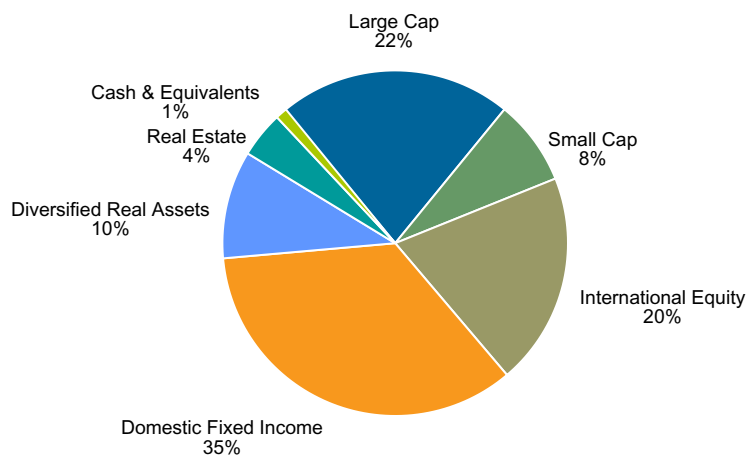
\* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

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

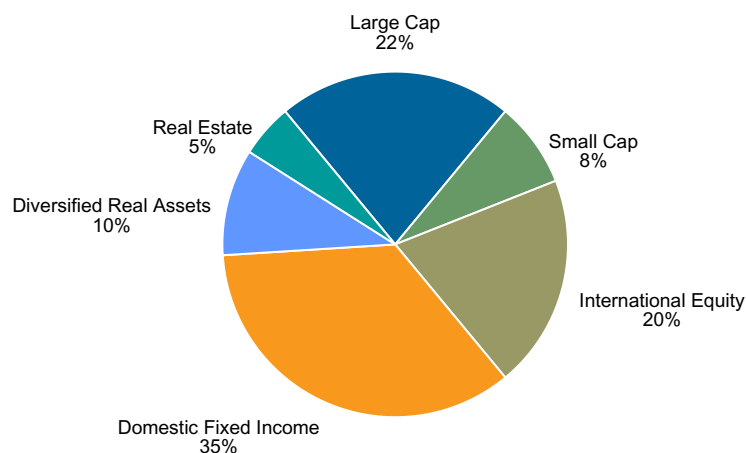
## Actual vs Target Asset Allocation As of June 30, 2020

The first chart below shows the Fund's asset allocation as of June 30, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

**Actual Asset Allocation**



**Target Asset Allocation**



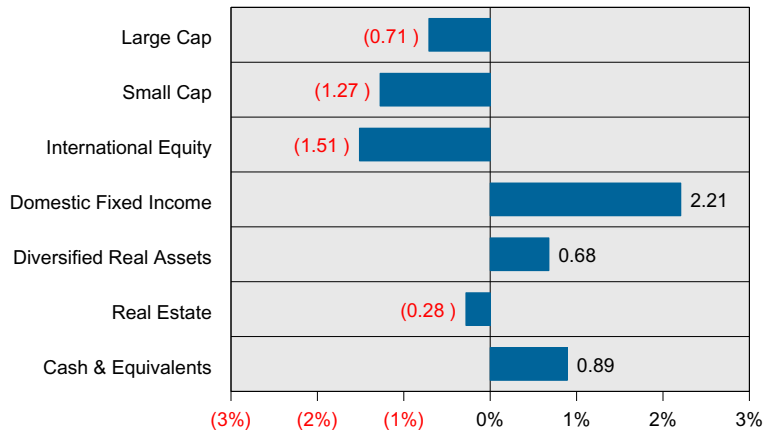
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	1,533,533	21.9%	22.0%	(0.1%)	(6,420)
Small Cap	559,129	8.0%	8.0%	(0.0%)	(853)
International Equity	1,391,840	19.9%	20.0%	(0.1%)	(8,116)
Domestic Fixed Income	2,435,035	34.8%	35.0%	(0.2%)	(14,890)
Diversified Real Assets	706,045	10.1%	10.0%	0.1%	6,067
Real Estate	299,806	4.3%	5.0%	(0.7%)	(50,183)
Cash & Equivalents	74,395	1.1%	0.0%	1.1%	74,395
<b>Total</b>	<b>6,999,783</b>	<b>100.0%</b>	<b>100.0%</b>		

\* 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.

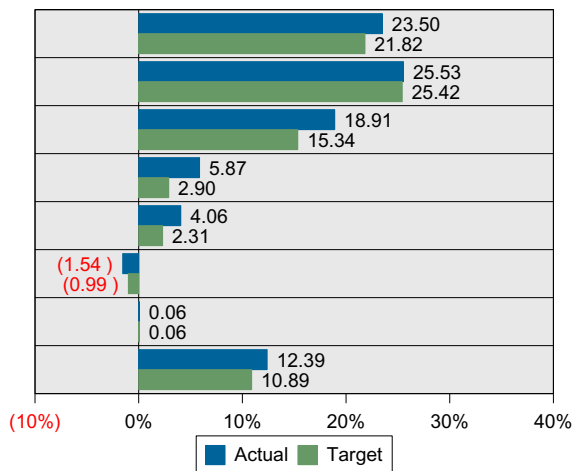
## Quarterly Total Fund Relative Attribution - June 30, 2020

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.

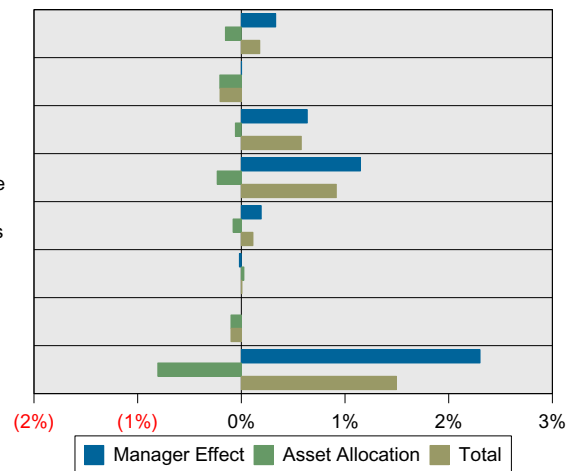
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended June 30, 2020

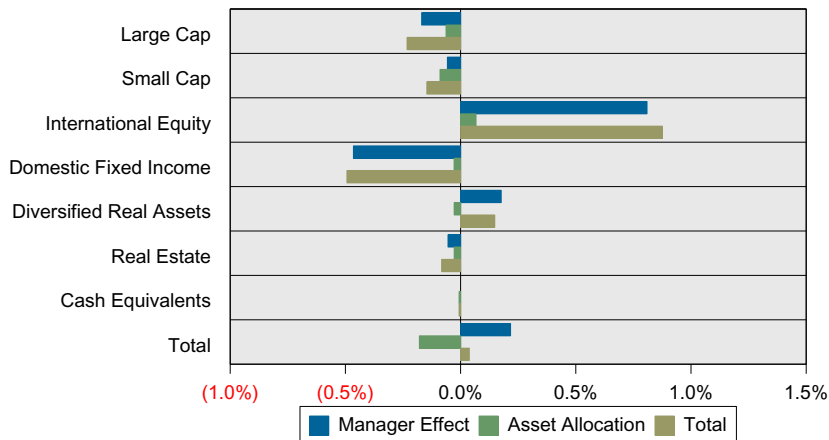
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	21%	22%	23.50%	21.82%	0.33%	(0.15%)	0.18%
Small Cap	7%	8%	25.53%	25.42%	0.00%	(0.21%)	(0.21%)
International Equity	18%	20%	18.91%	15.34%	0.64%	(0.06%)	0.58%
Domestic Fixed Income	37%	35%	5.87%	2.90%	1.15%	(0.23%)	0.92%
Diversified Real Assets	11%	10%	4.06%	2.31%	0.19%	(0.08%)	0.11%
Real Estate	5%	5%	(1.54%)	(0.99%)	(0.02%)	0.02%	0.01%
Cash & Equivalents	1%	0%	0.06%	0.06%	0.00%	(0.10%)	(0.10%)
<b>Total</b>			<b>12.39%</b>	<b>10.89%</b>	<b>+ 2.30%</b>	<b>+ (0.81%)</b>	<b>1.50%</b>

\* 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.

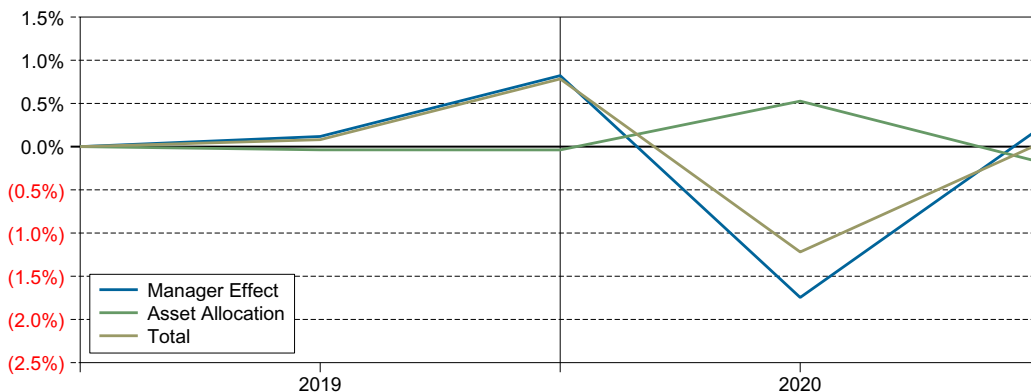
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

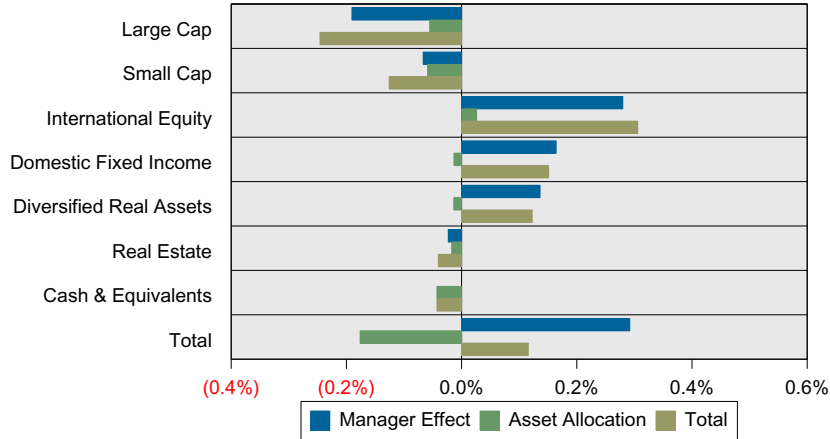
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	6.53%	7.48%	(0.17%)	(0.06%)	(0.23%)
Small Cap	8%	8%	(7.26%)	(6.63%)	(0.06%)	(0.09%)	(0.15%)
International Equity	19%	20%	(1.79%)	(5.42%)	0.81%	0.07%	0.88%
Domestic Fixed Income	35%	35%	7.86%	8.74%	(0.47%)	(0.03%)	(0.49%)
Diversified Real Assets	10%	10%	7.83%	5.93%	0.18%	(0.03%)	0.15%
Real Estate	5%	5%	1.41%	2.69%	(0.05%)	(0.03%)	(0.08%)
Cash Equivalents	1%	0%	1.34%	1.34%	0.00%	(0.01%)	(0.01%)
<b>Total</b>			<b>4.41%</b>	<b>4.38%</b>	<b>+ 0.22%</b>	<b>+ (0.18%)</b>	<b>0.04%</b>

\* 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.

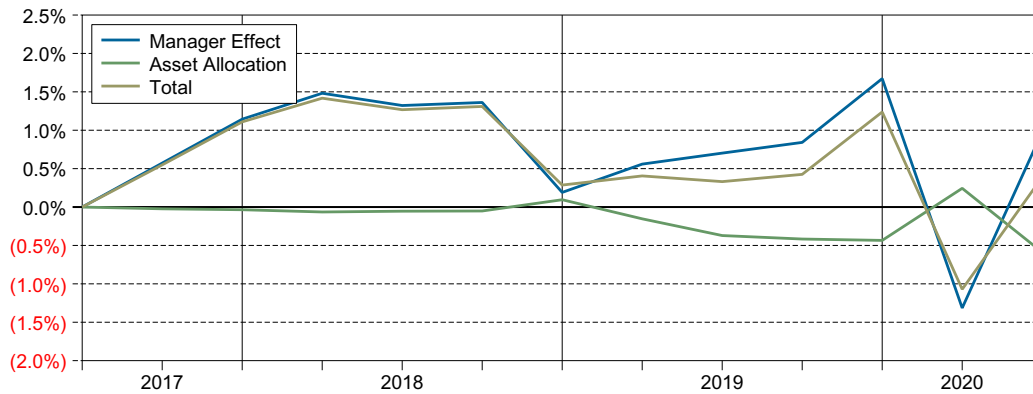
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### Three Year Annualized Relative Attribution Effects



### Cumulative Relative Attribution Effects



### Three Year Annualized Relative Attribution Effects

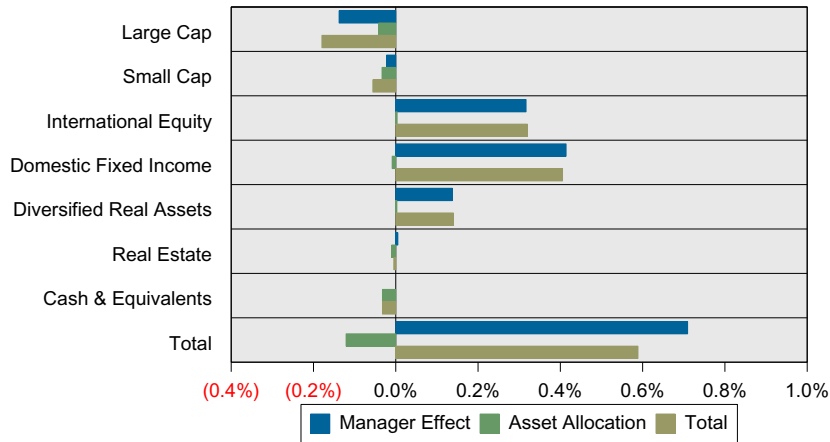
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	9.67%	10.64%	(0.19%)	(0.06%)	(0.25%)
Small Cap	8%	8%	1.20%	2.01%	(0.07%)	(0.06%)	(0.13%)
International Equity	20%	20%	2.05%	0.84%	0.28%	0.03%	0.31%
Domestic Fixed Income	35%	35%	6.01%	5.32%	0.16%	(0.01%)	0.15%
Diversified Real Assets	10%	10%	5.93%	4.50%	0.14%	(0.01%)	0.12%
Real Estate	5%	5%	4.92%	5.44%	(0.02%)	(0.02%)	(0.04%)
Cash & Equivalents	1%	0%	1.57%	1.57%	0.00%	(0.04%)	(0.04%)
<b>Total</b>			<b>5.78%</b>	<b>5.67%</b>	<b>+ 0.29%</b>	<b>(0.18%)</b>	<b>0.12%</b>

\* 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.

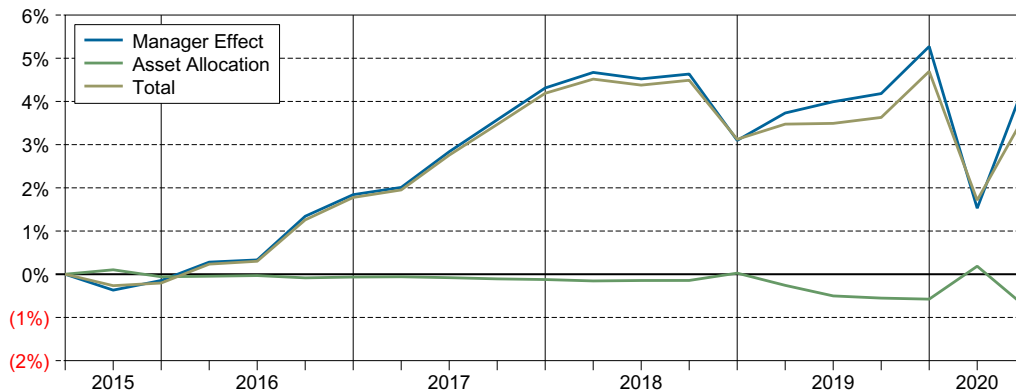
## Cumulative Total Fund Relative Attribution - June 30, 2020

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

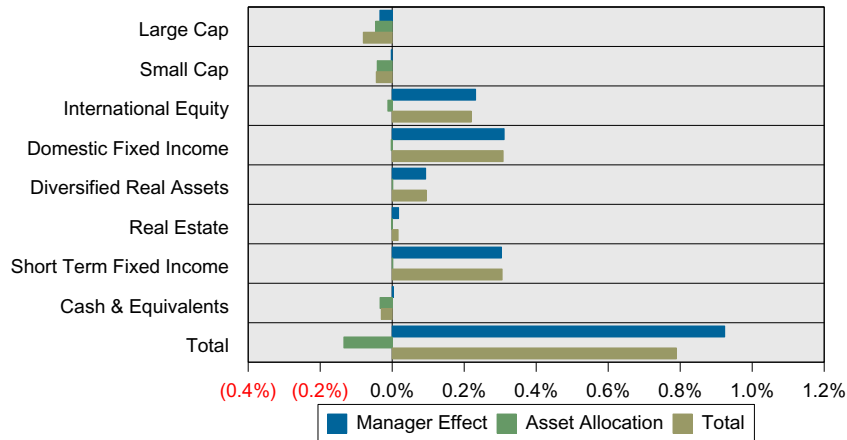
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	9.80%	10.47%	(0.14%)	(0.04%)	(0.18%)
Small Cap	8%	8%	4.05%	4.29%	(0.02%)	(0.03%)	(0.06%)
International Equity	20%	20%	3.41%	1.94%	0.32%	0.00%	0.32%
Domestic Fixed Income	35%	35%	5.65%	4.30%	0.41%	(0.01%)	0.41%
Diversified Real Assets	10%	10%	4.72%	3.30%	0.14%	0.00%	0.14%
Real Estate	5%	5%	6.77%	6.77%	0.01%	(0.01%)	(0.00%)
Cash & Equivalents	1%	0%	1.05%	1.05%	0.00%	(0.03%)	(0.03%)
<b>Total</b>			<b>6.13%</b>	<b>5.55%</b>	<b>+ 0.71%</b>	<b>+ (0.12%)</b>	<b>0.59%</b>

\* 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.

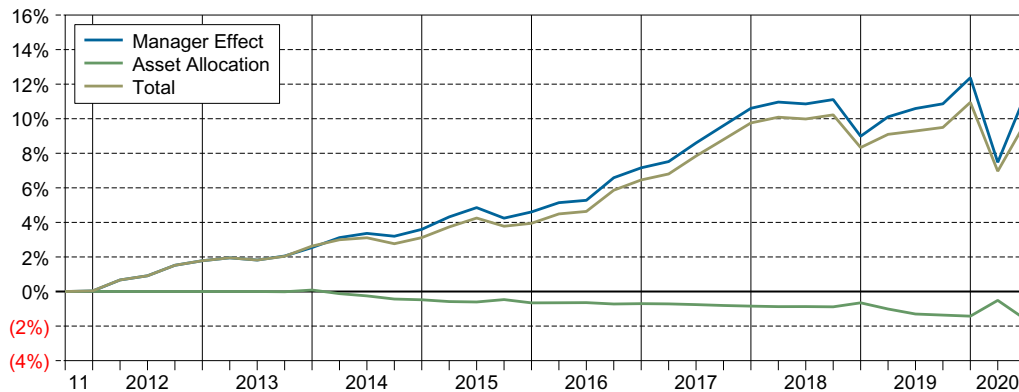
## Cumulative Total Fund Relative Attribution - June 30, 2020

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 Three-Quarter Year Annualized Relative Attribution Effects



### Cumulative Relative Attribution Effects



### Eight 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	16%	16%	-	-	(0.03%)	(0.05%)	(0.08%)
Small Cap	6%	6%	-	-	(0.00%)	(0.04%)	(0.04%)
International Equity	14%	15%	-	-	0.23%	(0.01%)	0.22%
Domestic Fixed Income	25%	25%	-	-	0.31%	(0.00%)	0.31%
Diversified Real Assets	6%	7%	-	-	0.09%	0.00%	0.09%
Real Estate	4%	4%	-	-	0.02%	(0.00%)	0.02%
Short Term Fixed Income	25%	26%	-	-	0.30%	0.00%	0.31%
Cash & Equivalents	3%	2%	0.64%	0.64%	0.00%	(0.03%)	(0.03%)
<b>Total</b>			<b>4.94%</b>	<b>4.15%</b>	<b>+ 0.92%</b>	<b>+ (0.13%)</b>	<b>0.79%</b>

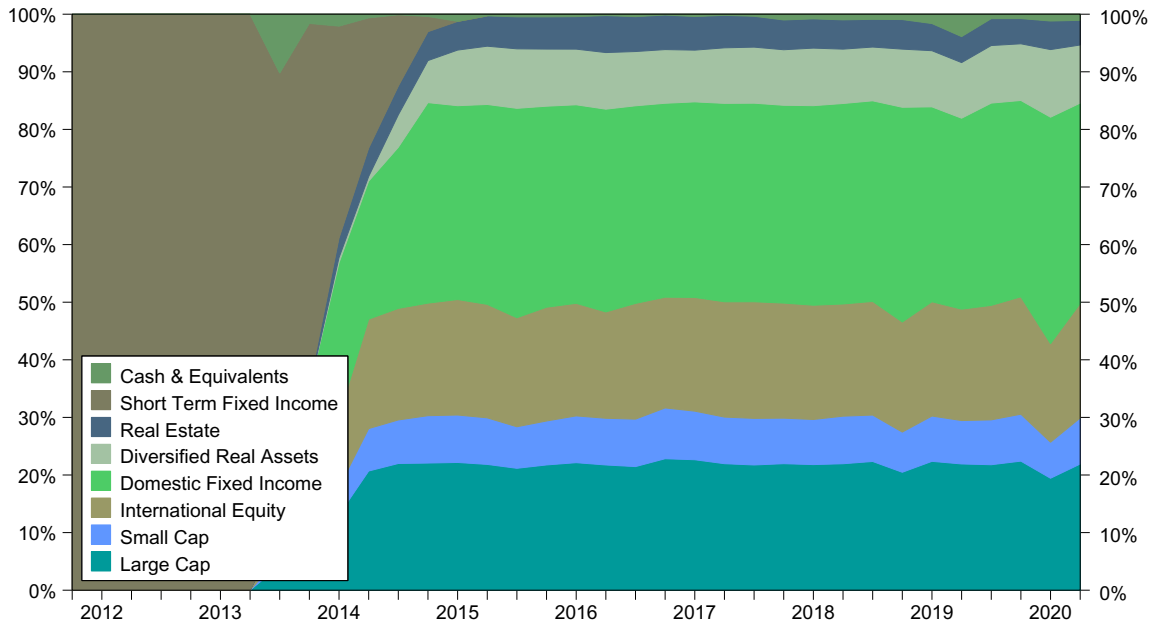
\* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.



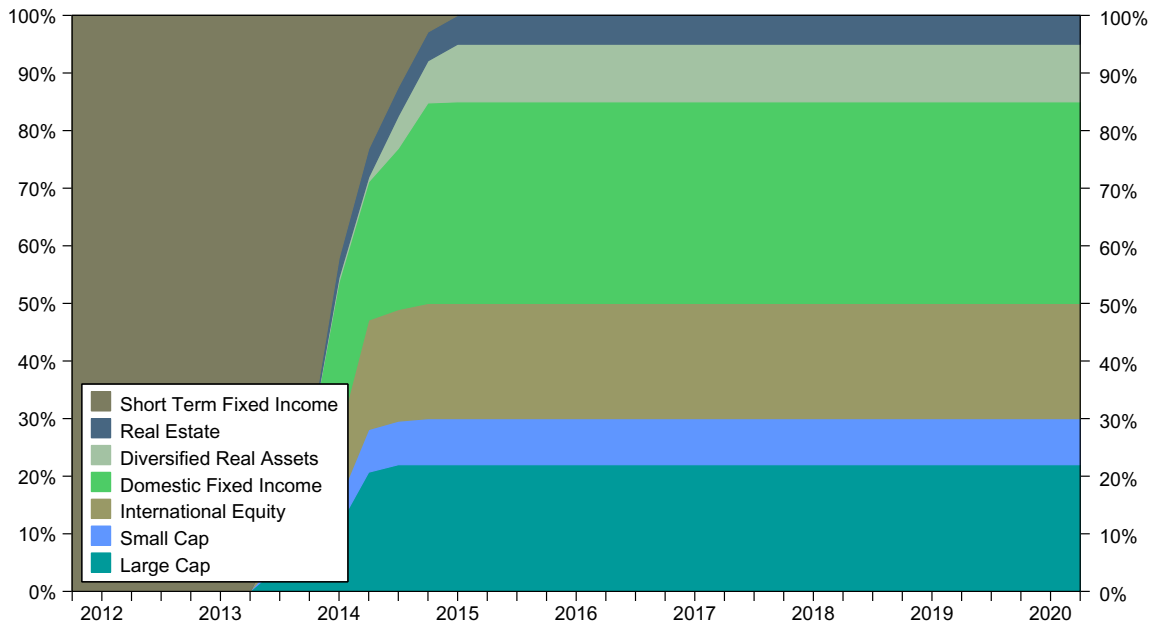
## Actual vs Target Historical Asset Allocation

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

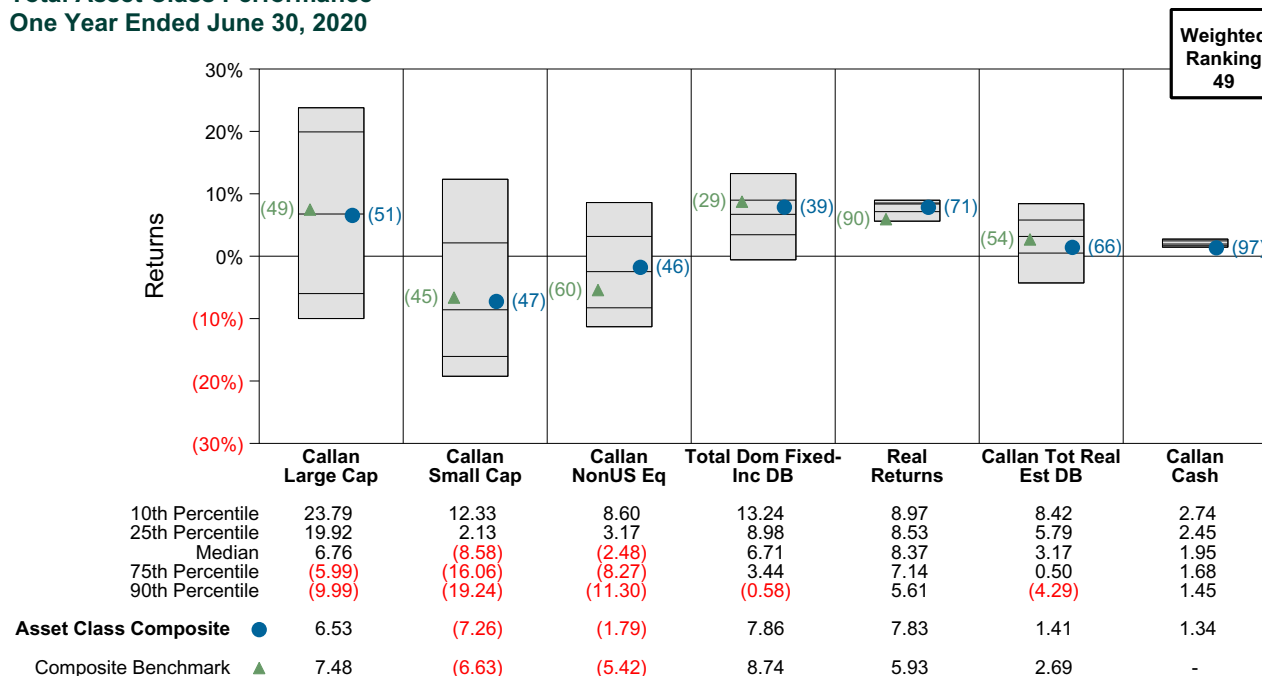


\* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

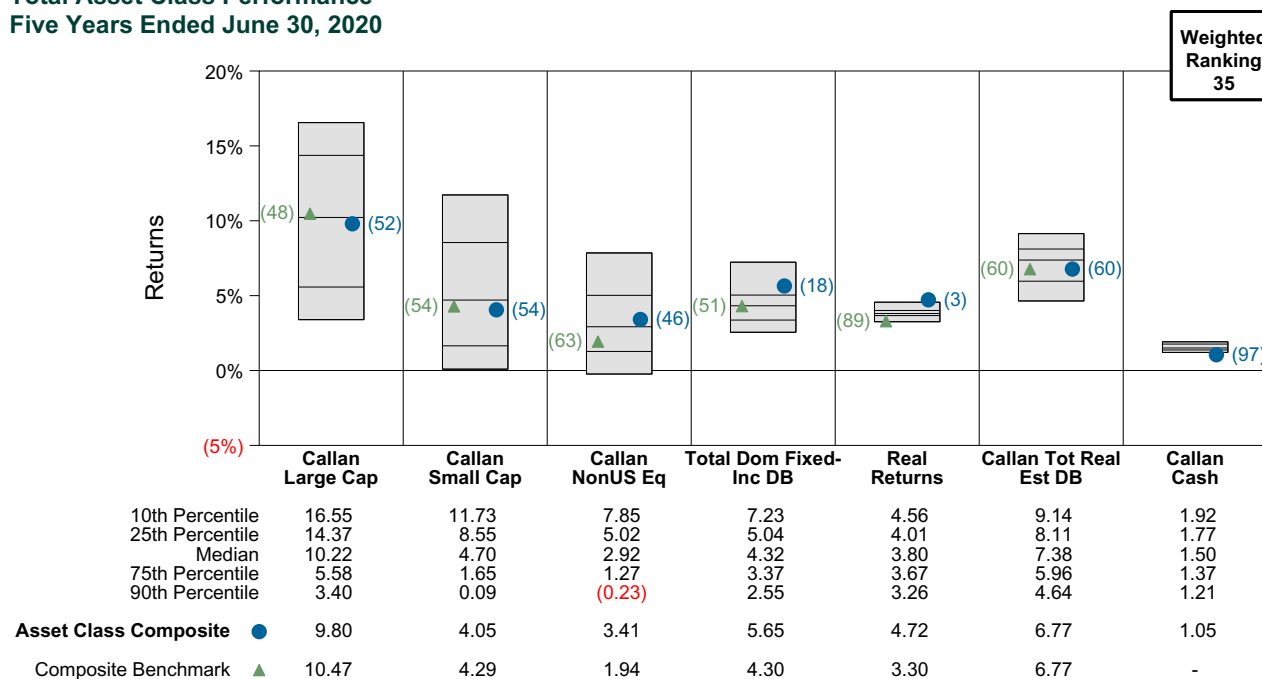
## Asset Class Rankings

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 June 30, 2020



### Total Asset Class Performance Five Years Ended June 30, 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 June 30, 2020, with the distribution as of March 31, 2020. 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

	June 30, 2020		Net New Inv.	Inv. Return	March 31, 2020	
	Market Value	Weight			Market Value	Weight
<b>Global Equity</b>	<b>\$3,484,502,453</b>	<b>49.78%</b>	<b>\$244,990,707</b>	<b>\$604,944,651</b>	<b>\$2,634,567,095</b>	<b>42.81%</b>
<b>Domestic Equity</b>	<b>\$2,092,662,040</b>	<b>29.90%</b>	<b>\$120,164,912</b>	<b>\$391,448,602</b>	<b>\$1,581,048,526</b>	<b>25.69%</b>
<b>Large Cap</b>	<b>\$1,533,532,571</b>	<b>21.91%</b>	<b>\$42,289,428</b>	<b>\$294,959,612</b>	<b>\$1,196,283,532</b>	<b>19.44%</b>
L.A. Capital Enhanced	347,782,203	4.97%	39,911,627	58,828,281	249,042,295	4.05%
L.A. Capital Large Cap Growth	508,714,925	7.27%	(224,175)	111,765,005	397,174,094	6.45%
Parametric Large Cap	319,583,130	4.57%	19,000,000	56,698,120	243,885,010	3.96%
LSV Large Cap Value	357,441,544	5.11%	(227,325)	51,486,737	306,182,132	4.97%
Parametric Large Cap Overlay	10,769	0.00%	(16,170,699)	16,181,468	-	-
<b>Small Cap</b>	<b>\$559,129,469</b>	<b>7.99%</b>	<b>\$77,875,484</b>	<b>\$96,488,990</b>	<b>\$384,764,994</b>	<b>6.25%</b>
Atlanta Capital	218,663,748	3.12%	90,058,182	22,666,013	105,939,552	1.72%
Parametric SmallCap	340,462,010	4.86%	82,000,000	59,531,996	198,930,015	3.23%
PIMCO RAE	3,711	0.00%	(94,182,698)	14,290,982	79,895,427	1.30%
<b>International Equity</b>	<b>\$1,391,840,412</b>	<b>19.88%</b>	<b>\$124,825,795</b>	<b>\$213,496,049</b>	<b>\$1,053,518,568</b>	<b>17.12%</b>
DFA Intl SmallCap Value	138,300,887	1.98%	21,000,000	19,806,385	97,494,502	1.58%
LSV Intl Value	426,911,340	6.10%	(367,679)	48,399,742	378,879,277	6.16%
Vanguard Intl Explorer Fund	139,095,154	1.99%	12,000,000	24,710,290	102,384,864	1.66%
William Blair	687,526,663	9.82%	104,510,231	108,256,506	474,759,926	7.71%
Parametric Intl Equity Overlay	6,369	0.00%	(12,316,757)	12,323,126	-	-
<b>Domestic Fixed Income</b>	<b>\$2,435,034,593</b>	<b>34.79%</b>	<b>\$(123,968,117)</b>	<b>\$139,428,854</b>	<b>\$2,419,573,857</b>	<b>39.31%</b>
Ares ND Credit Strategies Fd	78,067,158	1.12%	0	(1,845,869)	79,913,027	1.30%
BND CDs	88,815,807	1.27%	(3,095,867)	536,267	91,375,406	1.48%
Cerberus ND Private Credit Fd	97,001,312	1.39%	0	2,051,121	94,950,191	1.54%
Declaration Total Return	195,922,136	2.80%	(110,454)	14,935,216	181,097,374	2.94%
PIMCO Bravo II	8,762,874	0.13%	0	(2,343,121)	11,105,995	0.18%
PIMCO DiSCO II	58,095,457	0.83%	15,000,000	3,105,446	39,990,011	0.65%
Prudential	694,182,819	9.92%	(44,359,787)	47,209,919	691,332,688	11.23%
SSgA US Govt Credit Bd Idx	330,670,203	4.72%	(35,012,985)	13,275,173	352,408,015	5.73%
Wells Capital	190,746,412	2.73%	(10,087,205)	21,147,061	179,686,556	2.92%
Western Asset Management	692,762,899	9.90%	(47,204,155)	42,252,460	697,714,594	11.34%
Parametric Fixed Inc Overlay	7,516	0.00%	902,335	(894,819)	-	-
<b>Global Real Assets</b>	<b>\$1,005,851,527</b>	<b>14.37%</b>	<b>\$(44,806,675)</b>	<b>\$23,001,189</b>	<b>\$1,027,657,013</b>	<b>16.70%</b>
<b>Real Estate</b>	<b>\$299,806,201</b>	<b>4.28%</b>	<b>\$(764,622)</b>	<b>\$(4,696,733)</b>	<b>\$305,267,556</b>	<b>4.96%</b>
Invesco Core Real Estate	147,684,308	2.11%	(249,418)	(4,386,137)	152,319,863	2.47%
JP Morgan RE Inc & Growth	152,121,893	2.17%	(515,204)	(310,596)	152,947,693	2.49%
<b>Diversified</b>	<b>\$706,045,326</b>	<b>10.09%</b>	<b>\$(44,042,053)</b>	<b>\$27,697,922</b>	<b>\$722,389,457</b>	<b>11.74%</b>
Western Asset TIPS	427,547,289	6.11%	(40,125,931)	20,637,615	447,035,604	7.26%
ISQ Global Infrastructure II	49,851,839	0.71%	0	3,764,025	46,087,814	0.75%
JP Morgan Infrastructure	111,346,576	1.59%	(2,135,208)	36,530	113,445,255	1.84%
Grosvenor Cust. Infrastructure	45,849,593	0.66%	(1,739,903)	804,222	46,785,275	0.76%
Macquarie Infrs. Partners IV	71,450,029	1.02%	(41,010)	2,455,530	69,035,509	1.12%
<b>Cash</b>	<b>\$74,394,690</b>	<b>1.06%</b>	<b>\$1,456,468</b>	<b>\$53,819</b>	<b>\$72,884,404</b>	<b>1.18%</b>
Northern Trust Cash Account	50,471,154	0.72%	610,601	28,717	49,831,836	0.81%
Bank of ND	23,923,536	0.34%	845,867	25,101	23,052,568	0.37%
<b>Securities Lending Income</b>	<b>\$0</b>	<b>0.00%</b>	<b>\$(110,734)</b>	<b>\$110,734</b>	<b>-</b>	<b>-</b>
<b>Total Fund</b>	<b>\$6,999,783,263</b>	<b>100.0%</b>	<b>\$77,561,649</b>	<b>\$767,539,246</b>	<b>\$6,154,682,368</b>	<b>100.0%</b>

## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 8-3/4 Years
<b>Global Equity</b>					
Gross	21.88%	0.92%	-	-	-
Net	21.81%	0.70%	-	-	-
Weighted Benchmark	19.80%	(0.01%)	-	-	-
<b>Domestic Equity</b>					
Gross	23.89%	2.71%	7.37%	8.28%	-
Net	23.85%	2.55%	7.21%	8.07%	-
Weighted Benchmark	22.78%	3.66%	-	-	-
<b>Large Cap</b>					
Gross	23.50%	6.53%	9.67%	9.80%	-
Net	23.45%	6.36%	9.49%	9.60%	-
Russell 1000 Index	21.82%	7.48%	10.64%	10.47%	14.56%
L.A. Capital Enhanced - Gross	21.99%	8.26%	10.52%	10.44%	-
L.A. Capital Enhanced - Net	21.95%	8.12%	10.38%	10.29%	-
Russell 1000 Index	21.82%	7.48%	10.64%	10.47%	14.56%
L.A. Capital LargeCap Growth - Gross	28.15%	21.97%	17.61%	14.53%	-
L.A. Capital LargeCap Growth - Net	28.08%	21.73%	17.37%	14.30%	-
Russell 1000 Growth Index	27.84%	23.28%	18.99%	15.89%	17.76%
Parametric Clifton Large Cap - Gross	23.24%	7.10%	10.45%	10.68%	-
Parametric Clifton Large Cap - Net	23.24%	7.10%	10.48%	10.63%	-
S&P 500 Index	20.54%	7.51%	10.73%	10.73%	14.58%
LSV Large Cap Value - Gross	16.83%	(12.41%)	(0.44%)	3.18%	-
LSV Large Cap Value - Net	16.75%	(12.66%)	(0.72%)	2.89%	-
Russell 1000 Value Index	14.29%	(8.84%)	1.82%	4.64%	11.00%
<b>Small Cap</b>					
Gross	25.53%	(7.26%)	1.20%	4.05%	-
Net	25.49%	(7.36%)	1.07%	3.80%	-
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	11.18%
Atlanta Capital - Gross	19.71%	-	-	-	-
Atlanta Capital - Net	19.71%	-	-	-	-
S&P 600 Small Cap Index	21.94%	(11.29%)	0.56%	4.48%	11.74%
Parametric Clifton Small Cap - Gross	29.85%	(4.91%)	2.73%	5.11%	-
Parametric Clifton Small Cap - Net	29.85%	(4.91%)	2.70%	4.88%	-
Russell 2000 Index	25.42%	(6.63%)	2.01%	4.29%	11.18%
<b>International Equity</b>					
Gross	18.91%	(1.79%)	2.05%	3.41%	-
Net	18.82%	(2.09%)	1.74%	3.10%	-
Benchmark(1)	15.34%	(5.42%)	0.84%	1.94%	5.85%
DFA Intl Small Cap Value	19.38%	(11.98%)	(6.38%)	(0.84%)	-
World ex US SC Va	16.41%	(11.36%)	(3.56%)	0.81%	5.53%
LSV Intl Value - Gross	12.78%	(11.58%)	(3.76%)	0.14%	-
LSV Intl Value - Net	12.68%	(11.92%)	(4.12%)	(0.24%)	-
MSCI EAFE Index	14.88%	(5.13%)	0.81%	2.05%	5.91%
Vanguard Intl Explorer Fund	23.36%	(3.97%)	(1.87%)	2.10%	-
BMI, EPAC, <\$2 B	19.71%	(4.88%)	(1.81%)	2.03%	6.41%
William Blair - Gross	21.14%	8.74%	9.98%	-	-
William Blair - Net	21.03%	8.33%	9.57%	-	-
MSCI ACWI ex US IMI	16.96%	(4.74%)	0.96%	2.30%	5.34%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 8-3/4 Years
<b>Domestic Fixed Income</b>					
Gross	5.87%	7.86%	6.01%	5.65%	-
Net	5.84%	7.74%	5.89%	5.52%	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.48%
Ares ND Credit Strategies Fd - Net	(2.31%)	1.72%	-	-	-
Cerberus ND Private Credit Fd - Net	2.16%	9.05%	-	-	-
S&P/LSTA Leveraged Loan B	11.12%	(1.14%)	2.48%	3.21%	4.59%
BND CDs - Net	0.59%	2.82%	3.07%	-	-
Declaration Total Return - Net	8.25%	3.18%	4.32%	4.10%	-
Libor-3 Month	0.11%	1.57%	1.97%	1.48%	0.98%
PIMCO Bravo II - Net(1)	(21.10%)	(18.00%)	(3.59%)	1.69%	-
PIMCO DiSCO II - Net (1)	6.29%	2.89%	6.23%	7.94%	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.48%
Prudential - Gross	7.25%	9.00%	6.46%	5.99%	-
Prudential - Net	7.19%	8.79%	6.22%	5.74%	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.48%
Wells Capital - Gross	11.77%	9.08%	6.78%	6.55%	-
Wells Capital - Net	11.72%	8.87%	6.60%	6.36%	-
Blmbg Credit Baa	11.24%	8.19%	6.21%	5.82%	5.47%
Western Asset - Gross	6.43%	8.89%	6.12%	5.50%	-
Western Asset - Net	6.39%	8.77%	5.99%	5.36%	-
Blmbg Aggregate	2.90%	8.74%	5.32%	4.30%	3.48%
SSgA US Govt Credit Bd Idx - Gross	3.77%	10.24%	5.96%	4.80%	-
SSgA US Govt Credit Bd Idx - Net	3.77%	10.22%	5.94%	4.77%	-
Blmbg Govt/Credit Bd	3.71%	10.02%	5.87%	4.74%	3.75%

(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 June 30, 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 June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 8-3/4 Years
<b>Global Real Assets</b>					
Gross	2.33%	5.81%	-	-	-
Net	2.20%	5.52%	-	-	-
Weighted Benchmark	1.20%	4.85%	-	-	-
<b>Real Estate</b>					
Gross	(1.54%)	1.41%	4.92%	6.77%	-
Net	(1.79%)	0.92%	4.37%	6.18%	-
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	8.81%
Invesco Core Real Estate - Gross	(2.88%)	1.32%	5.50%	7.18%	-
Invesco Core Real Estate - Net	(3.04%)	0.98%	5.15%	6.81%	-
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	8.81%
JP Morgan RE Inc & Growth - Gross	(0.21%)	1.50%	4.36%	6.41%	-
JP Morgan RE Inc & Growth - Net	(0.54%)	0.86%	3.65%	5.57%	-
NCREIF Total Index	(0.99%)	2.69%	5.44%	6.77%	8.81%
<b>Diversified</b>					
Gross	4.06%	7.83%	5.93%	4.72%	-
Net	3.98%	7.64%	5.71%	4.46%	-
Weighted Benchmark	2.31%	5.93%	4.50%	3.30%	-
Western Asset TIPS - Gross	5.07%	8.49%	4.92%	3.67%	-
Western Asset TIPS - Net	5.04%	8.36%	4.79%	3.54%	-
Benchmark(3)	4.36%	8.74%	5.53%	3.99%	3.30%
JP Morgan Infrastructure - Gross	0.04%	5.29%	7.79%	7.10%	-
JP Morgan Infrastructure - Net	(0.33%)	4.60%	7.10%	6.30%	-
Grosvenor Cust. Infrastructure - Net	1.72%	5.23%	9.76%	7.70%	-
Benchmark(1)	(0.52%)	1.62%	2.87%	2.14%	1.73%
Macquarie Infrs. Partners IV - Net	3.56%	9.14%	-	-	-
ISQ Global Infrastructure II - Net	8.17%	6.15%	-	-	-
Benchmark(2)	(0.52%)	1.62%	-	-	-
<b>Cash &amp; Equivalents - Net</b>					
NT Cash Account - Net	0.06%	1.34%	1.57%	1.05%	0.64%
Bank of ND - Net	0.04%	1.24%	-	-	-
90 Day Treasury Bills	0.11%	1.49%	-	-	-
	0.02%	1.63%	1.77%	1.19%	0.71%
<b>Total Fund</b>					
Gross	12.39%	4.41%	5.78%	6.13%	4.94%
Net	12.33%	4.23%	5.58%	5.91%	4.76%
Target*	10.89%	4.38%	5.67%	5.55%	4.15%

\* 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 June 30, 2020

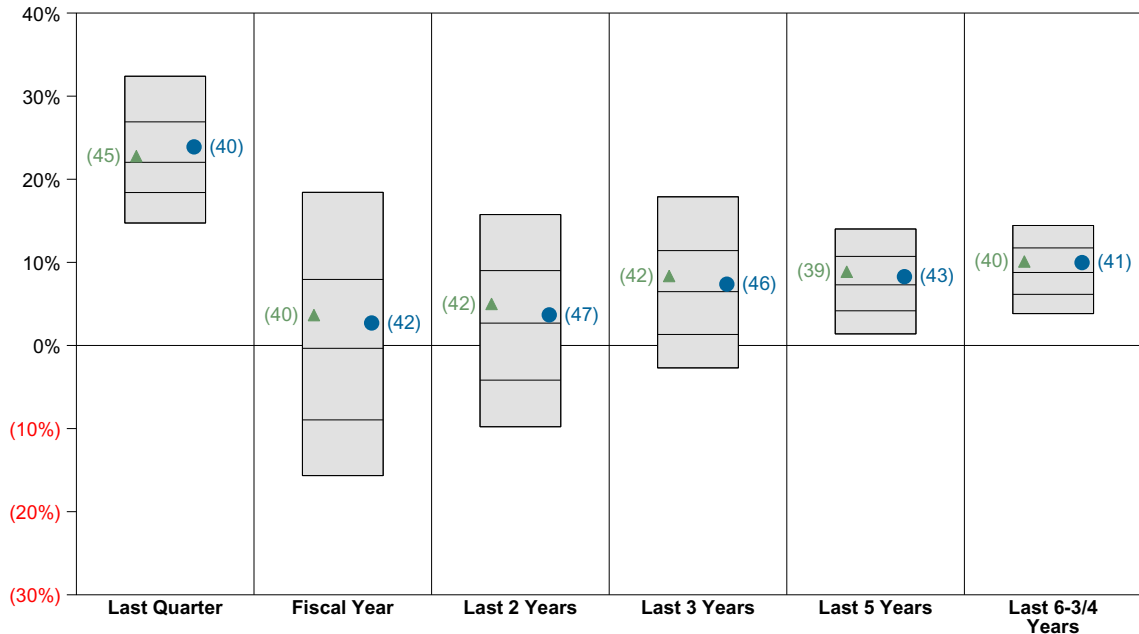
### Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a 23.89% return for the quarter placing it in the 40 percentile of the Total Domestic Equity Database group for the quarter and in the 42 percentile for the last year.
- Domestic Equity's portfolio outperformed the Domestic Equity Target by 1.12% for the quarter and underperformed the Domestic Equity Target for the year by 0.95%.

### Quarterly Asset Growth

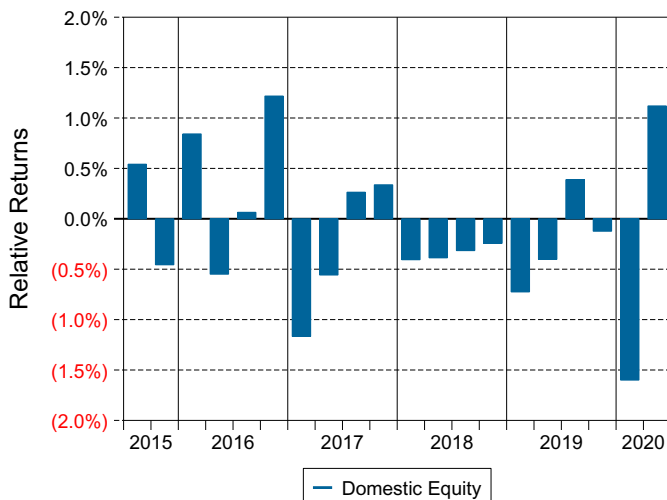
Beginning Market Value	\$1,581,048,526
Net New Investment	\$120,164,912
Investment Gains/(Losses)	\$391,448,602
Ending Market Value	\$2,092,662,040

### Performance vs Total Domestic Equity Database (Gross)

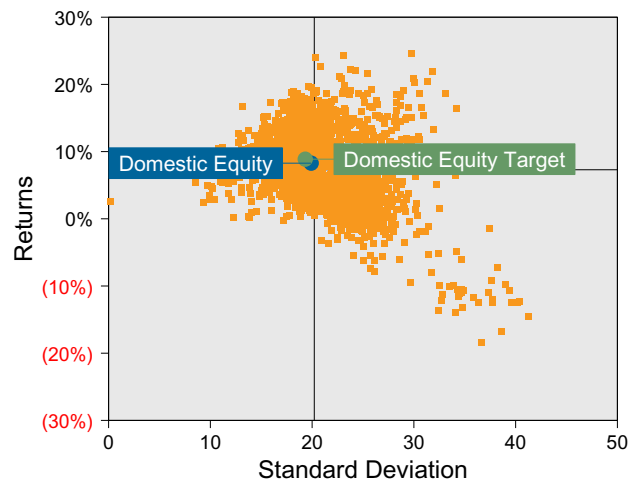


10th Percentile	32.40	18.42	15.75	17.89	14.02	14.44
25th Percentile	26.91	7.94	9.01	11.42	10.72	11.74
Median	22.04	(0.34)	2.69	6.48	7.30	8.78
75th Percentile	18.40	(8.95)	(4.17)	1.32	4.17	6.15
90th Percentile	14.74	(15.66)	(9.78)	(2.70)	1.39	3.83
<b>Domestic Equity</b> ●	23.89	2.71	3.68	7.37	8.28	9.97
Domestic Equity Target ▲	22.78	3.66	5.00	8.36	8.87	10.11

### Relative Return vs Domestic Equity Target



### Total Domestic Equity Database (Gross) Annualized Five Year Risk vs Return



# Parametric Large Cap Period Ended June 30, 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.

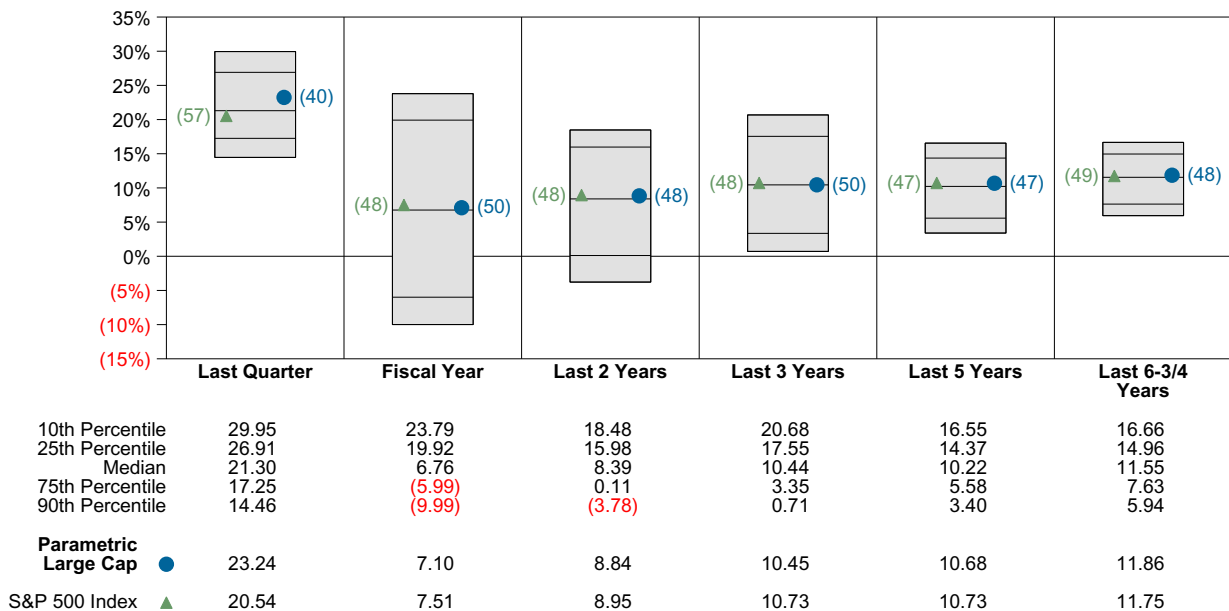
## Quarterly Summary and Highlights

- Parametric Large Cap's portfolio posted a 23.24% return for the quarter placing it in the 40 percentile of the Callan Large Capitalization group for the quarter and in the 50 percentile for the last year.
- Parametric Large Cap's portfolio outperformed the S&P 500 Index by 2.70% for the quarter and underperformed the S&P 500 Index for the year by 0.40%.

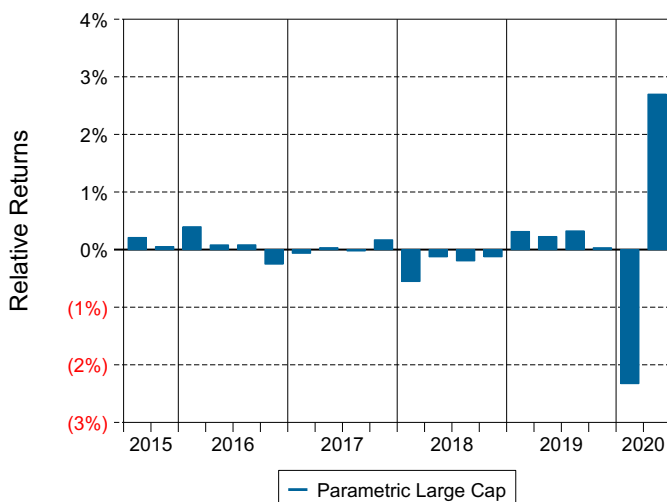
## Quarterly Asset Growth

Beginning Market Value	\$243,885,010
Net New Investment	\$19,000,000
Investment Gains/(Losses)	\$56,698,120
Ending Market Value	\$319,583,130

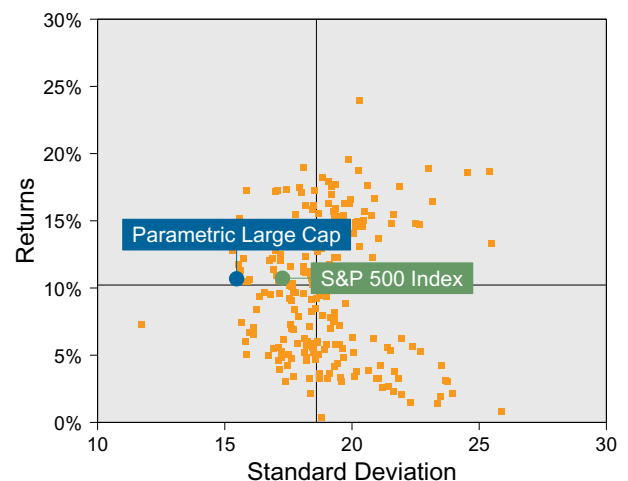
## Performance vs Callan Large Capitalization (Gross)



## Relative Return vs S&P 500 Index



## Callan Large Capitalization (Gross) Annualized Five Year Risk vs Return





# L.A. Capital Period Ended June 30, 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.

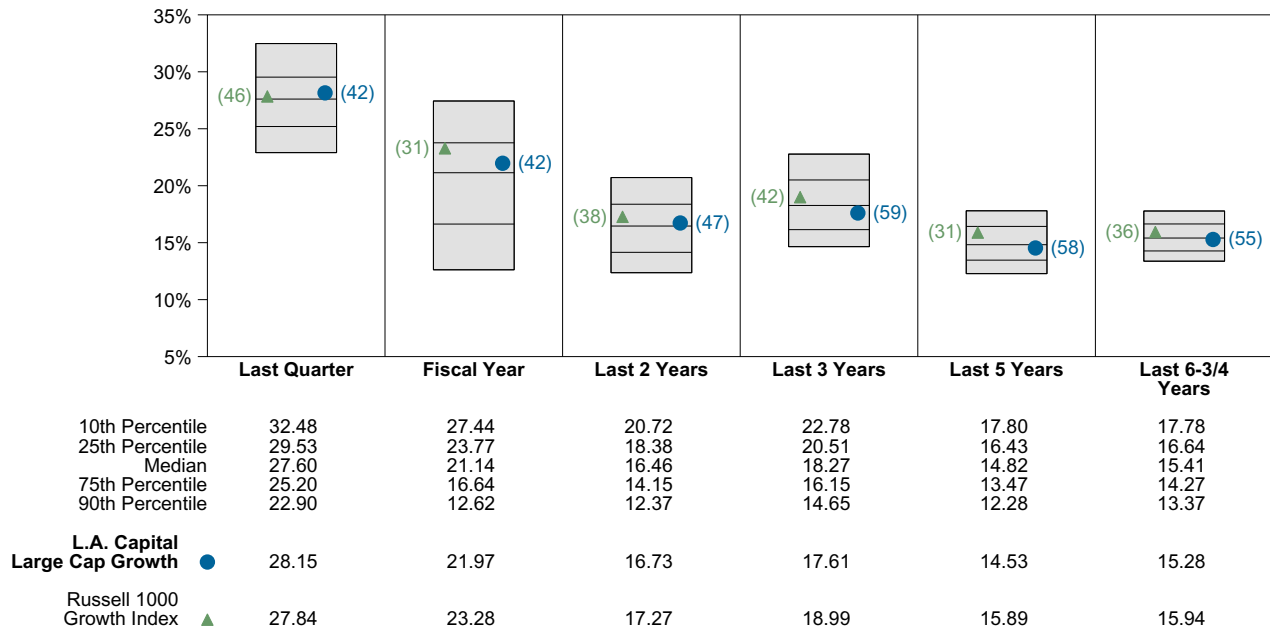
## Quarterly Summary and Highlights

- L.A. Capital Large Cap Growth's portfolio posted a 28.15% return for the quarter placing it in the 42 percentile of the Callan Large Cap Growth group for the quarter and in the 42 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio outperformed the Russell 1000 Growth Index by 0.31% for the quarter and underperformed the Russell 1000 Growth Index for the year by 1.31%.

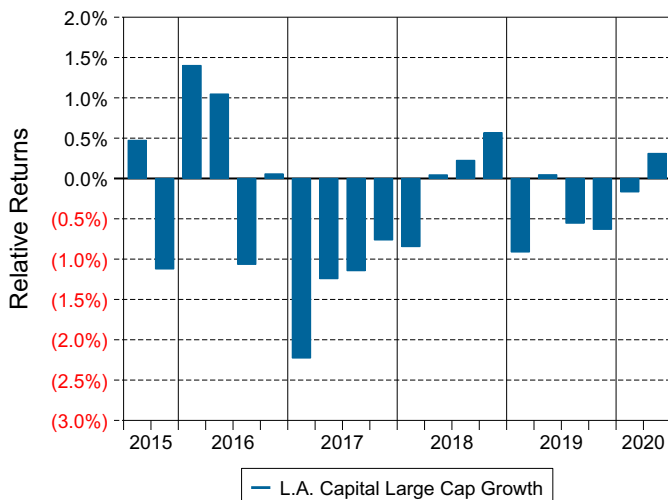
## Quarterly Asset Growth

Beginning Market Value	\$397,174,094
Net New Investment	\$-224,175
Investment Gains/(Losses)	\$111,765,005
Ending Market Value	\$508,714,925

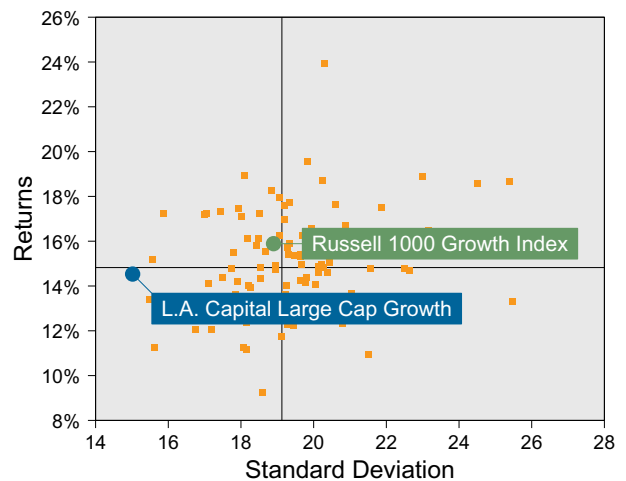
## Performance vs Callan Large Cap Growth (Gross)



## Relative Return vs Russell 1000 Growth Index



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



# L.A. Capital Enhanced Period Ended June 30, 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.

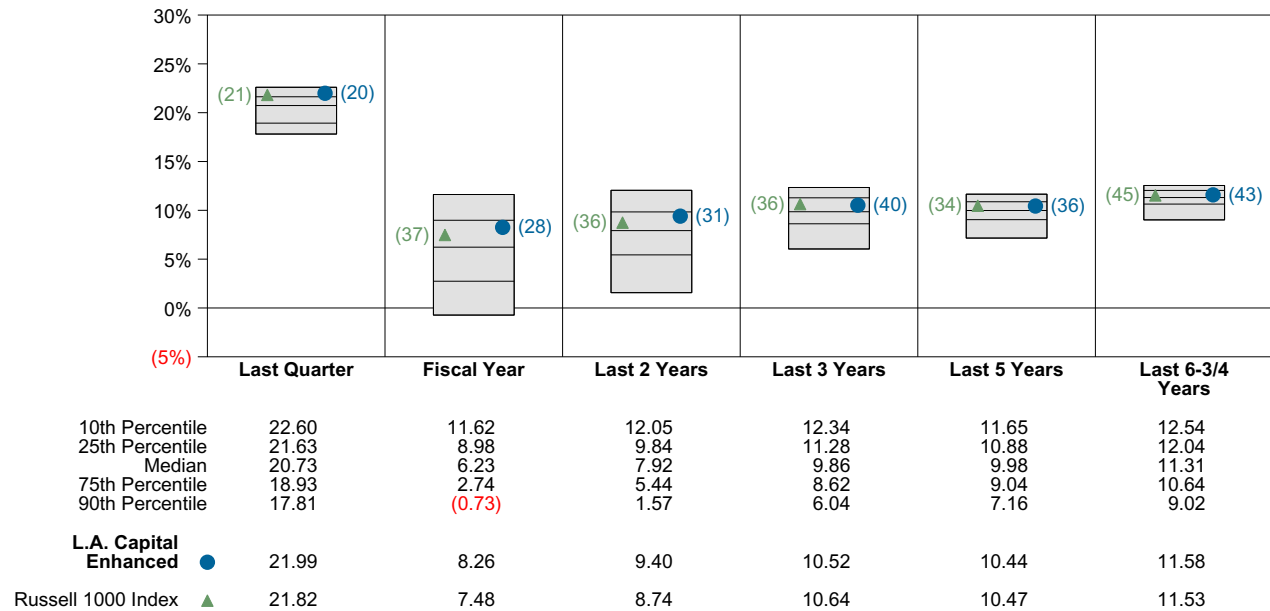
## Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a 21.99% return for the quarter placing it in the 20 percentile of the Callan Large Cap Core group for the quarter and in the 28 percentile for the last year.
- L.A. Capital Enhanced's portfolio outperformed the Russell 1000 Index by 0.16% for the quarter and outperformed the Russell 1000 Index for the year by 0.78%.

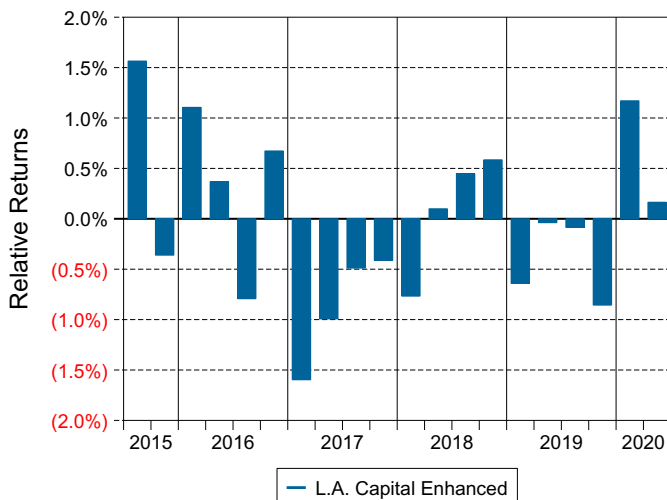
## Quarterly Asset Growth

Beginning Market Value	\$249,042,295
Net New Investment	\$39,911,627
Investment Gains/(Losses)	\$58,828,281
Ending Market Value	\$347,782,203

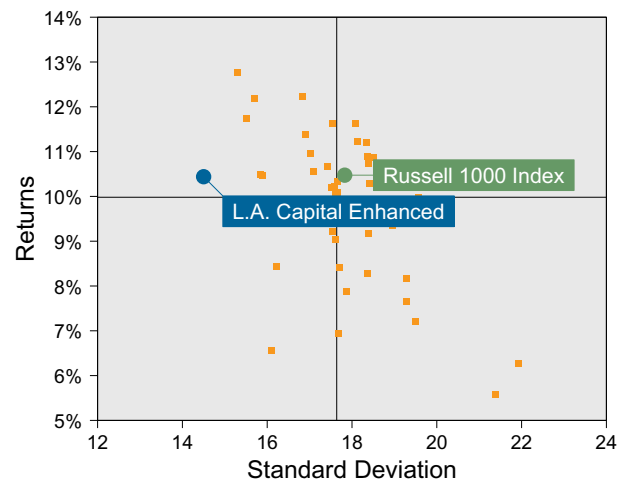
## Performance vs Callan Large Cap Core (Gross)



## Relative Return vs Russell 1000 Index



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



# LSV Asset Management

## Period Ended June 30, 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.

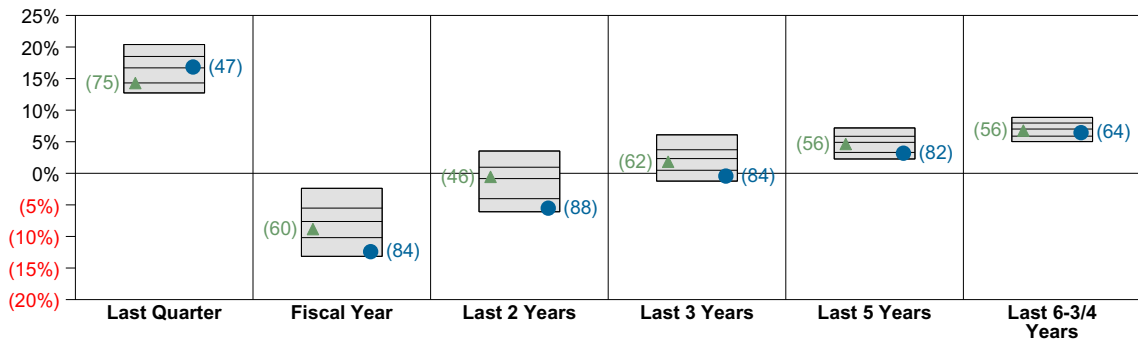
### Quarterly Summary and Highlights

- LSV Large Cap Value's portfolio posted a 16.83% return for the quarter placing it in the 47 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 outperformed the Russell 1000 Value Index by 2.54% for the quarter and underperformed the Russell 1000 Value Index for the year by 3.58%.

### Quarterly Asset Growth

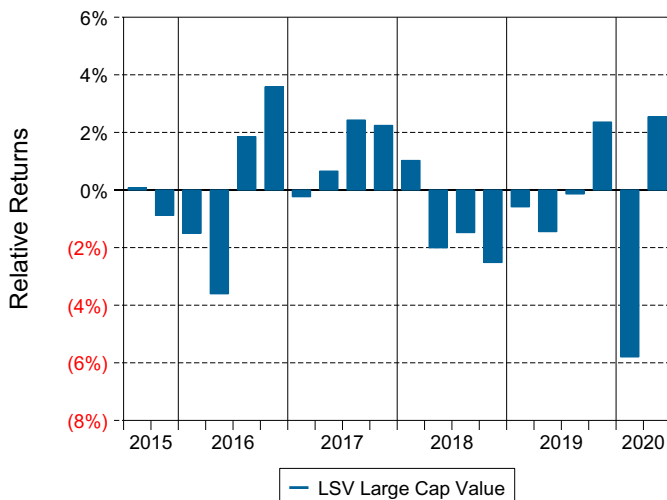
Beginning Market Value	\$306,182,132
Net New Investment	\$-227,325
Investment Gains/(Losses)	\$51,486,737
Ending Market Value	\$357,441,544

### Performance vs Callan Large Cap Value (Gross)

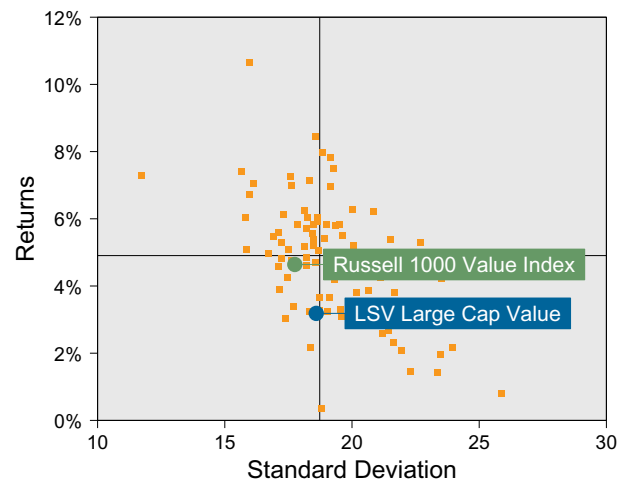


	Last Quarter	Fiscal Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 6-3/4 Years
10th Percentile	20.39	(2.38)	3.53	6.10	7.18	8.86
25th Percentile	18.51	(5.51)	0.96	3.73	5.86	7.96
Median	16.70	(7.63)	(0.84)	2.33	4.90	7.01
75th Percentile	14.31	(10.19)	(4.02)	0.48	3.31	5.88
90th Percentile	12.73	(13.15)	(6.09)	(1.24)	2.27	5.02
<b>LSV Large Cap Value</b>	<b>16.83</b>	<b>(12.41)</b>	<b>(5.52)</b>	<b>(0.44)</b>	<b>3.18</b>	<b>6.44</b>
Russell 1000 Value Index	14.29	(8.84)	(0.56)	1.82	4.64	6.77

### Relative Return vs Russell 1000 Value Index



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



# Atlanta Capital Period Ended June 30, 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.

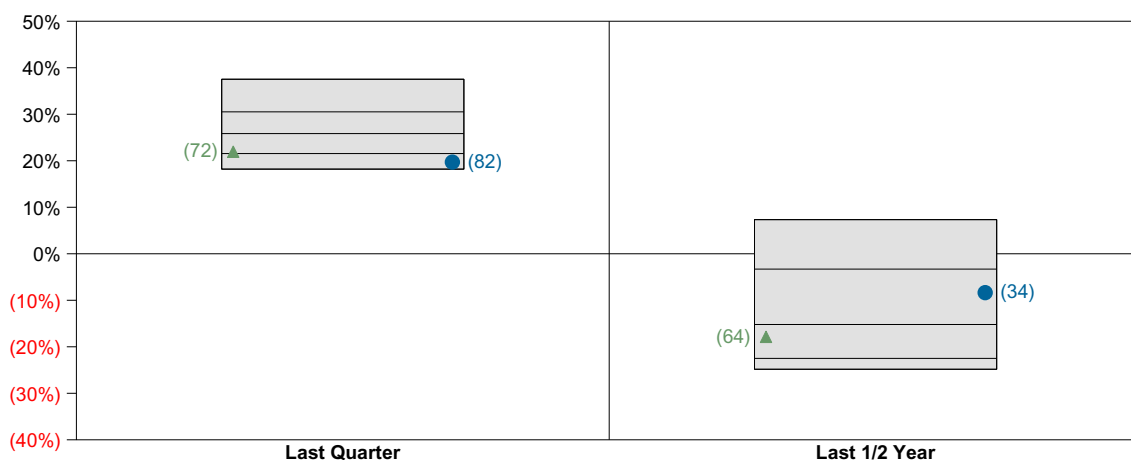
## Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a 19.71% return for the quarter placing it in the 82 percentile of the Callan Small Capitalization group for the quarter and in the 34 percentile for the last one-half year.
- Atlanta Capital's portfolio underperformed the S&P 600 Small Cap Index by 2.24% for the quarter and outperformed the S&P 600 Small Cap Index for the one-half year by 9.49%.

## Quarterly Asset Growth

Beginning Market Value	\$105,939,552
Net New Investment	\$90,058,182
Investment Gains/(Losses)	\$22,666,013
Ending Market Value	\$218,663,748

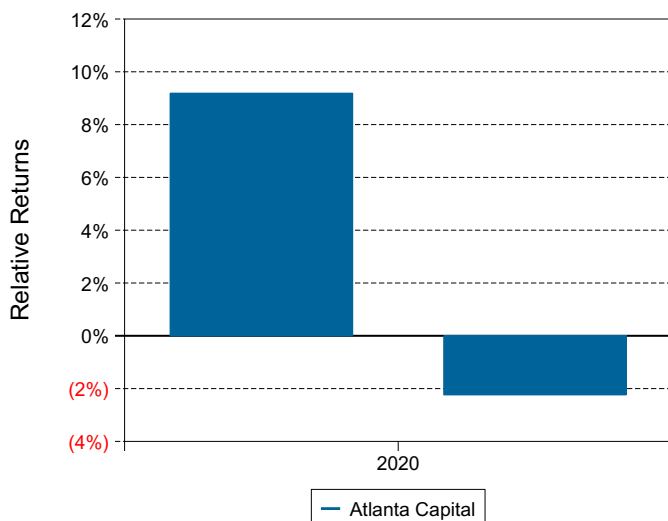
## Performance vs Callan Small Capitalization (Gross)



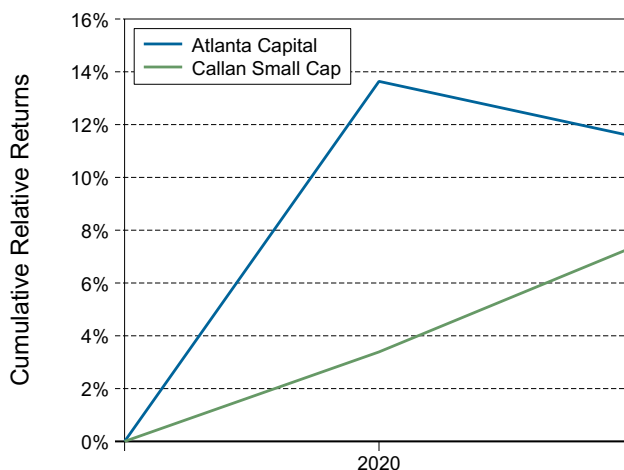
10th Percentile	37.53
25th Percentile	30.52
Median	25.85
75th Percentile	21.55
90th Percentile	18.20
<b>Atlanta Capital</b>	<b>19.71</b>
S&P 600 Small Cap Index	21.94

10th Percentile	7.34
25th Percentile	(3.29)
Median	(15.21)
75th Percentile	(22.49)
90th Percentile	(24.83)
<b>Atlanta Capital</b>	<b>(8.36)</b>
S&P 600 Small Cap Index	(17.85)

## Relative Return vs S&P 600 Small Cap Index



## Cumulative Returns vs S&P 600 Small Cap Index



# Parametric Small Cap Period Ended June 30, 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.

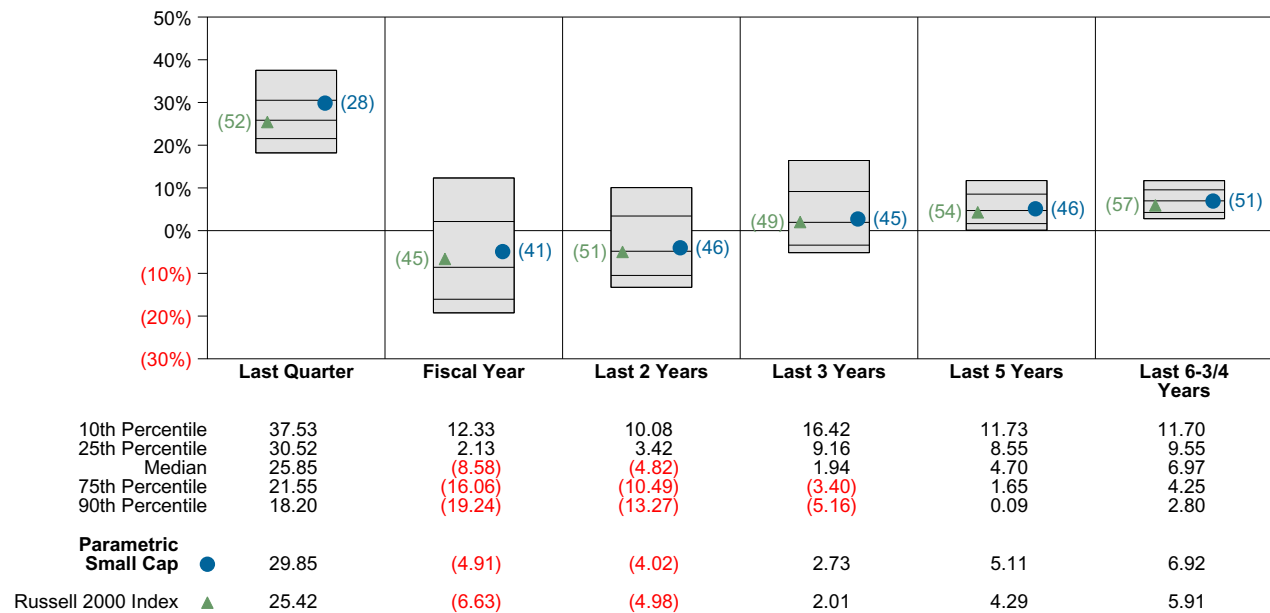
## Quarterly Summary and Highlights

- Parametric Small Cap's portfolio posted a 29.85% return for the quarter placing it in the 28 percentile of the Callan Small Capitalization group for the quarter and in the 41 percentile for the last year.
- Parametric Small Cap's portfolio outperformed the Russell 2000 Index by 4.43% for the quarter and outperformed the Russell 2000 Index for the year by 1.72%.

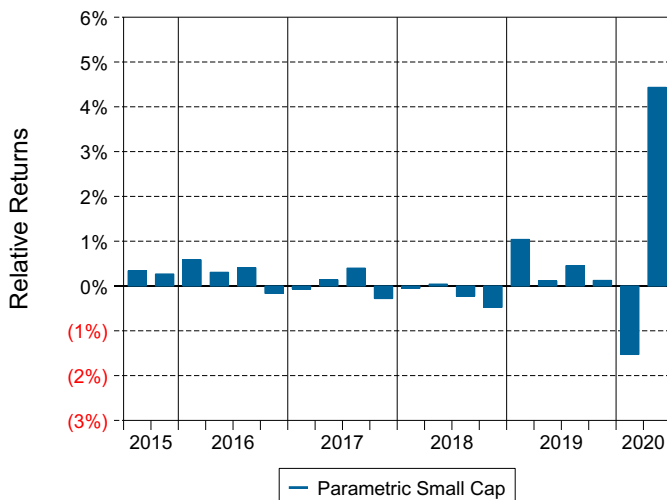
## Quarterly Asset Growth

Beginning Market Value	\$198,930,015
Net New Investment	\$82,000,000
Investment Gains/(Losses)	\$59,531,996
Ending Market Value	\$340,462,010

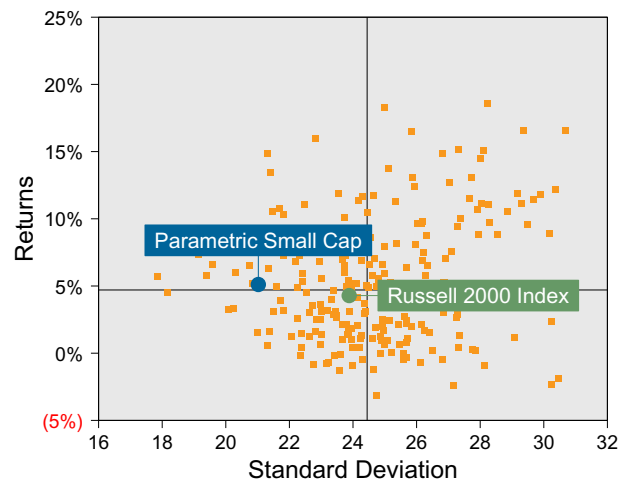
## Performance vs Callan Small Capitalization (Gross)



## Relative Return vs Russell 2000 Index



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



# International Equity Period Ended June 30, 2020

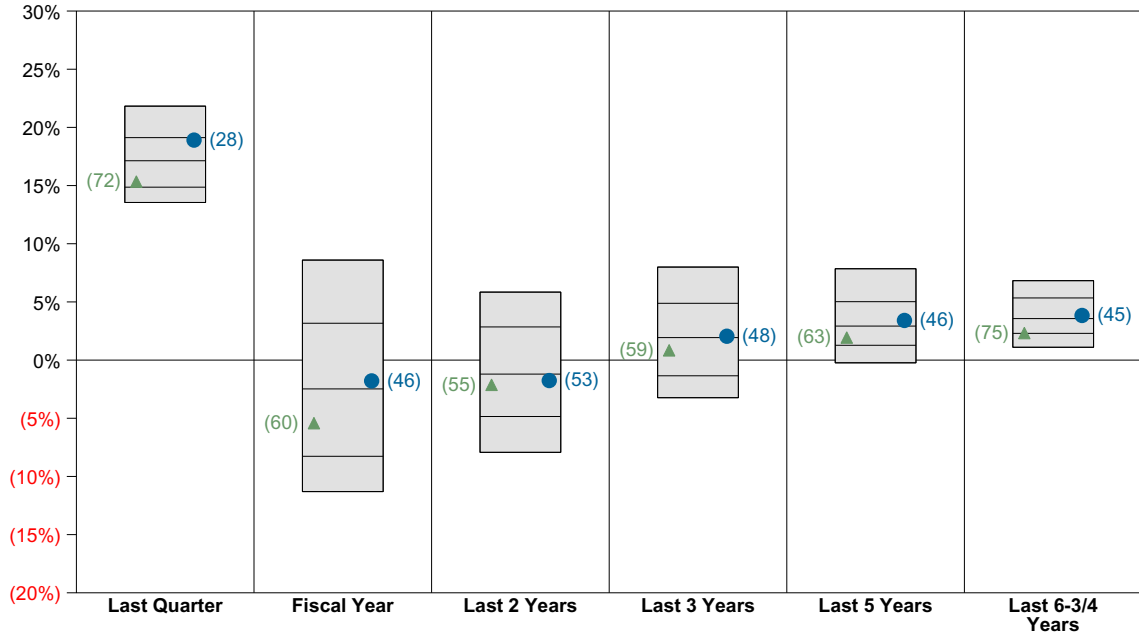
## Quarterly Summary and Highlights

- International Equity's portfolio posted a 18.91% return for the quarter placing it in the 28 percentile of the Callan Non-US Equity group for the quarter and in the 46 percentile for the last year.
- International Equity's portfolio outperformed the International Equity Target by 3.57% for the quarter and outperformed the International Equity Target for the year by 3.63%.

## Quarterly Asset Growth

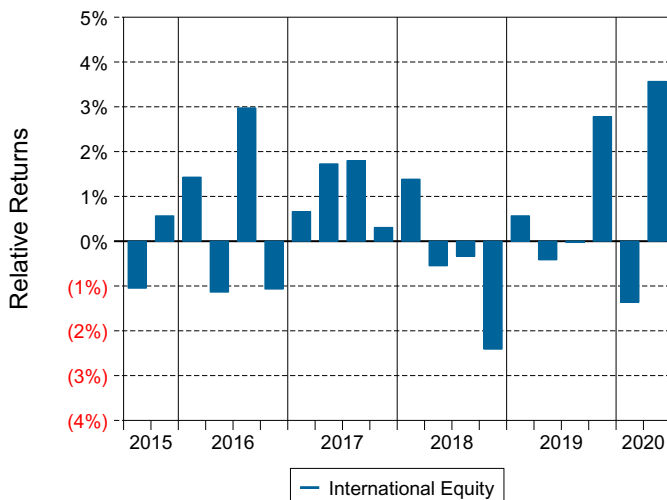
Beginning Market Value	\$1,053,518,568
Net New Investment	\$124,825,795
Investment Gains/(Losses)	\$213,496,049
Ending Market Value	\$1,391,840,412

## Performance vs Callan Non-US Equity (Gross)

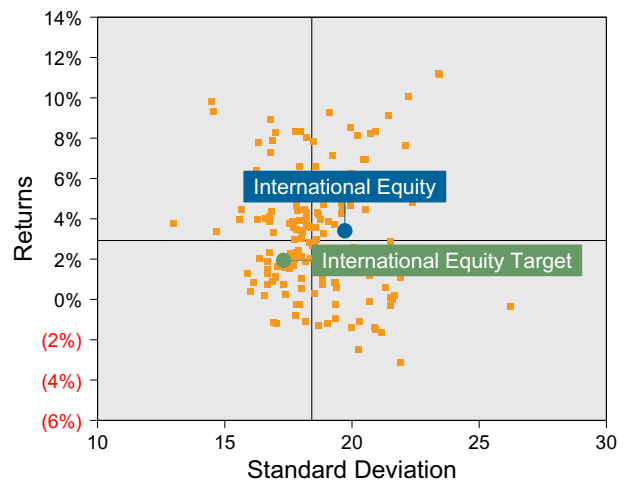


10th Percentile	21.83	8.60	5.84	8.00	7.85	6.83
25th Percentile	19.12	3.17	2.85	4.88	5.02	5.34
Median	17.13	(2.48)	(1.20)	1.93	2.92	3.57
75th Percentile	14.86	(8.27)	(4.85)	(1.35)	1.27	2.30
90th Percentile	13.55	(11.30)	(7.93)	(3.23)	(0.23)	1.10
<b>International Equity</b> ●	18.91	(1.79)	(1.76)	2.05	3.41	3.84
International Equity Target ▲	15.34	(5.42)	(2.12)	0.84	1.94	2.32

## Relative Return vs International Equity Target



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



# DFA Intl Small Cap Value Period Ended June 30, 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.

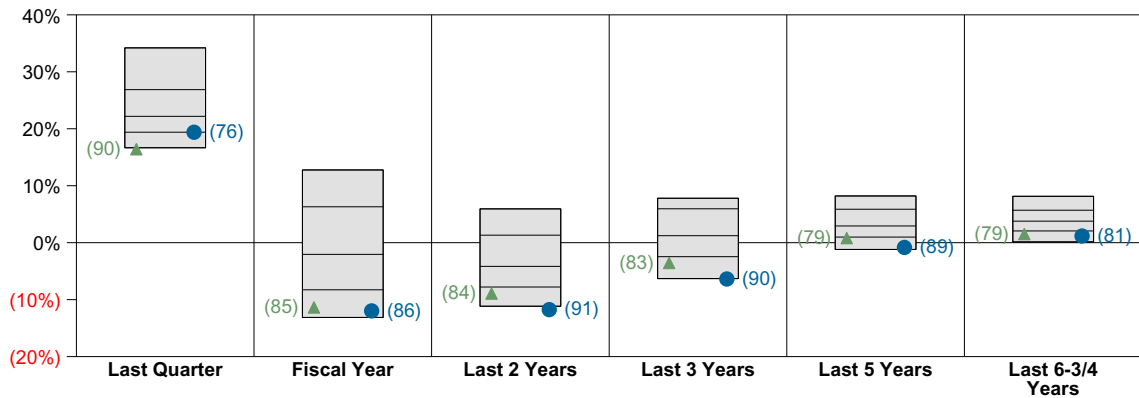
## Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 19.38% return for the quarter placing it in the 76 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 86 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 2.98% for the quarter and underperformed the World ex US SC Value for the year by 0.62%.

## Quarterly Asset Growth

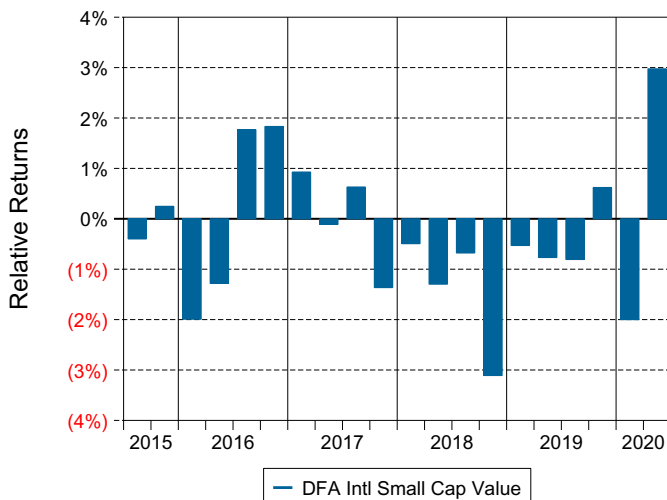
Beginning Market Value	\$97,494,502
Net New Investment	\$21,000,000
Investment Gains/(Losses)	\$19,806,385
Ending Market Value	\$138,300,887

## Performance vs Callan International Small Cap Mut Funds (Net)

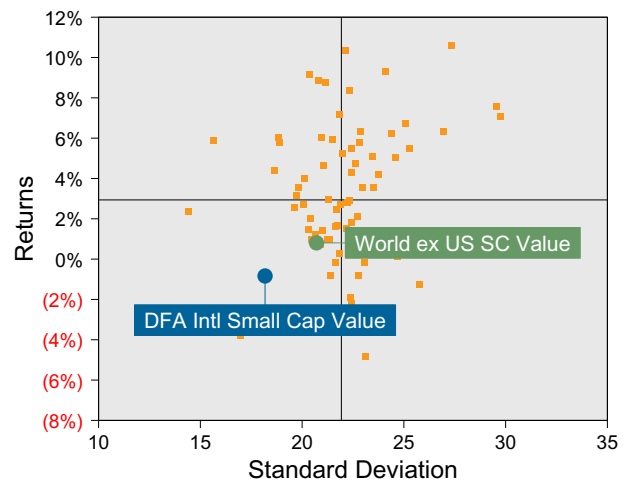


10th Percentile	34.20	12.77	5.94	7.80	8.20	8.14
25th Percentile	26.87	6.30	1.32	5.95	5.87	5.70
Median	22.18	(2.05)	(4.16)	1.23	2.94	3.78
75th Percentile	19.40	(8.27)	(7.78)	(2.46)	0.98	2.06
90th Percentile	16.66	(13.13)	(11.16)	(6.31)	(1.19)	0.13
<b>DFA Intl Small Cap Value</b>	<b>19.38</b>	<b>(11.98)</b>	<b>(11.76)</b>	<b>(6.38)</b>	<b>(0.84)</b>	<b>1.17</b>
World ex US SC Value	16.41	(11.36)	(8.92)	(3.56)	0.81	1.51

## 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 June 30, 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.

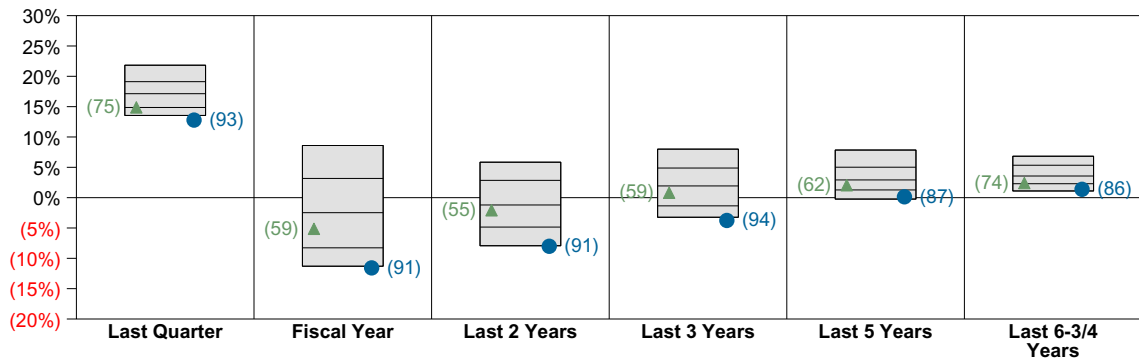
### Quarterly Summary and Highlights

- LSV Intl Value's portfolio posted a 12.78% return for the quarter placing it in the 93 percentile of the Callan Non-US Equity group for the quarter and in the 91 percentile for the last year.
- LSV Intl Value's portfolio underperformed the MSCI EAFE by 2.10% for the quarter and underperformed the MSCI EAFE for the year by 6.45%.

### Quarterly Asset Growth

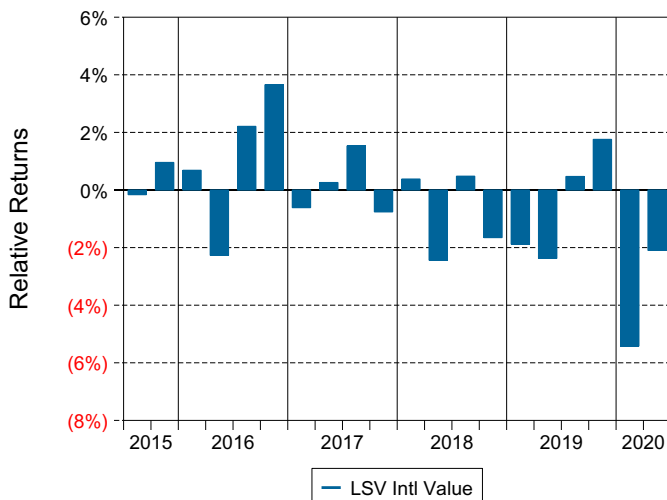
Beginning Market Value	\$378,879,277
Net New Investment	\$-367,679
Investment Gains/(Losses)	\$48,399,742
Ending Market Value	\$426,911,340

### Performance vs Callan Non-US Equity (Gross)

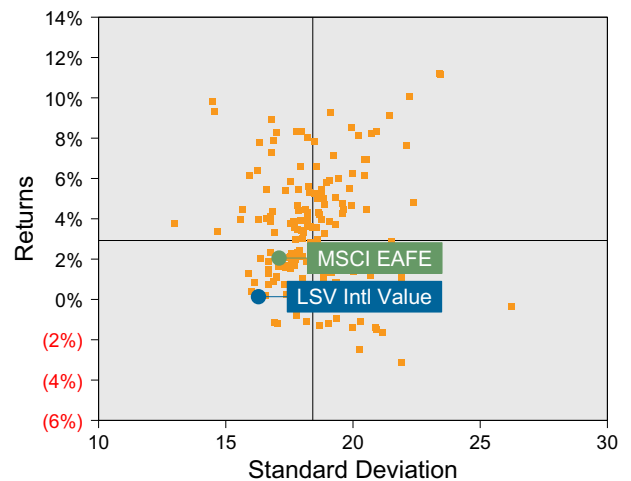


10th Percentile	21.83	8.60	5.84	8.00	7.85	6.83
25th Percentile	19.12	3.17	2.85	4.88	5.02	5.34
Median	17.13	(2.48)	(1.20)	1.93	2.92	3.57
75th Percentile	14.86	(8.27)	(4.85)	(1.35)	1.27	2.30
90th Percentile	13.55	(11.30)	(7.93)	(3.23)	(0.23)	1.10
<b>LSV Intl Value</b> ●	12.78	(11.58)	(8.01)	(3.76)	0.14	1.37
<b>MSCI EAFE</b> ▲	14.88	(5.13)	(2.08)	0.81	2.05	2.41

### Relative Return vs MSCI EAFE



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





# Vanguard Intl Explorer Fund

## Period Ended June 30, 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.

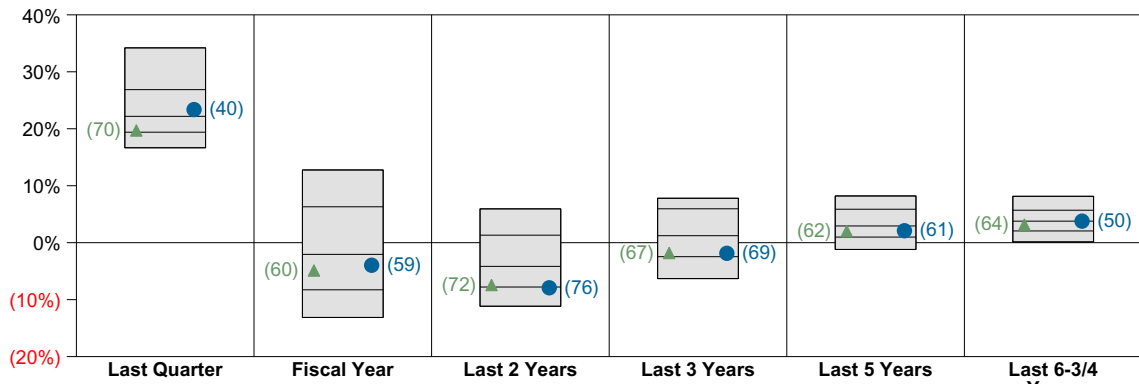
### Quarterly Summary and Highlights

- Vanguard Intl Explorer Fund's portfolio posted a 23.36% return for the quarter placing it in the 40 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 59 percentile for the last year.
- Vanguard Intl Explorer Fund's portfolio outperformed the S&P BMI EPAC <\$2 B by 3.66% for the quarter and outperformed the S&P BMI EPAC <\$2 B for the year by 0.91%.

### Quarterly Asset Growth

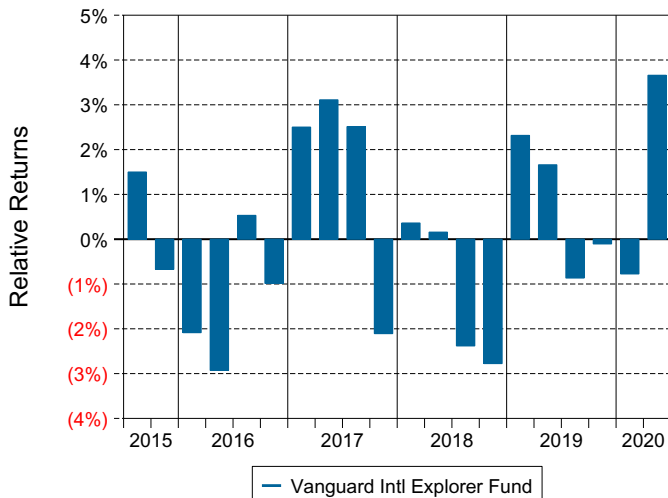
Beginning Market Value	\$102,384,864
Net New Investment	\$12,000,000
Investment Gains/(Losses)	\$24,710,290
Ending Market Value	\$139,095,154

### Performance vs Callan International Small Cap Mut Funds (Net)

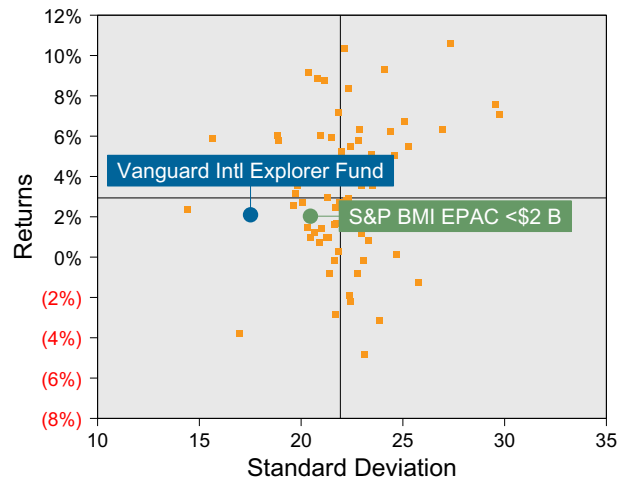


10th Percentile	34.20	12.77	5.94	7.80	8.20	8.14
25th Percentile	26.87	6.30	1.32	5.95	5.87	5.70
Median	22.18	(2.05)	(4.16)	1.23	2.94	3.78
75th Percentile	19.40	(8.27)	(7.78)	(2.46)	0.98	2.06
90th Percentile	16.66	(13.13)	(11.16)	(6.31)	(1.19)	0.13
<b>Vanguard Intl Explorer Fund</b>	<b>● 23.36</b>	<b>(3.97)</b>	<b>(7.92)</b>	<b>(1.87)</b>	<b>2.10</b>	<b>3.78</b>
<b>S&amp;P BMI EPAC &lt;\$2 B</b>	<b>▲ 19.71</b>	<b>(4.88)</b>	<b>(7.43)</b>	<b>(1.81)</b>	<b>2.03</b>	<b>3.18</b>

### 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 June 30, 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.

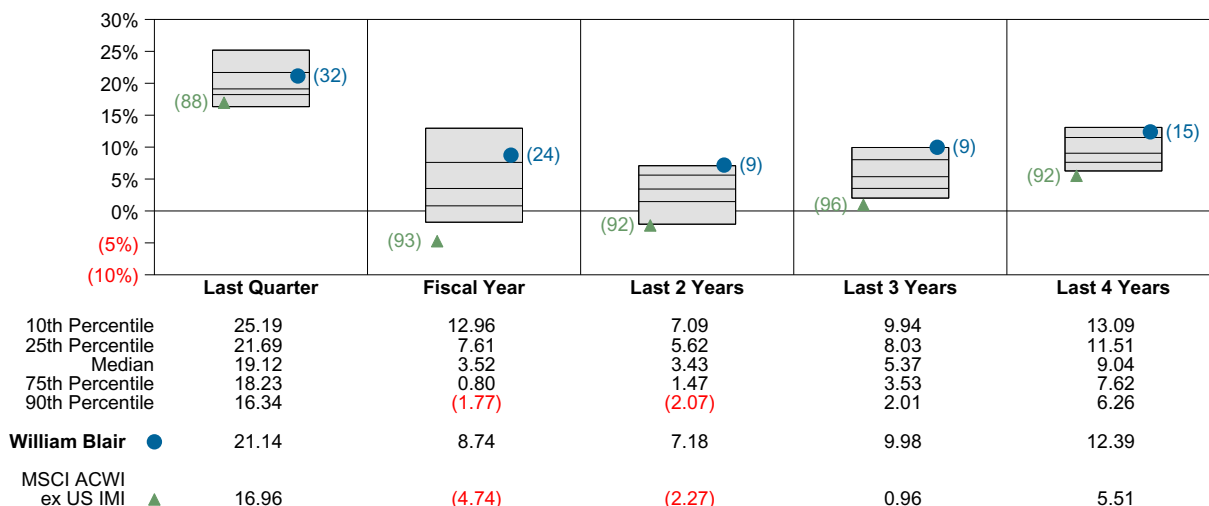
### Quarterly Summary and Highlights

- William Blair's portfolio posted a 21.14% return for the quarter placing it in the 32 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 24 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 4.18% for the quarter and outperformed the MSCI ACWI ex US IMI for the year by 13.47%.

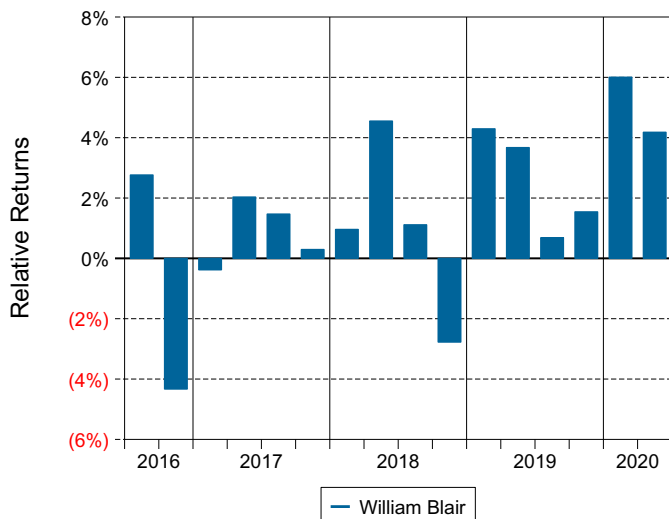
### Quarterly Asset Growth

Beginning Market Value	\$474,759,926
Net New Investment	\$104,510,231
Investment Gains/(Losses)	\$108,256,506
Ending Market Value	\$687,526,663

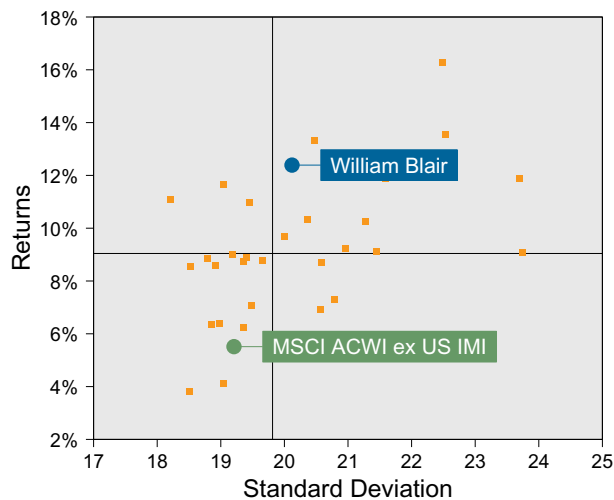
### Performance vs Callan Non-US All Country Growth Equity (Gross)



### Relative Return vs MSCI ACWI ex US IMI



### Callan Non-US All Country Growth Equity (Gross) Annualized Four Year Risk vs Return



# Domestic Fixed Income Period Ended June 30, 2020

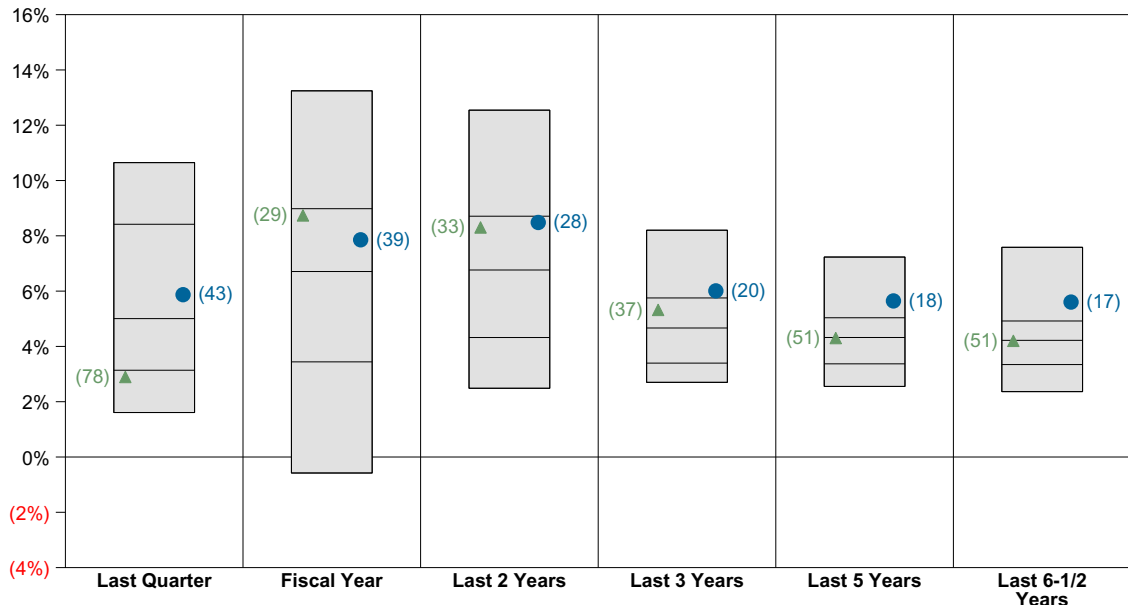
## Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 5.87% return for the quarter placing it in the 43 percentile of the Total Domestic Fixed-Inc Database group for the quarter and in the 39 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Income Target by 2.98% for the quarter and underperformed the Domestic Fixed Income Target for the year by 0.88%.

## Quarterly Asset Growth

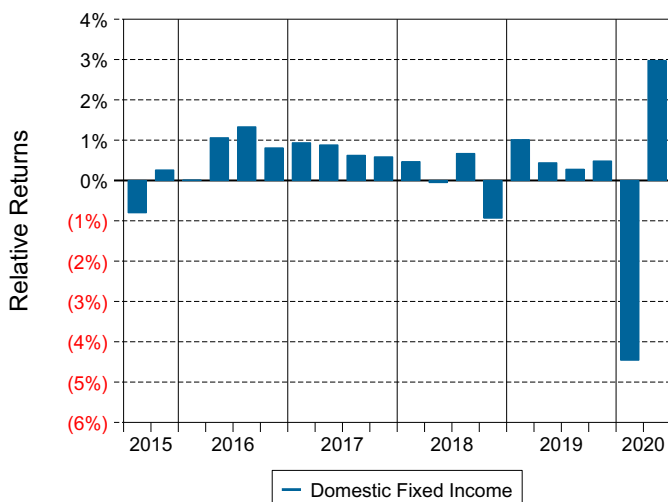
Beginning Market Value	\$2,419,573,857
Net New Investment	\$-123,968,117
Investment Gains/(Losses)	\$139,428,854
Ending Market Value	\$2,435,034,593

## Performance vs Total Domestic Fixed-Inc Database (Gross)

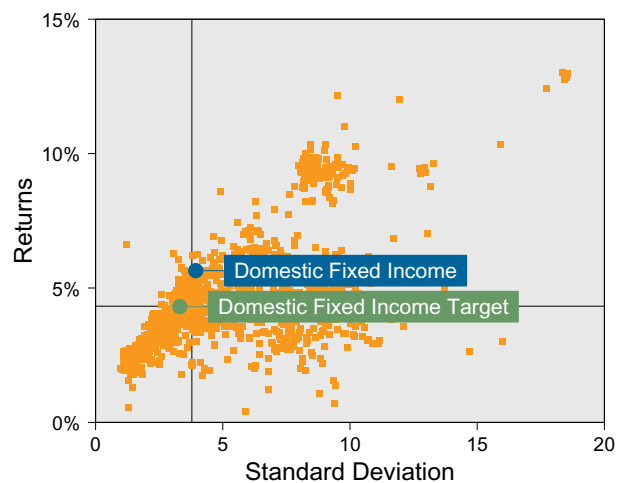


10th Percentile	10.65	13.24	12.54	8.20	7.23	7.58
25th Percentile	8.42	8.98	8.71	5.75	5.04	4.92
Median	5.01	6.71	6.76	4.67	4.32	4.22
75th Percentile	3.14	3.44	4.32	3.40	3.37	3.34
90th Percentile	1.61	(0.58)	2.49	2.70	2.55	2.36
<b>Domestic Fixed Income</b>	<b>5.87</b>	<b>7.86</b>	<b>8.48</b>	<b>6.01</b>	<b>5.65</b>	<b>5.60</b>
Domestic Fixed Income Target	2.90	8.74	8.30	5.32	4.30	4.20

## 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 June 30, 2020

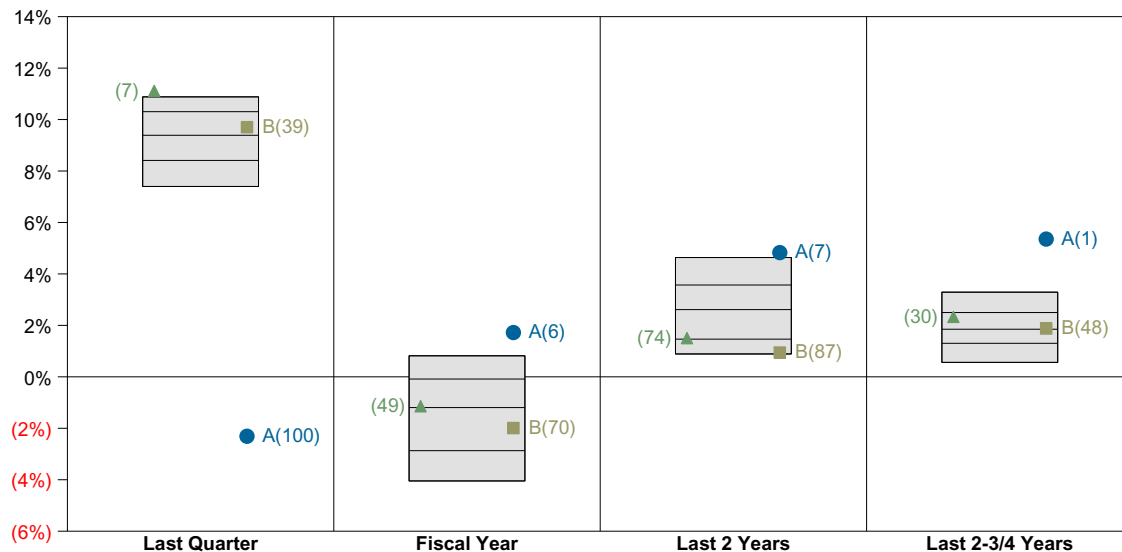
## Quarterly Summary and Highlights

- Ares ND Credit Strategies Fd's portfolio posted a (2.31)% return for the quarter placing it in the 100 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 6 percentile for the last year.
- Ares ND Credit Strategies Fd's portfolio underperformed the S&P/LSTA Leveraged Loan B Index by 13.43% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 2.86%.

## Quarterly Asset Growth

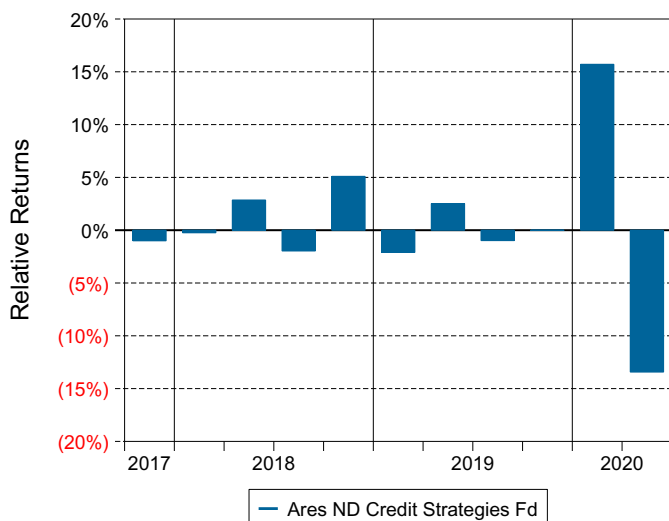
Beginning Market Value	\$79,913,027
Net New Investment	\$0
Investment Gains/(Losses)	-\$1,845,869
Ending Market Value	\$78,067,158

## Performance vs Callan High Yield Mutual Funds (Net)

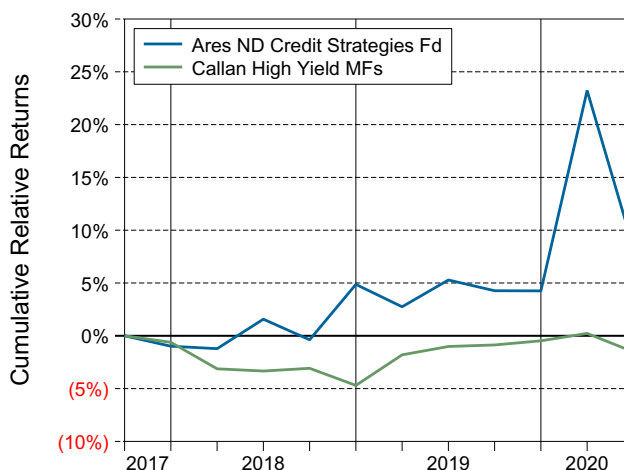


	Last Quarter	Fiscal Year	Last 2 Years	Last 2-3/4 Years
10th Percentile	10.88	0.82	4.64	3.29
25th Percentile	10.31	(0.09)	3.57	2.50
Median	9.39	(1.20)	2.61	1.85
75th Percentile	8.41	(2.87)	1.46	1.30
90th Percentile	7.40	(4.05)	0.89	0.56
Ares ND Credit Strategies Fd S&P/LSTA Leveraged Loan	● A (2.31)	1.72	4.83	5.35
S&P/LSTA Leveraged Loan B Index	▲ 11.12	(1.14)	1.50	2.33

## 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 June 30, 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.

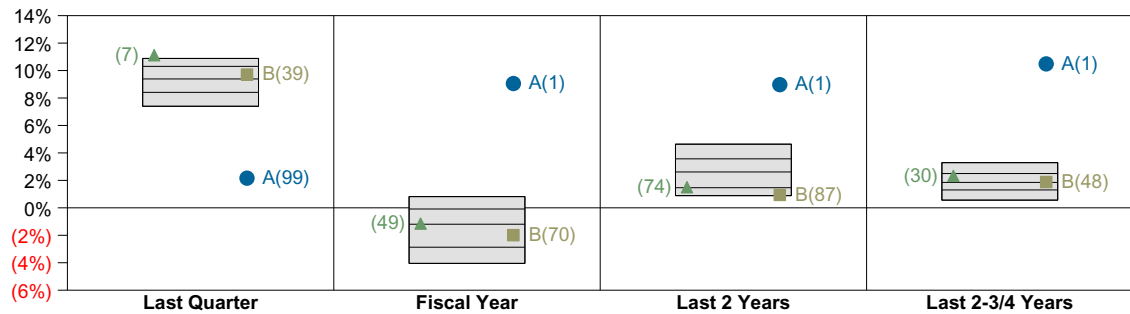
## Quarterly Summary and Highlights

- Cerberus ND Private Credit Fd's portfolio posted a 2.16% return for the quarter placing it in the 99 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 underperformed the S&P/LSTA Leveraged Loan B Index by 8.96% for the quarter and outperformed the S&P/LSTA Leveraged Loan B Index for the year by 10.20%.

## Quarterly Asset Growth

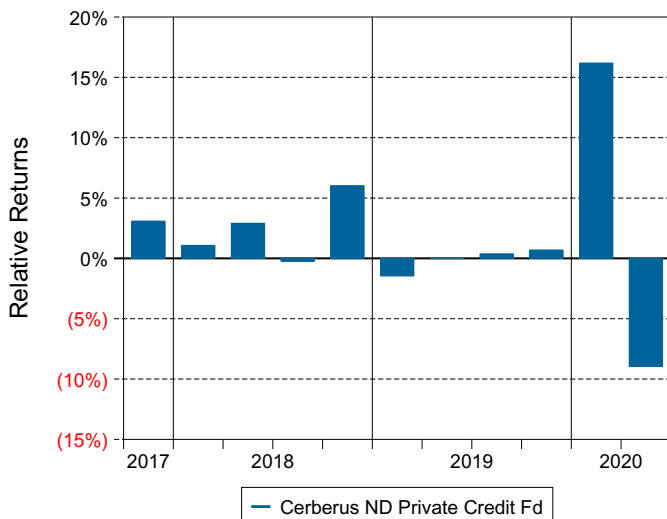
Beginning Market Value	\$94,950,191
Net New Investment	\$0
Investment Gains/(Losses)	\$2,051,121
Ending Market Value	\$97,001,312

## Performance vs Callan High Yield Mutual Funds (Net)

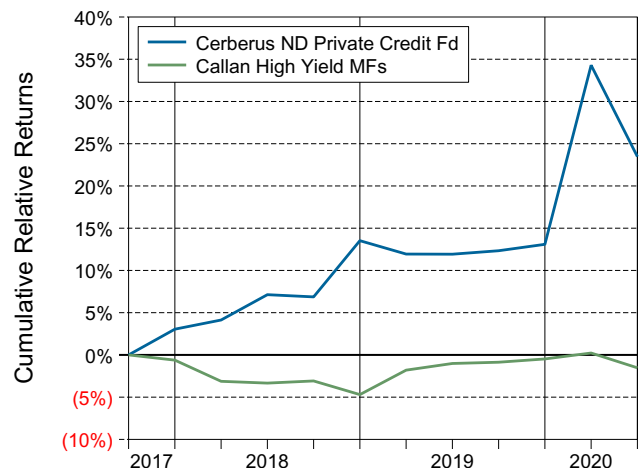


	Last Quarter	Fiscal Year	Last 2 Years	Last 2-3/4 Years
10th Percentile	10.88	0.82	4.64	3.29
25th Percentile	10.31	(0.09)	3.57	2.50
Median	9.39	(1.20)	2.61	1.85
75th Percentile	8.41	(2.87)	1.46	1.30
90th Percentile	7.40	(4.05)	0.89	0.56
Cerberus ND Private Credit Fd S&P/LSTA Leveraged Loan	● A 2.16	● A 9.05	● A 8.97	● A 10.48
S&P/LSTA Leveraged Loan B Index	▲ B 9.70	▲ B (1.99)	▲ B 0.94	▲ B 1.88

## 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 June 30, 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.

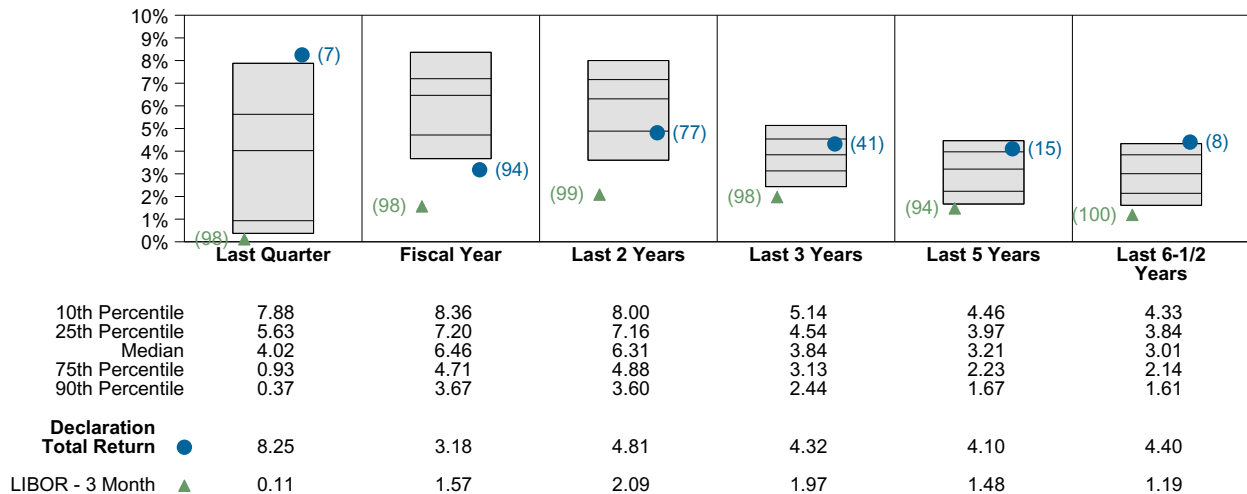
## Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a 8.25% return for the quarter placing it in the 7 percentile of the Callan Intermediate Fixed Inc Mut Funds group for the quarter and in the 94 percentile for the last year.
- Declaration Total Return's portfolio outperformed the LIBOR - 3 Month by 8.14% for the quarter and outperformed the LIBOR - 3 Month for the year by 1.61%.

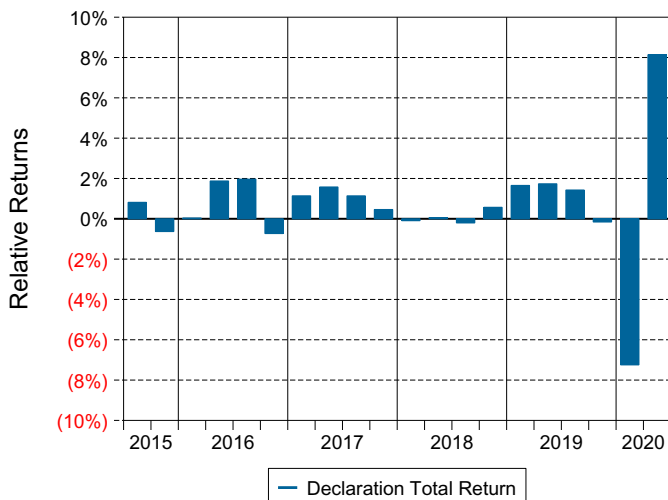
## Quarterly Asset Growth

Beginning Market Value	\$181,097,374
Net New Investment	\$-110,454
Investment Gains/(Losses)	\$14,935,216
Ending Market Value	\$195,922,136

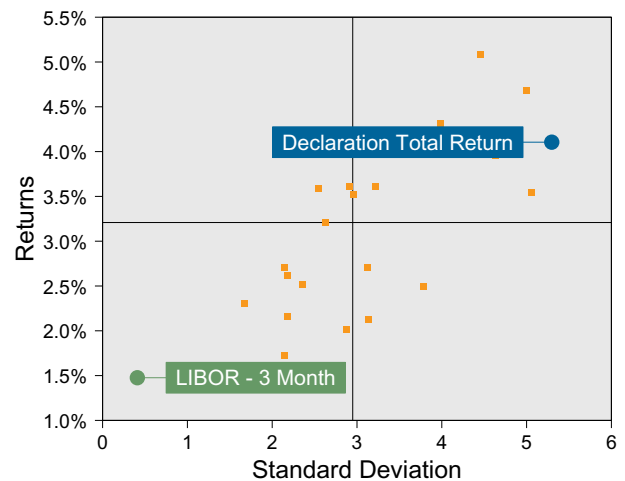
## Performance vs Callan Intermediate Fixed Inc Mut Funds (Net)



## Relative Return vs LIBOR - 3 Month



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



# PIMCO Bravo II

## Period Ended June 30, 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.**

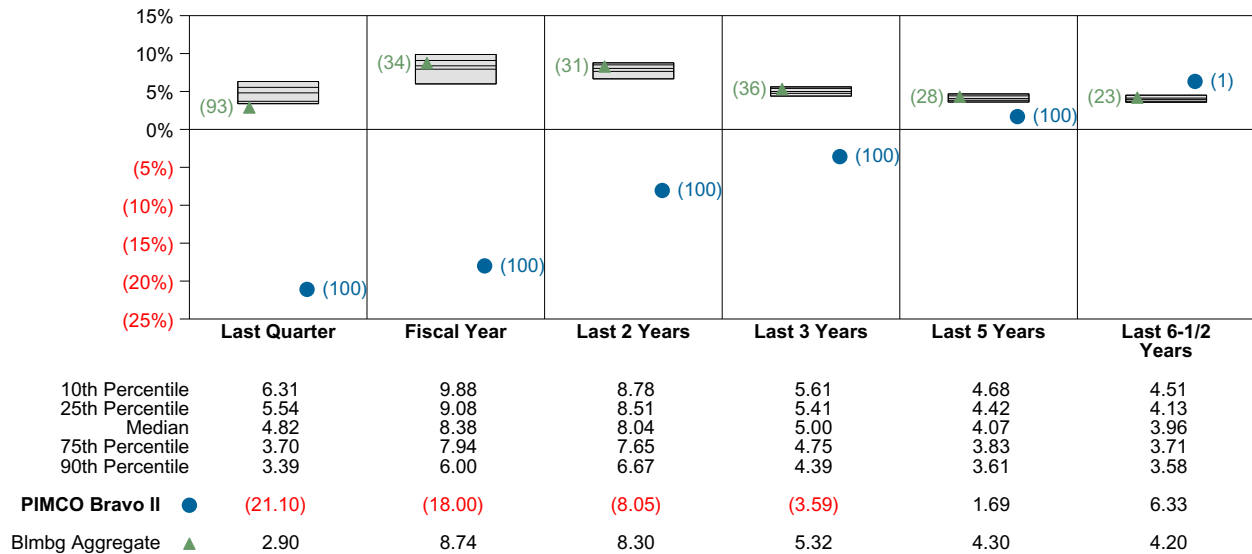
### Quarterly Summary and Highlights

- PIMCO Bravo II's portfolio posted a (21.10)% 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 Bravo II's portfolio underperformed the Blmbg Aggregate by 23.99% for the quarter and underperformed the Blmbg Aggregate for the year by 26.74%.

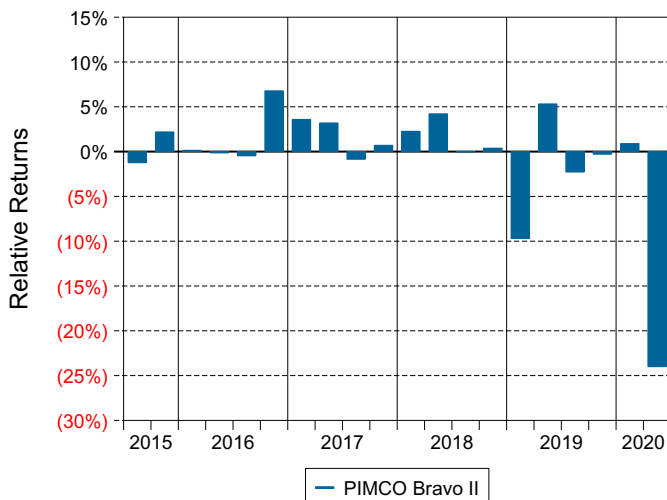
### Quarterly Asset Growth

Beginning Market Value	\$11,105,995
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,343,121
Ending Market Value	\$8,762,874

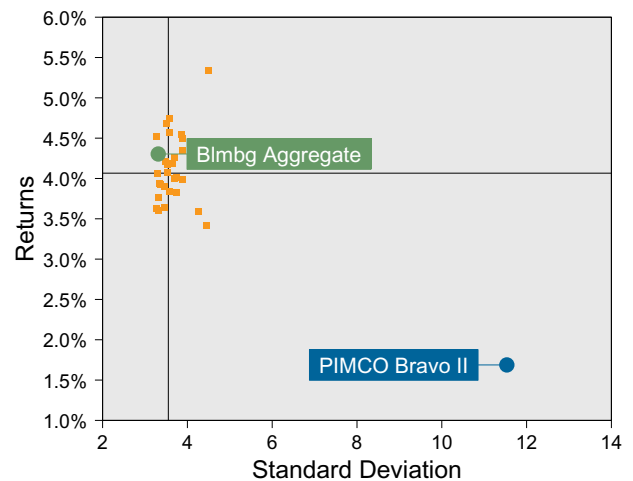
### Performance vs Callan Core Bond Mutual Funds (Net)



### Relative Return vs Blmbg Aggregate



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



# PIMCO DiSCO II

## Period Ended June 30, 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.**

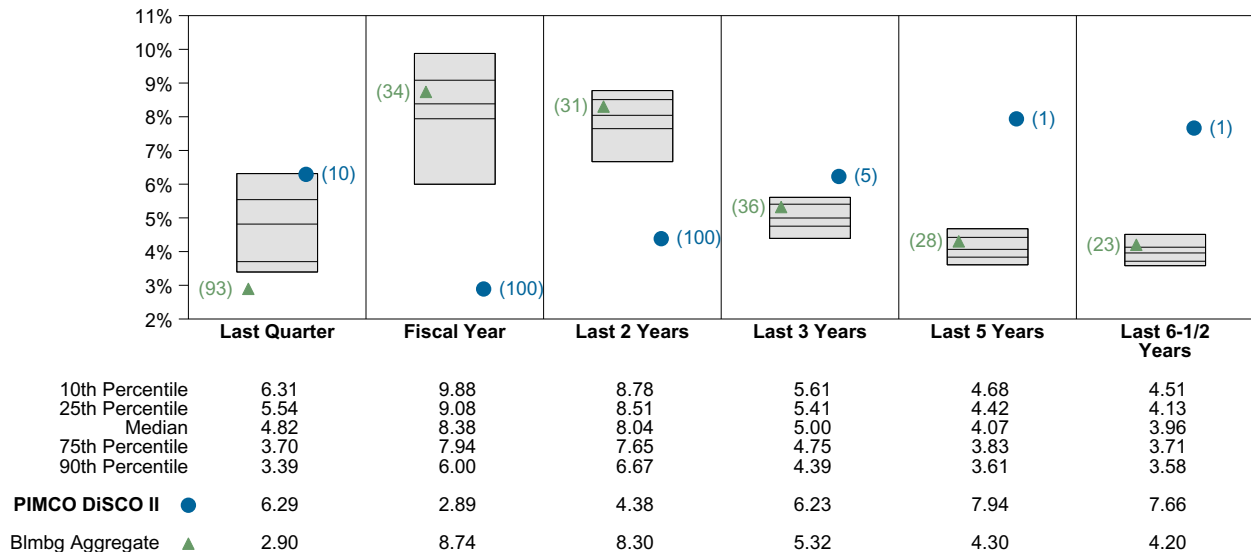
### Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a 6.29% return for the quarter placing it in the 10 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 outperformed the Blmbg Aggregate by 3.40% for the quarter and underperformed the Blmbg Aggregate for the year by 5.85%.

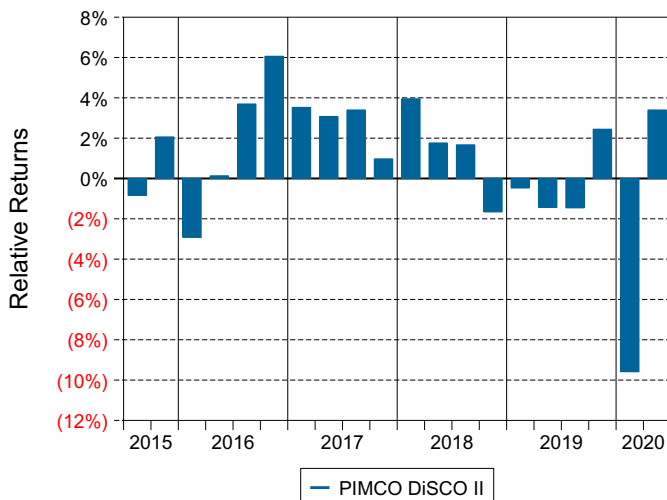
### Quarterly Asset Growth

Beginning Market Value	\$39,990,011
Net New Investment	\$15,000,000
Investment Gains/(Losses)	\$3,105,446
Ending Market Value	\$58,095,457

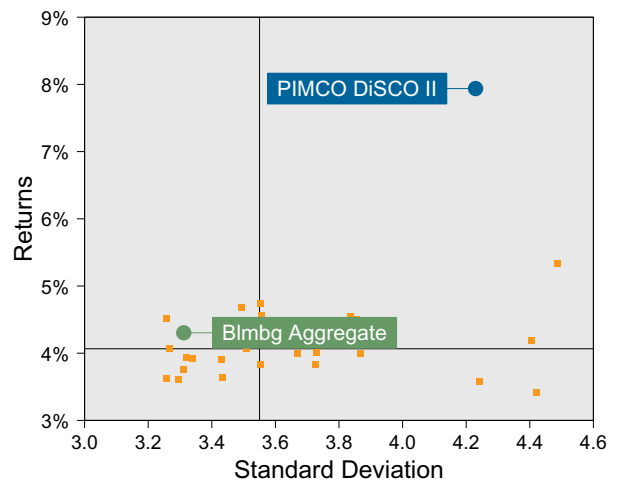
### Performance vs Callan Core Bond Mutual Funds (Net)



### Relative Return vs Blmbg Aggregate



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





# Prudential Period Ended June 30, 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.

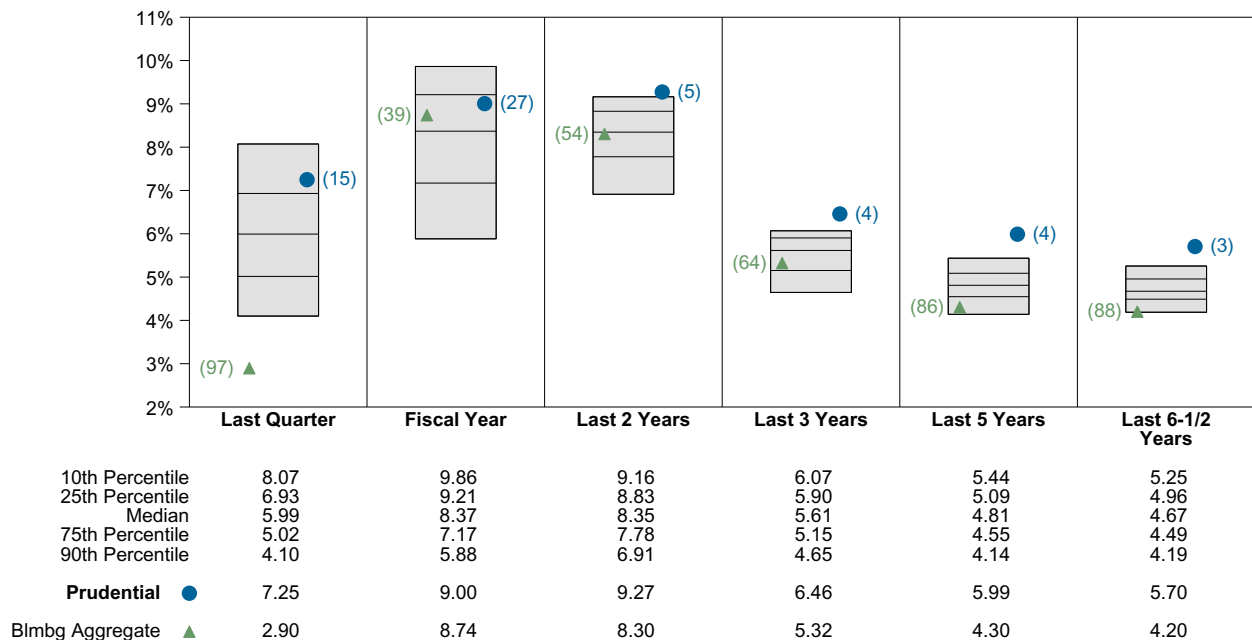
## Quarterly Summary and Highlights

- Prudential's portfolio posted a 7.25% return for the quarter placing it in the 15 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 27 percentile for the last year.
- Prudential's portfolio outperformed the Blmbg Aggregate by 4.35% for the quarter and outperformed the Blmbg Aggregate for the year by 0.27%.

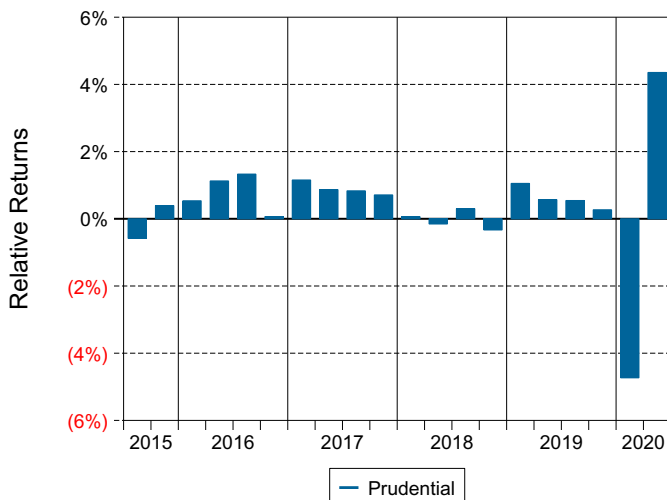
## Quarterly Asset Growth

Beginning Market Value	\$691,332,688
Net New Investment	\$-44,359,787
Investment Gains/(Losses)	\$47,209,919
Ending Market Value	\$694,182,819

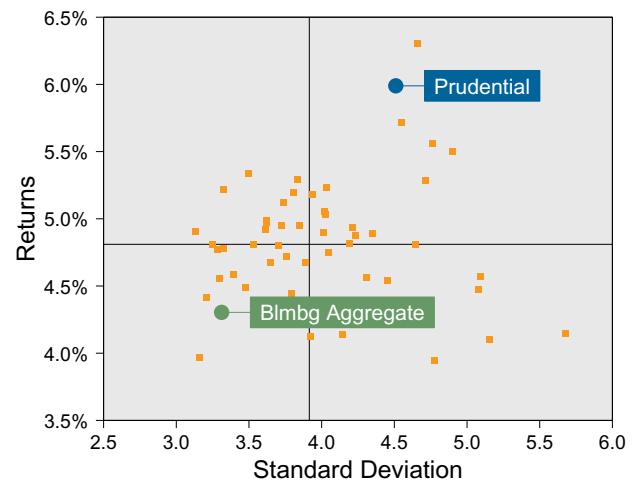
## Performance vs Callan Core Plus Fixed Income (Gross)



## 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 June 30, 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.

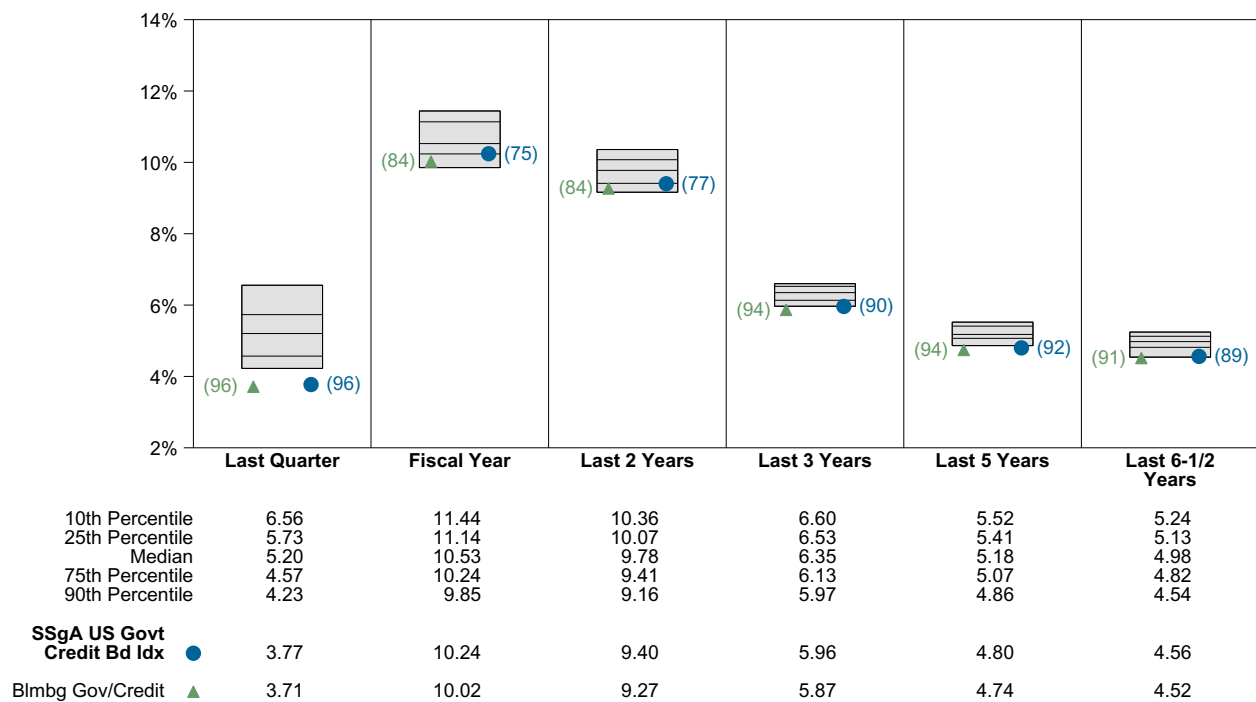
## Quarterly Summary and Highlights

- SSgA US Govt Credit Bd Idx's portfolio posted a 3.77% return for the quarter placing it in the 96 percentile of the Callan Government/Credit group for the quarter and in the 75 percentile for the last year.
- SSgA US Govt Credit Bd Idx's portfolio outperformed the Blmbg Gov/Credit by 0.06% for the quarter and outperformed the Blmbg Gov/Credit for the year by 0.22%.

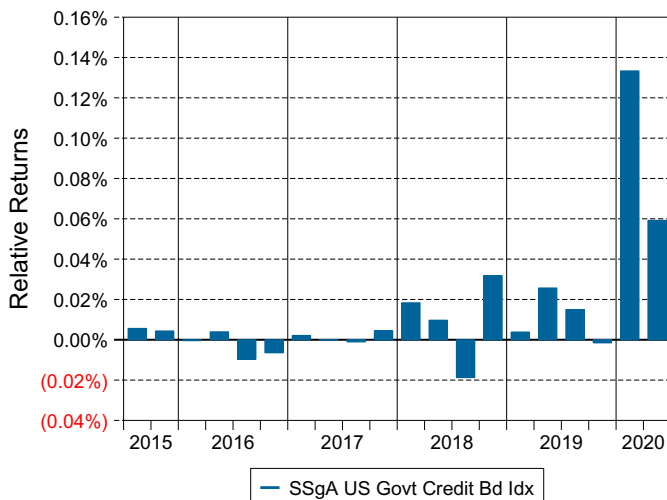
## Quarterly Asset Growth

Beginning Market Value	\$352,408,015
Net New Investment	\$-35,012,985
Investment Gains/(Losses)	\$13,275,173
Ending Market Value	\$330,670,203

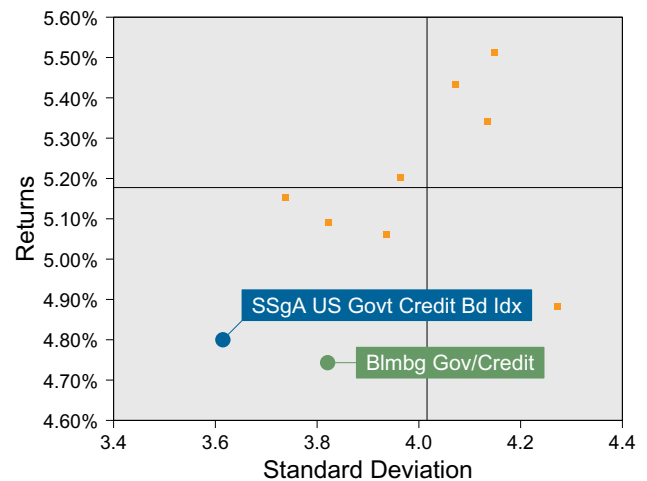
## Performance vs Callan Government/Credit (Gross)



## Relative Return vs Blmbg Gov/Credit



## Callan Government/Credit (Gross) Annualized Five Year Risk vs Return



# Wells Capital Period Ended June 30, 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.

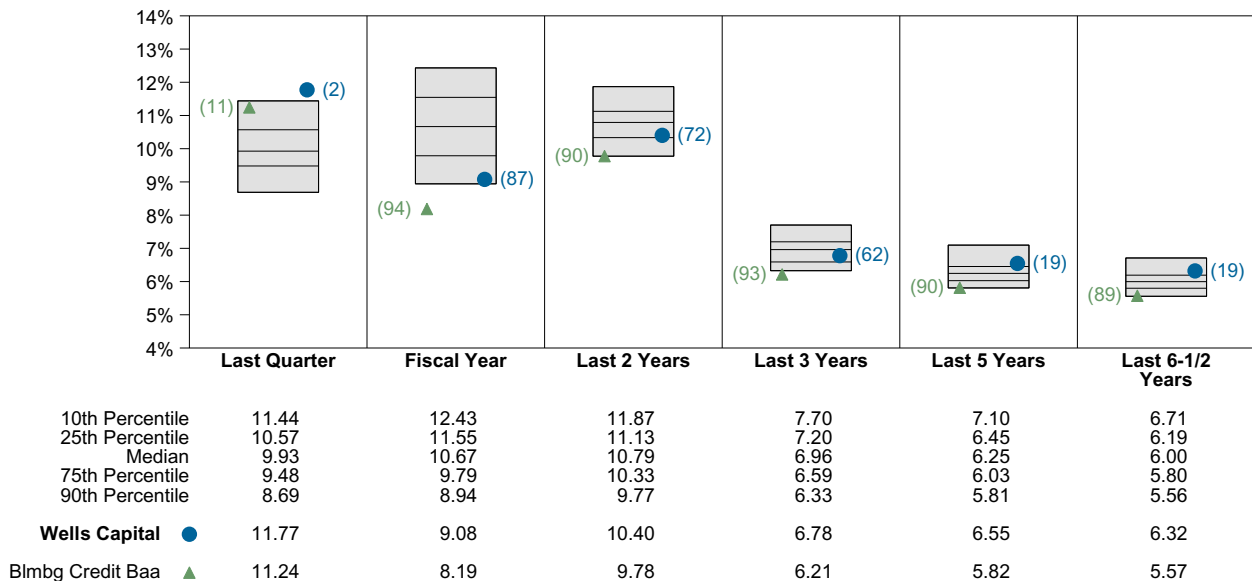
## Quarterly Summary and Highlights

- Wells Capital's portfolio posted a 11.77% return for the quarter placing it in the 2 percentile of the Callan Investment Grade Credit Fixed Inc group for the quarter and in the 87 percentile for the last year.
- Wells Capital's portfolio outperformed the Blmbg Credit Baa by 0.53% for the quarter and outperformed the Blmbg Credit Baa for the year by 0.89%.

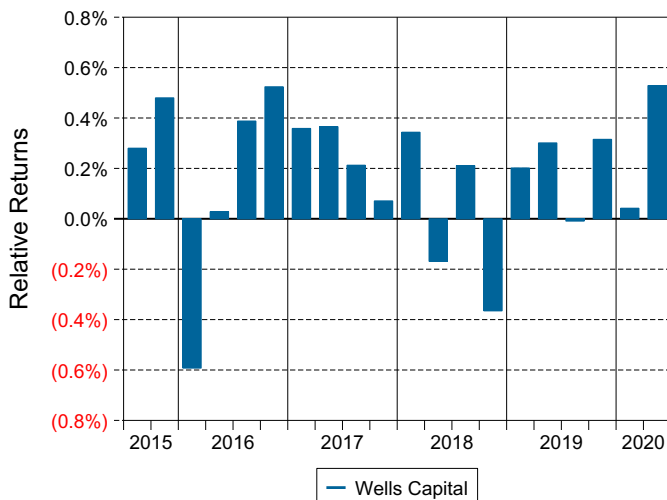
## Quarterly Asset Growth

Beginning Market Value	\$179,686,556
Net New Investment	\$-10,087,205
Investment Gains/(Losses)	\$21,147,061
Ending Market Value	\$190,746,412

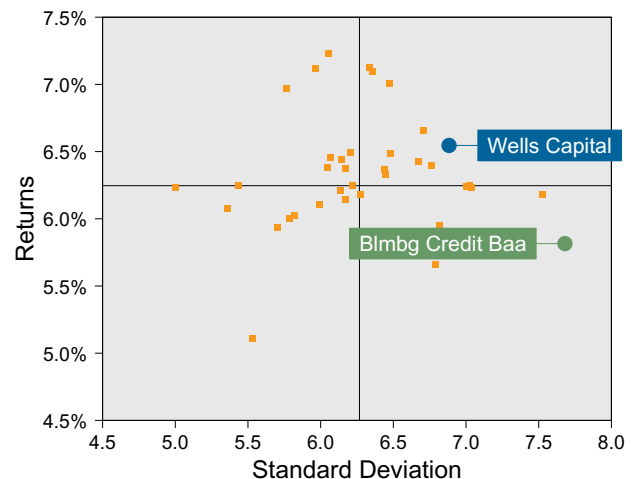
## Performance vs Callan Investment Grade Credit Fixed Inc (Gross)



## 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 June 30, 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.

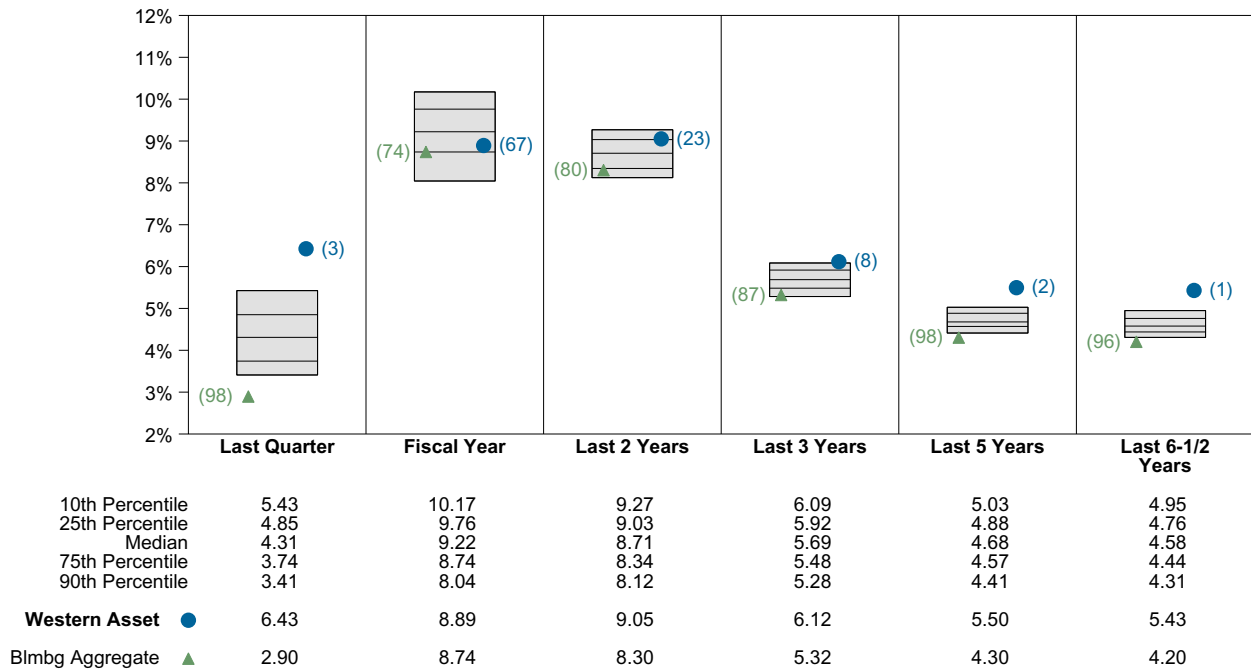
### Quarterly Summary and Highlights

- Western Asset's portfolio posted a 6.43% return for the quarter placing it in the 3 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 67 percentile for the last year.
- Western Asset's portfolio outperformed the Blmbg Aggregate by 3.53% for the quarter and outperformed the Blmbg Aggregate for the year by 0.15%.

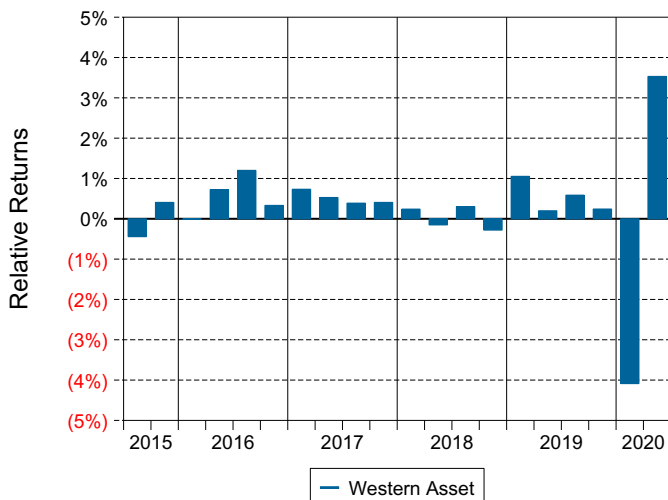
### Quarterly Asset Growth

Beginning Market Value	\$697,714,594
Net New Investment	\$-47,204,155
Investment Gains/(Losses)	\$42,252,460
Ending Market Value	\$692,762,899

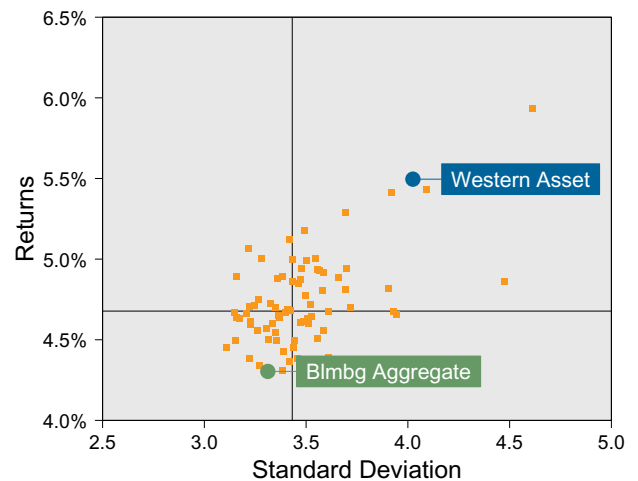
### Performance vs Callan Core Bond Fixed Income (Gross)



### Relative Return vs Blmbg Aggregate



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



# Invesco Core Real Estate Period Ended June 30, 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.

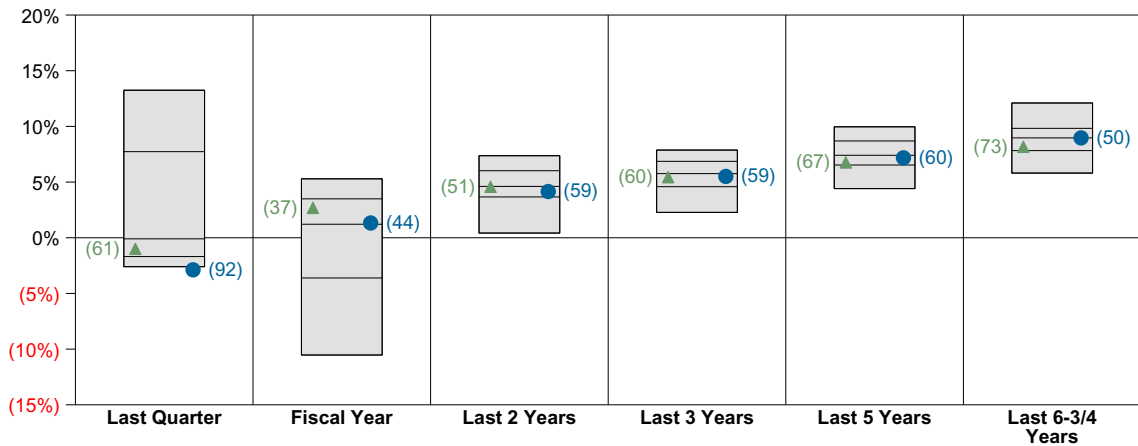
## Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a (2.88)% return for the quarter placing it in the 92 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 44 percentile for the last year.
- Invesco Core Real Estate's portfolio underperformed the NCREIF Total Index by 1.89% for the quarter and underperformed the NCREIF Total Index for the year by 1.36%.

## Quarterly Asset Growth

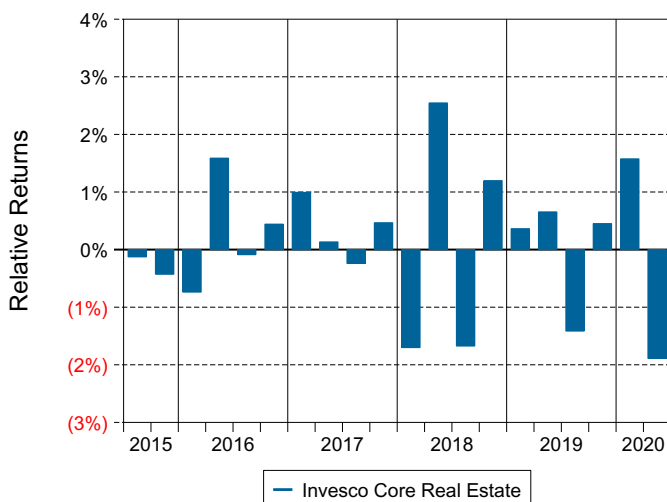
Beginning Market Value	\$152,319,863
Net New Investment	\$-249,418
Investment Gains/(Losses)	\$-4,386,137
Ending Market Value	\$147,684,308

## Performance vs Callan Total Domestic Real Estate DB (Gross)

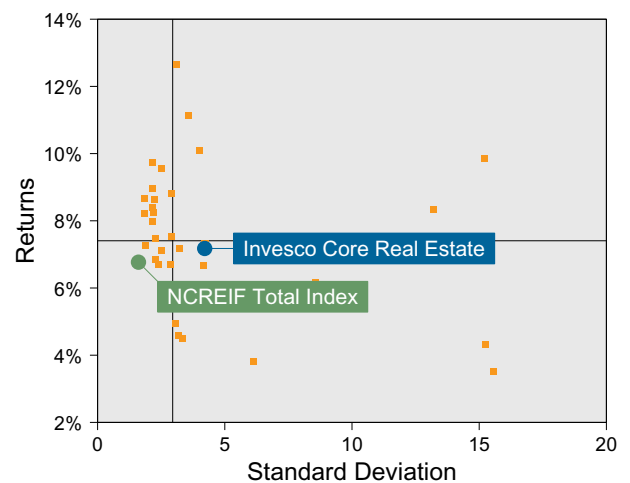


10th Percentile	13.25	5.29	7.37	7.88	9.96	12.10
25th Percentile	7.73	3.49	6.02	6.86	8.69	9.83
Median	(0.10)	1.21	4.61	5.76	7.41	8.97
75th Percentile	(1.69)	(3.61)	3.67	4.59	6.53	7.82
90th Percentile	(2.60)	(10.53)	0.42	2.28	4.41	5.81
<b>Invesco Core Real Estate</b>	● (2.88)	1.32	4.15	5.50	7.18	8.97
<b>NCREIF Total Index</b>	▲ (0.99)	2.69	4.58	5.44	6.77	8.17

## 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 June 30, 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.

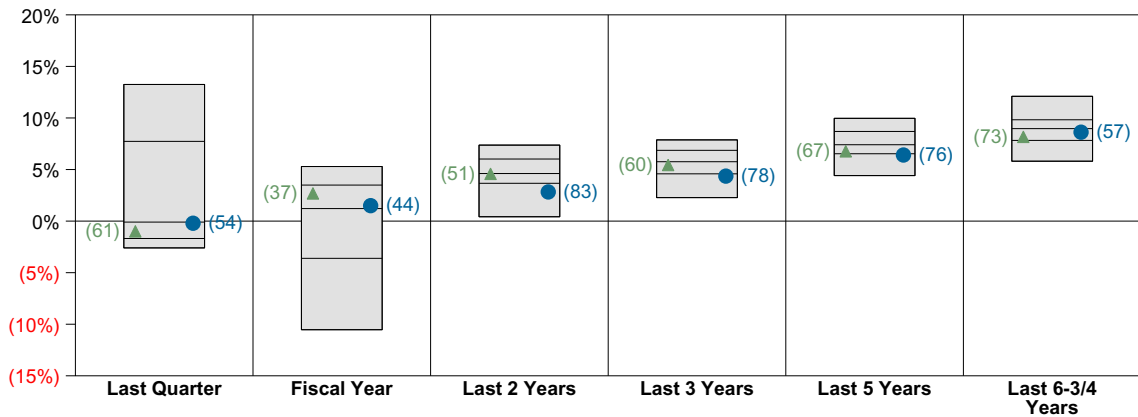
## Quarterly Summary and Highlights

- JP Morgan RE Inc & Growth's portfolio posted a (0.21)% return for the quarter placing it in the 54 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 44 percentile for the last year.
- JP Morgan RE Inc & Growth's portfolio outperformed the NCREIF Total Index by 0.79% for the quarter and underperformed the NCREIF Total Index for the year by 1.19%.

## Quarterly Asset Growth

Beginning Market Value	\$152,947,693
Net New Investment	\$-515,204
Investment Gains/(Losses)	\$-310,596
Ending Market Value	\$152,121,893

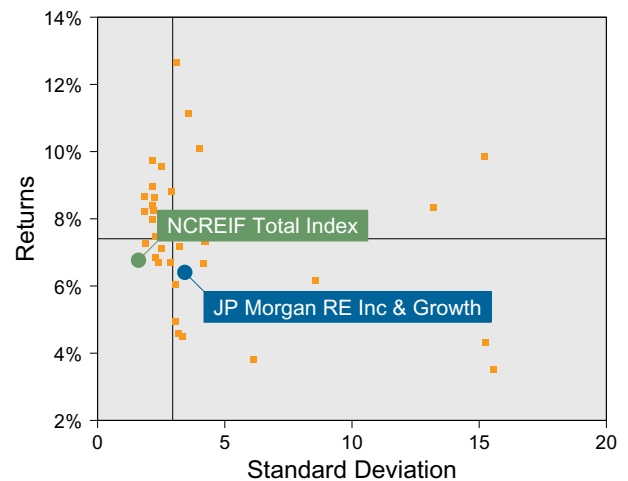
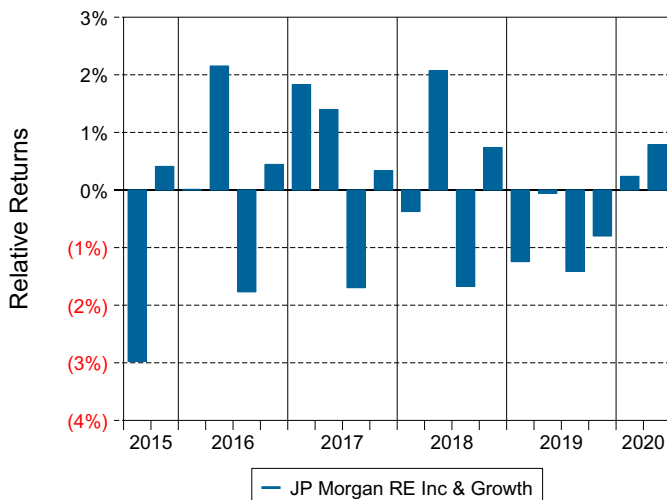
## Performance vs Callan Total Domestic Real Estate DB (Gross)



10th Percentile	13.25	5.29	7.37	7.88	9.96	12.10
25th Percentile	7.73	3.49	6.02	6.86	8.69	9.83
Median	(0.10)	1.21	4.61	5.76	7.41	8.97
75th Percentile	(1.69)	(3.61)	3.67	4.59	6.53	7.82
90th Percentile	(2.60)	(10.53)	0.42	2.28	4.41	5.81
JP Morgan RE Inc & Growth	● (0.21)	1.50	2.83	4.36	6.41	8.62
NCREIF Total Index	▲ (0.99)	2.69	4.58	5.44	6.77	8.17

## Callan Total Domestic Real Estate DB (Gross) Annualized Five Year Risk vs Return

## Relative Return vs NCREIF Total Index



# Western Asset TIPS Period Ended June 30, 2020

## Investment Philosophy

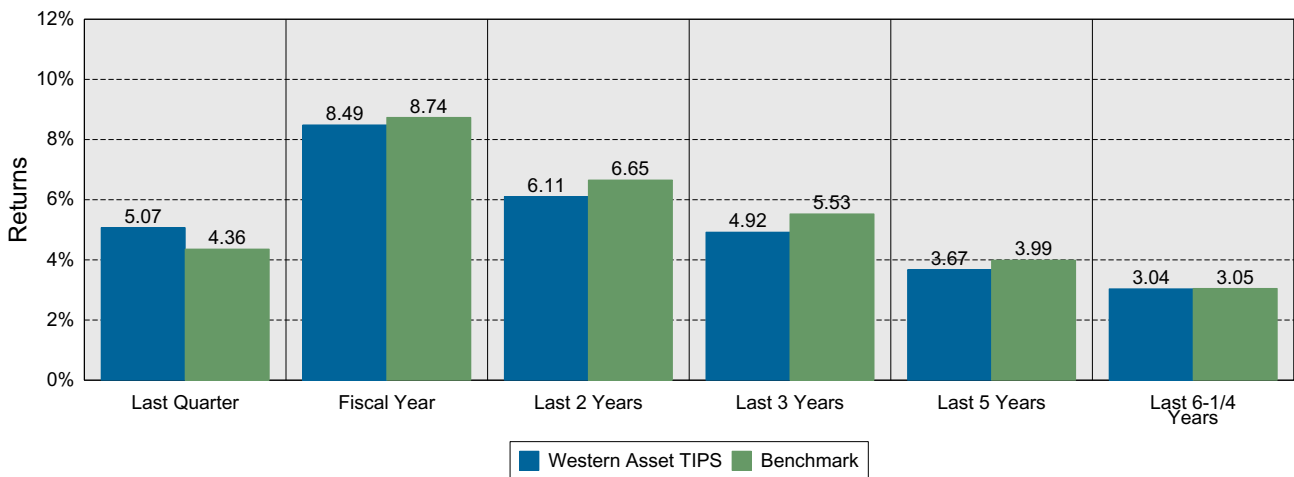
The Western Asset US TIPS Full Discretion strategy is an inflation-protected strategy that aims to maximize total return and add value through duration and curve positioning, sector allocation, and security selection, while approximating benchmark risk. The strategy invests in a diversified portfolio 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 outperformed the Benchmark by 0.71% for the quarter and underperformed the Benchmark for the year by 0.25%.

## Quarterly Asset Growth

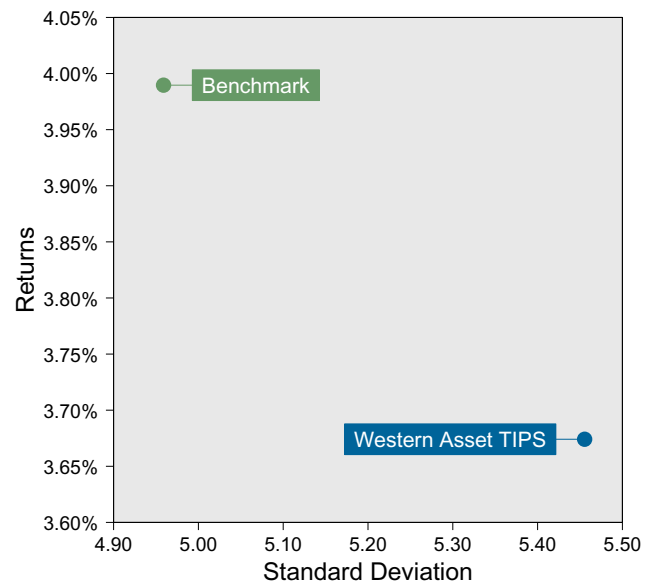
Beginning Market Value	\$447,035,604
Net New Investment	\$-40,125,931
Investment Gains/(Losses)	\$20,637,615
Ending Market Value	\$427,547,289



## Relative Return vs Benchmark



## Annualized Five Year Risk vs Return



# ISQ Global Infrastructure II Period Ended June 30, 2020

## Investment Philosophy

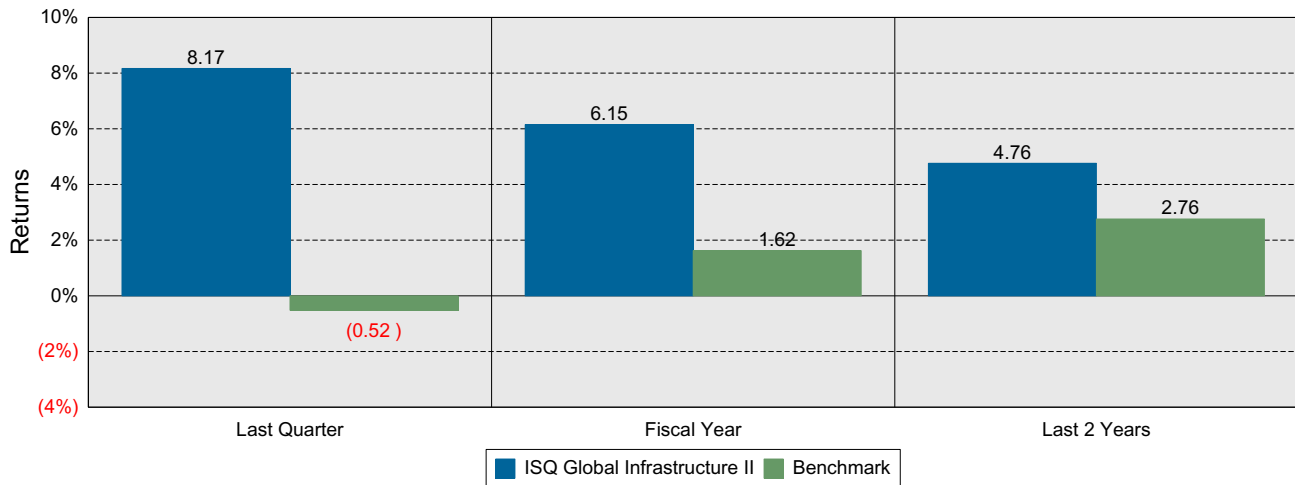
The ISQ Global Infrastructure Fund II seeks to achieve long-term capital appreciation as well as current income through equity and equity related investments in infrastructure and infrastructure related assets located globally, with a focus on North America, Europe, and selected growth economies in Asia 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

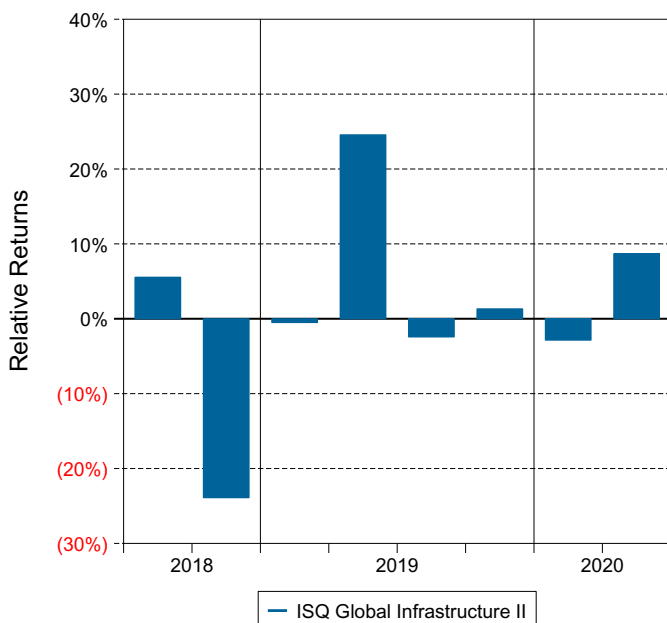
- ISQ Global Infrastructure II's portfolio outperformed the Benchmark by 8.68% for the quarter and outperformed the Benchmark for the year by 4.53%.

## Quarterly Asset Growth

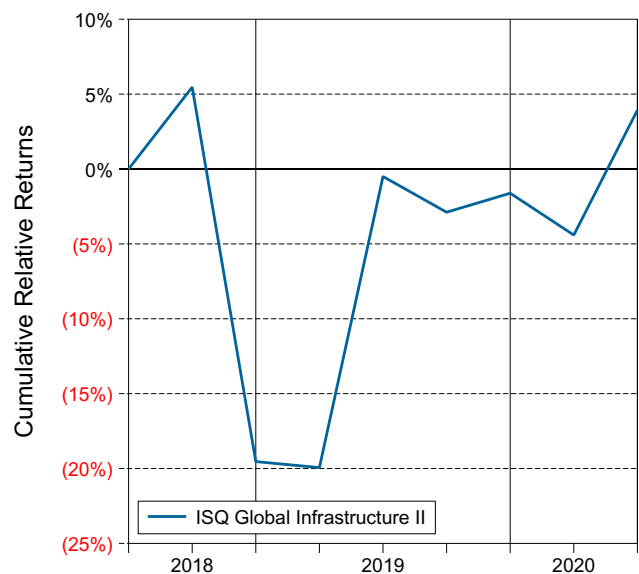
Beginning Market Value	\$46,087,814
Net New Investment	\$0
Investment Gains/(Losses)	\$3,764,025
Ending Market Value	\$49,851,839



Relative Return vs Benchmark



Cumulative Returns vs Benchmark





# JP Morgan Infrastructure Period Ended June 30, 2020

## Investment Philosophy

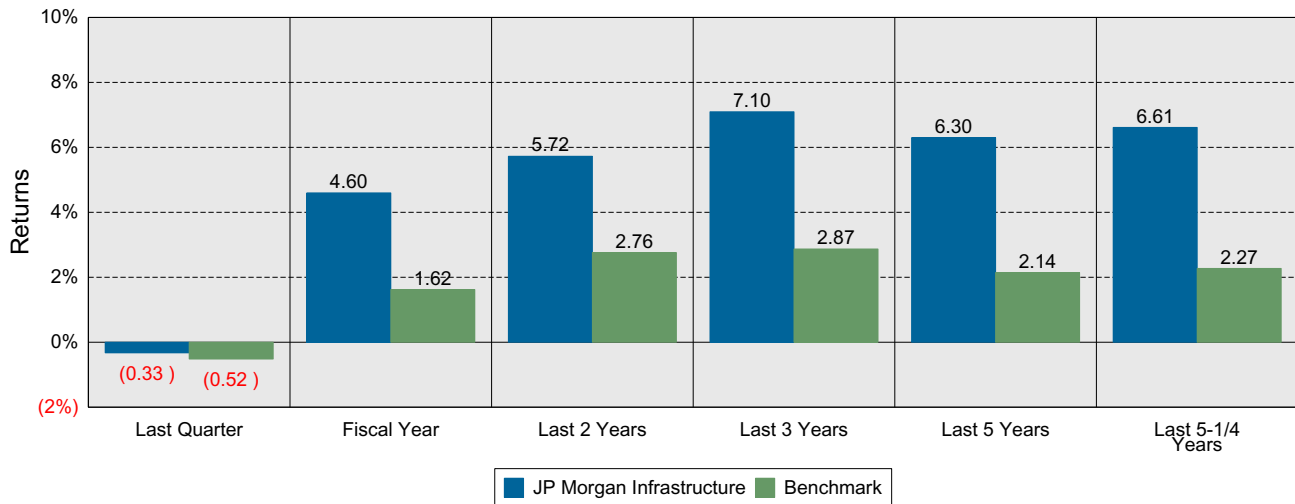
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas 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

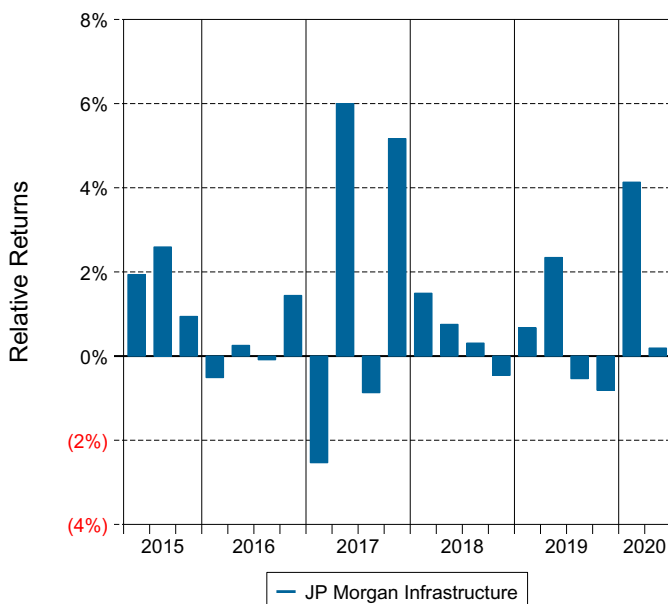
- JP Morgan Infrastructure's portfolio outperformed the Benchmark by 0.19% for the quarter and outperformed the Benchmark for the year by 2.97%.

## Quarterly Asset Growth

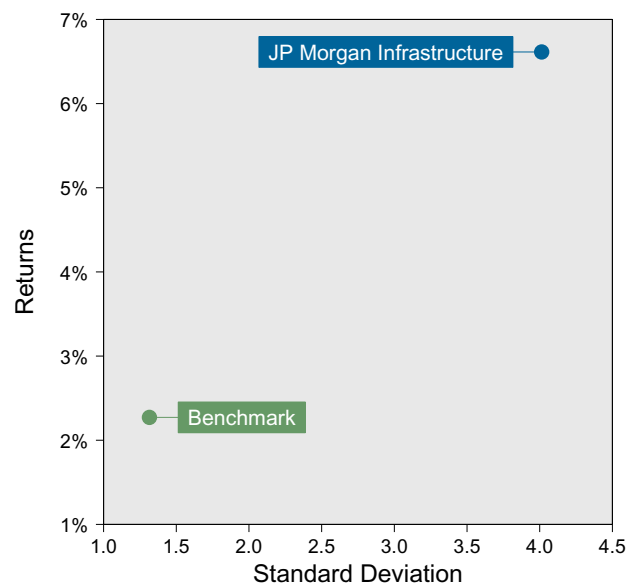
Beginning Market Value	\$113,445,255
Net New Investment	\$-1,725,657
Investment Gains/(Losses)	\$-373,022
Ending Market Value	\$111,346,576



Relative Return vs Benchmark



Annualized Five and One-Quarter Year Risk vs Return



# Grosvenor Cust. Infrastructure Period Ended June 30, 2020

## Investment Philosophy

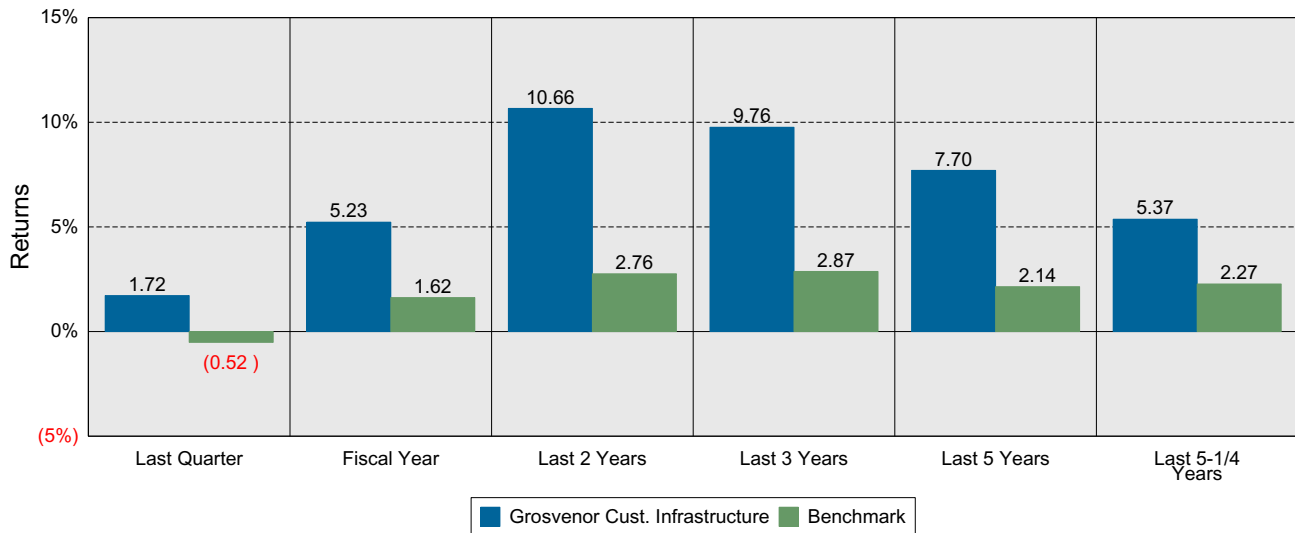
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified 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

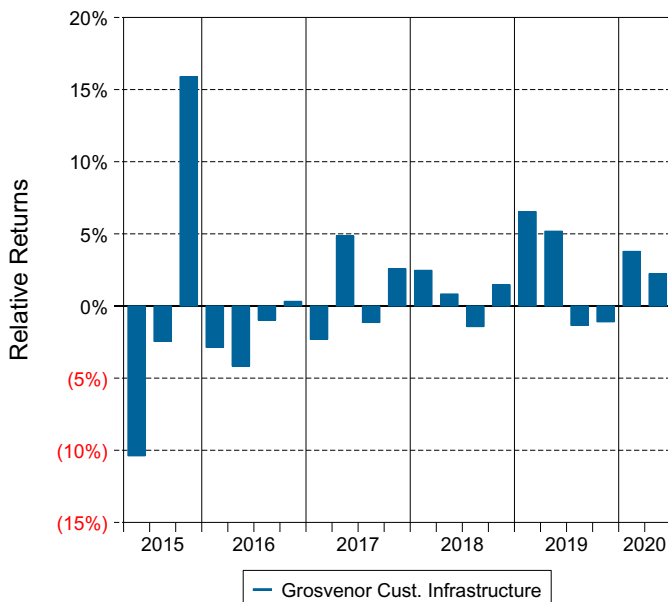
- Grosvenor Cust. Infrastructure's portfolio outperformed the Benchmark by 2.24% for the quarter and outperformed the Benchmark for the year by 3.60%.

## Quarterly Asset Growth

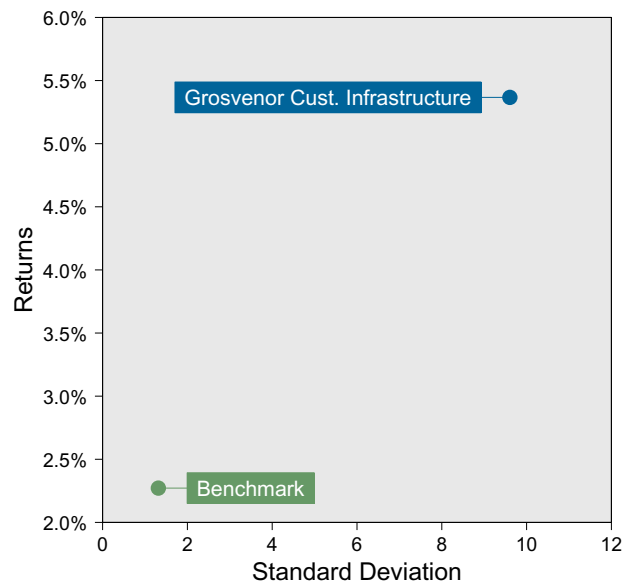
Beginning Market Value	\$46,785,275
Net New Investment	-\$1,739,903
Investment Gains/(Losses)	\$804,222
Ending Market Value	\$45,849,593



Relative Return vs Benchmark



Annualized Five and One-Quarter Year Risk vs Return



# Macquarie Infras. Partners IV Period Ended June 30, 2020

## Investment Philosophy

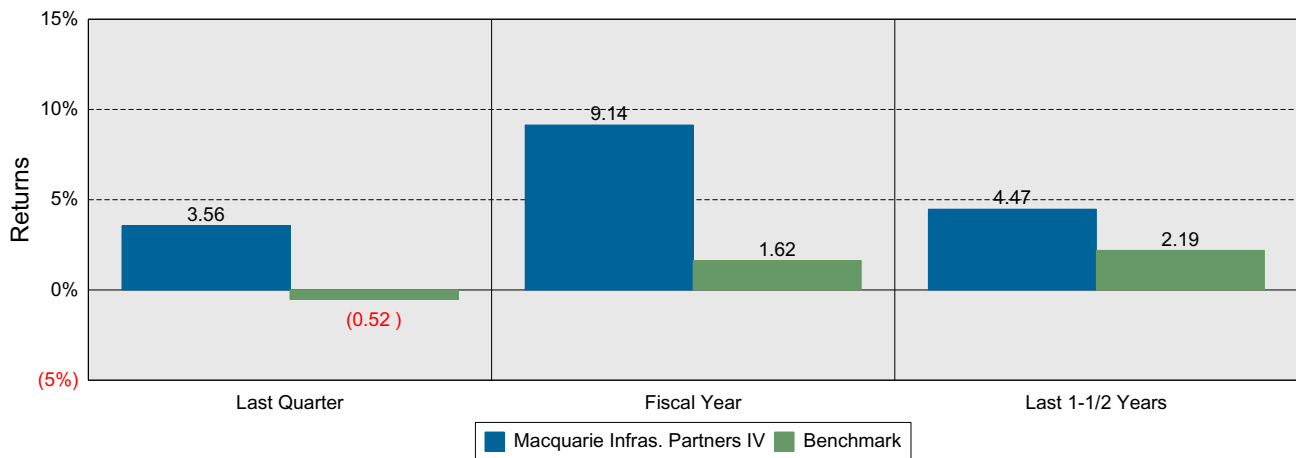
Macquarie's principal investment philosophy is to invest in infrastructure assets that exhibit monopolistic and/or contractual revenue drivers, limited substitution risk and high barriers to entry. The manager has continued to focus on investments where the team's sector expertise and operating experience 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

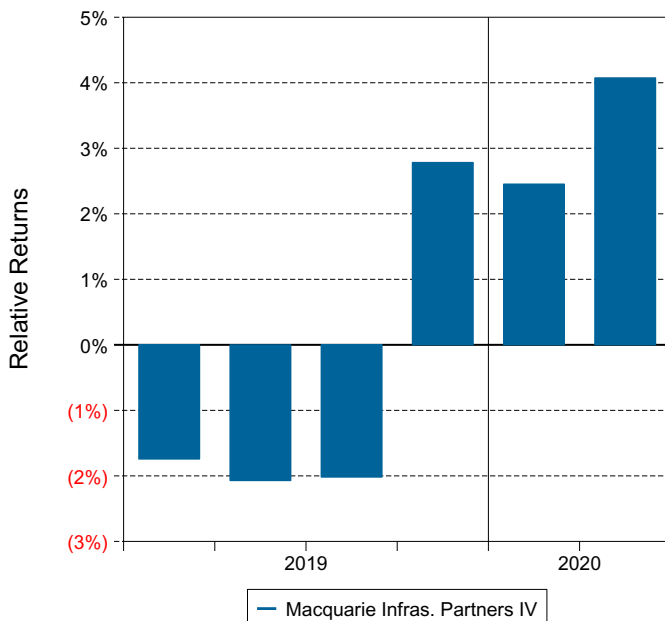
- Macquarie Infras. Partners IV's portfolio outperformed the Benchmark by 4.07% for the quarter and outperformed the Benchmark for the year by 7.51%.

## Quarterly Asset Growth

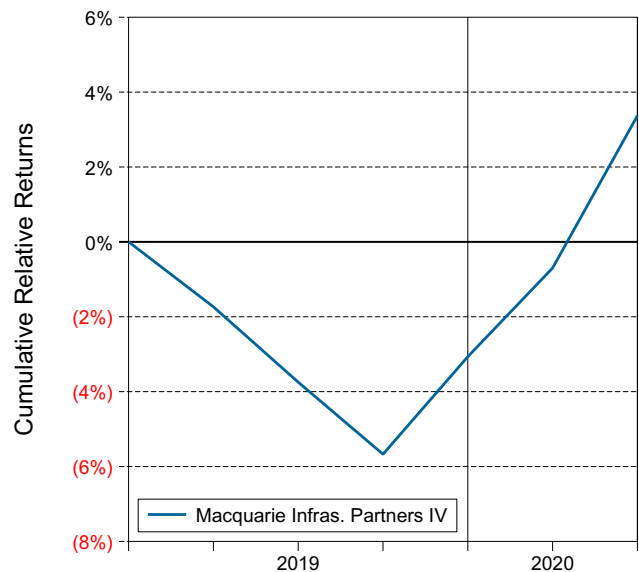
Beginning Market Value	\$69,035,509
Net New Investment	\$-41,010
Investment Gains/(Losses)	\$2,455,530
Ending Market Value	\$71,450,029



## 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](http://www.callan.com/library) to see all of our publications, and [www.callan.com/blog](http://www.callan.com/blog) to view our blog “Perspectives.” For more information contact Barb Gerraty at 415-274-3093 / [institute@callan.com](mailto:institute@callan.com).

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### Quarterly Periodicals

**[Private Equity Trends, 1Q20](#)** | A high-level summary of private equity activity in the quarter through all the investment stages

**[Active vs. Passive Charts, 1Q20](#)** | A comparison of active managers alongside relevant benchmarks over the long term

**[Market Pulse Flipbook, 1Q20](#)** | 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, 1Q20](#)** | 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, 1Q20](#)** | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

**[Real Assets Reporter, 1Q20](#)** | In this quarter’s edition, we discuss the implications of the COVID-19 pandemic on the prospects for farmland investments. In addition, it includes analysis of the performance of real estate and other real assets in 1Q20.

## Events

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

Please mark your calendar and look forward to upcoming invitations:

### Upcoming Webinars

#### August 20

*Credit Dislocation—Opportunities in Private Credit*

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

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

### Introduction to Investments—Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It is held over three days with virtual modules of 2.5-3 hours. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$950 per person and includes instruction and digital materials.

**Next Session: October 13-15, 2020**

Additional information including registration can be found at: [www.callan.com/cc-introduction-virtual/](http://www.callan.com/cc-introduction-virtual/)

### Introduction to Investments—In Person

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/](http://www.callan.com/callan-college-intro-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 ongoing 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.

AEW Capital Management

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.

### Manager Name

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 &amp; Steers Capital Management, Inc.

Columbia Management Investments

Columbus Circle Investors

Credit Suisse Asset Management

D.E. Shaw Investment Management, L.L.C.

DePrince, Race &amp; Zollo, Inc.

Diamond Hill Capital Management, Inc.

Dimensional Fund Advisors LP

Doubleline

Duff &amp; Phelps Investment Management Co.

DWS

EARNEST Partners, LLC

Eaton Vance Management

Epoch Investment Partners, Inc.

Fayez Sarofim &amp; Company

Federated Hermes, Inc.

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Hawaiian Bank Wealth Management Division

First State Investments

Fisher Investments

Fortress Investment Group

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&amp;K Investment Management

Harbor Capital Group Trust

Hartford Investment Management Co.

Heitman LLC

Hotchkis &amp; Wiley Capital Management, LLC

HPS Investment Partners, LLC

Income Research + Management, Inc.

Insight Investment Management Limited

Intech Investment Management, LLC

**Manager Name**

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 &amp; General Investment Management America

Lincoln National Corporation

Longview Partners

Loomis, Sayles &amp; Company, L.P.

Lord Abbett &amp; 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 &amp; Caldwell, LLC

Morgan Stanley Investment Management

Mountain Pacific Advisors, LLC

MUFU 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

**Manager Name**

Parametric Portfolio Associates LLC

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 &amp; Co. Asset Management US

S&amp;P Dow Jones Indices

Schroder Investment Management North America Inc.

SLC Management

Smith Graham &amp; Co. Investment Advisors, L.P.

State Street Global Advisors

Stone Harbor Investment Partners L.P.

**Manager Name**

Strategic Global Advisors

T. Rowe Price Associates, Inc.

The TCW Group, Inc.

Thompson, Siegel &amp; 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 &amp; Company LLC



**Informational**

**TO:** State Investment Board  
**FROM:** Dave Hunter, Darren Schulz, Eric Chin and Matt Posch  
**DATE:** September 25, 2020  
**SUBJECT:** Public Equity Portfolio Optimization Update

**Background:**

At the May 24, 2019 board meeting, Staff recommended and the Board approved engaging Callan to assist Staff with analyzing the public equity allocations across the three pools. Since that meeting, Staff and Callan have been diligently working together to identify and implement refinements to these allocations. Recent efforts have culminated in the Board's approval of two new small cap equity managers. With work on the U.S. small cap strategies all but finished (Staff is working on contracts and on-boarding), Staff has turned its attention towards optimizing other components of the SIB's equity allocations.

**Update:**

Staff has identified the following actions that would benefit the SIB's equity allocations:

- 1. Harmonize the equity allocations across the three pools:** As noted in the August 23<sup>rd</sup>, 2019 board memo titled *Public Equity Portfolio Optimization Update* there are significant differences in the investment guidelines between the Pension Pool, Legacy Fund and the Insurance Pool.

<b>Pension Pool</b>	
<b>Policy Guidelines:</b>	<b>Policy Target</b>
Global Equity	57.8%
<i>Public Equity</i>	51.3%
<i>Private Equity</i>	6.5%

<b>Insurance Pool</b>	
<b>Policy Guidelines:</b>	<b>Policy Target</b>
Global Equity	16.9%
<i>Large Cap Equity</i>	8.5%
<i>Small Cap Equity</i>	2.4%
<i>International Equity</i>	6.0%

<b>Legacy Fund</b>	
<b>Policy Guidelines:</b>	<b>Policy Target</b>
Global Equity	<b>50.0%</b>
Broad U.S. Equity	30.0%
Broad International Equity	20.0%

As you can see above, the Legacy Fund and the Insurance Pool have more rigid guidelines when compared to the Pension Pool. This has led to a different composition of managers in these two pools when compared to the Pension Pool. In turn, this has resulted in a greater total number of managers across the three pools, smaller mandate sizes and the potential for sub-optimal allocations in the Legacy Fund and the Insurance Pool. Staff will work with the different client boards to adjust the guidelines and harmonize the equity allocations.

- 2. Identify 1-2 new managers for the Pension Pool's World Equity Allocation** (managers that are benchmarked to the MSCI World): The two managers in the Pension Pool's World Equity Allocation, Epoch Global Choice and LSV Global Value have both underperformed the policy benchmark. Over the five-year period ending June 30, 2020 Epoch has underperformed the MSCI World Index by -1.83% with LSV underperforming by -4.95%. LSV is currently on the watch list and Staff will recommend placing Epoch on the watch list later in this meeting (agenda item V.E.). Staff has been conducting preliminary research on world equity strategies and has been working with Callan to develop candidate profiles in order to begin a formal search process for world equity managers. Staff looks to bring finalist managers to present to the board in the next few months.
- 3. Review and optimize internal manager allocation targets:** As a result of recent market volatility, the significant dispersion of performance between equity strategies (i.e. value vs growth) and budding concerns over manager concentration, Staff is reviewing internal manager allocation targets. Staff has conducted a variety of quantitative analyses evaluating aggregate portfolio characteristics such as factor exposures, geographic exposures, and risk. As a result of these analyses, Staff has identified a few areas where rebalancing allocations would help to improve the overall risk/reward profile of the SIB's equity allocations. Staff looks to share the new allocation targets with the Board in the next several months.

## 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](http://www.callan.com/library) to see all of our publications, and [www.callan.com/blog](http://www.callan.com/blog) to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / [institute@callan.com](mailto:institute@callan.com).

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### Quarterly Periodicals

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**[Private Equity Trends, 1Q20](#)** | A high-level summary of private equity activity in the quarter through all the investment stages

**[Active vs. Passive Charts, 1Q20](#)** | A comparison of active managers alongside relevant benchmarks over the long term

**[Market Pulse Flipbook, 1Q20](#)** | 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, 1Q20](#)** | 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, 1Q20](#)** | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

**[Real Assets Reporter, 1Q20](#)** | In this quarter's edition, we discuss the implications of the COVID-19 pandemic on the prospects for farmland investments. In addition, it includes analysis of the performance of real estate and other real assets in 1Q20.

## Events

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

Please mark your calendar and look forward to upcoming invitations:

### Upcoming Webinars

#### August 20

*Credit Dislocation—Opportunities in Private Credit*

For more information about events, please contact Barb Gerraty: 415-274-3093 / [gerraty@callan.com](mailto:gerraty@callan.com)

## Education: By the Numbers

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**50+**

Unique pieces of research the Institute generates each year

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**525**

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

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**3,700**

Total attendees of the "Callan College" since 1994

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## Education

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Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

### Introduction to Investments—Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It is held over three days with virtual modules of 2.5-3 hours. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$950 per person and includes instruction and digital materials.

**Next Session: October 13-15, 2020**

Additional information including registration can be found at: [www.callan.com/cc-introduction-virtual/](http://www.callan.com/cc-introduction-virtual/)

### Introduction to Investments—In Person

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/](http://www.callan.com/callan-college-intro-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

Informational

**TO:** State Investment Board  
**FROM:** Dave Hunter and Darren Schulz  
**DATE:** September 23, 2020  
**SUBJECT:** Overview of In-State Investment Programs – [Cover Memo](#)

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The SIB requested RIO to research in-state investment programs implemented by other similar state investment funds such as the Alaska Permanent Fund. RIO also engaged with ND Land Commissioner Jodi Smith and ND Department of Trust Lands (DTL) Investment Director Michael Shackelford in addition many other investment directors at our fellow state plans including those in Colorado, Idaho, New Mexico, Oregon, Texas, Utah and Wyoming and our investment consultants Callan, Mercer and RVK.

**Summary Commentary and Observations:**

**Florida State Board of Administration** (with over \$100 billion in assets) created the Florida Growth Fund as a result of the Florida Technology and Growth Act of 2008. This act **allows the SBA to invest 1.5% of one funds assets in technology and growth enterprises that have significant presence in Florida.** Technology and growth investments include, but are not limited to, space technology, aerospace and aviation engineering, computer technology, renewable energy, and medical and life sciences. This program is administered by JPMorgan Private Equity and Hamilton Lane Advisors, LLC on behalf of the Florida Growth Fund.

**Texas Permanent School Fund** (with over \$46 billion in assets) **does not have a dedicated in-state investment program at this time.**

**Texas Treasury Safekeeping Trust Company (the “Trust Company”)** was created by the Texas Legislature as a special purpose entity to efficiently and economically manage, invest and safeguard funds for its clients: the state and various subdivision. The Trust Company is first and foremost a fiduciary organization. As such, it is held to the highest standards of care imposed in either law or equity and obligated to subordinate its own interests to those of its beneficiaries. The Trust Company **invests, manages and oversees over \$70 billion in assets** including cash-equivalent funds, separately managed portfolios for various Texas state agency clients and 11 separate endowment funds with assets totaling over \$4 billion. **RIO understands there is an Emerging Technology Fund with dedicated funding provided by the Texas Legislature**, but believe it may be in wind-down at this time.

**The Utah State & Institutional Trust Funds Office (SITFO)** “is an independent team of investors working to create a brighter future and more equitable present for Utah’s education programs with \$[2] billion **does not have an in-state investment program.**

**Wyoming State Treasury** (with roughly \$20 billion of investments) **does not have an in-state investment program, but does have a loan program.**

**The Alaska Permanent Fund Corporation (APFC)** pairs an existing APFC approved manager with a local investment manager to run their “In-State Investment Program”. **The APFC has a total fund value of \$65 billion as of June 30, 2020, and made “an initial allocation of \$200 million” to APFC in-state program last Fall** (see *press release* below).

### **[APFC launches In-State Investment Program](#)**

*September 2019 - The Alaska Permanent Fund Corporation is pleased to announce the launch of the Alaska Investment Program. Recognizing the opportunity to earn attractive returns by backing emerging private market fund managers and private market investment opportunities in Alaska, APFC’s Board of Trustees, through Resolution 18-03, directed APFC staff to select external private market fund managers to execute an Alaska focused private markets investment program with an initial allocation of \$200 million.*

*Consistent with the requirements of Alaska Statute 37.13.120(c), this strategic approach to identifying and supporting talented private market fund managers and investments within Alaska will target a rate of return and a risk profile consistent with similar investments outside of Alaska.*

*Following a competitive process, two external fund managers were selected to implement this strategy: McKinley Capital Management, LLC and Barings, LLC. At a presentation before Accelerate Alaska in Anchorage, CEO Angela Rodell noted “we are excited to get this program underway and look forward to working with these two managers to achieve competitive, market-based investment returns and capture investment potential right here in Alaska.”*

*McKinley Capital Management, LLC (“McKinley”) was founded in 1990 and today is the largest private financial services company in Alaska. McKinley currently manages approximately \$5 billion worldwide for corporate and public pension funds, sovereign wealth funds, and other institutional investors.*

*A subsidiary of MassMutual, Barings, LLC is a global investment firm dedicated to meeting the evolving needs of clients and customers. Headquartered in Charlotte, North Carolina, Barings LLC and its subsidiaries have \$325 billion under management\* and maintain a strong global presence with business and investment professionals located across North America, Europe and Asia Pacific. \*as of June 30, 2019*

*Additional information on the In-State Investment program and contact information for McKinley Capital Management, LLC and Barings, LLC is available on our website under [‘What We Do / In-State Investments’](#).*

**In order to provide additional background on “In-State Investment Programs, RIO is sharing presentations provided by three existing SIB managers including:**

- 1) Adams Street Partners** – a private equity manager to the SIB for over 30-years with several existing “in-state” investments in the private equity sector here in North Dakota.
- 2) Barings (Mass Mutual)** – an SIB manager since 2011 which provides short-term fixed income management for our Insurance Pool, and a leading provider of “in-state” investment programs for several other states (including the Alaska Permanent Fund).
- 3) GCM Grosvenor** – an SIB investment manager for nearly 9 years which specializes in private infrastructure investments (and recently hired by ND DTL in private equity).

**If the SIB concurs, RIO will continue to reach out to other highly qualified investment management firms in the upcoming months, including those based here in North Dakota (or with significant operations in North Dakota).**

APFC and Legacy Fund Investment Returns as of June 30, 2020:

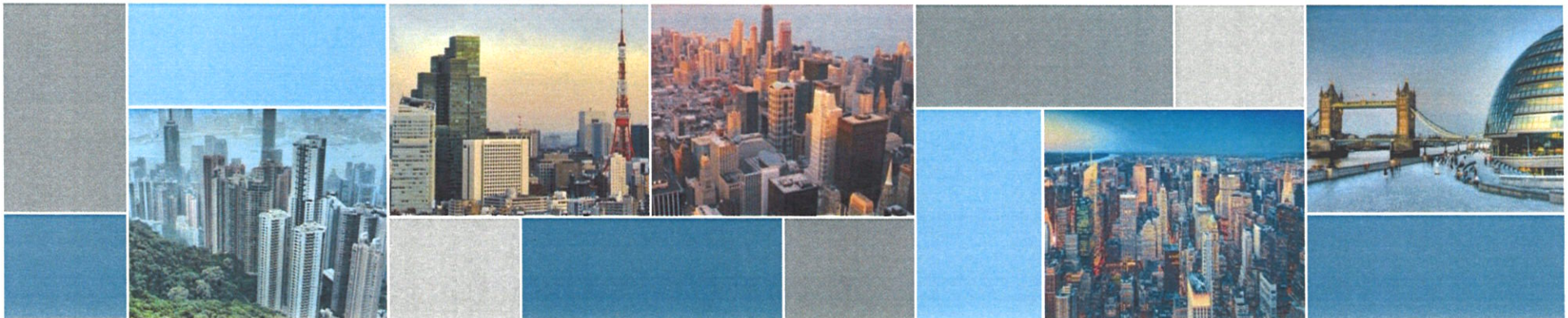
The Alaska Permanent Fund generated a 2.01% return for the year ended June 30, 2020, versus 4.23% for the Legacy Fund in fiscal 2020. Five-year returns for APFC were higher at 6.45% versus 5.91% for Legacy with APFC exceeding its performance benchmark by 0.32% and Legacy Fund exceeding its performance benchmark by 0.36% for the 5-years ended June 30, 2020. (Legacy Fund returns are net of fees and expenses.)

Under the oversight of the SIB, Legacy Fund investments generated over \$1.9 billion of net investment income for North Dakota since inception (over the last 9 years) including a \$445 million earnings distribution in mid-2019 and \$338 million of NDCC 21-10-12 defined “earnings” for the 14 months ended July 31, 2020.

# Approaches and Considerations for Establishing an In-State / Regional Program

September 2020

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# Key Questions to Address

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Developing answers to the following key questions will help guide program evaluation and development when considering a potential in-state / regional program.

## Strategy / Program Goals

- What are the program objectives?
- How is success defined for the program?
- Which investment asset classes are within scope (PE, RE, infrastructure) and which are excluded?
- Is the program focused solely on in-state investments or broader regional investments?
- What are the return expectations?
- Will the program pursue a place-based and or sector-based strategy?
- What are the key program milestones?
- What is the timeline for evaluating a program's success?
- Which metrics will be tracked to measure the program's progress?
- What is the expected program risk profile / appetite?
- Which clusters of in-state innovation / competitive advantage are expected to drive deal flow?
- Will the program have a broad / diversified focus or a more narrow/targeted focus on early stage company investments?
- What is the targeted number of investments?

## Sizing / Investment Universe

- What is the minimum criteria for an investment to qualify as an in-state / regional deal?
- How much capital is targeted for deployment?
- Does the current in-state deal flow support the proposed capital deployment plan?
- Could the new program expand the investment universe?
- Which industries generate the most deal flow?
- Are existing investment opportunities failing to attract capital or are there few investment opportunities?
- Who are the most active GPs/investors in the state / region?
- Is the investment ecosystem / community in place to support the planned growth?
- What's the typical deal size of existing investments?

## Capital Source(s)

- Will the program's capital be provided by a single LP or multiple LPs?
- Will all capital be committed upfront or after achievement of specific milestones?

## Communications

- Who are the key stakeholders and how frequently will they require updates?
- What are the expectations for ongoing reporting of the program's progress?

## Resources / Team

- Which governance model will be employed for the program?
- Who would be involved to manage the program? Only investment team members or a broader group of stakeholders?
- Will the program have an advisory board?
- Are internal resources sufficient to source, consummate and monitor investment? Are out-sourced resources required?

For illustrative purposes only. No assurance can be given that any investment will achieve its objectives or avoid losses.

# Approaches to In-State Programs

Considerations for Achieving Various Potential Program Goals

Approach	Key Considerations
Support new company creation	<ul style="list-style-type: none"> <li>▪ Develop early stage VC-focused program, with capital available to fund companies as they grow</li> <li>▪ Consider investments in VC funds and direct investments in companies</li> <li>▪ Help build a network between universities, labs, incubators, and others</li> </ul>
Support growth of existing companies	<ul style="list-style-type: none"> <li>▪ Nexus to the State is easily identified</li> <li>▪ Establish diversified investment program with flexibility to invest debt and or equity in companies of varying maturity</li> <li>▪ Include companies within the state / region and those growing into the area</li> <li>▪ Include investments in funds and direct investments in companies</li> <li>▪ Include flexibility to incentivize GPs to spend time in region sourcing deals</li> </ul>
Grow investment community / ecosystem	<ul style="list-style-type: none"> <li>▪ Target investments to attract existing GPs to establish offices / presence in state</li> <li>▪ Focus on supporting establishment of new funds</li> </ul>
Support IP transfer from Universities	<ul style="list-style-type: none"> <li>▪ Build off of and utilize existing relationships with universities</li> <li>▪ Include investments in funds and direct investments in companies</li> <li>▪ Team with incubators and economic development agencies to foster entrepreneurial growth</li> </ul>

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# Potential Approaches to In-State Programs (cont'd)

## Portfolio Construction Considerations When Developing Program Goals

*Select risks include: manager risk, macroeconomic risk, credit risk, interest rate risk, security selection risk, mark-to-market risk, jurisdiction risk, regulatory risk, capital markets risk, and inflation risk. Additional risks that result in losses may be present.*

Approach	Key Considerations
Fund Investments	<ul style="list-style-type: none"> <li>▪ Matching high performing funds to program objectives is often difficult</li> <li>▪ Diligence complexity / resource intensity for evaluating emerging manager investments</li> <li>▪ Adherence to program objectives and fund in-state/regional expectations</li> <li>▪ Potentially longer time frame to assess success of fund investments</li> </ul>
Co-Investments	<ul style="list-style-type: none"> <li>▪ Nexus to the State is easily identified</li> <li>▪ Potential to reduce J-curve for a program</li> <li>▪ High quality sponsored opportunities are often limited</li> <li>▪ Potential concentration in key industries most prominent/acquisitive within the state</li> </ul>
Venture Capital/Growth Equity	<ul style="list-style-type: none"> <li>▪ Very long investment cycle (extended J-curve)</li> <li>▪ Typically lower job impact</li> <li>▪ Technology expertise is critical in the fund</li> </ul>
Private Equity	<ul style="list-style-type: none"> <li>▪ Generally less volatile than venture or growth</li> <li>▪ Typically greater in-state job impact</li> <li>▪ Lends itself to co-investment opportunities</li> </ul>
Real Estate	<ul style="list-style-type: none"> <li>▪ Variety of potential strategies</li> <li>▪ Cash flow generation and J-curve similar to private equity</li> <li>▪ Job impact depends on project / investment scope</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>▪ Cash yield potentially mitigates J-curve impact</li> <li>▪ Longer investment horizon can provide recession resistance to the portfolio</li> <li>▪ Can generate co-investment opportunities</li> </ul>

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# Measuring Impact

Sample metrics for assessing an in-state / regional program could include:

Metric	Key Considerations
Capital Deployment	<ul style="list-style-type: none"> <li>▪ Dollars invested in region</li> <li>▪ % of capital invested in region</li> <li>▪ Other dollars from outside the program invested in the same investments</li> <li>▪ Number of investments in region</li> </ul>
Jobs and Infrastructure	<ul style="list-style-type: none"> <li>▪ Number of jobs created or maintained in region</li> <li>▪ Number of company headquarters in region</li> <li>▪ Number of facilities in region</li> </ul>
Impact	<ul style="list-style-type: none"> <li>▪ Woman, indigenous, or minority-owned funds and companies</li> <li>▪ Spending / payroll taxes / procurement by portfolio companies in region</li> <li>▪ Track businesses in underserved and Low and Moderate Income (“LMI”) areas</li> </ul>
Quality of Jobs	<ul style="list-style-type: none"> <li>▪ Percentage of companies providing benefits to employees including but not limited to:               <ul style="list-style-type: none"> <li>› Medical Insurance</li> <li>› Retirement Plan</li> <li>› Paid Sick leave</li> <li>› Paid Vacation</li> <li>› Company Stock</li> <li>› Other benefits including disability benefits</li> </ul> </li> </ul>

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# GCM Grosvenor

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# GCM Grosvenor

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# North Dakota State Investment Board: Customized Solutions

September 2020



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**Customized Solutions**



# Our Foundation for Success

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- 100% employee-owned firm with 45+ years of private markets experience
- 10 offices across the globe
- More than 200 employees
- \$41 billion of assets under management<sup>1</sup>

## What We Offer

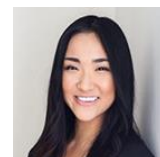
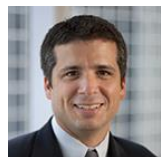
- **Customized separate accounts since 1984**
- Specialized funds
- Advisory services
- Full-service back office support
- Distribution management services

## Benefits of Working with Adams Street Partners

- **Access:** Global team that shares insights and best practices
- **Influence:** Seat at the table with GPs (510+ board seats and invested with 410+ GPs)
- **Customized Approach:** Ability to create a customized solution to meet clients' unique needs
- **Comprehensive Offering:** Complete, full-service option
- **Responsible Investment:** PRI signatory and integration of ESG across investment activities

# Investment Strategy and Risk Management Team

Experienced team with average 17 years of experience will design the Custom Solution



	Miguel Gonzalo, CFA	Alejandra Lesch	Jana Tortora, CFA	Tobias True, CFA, FRM	Jian Zhang, CFA	Alexander Storer, CFA	Luke Frey, CFA	Michelle Phan
Title	Partner & Head of Investment Strategy and Risk Management	Partner	Partner	Partner	Principal	Vice President	Senior Associate	Associate
YOE	25	21	20	17	24	9	12	4
Years w/ Firm	25	14	17	8	8	5	2	<1



## Investment Strategy

- **Portfolio guidelines**
- Capacity analysis
- Investment allocations
- Fund management and monitoring



## Risk Management

- Operational due diligence
- Thought leadership
- **Exposure analysis (Adams Street and non-Adams Street investments)**
- Top down and bottom up



## Advanced Analytics

- Adams Street Partners Investment Research Explorer (ASPIRE)
- Portfolio gap analysis
- **Performance attribution and benchmarking**
- Cash flow modeling

# Constructing a Private Markets Portfolio

We seek to integrate North Dakota’s strategic goals into an actionable investment plan

DEVELOPMENT OF A PRIVATE MARKETS PORTFOLIO	
<b>Investor Discovery</b>	<ul style="list-style-type: none"> <li>▪ Understand objectives</li> <li>▪ Establish liquidity needs</li> <li>▪ Identify performance benchmark</li> </ul>
<b>Risk Assessment</b>	<ul style="list-style-type: none"> <li>▪ Review current portfolio</li> <li>▪ Define risk tolerance</li> <li>▪ Address other biases</li> </ul>
<b>Asset Allocation</b>	<ul style="list-style-type: none"> <li>▪ Establish asset mix/range</li> <li>▪ Validate assumptions within analytical framework</li> </ul>
<b>Asset Structuring</b>	<ul style="list-style-type: none"> <li>▪ Evaluate legal entity options</li> <li>▪ Outline expenses</li> </ul>
<b>Manager and Asset Selection</b>	<ul style="list-style-type: none"> <li>▪ Draw from best ideas</li> <li>▪ Create a balanced portfolio</li> </ul>
<b>Monitoring and Reporting</b>	<ul style="list-style-type: none"> <li>▪ Customized</li> <li>▪ Transparent</li> <li>▪ Measured against objectives / benchmark</li> </ul>

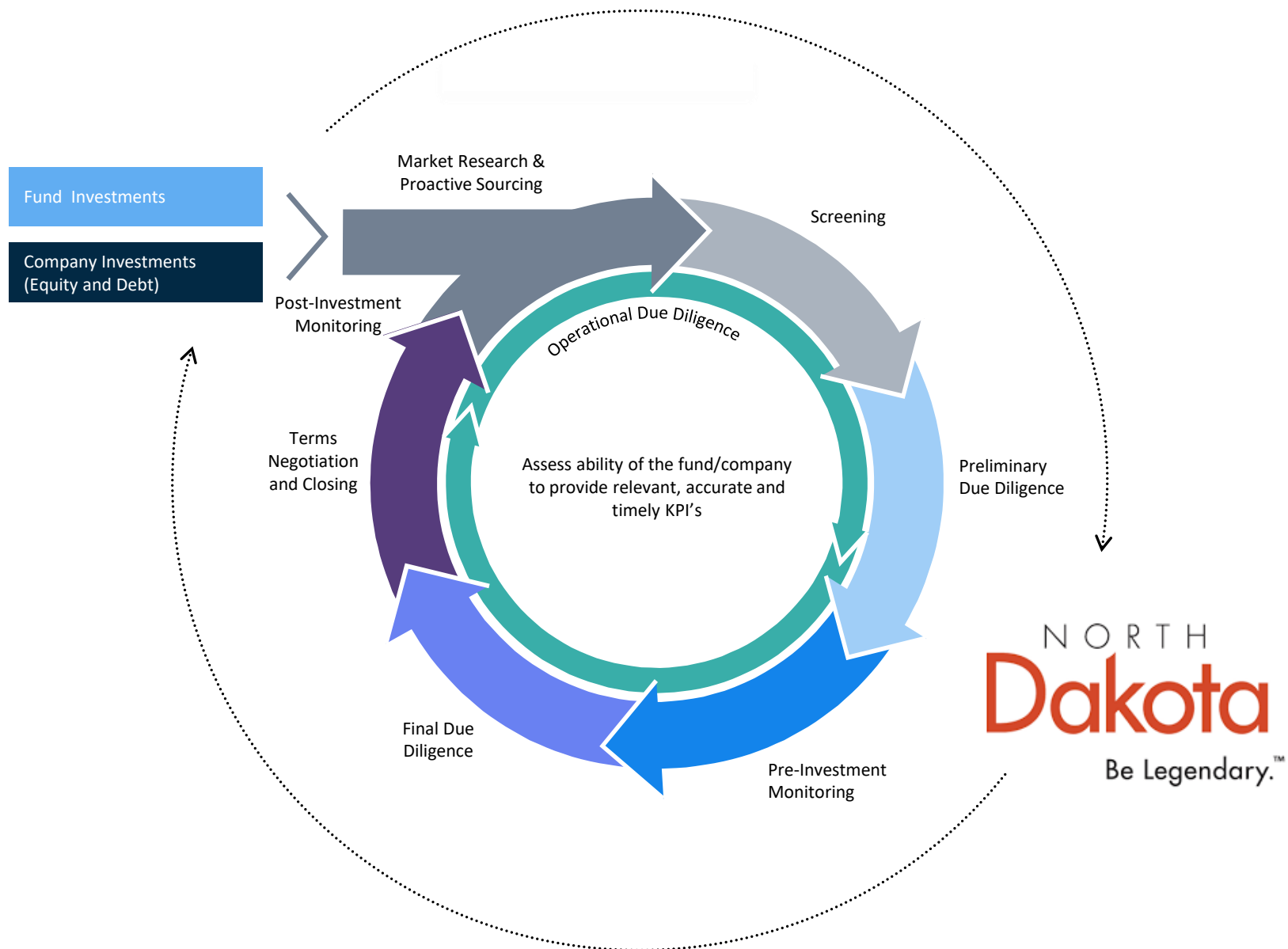
**THE DEVELOPMENT OF A PRIVATE MARKETS PROGRAM IS AN ITERATIVE AND COLLABORATIVE PROCESS**

# Investment Process

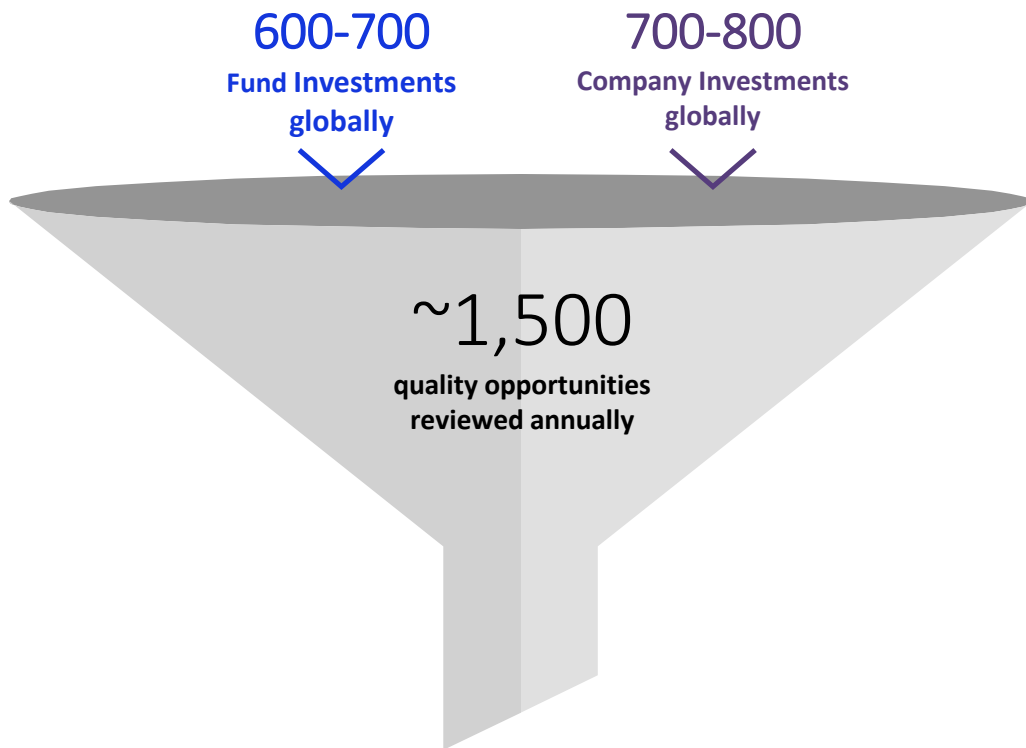


# Iterative and Continuous Process with Shared Insights

Research driven, proactive sourcing for North Dakota



# Adams Street Annual Deal Flow



Our team has an information advantage through a strategically integrated private markets platform and thematic sector research

3-5 ND based funds  
reviewed annually

10-15 ND based  
companies  
reviewed annually



**PF** BASELINE  
FITNESS



LONGWATER  
— OPPORTUNITIES —



# Clear and Transparent Approach to Measuring Portfolio Impact

Adams Street recognizes that standardizing impact measurement and tracking is a significant challenge and believes each manager or company will have a unique set of Impact Key Performance Indicators



## ALIGN COMMERCIAL OUTCOMES & POSITIVE IMPACT

- Impact KPI's will be aligned with areas central to business success and the measurement objectives of North Dakota



## THIRD PARTY INPUTS

- Adams Street leverages the expertise of credible impact focused consultants to provide an external perspective and support Adams Street's efforts to define, measure, and report on impact KPI's



## FOCUS ON METRICS THAT MATTER

- Selected Impact KPI's will be relevant, operational, and targeted to the intended impact



## SPECIFIC & CREDIBLE REPORTING

- Leverage the Adams Street platform to provide tailored reporting to North Dakota that outlines relevant context for portfolio company impact







## LEVERAGE TESTED FRAMEWORKS AND LESSONS LEARNED

- Adams Street will incorporate perspectives from credible and tested frameworks such as the UN SDG's and Operating Principles for Impact Management





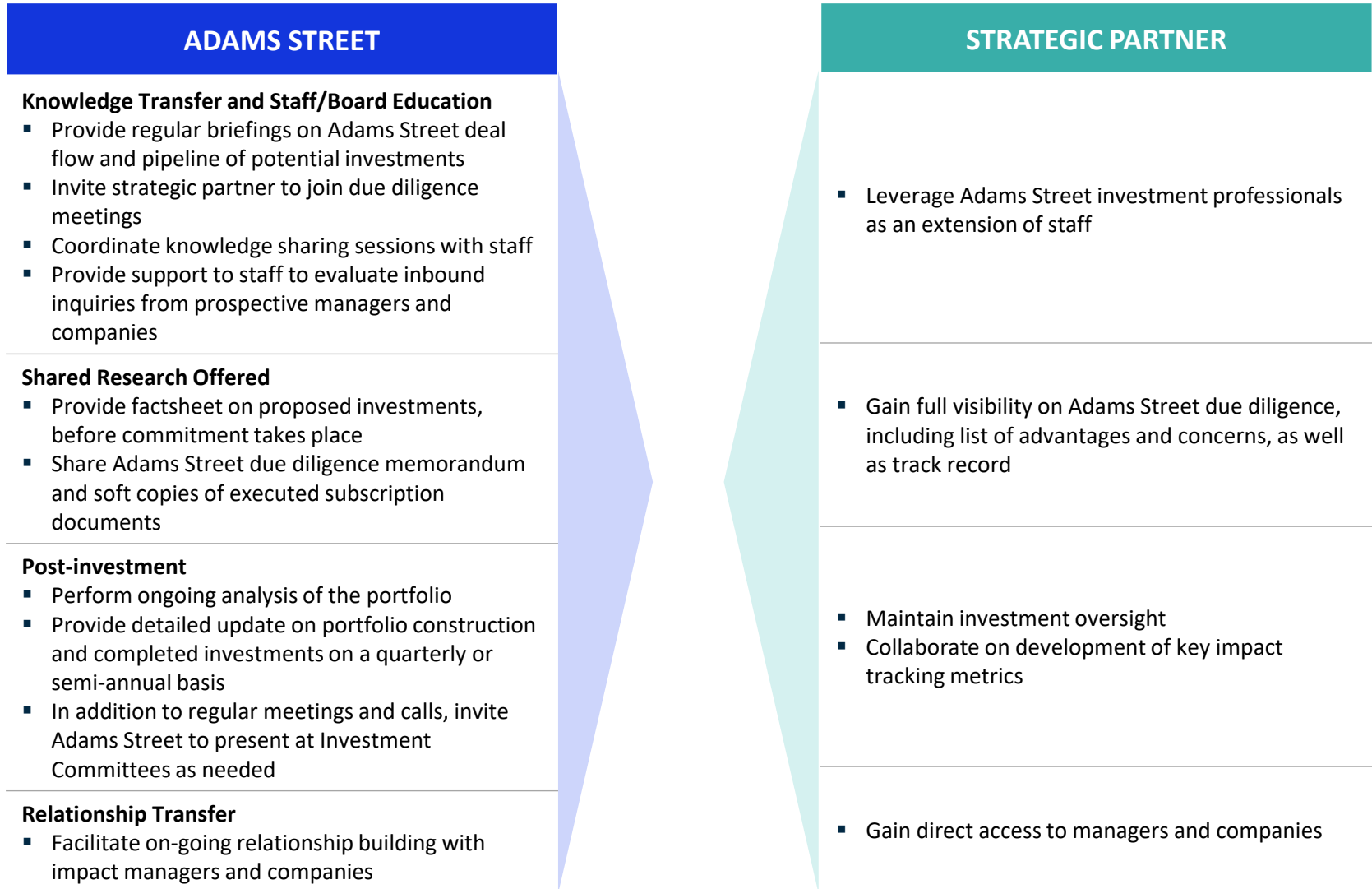
# Sample Adams Street Reporting: ASPIRE Output\*

Adams Street Impact Performance Report		Company A			
<b>COMPANY DESCRIPTION</b>					
Company A provides energy savings solutions to heating, ventilation, and air conditioning systems in commercial and industrial buildings. The business uses sensors, software algorithms, equipment controls, and customized engineering design to reduce electricity consumption by 10-40%.					
<b>Sector</b>	Industrial				
<b>Subsector</b>	Energy efficiency services				
<b>ASP Impact Theme</b>	Sustainability				
<b>Wespath Impact Pillar</b>	Environmental health				
<b>Geography</b>	US, Southeast Asia, Western Europe				
<b>Investment Amount</b>	\$10 million				
<b>Transaction Type</b>	Private credit				
<b>Financial Sponsor</b>	GICY Partners				
<b>Company Location</b>	Bismarck, ND				
<b>PERFORMANCE</b>					
<b>Hold Period (Years)</b>	2.0				
<b>MOIC</b>	1.72x				
<b>IRR</b>	13.2%				
<b>IMPACT THESIS</b>					
Company A's core business service contributes solutions to four of the UN Sustainable Development Goals by ensuring access to affordable, reliable, sustainable and modern energy for all communities					
<b>United Nation Sustainable Development Goals Alignment</b>	   				
<b>Metric</b>	<b>Performance</b>				<b>Metric Source</b>
	Year 1	Year 2	▲ YoY	Cumulative ▲	
Revenue	35.2	53.1	17.9	17.9	Fin Stmt.
EBITDA	15.7	15.3	0.4	0.4	Fin Stmt.
Net Debt	4.3	7.1	2.8	2.8	Fin Stmt.
Employment	712	924	212	212	PE Sponsor
<b>Impact KPI's</b>					
Improvement of energy efficiency per project	22%	28%	3%	3%	PE Sponsor
Reduction of energy consumption	20%	25%	5%	5%	PE Sponsor
Total CO <sub>2</sub> emissions saved (tons)	58,000	64,000	7,000	7,000	PE Sponsor
Total estimated annual CO <sub>2</sub> savings (millions)	15.0	17.8	2.8	2.8	PE Sponsor

## PROPOSED DATA TRACKING APPROACH

- Adams Street will utilize its in-house Data Analytics team and proprietary ASPIRE database to provide customized tracking of KPI's for North Dakota
- Adams Street will vet the selection of relevant KPI's in collaboration with North Dakota
- In state data will be collected directly from companies and managers by Adams Street

\*This sample is meant to illustrate the types of reporting metrics Adams Street can provide to North Dakota as an output from its proprietary ASPIRE database and is not intended to imply that such metrics will be achieved.



# BARINGS



**Barings Fund & Co-Investments**

**In-State Program**

NORTH  
**Dakota**

September 2020

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## **Section 1: Barings Capabilities**

# Barings Overview

- Barings is a **GLOBAL FINANCIAL SERVICES FIRM** dedicated to meeting the evolving investment and capital needs of our clients
- We provide **INNOVATIVE SOLUTIONS** and access to differentiated opportunities across public and private capital markets
- A subsidiary of **MASSMUTUAL**, we have the financial stability and flexibility to take a long-term approach
- Barings' **GLOBAL FOOTPRINT** gives us a broader perspective, access to a diverse set of opportunities and the ability to truly partner with our clients to invest across global markets



## \$346+ B

ASSETS UNDER MANAGEMENT

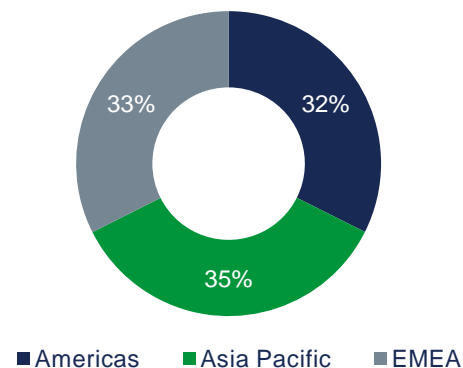
## 1,100+

EXTERNAL CLIENTS<sup>1</sup>

## 1,900+

PROFESSIONALS GLOBALLY

EXTERNAL AUM BY REGION<sup>2</sup>



1. Number of clients excludes structured funds and mutual funds.

2. Includes third party, external AUM only.

All figures are as of June 30, 2020 unless otherwise indicated. Assets shown are denominated in USD.

# Global Investment Capabilities

Barings leverages its **DEPTH AND BREADTH OF EXPERTISE** across public and private markets to help meet our clients' evolving investment needs

## PUBLIC

### PUBLIC FIXED INCOME<sup>1</sup>

Provides access to strategies ranging from investment grade to high yield across developed and emerging markets

#### INVESTMENT GRADE

**\$131.7 B AUM**

#### HIGH YIELD BONDS AND LOANS<sup>3</sup>

**\$53.9 B AUM**

#### STRUCTURED CREDIT

**\$15.8 B AUM**

#### DEVELOPED & EMERGING SOVEREIGN DEBT

**\$8.6 B AUM**

### PUBLIC EQUITIES & MULTI ASSET<sup>2</sup>

Aims to deliver superior risk-adjusted returns through fundamental analysis and high-conviction, high-active share solutions

#### GLOBAL EQUITIES

**\$2.8 B AUM**

#### EMERGING MARKET EQUITIES

**\$6.3 B AUM**

#### SMALL CAP EQUITIES

**\$2.6 B AUM**

#### MULTI ASSET

**\$4.3 B AUM**

## PRIVATE

### PRIVATE CREDIT

Offers a diverse range of private debt financing solutions by partnering with our broad industry network

#### GLOBAL PRIVATE FINANCE

**\$14.2 B AUM**

#### INFRASTRUCTURE & PRIVATE PLACEMENTS

**\$40.1 B AUM**

### REAL ESTATE<sup>4</sup>

Provides a broad spectrum of solutions across private real estate debt and equity

#### REAL ESTATE DEBT<sup>5</sup>

**\$35.5 B AUM**

#### REAL ESTATE EQUITY

**\$14.4 B AUM**

### PRIVATE EQUITY<sup>4</sup>

Leverages our global presence in an effort to identify unique risk-adjusted return opportunities

#### DIRECT PRIVATE EQUITY

**\$2.3 B AUM**

#### FUNDS & CO-INVESTMENTS

**\$3.2 B AUM**

## MULTI STRATEGY

Utilize our expansive asset market coverage to offer solutions such as income, target return and absolute return

1. Excludes the Korean fixed income strategy and other fixed income, totaling \$2.3 billion in AUM.
2. Excludes the Korean domestic equities strategy, which has \$7.7 billion in AUM and other equities of \$1.1 billion.
3. Includes the EM Corporate Debt strategy, which has \$4.0 billion in AUM.
4. Projected AUM figures.
5. Includes real estate debt assets that are managed as part of affiliated fixed income portfolios.

All figures are as of June 30, 2020 unless otherwise indicated. Assets shown are denominated in USD.

# Barings' Commitment to Sustainability

## HOW WE THINK ABOUT SUSTAINABILITY: OUR THREE PILLARS



### ESG INTEGRATION

**Environmental, Social & Governance (ESG)** is embedded within—rather than overlaid upon—the research and investment process across asset classes



### CORPORATE SOCIAL RESPONSIBILITY

**Barings Social Impact** mobilizes private capital to achieve positive outcomes in underserved communities—through **four key pillars**:

- (1) Diversity, Equity and Inclusion
- (2) Empowering Communities
- (3) Education and Financial Literacy
- and (4) Improving Health and Wellness



### ACTIVE OWNERSHIP

We believe in **engaging constructively** with the companies in which we invest, and we **vote proxies** on behalf of our advisory clients

## HOW WE GOVERN AND DEVELOP OUR SUSTAINABILITY FRAMEWORK



### BUSINESS OVERSIGHT

Our **Executive Leadership Team** and regional leadership teams are regularly updated and actively engaged—which provides **oversight** and **accountability** at the highest levels of the organization



### DEDICATED TEAM

Our platform is overseen by our **Director of Sustainability**, who works alongside our **ESG Working Group**—which represents an advisory group of 30+ professionals across the firm's business units



### INDUSTRY PARTNERS

We are a **signatory to the UNPRI** (United Nations Principles for Responsible Investment)

We are a **member of the UNGC** (United Nations Global Compact)—and **work to implement the 17 UNSDGs** (United Nations Sustainable Development Goals)

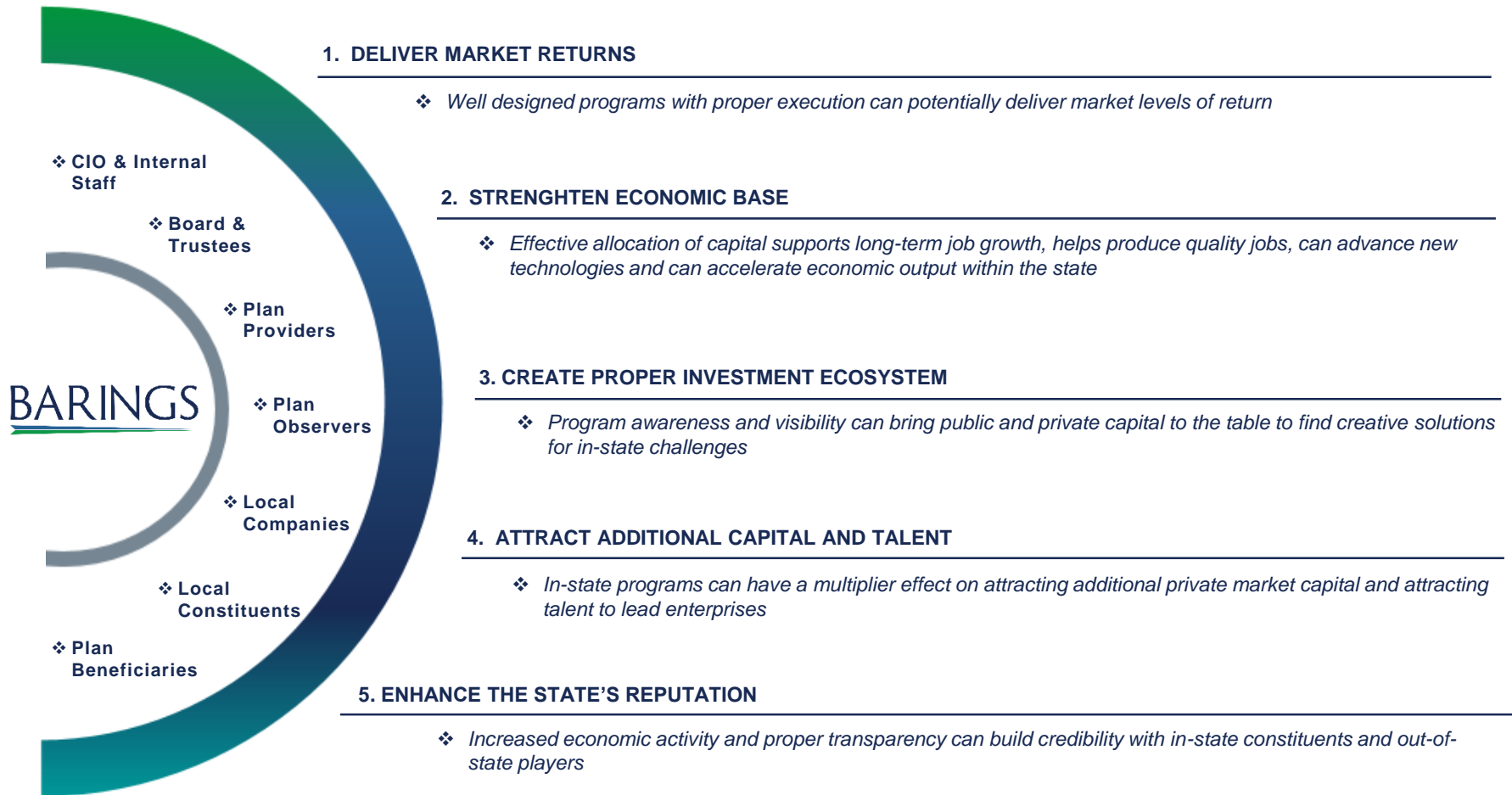
For our global Charlotte headquarters, Barings achieved a **LEED GOLD CERTIFICATION** in addition to a **BREEAM EXCELLENT RATING** for our London office



## Section 2: In-State Program

# Developing In-State Investment Programs

Properly designed in-state investment programs can provide significant impact beyond financial returns



# In-State Program Considerations

In addition to maintaining integrity of a robust investment process, Barings FCI believes the following topics are critical to designing a successful in-state program



**CLEARLY DEFINE MISSION  
& PROGRAM OBJECTIVES**



**CONTINUOUS MANAGER &  
STAFF COLLABORATION**



**GENERATE PROGRAM  
VISIBILITY & AWARENESS**



**MATCH INVESTMENT  
TARGETS & IN-STATE  
ECONOMIC LANDSCAPE**



**SIZE CAPITAL & PACING  
TO INVESTMENT  
OPPORTUNITY**



**UTILIZE DEEP GP NETWORKS  
& ATTRACT PARTNERS**



**FOLLOW INVESTMENT  
GUIDELINES & ALLOW  
CREATIVITY**



**EXECUTE & COMMUNICATE  
WITH IN-STATE  
CONSTITUENTS**



**CREATE MEASUREABLE  
REPORTING METRICS THAT  
ALIGN WITH OBJECTIVES**

# Barings Approach to Managing In-State Programs

Barings FCI builds on the standard market approach to managing in-state programs to offer a differentiated perspective

## TRADITIONAL APPROACH

- SOURCE OPPORTUNITIES FROM IN-STATE SPONSORS
- BUILD RELATIONSHIPS WITH LOCAL BROKER COMMUNITY
- CALLING EFFORT ACROSS GP NETWORK
- CREATE CLUSTERS OF INNOVATION
  
- ESTABLISH PROGRAM WEBSITE
- ISSUE PRESS RELEASES
- ATTEND AND HOST STATE-WIDE EVENTS
- PROMOTE LOCAL ECONOMIC DEVELOPMENT INITIATIVES
  
- LEVERAGED BUYOUTS
- GROWTH EQUITY
- VENTURE CAPITAL
- SBIC PROGRAMS

NEXUS  
TO THE STATE

VISIBILITY AND  
AWARENESS

ALLOCATION OF  
CAPITAL

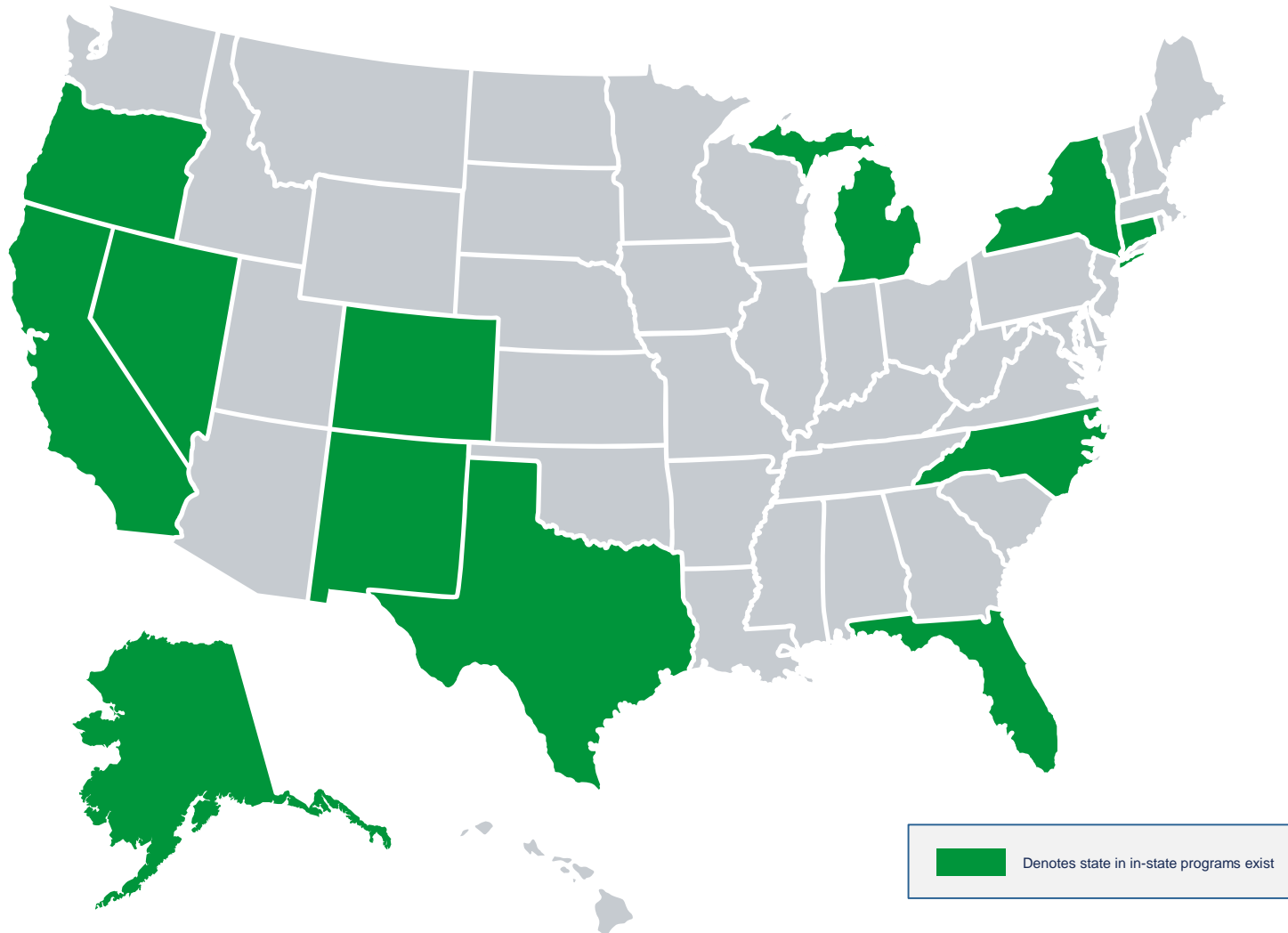
## BARINGS INNOVATIVE APPROACH

- OFFER AN OPERATING PARTNER NETWORK
- SUPPORT INDEPENDENT SPONSORS AND PLEDGE FUNDS
- CALLING EFFORT TARGETING FAMILY BUSINESSES
  
- ATTRACT HUMAN CAPITAL, BOTH LOCAL AND ABROAD
- EXPAND OUTREACH BEYOND THE STATE TO NATIONAL AND INTERNATIONAL MARKETS
- CATALYZE EMERGING MANAGERS AND INDEPENDENT SPONSORS
  
- NATURAL RESOURCES
- INFRASTRUCTURE
- BARINGS IS UNIQUELY POSITIONED ACROSS MAJOR ASSET CLASSES, CAPITAL STRUCTURES AND AROUND THE GLOBE TO EVALUATE UNIQUE IN-STATE OPPORTUNITIES

**BARINGS IS TARGETING A NEXT GENERATION APPROACH TO DEVELOPING AND MANAGING IN-STATE PROGRAMS**

# In-State Program Experience

Barings FCI professionals have experience developing, managing and overseeing in-state programs, as well as serving as a resource to staff and board members to network with other states to understand how neighboring in-state programs are structured



# Our Approach

FCI structures separate accounts designed to meet the robust needs of clients

## PROVEN & SUCCESSFUL APPROACH Funds & Co-Investment Platform

**TRANSPARENCY  
&  
RESPONSIVENESS**

**DYNAMIC SERVICE, SCALE  
&  
GLOBAL ACCESS**

**ACTIVE SUPPORT  
&  
COLLABORATION**

**GOVERNANCE  
&  
CONTROL**

**FLEXIBILITY  
&  
PRIORITIZATION**

**PORTFOLIO  
CONSTRUCTION**



## Highlights of Our Approach

### TRACK RECORD

28 year track record of success across private markets as a professional limited partner

### ADAPTABILITY

FCI refines and adjusts the program to help meet the client's evolving objectives

### STRUCTURE

Program delivers access and economies of scale. Portfolios designed to optimize returns and/or mitigate risks

### CLIENT EXPERIENCE

As an extension of staff, FCI continually supports clients to build capabilities and knowledge

### CLIENT PARTNERSHIP

Collaboration on program design and implementation

### OVERSIGHT

Flexible governance for appropriate client controls

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS  
FOR ILLUSTRATIVE PURPOSES

*For investment professionals only*

# Client Engagement & Working Relationship

FCI operates as an extension of staff in all aspects of its working relationships with clients



## CLIENT ONBOARDING

- ❖ Develop scope of service to set roles/responsibilities
- ❖ Set goals & objectives of the in-state program (financial and impact)
- ❖ Set investment pacing expectations
- ❖ Establish frequency of formal interaction



## CLIENT TRANSPARENCY

- ❖ Dedicate in-state team including senior investment professionals
- ❖ Welcome active involvement and offer discretion to the client
- ❖ Share pipelines and opportunity review
- ❖ Provide timely updates and feedback



## OPEN-DOOR REFERRAL POLICY

- ❖ Efficiently review all opportunities presented
- ❖ Regularly track and review referral outcomes
- ❖ Manage politically sensitive opportunities
- ❖ Open forum to share opportunities



## MONITORING AND REPORTING

- ❖ Measure investment consistency relative to guidelines
- ❖ Financial reporting including investment pacing, performance and exposure
- ❖ Custom Watchlists to measure risk
- ❖ Impact reporting including jobs, economic output and ESG factors



## CONTINUAL ASSESSMENT

- ❖ Continuous assessment and reevaluation of program in conjunction with staff
- ❖ Nimble approach with ability to modify program
- ❖ In-depth knowledge of market dynamics that may affect initial strategy



## INDUSTRY REPRESENTATION

- ❖ Actively represent clients at relevant industry events, within the state and abroad
- ❖ Present client success stories at leading industry events
- ❖ Invite client staff to speak at conferences as panel guests to promote the program

The views above represent Barings' views as of August 31, 2019 and are subject to change at any time without notice.

*For investment professionals only*

## **Section 6: Important Information**



# Important Information

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As of June 30, 2020.

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Barings Global Advisers Limited, which is authorized and regulated by the Financial Conduct Authority in the United Kingdom (Ref No. 552931) and is a Company registered in England and Wales (No. 07622519) whose registered address is 20 Old Bailey, London, EC4M 7BF and is a registered investment adviser with the SEC; Baring Asset Management Limited, which is authorized and regulated by the Financial Conduct Authority in the United Kingdom (Ref No. 170601) and is a Company registered in England and Wales (No. 02915887) whose registered address is 20 Old Bailey, London, EC4M 7BF; Baring International Investment Limited, which is authorized and regulated by the Financial Conduct Authority in the United Kingdom (Ref No. 122628), and is a Company registered in England and Wales (No. 01426546) whose registered address is 20 Old Bailey, London, EC4M 7BF, is a registered investment

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As of June 30, 2020.

*For investment professionals only*

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As of June 30, 2020.

*For investment professionals only*

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## Overview of Match Program September, 2020

### Background

In 1990, Bank of North Dakota established a specially funded loan program intended to encourage and attract financially strong companies to North Dakota. The primary candidates for this program are businesses that create new wealth for the state, enhance economic diversification and provide new jobs or retain existing primary sector jobs outside the retail sector. Specifically, projects are evaluated on the size of the investment, number and types of jobs, wage and/or salary scales, tax impact, contribution to other state businesses and its enhancement of the labor force through technical training as well as other factors considered pertinent in each specific case.

### Qualifying Businesses

Companies interested in this program must provide evidence of considerable financial strength and adequate factors that demonstrate security of the principal and interest payments. The company must be rated with a long-term investment grade rating from a nationally recognized rating agency. While intended to serve all investment rated companies in the state, Match is intended to serve as the primary loan program to support large-scale economic diversification projects with investment rated companies.

### Funding Strategy

To enable BND to provide a competitive interest rate, similar to a long-term corporate bond, BND established a partnership with the State Investment Board to provide a source of funding for Match loans. When a qualifying project is identified, BND requests SIB to purchase a CD for the time period corresponding to the Match loan term.

### Current Return on Investment

The Interest Rate on a Match Loan may be fixed for up to ten-years or adjustable. If fixed for up to 5-years, the interest rate will be equal to a like term treasury yield at the date of CD issuance (e.g. CD with a 5-year fixed rate term would be priced the same as a 5-year U.S. Treasury on that date).

CD's held at BND provide a market rate return to SIB equal to a U.S. Treasury with a floor of 1.75%

- Current 5-Year Treasury Rate is .28
- Current 10-Year Treasury Rate is .69

If the amortization term exceeds the fixed rate term, the reset interest rate will be equal to the like term treasury yield at the reset date for fixed rate terms of up to 5-years OR

If the fixed rate term exceeds 5-years, the following spreads will be utilized.

- 0.00%spread to UST for terms up to 5-years;
- 0.05%spread to UST for terms over 5-years, but no more than 5.5 years;
- 0.10%spread to UST for terms over 5.5-years, but no more than 6.5 years;
- 0.15%spread to UST for terms over 6.5 years, but no more than 7.5 years;
- 0.20%spread to UST for terms over 7.5 years, but no more than 8.5 years; and
- 0.25%spread to UST for terms over 8.5 years, but no more than 10 years.

If adjustable, the interest rate will be based on the highest U.S. Treasury rate for terms ranging from 1-month to 1-year. BND has the ability to determine the reset frequency, but not more than once a year.

### **Current Status**

As of September, 2020, the Match program has a funding limit of \$300,000,000. This includes:

Outstanding Loans	\$ 86,600,000
Pending Loans	<u>\$102,000,000</u>
Total Outstand & Pend	<u>\$188,600,000</u>
<b>Available Funding</b>	<b>\$102,600,000</b>

### **Projects in Pipeline Requesting Commitment**

Project 1	\$ 75,000,000
Project 2	\$ 75,000,000
Project 3	\$ 75,000,000
Project 4	\$ 75,000,000--\$100,000,000
Project 5	<u>\$ 75,000,000--\$100,000,000</u>
<b>Total Proposed</b>	<b>\$375,000,000--\$395,000,000</b>

**BND Request:** The above projects represent investment in value added AG and in value added energy across the western two thirds of the state. It is likely the total investment of these projects will be a \$1.5-2 billion. There likely will be additional significant investments in these projects.

**Proposal:** Increase the BND Match funding limit from \$300,000,000 to \$400,000,000.

## Match Program Success

NORTH Dakota | Office of the Governor  
Be Legendary.™

Home Administration And Staff Media Five Strategic Initiatives Requests And Nominations Contact Us

Home / News / Burgum celebrates MDU's \$13.8M investment in pipeline for Bobcat, Gwinner area

# Burgum celebrates MDU's \$13.8M investment in pipeline for Bobcat, Gwinner area

<< All News

Thursday, September 21, 2017 - 05:30pm

BISMARCK, N.D. – Gov. Doug Burgum today joined officials from Bobcat Co. and Montana-Dakota Utilities (MDU) to celebrate the announcement of a new pipeline that will supply the Bobcat factory in Gwinner with reliable natural gas service for years to come.

Construction of the \$13.8 million pipeline project is scheduled to start next spring, with an expected in-service date of September 2018. The 21-mile pipeline will extend from the Alliance pipeline near Milnor to the Bobcat facility in Gwinner and could expand to other customers along the route. Bobcat, a Doosan company which makes skid-steer loaders and other compact equipment, signed a 15-year contract with MDU to build the pipeline and provide natural gas transportation service.

"This is a milestone," Burgum said. "It's exciting to see Doosan Bobcat step up with the 15-year contract. That gives so much confidence in terms of recruiting people, talent and capital to our area. And MDU is supporting economic growth and job creation through its commitment to smart, efficient infrastructure, a pillar of our administration's Main Street Initiative."

The North Dakota Industrial Commission, chaired by Burgum, approved \$10.5 million in debt financing for the project through the Bank of North Dakota's match program for economic development.

"This project represents people in North Dakota working together to get things done, because when we help Bobcat be more competitive, that helps not only this community but all the communities around it," Burgum said. "This is really a story about entrepreneurship, innovation and teamwork."

Burgum expressed his gratitude for everyone involved in the effort, including the companies, members of North Dakota's congressional delegation and state Public Service Commission, and former Gov. Jack Dalrymple, who was lieutenant governor when the effort began more than a decade ago and played an integral role.

## NEWS

### New Basin Electric line operational

BISMARCK (AP) -- Bismarck-based Basin Electric Power Cooperative says its new \$40 million transmission line in southwestern North Dakota is operational.

Written By: Sun Staff | Apr 19th 2010 - 8am.

BISMARCK (AP) -- Bismarck-based Basin Electric Power Cooperative says its new \$40 million transmission line in southwestern North Dakota is operational.

The 230-kilovolt line runs between substations near Belfield and Rhame, a distance of 74 miles.

The North Dakota Transmission Authority through the Bank of North Dakota financed \$25 million of the project cost. The authority was created in 2005 to aid in the development of new transmission lines in the state, to help deal with an increasing demand for electricity.

Project coordinator Duey Marthaller said the new line will help carry power and also improve the reliability of the transmission system in the region.

Basin Electric generates and transmits electricity to 135 member rural electric systems in nine states.

## Midwest AgEnergy Group Begins Operations At Jamestown, North Dakota, Refinery

07/24/2015

Midwest AgEnergy Group started operations on the company's new 65 million-gallon-per-year biorefinery located next to Great River Energy's Spiritwood Station near Jamestown, [North Dakota](#).

The Dakota Spirit AgEnergy biorefinery uses steam from the combined heat and power plant and corn from local farmers to produce ethanol, distillers grains and fuel-grade corn oil. The plant will produce 65 million gallons per year of ethanol, 198,000 tons of distillers grains for livestock feed and 6,900 tons of fuel-grade corn oil for products like biodiesel.

As an incentive, the state provided nearly \$40 million in grants and loans for the renewable fuel project, including funding for feasibility studies, construction and [jobs training](#). **The state's investment includes loans from the Bank of North Dakota** and the North Dakota Department of Commerce's Development Fund, along with grants from the North Dakota Industrial Commission and the NDDOC's Agricultural Products Utilization Commission and [Community Development Block Grant](#) programs. Funding for new jobs training was provided by Job Service North Dakota.

**Board Action**

**TO:** State Investment Board

**FROM:** Dave Hunter and Darren Schulz

**DATE:** September 22, 2020

**SUBJECT:** Bank of North Dakota (BND) “In-State Investment” Program

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**Background:**

In June of 2017, the Legacy Fund Advisory Board acknowledged the transfer of the BND Match Loan CD Program from the Budget Stabilization Fund. On July 28, 2017, the SIB formally accepted the Legacy Fund Investment Policy Statement (IPS) as approved by the Advisory Board noting it stated “The BND CD investment will be limited to the lesser of \$200 million or 5% of the Legacy Fund (and represent a sector allocation within fixed income.)” In addition, BND will be requested to guarantee a minimum 1.75% investment return. The minimum return requirement will be periodically reviewed in connection with the Legacy Fund’s overall asset allocation framework. **BND CD’s are rated AA by S&P largely based on the financial strength of State of North Dakota.** BND CD’s returned 2.82% in fiscal 2020 and 3.07% for the 3-years ended June 30, 2020 (with a \$89 million balance at June 30, 2020). **The SIB last approved a \$100 million increase in the BND “Match Loan CD Program” on August 23, 2019, to raise the SIB commitment to \$300 million.**

**BND Request:**

Given significant future anticipated growth in the Match Loan CD Program, BND President Eric Hardmeyer recently requested RIO to consider increasing the size of the program by \$100 million, which slightly exceeds the target asset allocation of 5% assumed by Callan when most recently confirming the Legacy Fund’s overall asset allocation (of 50% equity, 35% fixed income and 15% real assets) in May of 2018. RIO shared this request with Callan, who confirmed that RIO should seek refreshed indicative pricing on BND CD’s from its fixed income managers in order to determine the appropriate credit and liquidity spreads for the program.

**Indicative Pricing Estimates:** RIO reached out to our largest SIB fixed income managers to obtain indicative pricing for BND CD’s issued at fixed rates for terms of up to 10 years. **Indicative pricing spreads widened versus like term U.S. Treasuries (UST) at all tenors, but absolute rates declined sharply due to government intervention (triggered by the pandemic).** Based on this indicative pricing analysis, RIO will work to confirm refreshed pricing terms with BND noting the following spreads are currently in effect:



**0.00%** spread to UST for terms up to 5-years;  
**0.05%** spread to UST for terms over 5-years, but no more than 5.5 years;  
**0.10%** spread to UST for terms over 5.5-years, but no more than 6.5 years;  
**0.15%** spread to UST for terms over 6.5 years, but no more than 7.5 years;  
**0.20%** spread to UST for terms over 7.5 years, but no more than 8.5 years; and  
**0.25%** spread to UST for terms over 8.5 years, but no more than 10 years.

**The current pricing spreads were established on August 16, 2019, when UST rates were at 1.51% for 2-years, 1.45% at 5-years, 1.57% at 10-years and 2.03% at 30-years, noting UST rates at 10-years were less than 0.70% as of September 22, 2020.**

### **NDSIB Governance Policy: Bank of North Dakota Match Loan Program (E-12)**

**The SIB has a commitment to the Bank of North Dakota Match Loan Program.** The purpose of the program is to encourage and attract financially strong companies to North Dakota. The program is targeted to manufacturing, processing and value-added industries.

The SIB provides capital to the program by purchasing Certificates of Deposit (CD's) from the Bank of North Dakota. The CD's are guaranteed by the state, typically have seven to fifteen year maturities and pay interest pegged to US Treasury notes.

**The source of funding for CD's shall be determined by the Investment Director; that funding to be from the most appropriate source consistent with liquidity and relative yield and return objectives and constraints.**

### **RIO Recommendation:**

**RIO respectfully requests the SIB to increase the BND Match Loan CD Program (or "North Dakota In-State Reinvestment Program) by up to \$100 million to \$400 million** noting that new pricing terms will be at or above current market rates based on discussion with our leading fixed income managers **in adherence with the "prudent investor rule"**.

**Alternatively, the SIB may elect Option A or B below:**

- Option A:** Do not consider any changes in the Program size or terms at this time; or
- Option B:** Change Program size to another level and/or with other terms.

**If the SIB does not wish to change the current terms or size of the existing BND CD program at this time, RIO seeks SIB approval to explore other "SIB In-State Investment" opportunities for the Legacy Fund in the near future.**

### 3. Responsibilities and Discretion of the State Investment Board

Add to paragraph 4 – language in bold:

At the discretion of the SIB, the Fund's assets may be pooled with other funds. In pooling funds, the SIB may establish whatever asset pools it deems necessary with specific quality, diversification, restrictions, and performance objectives appropriate to the prudent investor rule and the objectives of the funds participating in pools. **At the discretion of the SIB, up to 10% of the Fund's assets may be designated for investments in economic development projects within the State of North Dakota, notwithstanding any other provision of this investment policy statement.**

**A North Dakota Investment Advisory Committee shall be appointed as a sub-committee to the State Investment Board to establish qualifying investment guidelines for North Dakota investment projects. Members of the Committee shall include:**

- 1. Chairperson of the North Dakota Investment Advisory Committee – Lieutenant Governor**
- 2. The North Dakota Insurance Commissioner**
- 3. The Treasurer for the State of North Dakota**
- 4. The President of the Bank of North Dakota**

**The North Dakota Investment Advisory Committee may partner with other advisory entities, either public or private to provide the subcommittee with technical assistance.**

**In determining whether to recommend an investment, the subcommittee shall at a minimum consider the extent to which the proposal will:**

- 1. Provide a market rate return on investment.**
- 2. Have a clear, substantial economic impact and/or assist in the diversification of the economy of the state.**
- 3. Lead to additional investment of capital from private sector entities in North Dakota.**
- 4. Address funding gaps in capital markets in North Dakota.**

# North Dakota Legacy Investments Strategic Vision Plan: North Dakota's 33<sup>rd</sup> Fund Manager

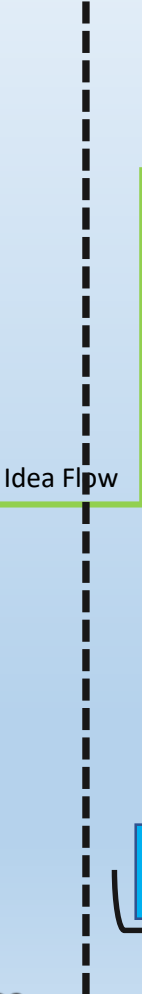
Goal: Bring needed liquidity to North Dakota using both debt and equity mechanisms, while driving positive ROI back to the Legacy Fund and to align the Legacy Fund Investments with the people of North Dakota.

## Ideal Portfolio Mix: Initial Vetting

**Private Equity:**  
Venture Capital  
Growth Equity  
Buyouts

**Private Debt:**  
Distress Investing  
Secondaries  
Rescue Financing

**Real Estate:**  
Already employed  
as a strategy, this  
would be ND  
Specific



**North Dakota LIFT Committee:**

- Review Proposed Legacy Fund Investments
- Provide Recommendations that meet the ideal portfolio mix
- Members Include: Commerce Commissioner; Three members representing active venture capital firms, private entities, or angel capital funds; One member with finance-related experience, knowledge, or education; and Three members from the private sector with expertise in the diversification sectors.

**Recommendations for Approval**

**North Dakota Investment  
Advisory Committee**

Subcommittee of the State Investment Board

Chairperson: Lieutenant Governor

Insurance  
Commissioner

Treasurer

President of the Bank  
of North Dakota

## Successful Investments will:

- Provide at least a market rate of return on investment
- Have a clear, substantial impact and/or assist in the diversification of the economy of the state.
- Lead to additional investment of capital in the state.
- Address funding gaps in capital markets in North Dakota

Execution of Investment



## Report to State Investment Board

- By: ND Investment Advisory Committee
- Asset allocation
- Performance of Investments
- Strategic Investment Recommendations

Reports and Oversight



## Investment Vetting Process

## NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE

### QUARTERLY MONITORING REPORT Executive Limitations / Staff Relations

Quarter Ended June 30, 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 second calendar quarter of 2020 in order to promote an open and collaborative work environment while enhancing team member communication, awareness and engagement.

On June 1, Ms. Janilyn Murtha started as RIO’s new Deputy Executive Director and Chief Retirement Officer and Ms. Jayme Heick became our newest Retirement Benefits Counselor. Jan and Jayme were selected as our top candidates after an extensive interview process and with helpful HRMS guidance.

RIO previously hired a new Investment and Compliance Officer Matt Posch in February and a new Investment Accountant Ann Griffin in March in addition to promoting Denise Weeks to Retirement Program Manager in March. Ann, Denise and Matt have all successfully completed their respective six-months probationary periods. RIO is very pleased with all of the above hiring decisions and benefit from remaining fully staffed since June 1, 2020.

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 and in anticipation of our long awaited TFFR pension administration system modernization project.

ANNUAL EXPENSE REPORT  
SEPTEMBER 25, 2020

Connie Flanagan  
Chief Financial Officer

**RETIREMENT AND INVESTMENT OFFICE  
EXPENDITURE SUMMARY REPORT  
FISCAL YEAR ENDED JUNE 30, 2020**

	TFFR		SIB		Total RIO	
	Actual Expenses	% of Total	Actual Expenses	% of Total	Actual Expenses	% of Total
<u>CONTINUING APPROPRIATIONS</u>						
INVESTMENT EXPENDITURES	\$ 13,802,301	5.6%	\$ 49,727,337	96.5%	\$ 63,529,638	21.3%
MEMBER CLAIMS						
ANNUITY PAYMENTS	224,361,530		-		224,361,530	
REFUND PAYMENTS	6,489,704		-		6,489,704	
TOTAL MEMBER CLAIMS	230,851,234	93.6%	-	0.0%	230,851,234	77.4%
OTHER CONTINUING APPROPRIATIONS	482,960	0.2%	738,234	1.4%	1,221,194	0.4%
TOTAL CONTINUING APPROPRIATIONS	245,136,495	99.3%	50,465,571	98.0%	295,602,066	99.1%
<u>APPROPRIATED EXPENDITURES</u>						
SALARIES AND BENEFITS	1,159,638	0.5%	1,162,863	2.3%	2,322,501	0.8%
OPERATING EXPENSES	237,617	0.1%	95,712	0.2%	333,329	0.1%
SIB EXPENSES ALLOCATED TO TFFR	215,190		(215,190)		-	
TOTAL APPROPRIATED EXPENDITURES	1,612,445	0.7%	1,043,385	2.0%	2,655,830	0.9%
TOTAL EXPENDITURES	\$ 246,748,940		\$ 51,508,956		\$ 298,257,896	

**RETIREMENT AND INVESTMENT OFFICE  
2019-2021 BIENNIUM APPROPRIATION STATUS REPORT  
AS OF JUNE 30, 2020**

	2019-2021 BUDGET	ADJUSTED APPROPRIATION	BIENNIUM TO DATE ACTUAL	EXPENDITURES		
				BUDGET AVAILABLE	% BUDGET AVAILABLE	% OF BIENNIUM REMAINING
SALARIES AND BENEFITS	\$ 4,978,230	\$ 4,978,230	\$ 2,322,501	\$ 2,655,729	53.35%	50.00%
OPERATING EXPENDITURES	3,538,934 *	3,538,934	333,329	3,205,605	90.58% **	50.00%
CAPITAL ASSETS	6,300,000	6,300,000	0	6,300,000	100.00%	50.00%
CONTINGENCY	52,000	52,000	0	52,000	100.00%	50.00%
<b>TOTAL</b>	<b>\$ 14,869,164</b>	<b>\$ 14,869,164</b>	<b>\$ 2,655,831</b>	<b>12,213,333</b>	<b>82.14%</b>	<b>50.00%</b>

\* In addition to the Capital Assets line, the operating expenditure budget includes \$2,650,000 for the TFFR Pension Administration System Project.

\*\* Remaining base budget available (excluding PAS one-time funding) is \$563,361 or 63.37% as of 6/30/2020.

**RETIREMENT AND INVESTMENT OFFICE  
SCHEDULE OF CONSULTING EXPENSES  
FOR THE YEARS ENDED JUNE 30, 2020 and 2019**

	Pension Trust		Investment Trust	
	2020	2019	2020	2019
Actuary fees:				
Segal Consulting	\$152,873	\$108,000	\$ -	\$ -
Auditing/Accounting fees:				
CliftonLarsonAllen LLP	71,986	97,514	49,494	30,587
Disability consulting fees:				
Sanford Health	150	350	-	-
Legal fees:				
Office of Administrative Hearings	2,100	3,383	-	-
K&L Gates LLP	10,363	12,880	13,841	17,066
Kasowitz, Benson, Torres & Friedma	125	239	163	313
Jackson Walker LLP	3,594	3,105	10,781	54,804
ND Attorney General	12,385	37,798	12,593	50,746
Total legal fees:	<u>28,567</u>	<u>57,405</u>	<u>37,378</u>	<u>122,929</u>
Total consultant expenses	<u>\$253,576</u>	<u>\$263,269</u>	<u>\$ 86,872</u>	<u>\$153,516</u>





## Quarterly Report on Ends Q4:FY20

### Investment Program

#### **Manager Research and Monitoring Highlights**

Over the quarter, Staff continued to evaluate and diligence small cap equity managers holding virtual meetings/calls with 29 distinct prospects. Staff also continued its work on identifying managers/strategies that might be able to thrive in a severe market dislocation. Notable managers that Staff evaluated include Sixth Street and HPS.

#### **Portfolio Changes & Investment Consultant**

At the March 27<sup>th</sup> board meeting, the Board approved Staff's recommendation to engage Parametric to synthetically rebalance portfolio exposures toward long-term strategic asset allocation targets. Staff worked with Parametric to implement the overlay program at the beginning of the quarter.

At the May 22<sup>nd</sup> board meeting, Staff recommended and the Board approved up to a \$100 million commitment to Macquarie Infrastructure Partners V. Staff was able to take advantage of "first close" pricing with this commitment.

At the June 26<sup>th</sup> board meeting, Staff recommended and the Board approved two new managers. The first manager Riverbridge, manages a highly active high quality U.S. small cap growth strategy. This manager replaces the Parametric Clifton Russell 2000 mandate, and helps the Board meet its objective of becoming more active in the small cap space. The second manager, Sixth Street Partners, manages an opportunistic credit fund called TAO. The Board approved a \$150 million allocation for the Pension Pool and a \$100 million allocation for the Legacy Fund. Staff believes this fund is well positioned to execute in the current market environment.

#### **Other**

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 and Budget Stabilization Advisory Fund.

LSV remains on the Watch List.

## NDRIO Investment Due Diligence Quarterly Monitoring Report Apr-01-2020 to Jun-30-2020

Date	Firm	Reason For Call	Key Takeaways	Location	RIO Attendees	Manager Attendees
4/2/2020	Schroders	Small Cap Intro	<i>Core diversified portfolio, bottom up fundamental</i>	Conference Call	Darren Schulz,David Hunter,Eric Chin,Matt Posch	Robert Kaynor, Frederick Schaefer, Jamie Macmillan
4/3/2020	Riverbridge	Small Cap Intro	<i>Small cap growth manager. Focus on quality growth companies.</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Tim Wilkinson
4/3/2020	RGM Capital	Small Cap Intro	<i>Small cap manager, strong performing concentrated portfolio with high exposure to technology</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Robert Moses
4/6/2020	Kayne Anderson Rudnick Small Cap Growth	Small Cap Intro	<i>Have growth, core, value products. Concentrated portfolios with high quality businesses.</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Jordan Greenhouse
4/7/2020	FMI	Small Cap Intro	<i>Value style, look for good companies with short term cloud over the business</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Pat English, Jonathan Bloom, Bladen Burns
4/8/2020	TimesSquare U.S. Small Cap Growth	Small Cap Intro	<i>Look for quality growth business, diversified portfolio</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Grand Babyak, Brenda Le
4/8/2020	NB Small Cap	Small Cap Intro	<i>Core with some growth characteristics. Focus on free cash flow.</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Spiegel, Judy Vale, Brett Reiner, Bob D'Aleli
4/9/2020	GW&K Investment Management	Small Cap Intro	<i>Diversified core strategy</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Jeff Thibault, Nancy Rimington
4/13/2020	Geneva Small Cap Growth introduction	Small Cap Intro	<i>Bottom up fundamental growth investors</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Matthew Pistorio
4/13/2020	VCM Sycamore	Small Cap Intro	<i>Bottom up fundamental focusing on intrinsic value</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Erik Nabhan, Dan Dy
4/15/2020	Federated Hermes Kaufmann	Small Cap Intro	<i>Growth manager, looks for positive inflections of business momentum, clear path to cash flow growth</i>	Conference Call	Eric Chin,Matt Posch,Darren Schulz	Stephen DeNichilo, Chafen DeLao
4/16/2020	Parametric	Update on Equity Futures Contract	<i>Program implemented</i>	Conference Call	Eric Chin,Darren Schulz,David Hunter,Matt Posch	
4/17/2020	Sixth Street	Opportunistic Credit Prospect Update	<i>Been speaking with them for years. They are solid.</i>	Conference Call	Eric Chin	Ahsa Haggart
4/20/2020	Snyder Capital	Small Cap Intro	<i>Bottom up, long term fundamental looking for quality companies trading at a substantial discount to intrinsic value</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Andy Hahn, Charles Swain, Scott Molinaroli
4/21/2020	Fidelity Small Cap	Small Cap Intro	<i>Core bottom up strategy. Leverages Fidelity's research.</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Forest St. Clair
4/22/2020	Macquarie Small Cap	Small Cap Intro	<i>Core bottom up strategy</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Frank Morris
4/23/2020	Westwood	Small Cap Intro	<i>Small cap value, bottom up fundamental research</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Sean Clark, Casey Cass, Bill Costello
4/23/2020	Systematic	Small Cap Intro	<i>Small cap value focusing on cash flows</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Kenneth Burgess, James Wallerius
4/23/2020	Mike Rose	GCM Update	<i>They are in the process of launching fund 3. We should discuss internally</i>	Conference Call	Eric Chin	Mike Rose
4/24/2020	Silvercrest	Small Cap Intro	<i>Small cap, try to provide a higher quality value oriented portfolio</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Allan Gray, Roger Vogel
4/24/2020	Neumeier Poma	Small Cap Intro	<i>Single product firm, concentrated portfolio. Looking for quality companies trading below intrinsic value</i>	Conference Call	Eric Chin,Matt Posch	Brian Poma
4/27/2020	Sixth Street	TAO 5.0 Overview	<i>Looking for opportunites with lower downside risk</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Alan Waxman
4/28/2020	Ares	Ares Update	<i>Discuss new commitment structure</i>	Conference Call	David Hunter,Darren Schulz,Eric Chin	Markowicz, Evan Heroux, Reuben Lee, Kimberly
4/28/2020	Parametric	Parametric Performance Update	<i>Performing well with market rally</i>	Conference Call	Darren Schulz,David Hunter	Richard Fong Nicholas Tunell

4/29/2020	I Squared	Overview	<i>Overview of infrastructure strategy and and new fund III</i>	Video Call	Darren Schulz,Eric Chin,Matt Posch	Adil Rahmathulla, Andreas Moon
4/29/2020	Eagle Asset Management	Small Cap Intro	<i>Small cap core. Believe companies with durable franchises are likely to outperform over the long term</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Magg McGeary, Jason Wulff
4/29/2020	Wasatch	Small Cap Intro	<i>Small cap growth, employee owned firm. Own highest quality longer duration growth companies</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Matt Welling, JB Taylor
4/30/2020	RiverRoad Asset Management	Small Cap Intro	<i>Small cap value. Have exposure to micro cap</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Ben Brady, Andrew Beck
5/1/2020	Baron	Small Cap Intro	<i>Small cap growth, focus on quality growth</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Cliff Greenberg
5/6/2020	American Century Investments	Small Cap Intro	<i>Quality focused small cap value</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Jeff John, Ryan Cope, Mike Rode, Walt McGhee
5/7/2020	Wells Fargo Small Cap Growth	Small Cap Intro	<i>Small cap growth, Look for robust, underappreciated, and sustainable growth</i>	Conference Call	Darren Schulz,Eric Chin,Matt Posch	Bobby Chen, Joe Eberhardy, David Nazaret
5/11/2020	PGIM FI Core Plus Portfolios Update	Core/ Core Plus Update	<i>Discuss impact of Covid</i>	Conference Call	David Hunter,Darren Schulz,Eric Chin	Jacob Grimm; Michael Collins
5/13/2020	Manulife Securitized update	Declaration Update	<i>Discuss impact of Covid</i>	Conference Call	David Hunter,Darren Schulz,Eric Chin	Farley; David A Bees; Reid Kilberg;
5/13/2020	Lord Abbett Small Cap Growth	Small Cap Intro	<i>Focus on innovators, innovation premium within small cap growth</i>	Conference Call	Eric Chin,Matt Posch	Johnston, Maria Kalimnios, Caleb Dessalgne
5/13/2020	Columbia Threadneedle Small Cap Growth	Small Cap Intro	<i>Small cap growth looking for innovators and niche dominators</i>	Conference Call	Eric Chin,Matt Posch	Daniel Cole, Drew Tamoney
5/14/2020	Burgundy Small Cap	Small Cap Overview	<i>Second call with small cap team. Learned more about team and strategy</i>	Video Call	Eric Chin,Matt Posch	
5/14/2020	Sixth Street	DD with Alan Waxman	<i>High Quality Candidate for SIB portfolios</i>	Video Call	David Hunter,Darren Schulz,Eric Chin,Matt Posch	Alan Waxman Haggart, Ahsha
5/14/2020	Barings Active Short Duration	Performance Update		Conference Call	David Hunter	Dave Nagle
5/26/2020	Callan	Small Cap Review	<i>Reviewed small cap candidates with Callan to shorten the list</i>	Conference Call	David Hunter,Darren Schulz,Eric Chin,Matt Posch	Paul Erlendson, Mark Stahl, David Wang
5/27/2020	Western Asset	Structured product update		Conference Call	Eric Chin	Coombes, Frances;
6/1/2020	Goldman Sachs	Factor Analysis	<i>Interesting lens on factor adjusted excess returns</i>	Conference Call	David Hunter,Darren Schulz,Eric Chin,Matt Posch	Jared;Sikorski, Kai M.;Hyer, Andrew;Norman, James
6/3/2020	Ares	Q1 2020 Portfolio Review	<i>Reviewed portfolio</i>	Conference Call	David Hunter,Darren Schulz,Eric Chin,Matt Posch	Markowicz;Evan Heroux;Avni
6/8/2020	Callan	Small Cap Search Committee	<i>Selected finalists for growth and core/value strategies</i>	Conference Call	David Hunter,Darren Schulz,Eric Chin,Matt Posch	Paul Erlendson, Mark Stahl, David Wang
6/10/2020	Crestline	Prospect Call		Conference Call	Darren Schulz	
6/11/2020	HPS Investment Partners	Overview	<i>Overview on the opportunistic credit fund VI</i>	Conference Call	Darren Schulz,Eric Chin	Michael Kahn, Purnima Puri
6/11/2020	JPM	JPM Short Bond Review		Conference Call	David Hunter	Joe Hisdorf and Jim Sakelaris
6/12/2020	Wasatch	Small Cap Overview	<i>Finalist small cap call, Q&amp;A with team</i>	Video Call	Darren Schulz,Eric Chin,Matt Posch	Matt Welling, JB Taylor
6/15/2020	Riverbridge	Small Cap Overview	<i>Finalist small cap call, Q&amp;A with team</i>	Video Call	Darren Schulz,Eric Chin,Matt Posch	Tim Wilkinson
6/16/2020	Kayne Anderson Small Cap Growth	Small Cap Overview	<i>Finalist small cap call, Q&amp;A with team</i>	Video Call	Darren Schulz,Eric Chin,Matt Posch	
6/17/2020	Van Berkom US Small Cap	Small Cap Intro	<i>Attractive prospect for small cap</i>	Conference Call	Eric Chin,Darren Schulz	
6/17/2020	Brown Advisory Small Cap Growth	Small Cap Overview	<i>Finalist small cap call, Q&amp;A with team</i>	Video Call	Matt Posch,Eric Chin,Darren Schulz,David Hunter	Greg Caron, Chris Berrier



## MEMORANDUM

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**TO: TFFR Board**

**FROM: Jan Murtha**

**DATE: September 18, 2020**

**SUBJ: Quarterly Monitoring Report on TFFR Ends**

**I. Retirement Program Operations (Quarter ended June 30, 2020)**

- RIO issued an RFP for a consultant in the Pension Administration System (PAS) project in June 2020. Discussion regarding an award of that RFP will be provided at the meeting.
- In preparation for the Business Process Modeling provided by the consultant in Stage 1 of the PAS project, and in an effort to digitize more agency processes in response to the Covid-19 pandemic, agency staff in multiple divisions began a review of all retirement service processes.
- RIO staff began a review of Board reporting processes and content.
- TFFR member education workshops were canceled due to social distancing efforts, and staff is reviewing alternative methods of education.
- RIO is open to the public by appointment; members and employers experienced no break in service during RIO's transition to a remote work environment.
- RIO was awarded the 2019 Certificate of Achievement for Excellence in Financial Reporting – awarded by the Government Finance Officers Association (GFOA) for its Comprehensive Annual Financial Report (CAFR) for fiscal year ended June 30, 2019 (enclosed).
- TFFR was awarded the 2019 Certificate of Transparency – awarded by the National Council on Public Employee Retirement Systems (NCPERS) for participation in the 2019 NCPERS Public Retirement Systems Study.
- TFFR was awarded the 2019 Recognition Award for Administration – awarded by the Public Pension Coordinating Council (PPCC) in recognition of meeting professional standards for plan administration as set forth in the Public Pension Standards.

II. RIO Agency Update (current quarter)

- The Segal Company has been awarded the consultant contract for the PAS project.
- The new RIO website was launched.
- RIO transitioned to using Microsoft Teams for all virtual Board meetings.
- RIO received and distributed new technology equipment to staff, procured by ITD and paid for by CARES Act funds.
- RIO staff spent much of August working on closing out year-end reports with employers, and for members.
- Member annual statements and active and retiree newsletters are being made available digitally. Members are being mailed a tri-fold to highlight this digital access.
- RIO staff has been provided the remote workplace policy and model agreement and is in the process of developing remote work plans and finalizing agreements with all staff members.
- All staff training has been conducted on Goals, Fiduciary Responsibilities, and Open Records. Manager training is scheduled for September and October.
- RIO staff will provide a pre-recorded presentation at the 2020 NDCEL conference in October.
- RIO staff is reviewing and updating its Administrative Manual.

III. RIO Budget Preparation (current quarter)

- RIO is preparing for presentation of its budget for the 2021-2023 biennium. Enclosed please find a summary of the proposed budget goals.

**FOR INFORMATIONAL PURPOSES ONLY**

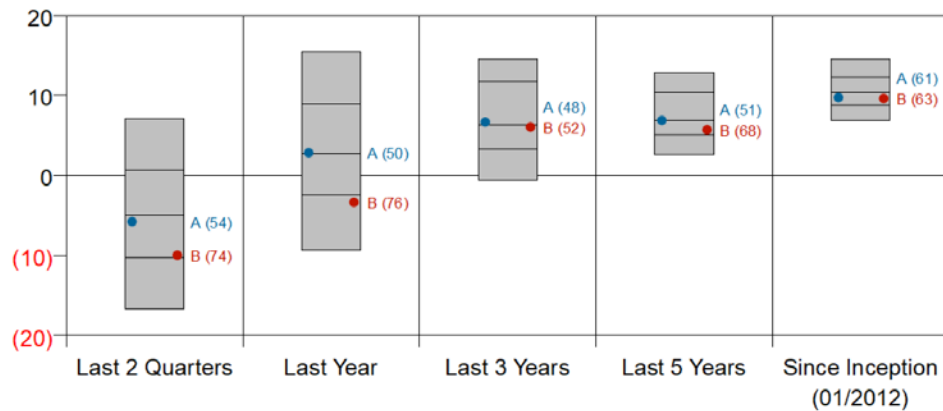
TO: State Investment Board  
 FROM: David Hunter, Darren Schulz, Eric Chin, and Matt Posch  
 DATE: September 25, 2020  
 SUBJECT: Watch List Update: Epoch Investment Partners (Pension)

**Background:**

As of June 30, 2020, Epoch Investment Partners managed approximately \$436 million for the Pension global equity mandate. The Global Choice strategy seeks long-term capital appreciation by investing in a concentrated portfolio of global businesses they believe have superior risk-reward profiles. Ideas are sources across firm strategies to create a concentrated portfolio of best ideas. Companies are selected for the portfolio based on their ability to generate free cash flow rather than traditional accounting based metrics such as price-to-book and price-to-earnings. Investment analysis takes into consideration factors that can lead to growing free cash flow and management’s ability to maximize return on cash flow allocation. While the portfolio is constructed from a bottom up process, decisions are made with consideration of the macro environment.

The Epoch Global Choice strategy performance is highlighted below:

Gross of Fee Returns  
 for Periods Ended June 30, 2020  
 Group: Callan Global Equity



10th Percentile	7.12	15.43	14.52	12.83	14.52
25th Percentile	0.63	8.97	11.75	10.36	12.34
Median	(4.98)	2.73	6.37	6.91	10.36
75th Percentile	(10.28)	(2.47)	3.24	5.13	8.76
90th Percentile	(16.62)	(9.37)	(0.52)	2.56	6.90
Member Count	221	215	213	204	180
MSCI:World (A)	(5.77)	2.84	6.70	6.90	9.75
NDPEN-Epoch Global Choice (B)	(9.95)	(3.33)	6.06	5.73	9.65

TOTAL EPOCH EQUITIES >>>>>>>		\$	435,815,791	1-year	5-years	Inception (01/2012)
Epoch Global Choice	Pension	\$	435,815,791	-3.3%	5.7%	9.7%
<i>Benchmark</i>			<i>MSCI World</i>	2.8%	6.9%	9.8%
<i>Pension Underperformance</i>			<i>gross of fees</i>	-6.2%	-1.2%	-0.1%
			<i>net of fees</i>	-6.8%	-1.8%	-0.8%

As of June 30, 2020

**Conclusion:**

Staff recommends placing Epoch Investment Partners on the manager watch list as a result of underperforming its benchmark since the strategy's inception. When comparing returns relative to Callan's Global Equity peer group, Epoch's performance falls below the peer group median. Additionally, Staff analysis of attribution adjusted for common equity risk factors since the inception of the mandate confirm that bottoms-up stock selection, the stated goal of the mandate, has actually been a detractor relative to the benchmark.

Staff also recommends that LSV should remain on Watch at this time (as supported by Callan's investment analysis included in their Annual Investment Performance Report).



**BOARD ACCEPTANCE REQUESTED**

**NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE**

**ANNUAL GOVERNANCE MANUAL REVIEW**

**Calendar Year Ended December 31, 2020**

**Annual Governance Manual Review:**

**If the SIB accepts RIO's recommendation, RIO intends to conduct our Annual Governance Manual Review over the next three months - October, November and December (or January in the event the December meeting is not held) - to facilitate a more meaningful review.**

Under this proposal, the SIB and RIO would review *Section A on Executive Limitations* and *Section B on Governance Process* in October.

**At the conclusion of our monthly board discussions, the SIB may make a motion to accept recommended changes, if any, to our Governance Manual.**