

**AGENDA**  
**INVESTMENT COMMITTEE MEETING**  
**OF THE EL CAMINO HOSPITAL BOARD**

**Monday, May 13, 2018 – 5:30 pm**

El Camino Hospital | Conference Room A (ground floor)  
 2500 Grant Road, Mountain View, CA 94040

**PURPOSE:** To develop and recommend to the El Camino Hospital Board of Directors the organization's investment policies, maintain current knowledge of the management and investment of the invested funds of the hospital and its pension plan(s), provide guidance to management in its investment management role, and provide oversight of the allocation of the investment assets.

AGENDA ITEM	PRESENTED BY		ESTIMATED TIMES
<b>1. CALL TO ORDER / ROLL CALL</b>	Jeffrey Davis, MD Chair		<b>5:30 – 5:32 pm</b>
<b>2. POTENTIAL CONFLICT OF INTEREST DISCLOSURES</b>	Jeffrey Davis, MD Chair		<b>5:32 – 5:33</b>
<b>3. PUBLIC COMMUNICATION</b> a. Oral Comments <i>This opportunity is provided for persons in the audience to make a brief statement, not to exceed 3 minutes on issues or concerns not covered by the agenda.</i> b. Written Correspondence	Jeffrey Davis, MD Chair	<i>public comment</i>	<b>information</b> <b>5:33 – 5:36</b>
<b>4. CONSENT CALENDAR</b> <i>Any Committee Member or member of the public may remove an item for discussion before a motion is made.</i> <b>Approval</b> a. <a href="#">Minutes of the Open Session of the Investment Committee Meeting – February 25, 2019</a> b. <a href="#">Proposed FY20 Investment Committee Goals</a> c. <a href="#">Proposed FY20 Pacing Plan</a> <b>Information</b> d. <a href="#">CFO Report Out – Finance Committee Open Session Materials</a> e. <a href="#">Progress Against FY19 Investment Committee Goals</a> f. <a href="#">Article of Interest</a>	Jeffrey Davis, MD Chair           Iftikhar Hussain, CFO	<i>public comment</i>	<b>motion required</b> <b>5:36 – 5:39</b>
<b>5. REPORT ON BOARD ACTIONS</b> <a href="#">ATTACHMENT 5</a>	Jeffrey Davis, MD Chair		<b>information</b> <b>5:39 – 5:44</b>
<b>6. 403(b) INVESTMENT PERFORMANCE</b> <a href="#">ATTACHMENT 6</a>	Brian Montanez, Multnomah Group		<b>information</b> <b>5:44 – 6:14</b>
<b>7. HEDGE FUND RESEARCH AND DUE DILIGENCE</b> a. <a href="#">Hedge Fund Research and Due Diligence</a> b. <a href="#">Sample Research Report</a> c. <a href="#">Sample Operational Risk Assessment</a>	Alex Da Costa, Principal from Pavilion		<b>information</b> <b>6:14 – 6:44</b>

A copy of the agenda for the Regular Meeting will be posted and distributed at least seventy-two (72) hours prior to the meeting. In observance of the Americans with Disabilities Act, please notify us at (650) 988-7504 prior to the meeting so that we may provide the agenda in alternative formats or make disability-related modifications and accommodations.

8.	<b>EL CAMINO HOSPITAL QUARTERLY PE - EXECUTIVE SUMMARY 1Q19</b> <a href="#">ATTACHMENT 8</a>	A. DiCosola & C. Kuhlman; Pavilion Advisory Group		<b>information</b> <b>6:44 – 7:09</b>
9.	<b>ASSET ALLOCATION REVIEW AND ERM FRAMEWORK</b> <a href="#">ATTACHMENT 9</a>	A. DiCosola & C. Kuhlman; Pavilion Advisory Group		<b>information</b> <b>7:09 – 7:39</b>
10.	<b>HEDGE FUND CHANGE (p59 of QPE 1Q19)</b> <a href="#">ATTACHMENT 10</a>	A. DiCosola & C. Kuhlman; Pavilion Advisory Group		<b>information</b> <b>7:39 – 7:44</b>
11.	<b>ADJOURN TO CLOSED SESSION</b>	Jeffrey Davis, MD Chair		<b>motion required</b> <b>7:44 – 7:45</b>
12.	<b>POTENTIAL CONFLICT OF INTEREST DISCLOSURES</b>	Jeffrey Davis, MD Chair		<b>7:45 – 7:46</b>
13.	<b>CONSENT CALENDAR</b> Any Committee Member may remove an item for discussion before a motion is made. <b>Approval</b> <i>Gov't Code Section 54957.2.</i> <b>a.</b> Minutes of the Closed Session of the Investment Committee Meeting May 13, 2019	Jeffrey Davis, MD Chair		<b>motion required</b> <b>7:46 – 7:49</b>
14.	<b>ADJOURN TO OPEN SESSION</b>	Jeffrey Davis, MD Chair		<b>motion required</b> <b>7:49 -7:50</b>
15.	<b>RECONVENE OPEN SESSION / REPORT OUT</b> To report any required disclosures regarding permissible actions taken during Closed Session.	Jeffrey Davis, MD Chair		<b>7:50 – 7:51</b>
16.	<b>ADJOURNMENT</b>	Jeffrey Davis, MD Chair		<b>motion required</b> <b>7:51 – 7:52</b>

**Important Dates:**

FY 2020 Investment Committee Meetings

- Monday, August 12, 2019 Investment Committee Meeting
- Monday, November 11, 2019 Investment Committee Meeting
- Monday, January 27, 2020 Finance & Investment Committee Joint Meeting
- Monday, February 10, 2020 Investment Committee Meeting
- Monday, May 11, 2020 Investment Committee Meeting

*Committee Meeting Dates Are Tentative Pending ECH Board Approval*

**Minutes of the Open Session of the  
Investment Committee of the Board of Directors  
Monday, February 25, 2019  
El Camino Hospital, 2500 Grant Road, Mountain View, California  
Conference Room A**

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**Members Present**

Nicola Boone  
John Conover  
Jeffrey Davis, Chair  
Gary Kalbach  
Brooks Nelson  
George Ting, MD

**Members Absent**
**Members Excused**

A quorum was present at the El Camino Hospital Investment Committee on Monday, February 25, 2019 meeting.

<b>Agenda Item</b>	<b>Comments/Discussion</b>	<b>Approvals/Action</b>
<b>1. CALL TO ORDER/ ROLL CALL</b>	The open session meeting of the Investment Committee of El Camino Hospital (the “Committee”) was called to order at 5:30pm by Chair Mr. Jeff Davis. All other Committee members were present.	<i>None</i>
<b>2. POTENTIAL CONFLICT OF INTEREST DISCLOSURES</b>	Chair Davis asked if any Committee member or anyone in the audience believes that a Committee member may have a conflict of interest on any of the items on the agenda. No conflict of interest was reported.	<i>None</i>
<b>3. PUBLIC COMMUNICATION</b>	Chair Davis asked if there was any public communication to present. None were noted.	<i>None</i>
<b>4. CONSENT CALENDAR ITEMS</b>	<p>Chair Davis asked if any Committee member wished to remove any items from the consent calendar for discussion. None were noted.</p> <p><b><u>Motion:</u></b> To approve the consent calendar Open Minutes of the November 12, 2018 Investment Committee meeting; and Open Session Joint Finance &amp; Investment Committee – January 28, 2019</p> <p><b><u>Movant:</u></b> Boone <b><u>Second:</u></b> Conover <b><u>Ayes:</u></b>, Boone, Conover, Davis, Kalbach, Nelson, Ting <b><u>Abstentions:</u></b> None <b><u>Absent:</u></b> None <b><u>Excused:</u></b> None <b><u>Recused:</u></b> None</p>	<i>The Open Minutes of the November 12, 2018 Investment Committee and Open Session Joint Finance &amp; Investment Committee – January 28, 2019 Meeting were approved.</i>
<b>5. REPORT ON BOARD ACTIONS</b>	Chair Davis briefly reviewed the Report on Board Actions as further detailed in the packet.	<i>information</i>

Agenda Item	Comments/Discussion	Approvals/Action
<p><b>6. ROTATING TOPICS: CAPITAL MARKETS REVIEW &amp; PORTFOLIO PERFORMANCE.</b></p>	<p>Antonio DiCosola and Chris Kuhlman, Pavilion Advisory Group, presented a summary to the Investment Committee on Capital Markets and Portfolio Performance.</p> <p>Mr. Kuhlman provided a review of capital markets, noting that uncertainty rose in the fourth quarter as investors contemplated the likely direction of monetary policy, trade policy, and government spending. In the beginning of the quarter, the potential for a monetary policy misstep ignited October's sharp interest rate moves, as Federal Reserve Chairman Powell suggested rates were "a long way from neutral." While refined forward guidance helped calm markets, domestic and international political tensions helped drive risk aversion higher in December.</p> <p>Global equity markets tumbled during the quarter, catalyzed by the rising uncertainty and increased risk aversion. The S&amp;P 500 Index, which entered the quarter in positive territory, declined almost 14% and posted a negative return for the calendar year. Uncertainties included the escalation of trade tensions between the U.S. and China and fears of a Federal Reserve policy misstep. These uncertainties, coupled with reduced liquidity resulting from seasonal and technical factors catalyzed a significant re-pricing of risk assets, particularly equities.</p> <p>Pavilion Advisory Group reviewed the Investment Committee Scorecard and Portfolio Performance as further detailed in the submitted materials to include the following:</p> <ol style="list-style-type: none"> <li> <p><b>Scorecard:</b></p> <p>Mr. Kuhlman reported investment performance for the quarter. The Surplus Cash portfolio ended with a market value of \$933M and returned -6.2% vs. -5.6% for its benchmark. The Cash Balance Plan ended with a market value of \$249M and returned -7.9% vs. -7.0% for the benchmark.</p> </li> <li> <p><b>Surplus Cash:</b></p> <p>Mr. Kuhlman noted that the Surplus Cash Portfolio underperformed its benchmark by 60 bps during the quarter. Over the trailing one-year period, the Portfolio returned -2.7%, outpacing its benchmark by 0.9%. Relative underperformance during the quarter was driven by unfavorable manager results. However, over the trailing one-year period, manager results were the primary driver of outperformance. Notable underperformers during the quarter included international equity managers Causeway &amp; Harding Loevner, along with fixed income manager Dodge &amp; Cox. Notable outperformers over the one-year period include large cap growth manager Touchstone Sands (+6.3%) and small cap growth manager Conestoga (+0.8%), which outperformed their benchmarks by 7.8%</p> </li> </ol>	



Agenda Item	Comments/Discussion	Approvals/Action
	<p>and 10.1%, respectively.</p> <p>3. <b>Cash Balance Plan:</b> Mr. Kuhlman further reported that the Cash Balance Plan returned -7.9% for the quarter, underperforming its benchmark by 90 bps. During 2018, the Plan returned -2.8%, outpacing its benchmark by approximately 1.5%. Relative underperformance during the fourth quarter was driven by unfavorable manager results. However, over the trailing one-year period, manager results were the primary driver of outperformance, particularly within domestic equities. Asset allocation positioning relative to the benchmark also added value over the year. Notable underperformers during the quarter included international equity managers Causeway and Harding Loevner, along with fixed income manager Dodge &amp; Cox. Alternatives manager results detracted from relative results the most during the quarter, as Pointer Offshore returned -9.3%, underperforming the HFRI Fund of Funds Composite Index by 430 bps. Notable outperformers over the one-year period include large cap growth manager Touchstone Sands (+6.3%) and small cap growth manager Conestoga (+0.8%) which outperformed their benchmarks by 7.8% and 10.1%, respectively.</p> <p>4. <b>Hedge Funds:</b> The Surplus Cash Hedge Fund Portfolio (the “Portfolio”) returned -5.1% during the fourth quarter of 2018, underperforming the HFRI Fund of Funds Composite Index by 0.1%. Each of the Portfolio’s four strategies had negative returns in what was a difficult quarter for markets. Relative Value (-0.4%) strategies detracted slightly, while the other strategies suffered greater losses: Equity Long / Short (-8.2%), Macro (-5.0%) and Credit (-4.2%). On the positive side, three of the four strategies outperformed their respective reference indices, namely Relative Value (+2.0% outperformance), Credit (+1.6%), and Equity Long / Short (+0.1%).</p> <p>In response to Mr. Ting’s question regarding exposure to alternative investments; Pavilion noted the Surplus Cash target is 20%. The actual allocation as of December 31, 2018 was 17%, with less than 3% in Real Estate and 15% in Hedge Funds.</p> <p>Antonio DiCosola from Pavilion discussed the Surplus Cash hedge fund redemptions which are currently in progress and recommended this capital be deployed into two new investments; \$10 million each to the Palestra Capital Offshore Fund and Man Group Alternative Risk Premia Fund. These investments would be funded using proceeds from the</p>	

Agenda Item	Comments/Discussion	Approvals/Action
	<p>redemptions of Tiger Eye and BlackRock 32 Capital, as well as residual cash.</p> <p>In response to questions from Mr. Conover and Mr. Kalbach; Pavilion stated the Palestra and Man Group funds are different strategies and thus performance should not be measured against one another. The funds will have exposure to different factors and maintain different risk and return profiles. While Palestra's track record is somewhat shorter compared to other funds in the Surplus Cash portfolio, the portfolio managers have longer track records prior to forming Palestra.</p> <p><i>The Committee requested that a representative from the Pavilion hedge fund research team attend the next Investment Committee meeting to discuss the research and due diligence process.</i></p>	<p><i>El Camino will proceed with two new hedge fund investments. A representative from the Pavilion hedge fund team will attend the next Investment Committee meeting.</i></p>
<p><b>7. JANUARY PERFORMANCE UPDATE</b></p>	<p>Mr. Kuhlman provided a brief update on performance through January 31, 2019. For the month of January, the Surplus Cash portfolio returned +3.9%, while the Cash Balance Plan returned +4.9%.</p>	
<p><b>8. PROPOSED FY 2020 GOALS, PACING PLAN AND MEETING DATES</b></p>	<p><b><u>Motion:</u></b> The Committee added Hedge Fund Research and Due Diligence Process to Q4 and moved the Asset Allocation Review and ERM framework to Q4 of the FY 2020 Goals; as well as on the Pacing Plan.</p> <p><b><u>Movant:</u></b> Conover  <b><u>Second:</u></b> Nelson  <b><u>Ayes:</u></b>, Boone, Conover, Davis, Kalbach, Nelson  <b><u>Abstentions:</u></b> None  <b><u>Absent:</u></b> None  <b><u>Excused:</u></b> None  <b><u>Recused:</u></b> None</p>	<p><i>Hedge Fund Research and Due Diligence Process added to Q4 and moved Asset Allocation Review and ERM framework to Q4 of the FY2020 Goals &amp; Pacing Plan.</i></p>
<p><b>9. ADJOURN TO CLOSE SESSION</b></p>	<p><b><u>Motion:</u></b> To adjourn to close session at 6:53 pm.</p> <p><b><u>Movant:</u></b> Boone  <b><u>Second:</u></b> Ting  <b><u>Ayes:</u></b>, Boone, Conover, Davis, Kalbach, Nelson, Ting  <b><u>Abstentions:</u></b> None  <b><u>Absent:</u></b> None  <b><u>Excused:</u></b> None  <b><u>Recused:</u></b> None</p>	<p><i>A motion to adjourn to the Investment Committee meeting at 6:53 pm was approved.</i></p>
<p><b>10. AGENDA ITEM 12 RECONVENE OPEN SESSION</b></p>	<p><i>Agenda Item 11 was conducted in closed session.</i></p> <p>Mr. Kalbach filled in for Chair Davis and reported that the Closed Minutes of the November 12, 2018 and Closed Session Joint Finance &amp; Investment Committee – January 28, 2019 Meeting were approved. Chair Davis left during Open Session. All other Committee members were present.</p>	

Agenda Item	Comments/Discussion	Approvals/Action
<b>11. AGENDA ITEM 13 ADJOURMENT</b>	<p><b><u>Motion:</u></b> To adjourn the Investment Committee meeting at 6:56 pm.</p> <p><b><u>Movant:</u></b> Nelson <b><u>Second:</u></b> Ting <b><u>Ayes:</u></b>, Boone, Conover, Davis, Kalbach, Nelson <b><u>Abstentions:</u></b> None <b><u>Absent:</u></b> None <b><u>Excused:</u></b> None <b><u>Recused:</u></b> None</p>	<p><i>A motion to adjourn to the Investment Committee meeting at 6:56 pm was approved.</i></p>

**Attest as to the approval of the Foregoing minutes by the Investment Committee of El Camino Hospital:**

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Jeffrey Davis, MD, Chairman  
ECH Investment Committee of the Board of Directors

**PROPOSED FY 2020 COMMITTEE GOALS - Draft**  
 Investment Committee

**PURPOSE**

The purpose of the Investment Committee is to develop and recommend to the El Camino Hospital (ECH) Board of Directors (“Board”) the investment policies governing the Hospital’s assets, maintain current knowledge of the management and investment funds of the Hospital, and provide oversight of the allocation of the investment assets.

**STAFF:** Iftikhar Hussain, Chief Financial Officer

*The CFO shall serve as the primary staff to support the Committee and is responsible for drafting the Committee meeting agenda for the Committee Chair’s consideration. Additional members of the Executive Team or hospital staff may participate in the meetings upon the recommendation of the CFO and at the discretion of the Committee Chair. The CEO is an ex-officio member of this Committee.*

GOALS	TIMELINE by Fiscal Year (Timeframe applies to when the Board approves the recommended action from the Committee, if applicable)	METRICS
1. Review performance of consultant recommendations of managers and asset allocations	<ul style="list-style-type: none"> <li>Each quarter - ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Committee to review selection of money managers and make recommendations to the CFO</li> </ul>
2. Education Topic: (To be decided by the Committee at the 5/13/19 meeting)	<ul style="list-style-type: none"> <li>FY20 Q1</li> </ul>	<ul style="list-style-type: none"> <li>Complete by the August 2020</li> </ul>
3. Asset Allocation, Investment Policy Review and ERM framework including Efficient Frontier	<ul style="list-style-type: none"> <li>Q4</li> </ul>	<ul style="list-style-type: none"> <li>Completed by May 2020</li> </ul>

**SUBMITTED BY:**

Jeffrey Davis, MD  
 Iftikhar Hussain

**Chair**, Investment Committee  
**Executive Sponsor**, Investment Committee

**PROPOSED** INVESTMENT COMMITTEE PACING PLAN

Revised 02/25/2019

FY 2020: Q1		
JULY – NO MEETING	AUGUST 12, 2019 Meeting	SEPTEMBER – NO MEETING
	<ul style="list-style-type: none"> <li>Capital Markets Review and Portfolio Performance</li> <li>Tactical Asset Allocation Positioning and Market Outlook</li> <li>(Education Topic TBD)</li> <li>CFO Report Out – Open Session Finance Committee Materials</li> </ul>	N/A
FY 2020: Q2		
OCTOBER – NO MEETING	NOVEMBER 11, 2019 Meeting	DECEMBER – NO MEETING
<i>October 23, 2019 – Board and Committee Educational Session</i>	<ul style="list-style-type: none"> <li>Capital Markets Review and Portfolio Performance</li> <li>Tactical Asset Allocation Positioning and Market Outlook</li> <li>Investment Policy Review</li> <li>CFO Report Out – Open Session Finance Committee Materials</li> </ul>	N/A
FY 2020: Q3		
JANUARY 27, 2020	FEBRUARY - 10, 2020 Meeting	MARCH – NO MEETING
<i>Joint Finance Committee and Investment Committee meeting.</i>	<ul style="list-style-type: none"> <li>Capital Markets Review and Portfolio Performance</li> <li>Tactical Asset Allocation Positioning and Market Outlook</li> <li>CFO Report Out – Open Session Finance Committee Materials</li> <li>Proposed FY 2021 Goals/Pacing Plan/Meeting Dates</li> </ul>	
FY 2020: Q4		
APRIL – NO MEETING	MAY 11, 2020 Meeting	JUNE – NO MEETING
<i>April 22, 2020 – Board and Committee Educational Session</i>	<ul style="list-style-type: none"> <li>Capital Markets Review and Portfolio Performance</li> <li>Tactical Asset Allocation Positioning and Market Outlook</li> <li>Asset Allocation Review and ERM Framework</li> <li>CFO Report Out – Open Session Finance Committee Materials</li> <li>403(b) Investment Performance</li> <li>Approve FY 21 Committee Goal</li> <li>Review status of FY20 Goals</li> </ul>	N/A

<b>Item:</b>	Finance Committee Report El Camino Hospital Investment Committee (IC) May 13, 2019
<b>Responsible party:</b>	Iftikhar Hussain, CFO
<b>Action requested:</b>	For Information
<b>Background:</b> The Finance Committee meets 7 times per year. The Committee last met on April 22, 2019 and meets next on May 28, 2019	
<b>Summary and session objectives:</b> To update the Investment Committee on the work of the Finance Committee. At the March 25, 2019 meeting the committee reviewed the February financial statements. For the fiscal year, operating income is \$13.6 million ahead of target  At the April 22, 2019 meeting the FC covered the following items in closed session: <ul style="list-style-type: none"> <li>a. Previewed the FY 20 operating and capital budget. The final budget will be presented at the May Finance Committee meeting</li> <li>b. Reviewed summary of Physician Financial Arrangements</li> <li>c. Reviewed the HVI service line report</li> </ul>	
<b>Proposed Board motion, if any:</b>  None	
<b>LIST OF ATTACHMENTS:</b>  The Finance Committee Open Session Materials may be accessed by clicking <a href="#">here</a> .	

## FY19 COMMITTEE GOALS

### Investment Committee

#### PURPOSE

The purpose of the Investment Committee (the "Committee") is develop and recommend to the El Camino Hospital (ECH) Hospital Board of Directors ("Board") the investment policies governing the Hospital's assets, maintain current knowledge of the management and investment funds of the Hospital, and provide oversight of the allocation of the investment assets.

**STAFF:**      **Iftikhar Hussain**, Chief Financial Officer (Executive Sponsor)

The CFO shall serve as the primary staff to support the Committee and is responsible for drafting the Committee meeting agenda for the Committee Chair's consideration. Additional members of the Executive Team may participate in the meetings upon the recommendation of the Executive Sponsor and at the discretion of the Committee Chair.

GOALS	TIMELINE	METRICS
1. Review performance of consultant recommendations of managers and asset allocations	Each quarter – ongoing	Committee to review selection of money managers and make recommendations to the CFO - <b>Complete</b>
2. Educate the Board and Committee: investment strategy in volatile markets	Q1 FY19	Completed by the end of Q1 - <b>Committee Received Report in August 2018. Report is going to the ECH Board in June.</b>
3. Asset Allocation, Investment Policy review, and ERM framework	Q3 FY19	Completed by February 2019 – <b>Investment Policy Review and Revision Completed in November and February. Approved by the Board in March. Asset Allocation and ERM Framework Paced for May 2019.</b>

#### SUBMITTED BY:

**Chair:** Jeffrey Davis, MD

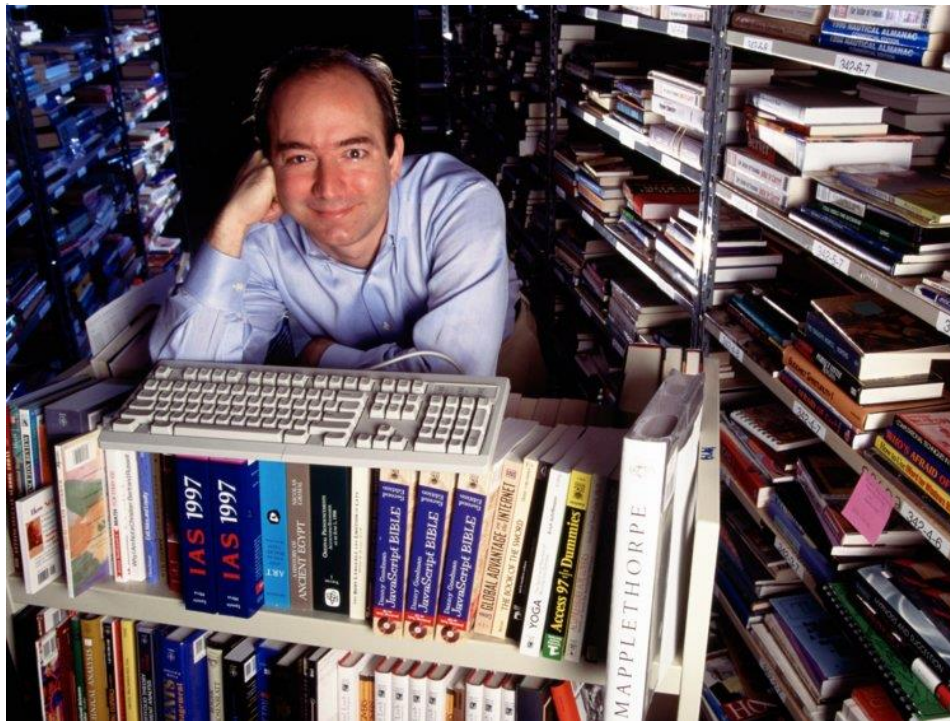
**Executive Sponsor:** Iftikhar Hussain

**Approved by the El Camino Hospital Board on June 13, 2018**

# The average large company dies at age 30. Here are 4 strategies Jeff Bezos uses to make sure Amazon isn't one of them.

## Business Insider

Alyson Shontell | April 5, 2019



Amazon is 24 years old. Jeff Bezos knows that if he isn't careful, Amazon could be just another big company that dies by age 30. Here are the strategies he uses to make sure that doesn't happen.

Kim Kulish/Getty images

- - Jeff Bezos keeps saying Amazon is going to die some day. That's because the average US public company only lives to be about 30 years old.
  - But there are some strategies leaders can use to stay innovative and delay a company's death.
  - Bezos outlined four he uses to stay in "Day 1," the growth phase of a company, in his 2017 shareholder letter.



- They are: true customer obsession, resisting proxies, embracing external trends, and high-velocity decision making.

"Amazon is not too big to fail. In fact, I predict Amazon will fail."

That's what Jeff Bezos, CEO and founder of Amazon, said to his staff during an all-hands meeting in 2018.

"Amazon will go bankrupt," he continued. If you look at large companies, their lifespans tend to be 30-plus years, not a hundred-plus years."

Bezos is right. The average US public company is dying younger than ever, around age 30, according to Martin Reeves, a strategist who gave a popular [TED talk about how to build a company that lasts for 100 years](#).

Another startling statistic: Reeves says 32% of companies won't exist 5 years from now, whether they're acquired or they flat-out fail.

How do you keep a company from dying?

Bezos says his goal is not to keep Amazon from dying, it's to keep it from dying during his lifetime. To do this, he uses an innovation philosophy dubbed "Day 1."

I recently gave a talk on Bezos' Day 1 strategies at an Axel Springer Leadership Summit in Germany. Here's the playbook Bezos uses to build a company that lasts.

Imagine if your CEO stood in front of your company and said, "We're going to die." That's what Jeff Bezos has done over and over again.



“Amazon is not too big to fail. In fact,  
I predict Amazon will fail.”

— Jeff Bezos, 2018

Alyson Shontell/Business Insider

Bezos has repeatedly said that he expects Amazon will one day go out of business.

That's not because the company isn't doing great right now. It's because if you look at the stats, all companies eventually die and get replaced.

**It turns out companies are dying younger than ever. The average US public company only lives to be about 30 years old.**

## Companies are dying younger than ever: ~ age 30



Source: Ted Talk, "How To Build a Business that lasts 100 years" by strategist Martin Reeves

Alyson Shontell/Business Insider

Perhaps more startling: 32% of companies won't exist five years from now, according to strategist Martin Reeves, who gave a TED Talk on [how to build a 100-year-old company](#).

**So, how do you delay a company's inevitable death? Jeff Bezos' answer:**

# Remain in Day 1

Alyson Shontell/Business Insider

Bezos has been talking about Day 1 for decades. He works in a building on Amazon's headquarters called "Day 1."

Today, he signs his shareholder letters with, "It remains Day 1."

"Day 1" is the innovation and growth phase of a company.

What's Day 2?

If you're a CEO, you don't want to find out.

**Bezos uses four strategies to "remain in Day 1." The first is to delight customers.**

## 1. True Customer Obsession

"Customers are always beautifully, wonderfully dissatisfied, even when they report being happy and business is great. Even when they don't yet know it, customers want something better."

Alyson Shontell/Business Insider

Bezos believes that if you're truly obsessed with pleasing your customers, you will come up with innovations that they will love, that they never could have articulated.

"No customer ever asked Amazon to create the Prime membership program, but it sure turns out they wanted it, and I could give you many such examples," [Bezos wrote in his 2017 shareholder letter.](#)

This belief is popular among innovators. Apple cofounder Steve Jobs famously disliked focus groups. He felt people often didn't know what they wanted until you showed it to them.

**The second strategy Bezos uses is to resist thinking, "We've always done it this way." Don't let your processes own you.**

## 2. Resisting Proxies

“Staying in Day 1 requires you to experiment patiently, accept failures, plant seeds, protect saplings and double down when you see customer delight. Remarkable customer experience starts with heart, intuition, curiosity, play, guts and taste. You won’t find any of that in a survey.”

Alyson Shontell/Business Insider

You should constantly be questioning whether or not there's a better way to do something, Bezos says. "Good process serves you so you can serve customers. But if you're not watchful, the process can become the thing. This can happen very easily in large organizations," Bezos wrote. "You stop looking at outcomes and just make sure you're doing the process right. Gulp... The process is not the thing. It's always worth asking, do we own the process or does the process own us? In a Day 2 company, you might find it's the second."

**Trying to hold on to the way things were is also a bad strategy. Instead, you should notice what's happening in your industry and get on board.**

### 3. Embrace external trends

“The outside world can push you into Day 2 if you won’t or can’t embrace powerful trends quickly. If you fight them, you’re probably fighting the future. Embrace them and you have a tailwind.”

Alyson Shontell/Business Insider

With the pace of technological change, no company can afford to hold on to the good old days and resist new trends.

It is better to disrupt yourself than to be disrupted. So if you notice things changing, get ahead of it rather than resist it.

**The final strategy Bezos recommends is to make decisions quickly. He uses a phrase with his leadership team, "disagree and commit" to help them get aligned on tough decisions.**

## 4. High Velocity Decision Making

“Most decisions should be made with 70% of the information you wish you had. If you wait for 90%, you’re being too slow...Being wrong may be less costly than you think. Being slow is expensive for sure.”

Also: “Disagree and Commit.”

Alyson Shontell/Business Insider

Ideally, a leader will feel 100% confident making a decision.

Unfortunately, this isn't practical. And if you wait until you feel 100% confident or have all of the information, the opportunity will likely have passed and you'll have moved too slowly.

Bezos points out that it's often not that damaging to be wrong. Failures can be scaled back if you realize your error and move quickly.

What happens when your leadership team disagrees on a way forward?

Bezos uses a phrase "disagree and commit" to save time. He uses this when a consensus with his team not be reached, and a decision needs to be made.

It is not, however, an ask for the team (or him) to cave. It is instead a promise to get aligned after healthy discourse so the entire company can move forward productively.

"It's a genuine disagreement of opinion, a candid expression of my view, a chance for the team to weigh my view, and a quick, sincere commitment to go their way," Bezos says.

**If you slip out of Day 1, you'll wind up in Day 2. And then, RIP!**

**“Day 2 is stasis. Followed by irrelevance. Followed by excruciating, painful decline. That is why it is always Day 1.”**

— Jeff Bezos, 2017 shareholder letter

Alyson Shontell/Business Insider

An Amazon employee asked Jeff Bezos what "Day 2" means.

Day 2 is the beginning of the end.

"To be sure, this kind of [company] decline would happen in extreme slow motion," Bezos explains of the Day 2 scenario.

"An established company might harvest Day 2 for decades, but the final result would still come."



**EL CAMINO HOSPITAL  
COMMITTEE MEETING COVER MEMO**

**To:** Investment Committee  
**From:** Cindy Murphy, Director of Governance Services  
**Date:** May 13, 2019  
**Subject:** Report on Board Actions

**Purpose:**

To keep the Committee informed with regards to actions taken by the El Camino Hospital and El Camino Healthcare District Boards.

**Summary:**

1. **Situation:** It is important to keep the Committees informed about Board activity to provide context for Committee work. The list below is not meant to be exhaustive, but includes agenda items the Board voted on that are most likely to be of interest to or pertinent to the work of El Camino Hospital's Board Advisory Committees.
2. **Authority:** This is being brought to the Committees at the request of the Board and the Committees.
3. **Background:** Since the last Investment Committee Meeting the Hospital Board has met twice times and the District Board has met once. In addition, the Board has delegated certain authority to the Finance Committee, the Compliance and Audit Committee, and the Executive Compensation Committee. Going forward, those approvals will also be noted in this report.

**A. ECH Board Actions**

**March 13, 2019**

- Approved in concept increasing ECH Board to a maximum of 11 members and reserving a seat for the CEO. A bylaws revision implementing the changes will be brought forward to the Board from the Governance Committee for the May ECH Board meeting. This will ultimately require approval of the El Camino Healthcare District Board also.
- Approved structure and guidance for enterprise risk management as recommended by the Compliance and Audit Committee.
- Approved Compensation for Nurse Practitioner for ASPIRE Program.
- Approved Revised ECH Director Compensation and Reimbursement Policy and Procedure.
- Approved Revised Hospital Board Officers Nomination and Selection Procedures
- Updating Dates for Submission of Statements of Interest.
- Approved Revised Surplus Cash Investment policy.
- Approved Sponsorship of SVMD as Risk Bearing Organization with Department of Managed Healthcare.



**April 10, 2019**

- Approved FY19 Period 7 and Period 8 Financial Reports.
- Approved the Annual Board Assessment Tool and Process to be Conducted by Via Healthcare Consulting

**B. ECHD Board Actions**

**March 19, 2019**

- o Approved Resolution 2019 -02 Recognizing Community Benefit Partner Magical Bridge  
Approved Revised ECHD Board Director Compensation Policy and Compensation Reimbursement Procedure

**C. Finance Committee Actions**

Approved the Annual Report of Physician Financial Arrangements

**D. Compliance and Audit Committee**

Approved the Annual Report of Physician Financial Arrangements

**E. Executive Compensation Committee – None Since Last Report**

4. Assessment: N/A

5. Other Reviews: N/A

6. Outcomes: N/A

**List of Attachments:**

None.

**Suggested Committee Discussion Questions:**

None.



**MULTNOMAH**GROUP

## **Annual Report to the El Camino Hospital Investment Committee**

El Camino Hospital  
Performance as of March 29, 2019

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# Table of Contents

Executive Summary..... 4

    U.S. Equity Markets..... 6

    Fixed Income..... 7

    International Equity Markets..... 9

    Unpredictability of Asset Class Returns..... 10

    Growth of \$10,000..... 11

    Target Date Investments..... 12

    Plan Asset Summary..... 13

    Plan Asset Details Fidelity..... 14

    Contribution and Withdrawal Summary Fidelity..... 15

    Fund Scorecard..... 16

    Performance Overview..... 17

    T. Rowe Price Equity Income..... 20

Evaluation Methodology..... 24

# Executive Summary

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El Camino Hospital 403(b) Retirement Plan

April 29, 2019

## Introduction

As an ERISA 3(21) Investment Fiduciary to the Plan, Multnomah Group reviews the investment menu with El Camino Hospital Retirement Plan Administration Committee (RPAC) on a quarterly basis. Additionally, Multnomah Group Conducts an annual fee benchmarking and share class study for the Plan.

## Fund Actions

- Effective January 2, 2018 the **New York Life Guaranteed Interest Account** moved to a lower share class, increasing the yield by 25 basis points.
- On January 10, 2018 the final **Principal Fixed Account** transfer payment was made for the 403(b) plan.
- Effective October 1, 2018, the two fund changes approved at the July 26, 2017 RPAC meeting were implemented. This fund change included removing **American Beacon Stephen Small Cap Growth** for continued under performance due primarily to security selection, and replacing it with **Conestoga Small Cap**, as well as removing **Fidelity Government Money Market** and replacing it with **Vanguard Federal Money Market** for expense reasons.

## Additional Comments

T. Rowe Price Equity Income is the only fund in the investment menu that scores in the bottom half of the Multnomah Group Qualitative scoring peer group, scoring 53 out of a possible 100 points. The fund loses points for manager tenure and manager skill. While the Portfolio Manager, John Linehan, is still relatively new to **T. Rowe Price Equity Income** portfolio, he has a solid track record managing other large value strategies at T. Rowe Price and fund performance has picked up under his tenure. While Linehan has made modest changes in portfolio execution, increasing international exposure and decreasing cash, the portfolio remains consistent with the fund's original philosophy and mandate. The primary driver of his poor security selection score is the avoidance of high priced dividend paying stock for the three years prior to the Fed raising the Federal Funds rate. Multnomah group believes T. Rowe Price Equity Income is a solid option for investors seeking exposure to income-generating large value stocks.

## Fee Benchmarking

Effective October 1, 2018, the 403(b) Plan has a fixed dollar fee arrangement that was reduced from \$91 per participant to \$81 per participant with an account balance. This fee is offset at the plan level by the revenue generated by the plan investments. Excess revenue is credited to the plan's revenue credit account. El Camino directs Fidelity to use these funds for plan administrative expenses or distributes it back to participants.

The \$81 per participant fee is within range of Multnomah Group's peer group range of \$55 - \$90 per participant for sim similarly sized plans.

## Executive Summary

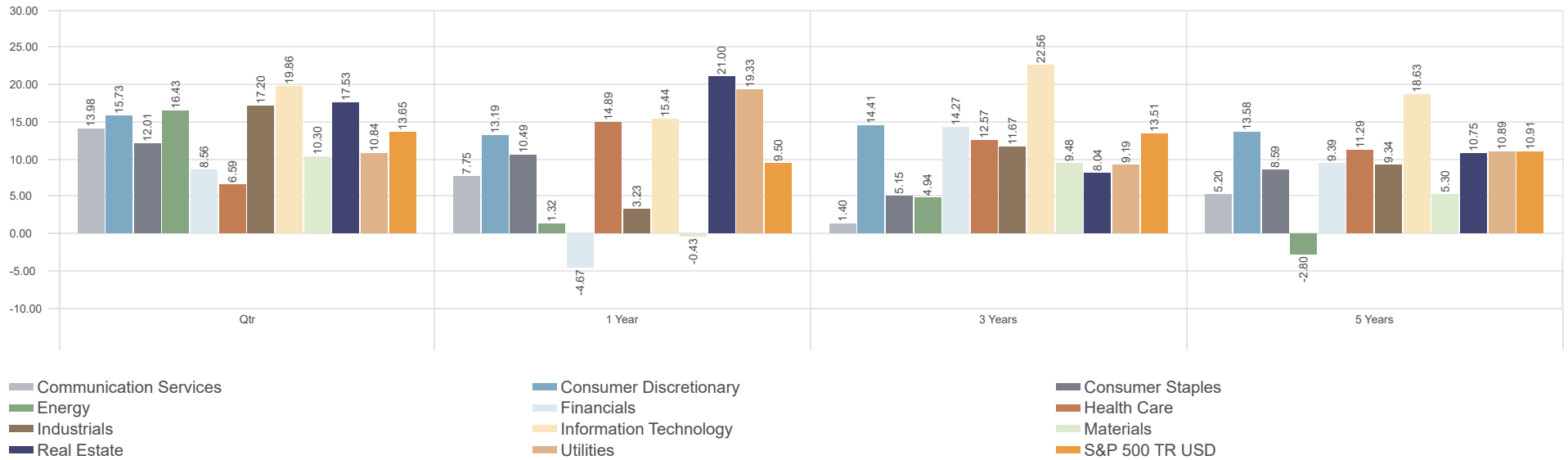
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### Share Class Review

At the February 28th, 2018 meeting, the RPAC reversed their decision to change the way Fidelity is compensated. The RPAC had elected to move Fidelity from a Revenue Sharing model, to a Fee Levelization model but rescinded this change. As of March 31, 2019, all investments are invested in the lowest share class available to the Plan at this time that meets the agreed compensation requirements.

## U.S. Equity Markets

### Returns by Sector (S&P 500)



### Returns by Style (Russell Indices)

#### Last Quarter

	Value	Blend	Growth
Large	10.80	13.05	15.07
Mid	14.37	16.54	19.62
Small	11.93	14.58	17.14

#### Last 3 Years

	Value	Blend	Growth
Large	10.94	14.19	17.01
Mid	9.50	11.82	15.06
Small	10.86	12.92	14.87

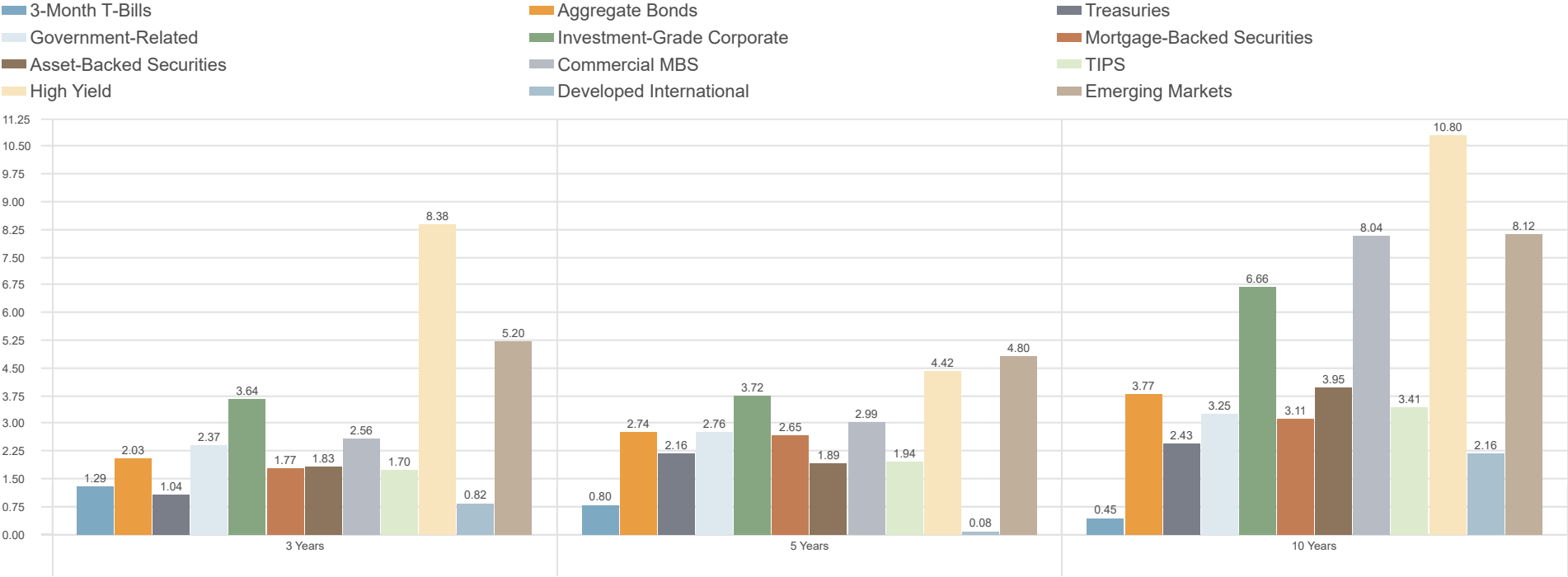
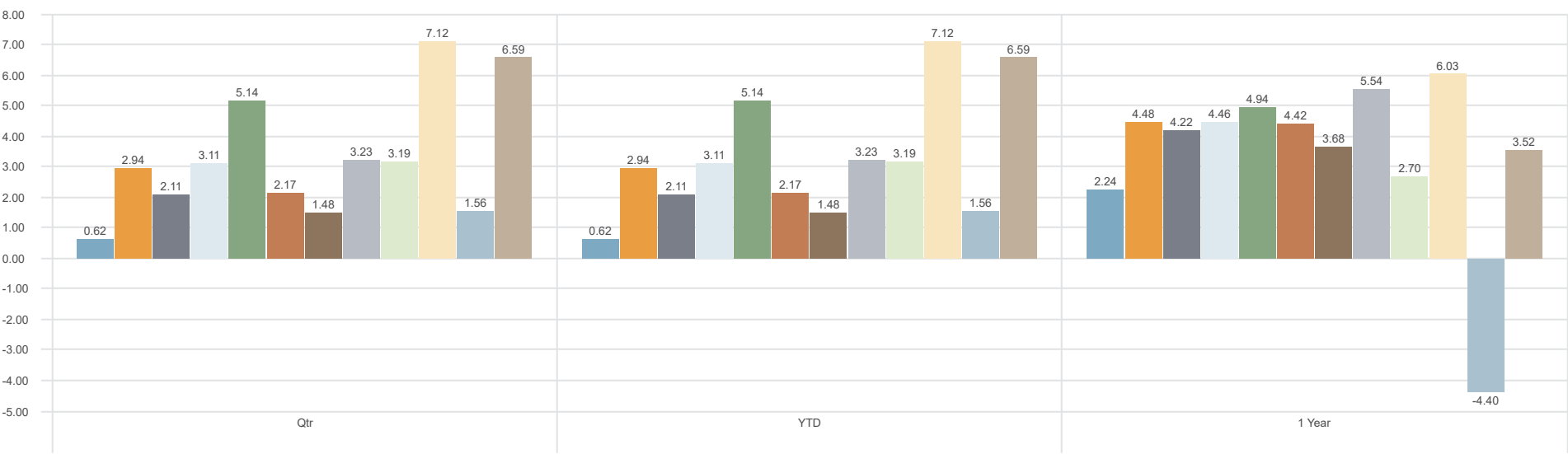
#### Last 1 Year

	Value	Blend	Growth
Large	7.11	10.43	13.15
Mid	2.89	6.47	11.51
Small	0.17	2.05	3.85

#### Last 5 Years

	Value	Blend	Growth
Large	7.98	11.39	14.53
Mid	7.22	8.81	10.89
Small	5.59	7.05	8.41

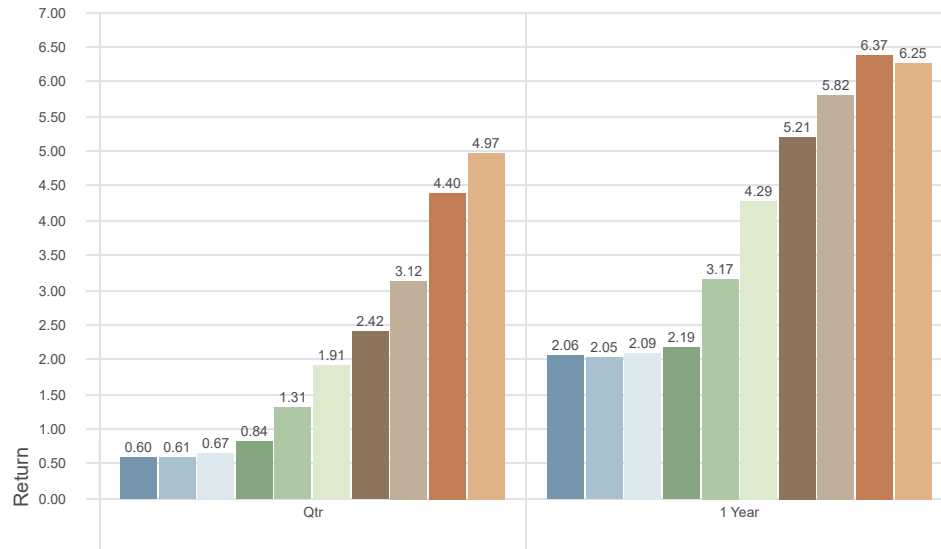
Fixed Income





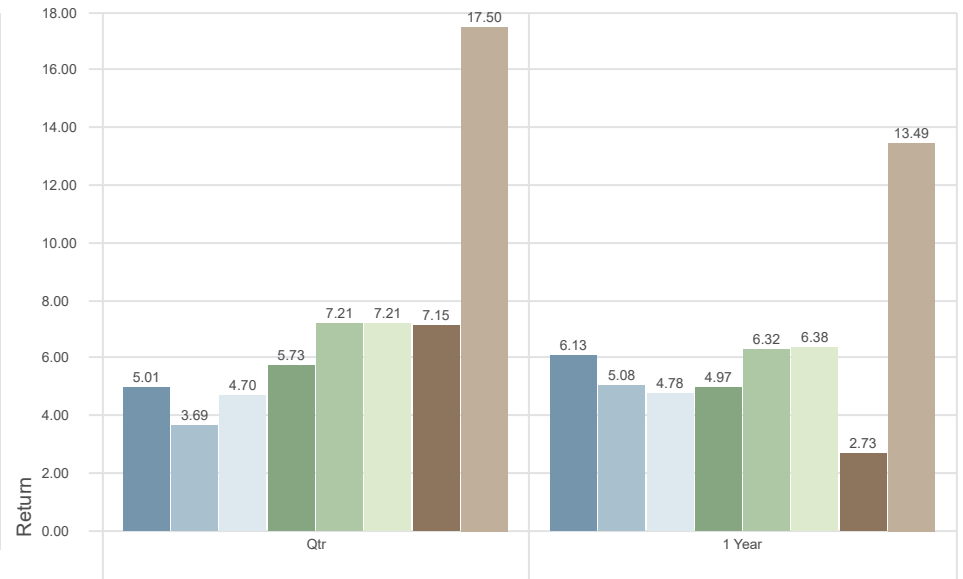
## Fixed Income

Performance by Maturity



■ USTREAS T-Bill Cnst Mat Rate 1 Mon   ■ USTREAS T-Bill Cnst Mat Rate 3 Mon   ■ USTREAS T-Bill Cnst Mat Rate 6 Mon  
 ■ USTREAS T-Bill Cnst Mat Rate 1 Yr   ■ USTREAS T-Bill Cnst Mat Rate 3 Yr   ■ USTREAS T-Bill Cnst Mat Rate 5 Yr  
 ■ USTREAS T-Bill Cnst Mat Rate 7 Yr   ■ USTREAS T-Bill Cnst Mat Rate 10 Yr   ■ USTREAS T-Bill Cnst Mat Rate 20 Yr  
 ■ USTREAS T-Bill Cnst Mat Rate 30 Yr

Performance by Credit Quality



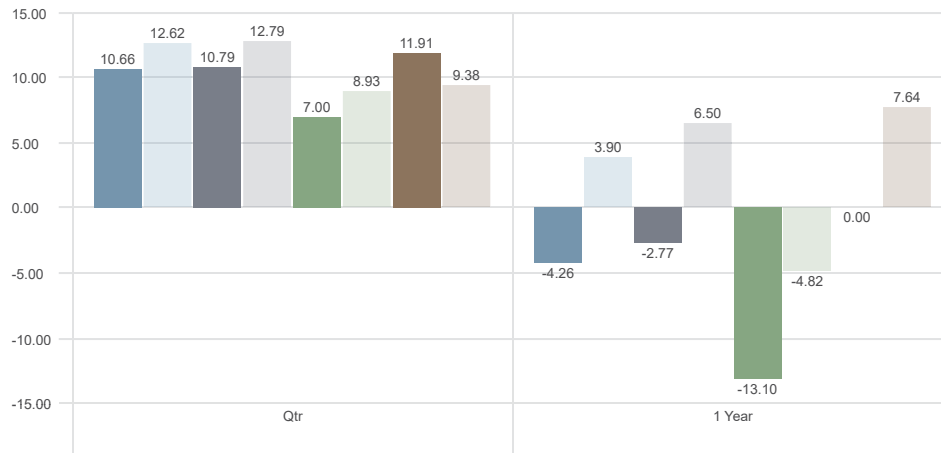
■ Barclays US Corp Aaa TR USD   ■ Barclays US Corp Aa TR USD   ■ Barclays US Corp A TR USD  
 ■ Barclays US Corp Baa TR USD   ■ Barclays US HY Ba TR USD   ■ Barclays US HY B TR USD  
 ■ Barclays US HY Caa TR USD   ■ Barclays US HY Ca To D TR USD

Estimated Cost of \$1 of Lifetime Retirement Income at Age 65 (Adjusted for Cost of Living)

	BlackRock CoRI Retirement 2008	BlackRock CoRI Retirement 2010	BlackRock CoRI Retirement 2012	BlackRock CoRI Retirement 2014	BlackRock CoRI Retirement 2016	BlackRock CoRI Retirement 2018	BlackRock CoRI Retirement 2020	BlackRock CoRI Retirement 2022	BlackRock CoRI Retirement 2024
3/29/2019		\$ 15.03	\$ 16.43	\$ 17.85	\$ 19.25	\$ 20.68	\$ 20.95	\$ 19.71	\$ 18.52
12/31/2018		\$ 14.73	\$ 16.05	\$ 17.40	\$ 18.75	\$ 20.11	\$ 19.85	\$ 18.57	\$ 17.37
9/28/2018		\$ 14.69	\$ 16.01	\$ 17.36	\$ 18.69	\$ 20.03	\$ 19.38	\$ 18.18	\$ 17.08
6/29/2018	\$ 13.72	\$ 15.05	\$ 16.41	\$ 17.79	\$ 19.18	\$ 20.88	\$ 19.63	\$ 18.48	\$ 17.41
3/29/2018	\$ 14.03	\$ 15.39	\$ 16.77	\$ 18.16	\$ 19.57	\$ 21.04	\$ 19.80	\$ 18.64	\$ 17.56
12/29/2017	\$ 15.26	\$ 16.58	\$ 17.88	\$ 19.17	\$ 20.47	\$ 21.69	\$ 20.44	\$ 19.30	\$ 18.24
9/29/2017	\$ 15.34	\$ 16.63	\$ 17.90	\$ 19.17	\$ 20.40	\$ 21.38	\$ 20.03	\$ 18.78	\$ 17.64

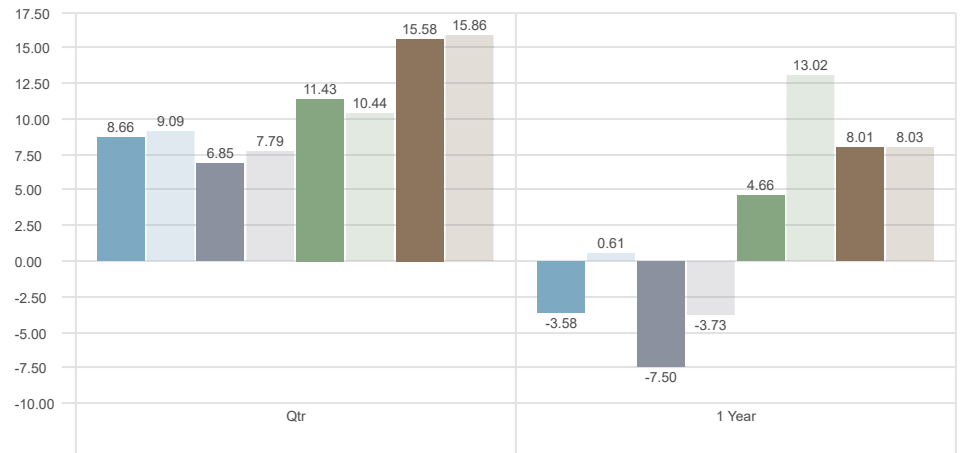
# International Equity Markets

## Developed Europe



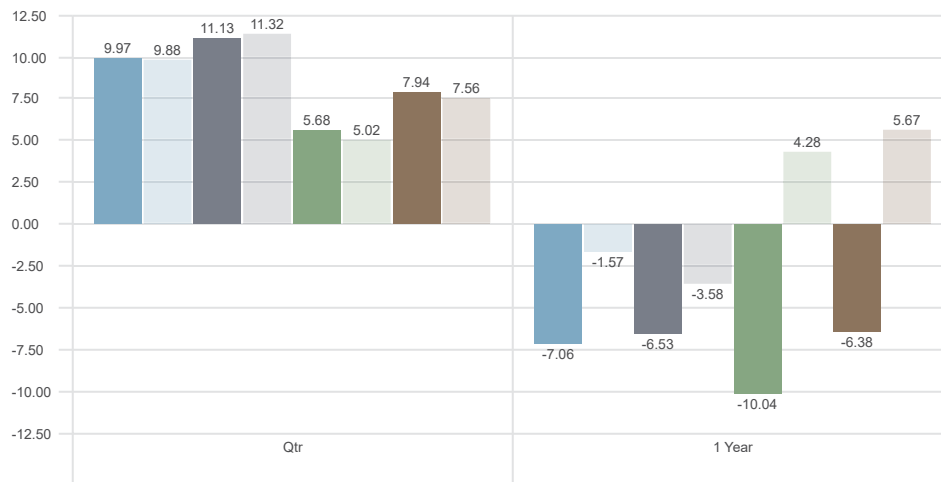
■ Europe ex UK (USD)    ■ Europe ex UK (Local)    ■ France (USD)    ■ France (Local)  
 ■ Germany (USD)    ■ Germany (Local)    ■ United Kingdom (USD)    ■ United Kingdom (Local)

## Developed Asia



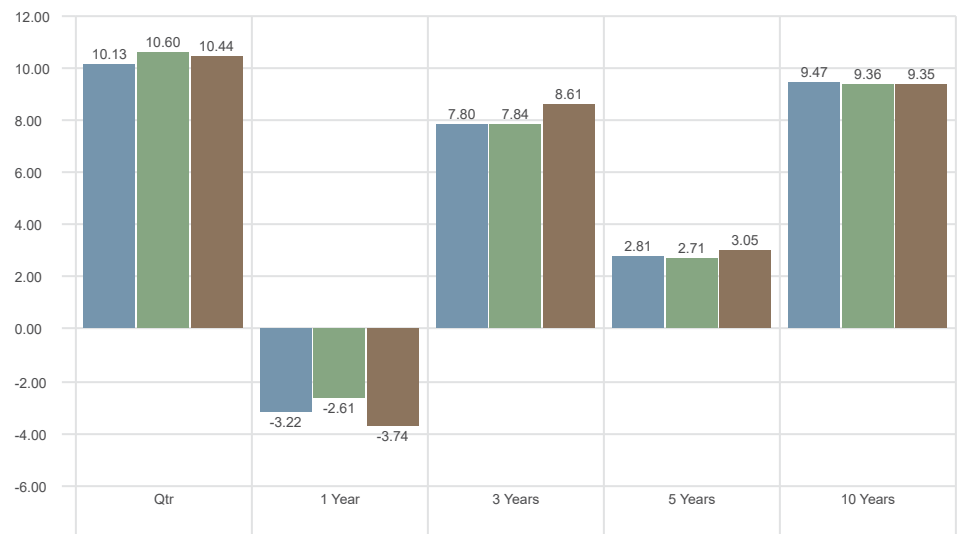
■ Pacific (USD)    ■ Pacific (Local)    ■ Japan (USD)    ■ Japan (Local)  
 ■ Australia (USD)    ■ Australia (Local)    ■ Hong Kong (USD)    ■ Hong Kong (Local)

## Emerging Markets



■ Emerging Markets (USD)    ■ Emerging Markets (Local)    ■ Asia (USD)    ■ Asia (Local)  
 ■ Europe, Middle East & Africa (USD)    ■ Europe, Middle East & Africa (Local)    ■ Latin America (USD)    ■ Latin America (Local)

## International Benchmarks



■ EAFE    ■ World ex USA (Developed)    ■ ACWI ex USA (Developed & Emerging)

## Unpredictability of Asset Class Returns

Best	Emerging Market Stocks 78.51	Real Estate 26.97	Intermediate Bonds 7.84	Emerging Market Stocks 18.22	U.S. Small Cap Stocks 38.82	Real Estate 28.82	U.S. Large Cap Stocks 1.38	U.S. Small Cap Stocks 21.31	Emerging Market Stocks 37.28	Cash 2.02	Real Estate 15.92
	Developed Intl Stocks 33.67	U.S. Small Cap Stocks 26.85	Real Estate 7.48	Real Estate 16.47	U.S. Large Cap Stocks 32.39	U.S. Large Cap Stocks 13.69	Real Estate 1.28	U.S. Large Cap Stocks 11.96	Developed Intl Stocks 24.21	Intermediate Bonds 0.01	U.S. Small Cap Stocks 14.58
	U.S. Small Cap Stocks 27.17	Emerging Market Stocks 18.88	U.S. Large Cap Stocks 2.11	Developed Intl Stocks 16.41	Developed Intl Stocks 21.02	Intermediate Bonds 5.97	Intermediate Bonds 0.55	Commodities 11.77	U.S. Large Cap Stocks 21.83	U.S. Large Cap Stocks -4.38	U.S. Large Cap Stocks 13.65
	U.S. Large Cap Stocks 26.46	Commodities 16.83	Cash 0.06	U.S. Small Cap Stocks 16.35	Real Estate 1.26	U.S. Small Cap Stocks 4.89	Cash 0.05	Emerging Market Stocks 11.19	U.S. Small Cap Stocks 14.65	Real Estate -5.83	Developed Intl Stocks 10.45
	Real Estate 26.27	U.S. Large Cap Stocks 15.06	U.S. Small Cap Stocks -4.18	U.S. Large Cap Stocks 16.00	Cash 0.06	Cash 0.03	Developed Intl Stocks -3.04	Real Estate 7.14	Real Estate 3.74	U.S. Small Cap Stocks -11.01	Emerging Market Stocks 9.91
	Commodities 18.91	Developed Intl Stocks 8.95	Developed Intl Stocks -12.21	Intermediate Bonds 4.21	Intermediate Bonds -2.02	Emerging Market Stocks -2.19	U.S. Small Cap Stocks -4.41	Developed Intl Stocks 2.75	Intermediate Bonds 3.54	Commodities -11.25	Commodities 6.32
	Intermediate Bonds 5.93	Intermediate Bonds 6.54	Commodities -13.32	Cash 0.09	Emerging Market Stocks -2.60	Developed Intl Stocks -4.32	Emerging Market Stocks -14.92	Intermediate Bonds 2.65	Commodities 1.70	Developed Intl Stocks -14.09	Intermediate Bonds 2.94
Worst	Cash 0.16	Cash 0.14	Emerging Market Stocks -18.42	Commodities -1.06	Commodities -9.52	Commodities -17.01	Commodities -24.66	Cash 0.34	Cash 0.97	Emerging Market Stocks -14.57	Cash 0.62
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD

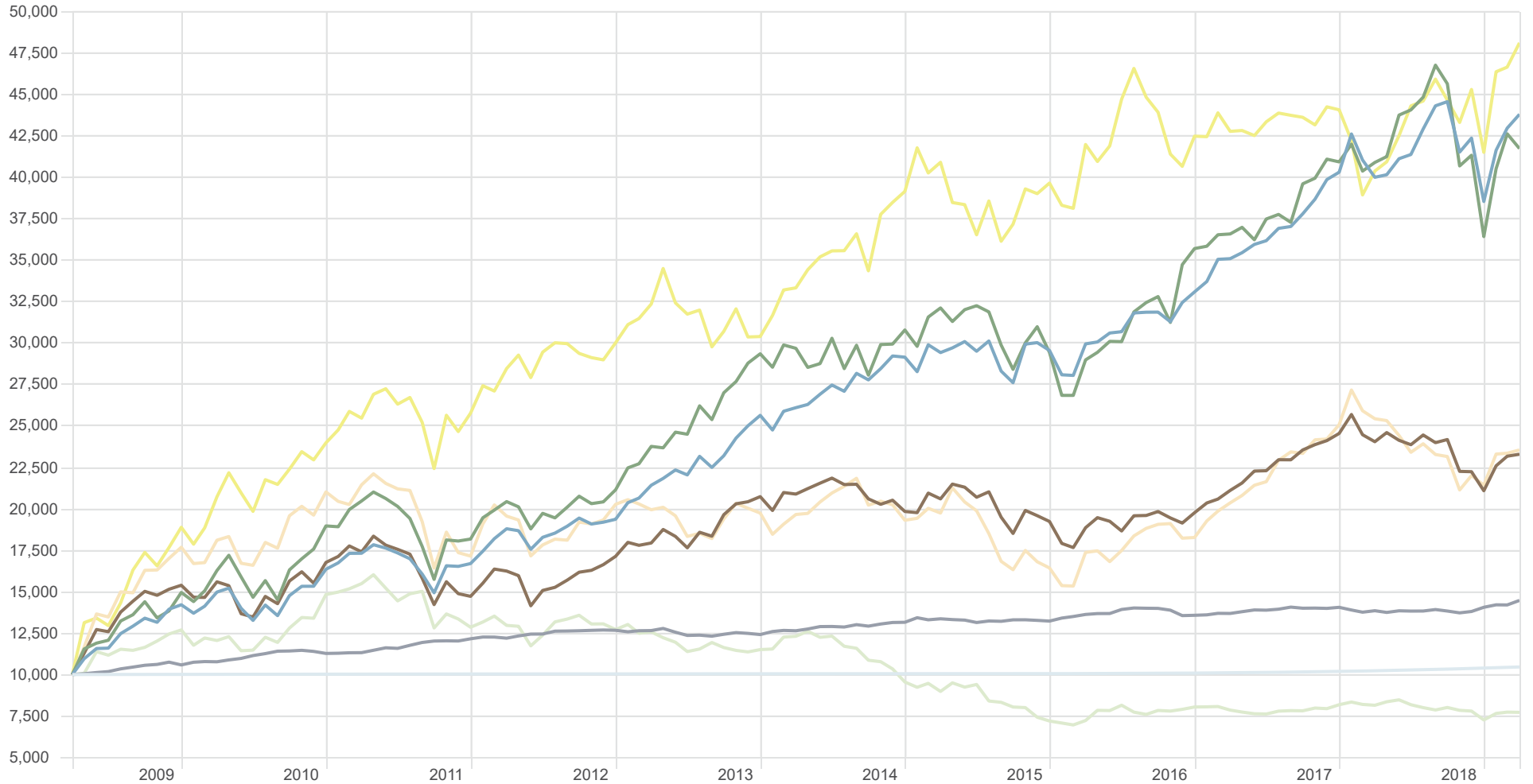
■ Cash  
■ U.S. Small Cap Stocks  
■ Commodities

■ Intermediate Bonds  
■ Developed Intl Stocks  
■ Real Estate

■ U.S. Large Cap Stocks  
■ Emerging Market Stocks

## Growth of \$10,000

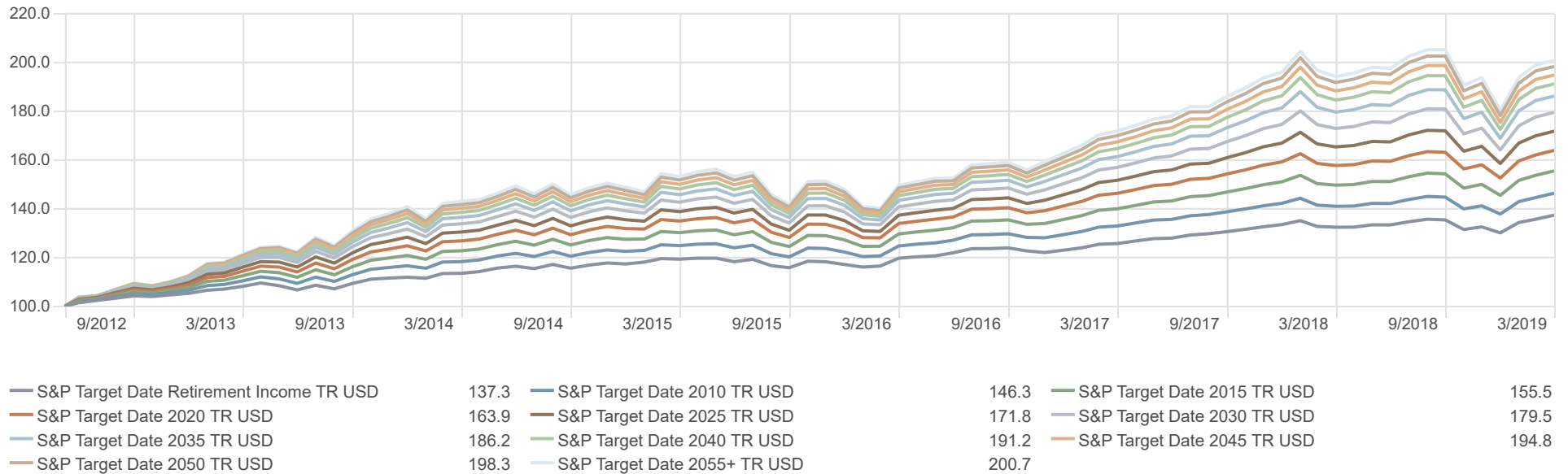
Time Period: 4/1/2009 to 3/31/2019



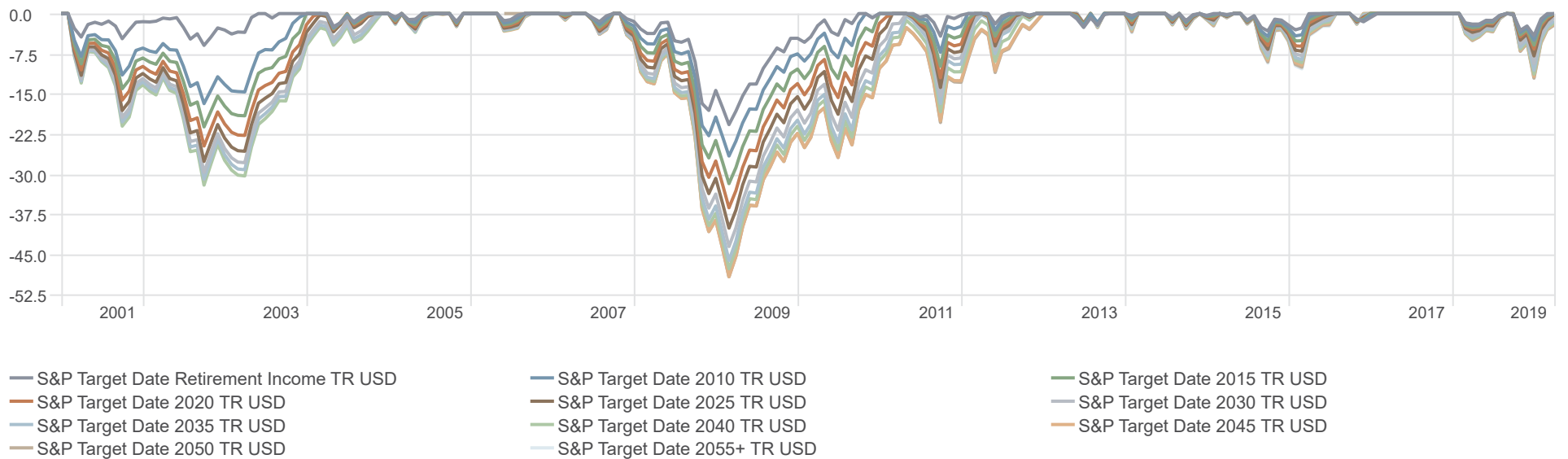
As of 3/31/2019

## Target Date Investments

### Growth of \$100



### Maximum Drawdown



As of 3/31/2019

## Plan Asset Summary

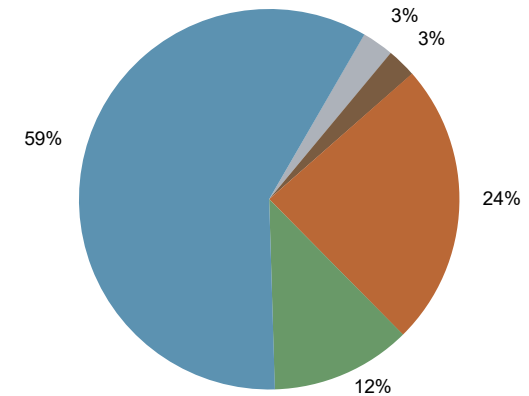
## El Camino Hospital 403(b) Retirement Plan

### Assets by Investment Tier

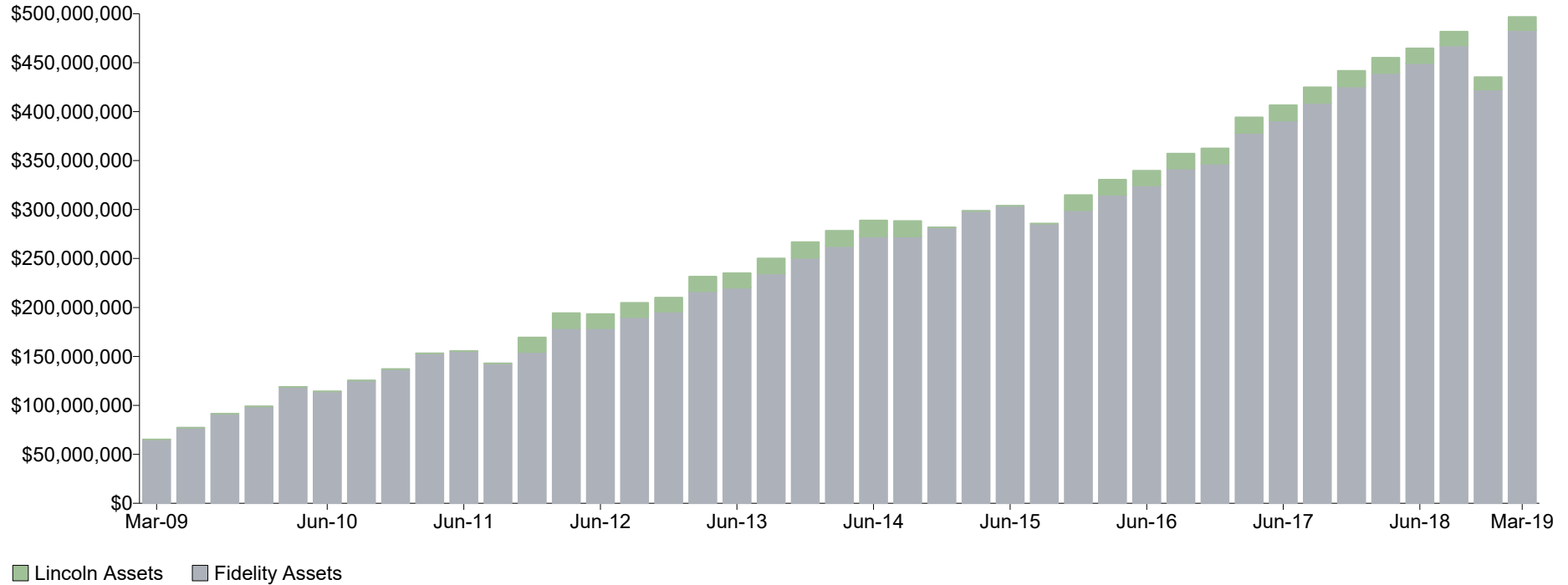
<b>Total Plan Assets</b>	<b>\$496,761,567.58</b>
Target Date Funds	\$292,279,556.26
Core Index Array	\$59,154,668.70
Core Active Array	\$119,478,709.96
Self-Directed Brokerage Accounts	\$12,410,640.60
Lincoln Legacy Funds	\$13,437,992.06

### Percentage Assets by Investment Tier

- Target Date Funds
- Core Index Array
- Core Active Array
- Self-Directed Brokerage Accounts
- Lincoln Legacy Funds



### Growth of Assets



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As of March 29, 2019

	Sep-18		Dec-18		Mar-19	
	Amount (\$)	% of Total	Amount (\$)	% of Total	Amount (\$)	% of Total
<b>Target Date Funds</b>	<b>\$277,280,714.85</b>	<b>59.29</b>	<b>\$253,016,297.03</b>	<b>59.87</b>	<b>\$292,279,556.26</b>	<b>60.47</b>
T. Rowe Price Retirement 2005	\$3,994,670.37	0.85	\$3,570,663.25	0.84	\$3,908,053.37	0.81
T. Rowe Price Retirement 2010	\$6,299,273.94	1.35	\$5,419,053.10	1.28	\$6,219,066.19	1.29
T. Rowe Price Retirement 2015	\$19,293,468.59	4.13	\$17,737,651.85	4.20	\$17,676,617.79	3.66
T. Rowe Price Retirement 2020	\$46,697,802.95	9.99	\$43,611,223.91	10.32	\$49,287,101.09	10.20
T. Rowe Price Retirement 2025	\$36,178,111.12	7.74	\$33,357,198.16	7.89	\$38,553,014.08	7.98
T. Rowe Price Retirement 2030	\$51,901,878.20	11.10	\$47,164,722.43	11.16	\$53,761,149.20	11.12
T. Rowe Price Retirement 2035	\$34,288,185.53	7.33	\$30,848,597.85	7.30	\$36,695,742.28	7.59
T. Rowe Price Retirement 2040	\$32,909,364.35	7.04	\$30,039,385.21	7.11	\$35,514,616.44	7.35
T. Rowe Price Retirement 2045	\$24,195,331.06	5.17	\$21,771,813.69	5.15	\$25,966,960.92	5.37
T. Rowe Price Retirement 2050	\$17,074,756.98	3.65	\$15,425,862.03	3.65	\$18,996,796.54	3.93
T. Rowe Price Retirement 2055	\$3,518,252.05	0.75	\$3,274,798.50	0.77	\$4,627,628.47	0.96
T. Rowe Price Retirement 2060	\$929,619.71	0.20	\$795,327.05	0.19	\$1,072,809.89	0.22
<b>Core Index Array</b>	<b>\$58,678,764.90</b>	<b>12.55</b>	<b>\$50,468,244.27</b>	<b>11.94</b>	<b>\$59,154,668.70</b>	<b>12.24</b>
Fidelity US Bond Idx Prem	\$1,195,911.99	0.26	\$0.00	0.00	\$0.00	0.00
Fidelity US Bond Index	\$0.00	0.00	\$1,588,817.65	0.38	\$2,320,671.71	0.48
Fidelity 500 Index	\$0.00	0.00	\$34,324,312.25	8.12	\$39,568,755.00	8.19
Fidelity 500 Index Instl	\$39,568,806.92	8.46	\$0.00	0.00	\$0.00	0.00
Fidelity Extended Market Idx Prem	\$17,042,283.01	3.64	\$0.00	0.00	\$0.00	0.00
Fidelity Extended Market Index	\$0.00	0.00	\$13,659,192.17	3.23	\$16,110,461.01	3.33
Fidelity Global Ex US Idx Prem	\$871,762.98	0.19	\$0.00	0.00	\$0.00	0.00
Fidelity Global Ex US Index	\$0.00	0.00	\$895,922.20	0.21	\$1,154,780.98	0.24
<b>Core Active Array</b>	<b>\$119,658,344.03</b>	<b>25.59</b>	<b>\$108,127,777.98</b>	<b>25.59</b>	<b>\$119,478,709.96</b>	<b>24.72</b>
NY Life GIA Net 10 ELCH 403b	\$22,834,917.84	4.88	\$24,210,383.83	5.73	\$24,079,554.69	4.98
Fidelity Govt Money Market	\$14,453,105.30	3.09	\$0.00	0.00	\$0.00	0.00
Vanguard Federal Money Market	\$0.00	0.00	\$14,544,579.89	3.44	\$16,251,248.69	3.36
Fidelity Total Bond Fund	\$11,191,100.41	2.39	\$10,516,956.03	2.49	\$10,785,989.44	2.23
T. Rowe Price Equity Income	\$6,234,207.01	1.33	\$5,640,924.09	1.33	\$6,372,293.02	1.32
JPMorgan Large Cap Growth R5	\$33,751,602.69	7.22	\$27,453,227.32	6.50	\$32,863,769.09	6.80
Northern Small Cap Value	\$8,637,362.34	1.85	\$6,880,352.26	1.63	\$7,553,573.40	1.56
Amer Beacon Stephens Sm Cap Gr Inst	\$7,348,321.88	1.57	\$0.00	0.00	\$0.00	0.00
Conestoga Small Cap Instl	\$0.00	0.00	\$5,618,758.36	1.33	\$6,448,077.99	1.33
Cohen & Steers Instl Realty Shares	\$4,302,732.53	0.92	\$4,012,647.73	0.95	\$4,862,853.44	1.01
Dodge & Cox International Stock	\$982,327.06	0.21	\$881,992.03	0.21	\$1,211,935.24	0.25
American Funds EuroPacific Gr R4	\$9,242,967.83	1.98	\$7,950,996.30	1.88	\$8,565,140.19	1.77
DFA Intl Small Company I	\$679,699.14	0.15	\$416,960.14	0.10	\$484,274.77	0.10
<b>Self-Directed Brokerage Accounts</b>	<b>\$12,049,126.66</b>	<b>2.58</b>	<b>\$10,993,114.48</b>	<b>2.60</b>	<b>\$12,410,640.60</b>	<b>2.57</b>
Fidelity Mutual Fund Window	\$12,049,126.66	2.58	\$10,993,114.48	2.60	\$12,410,640.60	2.57
<b>Total</b>	<b>\$467,666,950.44</b>	<b>100.00</b>	<b>\$422,605,433.76</b>	<b>100.00</b>	<b>\$483,323,575.52</b>	<b>100.00</b>

This supplemental report is provided for informational purposes only and is not a substitute for the custodian's statement.

As of March 29, 2019

## Contribution and Withdrawal Summary - Fidelity

## El Camino Hospital 403(b) Retirement Plan

Quarter Ended	Cash Flows In (1)	Cash Flows Out (2)	Earnings (3)	Ending Balance
12/31/2017	N/A	N/A	N/A	\$425,695,698
03/31/2018	\$10,843,071	(\$5,263,304)	\$8,095,239	\$439,370,705
06/30/2018	\$9,899,570	(\$6,616,662)	\$6,923,795	\$449,577,408
09/30/2018	\$8,537,219	(\$4,759,698)	\$14,312,021	\$467,666,950
12/31/2018	\$6,330,448	(\$4,586,014)	(\$46,805,951)	\$422,605,434
03/31/2019	\$23,818,566	(\$7,053,813)	\$43,953,388	\$483,323,576

(1) Cash Flows In includes all dollars into the plan, including cash flows attributable to loan repayments and contract transfers.

(2) Cash Flows Out include all dollars out of the plan, including loan principal outlays and contract transfers.

(3) Earnings are calculated based on the difference between the quarterly ending balances, adjusted for contributions and withdrawals for the period.

Information included in the tables above is intended for illustrative purposes only and not warranted to be accurate. Data is derived based on information provided by the plan's recordkeeper.

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As of March 29, 2019



## Fund Scorecard

## El Camino Hospital 403(b) Retirement Plan

Fund	Asset Class	Multnomah Group Investment Committee Overall Evaluation	Expenses (20%)	Experience (10%)	Holdings Diversification (5%)	Concentration Risk (5%)	Style Purity (10%)	Style Consistency (10%)	Manager Skill (20%)	Consistency (10%)	Risk (10%)	Quantitative Score Percentile
Vanguard Federal Money Market	Money Market-Taxable	Satisfactory	●	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2
Fidelity Total Bond Fund	Intermediate-term Bond	Satisfactory	●	●	●	▲	●	▲	▲	▲	▲	41
Fidelity US Bond Index	Intermediate-term Bond	Satisfactory	●	●	●	●	●	●	NA-Index	NA-Index	●	14
T. Rowe Price Equity Income	Large Value	Satisfactory	●	▲	●	●	●	●	●	●	▲	53
Fidelity 500 Index	Large Blend	Satisfactory	●	●	●	●	●	●	NA-Index	NA-Index	●	5
JPMorgan Large Cap Growth R5	Large Growth	Satisfactory	●	●	●	▲	●	●	●	●	●	8
Fidelity Extended Market Index	Mid-Cap Blend	Satisfactory	●	●	●	●	●	●	NA-Index	NA-Index	●	6
Northern Small Cap Value	Small Value	Satisfactory	●	●	●	●	●	●	▲	●	●	26
Conestoga Small Cap Instl	Small Growth	Satisfactory	●	●	▲	●	●	●	●	●	●	22
Dodge & Cox International Stock	Foreign Large Value	Satisfactory	●	●	●	●	●	●	●	▲	●	27
Fidelity Global Ex US Index	Foreign Large Blend	Satisfactory	●	●	●	●	●	●	NA-Index	NA-Index	▲	7
American Funds EuroPacific Gr R4	Foreign Large Growth	Satisfactory	●	●	●	●	●	▲	●	▲	●	34
DFA Intl Small Company I	Foreign Small/Mid Blend	Satisfactory	●	●	●	●	●	●	●	▲	●	18
Cohen & Steers Instl Realty Shares	Real Estate	Satisfactory	●	●	▲	●	●	●	●	●	●	9

Grades are based on a Multnomah Group proprietary evaluation methodology. For a detailed explanation of the criteria please see the Evaluation Methodology section in the back of this report.

As of March 29, 2019

	Qtr	YTD	Annualized Returns				Expense Ratio (%)	Ticker
			1 Yr	3 Yrs	5 Yrs	10 Yrs		
<b>Target-Date 2060+</b>								
T. Rowe Price Retirement 2060	12.20	12.20	3.28	10.93	N/A	N/A	0.72	TRRLX
S&P Target Date 2060+ TR USD	11.42	11.42	3.50	10.48	NA	NA		
<b>Target-Date 2055</b>								
T. Rowe Price Retirement 2055	12.27	12.27	3.32	10.95	7.47	13.68	0.72	TRRNK
S&P Target Date 2055 TR USD	11.31	11.31	3.37	10.29	7.02	NA		
<b>Target-Date 2050</b>								
T. Rowe Price Retirement 2050	12.20	12.20	3.23	10.95	7.48	13.67	0.72	TRRMX
S&P Target Date 2050 TR USD	11.28	11.28	3.41	10.12	6.96	NA		
<b>Target-Date 2045</b>								
T. Rowe Price Retirement 2045	12.27	12.27	3.32	10.96	7.49	13.67	0.72	TRRKX
S&P Target Date 2045 TR USD	11.10	11.10	3.46	9.85	6.81	12.34		
<b>Target-Date 2040</b>								
T. Rowe Price Retirement 2040	11.90	11.90	3.33	10.80	7.39	13.63	0.72	TRRDY
S&P Target Date 2040 TR USD	10.82	10.82	3.59	9.56	6.66	12.05		
<b>Target-Date 2035</b>								
T. Rowe Price Retirement 2035	11.32	11.32	3.39	10.33	7.15	13.40	0.70	TRRJX
S&P Target Date 2035 TR USD	10.27	10.27	3.66	9.09	6.41	11.65		
<b>Target-Date 2030</b>								
T. Rowe Price Retirement 2030	10.63	10.63	3.52	9.79	6.85	12.96	0.67	TRRCX
S&P Target Date 2030 TR USD	9.39	9.39	3.82	8.44	6.05	11.04		
<b>Target-Date 2025</b>								
T. Rowe Price Retirement 2025	9.79	9.79	3.56	9.05	6.41	12.29	0.64	TRRHX
S&P Target Date 2025 TR USD	8.37	8.37	3.90	7.74	5.66	10.32		
<b>Target-Date 2020</b>								
T. Rowe Price Retirement 2020	8.91	8.91	3.62	8.24	5.93	11.48	0.61	TRRBX
S&P Target Date 2020 TR USD	7.45	7.45	3.94	6.97	5.27	9.50		
<b>Target-Date 2015</b>								
T. Rowe Price Retirement 2015	7.85	7.85	3.63	7.22	5.32	10.48	0.57	TRRGX
S&P Target Date 2015 TR USD	6.89	6.89	3.90	6.25	4.85	8.57		
<b>Target-Date 2000-2010</b>								
T. Rowe Price Retirement 2005	6.56	6.56	3.54	5.93	4.47	8.55	0.54	TRRFK
T. Rowe Price Retirement 2010	7.09	7.09	3.61	6.44	4.81	9.42	0.54	TRRAX
S&P Target Date 2010 TR USD	6.20	6.20	3.81	5.48	4.35	7.50		
<b>Money Market-Taxable</b>								
Vanguard Federal Money Market	0.57	0.57	2.03	1.13	0.70	0.37	0.11	VMFXX
BofA ML 3-Month T-Bill	0.60	0.60	2.12	1.19	0.74	0.43		

	Qtr	YTD	Annualized Returns				Expense Ratio (%)	Ticker
			1 Yr	3 Yrs	5 Yrs	10 Yrs		
<b>Stable Value</b>								
NY Life GIA Net 10 ELCH 403b	0.58	0.58	2.29	N/A	N/A	N/A	0.10	NYLFGIA
BofA ML 3-Month T-Bill	0.60	0.60	2.12	1.19	0.74	0.43		
<b>Intermediate-term Bond</b>								
Fidelity Total Bond Fund	3.86	3.86	4.35	3.29	3.19	5.58	0.45	FTBFX
Fidelity US Bond Index	2.96	2.96	4.55	1.96	2.72	3.71	0.03	FXNAX
BBgBarc US Agg Bond TR USD	2.94	2.94	4.48	2.03	2.74	3.77		
<b>Large Value</b>								
T. Rowe Price Equity Income	10.99	10.99	2.98	10.73	6.62	13.71	0.65	PRFDX
Russell 1000 Value TR USD	11.93	11.93	5.67	10.45	7.72	14.52		
<b>Large Blend</b>								
Fidelity 500 Index	13.65	13.65	9.49	13.50	10.90	15.90	0.01	FXAIX
S&P 500 TR USD	13.65	13.65	9.50	13.51	10.91	15.92		
<b>Large Growth</b>								
JPMorgan Large Cap Growth R5	19.40	19.40	14.02	20.23	14.58	18.02	0.54	JLGRX
Russell 1000 Growth TR USD	16.10	16.10	12.75	16.53	13.50	17.52		
<b>Mid-Cap Blend</b>								
Fidelity Extended Market Index	15.96	15.96	4.95	13.32	7.89	16.47	0.04	FSMAX
Russell Mid Cap TR USD	16.54	16.54	6.47	11.82	8.81	16.88		
<b>Small Value</b>								
Northern Small Cap Value	11.92	11.92	-0.45	8.55	5.73	14.18	1.00	NOSGX
Russell 2000 Value TR USD	11.93	11.93	0.17	10.86	5.59	14.12		
<b>Small Growth</b>								
Conestoga Small Cap Instl	12.90	12.90	11.33	20.13	12.14	17.52	0.90	CCALX
Russell 2000 Growth TR USD	17.14	17.14	3.85	14.87	8.41	16.52		
<b>Foreign Large Value</b>								
Dodge & Cox International Stock	9.78	9.78	-8.00	7.87	0.85	10.25	0.63	DODFX
MSCI ACWI Ex USA Large Value NR USD	8.10	8.10	-5.47	7.75	0.79	7.83		
<b>Foreign Large Blend</b>								
Fidelity Global Ex US Index	10.21	10.21	-4.62	8.20	2.59	N/A	0.06	FSGGX
MSCI ACWI Ex USA Large NR USD	10.33	10.33	-3.67	8.39	2.43	8.59		
<b>Foreign Large Growth</b>								
American Funds EuroPacific Gr R4	13.12	13.12	-4.99	8.94	3.90	9.56	0.83	REREX
MSCI ACWI Ex USA Large Growth NR USD	12.83	12.83	-1.68	9.06	4.17	9.40		
<b>Foreign Small/Mid Blend</b>								
DFA Intl Small Company I	9.92	9.92	-11.09	6.73	3.05	11.84	0.53	DFISX
MSCI AC World Ex USA Small NR USD	10.26	10.26	-9.49	7.01	3.26	11.86		

	Qtr	YTD	Annualized Returns				Expense Ratio (%)	Ticker
			1 Yr	3 Yrs	5 Yrs	10 Yrs		
<b>Real Estate</b>								
Cohen & Steers Instl Realty Shares	17.15	17.15	20.37	7.21	9.84	18.51	0.75	CSRIX
MSCI US REIT NR USD	15.92	15.92	19.16	4.65	7.62	17.01		

## T. Rowe Price Equity Income

Peer Group: Large Value (1573)

Benchmark: Russell 1000 Value TR USD

### Scorecard

Multnomah Group Investment Committee Overall Evaluation	Satisfactory
Expenses (20%)	●
Experience (10%)	▲
Holdings Diversification (5%)	●
Concentration Risk (5%)	●
Style Purity (10%)	●
Style Consistency (10%)	●
Manager Skill (20%)	●
Consistency (10%)	●
Risk (10%)	▲
Quantitative Score Percentile	53

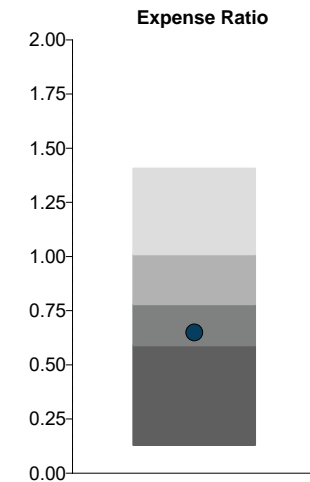
### Portfolio Information

Morningstar Category	Large Value
Prospectus Benchmark	Russell 1000 Value TR USD
Fund Family	T. Rowe Price
Manager Names	John D. Linehan
Manager Tenure	3.4
Ticker	PRFDX
Net Assets \$MM	\$20,126.00
% Assets in Top 10 Holdings	24.4
Total Number of Holdings	113
P/E Ratio	14.3
Avg Mkt Cap \$MM	\$61,147.40
Avg Eff Duration	NA
Avg Credit Quality	NA

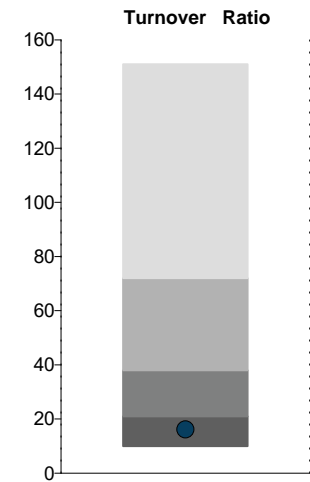
### Holdings

Security	Ticker	Weight
JPMorgan Chase & Co	JPM	3.45%
Wells Fargo & Co	WFC	3.26%
Twenty-First Century Fox Inc Class B		2.49%
Exxon Mobil Corp	XOM	2.46%
Verizon Communications Inc	VZ	2.25%
DowDuPont Inc	DWDP	2.14%
Pfizer Inc	PFE	2.14%
Total SA	FP	2.10%
Johnson & Johnson	JNJ	2.06%
Southern Co	SO	2.05%

### Expenses

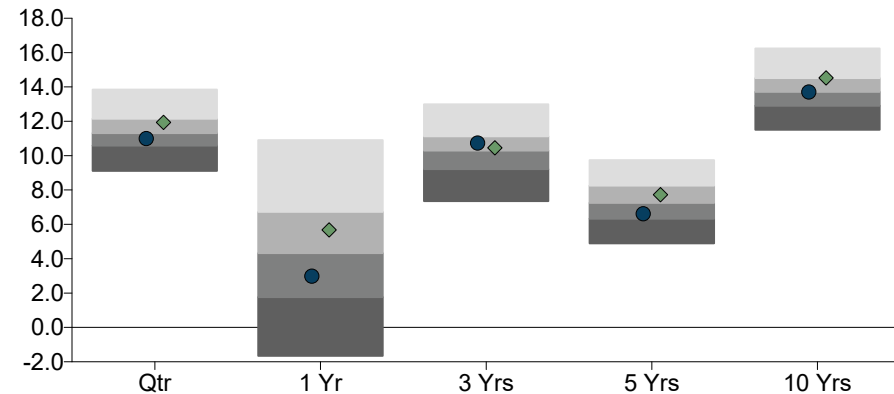


T. Rowe Price Equity Income



Expense Ratio 0.65 Turnover Ratio 16.20

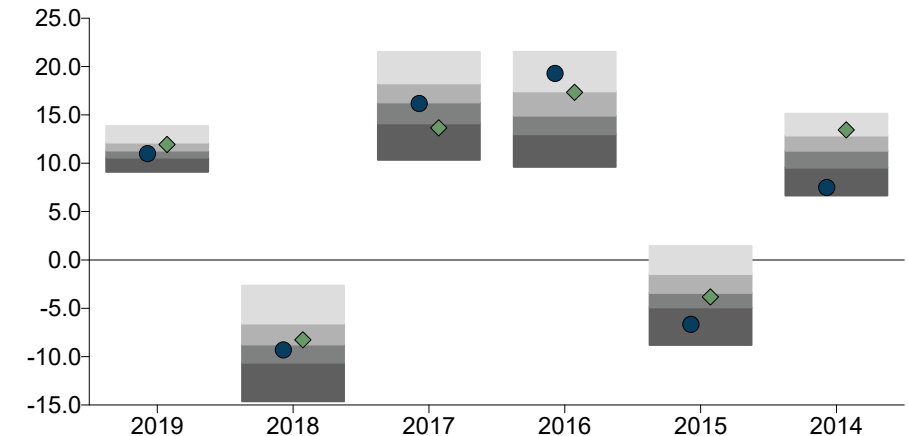
### Performance



Performance is annualized for periods greater than 12 months

	Qtr	1 Yr	3 Yrs	5 Yrs	10 Yrs
T. Rowe Price Equity Income	10.99	2.98	10.73	6.62	13.71
Peer Group Rank	60	65	36	67	51
Russell 1000 Value TR USD	11.93	5.67	10.45	7.72	14.52
Large Value Average	11.37	4.31	10.20	7.29	13.79

### Calendar Year Performance



	2019	2018	2017	2016	2015	2014
T. Rowe Price Equity Income	10.99	-9.30	16.18	19.28	-6.66	7.49
Peer Group Rank	60	60	52	13	88	92
Russell 1000 Value TR USD	11.93	-8.27	13.66	17.34	-3.83	13.45
Large Value Average	11.37	-8.68	16.22	15.23	-3.43	11.12

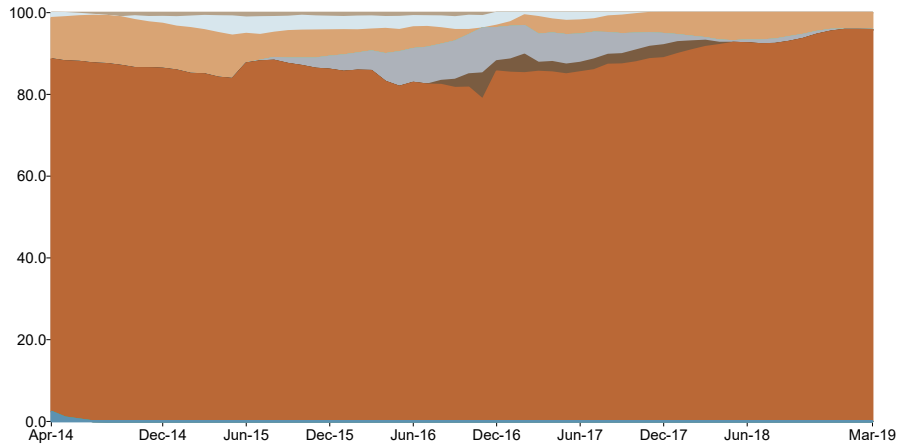
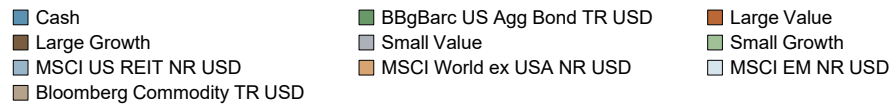
As of March 29, 2019

## T. Rowe Price Equity Income

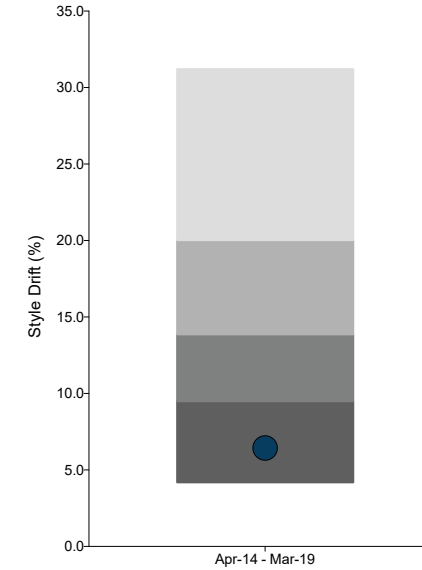
Peer Group: Large Value (1573)

Benchmark: Russell 1000 Value TR USD

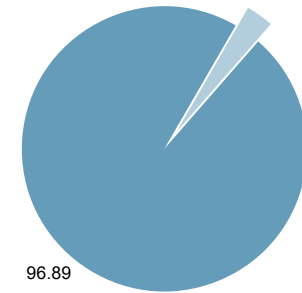
### Global Asset Weightings



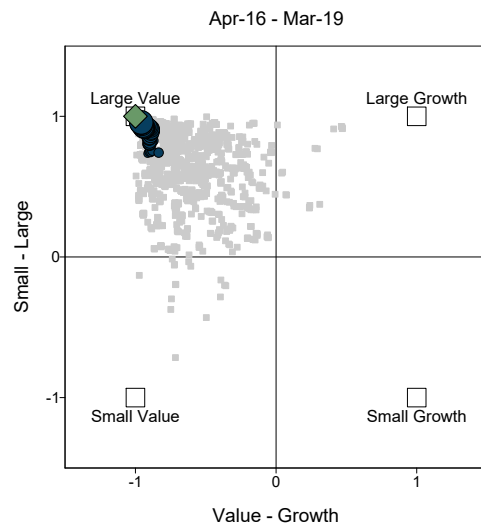
### Style Drift (Last 60M)



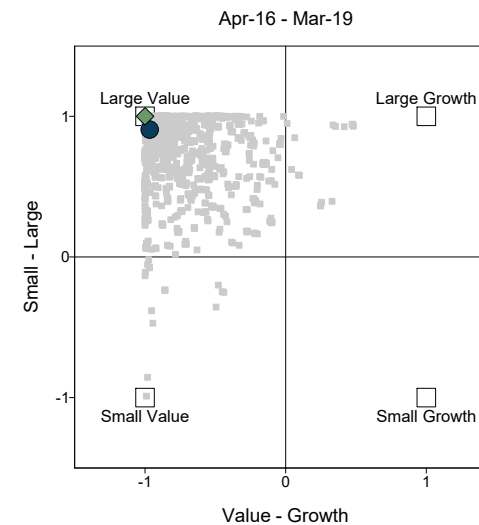
### Benchmark R-Squared



### Rolling Style Map



### Average Style Map



● T. Rowe Price Equity Income ◆ Russell 1000 Value TR USD

● T. Rowe Price Equity Income ◆ Russell 1000 Value TR USD

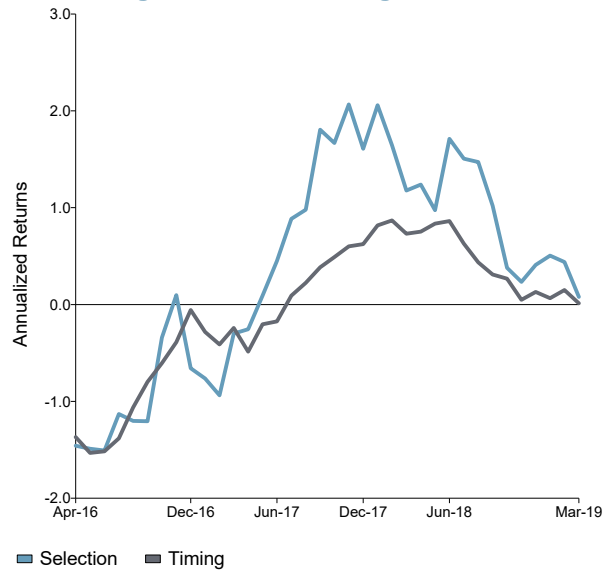
As of March 29, 2019

## T. Rowe Price Equity Income

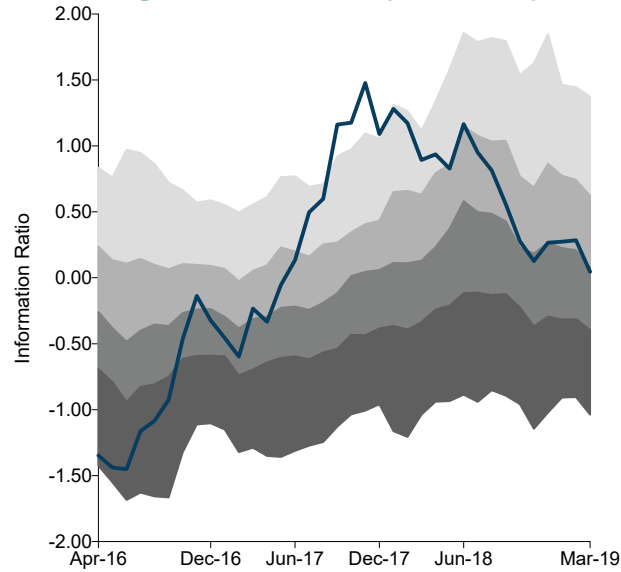
Peer Group: Large Value (1573)

Benchmark: Russell 1000 Value TR USD

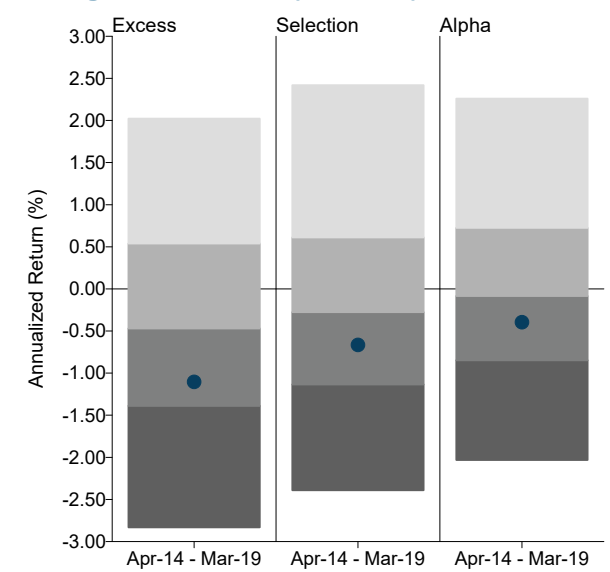
### 24M Rolling Selection & Timing Returns



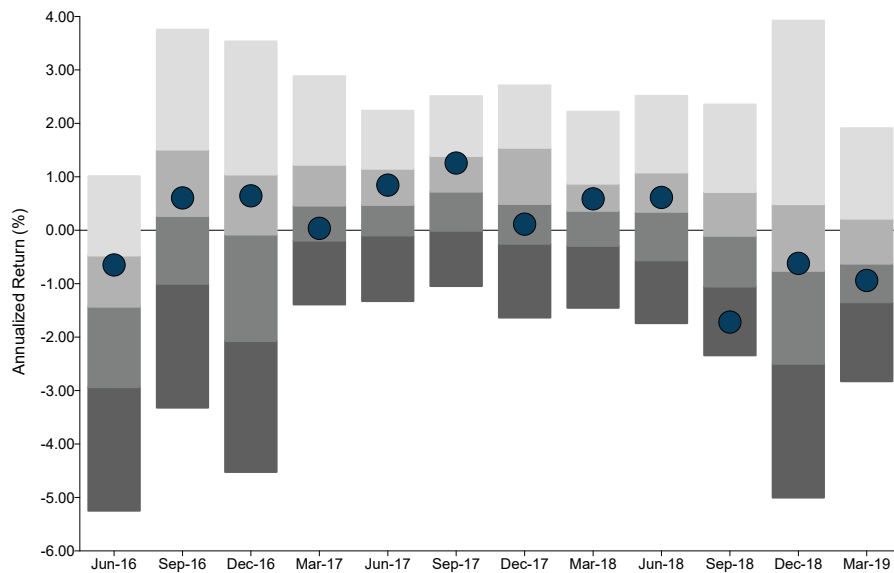
### 24M Rolling Information Ratio (Annualized)



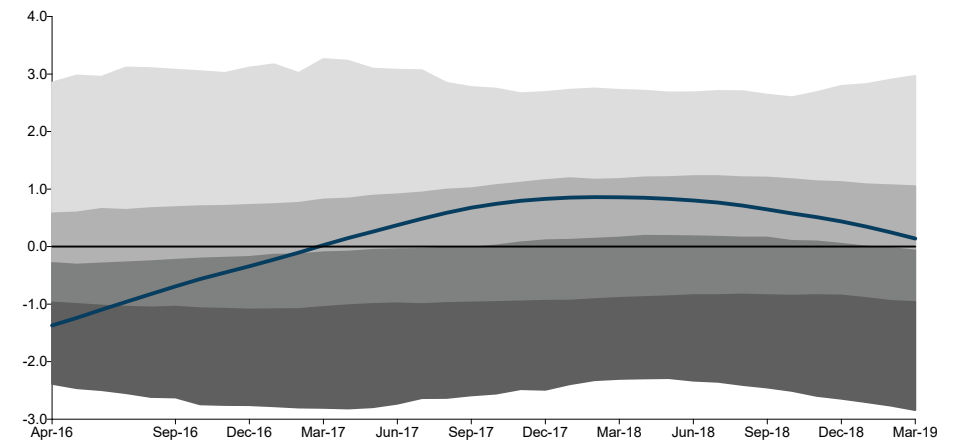
### Manager Skill Metrics (Last 60M)



### Excess Returns (Quarterly)



### 24M Rolling Alpha (Annualized)



	Qtr	6 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
T. Rowe Price Equity Income	-0.33	-0.58	-0.33	-0.68	0.34	-0.39	-0.37
Large Value Average	-0.12	-0.20	-0.12	-0.21	0.03	0.00	0.21

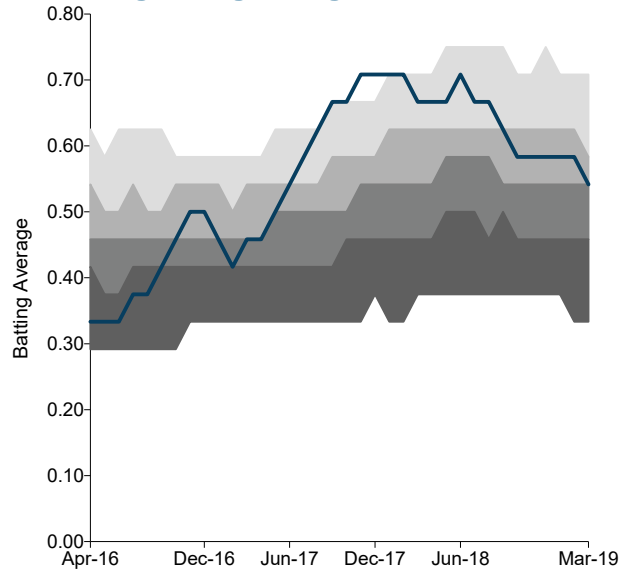
As of March 29, 2019

## T. Rowe Price Equity Income

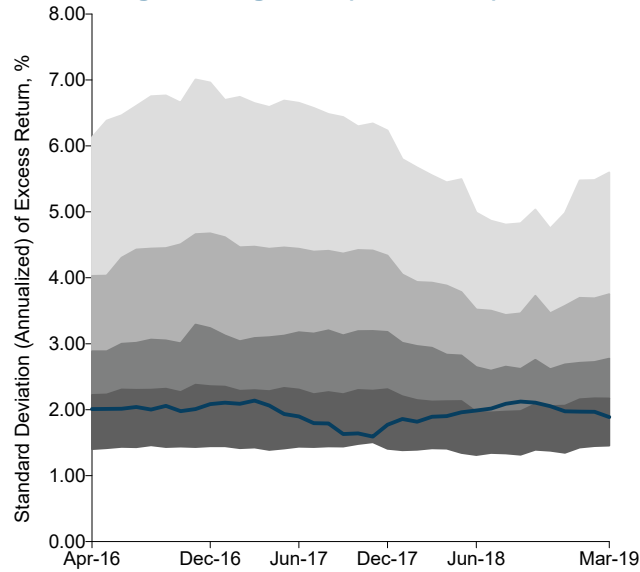
Peer Group: Large Value (1573)

Benchmark: Russell 1000 Value TR USD

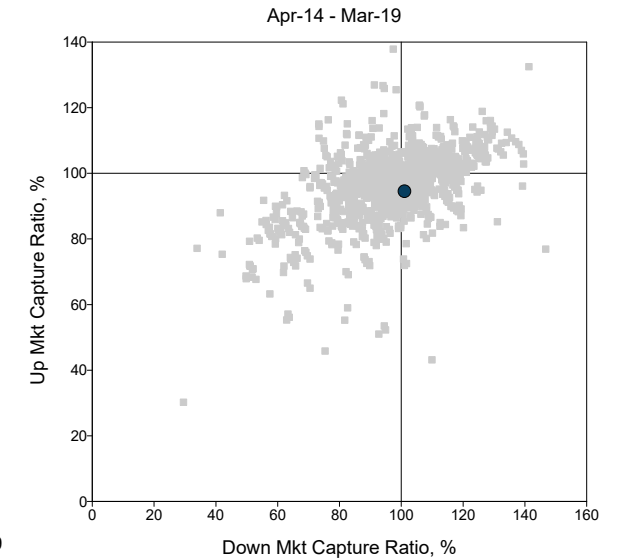
### 24M Rolling Batting Average



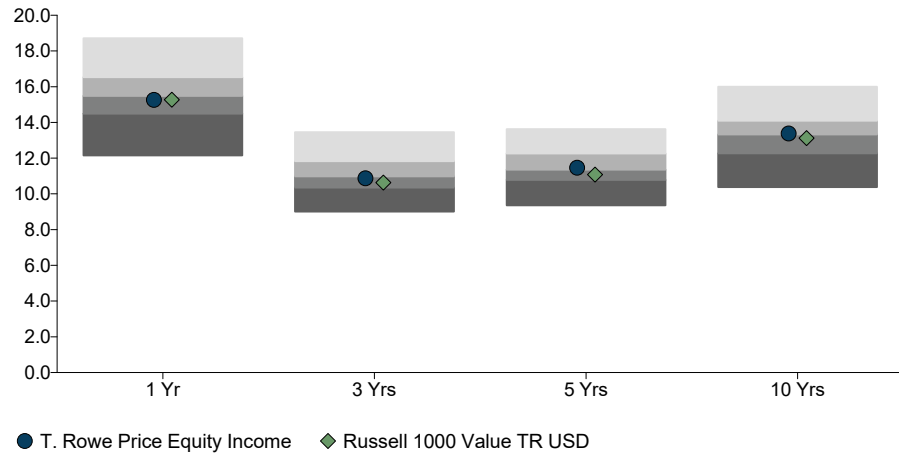
### 24M Rolling Tracking Error (Annualized)



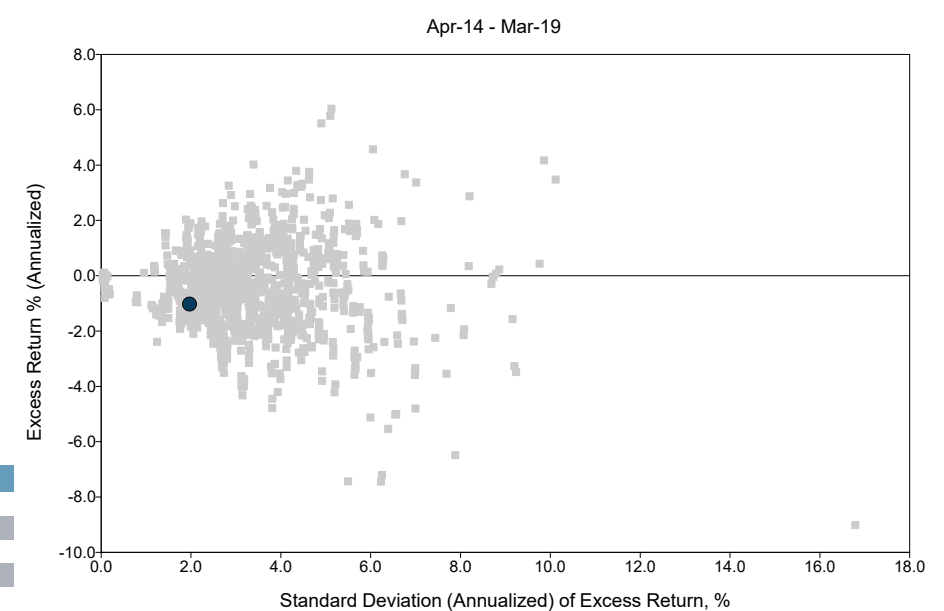
### Up Market vs. Down Market Capture Ratio



### Risk (Annualized Standard Deviation)



### Active Return vs. Active Risk (Annualized)



	1 Yr	3 Yrs	5 Yrs	10 Yrs
T. Rowe Price Equity Income	15.26	10.87	11.46	13.38
Peer Group Rank	58	58	47	49
Russell 1000 Value TR USD	15.28	10.63	11.08	13.12
Large Value Average	15.55	11.11	11.47	13.26

As of March 29, 2019



# Evaluation Methodology

Multnomah Group has developed a proprietary evaluation methodology that analyzes funds within a given investment category utilizing nine distinct criteria. The table below describes evaluation standards utilized and their weight in overall score for each fund. For each category, a fund is assigned a score based on specific criteria chosen by the Multnomah Group Investment Committee. Individual category scores are summed to create a fund score and funds are ranked based on their total score relative to all other funds in their peer group.

Evaluation Criteria	Weight	Description of Evaluation Process	Scoring Threshold
Expenses	20%	A fund is evaluated based on its prospectus net expense ratio. Funds with lower expenses score higher as they create less of a drag on net of fee performance.	<ul style="list-style-type: none"> <li>● Prospectus net expense ratio <math>\geq</math> 50th percentile</li> <li>▲ Prospectus net expense ratio = 51st - 75th percentile</li> <li>● prospectus net expense ratio &lt; 75th percentile</li> </ul>
Experience	10%	Experience is evaluated based on the longest tenure of a portfolio manager assigned to a fund. Managers with longer track records demonstrate greater stability to investment product and make analysis of the investment product's historical performance more meaningful.	<ul style="list-style-type: none"> <li>● Manager tenure &gt; 5 years</li> <li>▲ Manager tenure = 3-5 years</li> <li>● Manager tenure &lt; 3 years</li> </ul>
Holdings Diversification	5%	A fund is evaluated to determine whether it is diversified in its total number of holdings. A lack of diversification may increase the potential risk of a fund. Diversification is measured by the total number of securities held in the portfolio.	<ul style="list-style-type: none"> <li>● Total number of holdings <math>\geq</math> 60 Holdings</li> <li>▲ Total number of holdings = 40-59 Holdings</li> <li>● Total number of holdings &lt; 40 Holdings</li> </ul>
Concentration Risk	5%	A fund is evaluated to determine whether the portfolio is risky because of a concentration of portfolio assets in a few large positions. Concentration risk is measured using the portfolio's percentage of assets in its top ten holdings.	<ul style="list-style-type: none"> <li>● % of assets in top 10 holdings &lt; 35%</li> <li>▲ % of assets in top 10 holdings = 35% - 45%</li> <li>● % of assets in top 10 holdings <math>\geq</math> 45%</li> </ul>
Style Purity	10%	Funds are selected primarily to represent a specific asset class as a component within a structured portfolio. They are therefore evaluated to determine how effectively they adhere to their stated asset class and investment style. Each fund's adherence to its benchmark is evaluated on an absolute basis utilizing an r-squared measure to evaluate how well the assigned benchmark explains the performance of the fund. A higher r-squared measure is indicative of a fund that tracks its assigned benchmark closely and therefore is appropriately categorized within the correct asset class.	<ul style="list-style-type: none"> <li>● Benchmark r-squared <math>\geq</math> 80</li> <li>▲ Benchmark r-squared = 70-80</li> <li>● Benchmark r-squared &lt; 70</li> </ul>
Style Consistency	10%	Each fund is also evaluated for how consistently it adheres to its investment style over time. To measure this we compare the frequency and size of a fund's changes to its style allocation compared to its peer group. Funds with fewer changes in style allocation are considered more consistent.	<ul style="list-style-type: none"> <li>● Style drift <math>\geq</math> 50th percentile</li> <li>▲ Style drift = 51st - 75th percentile</li> <li>● Style drift &lt; 75th percentile</li> </ul>
Manager Skill	20%	Manager skill is evaluated using three separate metrics: excess returns, value added through security selection, and alpha. Excess returns is a simple measure of the fund's returns relative to the benchmark's returns. The security selection metric uses a multi-factor returns-based style analysis (RBSA) model to capture the manager's own style and identifies the value of the manager in excess of its custom style benchmark, isolating the value added by the manager adjusting for any differences in asset allocation relative to the peer group benchmark. Lastly, alpha uses the same multi-factor RBSA model to evaluate whether the manager has outperformed the expected return of the fund based on its overall style exposure.	<ul style="list-style-type: none"> <li>● Positive absolute value and <math>\geq</math> 50th percentile</li> <li>▲ Positive absolute value and &lt; 50th percentile</li> <li>● Negative absolute value</li> </ul>
Consistency	10%	Evaluating active returns on a stand-alone basis is insufficient without determining whether the outcome was a result of random luck or a demonstration of consistent skill. Funds are evaluated for how consistently the manager had positive excess returns to determine whether historical performance was consistent through time or a result of a few strong time periods. To measure this, funds are evaluated using a metric called batting average. Batting average is a ratio that calculates the frequency of monthly positive excess returns for a fund out of the total possible number of months.	<ul style="list-style-type: none"> <li>● Batting average <math>\geq</math> 50th percentile</li> <li>▲ Batting average = 51st - 75th percentile</li> <li>● Batting average &lt; 75th percentile</li> </ul>
Risk	10%	Risk is measured by the volatility (as measured by standard deviation) of portfolio relative to its peer group. Funds with lower standard deviations relative to their peers score.	<ul style="list-style-type: none"> <li>● Standard deviation <math>\geq</math> 50th percentile</li> <li>▲ Standard deviation = 51st - 75th percentile</li> <li>● Standard deviation &lt; 75th percentile</li> </ul>

# HEDGE FUND RESEARCH AND DUE DILIGENCE PROCESS

MAY 2019



# THE CASE FOR HEDGE FUNDS

## OVERVIEW



### WHAT ARE THEY?

- We do not think of hedge funds as an asset class, rather as a collection of heterogeneous investment strategies which can be utilised to gain exposure to a variety of non-traditional risks (“hedge fund risks”)
- In fact, individual hedge fund managers implementing the same investment strategy often target and generate contrasting risk profiles.



### WHY INVEST NOW?

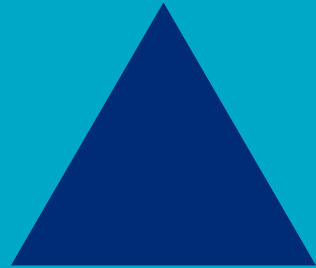
- We believe hedge funds represent a long term strategic allocation in the range of 10-20% of investor portfolios. Timing an allocation is difficult at best and highly discouraged.
- Investors increasingly seeking a greater contribution from “alpha” to capitalise on policy divergence, transition from QE to QT, rising dispersion, continued M&A activity and maturity of credit / default cycle.



### MERCER PHILOSOPHY

- A risk reducing component of the growth portfolio
- Improve total portfolio diversification
- Diversify equity risk without introducing interest rate sensitivity
- Downside protection first, balanced with upside participation second

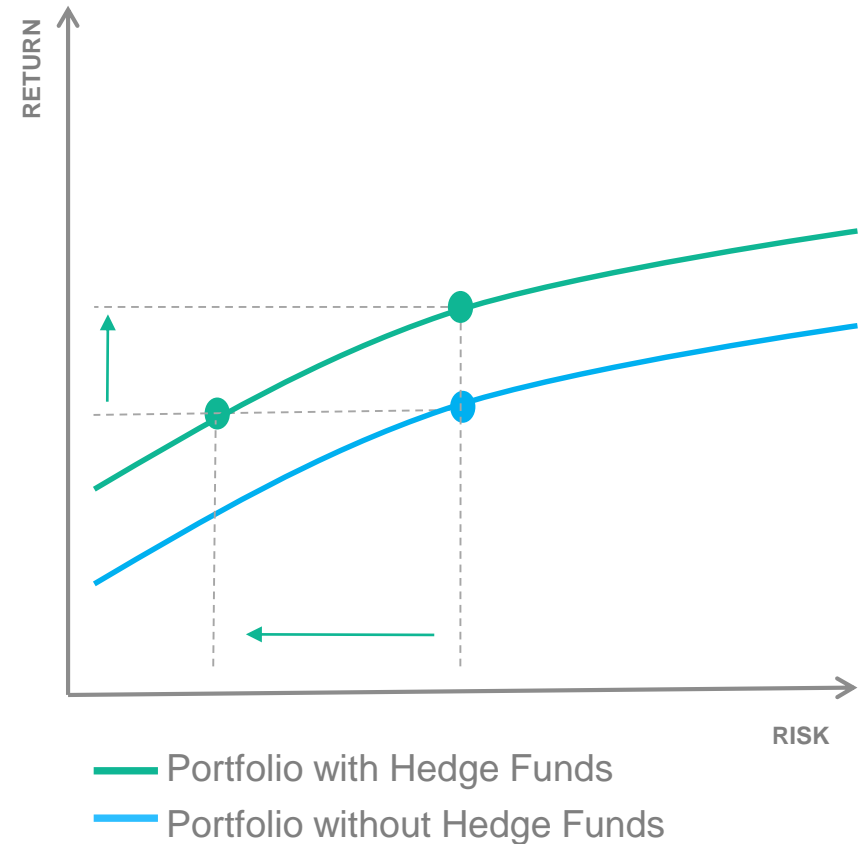
# WHAT ARE HEDGE FUNDS?



# WHAT ARE HEDGE FUNDS?

## IMPROVING THE RISK/REWARD PROPOSITION

- Hedge funds offer a unique ability to diversify the traditional equity, credit and interest rate risks that dominate a typical asset allocation.
- This is achieved through a less constrained mandate which allows for more flexibility to capitalize on opportunities, expertise, and skillsets.
- Hedge funds provide exposure to non-traditional return drivers and can play an important role in achieving a well-diversified overall portfolio.
- By introducing new return drivers, the total portfolio relies less on the direction of capital markets.
- Hedge funds can be a powerful diversifier, stretching the efficient frontier and improving risk-adjusted performance.



# WHAT ARE HEDGE FUNDS?

## THE HEDGE FUND TOOL BOX

### HEDGE FUNDS

#### LONG/SHORT

- Hedge funds have the ability to invest long and short
- Taking long positions in securities that are expected to appreciate and short positions in securities that are expected to decline
- Short selling enables a strategy to profit from a position that is expected to decline in value

#### MANAGER SKILL

- Hedge funds are more reliant on investment manager skill (successful active management) than the direction of markets in general
- Returns are less reliant on market direction and therefore should be more consistent over time

#### ABSOLUTE RETURN

- Hedge funds focus on “absolute return” rather than performance relative to a specific benchmark

#### LEVERAGE

- Hedge funds have the ability to borrow
- Applying leverage enables a strategy to amplify position sizing to exploit opportunities in a more sizeable manner; however, this flexibility needs to be managed carefully

#### INVESTMENT FLEXIBILITY

- Hedge funds have few restrictions on asset classes and investment techniques they can employ
- However, most hedge funds do tend to specialise

**Hedge funds offer greater flexibility in execution and a broader mandate through fewer constraints**

# WHAT ARE HEDGE FUNDS?

## THREE MAIN “TYPES”

- **Multi-strategy Funds**

Multi-Strategy

Expected to produce consistent returns due to diversification across strategies, plus the ability to tactically shift allocations between strategies as the opportunity set changes

- **Focused Single Strategies**

Long/Short Equity

Relative Value

Global Macro

Credit Opportunity

Event Driven &  
Distressed

Insurance Linked

Expected to produce strong returns over a full cycle, but with less consistency than Multi-strategy Funds

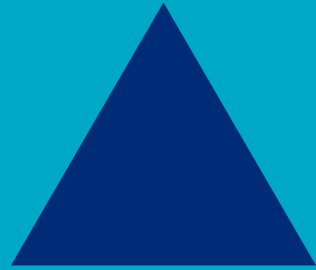
- **Hedging Strategies**

Tail Risk Hedging

Managed Futures

Strategies that can be expected to provide useful diversification or protection against systemic risk

# WHY INVEST IN HEDGE FUNDS?

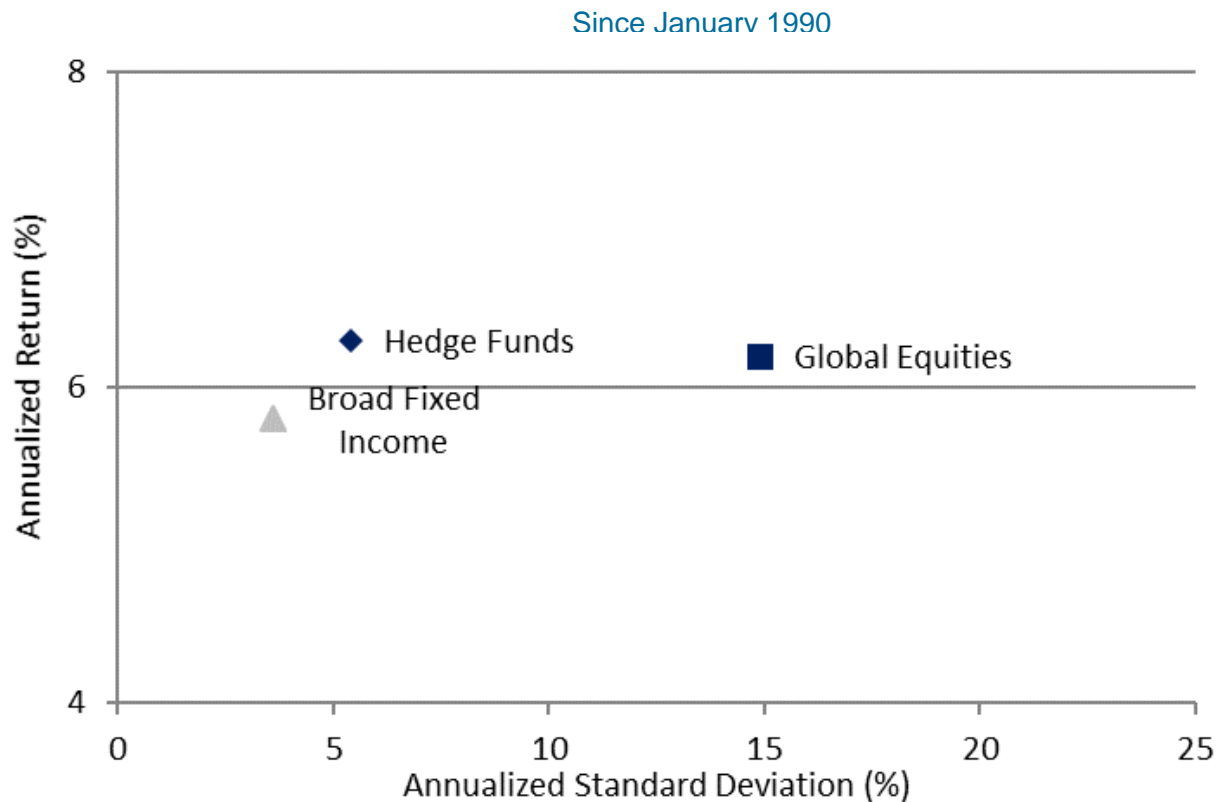




# WHY INVEST IN HEDGE FUNDS?

## HISTORICAL RESULTS SUPPORT THESIS

- Over their full history, hedge funds on average have indeed provided attractive risk-adjusted returns relative to traditional stock and bond portfolios.



Source: Datastream. Based on the HFRI FoF Composite Index; MSCI ACWI; and BBgBarc Agg from Jan 1990 to Dec 2018.

# WHY INVEST IN HEDGE FUNDS?

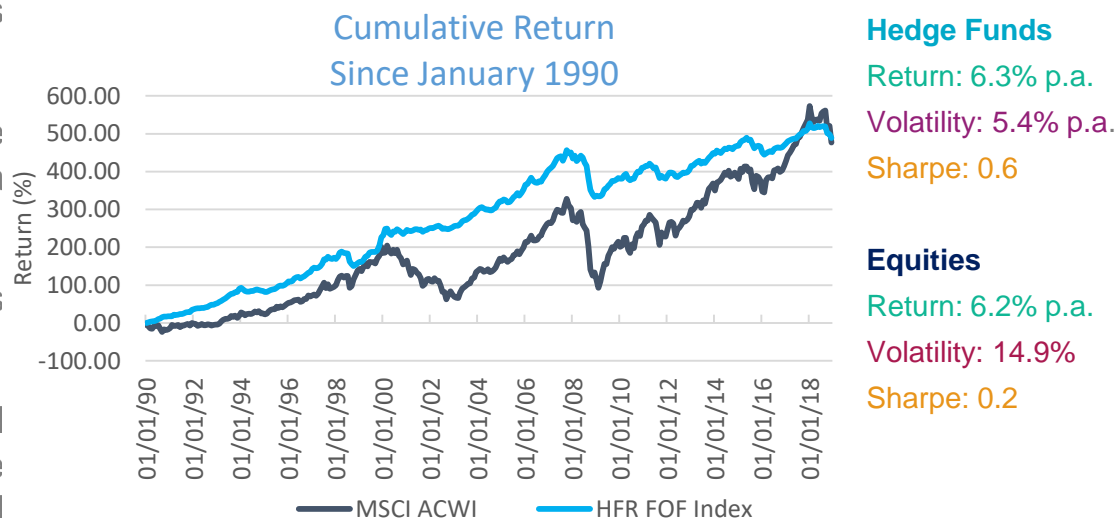
## DAMPENING CYCLE EFFECTS

■ Over their full history, hedge funds have delivered returns in line with global equities with approximately 1/3 the volatility.

■ Generally, over full market cycles, hedge funds have demonstrated their benefit in a portfolio, as illustrated in the table below.

➤ Over the first two cycles, hedge funds outperformed equities with less risk.

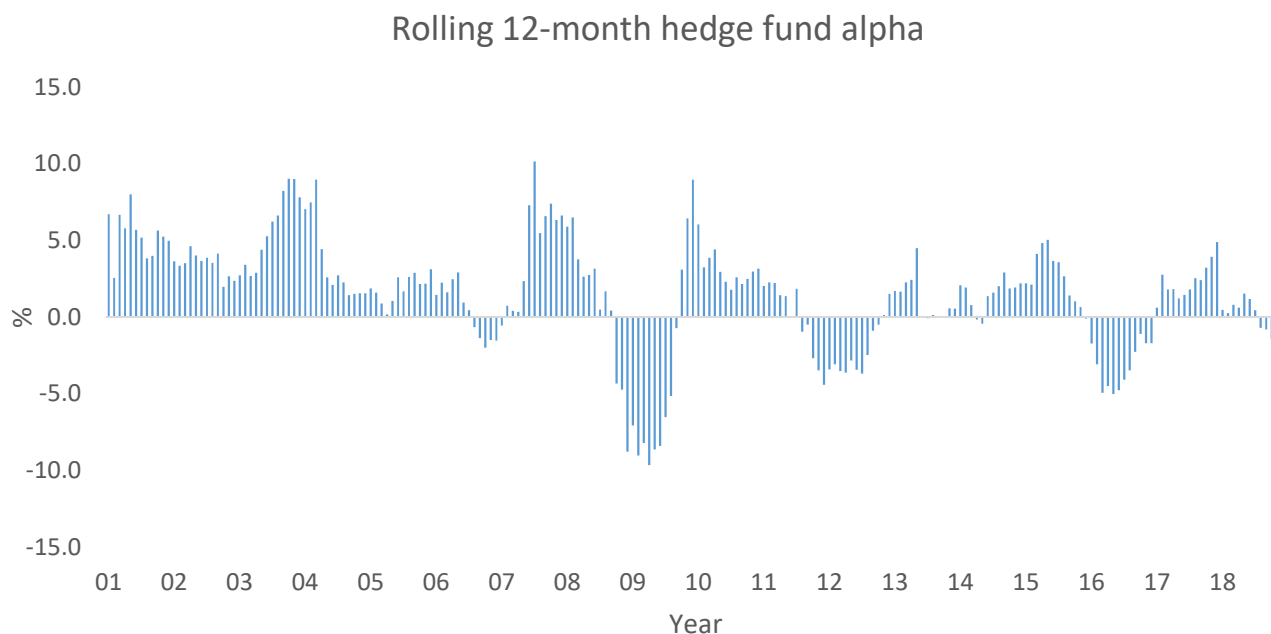
➤ While hedge funds have underperformed equities in the current market cycle, the low volatility profile has remained consistent and attractive, particularly as a diversifier to equities that carries no interest rate risk. The comparison versus equities in the current cycle has been distorted by the end-period parabolic move in the equity markets.



Market Cycle	MSCI ACWI		HFR FOF	
	Ann. Return	Ann. Std Dev	Ann. Return	Ann. Std Dev
1. Jan '90 - Mar '00	11.5	14.2	13.0	6.1
2. Apr '00 - Oct '07	4.6	13.5	6.3	4.2
3. Nov '07 - Dec '18	2.7	16.4	0.5	5.0

# HISTORICAL RESULTS SUPPORT THESIS. . . BUT WHAT ABOUT THE LAST TEN YEARS ?

- Residual hedge fund alpha has been more sporadic in recent years, however we believe much of this may be attributable to global monetary easing and regulatory changes. As we begin to move from QE to QT, we are seeing positive signs more recently for hedge fund alpha.
- While the average results continue to support the thesis, in our experience, alpha can be enhanced through manager selection and portfolio construction.



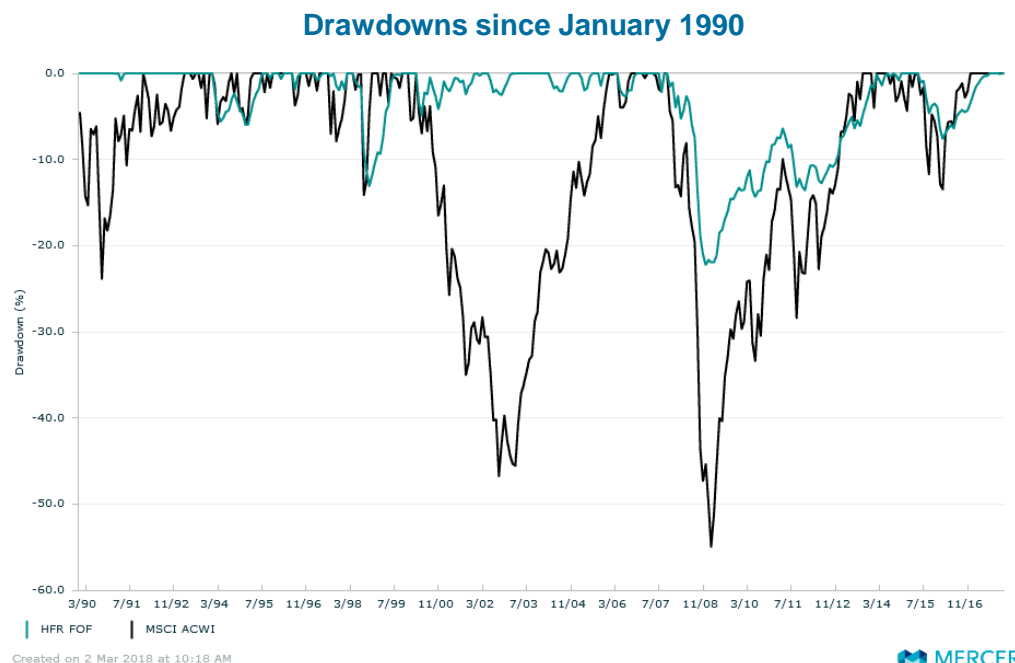
Source: Datastream Data from Jan 2000 to Dec 2018.

Calculated as (rolling 12 month HRI FoF Composite returns) – (rolling 12 month beta to MSCI World Index \* rolling 12 month MSCI World Index return).

# WHY INVEST IN HEDGE FUNDS?

## THE POWER OF NEGATIVE RETURNS

Return in Year 1	Return in Year 2 to Break-Even	Years at 10% Return to Break-Even
-10%	11.1%	1.11
-20%	25.0%	2.34
-30%	42.9%	3.74
-40%	66.7%	5.36
-50%	100.0%	7.28

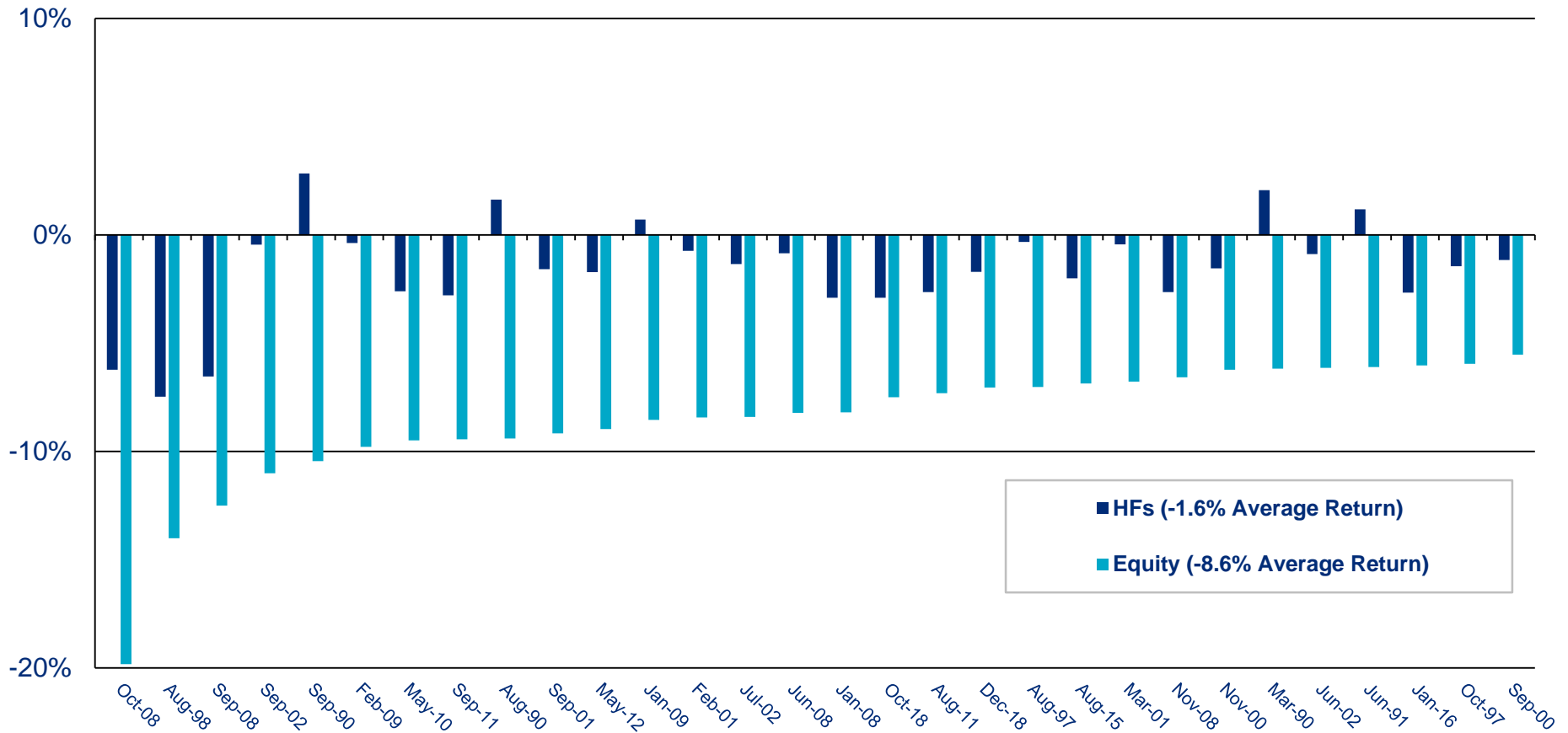


“The tyranny of negative compounding returns may be the hardest lesson that far too many investors never master.”  
David Rolfe, Westwood Partners

# WHY INVEST IN HEDGE FUNDS?

## EXCHANGING SHORT TERM GAINS FOR LONG TERM REWARD

Monthly Returns in the 30 lowest equity return months since 1990



Source: Datastream

Note: Based on the HFRI Fund of Fund Composite and MSCI ACW World indices from January 1990 to December 2018.

# WHY INVEST IN HEDGE FUNDS?

## CONCLUSIONS

- In our opinion, a well-crafted hedge fund allocation represents an attractive component of the growth portfolio toolkit.
- Through risk factor diversification, hedge funds can increase the drivers of portfolio growth, thereby reducing risk in an absolute sense.
- Well executed, a hedge fund program may produce close to equity-like returns with significantly less volatility over the long-term.
- Hedge funds are not, of course, without risk. Furthermore, many hedge fund risks are non-compensating - diversification of such risks is critical.
- Successful implementation is necessary in order to achieve the desired benefits. Manager selection, due diligence, risk monitoring, and portfolio construction are critical.

# PERFORMANCE HEDGE FUNDS LOOKING FORWARD

## 1. The low interest rate environment

- Interest rates are expected to gradually increase over the next few years, which should be a tailwind for absolute return focused mandates. This should also create winners and losers within markets as weaker companies no longer survive through cheap financing.
- While not expected to be a strong tailwind, the short interest rebate is expected to turn from a constant negative to a slight positive for bi-directional equity strategies.

## 2. Relatively little dispersion within markets

- It is difficult to make strong assertions about the likely level of dispersion in markets. While we have previously witnessed times of decreased intra asset class correlation, periods of intermittent directionality have made it difficult to maintain a sustained level of lower inter stock correlation.

## 3. A falling (and low) volatility environment

- Volatility regime shifts have proven to be dramatic and swift in the past.
- We expect hedge fund strategies to capitalize on higher levels of volatility and any resulting forced selling.

## 4. Increased emphasis on passive investing has led to equity beta driven markets

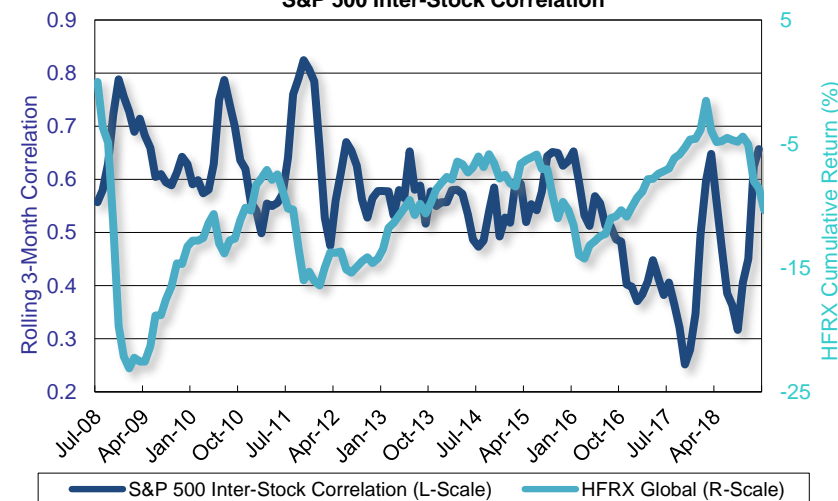
- A well diversified hedge fund program continues to offer correlation benefits. Targeting a low correlation (and beta) to global equities.

US 10-Year Yields



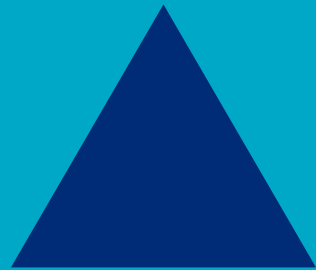
Source: FRED. Data from Jan 1988 to Dec 2018.

S&P 500 Inter-Stock Correlation



Source: Bloomberg. Data from Jan 2003 to Dec 2018.

# MERCER HEDGE FUND PHILOSOPHY





# MERCER'S HEDGE FUND PHILOSOPHY

We believe that a hedge fund program, properly designed, is a “**risk reducing**” component of the growth portfolio.

- A well diversified hedge fund program represents a strategic long term allocation within a portfolio.
- The allocation allows the growth portfolio to pursue a long term offensive posture.
- Risk reduction is defined as diversity of risk factors and return drivers
- We seek capital preservation first and performance enhancing second, utilizing the full spectrum of the hedge fund tool set.
- The allocation should diversify and complement the equity risk that dominates the growth portfolio without introducing interest rate sensitivity

**The role of our hedge fund strategy is to diversify the return drivers in the growth portfolio and generate attractive risk-adjusted returns relative to equities over a market cycle.**

# MERCER'S HEDGE FUND PHILOSOPHY

## STRATEGIC ALLOCATION

- In our opinion, the value proposition of a hedge fund allocation is best viewed through the benefits it can provide to a broader portfolio.
- A diversified collection of risk and return drivers should provide the most robust outcomes over a full market cycle.

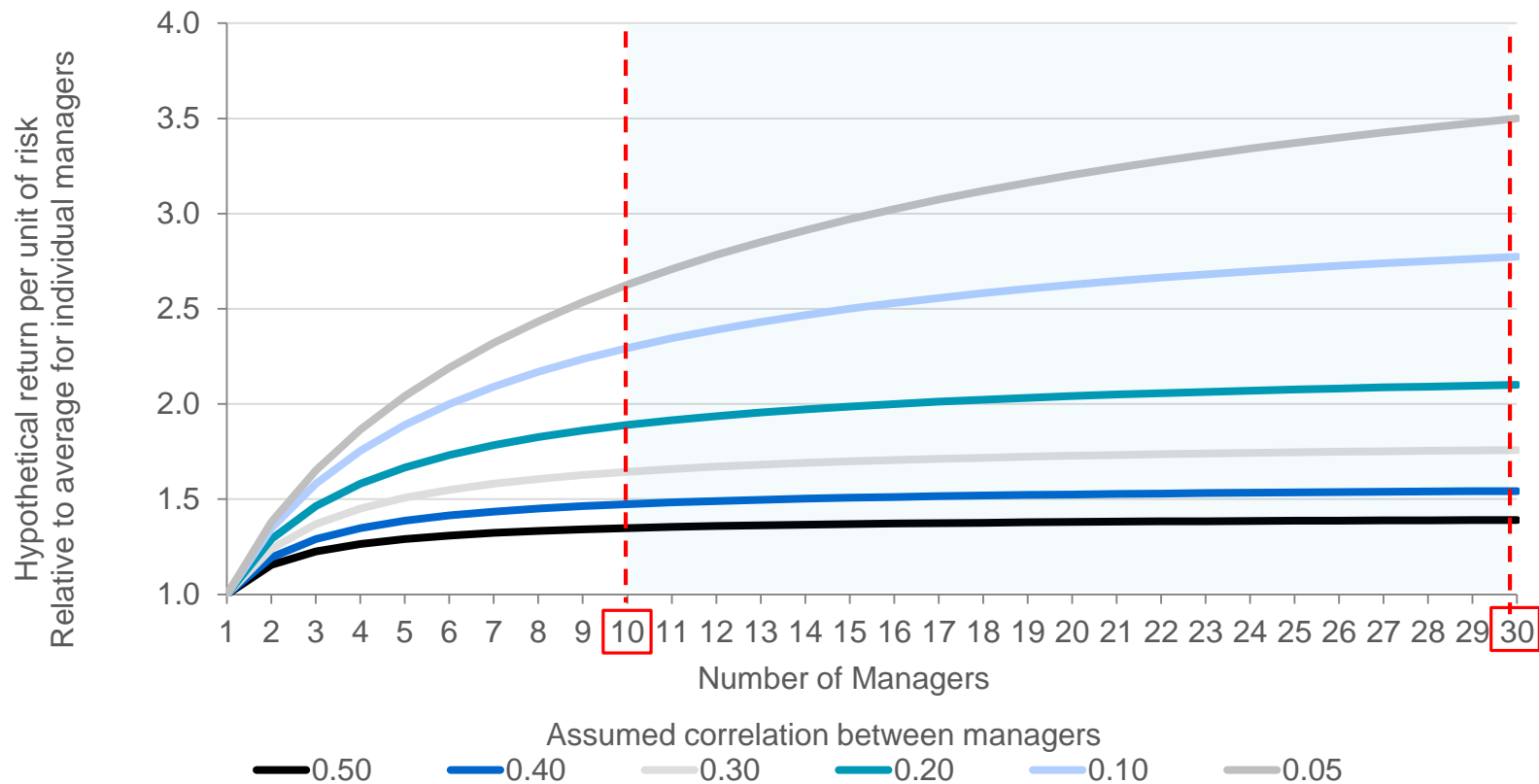
2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HFRI ED: Distressed 18.89%	HFRI Emerging Markets 21.04%	HFRI Emerging Markets 24.26%	HFRI Emerging Markets 24.92%	Barclays Gov't/Credit 6.09%	HFRI RV: ConvertArb 60.17%	S&P 500 15.08%	Barclays Gov't/Credit 9.24%	S&P 500 15.99%	S&P 500 32.36%	S&P 500 13.65%	HFRI EH: Eq Mkrt Ntrl 4.27%	HFRI ED: Distressed 15.15%	S&P 500 11.93%	HFRI Relative Value -0.24%
HFRI Emerging Markets 18.42%	HFRI Equity Hedge 10.60%	HFRI ED: Distressed 15.94%	HFRI Macro 11.11%	HFRI Macro 4.83%	HFRI Emerging Markets 40.25%	HFRI RV: ConvertArb 13.35%	S&P 500 2.09%	HFRI Relative Value 10.59%	HFRI Equity Hedge 14.28%	Barclays Gov't/Credit 6.32%	HFRI ED: Merger Arb 3.32%	S&P 500 11.93%	HFRI Emerging Markets 19.36%	HFRI Relative Value -0.24%
HFRI Event-Driven 15.01%	HFRI Fund Wghtd Comp 9.30%	S&P 500 15.78%	HFRI Equity Hedge 10.48%	HFRI ED: Merger Arb -5.37%	HFRI ED: Distressed 28.14%	HFRI ED: Distressed 12.12%	HFRI ED: Merger Arb 1.50%	HFRI Emerging Markets 10.37%	HFRI ED: Distressed 14.05%	HFRI Macro 5.58%	HFRI RV: ConvertArb 1.92%	HFRI Event-Driven 10.57%	HFRI Equity Hedge 13.29%	Barclays Gov't/Credit -0.44%
S&P 500 10.86%	HFRI ED: Distressed 8.27%	HFRI Event-Driven 15.33%	HFRI FOF Composite 10.25%	HFRI EH: Eq Mkrt Ntrl -5.92%	S&P 500 26.47%	HFRI Event-Driven 11.86%	HFRI Relative Value 0.15%	HFRI ED: Distressed 10.12%	HFRI Event-Driven 12.51%	HFRI Relative Value 4.02%	S&P 500 1.38%	HFRI RV: ConvertArb 8.10%	HFRI Fund Wghtd Comp 8.59%	HFRI EH: Eq Mkrt Ntrl -1.01%
HFRI Fund Wghtd Comp 9.03%	HFRI FOF Composite 7.49%	HFRI ED: Merger Arb 14.24%	HFRI Fund Wghtd Comp 9.96%	HFRI Relative Value -18.04%	HFRI Relative Value 25.81%	HFRI Emerging Markets 11.44%	HFRI ED: Distressed -1.79%	HFRI Event-Driven 8.89%	HFRI Fund Wghtd Comp 9.13%	HFRI FOF Composite 3.37%	Barclays Gov't/Credit 0.15%	HFRI Relative Value 7.67%	HFRI FOF Composite 7.77%	HFRI ED: Distressed -1.64%
HFRI Equity Hedge 7.68%	HFRI Event-Driven 7.29%	HFRI Fund Wghtd Comp 12.89%	HFRI Relative Value 8.94%	HFRI Fund Wghtd Comp -19.03%	HFRI Event-Driven 25.04%	HFRI Relative Value 11.43%	HFRI EH: Eq Mkrt Ntrl -2.13%	HFRI RV: ConvertArb 8.58%	HFRI FOF Composite 8.96%	HFRI EH: Eq Mkrt Ntrl 3.06%	HFRI FOF Composite -0.27%	HFRI Emerging Markets 7.03%	HFRI Event-Driven 7.59%	HFRI Event-Driven -2.35%
HFRI FOF Composite 6.86%	HFRI Macro 6.79%	HFRI Relative Value 12.37%	Barclays Gov't/Credit 7.75%	HFRI FOF Composite -21.37%	HFRI Equity Hedge 24.57%	HFRI Equity Hedge 10.45%	HFRI Event-Driven -3.30%	HFRI Equity Hedge 7.41%	HFRI RV: ConvertArb 8.02%	HFRI Fund Wghtd Comp 2.98%	HFRI Relative Value -0.29%	HFRI Equity Hedge 5.47%	HFRI ED: Distressed 6.25%	HFRI RV: ConvertArb -3.48%
HFRI Relative Value 5.58%	HFRI ED: Merger Arb 6.25%	HFRI RV: ConvertArb 12.17%	HFRI ED: Merger Arb 7.05%	HFRI Event-Driven -21.82%	HFRI Fund Wghtd Comp 19.98%	HFRI Fund Wghtd Comp 10.25%	HFRI Macro -4.16%	HFRI Fund Wghtd Comp 6.36%	HFRI Relative Value 7.07%	HFRI Equity Hedge 1.81%	HFRI Equity Hedge -0.97%	HFRI Fund Wghtd Comp 5.44%	HFRI RV: ConvertArb 5.95%	HFRI Macro -3.63%
HFRI Macro 4.63%	HFRI EH: Eq Mkrt Ntrl 6.22%	HFRI Equity Hedge 11.71%	HFRI Event-Driven 6.61%	HFRI ED: Distressed -25.20%	HFRI ED: Merger Arb 11.65%	HFRI Macro 8.06%	HFRI RV: ConvertArb -5.16%	Barclays Gov't/Credit 5.07%	HFRI EH: Eq Mkrt Ntrl 6.46%	HFRI ED: Merger Arb 1.69%	HFRI Fund Wghtd Comp -1.12%	HFRI ED: Merger Arb 3.63%	HFRI Relative Value 5.14%	HFRI FOF Composite -3.92%
Barclays Gov't/Credit 4.54%	HFRI Relative Value 6.02%	HFRI FOF Composite 10.39%	S&P 500 5.49%	HFRI Equity Hedge -26.65%	HFRI FOF Composite 11.47%	Barclays Gov't/Credit 6.99%	HFRI Fund Wghtd Comp -2.55%	HFRI FOF Composite 4.79%	HFRI Emerging Markets 5.47%	HFRI RV: ConvertArb 1.55%	HFRI Macro -1.26%	Barclays Gov't/Credit 3.19%	HFRI EH: Eq Mkrt Ntrl 4.88%	S&P 500 -4.39%
HFRI EH: Eq Mkrt Ntrl 4.15%	S&P 500 4.91%	HFRI Macro 8.15%	HFRI RV: ConvertArb 5.33%	HFRI RV: ConvertArb -33.73%	Barclays Gov't/Credit 4.81%	HFRI FOF Composite 5.70%	HFRI FOF Composite -5.72%	HFRI EH: Eq Mkrt Ntrl 2.98%	HFRI ED: Merger Arb 4.74%	HFRI Event-Driven 1.08%	HFRI Emerging Markets -3.28%	HFRI EH: Eq Mkrt Ntrl 2.23%	HFRI ED: Merger Arb 4.31%	HFRI Fund Wghtd Comp -4.49%
HFRI ED: Merger Arb 4.08%	Barclays Gov't/Credit 2.55%	HFRI EH: Eq Mkrt Ntrl 7.32%	HFRI EH: Eq Mkrt Ntrl 5.29%	S&P 500 -36.99%	HFRI Macro 4.34%	HFRI ED: Merger Arb 4.60%	HFRI Equity Hedge -8.38%	HFRI ED: Merger Arb 2.76%	HFRI Macro -0.44%	HFRI ED: Distressed -1.39%	HFRI Event-Driven -3.55%	HFRI Macro 1.03%	Barclays Gov't/Credit 4.18%	HFRI Equity Hedge -6.94%
HFRI RV: ConvertArb 1.18%	HFRI RV: ConvertArb -1.86%	Barclays Gov't/Credit 4.07%	HFRI ED: Distressed 5.08%	HFRI Emerging Markets -37.26%	HFRI EH: Eq Mkrt Ntrl 1.43%	HFRI EH: Eq Mkrt Ntrl 2.85%	HFRI Emerging Markets -14.01%	HFRI Macro -0.06%	Barclays Gov't/Credit -2.47%	HFRI Emerging Markets -2.56%	HFRI ED: Distressed -8.06%	HFRI FOF Composite 0.51%	HFRI Macro 2.20%	HFRI Emerging Markets -11.14%

Source: HFR Industry Reports, © HFR, Inc. Year End 2018, [www.hedgefundresearch.com](http://www.hedgefundresearch.com).

# MERCER'S HEDGE FUND PHILOSOPHY

## HOW MANY MANAGERS?

- Our analysis suggests that somewhere in the **10 to 30** range makes sense
- From a **qualitative** standpoint, this range allows the maximum allocation to a single fund to be kept below 10%, without any allocations being too small to be meaningful
- From a **quantitative** standpoint, the conclusions are similar



HEALTH WEALTH CAREER

# HEDGE FUND RESEARCH AT MERCER



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# MERCER'S HEDGE FUND EFFORT AT A GLANCE

**c.\$83.7bn**

Hedge Fund Assets  
Under Advice



**c.\$4.9bn**

North American  
Delegated Assets

**c.\$4.9bn**

European  
Delegated Assets

**21+ years**

Global Asset Management  
Experience



**14+ year track record**

Managing Hedge Fund Portfolios

**28**

DEDICATED  
HEDGE FUND  
RESEARCHERS



**13**

YEARS  
AVERAGE  
EXPERIENCE

**27**

MERCER SENTINEL  
GROUP ORA  
PROFESSIONALS

**15**

DEDICATED HEDGE  
FUND SOLUTIONS  
TEAM



MANAGER  
SELECTION



DUE DILIGENCE



PORTFOLIO  
CONSTRUCTION



EFFECTIVE RISK  
REPORTING



RISK  
MANAGEMENT



CLIENT  
SUPPORT

Assets as of June 2018. All other data as of 31 December 2018

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# ACCESS TO THE BEST MANAGERS

## SCALE ADVANTAGES

Many of the hedge fund managers rated highly by Mercer's research team are “soft closed” to new investors and/or to new inflows. Mercer's size and client base further affords advantages in sourcing new opportunities

Mercer clients benefit from preferential access to capacity flowing from the strong and long-standing relationships that Mercer has built with these managers.



Many managers that are “soft closed” are seeking to rebalance their investor mix towards long term, patient investors, like Mercer's client base.



Many managers that are closed to new investors are willing to treat flows from new Mercer clients as an extension of an existing relationship rather than as a new relationship.



**Mercer's reputation, scale, client base, and global platform allow for scale advantages for the benefit of clients**

# RESEARCH INVESTMENT BELIEFS

*Active management can generate repeatable excess return (although it is rare). Mercer believes the probability of identifying alpha is enhanced by using a manager research process that is:*



## RESEARCH DRIVEN

A fundamental, forward-looking and research-intensive process which builds on a deep understanding of each investment strategy covered



## REPEATABLE

A robust and consistent framework that assesses each strategies capabilities in four areas: idea generation, portfolio construction, implementation and business management\*



## EVIDENCE BASED

Focused on characteristics of investment strategies that have been shown to enhance the probability of sustainable alpha generation, which can vary over time, and by the asset class



## FLEXIBLE

There is no single answer – flexibility and experience are required to focus on the relevant characteristics for a given strategy

*Our goal is to select the best active managers in the world. Due diligence is the process of attempting to disqualify worthy candidates from consideration.*

# FOUR FACTORS

## IDEA GENERATION



- Philosophy
- Investment process
- Competitive advantage
- Resources

## PORTFOLIO CONSTRUCTION



- Guidelines
- Style
- Risk
- Monitoring

## IMPLEMENTATION



- Trading
- Turnover
- Capacity
- Fees

## BUSINESS MANAGEMENT



- Business structure
- Business environment/  
culture
- Remuneration
- Non-investment distraction

*Consistency across asset classes and strategies*

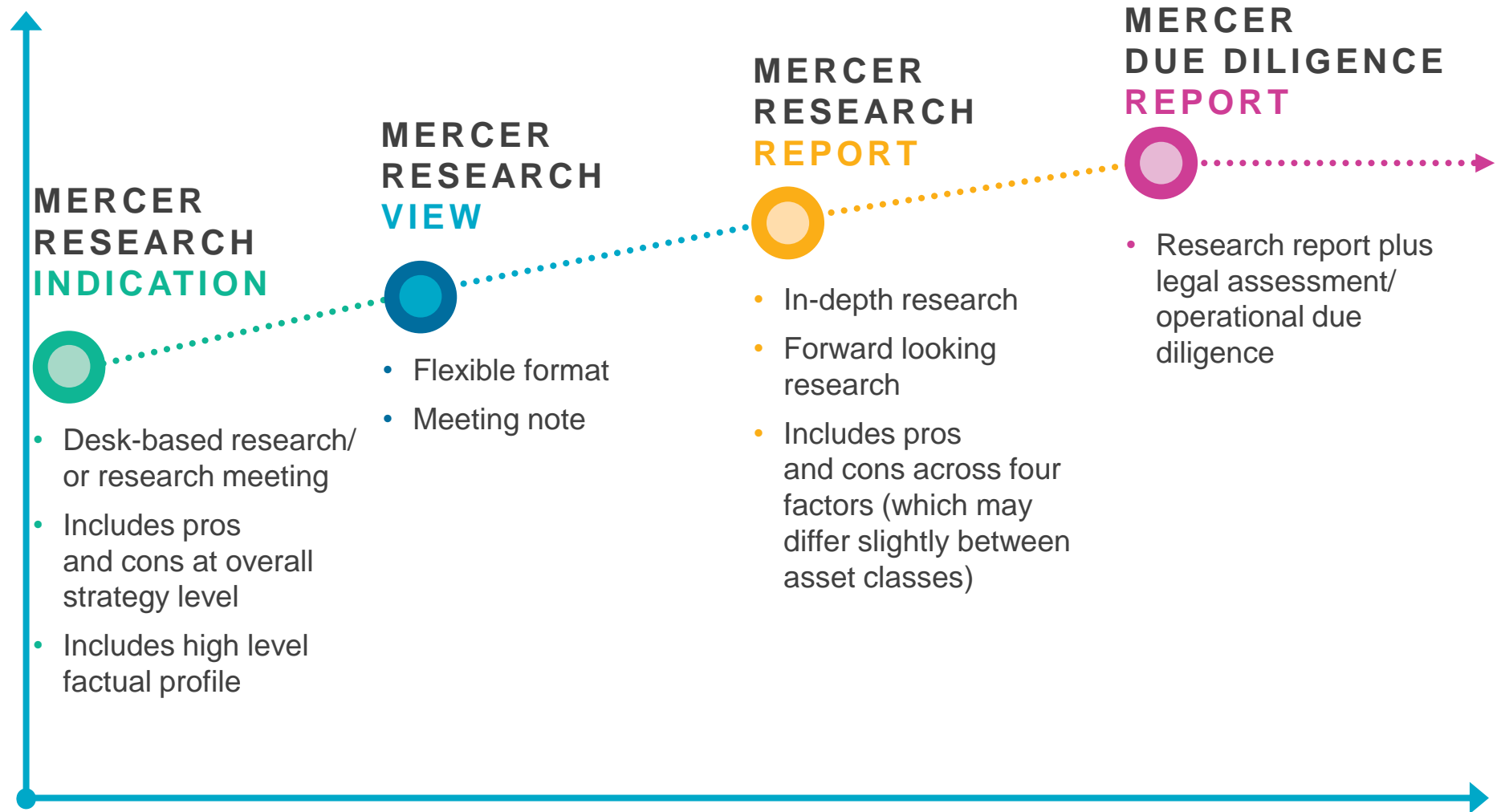


# MANAGER SELECTION & DUE DILIGENCE

SOURCING	<ul style="list-style-type: none"> <li>• Mercer Insight</li> <li>• Spinoffs</li> <li>• Global Research Staff Network</li> <li>• Industry Conferences / Publications</li> <li>• Capital Introductions</li> <li>• Clients / Commissioned Research</li> </ul>
INITIAL	<ul style="list-style-type: none"> <li>• Teleconference interviews</li> <li>• Face to Face on-site reviews with key personnel</li> <li>• Thorough review of documents, materials, investor letters, and transparency</li> <li>• Quantitative analysis</li> <li>• Operational review               <ul style="list-style-type: none"> <li>— Systems and infrastructure</li> <li>— Trade review</li> <li>— Valuation policies</li> </ul> </li> <li>• Document reviews — firm structure and fund terms</li> <li>• Independent verification of manager credentials and service provider relationships</li> <li>• Regulatory Reviews               <ul style="list-style-type: none"> <li>— Firm registrations and regulatory standing</li> <li>— Court records and press archives</li> </ul> </li> <li>• Reference Checks               <ul style="list-style-type: none"> <li>— Manager provided</li> <li>— Internal reference network</li> </ul> </li> <li>• Four factor assessment &amp; rating</li> <li>• Ratings Review Committee Confirmation</li> </ul>
ONGOING	<ul style="list-style-type: none"> <li>• Regular phone calls / email / site visits</li> <li>• Periodically refresh documentation and review any policy changes</li> <li>• Ongoing utilization of internal reference network</li> <li>• Regulatory filing reviews</li> <li>• Analysis of reported returns and portfolio positioning relative to expectations in light of market events</li> <li>• Continuous re-underwriting of rating on absolute and relative basis. Ratings Review Committee Oversight.</li> </ul>

# MANAGER RESEARCH PROCESS

## RESEARCH NOTE FORMATS



# OUR RATINGS SCALE

## A

Strategies assessed as having “**above average**” prospects of outperformance.

## B+

Strategies assessed as having “**above average**” prospects of outperformance, but which are qualified by at least one of the following:

- There are other strategies in which Mercer has greater conviction that outperformance will be achieved.
- Mercer requires more evidence to support its assessment.

## B

Strategies assessed as having “**average**” prospects of outperformance.

## C

Strategies assessed as having “**below average**” prospects of outperformance.

## N

**No rating**, strategies not currently rated by Mercer.

## R

The **R rating** is applied in two situations:

1. Where Mercer has carried out some research but has not completed its full investment strategy research process.
2. Mercer has in the past carried out its full investment strategy research process on the strategy but we are no longer maintaining full research coverage.

## P

**Provisional rating**: where there is uncertainty about a rating that we expect to resolve quickly.

## W

**Watch**: where there is some uncertainty about a rating that we do not expect to be resolved soon but consider it unlikely that it will lead to a rating change.

## T

**Tracking error**: Potential for high tracking error or high volatility.

# MERCER RESEARCH PROCESS

## GATHER DATA (Global Investment Manager Database™)

3,305 Managers  
4,784 Strategies  
1,408 Strategies are Rated  
35% of Rated Strategies are Rated A, B+ or B

## PRIORITIZE CANDIDATES

Review of Insight Entry  
Previous Mercer Research  
Market Intelligence

## WORLDWIDE DUE DILIGENCE

Idea Generation  
Portfolio Construction  
Implementation  
Business Management

## RATINGS

Ratings Review Committee  
Highly Rated Candidates  
(Ongoing monitoring)

## CANDIDATES



### IDEA GENERATION

How strong is the manager's ability to generate value-adding investment ideas?



### PORTFOLIO CONSTRUCTION

How effectively are these investment ideas translated into weightings within portfolios?



### IMPLEMENTATION

How much of the value-add is given back in the form of transaction costs and opportunity costs?



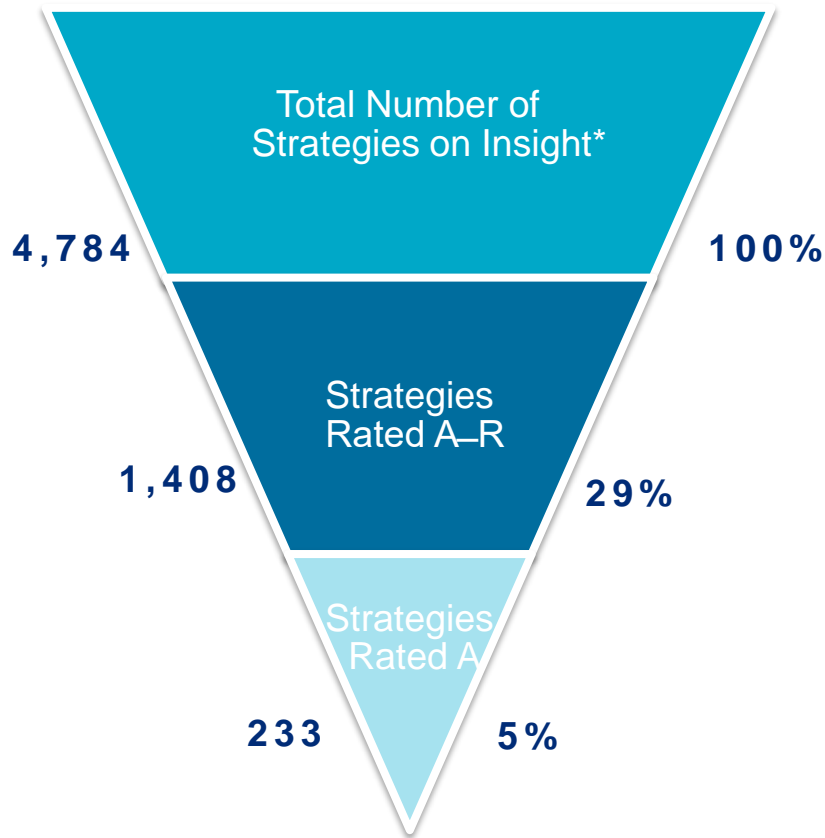
### BUSINESS MANAGEMENT

Well-managed investment firms are more likely to maintain and enhance the competitiveness of their investment strategies over time.

- A** Above average prospects of outperformance.
- B+** Above average prospects of outperformance but which are qualified by at least one of the following:
  - There are other strategies in which we have a greater conviction of outperformance.
  - Mercer requires more evidence to support its assessment.
- B** Average prospects of outperformance.
- C** Below average prospects of outperformance.
- N** Not rated.
- R**
  - 1) Early stage research.
  - 2) Research no longer maintained.

Data as of December 2018 for the Hedge Fund Boutique coverage only.

# CURRENT COVERAGE



CATEGORY	STRATEGIES	A RATED	B+ RATED
Multi-Strategy	220	10	4
Event-Driven	196	8	10
Long/Short Equity	1001	46	13
Long/Short Credit	263	8	8
Distressed	101	5	5
Fundamental Macro	271	26	7
Managed Futures	264	19	19
Insurance Linked	96	11	5
Currency	146	6	4
Commodities	77	1	0
Tail Risk Hedging	27	3	1
Other	296	0	2
Alternative Risk Premia	77	12	3
Multi-Asset Core (Core, Idiosyncratic, & Other)	617	19	34
Multi-Asset (Diversified Inflation & Risk Parity)	153	1	10
Liquid Alternatives (UCITs & 40 Act)	288	38	16
Fund of Hedge Funds	691	20	12
<b>Total</b>	<b>4784</b>	<b>233</b>	<b>153</b>

Source: MercerInsight. Data as at 31 December 2018  
 \* Of the Hedge Fund and Multi Asset Universes

HEALTH WEALTH CAREER

# OPERATIONAL RISK GROUP MERCER SENTINEL® GROUP



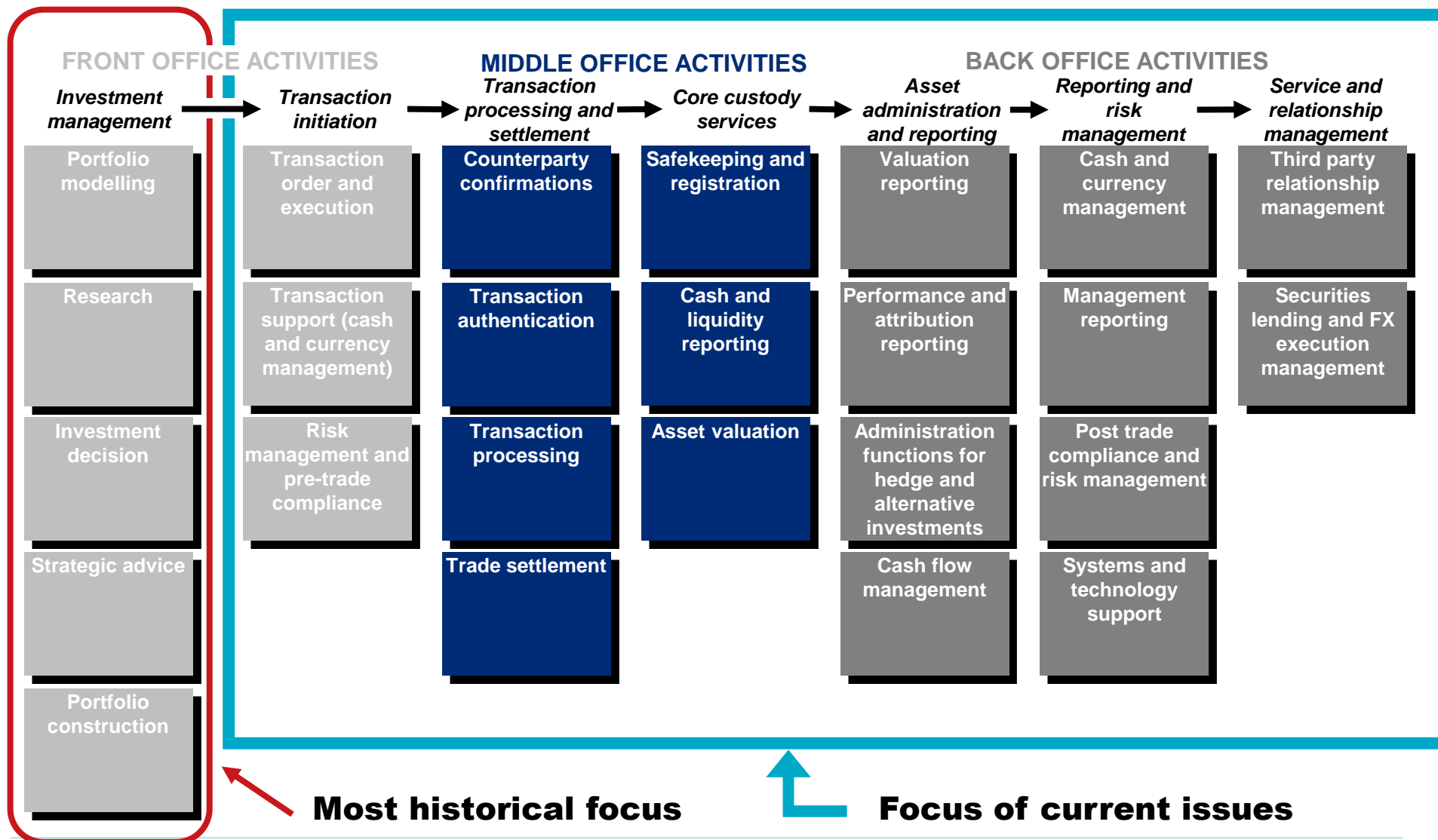
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# MERCER SENTINEL ORA OVERVIEW

- Mercer Sentinel has a dedicated investment manager operational risk assessment team
  - A global team located in Chicago, New York, Denver, London, Dubai, Sydney, and Singapore.
  - Over 50 experienced team members dedicated to investment manager operational risk assessments.
- The global team has carried out over 500 operational reviews covering 1,000 funds in the past two years
  - Covering a broad spectrum of investment strategies and asset classes, including hedge fund, private equity, real estate, equities, and fixed income strategies.
  - Unparalleled technical knowledge of industry practices.
  - Detailed knowledge of best (and worst) practices across the industry.
  - Able to articulate which practices should be applied within a given context.

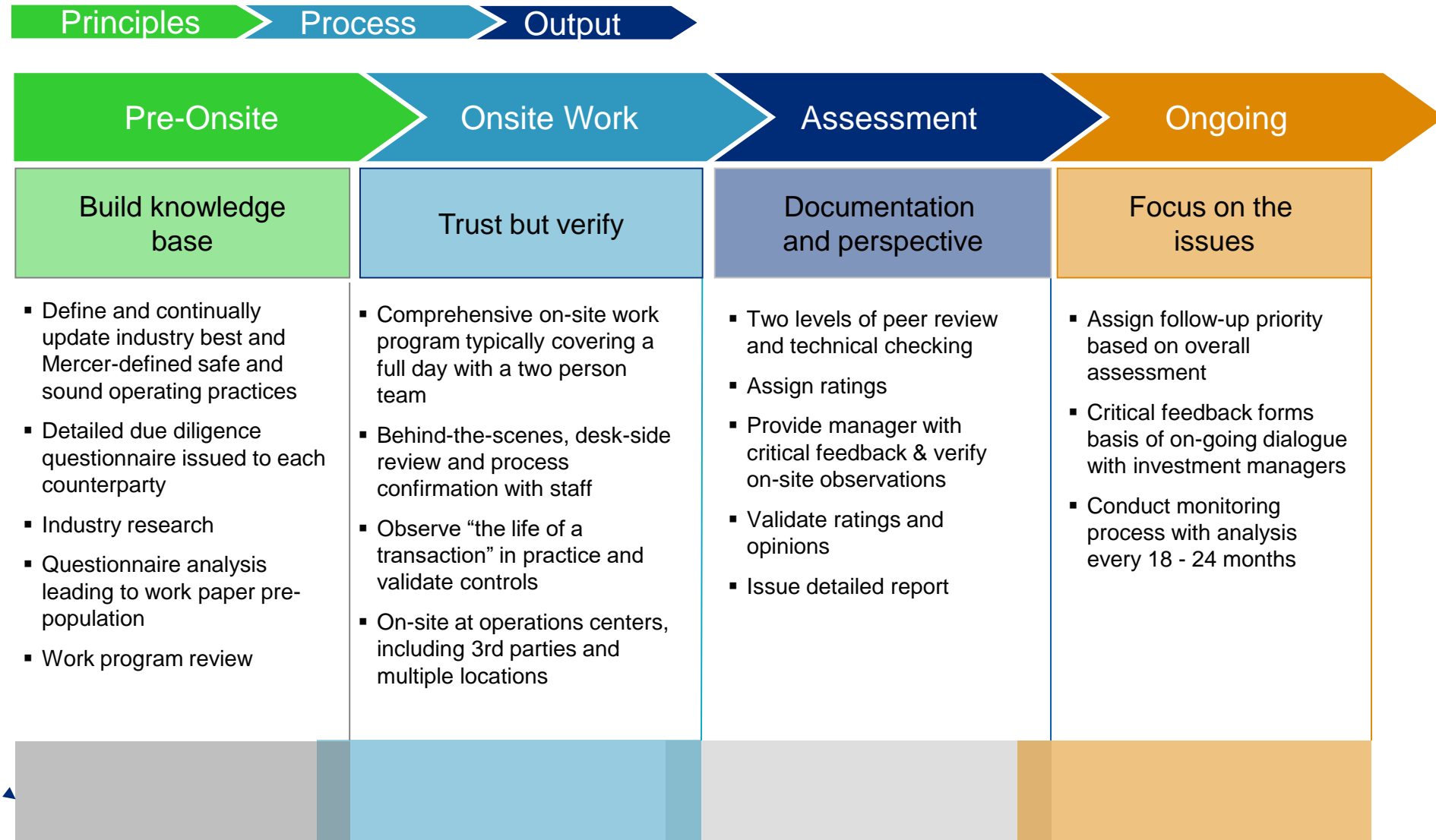
# ARE OPERATIONAL RISKS REALLY THAT COMPLEX

## IDENTIFYING OPERATIONAL RISK SOURCES

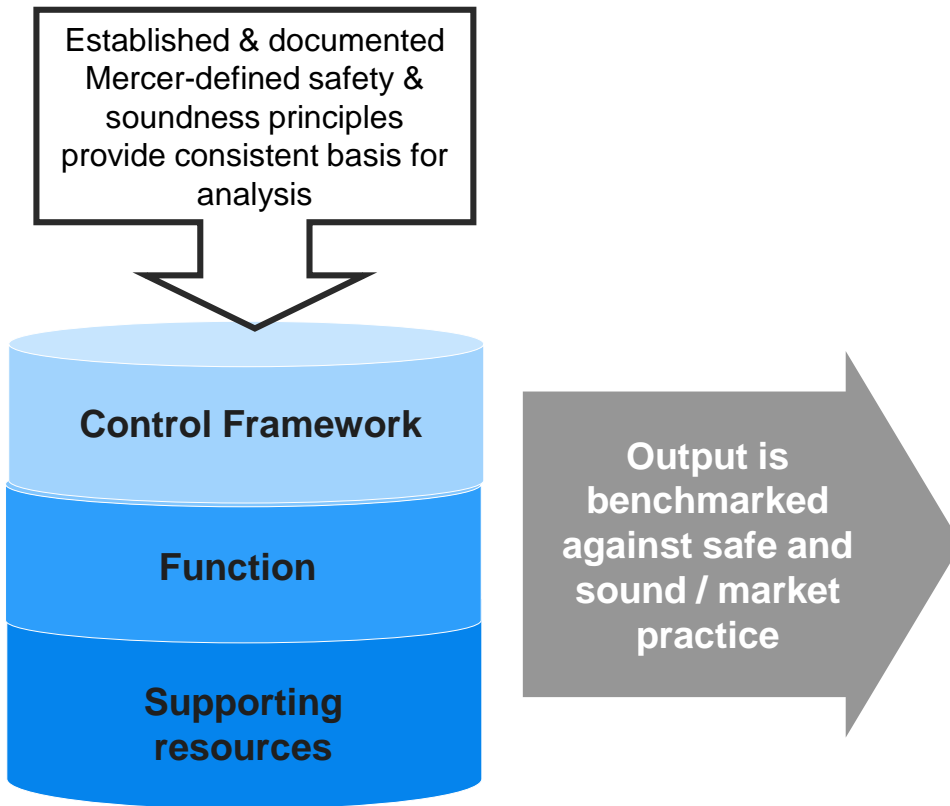




# INVESTMENT MANAGER OPERATIONAL RISK EVALUATION



# RISK ASSESSMENT ANALYTICAL PROCESS



## 1. Preliminary assessment

A traffic light system to indicate issues warranting additional investigation or giving a reasonable basis for not proceeding

## 2. Detail factor ratings

Rating	Definition
Meets standards	Safe and sound practice
Development required	Safe and sound practice with specific issues
Reservations	Below market practice and safe and sound practice
No rating	Unable to assess

## 3. Firm or strategy rating

Retain: No material operational or implementation issues

Monitor: Some operations or control issues

Review: Material operations or control issues

# EXAMPLE: INVESTMENT MANAGER OPERATIONAL ASSESSMENT

- Mercer Sentinel assesses core factors in our operational risk reports. For the below manager, Mercer Sentinel identified specific functions or processes that are below or far below safe and sound practice for the categories marked as “Development required” and “Reservations”

Firm Rating	Review	
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Core factor	Impact	Rating	
Governance and organizational structure	High	Meets Standards	
Human capital	Medium	Development required	
Fund structures	High	Development required	
Regulation, compliance and audit	Medium	Development required	
Risk control	Medium	Development required	
Technology	Medium	Meets Standards	
Business continuity and disaster recovery	Medium	Meets Standards	
Transaction execution	High	Reservations	
Valuation and administration	High	Meets standards	
Third party relationships	Medium	Development required	

## SAMPLE TOPICS

- Cash movement controls and oversight.
- Valuation and asset administration
- Operational infrastructure.
- Regulatory reporting and adherence.
- Automation of key functions and controls.
- Data and cyber security.
- Trading and investment processes.
- Organizational stability.
- Segregation of responsibilities.
- Investment allocations.
- Third party supervision.

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The value of stocks and shares, including unit trusts, can go down as well as up and you may not get back the amount you have invested.

The value of gilts, bonds, and other fixed income investments including unit trusts can go down as well as up and you may not get back the amount you have invested.

Investments denominated in a foreign currency will fluctuate with the value of the currency.

The value of investments in real property can go down as well as up, and you may not get back the amount you have invested. Valuation is generally a matter of a valuer's opinion, rather than fact. It may be difficult or impossible to realise an investment because the property concerned may not be readily saleable.

Certain investments, such as illiquid, leveraged or high-yield instruments or funds and securities issued by small capitalization and emerging market issuers, carry additional risks that should be considered before choosing an investment manager or making an investment decision.

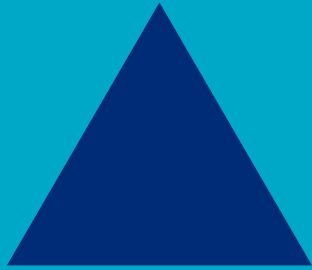
For higher volatility investments, losses on realisation may be high because their value may fall suddenly and substantially.

Where investments are not domiciled and regulated locally, the nature and extent of investor protection will be different to that available in respect of investments domiciled and regulated locally. In particular, the regulatory regimes in some domiciles are considerably lighter than others, and offer substantially less investor protection. Where an investor is considering whether to make a commitment in respect of an investment which is not domiciled and regulated locally, we recommend that legal advice is sought prior to the commitment being made.

**MAKE**  
**TOMORROW,**  
**TODAY**



# SAMPLE RESEARCH REPORTS





# RESEARCH REPORT

## FIRM X

### MERCER ASSESSMENT

Strategy	<b>FUND X</b>
Category	<b>Hedge Funds/Absolute Return, Alternative Risk Premia</b>
Date	<b>January 2018</b>

Idea Generation	<div><div></div><div></div><div></div><div></div></div>	
Portfolio Construction	<div><div></div><div></div><div></div><div></div></div>	
Implementation	<div><div></div><div></div><div></div><div></div></div>	
Business Management	<div><div></div><div></div><div></div><div></div></div>	
Rating	A	ESG N

The ratings in this document may be subject to an approval process and may be subject to change. For the most recent approved ratings please refer to your consultant or to MercerInsight as appropriate.

### OVERALL ASSESSMENT

The key strength of FUND X lies in the quantitative research capabilities and investment talent at FIRM X. The team has been at the forefront of style based investing from both an academic and practical standpoint, which gives us conviction in their ability to remain ahead of the curve even as the investment approach becomes more prevalent. The multi-factor, market neutral approach to portfolio construction is designed to achieve a high level of diversification while delivering meaningful Sharpe ratios with little equity market beta. The strategy also benefits from the overall stability of the team and firm. We have some concern about rapid and substantial asset growth, but are comforted to see a closing of the fund to pause further inflows.

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## CONTENTS

Strategy Summary .....	3
Idea Generation .....	5
Portfolio Construction .....	6
Implementation .....	7
Business Management .....	8
ESG And Active Ownership .....	9
Assessment of Organization/Team .....	10
Assessment of Philosophy/Process .....	12
Assessment of Track Record .....	14
Key Terms .....	18
Important Notices.....	19

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<b>Lead Researcher:</b>	Dev Singhvi

## STRATEGY SUMMARY

### Overview

The FUND X provides exposure to four separate investment styles – Value, Momentum, Carry and Defensive – within a liquid, systematic, multi-asset format.

The strategy is offered in various volatility versions, targeting annualized volatility of up to 12%. FUND X expects a Sharpe Ratio of 0.7 net of fees, for this product.

#### Summary facts and figures

<b>Firm-wide assets</b>	US\$208 billion as at 30 Sep 2017
<b>Inception year</b>	2012
<b>Assets in strategy</b>	US\$19.0 billion as at 31 Oct 2017*
<b>Estimated capacity</b>	US\$20 billion**
<b>Open/closed</b>	Closed
<b>Most suitable benchmark</b>	Merrill Lynch 3 Month T-Bill Index
<b>Performance target</b>	0.7 Sharpe Ratio net of fees
<b>Expected volatility (% pa)</b>	Target annualized volatility at various levels (up to 12%)

\*Includes only those assets managed at full implementation, adjusted to 12% target volatility.

\*\*Estimated capacity for FUND X strategy at full implementation and 12% target volatility. Estimated capacity for partial implementation products (FUND 1, FUND 2 and FUND 3) at 12% target volatility is an additional US\$5 billion. Capacity defined as level at which FIRM X would close a strategy and not the level at which they would return capital or expect returns to suffer.

### Firm Background and History

PERSON A, PERSON B, PERSON C, and PERSON D, founded FIRM X in January 1998. These four principals were formerly employed at Goldman Sachs, & Co., where PERSON A, PERSON C, and PERSON D comprised the senior management of the Quantitative

Research Group at Goldman Sachs Asset Management (GSAM). FUND X is based in Greenwich, Connecticut. In 2004, AFFILIATED FIRM purchased a 12.5% stake in the revenue stream of FIRM X, which has since increased to 30%, with employees owning the balance. The original founders PERSON A, PERSON D and PERSON B own the majority of FIRM X stock, and that share is diluted with one to two new partners being added each year.

### Key Decision Makers

PERSON E is responsible for the day-to-day management of the portfolio and also leads the portfolio management and research team. He was instrumental in helping to build FIRM X's Global Stock Selection group and its original algorithmic trading capabilities. PERSON E has been published in several academic journals, and previous to his current role he was a senior analyst at Quantitative Financial Strategies.

PERSON E and his portfolio management and research team of 15+ are supported by 50+ asset allocation team members and 30+ equity research team members.

A FUND X Investment Committee made up of FIRM X veterans provides additional oversight, and is formed as a subset of the portfolio management and research team. The Investment Committee has overall responsibility for monitoring the portfolios' investments and ensuring implementation in line with current objectives and guidelines.

### Investment Style/Philosophy

The FUND X utilizes a systematic approach to provide diversified exposure to four separate investment styles - Value, Momentum, Carry, and Defensive - which have historically generated positive long-run returns across a variety of asset groups. The belief is that these styles will continue to provide some premium over the broad market. The fund provides exposures to the four styles by constructing diversified, long/short portfolios across stocks,

indices, fixed income, currencies and commodities.

### Investment Process

Through FIRM X's extensive research efforts the team sought out investment styles that could meet the following criteria:

1. Persistent: Economic intuition dictates that strong returns will continue to exist.
2. Pervasive: Opportunities exist broadly across regions and asset groups.
3. Dynamic: Limited static exposure to any asset or market.
4. Liquid: Returns can be captured by trading liquid instruments.
5. Transparent: The process and strategy to achieve attractive returns must be clearly defined.

As such, the FUND X team has identified a set of classic long/short styles that deliver consistent long-term performance across many asset classes and markets. These styles include:

1. **Value:** This strategy exploits the tendency for relatively cheap assets to outperform relatively expensive ones.
2. **Momentum:** This strategy exploits the tendency for an asset's recent relative performance to continue in the near future. Various measures of recent relative performance are used, including both price-based and fundamental momentum measures.
3. **Carry:** This strategy exploits the tendency for higher-yielding assets to provide higher returns than lower-yielding assets.
4. **Defensive:** This strategy exploits the tendency for lower-risk and higher-quality assets to generate higher risk-adjusted returns.

Risk is first allocated to asset groups to take advantage of natural netting and alternative premia interaction. Style allocations within each asset group start with risk parity as a baseline philosophy, but adjust to account for a number

of factors. Asset group allocations target approximately 50/50 split between equities (single-name and indices) and other asset groups, reflecting the greater breadth and capacity of equity strategies. The fund doesn't employ explicit tactical tilts to strategic allocations; however, the risk level of each asset group is permitted to vary depending on the extent of agreement between styles. Ultimately the size of positions in each strategy will be determined by the risk weight assigned to that strategy and volatility of the assets being traded.

Proper long/short implementation of these styles provides for hedged returns and direct exposure to all four styles concurrently, in one cohesive portfolio that is not correlated with traditional sources of risk. At the strategy level, the portfolio is built using a bottom-up systematic process to produce generally equal exposures across styles pertinent to that asset group. At the portfolio level, specific risk models and optimizations guide position sizing to meet the risk targets by asset group and style, and respond to changing asset volatilities and correlations.

A drawdown control mechanism is applied at the fund level to systematically reduce risk if the fund suffers abnormal losses and/or the short-term riskiness of the fund increases. An exposure-management plan employed independently by the risk team is used to help manage risk and maintain the strategy's correlation characteristics.

The amount of leverage employed depends on the volatility of the asset. For higher volatility assets, leverage will be lower, and for lower volatility assets leverage will tend to be higher. Leverage will also vary based on the current market environment, but is expected to be approximately 4-5x gross notional exposures per side to achieve the 12% volatility target.

## IDEA GENERATION ■■■■

**Key takeaway:** The robust research team with strong academic credentials has been involved in the academics of style based investing since the firm's inception. The firm continues to foster a strong culture of research, giving us confidence in their ability to remain proactive in generating ideas and adapting to market changes. FIRM X sets a high bar for incorporating new research into the strategy with strict criteria for considering new style definitions, and a rigorous process to gain inclusion.

### Pros

- FIRM X has effectively identified and enhanced persistent and pervasive “styles” through their robust and repeatable evidence based research process. We believe they will continue to stay ahead of competitors even as style-based investing increases in popularity.
- Multiple investment themes for each style factor ensure the robustness of the investment approach, so as not to rely too heavily on one style or signal.
- We like the thought given to constructing the underlying themes for each style. Although the style themselves are well-known, the construction of models to capture them is a key strength of FIRM X.
- We are particularly impressed with PM PERSON E who is chiefly responsible for overseeing the research and portfolio management of the strategy. PERSON E’s long tenure with the strategy and strong academic credentials benefit the strategy overall.

### Cons

- The recent proliferation of style-based strategies and steady flow of assets in the marketplace is of some concern. At some point this may be reflected in degradation of returns, although we do not see it as an immediate issue.

## PORTFOLIO CONSTRUCTION

**Key takeaway:** We favor the multi-factor approach which delivers diversification benefits to the portfolio. We are further impressed with the thoughtful risk management system that keeps the portfolio balanced and carefully maneuvers risk by adding or reducing based on a systematic process.

### Pros

- The portfolio is well diversified at both the strategy and portfolio level by style, asset group and market in an effort to provide uncorrelated returns that control for broad market beta.
- The market neutral portfolio construction allows the strategy to have very low correlation to traditional sources of risk that may be found elsewhere in an investor's portfolio.
- FIRM X's sophisticated risk management system allows for swift adjustments to be made when risks increase, while also providing a mechanism to recognize early signals to dial risk back up.
- Position ranking off the back of signals generated prevents extreme values from having an outsized impact on the netting process.

### Cons

- Splitting risk equally among asset groups as a starting point seems intuitively sound and indeed is backed by FIRM X's research that no one asset class should significantly outperform in the long term. This strategic decision may however force sub-optimal portfolios in the short term as risk is somewhat restricted to remain close to parity across asset groups and no effort towards tactical adjustments is made.

## IMPLEMENTATION

**Key takeaway:** FIRM X is capable in its implementation of the strategy and dedicates significant resources to monitoring and minimizing the cost of execution. The strategy has seen very substantial and consistent inflows of capital, and size may at some point inhibit returns and provide liquidity challenges. The launch of variant products excluding the most capacity constrained markets to add further capacity to the overall style premia strategy provides some response to this concern.

### Pros

- FIRM X has a robust centralized trading desk of 35+ and a large portfolio implementation team of another 30+, both able to assist in efficient execution of trades and providing feedback and insight into market conditions and liquidity.
- The firm has been thoughtful about capacity and constantly analyzes both general strategy crowdedness as well as liquidity.

### Cons

- FIRM X has revised capacity in the strategy more than once, and they currently estimate that the full implementation strategy can run effectively with \$20B. As long as the strategy continues to maintain expected Sharpe, our concerns are less immediate, but at some point size can be expected to inhibit returns in the strategy.
- Capacity here will be affected by asset growth in the firm's other style premia products (partial implementation products) however we are comforted that the manager makes distinction between its product variants and looks to expand assets only in the areas of the strategy where it sees significant capacity.

## BUSINESS MANAGEMENT

**Key takeaway:** Overall, we believe FIRM X is a well-managed firm that leverages its robust research efforts efficiently across its traditional, alternative, and hybrid product offerings. FIRM X is primarily employee-owned, though AFFILIATED FIRM owns a stake, which it increased to 30% at the end of 2014. The partners are well incentivized to run the business properly.

### Pros

- While AFFILIATED FIRM, a publicly traded holding company, owns a minority interest, it exerts no influence with respect to the day-to-day management of the business. As such, we believe FIRM X retains full discretion to run the business effectively.
- With FIRM X being primarily an employee-owned firm, this structure provides an attractive retention and motivational tool. The firm has demonstrated a history of adding new partners over time.
- Management appears to have done a good job tapping into the synergies between the traditional long-only and the alternatives/hedge fund businesses. We like that the different capabilities help stabilize the business.
- The firm takes pride in its strong research culture which is part of the firm's DNA with nearly half of all employees holding advanced degrees.
- The investment team has been relatively stable, particularly among senior members; this is a notable attribute for a firm of its size.
- We appreciate FIRM X's ongoing commitment to investing in resources/infrastructure and increasing headcount as necessary to support growth of the firm's capabilities.

### Cons

- FIRM X continues to grow through the raising of additional assets and offering new products across all asset classes and strategies. It is essential that the firm remains focused on its core offerings and that resources and intellectual capital do not become overly stretched.
- Over recent years, the firm has significantly expanded its headcount. Moving forward, it will be important that the firm is able to effectively absorb and integrate these resources without disrupting the culture of the firm.
- We would like to get a better sense for the longer-term evolution of the firm's ownership structure, particularly as it relates to the equity stakes of the founders and senior management.



## ESG AND ACTIVE OWNERSHIP ESG N

**Key takeaway:** ESG factors are not relevant for this type of strategy.

## ASSESSMENT OF ORGANIZATION/TEAM

### Business Structure

In 2004, AFFILIATED FIRM purchased a 12.5% stake in the revenue stream of FIRM X. In December 2014, this revenue interest was converted into a profit-sharing interest, which coincided with AFFILIATED FIRM's acquisition of a larger ownership stake in FIRM X. The current agreement maintains AFFILIATED FIRM's ownership percentage in FIRM X at around 30%. AFFILIATED FIRM is a publicly traded holding company, and holds no controlling interest in FIRM X or any role with respect to the day-to-day business. The balance of the stock is owned by 30+ partners, with the original founders holding the majority. That majority share is being diluted with new partners being added over time. We believe interests are well-aligned with investors as the firm principals maintain the majority of their liquid net worth internally. FIRM X is based in Greenwich, CT, with additional offices in Boston, Chicago, Los Angeles, Hong Kong, London, and Sydney.

As of 30 September 2017, FIRM X had \$208 billion in firm-wide assets under management. Approximately \$95 billion (~45% of the business) was attributed to traditional strategies with the remaining \$113 billion represented by alternative investments. While the alternatives business has experienced significant growth since 2009, the percentage allocation of assets between traditional and alternatives has not changed materially over the past year. Importantly, we believe FIRM X benefits from a relatively diverse and largely institutional client base, such as pension funds, insurance companies, endowments, foundations and sovereign wealth funds. This should mitigate potential business volatility compared to peers that have greater exposure to the retail market.

### Environment and Culture

We note that FIRM X fosters a strong culture of research, innovation, and team accountability, giving us confidence in their ability to remain ahead of the curve in generating ideas and

adapting to market changes. Nearly half of the employees at FIRM X hold advanced degrees. We like that the firm has demonstrated the ability to source strong talent while experiencing relatively low staff turnover, particularly among senior investment professionals. Given the broad resources at FIRM X, we would not be surprised to observe periodic shifts in senior team member responsibilities as the firm evolves.

FIRM X expects future growth of the firm to be at a measured pace, which is expected to include increasing the scope of products and vehicles offered across the platform. As FIRM X continues to grow, it is essential that the firm remains focused on its core products and that resources and intellectual capital do not become overly stretched.

### Remuneration and Alignment

FIRM X's remuneration structure for employees is based on their commensurate contributions to the firm's overall performance, and not on individual strategy performance or asset gathering results. Overall, we believe FIRM X's remuneration structure adequately aligns the team's incentives with those of clients.

Employees who are not principals (i.e., equity owners) are generally rewarded for their innovative contributions, work ethic, and team collaboration via a total annualized compensation structure, which is comprised of a base salary and a discretionary bonus. Factors that drive employee compensation include: overall firm performance, individual performance relative to their peers, and results of independent industry benchmarking. Looking ahead, FIRM X expects to broaden employee ownership by selectively naming new principals who have demonstrated long-lasting contributions to the firm and exemplify the culture that FIRM X seeks to preserve. Compensation for the firm's principals is largely in the form of profit distributions based on an individual's relative ownership in the firm.

## Team and Resources

As of 30 September 2017, FIRM X had 850+ employees, with just fewer than half listed as investment professionals. The vast majority of recent expansion has been driven by the broadening of back-office resources that support the meaningful growth in FIRM X's business. While we applaud the firm's commitment to ensuring an adequate level of resources as the business evolves, given its size, the pace and sustainability of employee growth, along with the ability to integrate new hires effectively, are important topics for continued discussion.

FIRM X lists 150+ employees responsible for contributing to the strategy across portfolio management, research, and risk management. A separate firm-wide trading team assists in execution of the strategy.

Importantly, the firm's dedicated Risk Management team is led by PERSON F, who

was appointed Chief Risk Officer in March 2016. In addition to providing risk reports and other tools to the investment teams, the Risk Management team is responsible for monitoring market, credit, liquidity, and model exposures for the firm's strategies.

Separately, FIRM X's well-resourced (35+ member) trading team, co-led by PERSON G and PERSON H, is a source of competitive strength. In our view, the trading team plays a crucial role in the implementation and long-term alpha generation of the firm's strategies. Driven by significant investments in technology and proprietary developed algorithms, FIRM X appears to have one of the most robust efforts to minimize implicit and explicit transaction costs. Overall, we believe FIRM X's significant scale and breadth of resources set the firm apart from peers.

## ASSESSMENT OF PHILOSOPHY/PROCESS

### Investment Philosophy

Style investing has been most widely studied in equity markets, with a classic example being the influential work of Fama and French who describe the cross-section of U.S. stock returns through two main styles in addition to the market equity-risk premium: Value and Size. Subsequent research into stocks added two additional styles, namely Momentum and Low-Beta. FIRM X's research on Value, Momentum, and Low-Beta was extended to international stocks as well as to other asset classes that include bonds, currencies, commodities, derivatives, and real estate, with similarly compelling results. Size, on the other hand, has not proven as robust. The last style, Carry, was first applied in currencies and bonds (and later, commodities) as a powerful investment tool, and more recently has been studied in equity indices and options.

FIRM X uses a multi-asset class approach to access four long/short styles, targeting low correlation to traditional asset class returns. We view the general philosophy and investment approach as well grounded and backed by academic research, conducted both within the firm and externally.

### Idea Generation

FIRM X conducts ongoing research to identify new styles and potential strategies. Any new strategy must meet several key criteria, which we feel are well thought out:

1. Have a long term return that can a) be explained using intuitive economic principles and b) offer diversification relative to the existing style strategies
2. Be uncorrelated with the typical assets held by institutional investors
3. Not require onerous use of leverage; and
4. Trade highly liquid instruments

The team points out that it is dangerously easy to find trading strategies that appear to have worked historically. Thus, excessive reliance on

past data can lead to the formation of trading strategies based on spurious historical relations. Ultimately, the research team makes a presentation on any potential new or refined strategy to the PM's, including the economic rationale for the strategy and the empirical evidence supporting the idea. The testing process is rigorous and appropriately discounted when determining inclusion.

Each of the four styles exploited are a composite of multiple underlying investment themes, which are used to measure, rank and ultimately inform positions on each of the markets traded. We like the use of several themes for each style, to ensure robustness, and the thought behind each of the measures that are included.

Value: This strategy exploits the tendency for relatively cheap assets to outperform relatively expensive assets. Value securities may be distressed or less-favored by investors for a variety of reasons. By the same token, investors may over-extrapolate growth prospects, resulting in overpricing of growth/glamour stocks. While the academic research strongly confirms that cheap securities tend to outperform expensive securities in the long term, these strategies tend to perform poorly during momentum driven markets that reward growth and disregard value. Value strategies may be implemented using the following measures of Fundamentals:

1. Stocks, industries and country indices: book-to-price, earnings-to-price, forecasted earnings-to-price, cash flow-to-price, sales-to-enterprise value
2. Fixed income: yields minus inflation forecasts, forward rates minus inflation forecasts
3. Currencies: purchasing power parity, reversal in real exchange rates
4. Commodities: reversal in three-to-five-year returns

**Momentum:** This strategy exploits the tendency for an asset's recent relative performance to continue in the near future. Momentum opportunities may exist due to investor initial under-reaction to news and subsequent herding/continued over-reaction, and other behavioral biases. These strategies may perform poorly during choppy, non-trending markets.

Various measures of recent relative performance are used, including both price-based and fundamental-based momentum measures. It is currently employed for stocks, equity indices, fixed income, currencies and commodities

**Carry:** This strategy exploits the tendency for higher-yielding assets to provide higher returns than lower-yielding assets. High (or low) yields may indicate excess demand for (or supply of) capital. In currencies, for example, expected capital offsets (appreciation/depreciation) may have not materialized due to inefficiencies of non-profit-seeking participants such as central banks.

Carry strategies are currently employed for fixed income, currencies, and commodities, based on various measures of yield.

**Defensive:** This strategy exploits the tendency for lower-risk and higher-quality assets to generate higher risk-adjusted returns. Dislocations in securities may happen due to investors overpaying for "lottery" characteristics, or a tendency to seek high-beta assets to deliver more "bang for the buck." These behavioral realities cause low risk assets to offer higher risk-adjusted returns.

Defensive strategies are currently employed for individual stocks, equity indices, and fixed income, based on various measures of riskiness and quality.

## Portfolio Construction

At the overall strategy level, the portfolio is built using a bottom-up systematic process to

produce generally equal exposures across styles pertinent to that asset group. Diversifying exposure across styles seems sensible to us as empirical data suggests difficulty in tactically timing allocations to favor one style over another.

At the portfolio level, specific risk models and optimizations guide position sizing to meet the risk targets by asset group and style, and respond to changing asset volatilities and correlations. The risk levels of asset group components, and therefore the fund as a whole, are permitted to vary depending on the degree of agreement across styles.

The fund is constructed to provide investors with broadly diversified returns. This is achieved by holding a large number of positions across a range of global markets and across all four styles. In addition, the strategy is designed to control for traditional equity market beta.

A drawdown control mechanism is applied at the strategy level to systematically reduce risk if the strategy suffers abnormal losses and/or the short-term riskiness of the strategy increases. In addition, an independent dedicated risk management team oversees the portfolio as an extra measure, and will administer the systematic drawdown process to reduce the strategy's target risk level under sufficiently adverse circumstances. We like the fact that there is also a systematic process to reintroduce risk after a drawdown has occurred.

## Implementation

The 30+ portfolio implementation team, led by PERSON I, PERSON J and PERSON K is responsible for the monitoring of implementation across all strategies to ensure consistency. They employ automated execution algorithms built in-house which help expand capacity by masking the firm's trading intent. We appreciate the team's effort to estimate the slippage between pure model returns and actual returns.

## ASSESSMENT OF TRACK RECORD

<b>Track Record</b>	FUND X	<b>Mercer Universe</b>	Alternative Risk Premia (Net)
<b>Base Currency</b>	\$US	<b>Track Record Type</b>	Composite
<b>Gross/Net of Fees</b>	Net	<b>GIPS Compliant</b>	No
<b>Benchmark</b>	US 3 month T-Bill (USTB3M)	<b>Track Record Assets</b>	US\$13635.76m as at 30 Sep 17

The track record used for quantitative analysis is net of fees, assuming the flat 1.5% fixed fee option, and targeting 12% annualized volatility. Since inception, FUND X has returned 9.3% p.a. with annualized volatility of 8.7% resulting in an information ratio of 1.0, exceeding the stated target of 0.7. The fund performance and information ratio ranks above the 95<sup>th</sup> percentile of the universe however we note that very few peers have as long a track record, resulting in an extremely narrow universe for performance comparison.

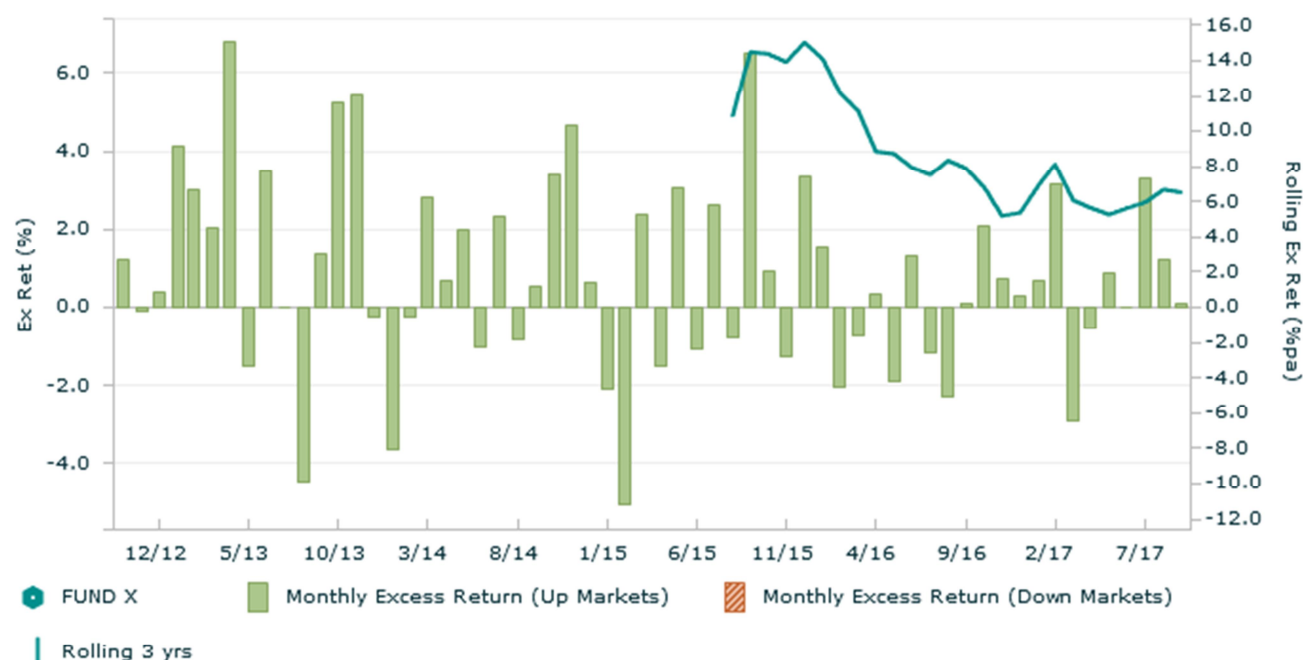
Another point to note is rolling volatility, which generally has shown a downward trend and currently is at around 8%. This is significantly short of the target, for which investors are charged. The reasons for this are three-fold:

1. The strategy in aggregate is tactically underweight rather than overweight. As signals from each of the styles net out, the degree of alignment will determine the level of risk taken. As an example, fixed income models, across styles, are showing relatively less alignment which should be interpreted as lower attractiveness in these markets. This has led to a lower level of risk taken.
2. An exposure-control process, run by the risk management team, manages against market risk. Usually this is for equity risk but has also been used for other asset classes (e.g. commodities in 2015 and more recently interest rate sensitivity). These controls have been used more than is expected over the long-term, resulting in a dampening of realized risk.
3. Realized correlations have been lower than expected. Therefore, although the expected return has been achieved, volatility has been under realized. The correlation assumptions are based on long term horizons and therefore in the long term are still expected to hold.

FIRM X sees no reason to make adjustments to their risk targeting as a result of low realized volatility, given the reasons above. We do hope, however, to see realized volatility move in line with the stated target to compensate investors for the level of risk they choose to pay for.



Monthly Excess Return vs. US 3 month T-Bill with rolling 3 yr line in \$US (after fees) over 5 yrs ending September-17

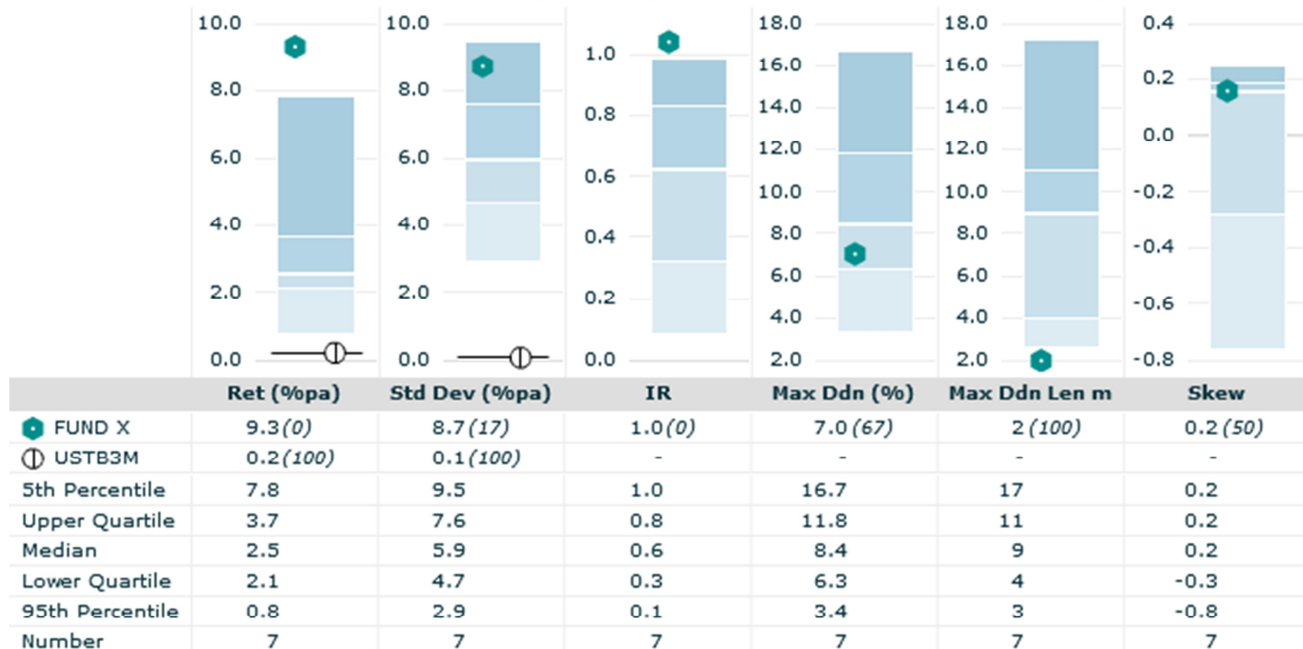


Created on 11 Jan 2018 at 7:43 AM



Performance characteristics vs. US 3 month T-Bill in \$US (after fees) over 5 yrs and 1 mth ending September-17

Comparison with the Alternative Risk Premia (Net) universe (Percentile Ranking) (monthly calculations)

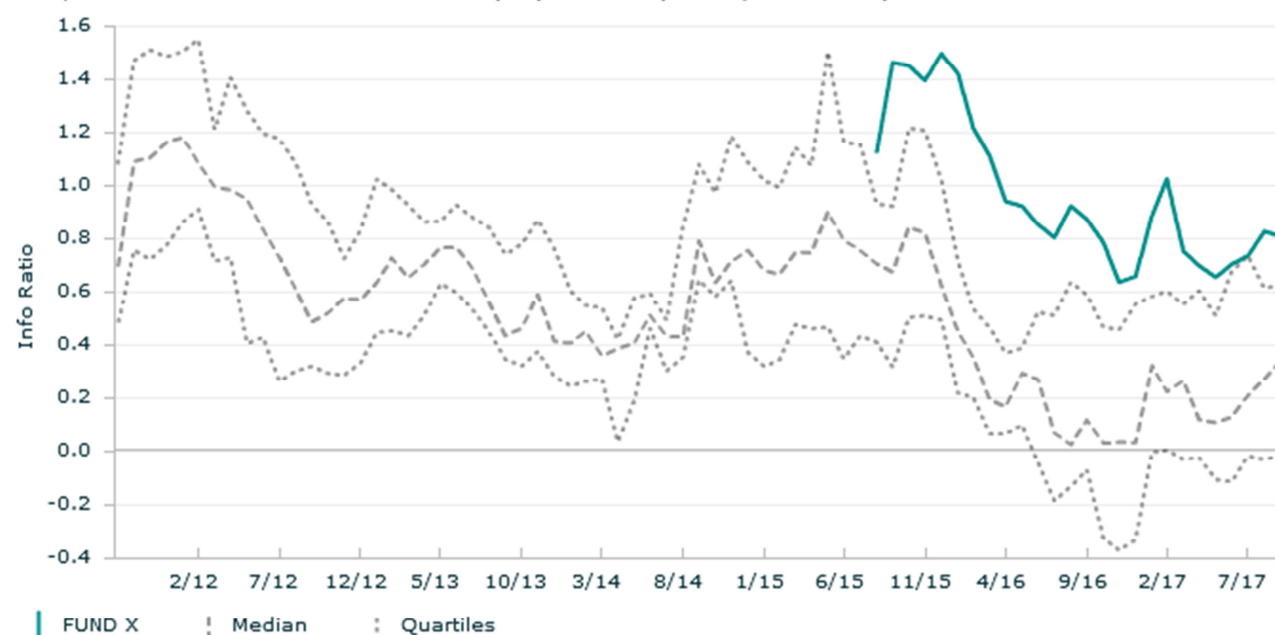


Created on 11 Jan 2018 at 7:43 AM



# Rolling 3 yr Information Ratio vs. US 3 month T-Bill in \$US (after fees) over 6 yrs and 1 mth ending September-17

Comparison with the Alternative Risk Premia (Net) universe (monthly calculations)

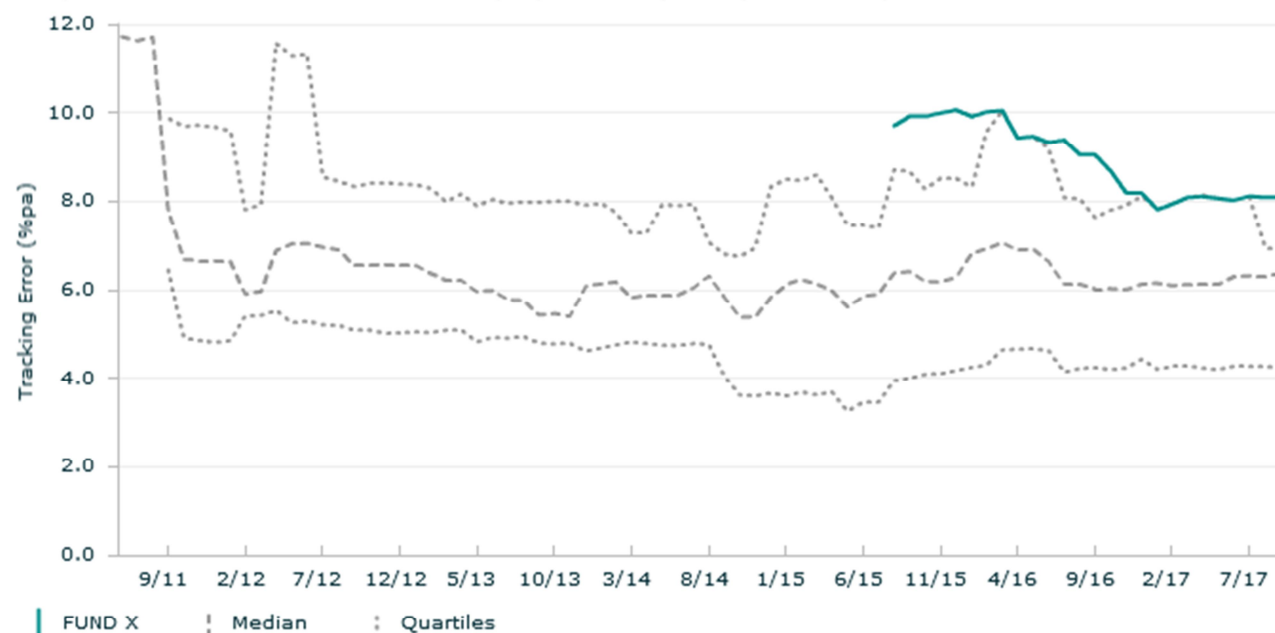


Created on 11 Jan 2018 at 7:43 AM



## Rolling 3 yr Tracking Error vs. US 3 month T-Bill in \$US (after fees) over 6 yrs and 4 mths ending September-17

Comparison with the Alternative Risk Premia (Net) universe (monthly calculations)



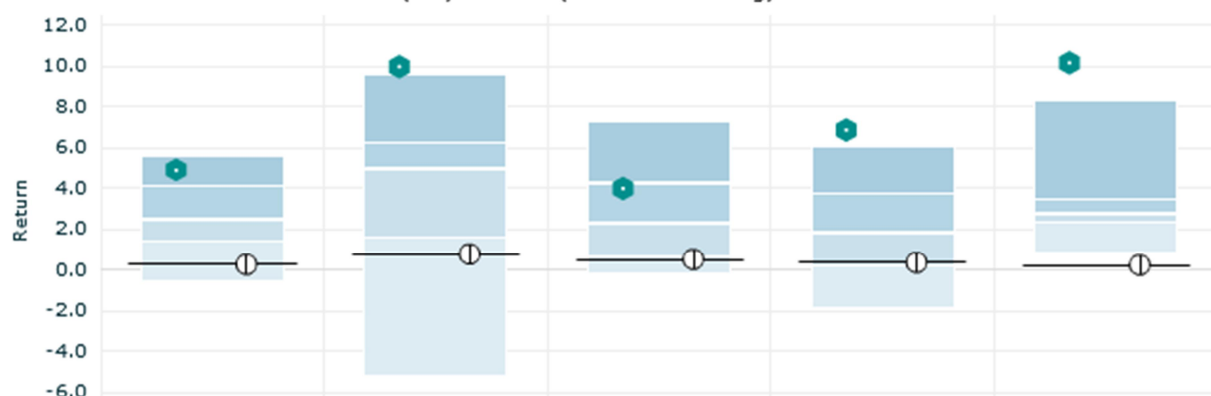
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## Return in \$US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs ending September-17

Comparison with the Alternative Risk Premia (Net) universe (Percentile Ranking)



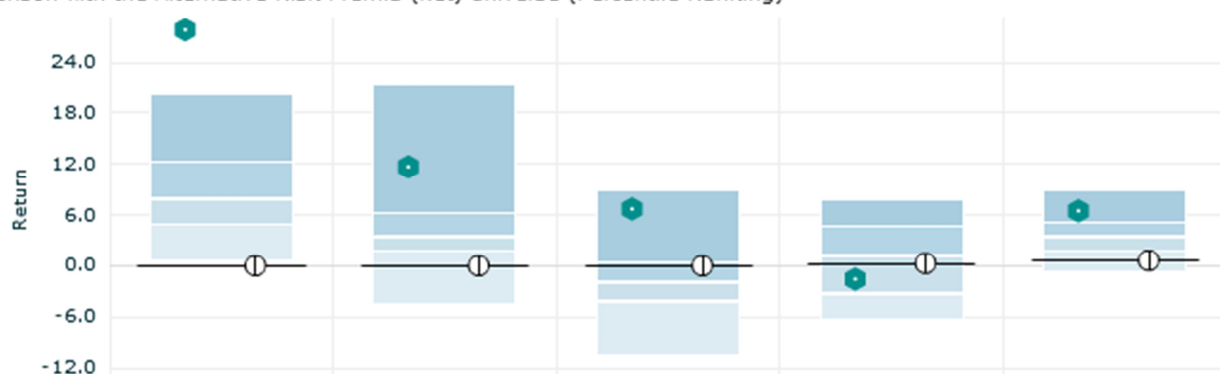
	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)
FUND X	4.9 (12)	10.0 (0)	4.0 (28)	6.9 (0)	10.2 (0)
USTB3M	0.3 (93)	0.8 (82)	0.5 (82)	0.4 (71)	0.2 (100)
5th Percentile	5.6	9.6	7.3	6.1	8.3
Upper Quartile	4.1	6.3	4.3	3.7	3.4
Median	2.5	5.0	2.3	1.8	2.8
Lower Quartile	1.4	1.6	0.7	0.2	2.3
95th Percentile	-0.5	-5.2	-0.1	-1.8	0.8
Number	27	21	19	13	7

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## Return in \$US (after fees) over last 5 calendar years ending September-17

Comparison with the Alternative Risk Premia (Net) universe (Percentile Ranking)



	2013 (%)	2014 (%)	2015 (%)	2016 (%)	9 mths to 9/2017 (%)
FUND X	27.8 (0)	11.7 (13)	6.8 (11)	-1.5 (64)	6.5 (14)
USTB3M	0.1 (96)	0.0 (79)	0.1 (28)	0.3 (57)	0.7 (87)
5th Percentile	20.3	21.4	9.0	7.8	9.0
Upper Quartile	12.2	6.4	0.6	4.7	5.1
Median	7.9	3.4	-1.8	1.2	3.6
Lower Quartile	5.0	1.8	-4.1	-3.2	1.9
95th Percentile	0.7	-4.4	-10.4	-6.1	-0.7
Number	14	17	20	26	23

Created on 11 Jan 2018 at 7:46 AM



## KEY TERMS

Investment Manager Name	Firm X
Investment Vehicle Name	Fund X (12% volatility)
Denomination	USD
Fund Domicile	US
Leverage Permitted?	Yes. The expected leverage is 4-5x on each side. Leverage is capped at 7x on each side.
Legal Structure	Master Feeder
Separate Accounts Permitted?	No
Subscriptions	Subscription Date: 1st Business Day of the Month and 1st Business Day After 15th Calendar Day Subscription Documents and Cash Due: 2 Business Days Before Subscription Date (10 AM ET)
Minimum Investment	\$5 million
Lock-Up	None
Liquidity schedule	Twice Monthly
Redemption Notice	Redemption Date: Last Business Day of Month and 15th Calendar Day (Prior Business Day if Holiday/Weekend) Redemption Documents Due: 15 Calendar Days Before Redemption Date (with 10% Master Gate if applicable) or 30 Calendar Days before Redemption (no gate applicable) Redemption Payment Due: 10 Business Days After Redemption Date
Redemption Fee	None
Management Fee	1.5%, or 0.75% for performance fee option
Performance Fee	0%, or 10% on net performance above a cash hurdle
Other Fees	Administrator, Audit, Miscellaneous
Negotiable Fees	No
Hurdle Rate	Merrill Lynch 3-Month US T-Bill
High Water Mark	Yes, on Class B
Gate Permitted	Yes
Side-pocket	No
Name of Administrator	International Fund Services
Name of Auditor	PricewaterhouseCoopers
Name of Counsel	Sidley Austin LLP
Name of Prime Broker(s)	PB: Citi, Merrill Lynch, Morgan Stanley, State Street FCM: Goldman Sachs, JP Morgan, Barclays
Regulatory/Supervisory Bodies where registered	SEC, CFTC, NFA

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- The value of stocks and shares, including unit trusts, can go down as well as up and you may not get back the amount you have invested.
- The value of Gilts, bonds, and other fixed income investments including unit trusts can go down as well as up and you may not get back the amount you have invested.
- Investments denominated in a foreign currency will fluctuate with the value of the currency.
- The value of investments in real estate can go down as well as up, and you may not get back the amount you have invested. Valuation is generally a matter of a valuer's opinion, rather than fact. It may be difficult or impossible to realise an investment because the property concerned may not be readily saleable.
- Certain investments, such as illiquid, leveraged or high-yield instruments or funds and securities issued by small capitalization and emerging market issuers, carry additional risks that should be considered before choosing an investment manager or making an investment decision.
- For higher volatility investments, losses on realisation may be high because their value may fall suddenly and substantially.
- Where investments are not domiciled and regulated locally, the nature and extent of investor protection will be different to that available in respect of investments domiciled and regulated locally. In particular, the regulatory regimes in some domiciles are considerably lighter than others, and offer substantially less investor protection. Where an investor is considering whether to make a commitment in respect of an investment which is not domiciled and regulated locally, we recommend that legal advice is sought prior to the commitment being made.

# OPERATIONAL RISK ASSESSMENT ABC MANAGEMENT, LLC



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# CONTENTS

Synopsis .....	1
Mercer Sentinel's findings .....	4
Firm overview .....	9
Key data.....	17
Document checklist.....	20
Ratings methodology.....	21
Description of core factors .....	23
Sources, scope and limitations .....	26

## SYNOPSIS

Report Overview	Details
Date of meeting: Investment manager	Date
Date of previous meeting:	<i>Multi-strategy hedge fund (on-site meetings):</i> Date 1; Date 2; Date 3; and Date 4
Date of meeting: Administrator	Date
Location	City, State
Strategy/Investment vehicle	Multi-Strategy Hedge Fund/ ABC Partners LP and its feeder funds.
Rating Committee reviewed	Date
Date of manager feedback call	Date

Firm Summary	Details
Corporate structure	ABC Management LLC ('ABC') is a Delaware limited liability company.
Ownership	ABC is 100% owned by its founder who also serves as the Chairman/Chief Executive Officer (Chairman/CEO).
Office locations and functions	ABC is headquartered in City where all functions are performed. The firm maintains other international offices in the Country and Country as presented in the Key Data section below.
Strategy and instruments traded	Allocating capital among underlying portfolio management teams, ABC multi-strategy hedge strategies (relative value fundamental equities, statistical arbitrage, fixed income, and futures/currency) invest in equities, fixed income products, and commodities across various sectors and global markets.
Assets under management (AUM)	Approximately US\$XX.X billion as of Date.
Average trading volume by asset type	Average monthly trading volume by asset type for 4Q 2017: <ul style="list-style-type: none"> <li>• Convertible bonds: XX</li> <li>• Corporate bonds: XX</li> <li>• Equity: XX</li> <li>• Foreign government: XX</li> <li>• Mortgage-backed: XX</li> <li>• Options: XX</li> <li>• US Government: XX</li> <li>• Contract for difference: XX</li> <li>• Credit default swaps: XX</li> <li>• Forwards: XX</li> <li>• Futures: XX</li> <li>• Interest rate swaps: XX</li> <li>• Other swaps: XX</li> <li>• Swaptions: XX</li> </ul>
Staffing	ABC employs XXX staff.

Firm Summary	Details
Firm auditors	Auditor
Key third party service providers	<b>Compliance consultant(s):</b> Consultant
Insurance coverage	ABC maintains the following insurance coverage: <ul style="list-style-type: none"> <li>• E&amp;O / D&amp;O: US\$XX million</li> <li>• Fiduciary Liability: US\$XX million</li> <li>• Key-man: US\$XX million</li> </ul>

Fund Summary	Details
Fund name and structure (including domicile)	ABC Partners, LP (Offshore Master) is a Cayman Islands limited partnership and serves as the master fund. Investors allocate through a variety of feeder funds including the following: <ul style="list-style-type: none"> <li>• ABC LP (Onshore), a Delaware limited partnership.</li> <li>• ABC Capital LP (Onshore), a Delaware limited partnership.</li> <li>• ABC International Ltd. (Offshore), a Cayman Islands exempted company.</li> </ul>
Local registration (if any)	The Offshore funds are registered with the Cayman Islands Monetary Authority.
Liquidity terms	<b>Subscriptions:</b> Monthly on the first of each month. <b>Redemptions:</b> <ul style="list-style-type: none"> <li>• <u>Quarterly classes:</u> Redemption requests quarterly upon 90 days written notice subject to a XX% individual investor maximum per quarter and a one-year soft lockup period with a XX% early redemption penalty.</li> <li>• <u>Annual classes:</u> Redemption requests annually upon XX days written notice with a one-year soft lockup period.</li> <li>• <u>Semi-Annual Classes:</u> Semi-annually upon XX days written notice subject to a XX% individual investor maximum per period and a two-year hard lockup period.</li> </ul>
Fee structure	<b>Management fee:</b> ABC does not directly charge a management fee, however all expenses incurred in connection with the operation of the master fund and feeder funds are paid by investors in the feeder funds. The expense pass through includes a fixed portion (XX% in YEAR), inclusive of staff salaries and general operating expenses and a variable component, inclusive of employee bonuses. As represented by ABC, YEAR variable expense was XX%. <b>Incentive allocation:</b> XX% incentive allocation (Quarterly and Annual Classes) XX% incentive allocation (Semi-Annual Classes)
Administrator/valuation agent	ADMINISTRATOR
Transfer agent/registrar	TRANSFER AGENT



Fund Summary	Details
Prime broker/custodian	Custodians: <ul style="list-style-type: none"> <li>• CUSTODIAN 1</li> <li>• CUSTODIAN 2</li> </ul> Prime Broker relationships: <ul style="list-style-type: none"> <li>• PRIME BROKER 1</li> <li>• PRIME BROKER 2</li> </ul>
Legal counsel	<b>US:</b> LAW FIRM <b>Cayman Islands:</b> LAW FIRM
Fund auditor	AUDITOR
Directors (or equivalent)	The offshore feeder funds have three independent directors: <ul style="list-style-type: none"> <li>• NAME- FIRM</li> <li>• NAME- FIRM</li> <li>• NAME- FIRM</li> </ul>
Audited financial reporting standards	US GAAP

## MERCER SENTINEL'S FINDINGS

Rating	Monitor	
Core factor	Rating	
Governance and organizational structure	Meets standards	
Human capital	Meets standards	
Fund structures	Development required	
Regulation, compliance and audit	Meets standards	
Risk control	Meets standards	
Transaction execution	Meets standards	
Valuation and administration	Development required	
Technology	Meets standards	
Business continuity and disaster recovery	Meets standards	
Third party relationships	Meets standards	

### EXECUTIVE SUMMARY

Mercer Sentinel's operational risk assessment focused on the ABC Management LLC (ABD) multi-strategy investment portfolios, specifically the flagship fund, ABC, LP, a Cayman Islands limited partnership that serves as the master fund and derives its investable capital from three feeder funds: ABC USA LP and ABC Capital LP, which are both Delaware limited partnerships, and ABC International Ltd., a Cayman Islands exempted company. Unless otherwise stated, these funds are collectively referred to as multi-strategy funds throughout the report. The multi-strategy funds are implemented through multiple pooled vehicles; ABC does not currently have any separately managed account relationships.

ABC is led by its Founder who also serves as the Chairman/Chief Executive Officer (Chairman/CEO), and is actively involved in the investment and economic decisions. The firm implements its investment strategy via allocations of fund capital across XX portfolio management teams and XX sub-advisors that are each responsible for their own investment teams and research. The primary strategies employed by the portfolio management teams and sub-advisors include: relative value fundamental equity, statistical/quantitative arbitrage, fixed income, merger arbitrage/event driven, and commodities. While the portfolio management teams retain discretion over their individual portfolios; capital allocations are subject to stringent management reviews. All transactions are executed through firm-wide (ABC-controlled) applications and support services that include a centralized trade execution desk, risk management, and technology. Additional oversights include interdictory applications such as the XX compliance system which analyses trading patterns and behaviors, and the Sentinel Compliance application for enforcing portfolio rules and limits.

Since Mercer Sentinel's last visit in MONTH/YEAR, ABC has demonstrated a continued effort to further enhance its operational infrastructure through the implementation of XX, a back office pricing system for tracking OTC commodities, and the ongoing implementation of the XX application for cash sweep and

collateral management. However, Mercer Sentinel continues to identify control weaknesses that were raised as Key Findings in our MONTH/YEAR report. As such, these previously noted concerns continue to merit a Monitor rating. ABC would benefit from implementing proper segregation of reporting line between investment and non-investment functions, and the firm should consider revising its trade error policy to ensure clients are fully compensated for losses resulting from trade errors, regardless of the cause of the error. Lastly, while ABC retains XX as fund administrator for its multi-strategy funds, XX is not involved with the Fund's cash movements and expense payments.

## KEY FINDINGS

Mercer Sentinel noted the following items for consideration. These issues represent potential operational risk although may not be sufficient to downgrade the entire core factor. Mercer Sentinel's view on the potential impact has been added to each of the key findings below.

- 1. Reporting lines (Governance and organizational structure) Impact: Low**

ABC's Portfolio Managers (PMs) are responsible for inputting trade orders into the firm's proprietary order management system, which routes detailed trade order instructions to the firm's centralized trading desk. The trading staff report to the firm's Global Head of Execution Services who is primarily responsible for managerial oversight; however, the Global Head of Execution Services ultimately reports to the firm's Chief Operating Officer (COO). Although the COO does not provide direct oversight of the firm's trading staff, trade execution is considered a front office activity and this reporting structure potentially introduces segregation of duties conflicts, as the COO is also responsible for overseeing the firm's senior non-investment staff including its Chief Financial Officer and Global Head of Risk. Safe and sound practice is to properly segregate reporting lines in order to prevent conflicts of interest and protect investor interests. Trading staff primarily provide an execution function and have limited discretion related to order interpretation, which helps to mitigate this risk however; at times, trade desk personnel will have full discretion on how to execute an order.
- 2. Fund governance (Fund structures) Impact: Medium**

ABC has implemented a master feeder structure in which the Master fund is structured as a Cayman Islands limited partnership. The onshore feeder funds are structured as Delaware limited partnerships and the offshore feeder funds are structured as Cayman Island limited companies. ABC's Master and Onshore feeder funds do not have Boards of Directors or governing bodies that include independent representation, which falls below safe and sound practice. ABC's offshore feeder funds have a Board of Directors that meets XX times per year and includes independent representation. Although not directly responsible for the governance of the Master fund, ABC represented that in practice the Board of Directors for the offshore feeder funds must consider the Master fund in order to appropriately govern the feeder fund and therefore are providing limited indirect oversight of the Master entity. Safe and sound practice is for all pooled investment vehicles to have governing bodies with independent members in order to oversee management decisions and to help protect and promote investors' interests. Safe and sound practice also requires Fund Boards to meet on a quarterly basis to effectively maintain oversight of fund operations and protect and promote investor interests.
- 3. Internal controls review (Regulation, compliance and audit) Impact: Medium**

ABC does not have an independent internal controls review, such as an SSAE 16, which falls below safe and sound practice for a firm of ABC's size and complexity. An independent review of a firm's internal control processes considers operational weaknesses and assesses whether the firm is effectively implementing internal control policies and procedures. The lack of an independent internal controls review is highlighted given ABC's multiple global offices, multi-strategy focus and significant trading volume. However, it should be noted that ABC's compliance team is comprised of more than XX professionals in addition to an internal audit team of XX. ABC utilizes a risk register/matrix to aggregate operational risks across all functional areas, and its Compliance department as well as the audit team perform frequent testing of internal policies and procedures throughout the year.

**4. Trade error policy (Transaction execution)**

**Impact: Medium**

ABC's Trade Error Policy states that in the absence of willful misconduct or gross negligence on ABC's part, its Funds bear the profit or loss associated with trade errors. Safe and sound practice is for an investment manager to implement a Trade Error Policy in which clients are reimbursed for all losses resulting from trade errors, regardless of the cause of the error. ABC represented it had XX trade errors in YEAR totaling US\$XX million which was borne by investors.

**5. Cash controls (Valuation and administration)**

**Impact: Medium**

All firm and fund related external wire transfers and payments to third party providers, such as legal and audit fees for the funds, are subject to two layers of review internally (Treasury department) at ABC prior to approval and release. Wires are electronically initiated by an authorized operations staff member and must be approved by one or two authorized signatories, depending upon the dollar value of the wire prior to release; for wire amounts less than US\$X million the firm requires one authorized signature, while two authorized signatures are required for wires in excess of US\$X million. The wire approval process is automated and creates an electronic audit trail for each instance. The firm's fund administrator, XX, reviews copies of invoices and performs daily reconciliations of any fund related expenses after the expenses are paid. Safe and sound practice requires involvement from the fund administrator in the initiation, approval, or release of any cash movements from the fund operating accounts to help reduce the risk of any unauthorized cash movement.

*In addition to the key findings we wish to draw your attention to the following observations. The matters have not affected the firm rating; however, they represent important factors for an investor to consider in the overall assessment of the investment manager.*

**1. New office (XX) location (Governance and organizational structure)**

During the second quarter of YEAR, ABC opened a new office location in CITY, STATE that is used for investments and business development. The office currently has XX investment and non-investment staff. Investors should be aware that a new office location may require additional oversight and management effort, and may present additional operational risks in the short term.

**2. New fund launches (Governance and organizational structure)**

ABC has entered a joint venture arrangement with XX, a quantitative investment management firm, to offer long-only equity focused strategies leveraging XX capabilities. ABC is targeting an initial capital raise between US\$XX million to US\$X billion for the strategies which are expected to take-

off in YEAR. Investors should be aware of the potential operational risks associated with new fund launches as well as the potential strain to a firm's operational infrastructure if resources are limited in capacity to support the product growth.

**3. Senior personnel changes (Human capital)**

ABC experienced turnover among its senior investment management staff, including the Global Head of Equities who left in MONTH/YEAR after nine years with the firm. Similarly, the Global Head of Fixed Income left in MONTH/YEAR to pursue other opportunities after nine years with ABC. In connection with these departures, ABC made key hires during YEAR including the Co-Chief Investment Officer, Global Head of Equities, and Global Co-Head of Fixed Income and Commodities. In addition, ABC represented that the Head of Risk Management left the firm in MONTH/YEAR for personal reasons; other senior management staff within the team have since absorbed his roles and responsibilities while the firm decides on whether to hire a replacement. ABC indicated that these changes were driven by a combination of personal reasons by the former executives as well as a restructuring of the firm's investment management team. ABC represented that all the departures were mutual and amicable. Investors should be aware of these key changes among the firm's senior management staff.

**4. Fund management fee structure (Fund structures)**

ABC does not charge a management fee for its funds. Instead, ABC charges expenses related to firm operations, such as the majority of staff compensation, directly to its funds. The expense calculation includes a fixed (XX% in YEAR) and variable component (XX% in YEAR). ABC represented that the fixed portion of its expense typically approximates XX% per annum and has been slowly decreasing over time; variable expenses have historically ranged from XX% - XX%. ABC discloses the fee structure in its fund documents and financial statements and XX performs a reasonability review of all expenses as part of its month-end NAV proves. However, investors should be aware of the unique expense structure.

**5. Auditor confirmation (Fund structures)**

Mercer Sentinel's operational risk assessment typically includes a verification of the Fund's auditor. Mercer Sentinel did not directly verify the auditor for the Fund(s) within the scope of this report due to prohibitive non-disclosure agreements required by AUDITOR (XX). Mercer Sentinel reviewed documents provided by ABC, such as financial statements, marketing materials which identified the Fund's auditor as XX.

**6. Regulatory examinations (Regulation, compliance and audit)**

ABC maintains multiple regulatory authority registrations across its global affiliated entities and is subject to periodic regulator examinations. ABC was last subject to an examination by the Securities and Exchange Commission (SEC) during MONTH/YEAR. The SEC concluded its examination during MONTH/YEAR and ABC received a final exit letter notification in MONTH/YEAR, which Mercer Sentinel reviewed while onsite. The letter noted four items, three of which were classified by ABC as immaterial and subsequently rectified. The fourth item relates to the firm's classification of short sales in financial reports and specifically how short sale exposure is assigned to one of four business units rather than to the organization as a whole. ABC represented that it addressed all of the SEC's questions and comments and considered the matter closed.

Further, the SEC visited the firm in early MONTH/YEAR to review the firm's Cyber Policy. No material deficiencies were noted from the review. In addition, ABC participated in an SEC sweep in MONTH/YEAR of which no additional requests were made by the SEC. Lastly, ABC is currently undergoing an examination by the National Futures Association (NFA) which the firm considers to be routine and expects the NFA examination to yield no material findings. Periodic regulatory reviews help to ensure that the firm's compliance program aligns with regulatory requirements.

**7. Legal matters (Regulation, compliance and audit)**

ABC is listed as a defendant in two class action cases relating to public equity investments. Although the matters remain unresolved, ABC represented that they believe both cases to be frivolous and expect them to be dismissed; many of the class action defendants affected by the claims have already been granted dismissals.

In addition, a former ABC employee filed a harassment suit with the firm subsequent to being terminated. The suit discloses a personal relationship that the individual had with PM. The PM was terminated in YEAR for violating firm policy with respect to inappropriate relationships. The matter is pending resolution.

**8. Portfolio Manager trading authority (Transaction execution)**

ABC's fixed income PMs also serve as traders and execute their own trades. Segregation between portfolio management and trading roles helps to prevent conflicts of interest and duties; however, the dual portfolio management and trading role continues to be common market practice in the United States for fixed income/credit strategies. Further, in limited instances certain equities focused PMs have the ability to execute trades. Specifically, ABC represented that for certain statistical arbitrage strategies where investment opportunities and decisions are extremely time sensitive; PMs have the ability to execute trades. ABC further represented that adding another layer to the order process for such strategies would lead to inefficiencies and negatively impact the investment strategy. Aside from these limited instances, all equities trades are executed through a centralized trading desk with dedicated traders.

*Importantly, when considering the findings contained above, please refer to the full report including, but not limited to, the Important Notices set out at the start of this report together with the section Sources, Scope and Limitations.*

# FIRM OVERVIEW

## GOVERNANCE AND ORGANIZATIONAL STRUCTURE

Core Factor Principles	Operational Risks Identified
Going concern	NO
Governing body and appropriate sub-committees	NO
Segregation of duties	YES
Control and operational function reporting lines	NO
Investor concentration	NO
Budgeting process and oversight	NO
Staffing adequacy	NO
Insurance coverage adequacy and frequency of review	NO
Transparency	NO
<p>As a privately held, owner-operated firm, ABC does not have a Board of Directors with independent representation to oversee firm activities. Instead, the firm is overseen by the Executive Management Committee which is comprised of XX cross-functional management staff that meet on quarterly basis. In conjunction with functional area heads, the Executive Committee oversees the firm's strategic direction. Other committees at the firm include the Compliance, Legal, and Ethics Oversight (CLEO) Committee, Operating Committee, Investment Risk Committee, Operational Risk Committee and Valuation Committee. These committees are comprised of both investment and non-investment management personnel as appropriate and meet at varying intervals (weekly, monthly, quarterly and ad hoc) throughout the year.</p> <p>Please refer to Key Finding #1 for further information regarding segregation of reporting lines that have been identified at ABC.</p> <p>Please refer to Observation #1 and #2 for further information regarding the new office location as well as new fund launches at ABC.</p>	

## HUMAN CAPITAL

Core Factor Principles	Operational Risks Identified
Staff turnover	NO
Key person risk and succession planning	NO
Human resources function staffing	NO
Recruitment process and background checks	NO
Employee training programs	NO
Staff appraisal process	NO
Staff compensation, incentivisation and salary benchmarking	NO

Core Factor Principles	Operational Risks Identified
<p>ABC's COO maintains ultimate responsibility for the Firm's HR function and related processes. In conjunction with the HR team, the COO oversees the day-to-day activities of the HR function which includes recruiting, staffing decisions, performance management, employee relations, compensation, and employee development. ABC utilizes referrals, networks and outside recruiting firms to source candidates. Potential hires are subject to multiple onsite interviews with representatives from across a variety of departments, in addition to background checks, before an employment offer is issued. All staff members receive formal annual performance reviews, and the firm benchmarks compensation to third party salary and compensation surveys and publications (XX's).</p> <p>Please refer to Observation #3 for further important factors regarding recent senior personnel changes.</p>	

## FUND STRUCTURES

Core Factor Principles	Operational Risks Identified
Cross-contamination risk	NO
Fund governing bodies	YES
Independence of fund outsourced providers	NO
Diversification of administrator's client base	NO
Fund registration with financial regulator	NO
Fund audited financial statements	NO
<p>ABC utilizes a Master/Feeder fund structure. ABC Partners LP is a Cayman Islands Limited Partnership and is the master fund. ABC USA LP, ABC Capital LP and ABC Global Estate LP are Delaware limited partnerships and are the onshore feeder funds. ABC International Ltd. is a Cayman Islands exempted companies and serves as the offshore feeder fund. ABC Management LLC serves as the general partner and oversees the master and onshore feeder funds; this is below market practice. The offshore feeder funds have a Board of Directors that includes three independent members. The Board of Directors meets three times per year to review statements provided by the fund administrator, discuss ABC's capital allocation decisions, and other significant matters relating to the management of the funds' assets.</p> <p>Please refer to Key Finding #2 for further information regarding our concerns on fund governance.</p> <p>Please refer to Observation #4 and #5 for further important factors regarding fee structure for ABC fund(s) and auditor's verification.</p>	

## REGULATION, COMPLIANCE AND AUDIT

Core Factor Principles	Operational Risks Identified
Regulatory registrations, breaches, reporting and/or reviews	NO
Pending or past legal proceedings	NO
Identification, monitoring and implementation of changes to regulation	NO



Core Factor Principles	Operational Risks Identified
Control function resourcing	NO
Compliance monitoring program and policies	NO
Staff regulatory compliance training	NO
Complaints, breaches and issues management	NO
Identification and management of conflicts of interest	NO
Controls surrounding marketing and distribution of products and services	NO
Firm audited financial statements	NO
Internal audit function and program	NO
Independent third party internal controls review	YES
Client on-boarding checks and controls regarding client cash inflows and outflows	NO
Firm policies/procedures and oversight	NO

Subject to CLEO oversight, ABC's Chief Compliance Officer (CCO) is responsible for overseeing the firm's compliance function with support from over XX dedicated Compliance staff. The CLEO Committee is responsible for reviewing firm wide compliance, legal, and ethics issues and evaluates potential conflicts of interest that arise in connection with the firm's business. The CCO and his team provide initial, ongoing, and annual compliance training for all staff. New employees have an initial meeting with compliance personnel to review the firm's Code of Ethics and certify annually that they have received, read and understand the firm's policies and procedures. The firm's Compliance function also monitors personal trading using SunGard's Personal Trading Assistant ('PTA'), and reviews employee broker statements against the firm's restricted list. All employees must receive pre-clearance from Compliance prior to executing any trades in their personal accounts.

ABC has engaged XX to conduct the funds' and firm financial audits. In addition, ABC's internal audit team tests the firm's internal controls and policies multiple times per year; results of the internal audit are presented to the CLEO Committee.

Please refer to Key Finding #3 which addresses the firm's lack of independent testing of its internal controls such as SSAE 16.

Please refer to Observation #6 and #7 for further information regarding regulatory examinations and legal matters respectively.

## RISK CONTROL

Core Factor Principles	Operational Risks Identified
Operational risk framework and register	NO
Operational risk monitoring	NO
Counterparty selection	NO
Counterparty risk monitoring	NO
Portfolio risk monitoring and oversight	NO

Core Factor Principles	Operational Risks Identified
<p>Risk oversight at the enterprise level is primarily the responsibility of the Global Head of Risk who works closely with the COO and escalates specific issues to the firm's Executive Management Team as necessary. The Global Head of Risk is supported by over several risk management professionals who help oversee risks including portfolio, counterparty, and technology risks. In addition, the COO meets regularly with functional business heads to identify and discuss any operational risks that may exist and then aggregates and communicates results to the Executive Committee.</p> <p>ABC's Risk Management team is responsible for monitoring portfolio risk. The Risk Management team monitors portfolio risk through real-time reviews of positions and profit and loss. Portfolio analytics can be aggregated at multiple levels including firm-wide, trading strategy, portfolio manager, and thematic trades. The firm also supplements its risk reporting capabilities via an outsourcer relationship with XX, Inc.</p> <p>Further, the Credit team monitors counterparty credit risk by keeping track of CDS spreads and relevant news items. In addition, the Credit team reviews exposures to the firm's prime brokers and OTC derivative counterparties via automated exposure reports, and calculates and updates counterparty exposure on a daily basis. The Brokerage Committee also reviews counterparty performance quarterly.</p>	

## TRANSACTION EXECUTION

Core Factor Principles	Operational Risks Identified
Trade flow process and straight through processing	NO
Pre-trade investment compliance testing	NO
Internal trade instructions, controls and audit trail	NO
Trade authorization	NO
Trade communications with counterparties	NO
Best execution and counterparty review	NO
Process for trade amendments and cancellations	NO
Methodology, controls and oversight for trade allocations and internally crossed trades	NO
Post-trade investment compliance monitoring	NO
Oversight and rectification of trade errors and incidents	YES

Core Factor Principles	Operational Risks Identified
<p>ABC's Operations team is responsible for daily cash and position reconciliations between the firm's internal records and prime brokers' records. This ensures the firm maintains a cash buffer to prevent trades from failing and to ensure portfolio managers have accurate portfolio data. Investment decisions are made at the individual portfolio management team level although subject to stringent capital allocation and monitoring. The portfolio managers enter trade orders into the firm's centralized proprietary order management system entitled 'Proprietary'. The trade details are subject to a pre-trade compliance check using the firm's proprietary pre-trade compliance module, XX. Compliance team maintains a restricted list which is updated on a daily basis. Any trade resulting in a potential breach will notify the portfolio manager and compliance team. The firm's compliance staff must approve any pre-trade rule overrides.</p> <p>Once the trade has cleared XX, the trade order is then sent to the trading desk for execution which is centralized for the entire firm. ABC represented that XX% of trades are executed electronically via third-party owned electronic execution platforms or proprietary execution software. The remaining X% of trades is fixed income or OTC derivative related and are executed orally, which is common market practice for these instruments. Equity trades are confirmed via XX's suite of applications while OTC derivatives are confirmed via XX, and fixed income trades are confirmed manually via broker confirmation e-mails as applicable.</p> <p>Please refer to Key Finding #4 for further information regarding ABC's trade error policy.</p> <p>Please refer to Observation #8 for further information regarding Portfolio Managers' trading authority for the fixed income strategies.</p>	

## VALUATION AND ADMINISTRATION

Core Factor Principles	Operational Risks Identified
Trade matching	NO
Position and cash reconciliations	NO
Corporate actions communication and processing	NO
Valuation of assets	NO
Portfolio accounting	NO
NAV calculation and review	NO
Cash controls	YES
Fee and expense calculation and review	NO
Collateral administration	NO

Core Factor Principles	Operational Risks Identified
<p>ABC retains XX as independent administrator for the funds and offers a full suite of services including managing investor subscriptions and redemptions, performing AML/KYC checks on investors, and calculating and publishing the fund's Net Asset Value (NAV). XX reconciles cash, positions, and trade activity with custodians, prime brokers, and ABC's records on a daily basis. ABC's Operations team also performs daily cash, trade, position, and corporate actions reconciliations against prime brokers and counterparties on a daily basis. The Operations team also performs daily market value reconciliations for collateral requirements related to OTC derivative positions and oversees any necessary transfer of funds or release of cash wires for associated collateral movements.</p> <p>ABC maintains a documented Valuation Policy and sources pricing data directly from various service providers depending on asset type, including exchange prices, pricing services, and brokers as applicable. All pricing are reviewed and subject to final approval by the Valuation Committee.</p> <p>Although managed internally, all firm and fund related external wire transfers and payments are subject to dual layers of review (Treasury department) prior to approval and release. Wires are electronically initiated by an authorized operations staff member and must be approved by one or two authorized signatories, depending upon the dollar value of the wire prior to release. Any wire with amounts less than US\$X million requires one authorized signature while two authorized signatures are required for wires in excess of US\$X million. XX also reviews copies of invoices and performs daily reconciliations of any fund related expenses after the expenses are paid.</p> <p>Please refer to Key Finding #5 for further information regarding our concern(s) relating the firm's cash control procedures.</p>	

## TECHNOLOGY

Core Factor Principles	Operational Risks Identified
Complexity and connectivity of applications	NO
Hardware redundancy process	NO
Staffing and internal resources of department	NO
Building, office, and data center security protocols	NO
Data, application, and network access security protocols	NO
Cybersecurity policy, testing and monitoring	NO
Change management policy and related procedures	NO
<p>ABC's Chief Information Officer (CIO) oversees the firm's information technology department which is comprised of over XX IT professionals. The firm has three primary data centers; one in CITY, STATE, one in CITY, STATE, and a third on-site at ABC CITY headquarters. ABC also maintains a disaster recovery site in CITY, STATE which has approximately XX dedicated seats.</p> <p>ABC's office is monitored by building security guards and access to the firm's office suite requires a keycard. The IT Team is responsible for granting or removing user access permissions to network and applications which are based on roles and reviewed at least, annually. Employees are required to change their password every XX days.</p>	

Core Factor Principles	Operational Risks Identified
<p>Employees can access the firm's network remotely via XX connection; remote access requires dual factor authentication for added layer of security. ABC utilizes mobile device management software (XX and XX) that allow the firm to remotely wipe data from personal devices in the event that they are lost or stolen.</p> <p>Change management procedures are controlled through the use of segregated development, testing, and production environments and all changes are reviewed and approved prior to release.</p>	

## BUSINESS CONTINUITY AND DISASTER RECOVERY

Core Factor Principles	Operational Risks Identified
BC/DR policy	NO
BC/DR plan approval process	NO
BC/DR plan employee distribution process	NO
BC/DR off-site location and functionality	NO
System and application redundancy	NO
BC/DR plan testing frequency	NO
BC/DR plan testing review process and resolution mechanism	NO
<p>The CIO is responsible for maintaining and training employees on the business continuity and disaster recovery (BCDR). The BCDR plan is accessible to employee both at the onboarding and subsequently as needed. For a short term event, employees can work from home via remote access and for a medium to longer term event; critical functions (employees) are expected to work out of the CITY, STATE facility in addition to remote access. ABC's BCDR plan was most recently tested during MONTH/YEAR; the firm represented all testing were successful without any major issues identified.</p>	

## THIRD PARTY RELATIONSHIPS

Core Factor Principles	Operational Risks Identified
Third party service provider selection process	NO
Third party service provider monitoring program	NO
Process for reviewing critical policies of third party service providers	NO
<p>ABC has a formal third party service provider review and selection process. In addition, the relevant unit heads undertake a cost/benefit analysis and due diligence with a final signoff by the Chairman/CEO in conjunction with the COO. ABC has service level agreements (SLA) in place with the firm and Funds' key third party service providers and reviews service performance SLA terms on a periodic basis. ABC conducts periodic onsite visits and periodic performance status meetings with IFS. In addition, ABC reviews vendors' SSAE16 reports as applicable. All service providers are subject to ongoing, detailed reviews inclusive of onsite visits as necessary.</p>	



## KEY DATA

### STAFF BREAKDOWN BY FUNCTION

Function	Staff
Investment staff	XX
Trading	XX
Middle/back office operations staff	XX
Finance	XX
Legal & compliance	XX
Risk	XX
Human Resources	XX
Treasury	XX
Business Strategy	XX
Trading Management	XX
Technology	XX
Investor relations / Business Development	XX
Other	XX
<b>TOTAL</b>	<b>XX</b>

### STAFF BREAKDOWN BY LOCATION

Location	Staff
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX

Location	Staff
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
City	XX
<b>TOTAL</b>	<b>XXX</b>

## REGULATORY REGISTRATIONS

Regulated entity	Country/jurisdiction	Regulatory Authority
ABC Management LLC	COUNTRY	Securities and Exchange Commission Commodity Futures Trading Commission
ABC Partners LLP	COUNTRY	Financial Conduct Authority
ABC Management (XX) limited	COUNTRY	Securities and Futures Commission
ABC Management (XX) limited	COUNTRY	Australian Securities and Investment Commission
ABC Management (XX) Pte. Ltd.	COUNTRY	Monetary Authority of Singapore National Futures Association
ABC Management XX Ltd.	COUNTRY	Financial Services Agency

## IT APPLICATIONS

System name	System purpose	Proprietary or vendor-supplied
SYSTEM	Portfolio management	Vendor-supplied
SYSTEM	Order management	Proprietary
SYSTEM	Trade compliance	Proprietary
SYSTEM	Transaction matching and confirmation	Vendor-supplied
SYSTEM	Reconciliation	Vendor-supplied
SYSTEM	Portfolio accounting	Vendor-supplied
SYSTEM	Compliance	Vendor-supplied
SYSTEM	Portfolio risk analysis	Proprietary and vendor-supplied



## MEETING ATTENDEES

<i><b>Mercer attendees</b></i>	
NAME	TITLE
NAME	TITLE
<i><b>Manager attendees</b></i>	
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
NAME	TITLE
<i><b>Administrator meeting (via conference call)</b></i>	
NAME	TITLE
NAME	TITLE
NAME	TITLE
<i><b>Manager feedback call</b></i>	
NAME	TITLE
NAME	TITLE

## DOCUMENT CHECKLIST

Items	Provided	Reviewed onsite	Not applicable	Comments
Firm financials for the last two years				Not provided by the manager
Fund financials for the last two years	X			
Fund offering documents	X			
Code of Ethics		X		
Personal account trading policy		X		
Gifts and entertainment policy		X		
Expert network policy		X		
External directorships policy		X		
Internal controls report			X	See Key Finding #3
Insider trading/MNPI policy		X		
Breaches/complaints log		X		
Operational risk matrix		X		
Broker selection policy		X		
Approved broker/counterparty list		X		
Authorized trader list		X		
Trade Error Policy		X		
Best Execution Policy		X		
Trade Allocation Policy		X		
Valuation Policy	X			
BC/DR plan		X		
Information security policy, including cyber-security policy		X		

## RATINGS METHODOLOGY

Mercer Sentinel has developed a series of safe and sound practices, expressed as principles that define a well structured and controlled investment environment. While these principles draw on both best and market practices, they represent a measure that is independent of these influences. Best practice is often aspirational and considered to be impractical or uncommercial in all circumstances and market practice is often expedient rather than safe. The methodology behind Mercer Sentinel's rating approach is to highlight areas of potential risk and drive "better" practices within the investment firm.

Mercer Sentinel applies its safe and sound principles in an endeavor to provide a holistic approach to the rating process. The rating system is designed to account for multiple aspects within a category and not be unduly influenced by single criterion. Some criteria and activities or controls carry more importance than others in the overall ratings and can affect the general assessment.

A failure to meet safe and sound practices on a single facet of what are generally multi-faceted assessment areas is more likely to warrant a note rather than a downgrade in the assessment rating. Likewise a single instance of outperformance in an otherwise lackluster set of outcomes is unlikely to increase or upgrade an assessment.

### FIRM RATING

Mercer Sentinel assigns an overall rating, which is an assessment of the individual core factors as set out below. Firms can receive one of three ratings: Retain, Monitor or Review. A Monitor or Review rating does not necessarily mean an investor should divest from, or refrain from investing with, the firm. The investor should consider the overall risk and costs associated with making a change and the potential for the identified shortcomings to result in an economic loss, as well as the investment manager's agreement to remediate the issues noted.

Rating	Definition	
Retain	Mercer Sentinel noted no material operational or implementation issues	
Monitor	Mercer Sentinel noted some operations or control issues, which the investor may wish to consider further	
Review	Mercer Sentinel noted material operations or control issues, which the investor should consider further	

## CORE FACTORS

We assess a number of key areas of the firm which comprise the core factors against which we provide a rating. The core factors are reflective of the investment, asset and strategy type under assessment. We assess the core factors in accordance with the ratings below.

Rating	Definition	
Meets standards	Safe and sound practice	Green
Development required	Safe and sound practice with specific issues	Yellow
Reservations	Below market practice and safe and sound practice	Red
No rating	Unable to assess	

An assessment of “No rating” is rarely employed; however where circumstances are subject to recent or impending significant change an increased risk potential exists and under such circumstances whilst we will highlight the circumstances within the report we may not be able to assign a meaningful rating.

Please see the section Description of Core Factors for further description of the core factors applicable to this review.

## KEY FINDINGS

The key findings indicate areas where the practice of the firm deviates from safe and sound practice. A key finding may result in a core factor being downgraded. We classify the impact of our key findings as High, Medium or Low.

## DESCRIPTION OF CORE FACTORS

*Summarized below are the factors that Mercer Sentinel examines in assessing an investment management firm's operational infrastructure and transaction execution practices that relate to the investment strategies pursued.*

### GOVERNANCE AND ORGANIZATIONAL STRUCTURE

The firm's governance and organizational structure facilitates senior management's effective oversight over the firm's activities and promotes investors' interests. Mercer Sentinel reviews the firm's legal structure and how key operating entities fit within together. We check whether the organization operates as a going concern through viewing recent audited financial statements where these are available and obtaining data evidencing diversification of the firm's investor base. We ask the firm for detail of processes followed to monitor income and expenditure against budgets on an ongoing basis.

We assess the structure, composition and responsibilities of the governing bodies and key executive committees, and the flow of information between these bodies. The firm should be headed by a governing body with independent representation to mitigate potential conflicts between the interests of the firm and its investors. The firm should establish operating committees comprised of staff representing investment, operations and control functions, to ensure issues affecting the entire business are considered at an appropriate level. To demonstrate their effectiveness, boards and committees should meet regularly and have established terms of reference setting out their roles and responsibilities.

Mercer Sentinel inspects charts illustrating staff and teams within the organization and reporting lines to senior management. The firm should have sufficient staffing to support the business, with a clear segregation between investment and revenue generating activities and operations and control functions to mitigate the risk of investment staff having undue influence over operational activities and to promote the independence of control functions.

### HUMAN CAPITAL

Human resources ('HR') and staff competence are important for maintaining institutional history and knowledge of key functions and controls. High turnover or poor training can expose an investor to human based errors. In assessing human resources, Mercer Sentinel evaluates the firm's approach to recruiting and training staff as well as arrangements to promote staff retention through compensation and career development.

### FUND STRUCTURES

Investors may choose to access an investment strategy through a fund vehicle. Mercer Sentinel reviews the fund vehicle's legal structure and governance which have a significant impact on the investors' security, rights and status. The offering documentation should clearly set out the fund vehicle's structure and the purpose of each legal entity within the structure. The fund vehicle should have the appropriate regulatory registrations in each jurisdiction in which it is active or available to investors.

The fund vehicle should have a governing body with independent representation to help protect investors' interests. The fund vehicle should appoint a custodian or prime broker(s), administrator and transfer agent and an auditor, all sufficiently independent from the investment manager. An independent custodian validates the existence of fund vehicle's assets. Independent administrators, transfer agents

and auditors provide assurance that processes followed in the calculation of the net asset value and maintenance of investor register are not under undue influence from, or mis-stated by, the investment manager. We obtain independent verification from key service providers including, where appointed, a fund vehicle's independent directors, that they have been appointed to the related position as stated by the investment manager. We speak directly with any independent administrator and/or transfer agent to discuss the services they provide the investment manager and the fund vehicle under review.

## **REGULATION, COMPLIANCE AND AUDIT**

Regulation, compliance and audit provide the control framework within which a firm operates and invests. Mercer Sentinel seeks representations from the firm about its relationships with regulatory authorities in each jurisdiction and any regulatory or legal actions or investigations. We assess the control functions of compliance and internal audit and expect these functions to be staffed by sufficiently senior and experienced individuals with reporting lines that reflect their independence from the business. Control functions should ensure that the firm is adhering to internal policies and procedures through the production and maintenance of policies reflecting the firm's activities and relevant regulatory requirements, the provision of advice and training to staff, and formal audits and monitoring with results and corrective actions receiving appropriate attention at a senior level to mitigate regulatory, operational and reputational risk. We consider key factors giving rise to conflicts of interest and seek to understand controls in place to identify, monitor and mitigate such conflicts. We assess the adequacy of processes to onboard new clients, whether conducted by the firm itself or by external service providers.

## **RISK CONTROL**

Mercer Sentinel considers the independence and authority of risk control functions while recognizing that risk management should be incorporated into all aspects of the firm's activities. We focus our review on the oversight of portfolio, counterparty and operational risk.

The firm should have staff, systems and processes in place to identify, monitor and manage portfolio risk to help ensure clients' assets are managed in accordance with investment guidelines and pre-agreed risk targets. The firm's process for selecting counterparties should be formalized and take into account core creditworthiness considerations, with effective monitoring of counterparties, exposures and assigned limits on an ongoing basis. The firm should establish processes to identify, monitor and manage operational risks arising from inadequate or failed internal processes, people and systems. In each instance, we review processes and controls and assess the risk control function's authority to limit risk, either via policy or by direct intervention or instruction.

## **TRANSACTION EXECUTION**

Investment implementation and controls provide the framework and tools for making efficient investments and protecting investors' interests during the life cycle of the trade. The firm should have appropriate controls to ensure trade execution processes are clearly defined, performed by appropriately authorized staff, consistently followed, automated where appropriate, with controls in place to mitigate operational risk.

Mercer Sentinel reviews the firm's oversight over trading relationships through the due diligence and selection process, ongoing monitoring to ensure best execution and efficient resolution of any operational issues. We assess the firm's trading process, from the point an investment decision is made, through order initiation, pre-trade controls, trade execution and the recording of transactions in internal systems.

We assess the firm's allocation policies and procedures for dealing with errors to ensure fair and equitable treatment of clients.

## **VALUATION AND ADMINISTRATION**

Valuation and administration includes key daily activities supporting investment activities to process transactions, validate assets' existence and maintain an accurate internal book of records, in accordance with clients' best interests. We assess the trade matching, confirmation and settlement process, discuss processes in place to validate the existence of clients' assets through regular reconciliations with external parties and methods for escalating and resolving issues identified during these processes. We seek confirmation of processes in place to monitor portfolios to ensure their continued adherence to investment and mandate restrictions. We further examine the firm's policies and procedures to price clients' assets, considering the effectiveness of any additional controls in place to oversee the pricing of more complex assets as appropriate. We review controls in place to review and approve any valuations prior to their release to investors. Where a firm uses derivatives in its investment strategy, Mercer Sentinel reviews processes in place to value and reconcile mark-to-market positions and collateral, and instruct collateral to be pledged or called back from counterparties. We seek confirmation of controls in place to protect client's assets through an assessment of the firm's processes supporting the movement of cash. Staff authorized to initiate cash transfers should be appropriately segregated from those involved in investment revenue generation, and the firm should ensure staff cannot act alone in approving the transfer of clients' cash. We review controls around client reporting.

## **TECHNOLOGY**

Technology, infrastructure, and change management processes provide significant insight into the manner in which an investment management department supports key processes and controls and protects clients in a secure and structured operating environment. Mercer Sentinel reviews the firm's IT hardware and software, monitoring performed to ensure the infrastructure remains appropriate to the firm's size, investment strategy and information needs and whether systems are appropriately connected to increase efficiency, minimize errors resulting from human intervention and maintain a high level of data integrity.

We discuss the firm's physical security measures, and visit the firm's data center to validate the firm's representations. We assess the firm's logical security measures to protect systems and data through internal system segregations to password controls and network protections and firewalls. We consider a firm's processes and controls to deal with cyber-security threats.

We review the firm's IT change management processes, which should be effectively controlled to minimize business disruptions and prevent undetected issues. The firm should establish appropriate segregations between developers and production systems, a full and effective test process and formal processes to approve and release changes into production.

## **BUSINESS CONTINUITY AND DISASTER RECOVERY**

BC and DR plans represent the organization's approach to minimizing and managing operational risk created by interrupted access to critical data or services and the opportunity costs should such an event arise. Mercer Sentinel considers the adequacy of the firm's business continuity planning process and oversight from senior management. We ask the firm to describe processes in place to back up systems and data for full restore to alternate facilities should the data centers be incapacitated, arrangements for

staff to attend an alternate site or sites should the firm's office be inaccessible and methods for informing staff of such arrangements. We assess whether the firm conducts adequate testing with results reviewed and corrective actions taken in a timely manner to resolve any weaknesses identified during the testing process.

### **THIRD PARTY RELATIONSHIPS**

An organization may outsource operations or retain external service providers to perform key operational activities. When relying on a third party to perform such functions a firm should have effective processes to manage and monitor the relationship on an ongoing basis to ensure the level of service being provided meets pre-agreed standards to limit operational risk. Mercer Sentinel reviews the processes a firm follows to select significant service providers, and the framework established to monitor the relationships through legal agreements, receipt of key performance data and regular oversight meetings by senior management as well as staff dealing with service providers day-to-day.

## **SOURCES, SCOPE AND LIMITATIONS**

This report has been prepared by Mercer Sentinel® (Mercer Sentinel) after conducting an operational risk assessment.

### **SOURCES AND SCOPE**

To prepare its report, Mercer Sentinel has developed an assessment framework encompassing key areas across operations, middle and back office functions with the aim of distinguishing a well controlled and managed investment operation from those that could potentially expose the investor to increased risks and costs.

Mercer Sentinel carried out an onsite assessment of the investment manager. The visit was supplemented with pre-meeting documentation and follow-up conference calls. The focus of the onsite visit was to assess the potential risks associated with the operations and controls of the investment manager. During the visit, meetings were held with key personnel during which systems and controls were explained and demonstrated, where appropriate. Mercer Sentinel's comments contained within this report are intended to present objective opinions based on the information obtained during the course of this assessment.

### **LIMITATIONS OF OUR ASSESSMENT**

In preparing this report, Mercer Sentinel has not performed an audit of the investment manager. Therefore, Mercer Sentinel has relied upon representations, statements, and documentation made or provided by the investment manager and/or other related parties both in writing and during the onsite meeting and has not sought to, nor is it obliged to, verify their accuracy. In particular, with respect to documentation provided by either the investment manager (established in Section 5 of this report in the section "Document Checklist") or by other related parties, Mercer Sentinel has not carried out a formal legal review of the received documentation, but has instead used it to enhance the overall assessment of the investment manager. Further, while the information is believed to be reliable, Mercer Sentinel gives no representations, expressed or implied, as to the accuracy of the information, and accepts no responsibility or liability (including for indirect, consequential or incidental damages) for any error, omission or inaccuracy in such information.



In addition, Mercer Sentinel may reproduce or make comment on other reviews (including audit opinions) or other documents (including offer documents) undertaken or provided by third parties. In such instances, Mercer Sentinel has relied upon the information provided and has not sought to verify that information through its own assessment process. The recipient of this report should not rely on any comments provided by Mercer Sentinel in relation to the investment manager's financial position or the recipient's legal rights and obligations in respect of any offer documents. For the avoidance of doubt, Mercer Sentinel strongly recommends that investors undertake their own separate due diligence, taking professional advice as appropriate, in relation to these issues.

Further, Mercer Sentinel has not reviewed or tested, in detail, any transactions or internal controls. Consequently, Mercer Sentinel provides no guarantees or assurances as to the performance of the investment manager's middle and back office operations and accepts no responsibility or liability for any losses sustained by investors arising out of such performance failures.

The report is not intended to be a comprehensive review of all potentially relevant operational issues. It is intended to draw attention to those issues which Mercer Sentinel, in its absolute discretion and in carrying out the review, considers to be material. The report summarizes Mercer Sentinel's key findings only. There may be other interests, needs or issues that are of importance to investors that are not addressed by the report. It will be for investors to determine the extent to which the work forming the basis of the report may be suitable for their purposes. In addition to the above points, your attention is drawn to the additional Important Notices set out at the beginning of this report.



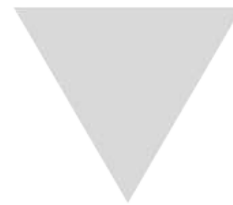
Mercer Investment Consulting LLC  
155 N. Wacker Drive, Suite 1500  
Chicago, IL 60606

HEALTH WEALTH CAREER

# El Camino Hospital

## Executive Summary

First Quarter 2019

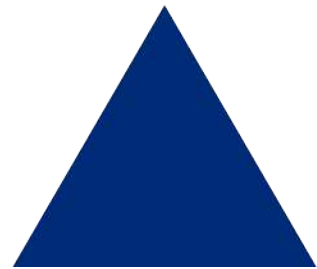


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# Table of Contents

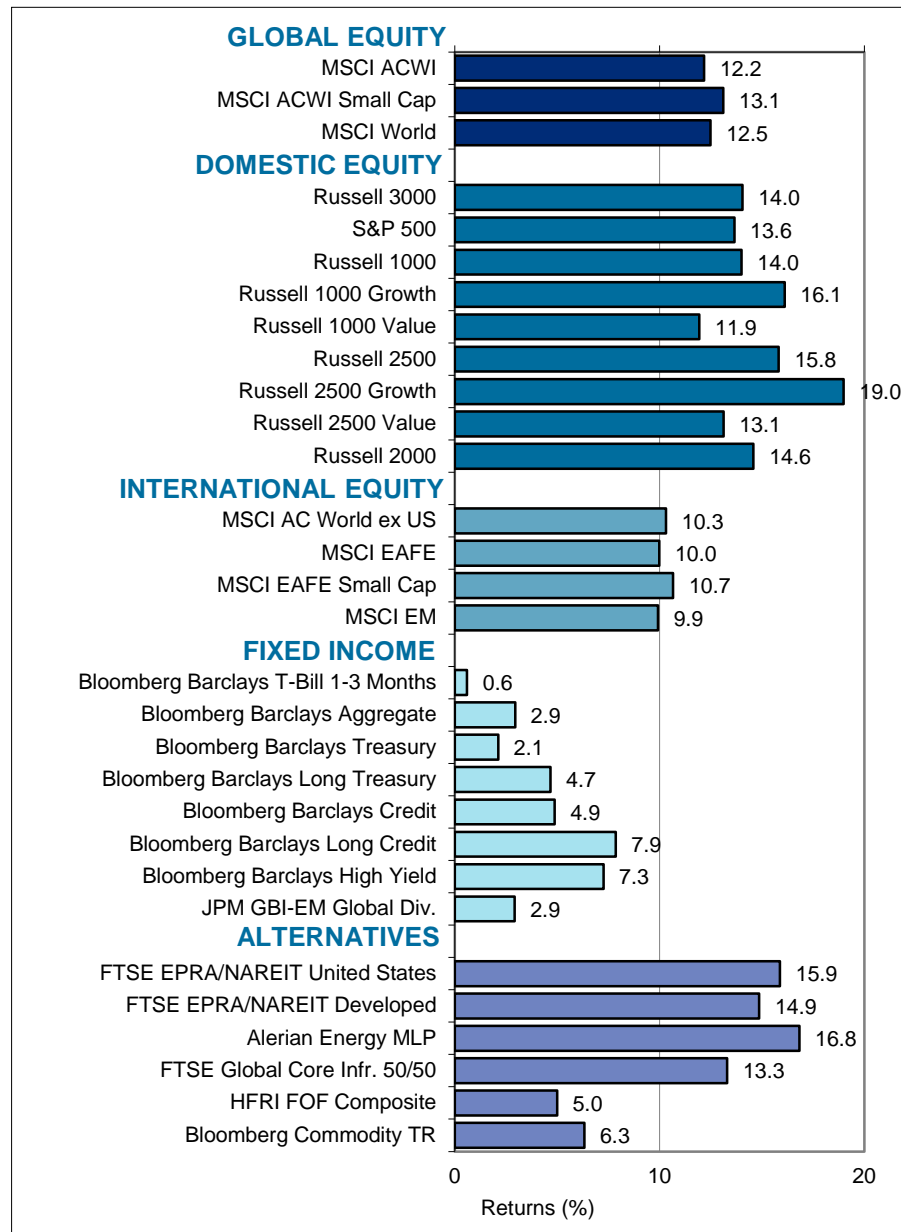
1	Capital Markets Review	1
2	Portfolio Review	13
3	Performance Summary	23
4	Asset Class Diversification	37
5	Direct Hedge Fund Portfolio	57
6	Appendix	67

# Capital Markets Review



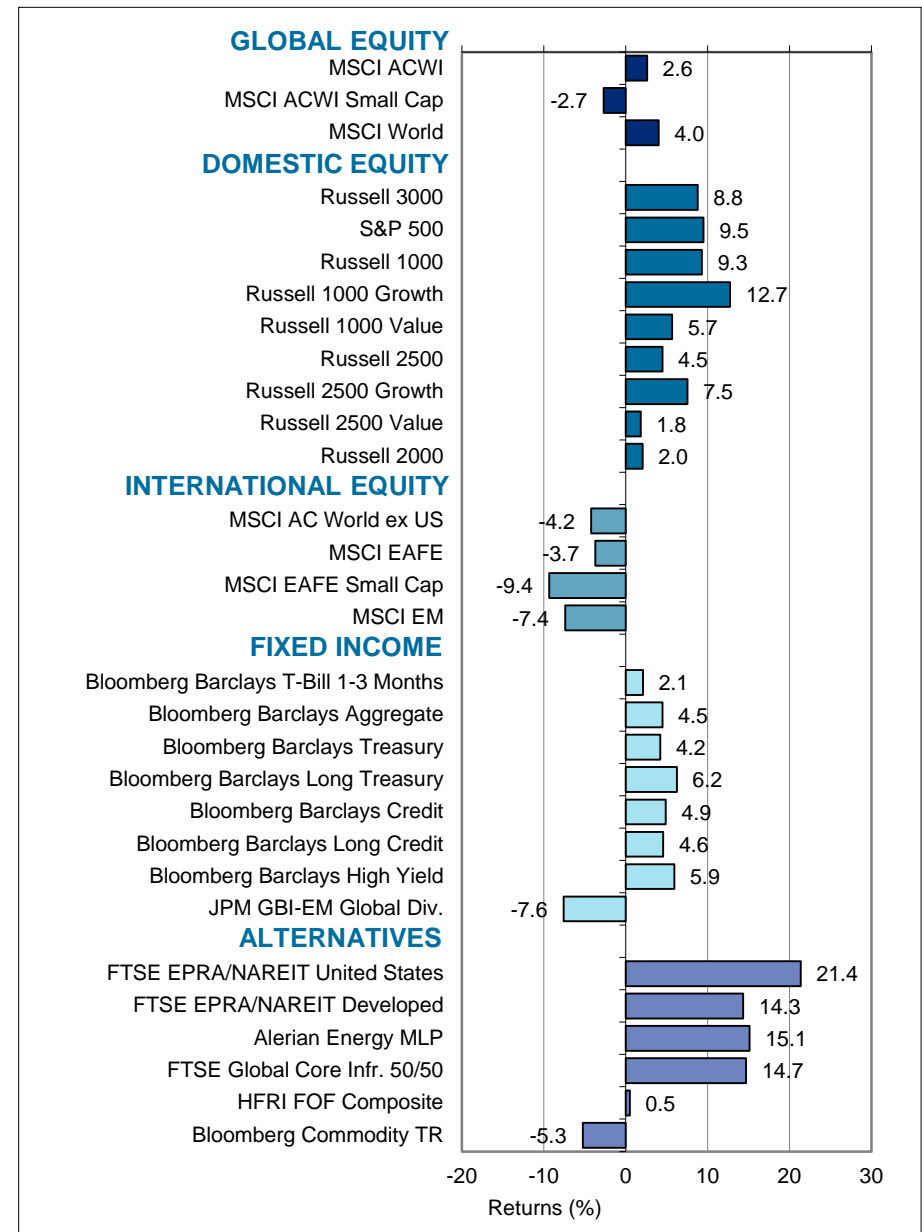
# Global Equities Rallied In Q1

**Market Performance**  
First Quarter 2019



Source: Standard & Poor's, Russell, MSCI Barra, NAREIT, Bloomberg

**Market Performance**  
1-Year



Source: Standard & Poor's, Russell, MSCI Barra, NAREIT, Bloomberg

# Performance Drivers

## 1. The Fed shifted its policy stance

- After raising rates four times in 2018, the Fed signaled that it is likely to take a cautious approach in 2019. The “dot plot” now suggests the Fed will leave rates unchanged in 2019, compared to December projections of two expected hikes.
- The Fed also announced that it expects to end quantitative tightening later in 2019.
- This contributed to a decline in short- and long-term interest rates and further flattened the yield curve.
- **Mercer View:** The Fed’s shift toward a more dovish policy should be supportive of the economy and markets over the short-term. The bond market currently is pricing in a rate cut in late 2019 or 2020, which seems overly dovish, but with the Fed on pause, intermediate-term rates are likely to remain low.

## 2. Economic growth concerns reduced

- The sell-off in global markets in Q4 was likely driven by concerns over the economy slipping into a recession. Those concerns ebbed during the quarter as the shift in expectations for Fed policy eased financial conditions and US economic data remained solid. This contributed to the rebound in equity markets and narrowing in credit spreads, which further eased financial conditions.
- Concerns over the outlook for Chinese growth remain, but there are indications that government stimulus is beginning to stabilize activity. A bottoming in growth in China should support the flagging Eurozone economy.
- **Mercer View:** In a potential scenario with moderate global growth, subdued inflation and accommodative monetary policy, equity markets could perform reasonably well.

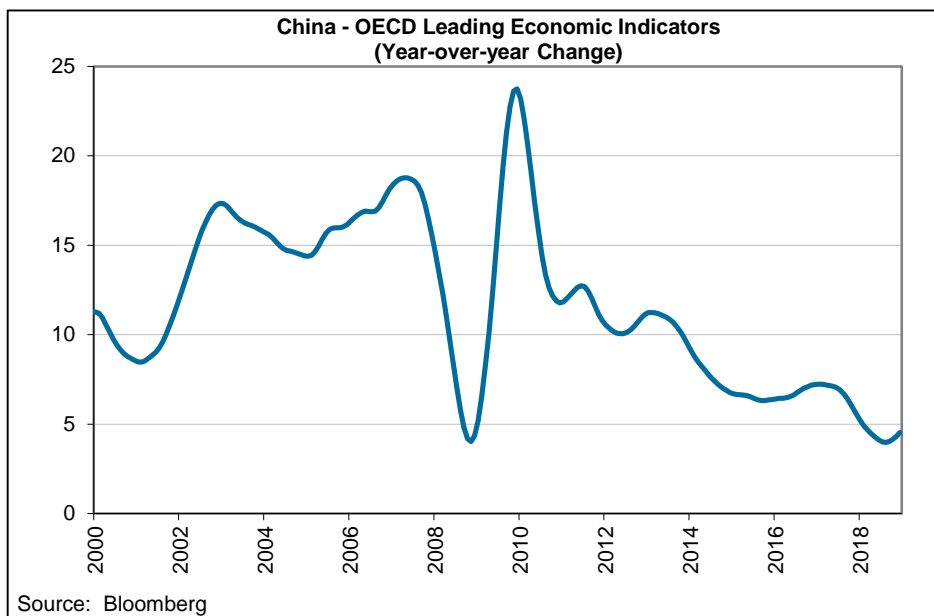
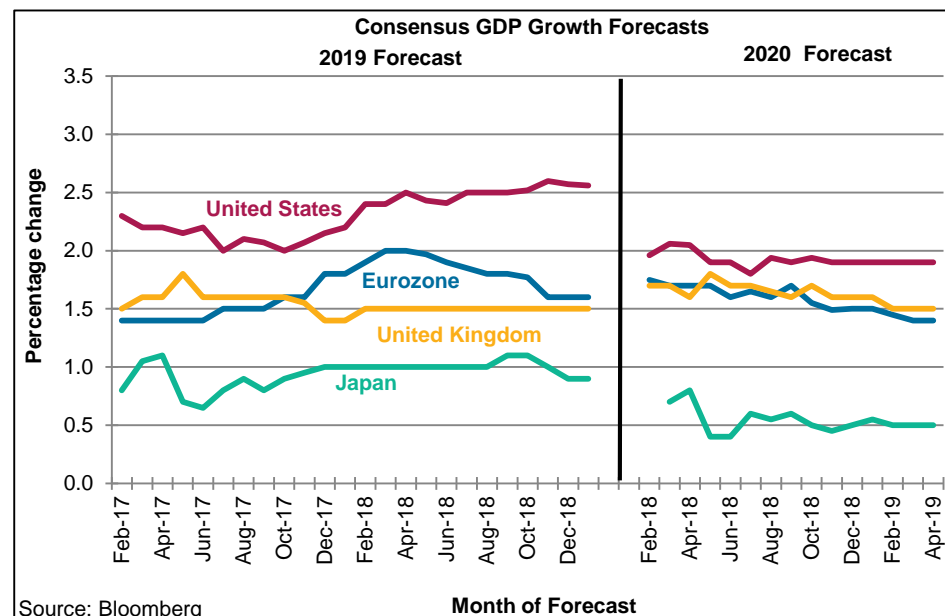
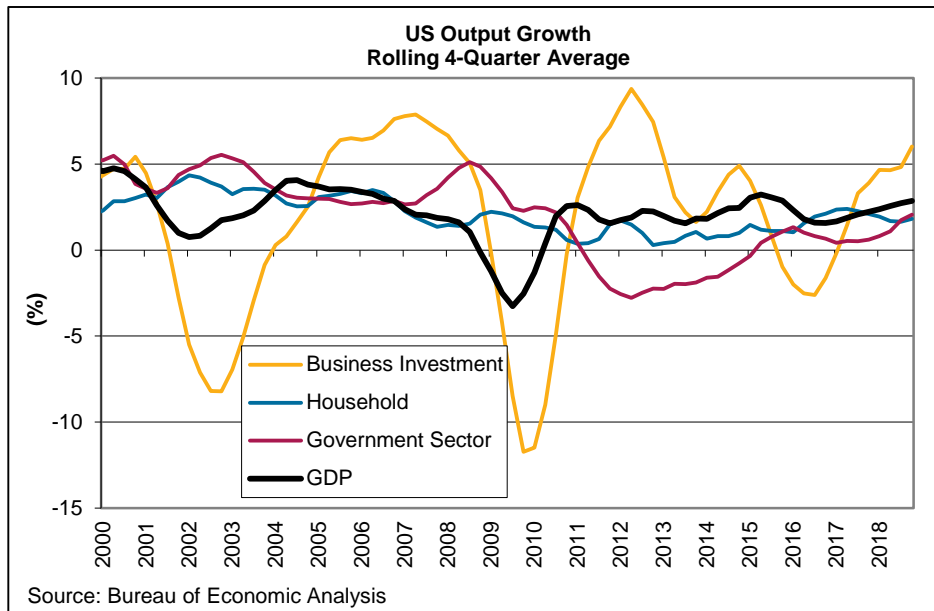
## 3. Political risk ebbed, but remains

- Prospects of a trade deal between the US and China improved in Q1. However, questions remain over the details of the deal and when tariffs may be lifted.
- Despite multiple attempts, the withdrawal agreement between the UK and the EU was defeated in Parliament. While there remains a risk of “no deal” or “hard Brexit”, a “soft Brexit” is still the most likely case. Regardless, with the likely extension of negotiations, it will continue to be a source of uncertainty.
- **Mercer View:** Protectionism and the European political environment likely will be a source of volatility and downside risk over the short-term.

# Economic Fundamentals

## Growth Slowing, but a Recession is Unlikely in 2019

- US economic growth has slowed from last year's strong pace, but growth should remain healthy in 2019 and recession risks appear low. Strong job and wage growth should support consumer demand.
- While the Chinese economy continues to face pressures due to tariffs and structural imbalances, there are signs that growth is bottoming. This should provide support to the trade sensitive Eurozone and Japanese economies.
- In an environment of moderate global growth, subdued inflation and accommodative monetary policy, equity markets could perform reasonably well.

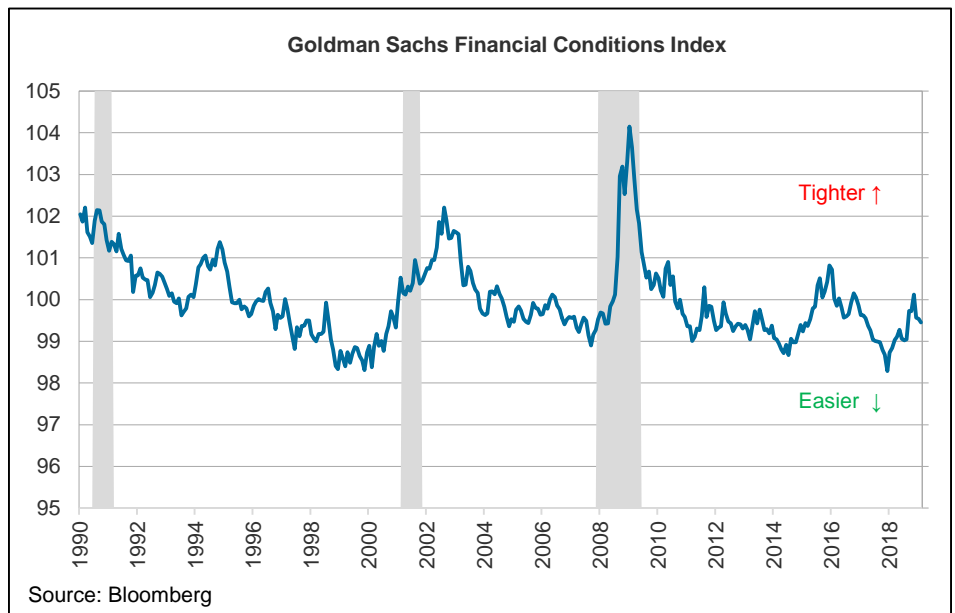
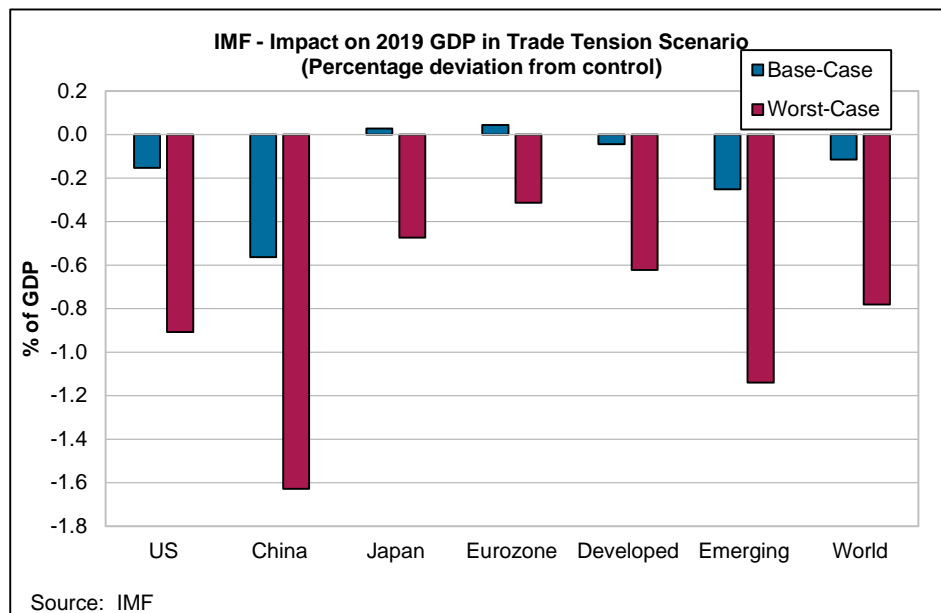
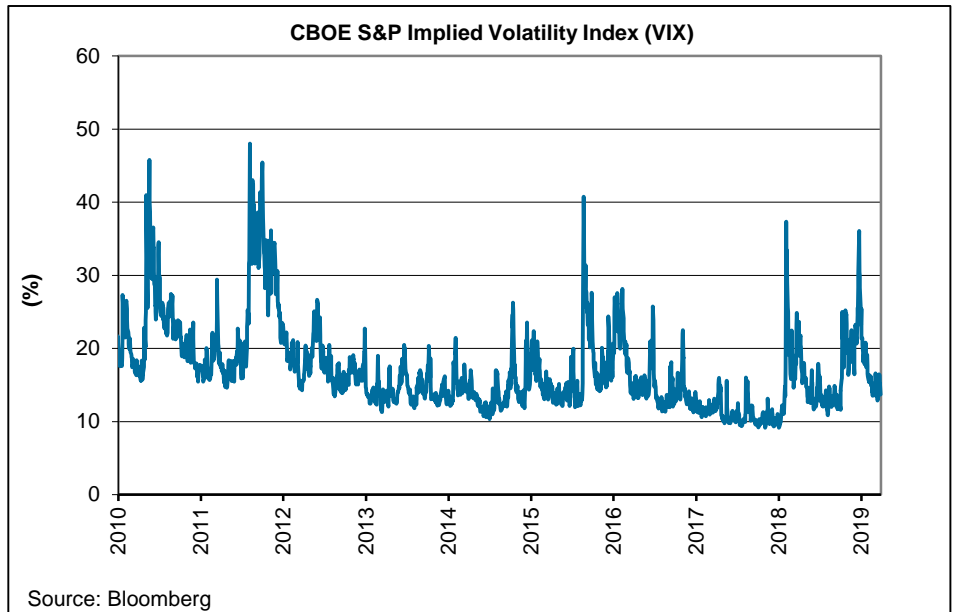




# Risk Factors

## Financial Conditions Ease, but Risks Remain

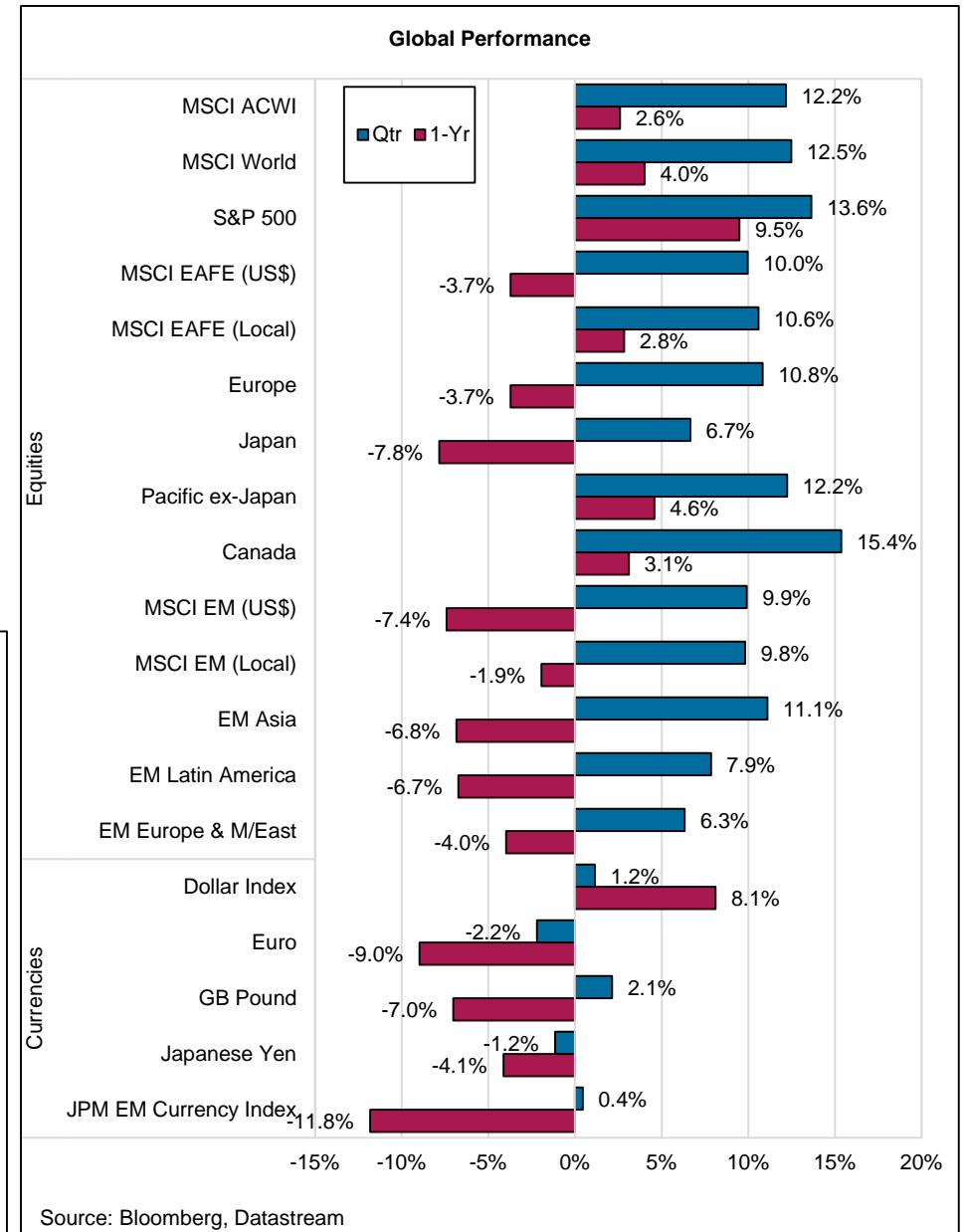
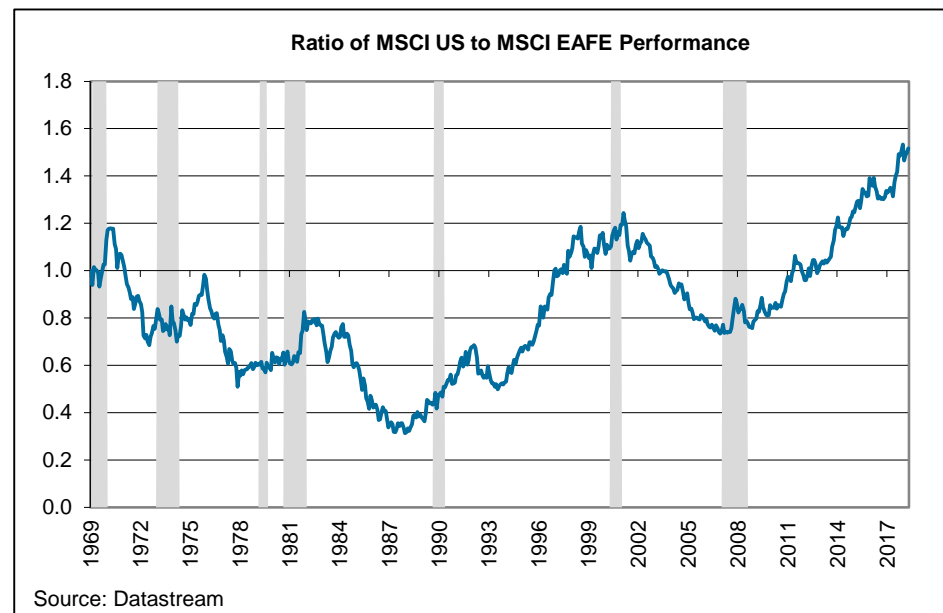
- Financial conditions generally eased during the quarter as the Fed signaled a shift in policy and other central banks reiterated their accommodative plans. A decline in credit spreads was a further sign of easing.
- Trade tensions have been one of the key risks to global growth. While progress has been made between the US and China, key areas such as intellectual property protection remain unresolved.
- Uneven economic growth, a delayed Brexit, and populist movements raise risks across Europe.



# Regional Equity Returns

## US Stocks Led a Broad Based Rebound in Equities During Q1

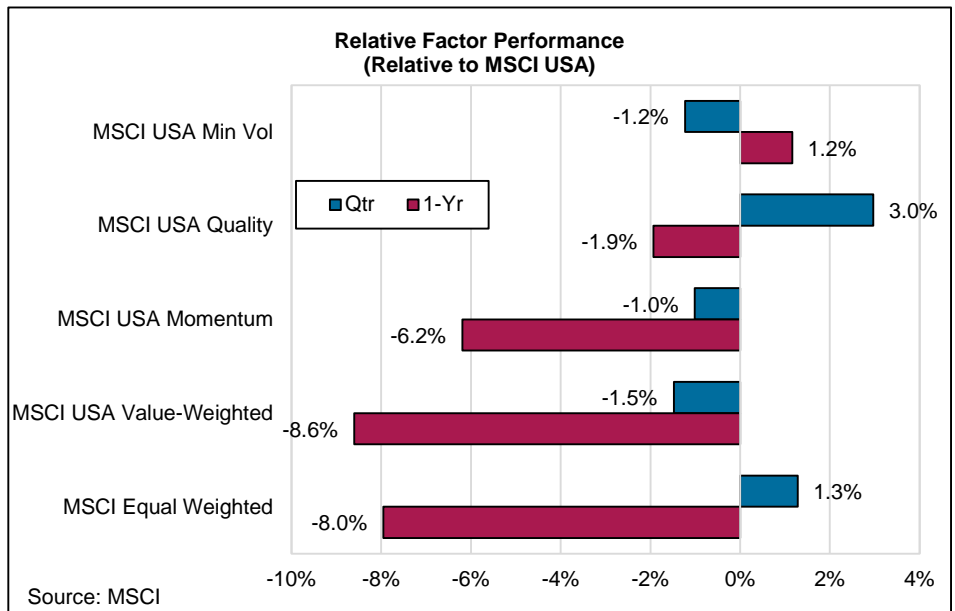
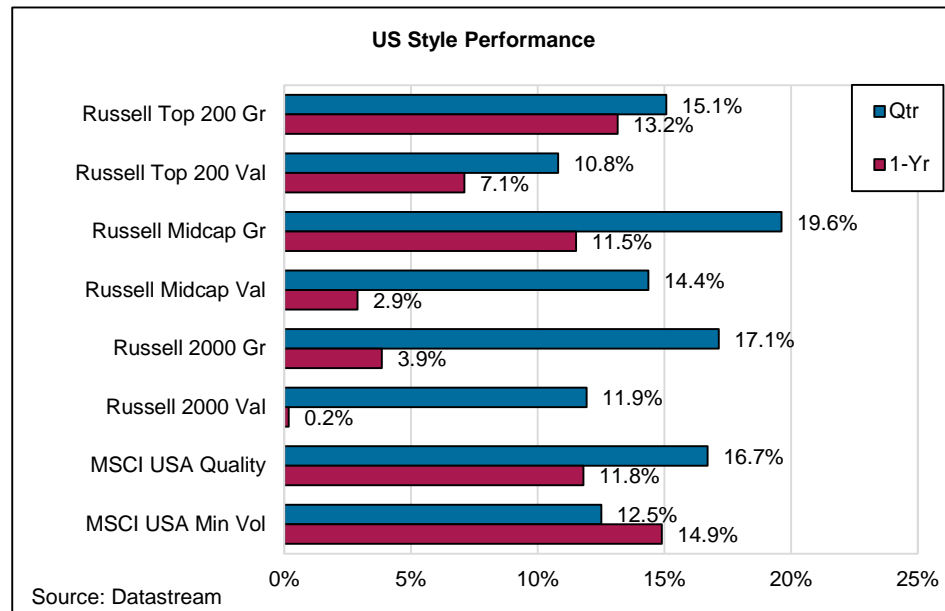
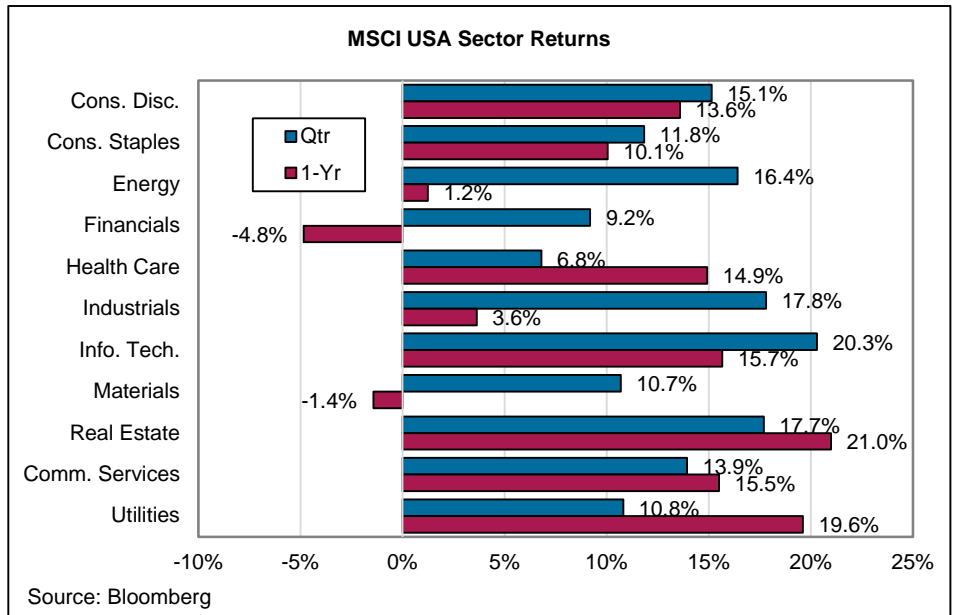
- Global equities rebounded 12.2% in Q1, as the Fed shifted toward a dovish stance and optimism grew over a US-China trade agreement. The S&P 500 returned 13.6% for Q1 and 9.5% over the past year.
- International developed stocks returned 10.0% during Q1, but trailed US stocks by 360 bps. Currency had a relatively minor impact for the quarter. The MSCI EAFE index has fallen 3.7% over the last year.
- Emerging market equities returned 9.9% in Q1, modestly lagging developed markets. Chinese equities spiked by 17.7%.



# US Equity Factor and Sector Returns

## Growth Stocks Led the Market Higher and Small Caps Outperformed

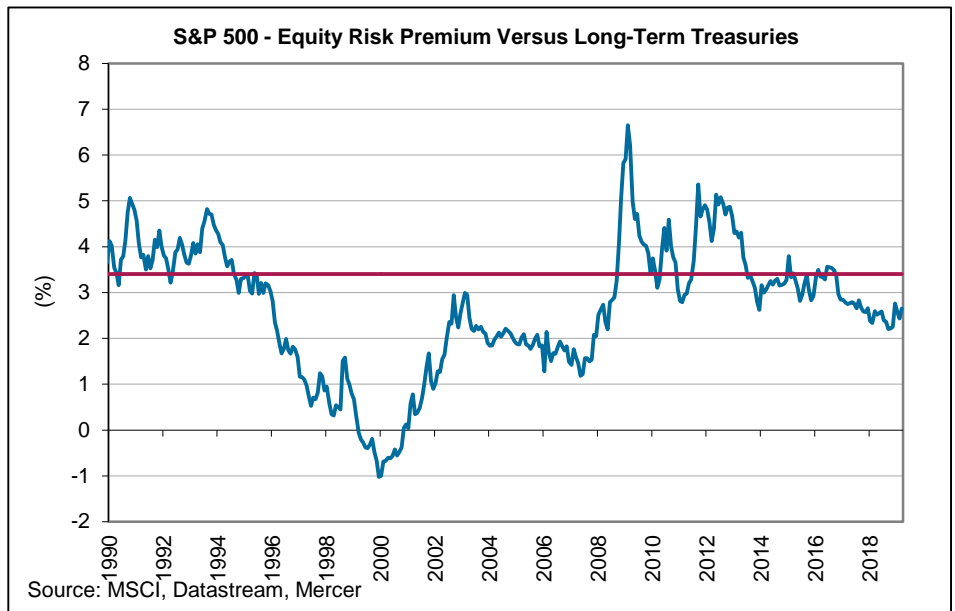
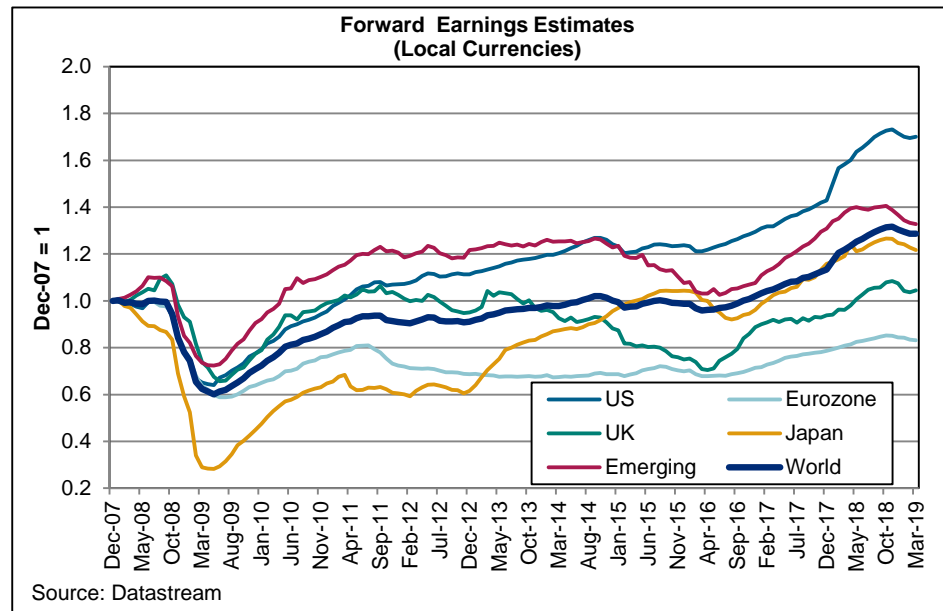
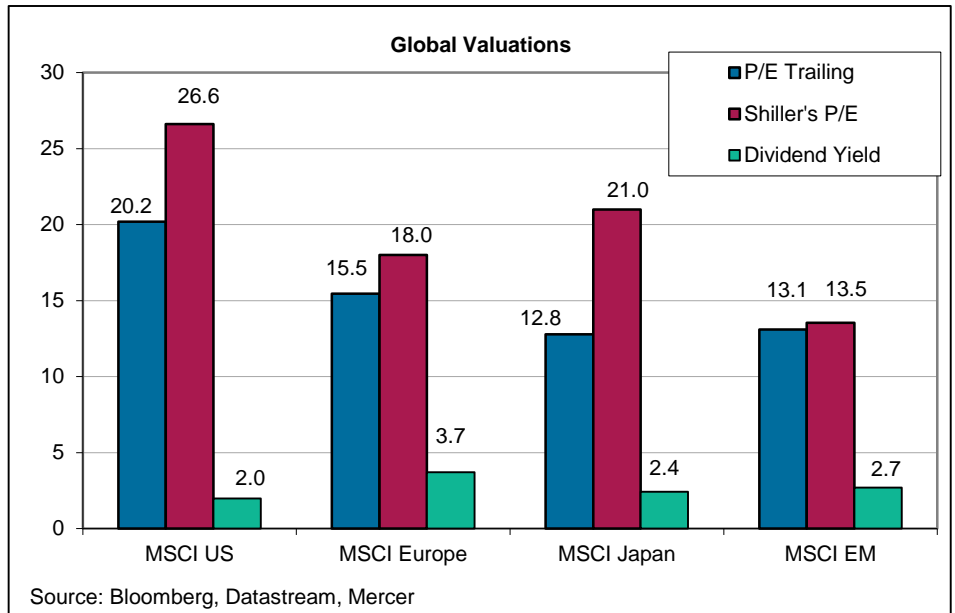
- After lagging in Q4 2018, growth stocks reasserted their leadership position in Q1, outperforming value across all capitalizations. Technology was the best performing sector, returning 20.3% during Q1.
- Small-cap stocks outperformed large-caps during the quarter, benefiting from their higher beta and a shift toward more dovish Fed policy. However, over the last year, large-caps have outperformed by a wide margin.
- Quality stocks outperformed the broad market even as stocks posted sharp gains. Momentum lagged as markets reversed course. Low-volatility stocks lagged for the quarter, but outperformed for the past year.



# Equity Valuations

## The Equity Rebound Raised Valuations

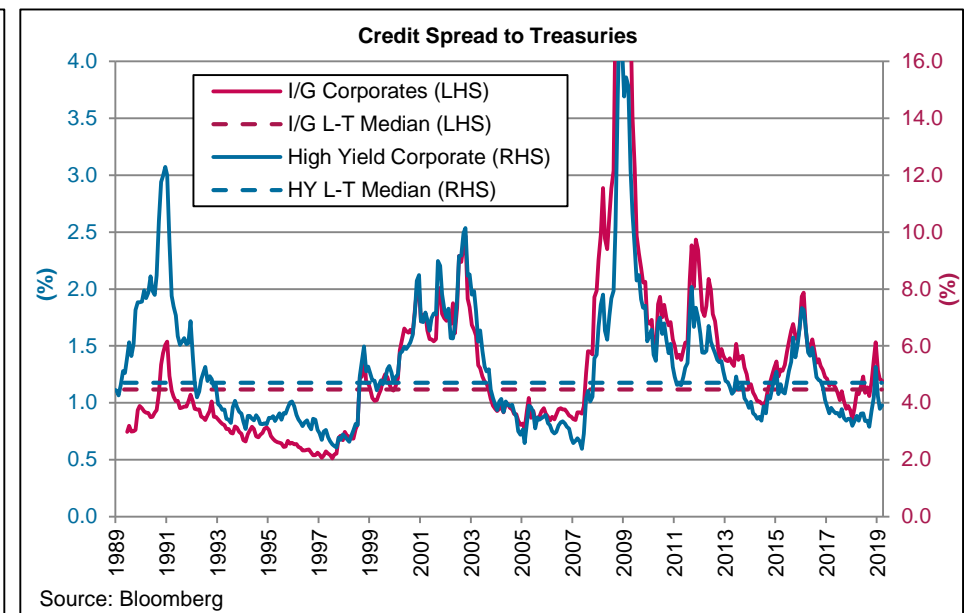
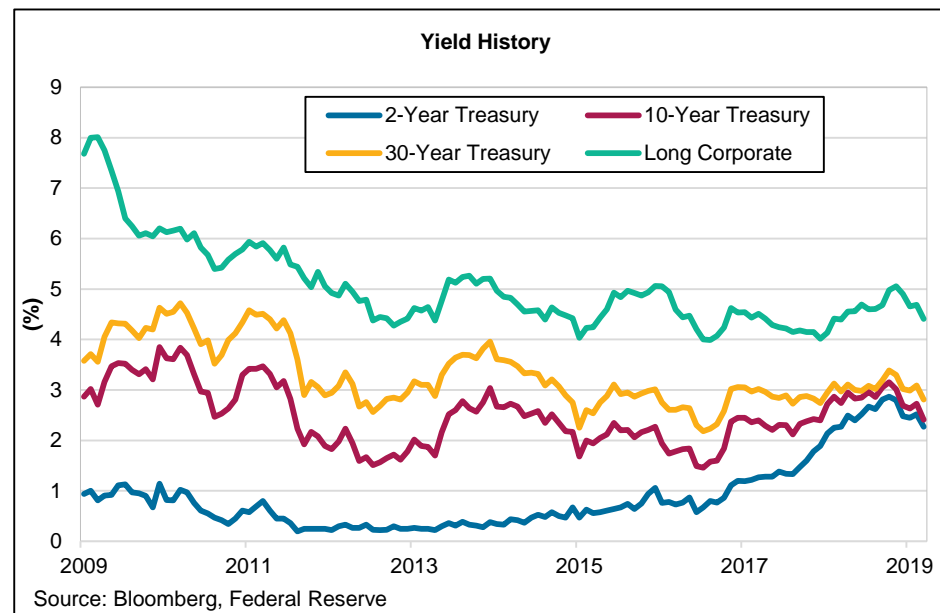
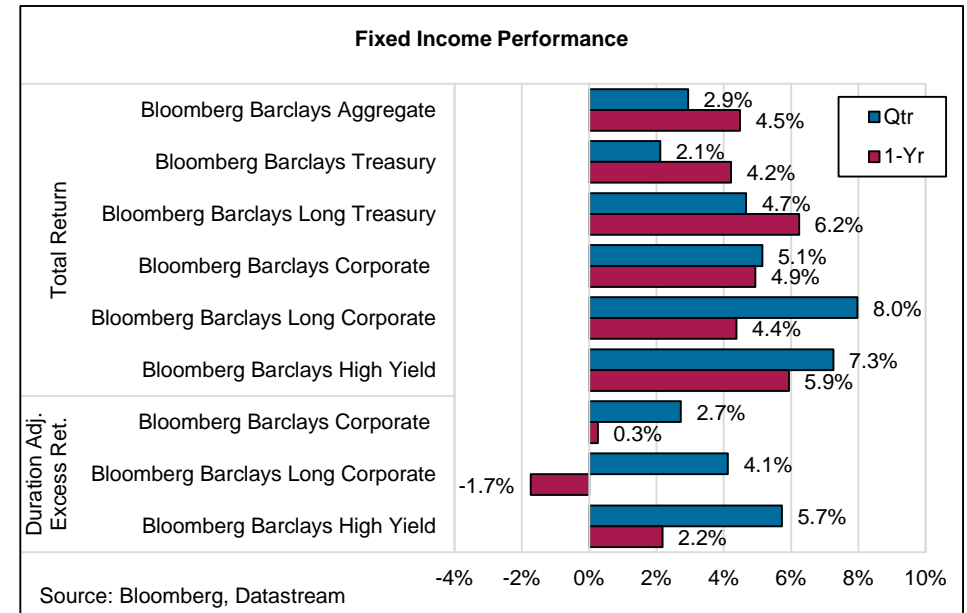
- The rebound in markets lifted the trailing P/E ratio on the MSCI US from 18.4x to 20.2x. Our estimate of the equity risk premium over long-term Treasuries was virtually unchanged as interest rates fell. The risk of a Fed overshoot fell during the quarter, which reduced economic and valuation risks.
- International developed stocks are reasonably valued; however, economic and earnings growth remains weak. MSCI EAFE may continue to trail the US absent an improvement in global growth.
- EM equity valuations appear relatively attractive and the Fed's dovish shift should support markets, but a sustained slowdown in China is a risk.



# Interest Rates and Fixed Income

## Falling Rates and Narrowing Spreads Drove Positive Results for Fixed Income

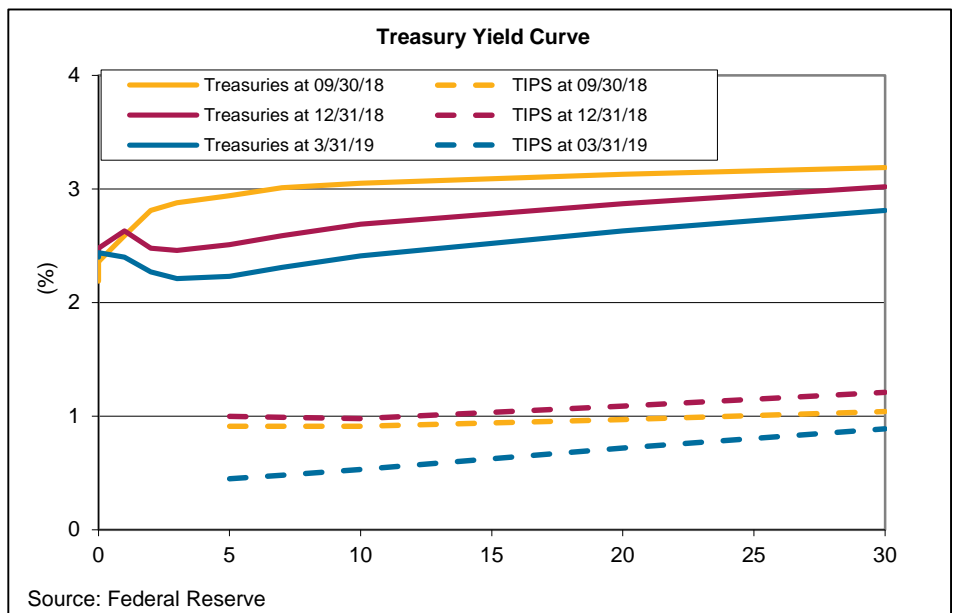
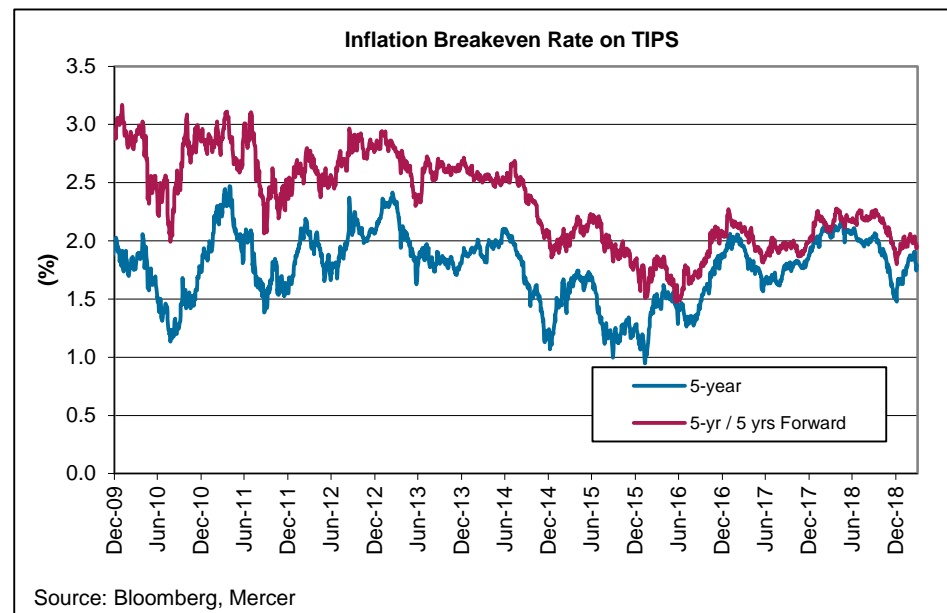
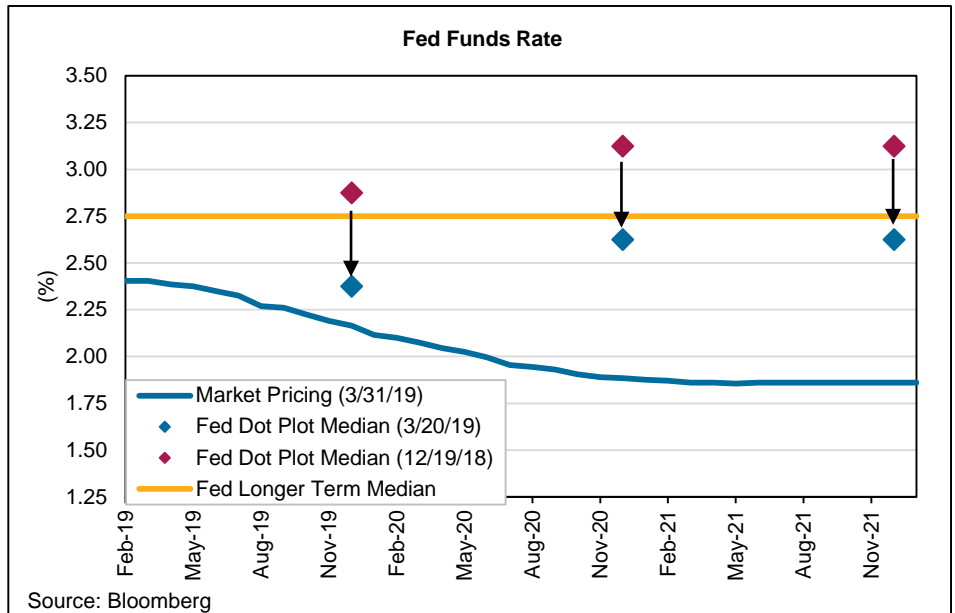
- The Bloomberg Barclays Aggregate returned 2.9% in Q1. Interest rates declined on the Fed's dovish guidance, while spreads narrowed as concerns over the growth outlook faded.
- Investment-grade corporate spreads narrowed by 34 bps during the quarter, to 119 bps, compared to a historical median of 112 bps. Long corporate bonds spiked by 8.0% as the yield fell from 4.9% to 4.5%.
- High yield spreads declined 135 bps during the quarter, leading to a 7.3% return for the index. The rebound in oil prices during the quarter was an added tailwind for high yield.



# Monetary Policy

## The Fed Shifted Policy, and the Yield Curve Temporarily Inverted

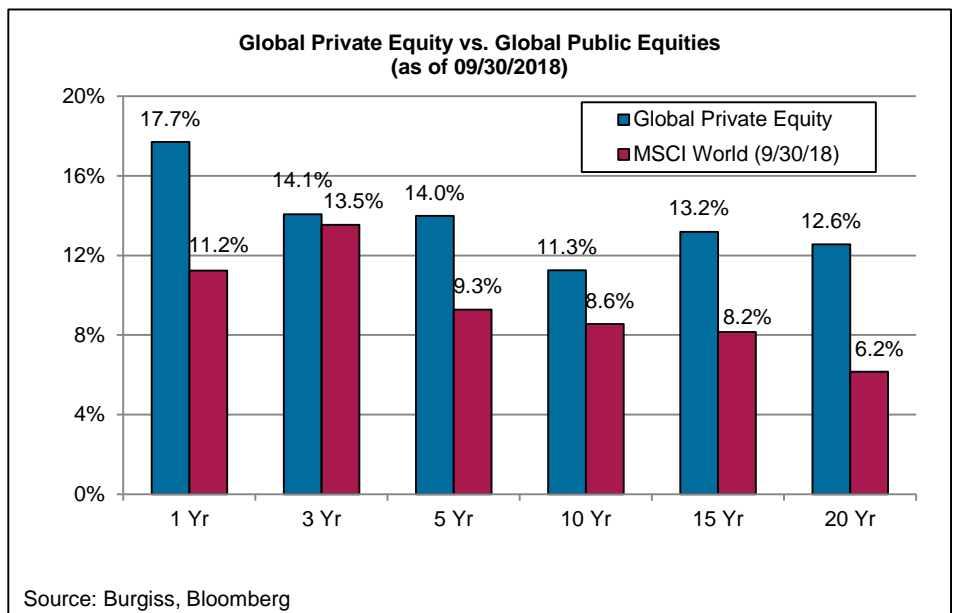
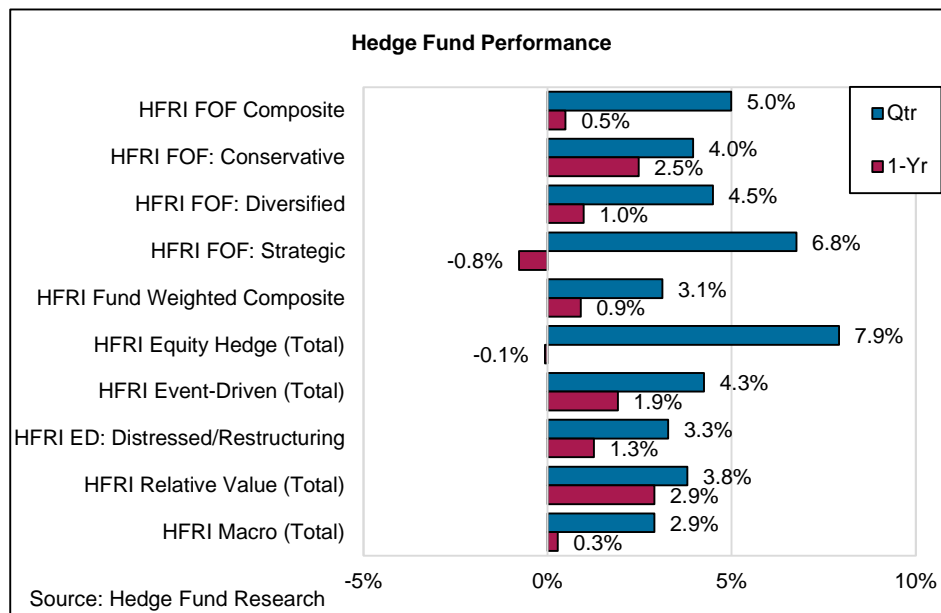
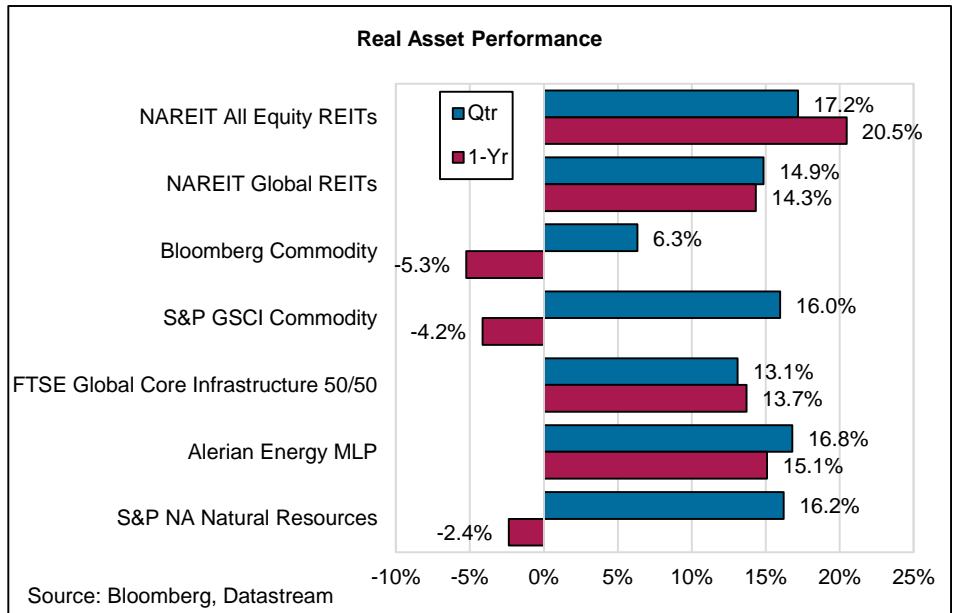
- The Fed signaled a shift in its policy stance in the March meeting amid evidence of slowing growth. The Fed's dot plot now suggests no rate hikes in 2019. The bond market has priced a rate cut in late 2019 or early 2020. The Fed also announced the end of QT later this year.
- In March, the yield curve inverted with the 10-year yield briefly falling below the 3-month yield. A sustained yield curve inversion usually signals the market's expectation of looser monetary policy in the future and often pre-dates recessions.



# Alternative Investment Performance

## Real Assets Outperform the Broad Market, While Hedge Funds Lag

- REITs and infrastructure stocks posted strong returns for the quarter, as the decline in bond yields benefited rate sensitive market segments.
- Natural resource stocks delivered impressive results, returning 16.2%, as oil and other commodities rebounded from steep Q4 declines.
- Hedge funds were up 5.0% during the quarter, leaving their returns over the past year at 0.5%.
- Global private equity has outperformed global developed stocks by a wide margin over most trailing periods.



# Capital Markets Review

## Index Returns

As of March 31, 2019

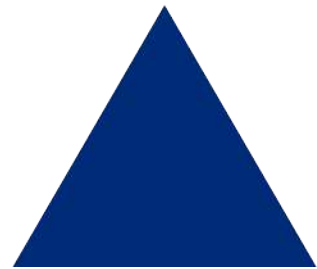
(Percentage Return)

	Quarter	Year To Date	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Domestic Equity Indices</b>								
Dow Jones Wilshire 5000	14.1	14.1	8.9	11.3	13.6	10.5	12.7	16.0
S&P 500	13.6	13.6	9.5	11.7	13.5	10.9	12.8	15.9
Russell 1000 Index	14.0	14.0	9.3	11.6	13.5	10.6	12.8	16.0
Russell 1000 Growth Index	16.1	16.1	12.7	16.9	16.5	13.5	14.3	17.5
Russell 1000 Value Index	11.9	11.9	5.7	6.3	10.5	7.7	11.1	14.5
Russell Midcap Index	16.5	16.5	6.5	9.3	11.8	8.8	12.0	16.9
Russell Midcap Growth Index	19.6	19.6	11.5	15.6	15.1	10.9	13.0	17.6
Russell Midcap Value Index	14.4	14.4	2.9	4.7	9.5	7.2	11.3	16.4
Russell 2000 Index	14.6	14.6	2.0	6.8	12.9	7.1	10.7	15.4
Russell 2000 Growth Index	17.1	17.1	3.9	11.0	14.9	8.4	11.8	16.5
Russell 2000 Value Index	11.9	11.9	0.2	2.6	10.9	5.6	9.6	14.1
<b>International Equity Indices</b>								
MSCI EAFE	10.0	10.0	-3.7	5.1	7.3	2.3	5.6	9.0
MSCI EAFE Growth Index	12.0	12.0	-1.3	7.7	7.6	3.9	6.5	9.7
MSCI EAFE Value Index	7.9	7.9	-6.1	2.6	6.9	0.7	4.7	8.1
MSCI EAFE Small Cap	10.7	10.7	-9.4	5.8	7.5	4.5	8.2	12.8
MSCI AC World Index	12.2	12.2	2.6	8.6	10.7	6.5	8.4	12.0
MSCI AC World ex US	10.3	10.3	-4.2	5.6	8.1	2.6	4.7	8.9
MSCI Emerging Markets Index	9.9	9.9	-7.4	7.6	10.7	3.7	2.7	8.9
<b>Fixed Income Indices</b>								
Blmbg. Barc. U.S. Aggregate	2.9	2.9	4.5	2.8	2.0	2.7	2.5	3.8
Blmbg. Barc. Intermed. U.S. Government/Credit	2.3	2.3	4.2	2.3	1.7	2.1	2.0	3.1
Blmbg. Barc. U.S. Long Government/Credit	6.5	6.5	5.2	5.2	3.8	5.3	4.9	7.2
Blmbg. Barc. U.S. Corp: High Yield	7.3	7.3	5.9	4.9	8.6	4.7	6.3	11.3
ICE BofAML 3 Month U.S. T-Bill	0.6	0.6	2.1	1.6	1.2	0.7	0.6	0.4
Blmbg. Barc. U.S. TIPS	3.2	3.2	2.7	1.8	1.7	1.9	1.2	3.4
FTSE Non-U.S. World Government Bond	1.5	1.5	-4.5	3.8	0.9	-0.1	0.0	2.0
JPM EMBI Global Diversified (external currency)	7.0	7.0	4.2	4.3	5.8	5.4	5.4	8.5
JPM GBI-EM Global Diversified (local currency)	2.9	2.9	-7.6	2.2	3.3	-0.8	-0.5	4.4
<b>Real Asset Indices</b>								
Bloomberg Commodity Index Total Return	6.3	6.3	-5.3	-0.9	2.2	-8.9	-7.1	-2.6
Dow Jones Wilshire REIT	16.0	16.0	19.3	7.2	5.5	9.0	9.0	18.7

Returns for periods greater than one year are annualized.



# Portfolio Review



# El Camino Hospital Investment Committee Scorecard

March 31, 2019

Key Performance Indicator	Status	El Camino	Benchmark	El Camino	Benchmark	El Camino	Benchmark	FY19 Year End Budget	Expectation Per Asset Allocation
<b>Investment Performance</b>		<b>1Q 2019</b>		<b>Fiscal Year-to-date</b>		<b>6y 5m Since Inception (annualized)</b>			<b>2019</b>
Surplus cash balance*		\$999.8	--	--	--	--	--	\$892.9	--
Surplus cash return		6.7%	6.7%	2.6%	2.6%	5.4%	5.2%	3.2%	5.6%
Cash balance plan balance (millions)		\$270.7	--	--	--	--	--	\$276.9	--
Cash balance plan return		8.3%	7.7%	2.9%	2.7%	7.6%	6.8%	6.0%	6.0%
403(b) plan balance (millions)		\$496.8	--	--	--	--	--	--	--
<b>Risk vs. Return</b>		<b>3-year</b>				<b>6y 5m Since Inception (annualized)</b>			<b>2019</b>
Surplus cash Sharpe ratio		1.16	1.09	--	--	1.03	1.00	--	0.34
Net of fee return		6.9%	6.3%	--	--	5.4%	5.2%	--	5.6%
Standard deviation		4.8%	4.6%	--	--	4.7%	4.6%	--	8.7%
Cash balance Sharpe ratio		1.18	1.08	--	--	1.14	1.07	--	0.32
Net of fee return		8.3%	7.3%	--	--	7.6%	6.8%	--	6.0%
Standard deviation		6.0%	5.5%	--	--	6.1%	5.8%	--	10.3%
<b>Asset Allocation</b>		<b>1Q 2019</b>							
Surplus cash absolute variances to target		8.8%	< 10%	--	--	--	--	--	--
Cash balance absolute variances to target		5.4%	< 10%	--	--	--	--	--	--
<b>Manager Compliance</b>		<b>1Q 2019</b>							
Surplus cash manager flags		22	< 24 Green < 30 Yellow	--	--	--	--	--	--
Cash balance plan manager flags		27	< 27 Green < 34 Yellow	--	--	--	--	--	--

\*Excludes debt reserve funds (~\$105 mm), District assets (~\$38 mm), and balance sheet cash not in investable portfolio (~\$100 mm).  
Includes Foundation (~\$31 mm) and Concern (~\$14 mm) assets. Budget adds back in current Foundation and Concern assets and backs out current debt reserve funds.

# Total Surplus Cash Assets

As of March 31, 2019

	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Total Surplus Cash (1)</b>	<b>1,141,998,757</b>	<b>100.0</b>	<b>5.8</b>	<b>2.5</b>	<b>3.7</b>	<b>5.9</b>	<b>4.2</b>	<b>6.0</b>	<b>4.9</b>	<b>6y 5m</b>
<b>Total Surplus Cash ex District / Debt Reserves (1)</b>	<b>999,784,551</b>	<b>87.5</b>	<b>6.7</b>	<b>2.6</b>	<b>3.9</b>	<b>6.9</b>	<b>4.7</b>	<b>6.3</b>	<b>5.4</b>	<b>6y 5m</b>
Surplus Cash Total Benchmark			6.7	2.6	3.5	6.3	4.7	6.1	5.2	
<b>Total Surplus Cash ex District / CONCERN / Debt Reserves (1)</b>	<b>986,088,521</b>	<b>86.3</b>	<b>6.7</b>	<b>2.5</b>	<b>3.9</b>	<b>6.9</b>	<b>4.8</b>	<b>6.3</b>	<b>5.5</b>	<b>6y 5m</b>
Surplus Cash Total Benchmark			6.7	2.6	3.5	6.3	4.7	6.1	5.2	
<b>Total CONCERN</b>	<b>13,696,030</b>	<b>1.2</b>	<b>3.1</b>	<b>4.8</b>	<b>4.8</b>	<b>2.3</b>	<b>-</b>	<b>-</b>	<b>2.6</b>	<b>3y 2m</b>
CONCERN Total Benchmark			2.9	4.6	4.5	2.0	-	-	2.4	
Met West Total Return Bond Plan - CONCERN	13,609,295	1.2	3.1	4.8	4.8	2.3	2.8	-	2.6	3y 2m
Blmbg. Barc. U.S. Aggregate			2.9	4.6	4.5	2.0	2.7	3.8	2.4	
Cash Account - CONCERN	86,735	0.0	0.3	0.9	1.1	0.7	-	-	0.7	3y 2m
90 Day U.S. Treasury Bill			0.6	1.7	2.1	1.2	0.7	0.4	1.1	
<b>District - Barrow Hanley</b>	<b>37,668,791</b>	<b>3.3</b>	<b>1.0</b>	<b>2.3</b>	<b>2.6</b>	<b>1.0</b>	<b>0.9</b>	<b>1.3</b>	<b>0.8</b>	<b>6y 5m</b>
Blmbg. Barc. 1-3 Govt			1.0	2.5	2.7	1.0	1.0	1.1	0.9	
<b>Total Debt Reserves</b>	<b>104,545,416</b>	<b>9.2</b>	<b>0.6</b>	<b>1.7</b>	<b>2.3</b>	<b>1.4</b>	<b>-</b>	<b>-</b>	<b>1.2</b>	<b>3y 11m</b>
90 Day U.S. Treasury Bill			0.6	1.7	2.1	1.2	0.7	0.4	0.9	
Ponder Debt Reserves - 2015	8,651,389	0.8	0.6	1.6	2.1	1.3	-	-	1.1	3y 11m
90 Day U.S. Treasury Bill			0.6	1.7	2.1	1.2	0.7	0.4	0.9	
Ponder Debt Reserves - 2017	95,893,927	8.4	0.6	1.7	2.3	-	-	-	1.7	2y 1m
90 Day U.S. Treasury Bill			0.6	1.7	2.1	1.2	0.7	0.4	1.6	
Capitalized Interest 2017	99	0.0	0.4	1.4	1.9	-	-	-	1.5	2y 1m
90 Day U.S. Treasury Bill			0.6	1.7	2.1	1.2	0.7	0.4	1.6	

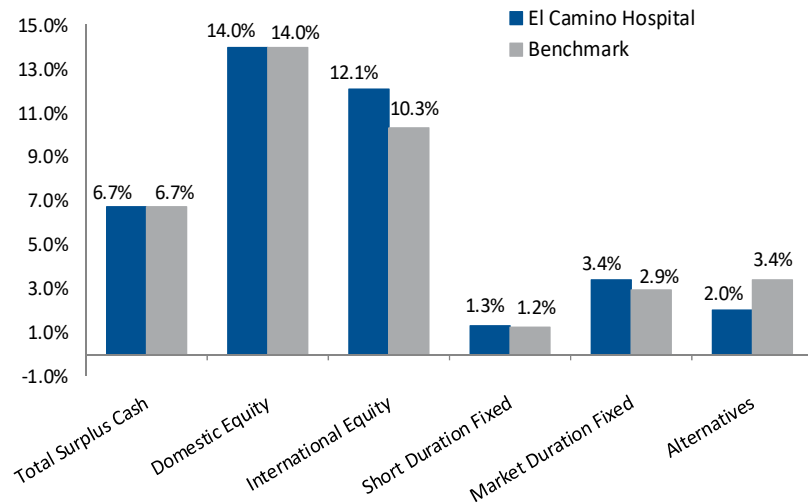
Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized. (1) Includes Foundation assets.

# Surplus Cash Executive Summary

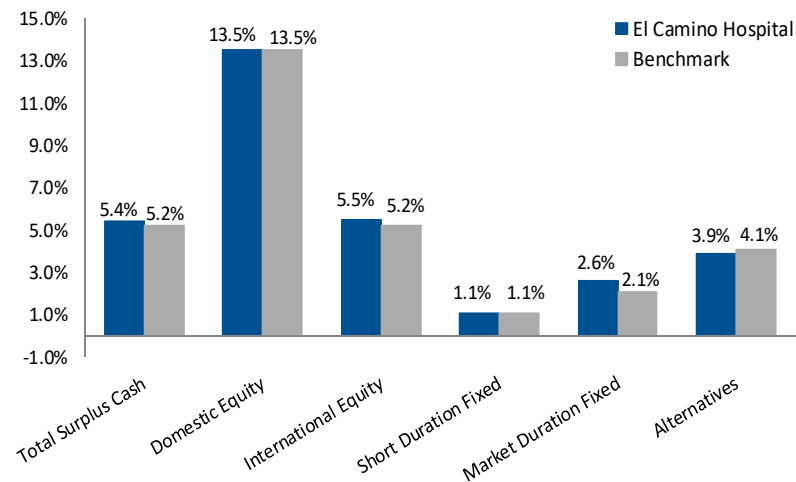
## Dashboard

As of March 31, 2019

### Performance: Most Recent Quarter



### Performance: Since Inception<sup>1</sup>



<sup>1</sup> Reflects the date Pavilion's recommended portfolio was implemented (November 1, 2012).

### Asset Allocation

Manager	Total Assets (\$ mil.)	Percent of Total	Target Allocation	Variance to Target	Target Range	Within Policy Range
Domestic Equity	\$263.0	26.3%	25.0%	+ 1.3%	20-30%	Yes
International Equity	\$143.6	14.4%	15.0%	- 0.6%	10-20%	Yes
Short-Duration Fixed	\$118.4	11.8%	10.0%	+ 1.8%	8-12%	Yes
Market-Duration Fixed	\$313.1	31.3%	30.0%	+ 1.3%	25-35%	Yes
Alternatives	\$161.7	16.2%	20.0%	- 3.8%	17-23%	No
<b>Total (X District)</b>	<b>\$999.8</b>	<b>100.0%</b>				

### Portfolio Updates

#### Manager News/Issues

- The Surplus Cash Portfolio returned +6.7% for the quarter, performing in-line with its benchmark. Over the trailing one-year period, the Portfolio returned +3.9%, outpacing the benchmark by approximately 40 bps.
- Manager results within international equity and market duration fixed income added value during the quarter, but was offset by asset allocation positioning, particularly the overweight to fixed income.
- Notable outperformers during the quarter include large cap growth manager Touchstone Sands (+21.7%) and emerging markets manager Harding Loevner (+14.5%), which outperformed their benchmarks by 5.6% and 4.6%, respectively.
- Within market duration fixed income, both Dodge & Cox (+3.6%) and MetWest (+3.1%) outperformed the Bloomberg Barclays U.S. Aggregate Index.

#### First Quarter Funding News/Issues

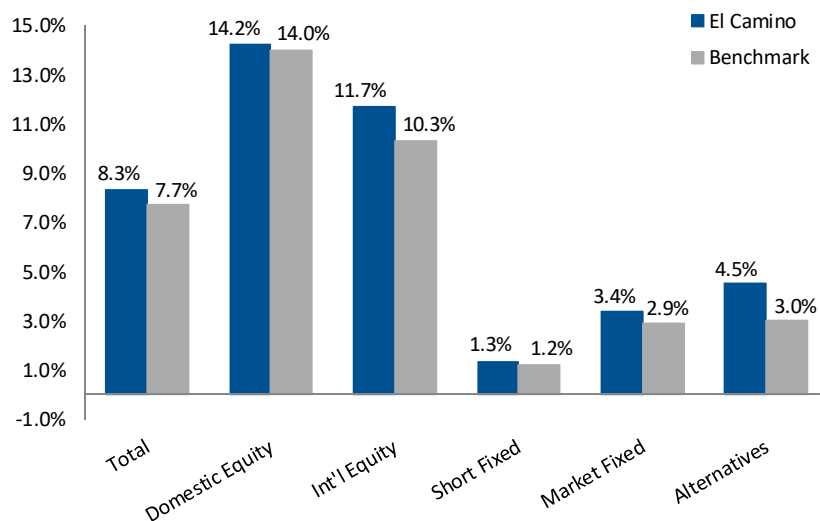
- Oaktree Real Estate VI distributed \$0.6 mm.
- A \$10 million investment in the Palestra Capital Long/Short Equity Hedge Fund was made as of April 1, 2019, utilizing proceeds from the previous liquidations of Tiger Eye. This investment, along with the pending investment in Man Alternative Risk Premia Fund will bring the allocation to alternatives within the target range.

# Cash Balance Plan Executive Summary

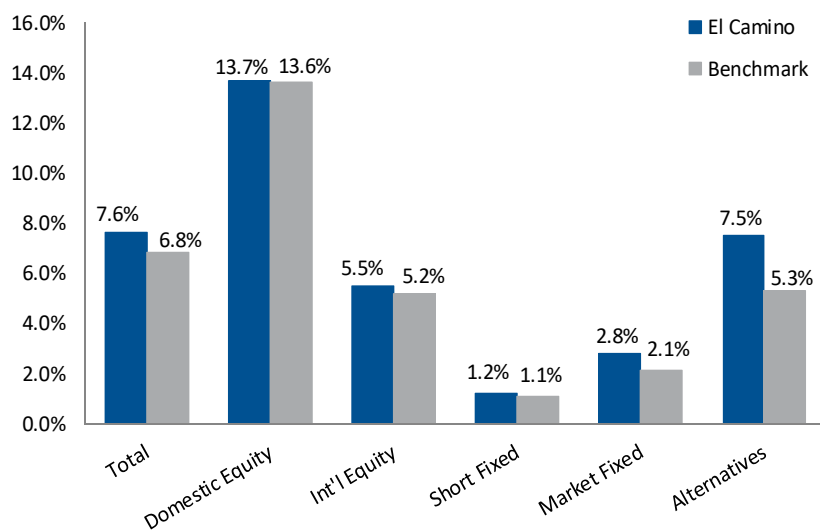
## Dashboard

As of March 31, 2019

### Performance: Most Recent Quarter



### Performance: Since Inception<sup>1</sup>



### Asset Allocation

Manager	Total Assets (\$ mil.)	Percent of Total	Target Allocation	Variance to Target	Target Range	Within Policy Range
Domestic Equity	\$ 90.1	33.3%	32.0%	+ 1.3%	27-37%	Yes
International Equity	\$ 47.7	17.6%	18.0%	- 0.4%	15-21%	Yes
Short-Duration Fixed	\$ 10.0	3.7%	5.0%	- 1.3%	0-8%	Yes
Market-Duration Fixed	\$ 71.5	26.4%	25.0%	+ 1.4%	20-30%	Yes
Alternatives	\$ 51.5	19.0%	20.0%	- 1.0%	17-23%	Yes
<b>Total</b>	<b>\$270.7</b>	<b>100.0%</b>				

### Portfolio Updates

#### Manager News/Issues

- The Cash Balance Plan returned +8.3% for the quarter, outperforming its benchmark by 60 bps. Over the trailing one-year period, the Plan returned +5.1%, outpacing its benchmark by approximately 1.4%.
- Relative outperformance during the first quarter was driven by manager results, particularly within the international equity and alternatives composites. An overweight allocation to the market duration fixed income composite marginally detracted from results as equity markets rebounded during the quarter.
- Two of the strongest performers on both an absolute and relative basis were large cap growth manager Touchstone Sands (+21.7%) and emerging markets manager Harding Loevner (+14.5%) which outperformed their benchmarks by 5.6% and 4.6%, respectively.
- Within hedge funds, Pointer Offshore (+9.7%) was also a notable performer, outperforming the HFRI Fund of Funds Composite Index by 5.1%

#### First Quarter Funding News/Issues

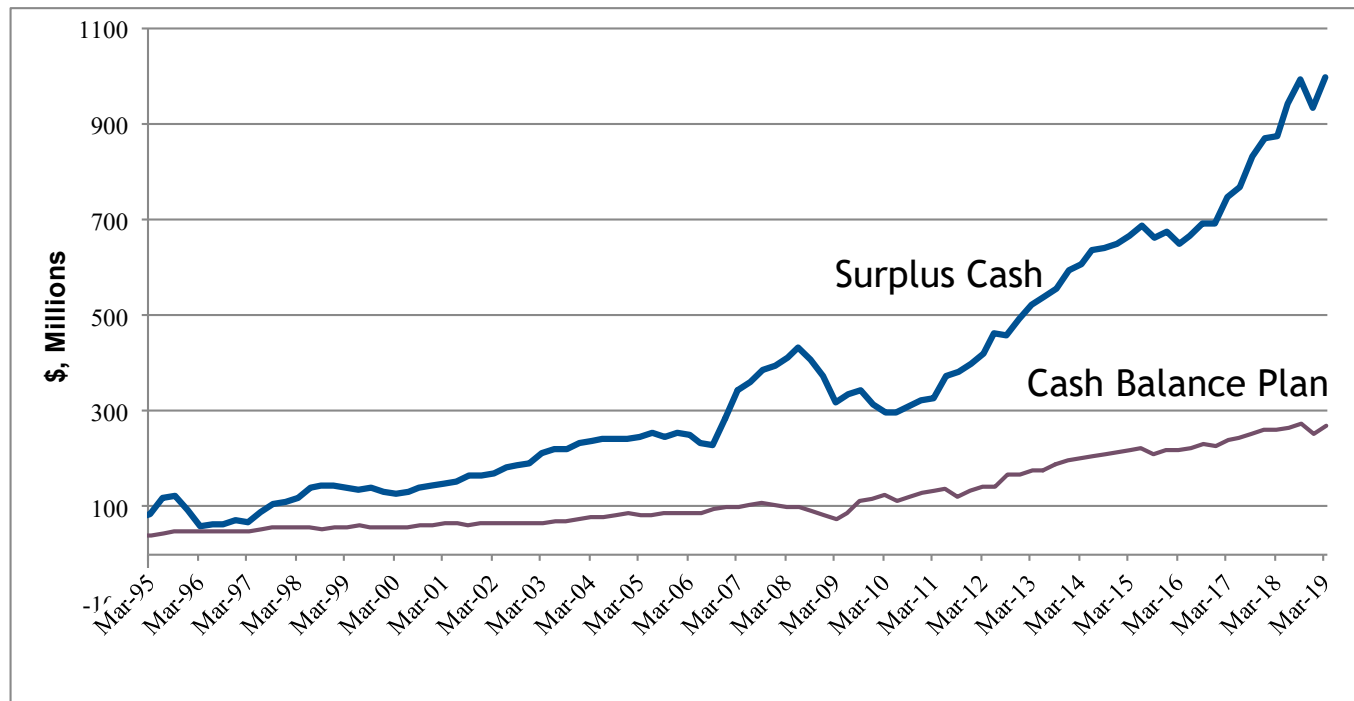
- Oaktree Real Estate VI distributed \$0.4 million.
- An employer contribution of \$3.2 mm was made during January.

<sup>1</sup> Reflects the date Pavilion's recommended portfolio was implemented (November 1, 2012).

# Market Value Reconciliation

As of March 31, 2019

\$ in Millions	Surplus Cash					Cash Balance Plan				
	2015	2016	2017	2018	YTD 2019	2015	2016	2017	2018	YTD 2019
<b>Beginning Market Value</b>	\$651.6	\$677.5	\$694.7	\$872.3	\$935.0	\$213.7	\$216.8	\$228.1	\$259.3	\$250.1
<b>Net Cash Flow</b>	\$27.0	(\$17.5)	\$89.0	\$83.1	\$1.8	\$0.6	\$0.4	(\$0.8)	(\$3.9)	(\$0.4)
Income	\$12.6	\$12.4	\$14.2	\$18.1	\$4.7	\$3.3	\$3.4	\$3.6	\$4.1	\$1.0
Realized Gain/(Loss)	\$4.4	\$7.1	\$9.6	\$14.1	\$3.0	\$2.0	\$4.5	\$2.2	\$10.0	\$0.7
Unrealized Gain/(Loss)	(\$18.0)	\$15.1	\$64.8	(\$52.6)	\$55.3	(\$2.7)	\$3.0	\$26.2	(\$19.4)	\$19.3
<b>Capital App/(Dep)</b>	(\$1.0)	\$34.6	\$88.6	(\$20.4)	\$63.0	\$2.5	\$10.9	\$32.0	(\$5.3)	\$21.0
<b>End of Period Market Value</b>	\$677.5	\$694.7	\$872.3	\$935.0	\$999.8	\$216.8	\$228.1	\$259.3	\$250.1	\$270.7
<b>Return Net of Fees</b>	-0.2%	5.2%	11.8%	-2.5%	6.7%	1.1%	4.9%	14.5%	-2.5%	8.3%



<sup>1</sup> Beginning 8/1/2012, Surplus Cash market values represent the Surplus Cash portfolio excluding District assets, with \$13.9 million of District assets shown as a cash outflow in the third quarter of 2012.

# Performance Summary

## Compliance Checklist

As of March 31, 2019

Fund Name	Qualitative Compliance	Performance Compliance	Short-Term			Longer-Term		
			3 Year Return	3 Year Rank	3 Year Sharpe	5 Year Return	5 Year Rank	5 Year Sharpe
Sands Large Cap Growth (Touchstone) - Both Plans	✓	✓	✓	✓	✗	✗	✗	✗
Barrow Hanley Large Cap Value - Surplus Cash	✓	✓	✓	✓	✓	✓	✓	✓
Barrow Hanley Large Cap Value - Pension	✓	✓	✓	✓	✓	✓	✓	✓
Wellington Small Cap Value - Surplus Cash	✓	✓	✗	✗	✗	✗	✗	✗
Wellington Small Cap Value - Pension	✓	✓	✗	✗	✗	✗	✗	✗
Conestoga Small-Cap Fund I - Both Plans	✓	✓	✓	✓	✓	✓	✓	✓
Walter Scott Int'l (Dreyfus) - Both Plans	✓	✓	✓	✓	✓	✓	✓	✓
Causeway International Value - Both Plans	✓	✓	✗	✓	✗	✗	✗	✗
Harding Loevner Inst. Emerging Markets I - Both Plans	✓	✓	✗	✓	✗	✓	✓	✓
Barrow Hanley Short Fixed - Surplus Cash	✓	✓	✓	✗	✓	✓	✗	✓
Barrow Hanley Short Fixed - Pension	✓	✓	✗	✗	✗	✗	✗	✗
Dodge & Cox Fixed - Surplus Cash	✓	✓	✓	✓	✓	✓	✓	✓
Dodge & Cox Fixed - Pension	✓	✓	✓	✓	✓	✓	✓	✓
MetWest Fixed - Surplus Cash	✓	✓	✓	✗	✓	✗	✗	✓
Met West Fixed - Pension	✓	✓	✓	✗	✓	✗	✗	✓
Lighthouse Diversified - Pension	✗	✓	✗	--	✓	✓	--	✓
Pointer Offshore LTD - Pension	✓	✓	✓	--	✓	✓	--	✓

Legend	
✓	Goals met or no material change
✗	Goals not met or material changes

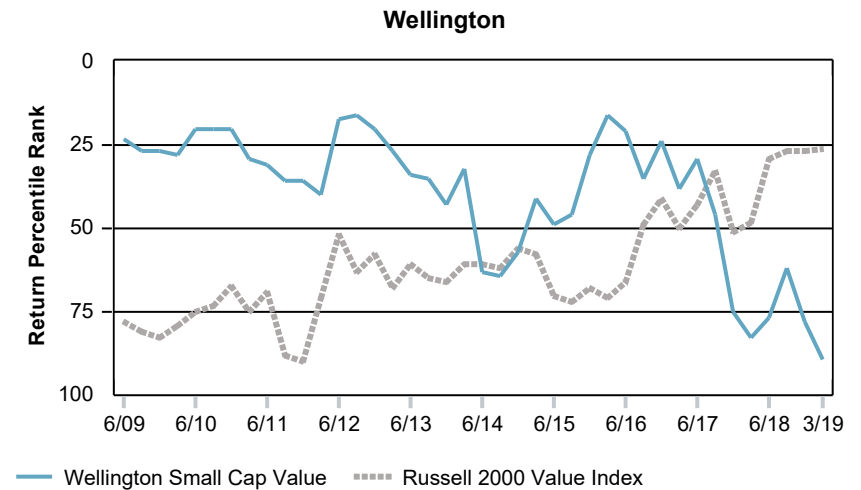
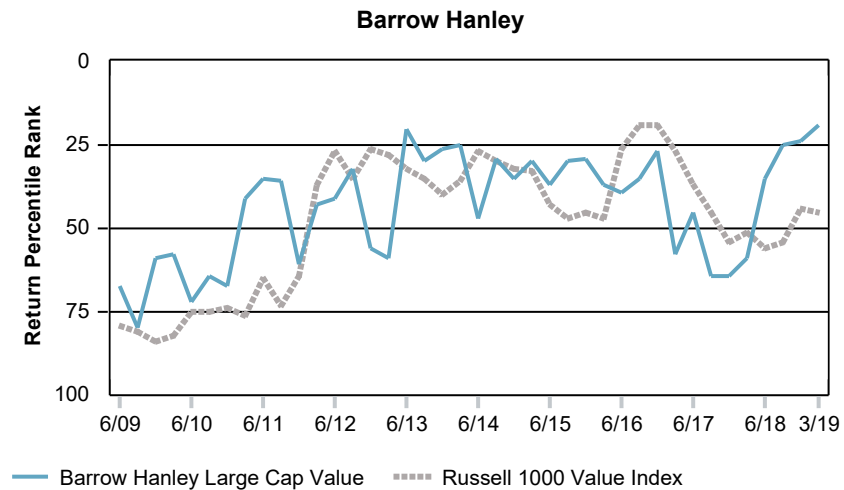
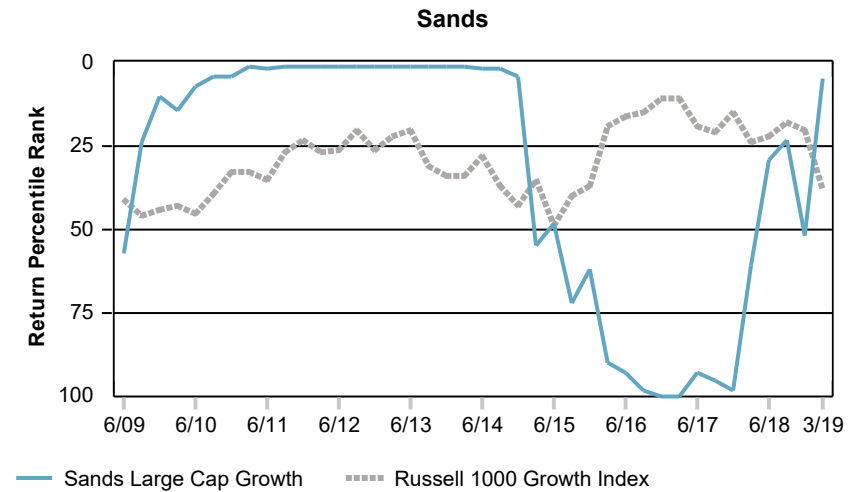
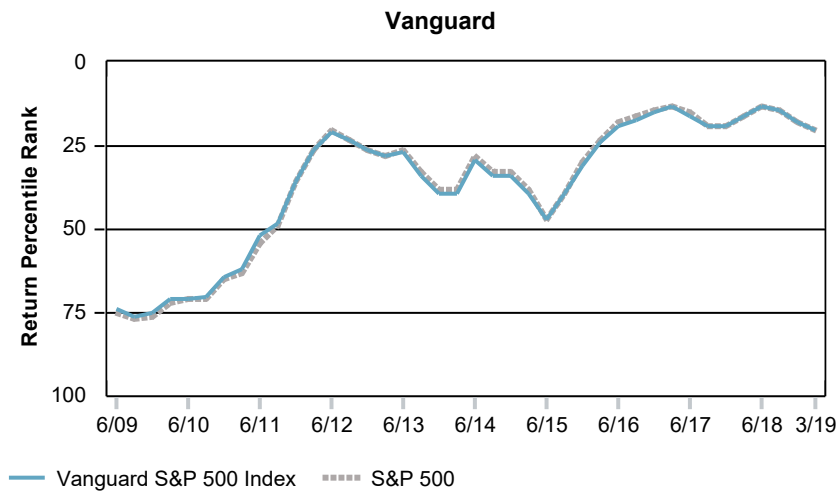
Portfolio	Score Factor	Comments
Causeway International Value - Both Plans	Qualitative Compliance	At the beginning of the fourth quarter, Causeway announced that Portfolio Manager Foster Corwith decided to exit the industry and will be resigning from the firm effective June 2019. Separately, Stephen Nguyen was promoted to portfolio manager. With his promotion, until Corwith's departure later this year, Causeway will have nine fundamental portfolio managers, reverting to eight after Corwith leaves. This news does not impact our existing ratings for Causeway's fundamental strategies, as we continue to view Sarah Ketterer and Harry Hartford as the key drivers of the philosophy, process and portfolios.
Barrow Hanley Short Fixed - Surplus Cash	Qualitative Compliance	As previously announced in August 2018, David Hardin, Managing Director and Fixed Income Portfolio Manager, retired in 1Q 2019.
MetWest Fixed - Surplus Cash	Qualitative Compliance	In January, TCW announced that Jamie Farnham, Director of Credit Research, has departed the firm and is planning to step away from the investment management business for now. However, he has agreed to remain in a consulting capacity with TCW for 6-12 months to facilitate the transition. Steve Purdy will take over as head of credit research, and will co-lead the 20-person credit management team alongside Jerry Cudzil, head of credit trading.
Lighthouse Diversified - Pension	Qualitative Compliance	On July 1, 2018 Lighthouse officially acquired the assets of Mesirow Advanced Strategies. While some transition remains following the acquisition, we have been pleased with the integration and the "Watch" designation is currently being reviewed.

Performance compliance represents Pavilion's view on manager performance relative to Pavilion's expectations for performance, based primarily on manager investment philosophy and process. The three and five year return, rank and Sharpe ratio goals are as follows: the annualized return exceeds the benchmark's return, the manager's peer group rank is better than the 50th percentile, and the manager's Sharpe ratio exceeds the benchmark's.

# Manager Performance Evaluation

## Rolling 3 Year Rankings vs. Peers

As of March 31, 2019



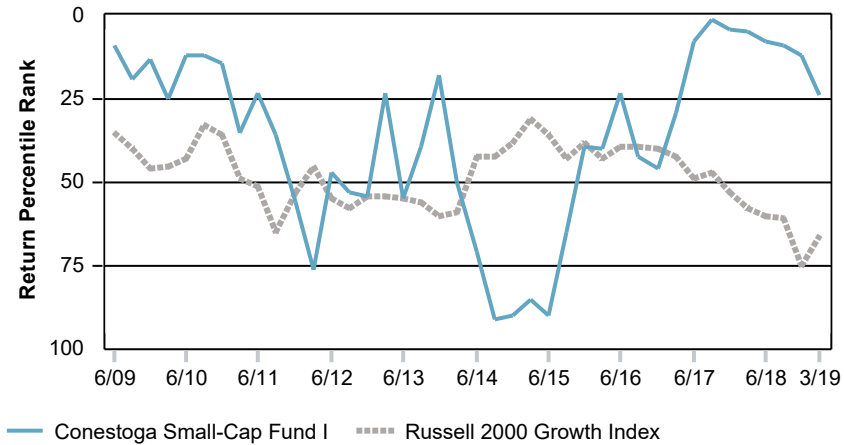


# Manager Performance Evaluation

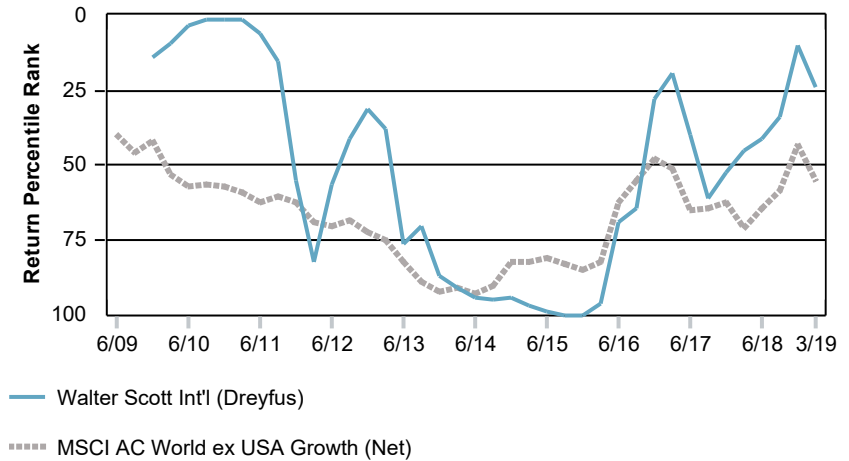
## Rolling 3 Year Rankings vs. Peers

As of March 31, 2019

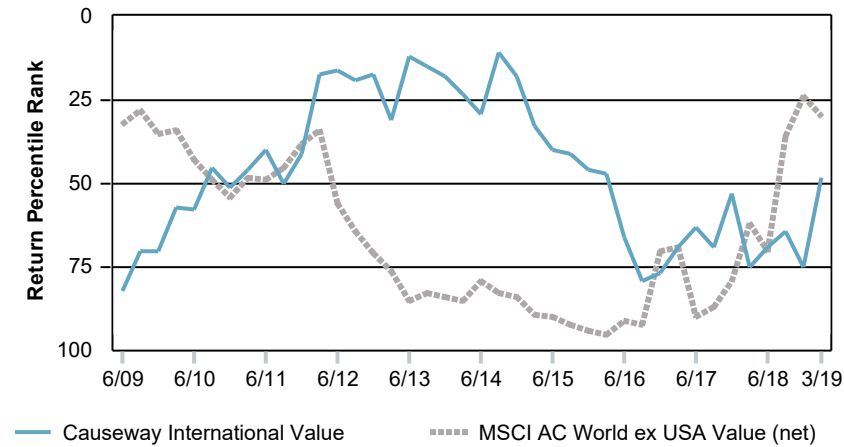
**Conestoga**



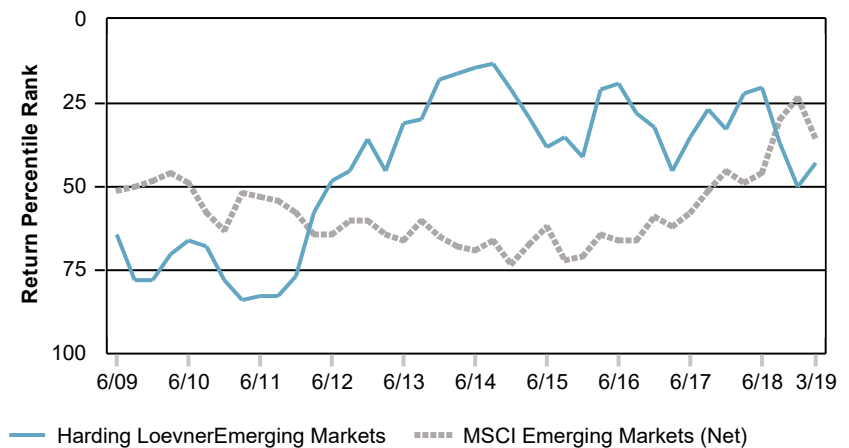
**Walter Scott (Dreyfus)**



**Causeway**



**Harding Loevner**

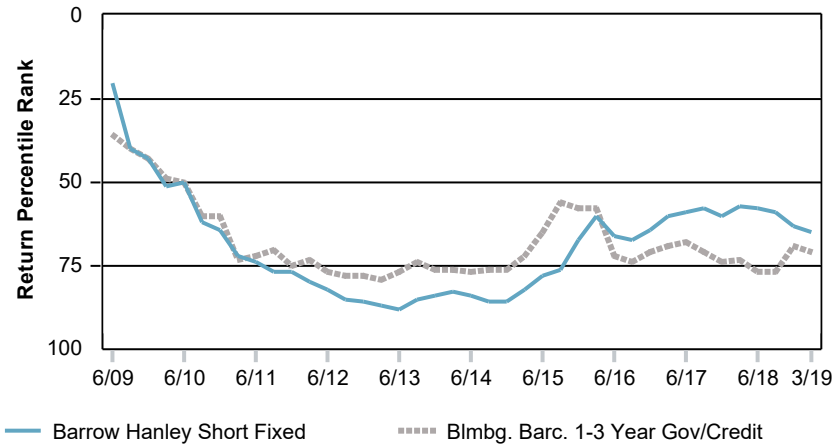


# Manager Performance Evaluation

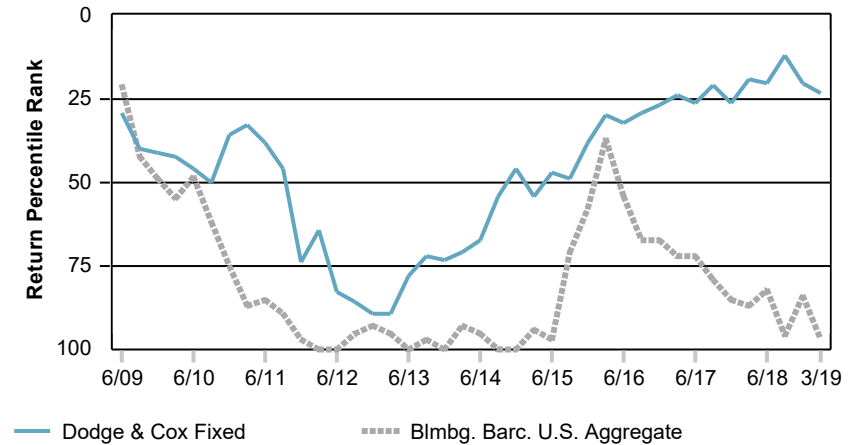
## Rolling 3 Year Rankings vs. Peers

As of March 31, 2019

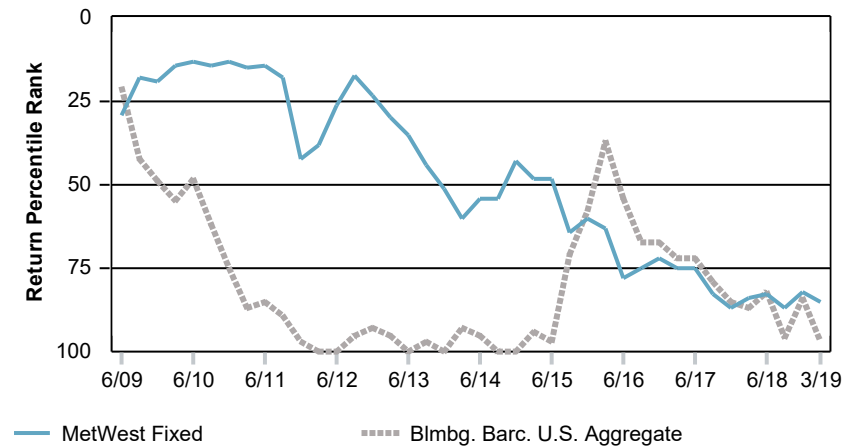
**Barrow Hanley Fixed**



**Dodge & Cox**



**MetWest**



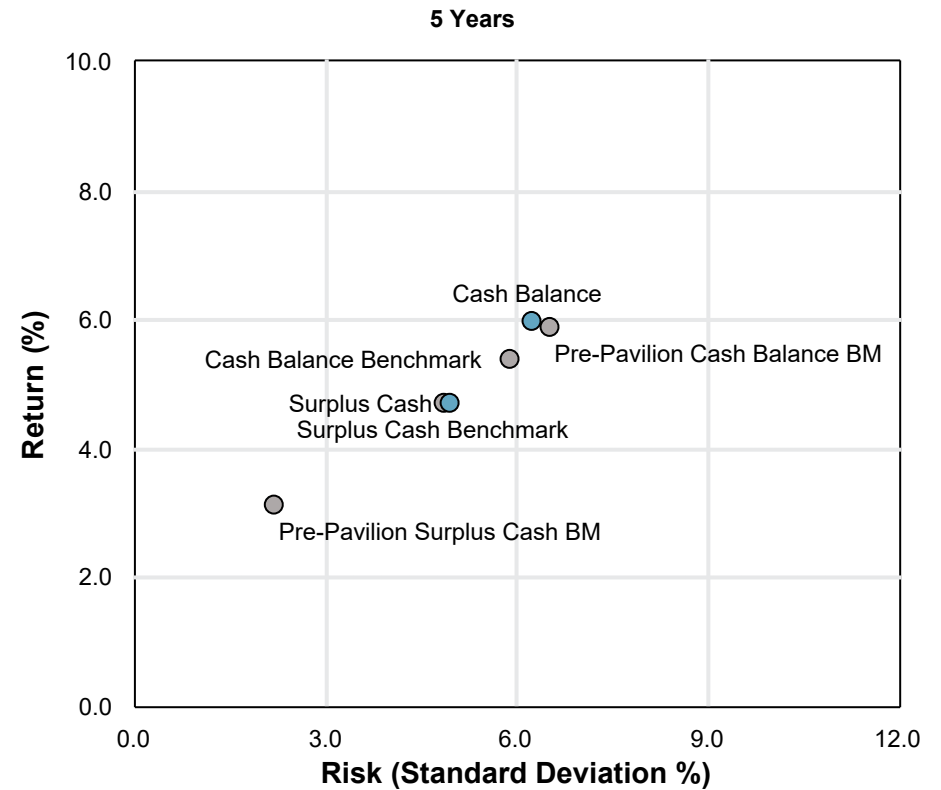
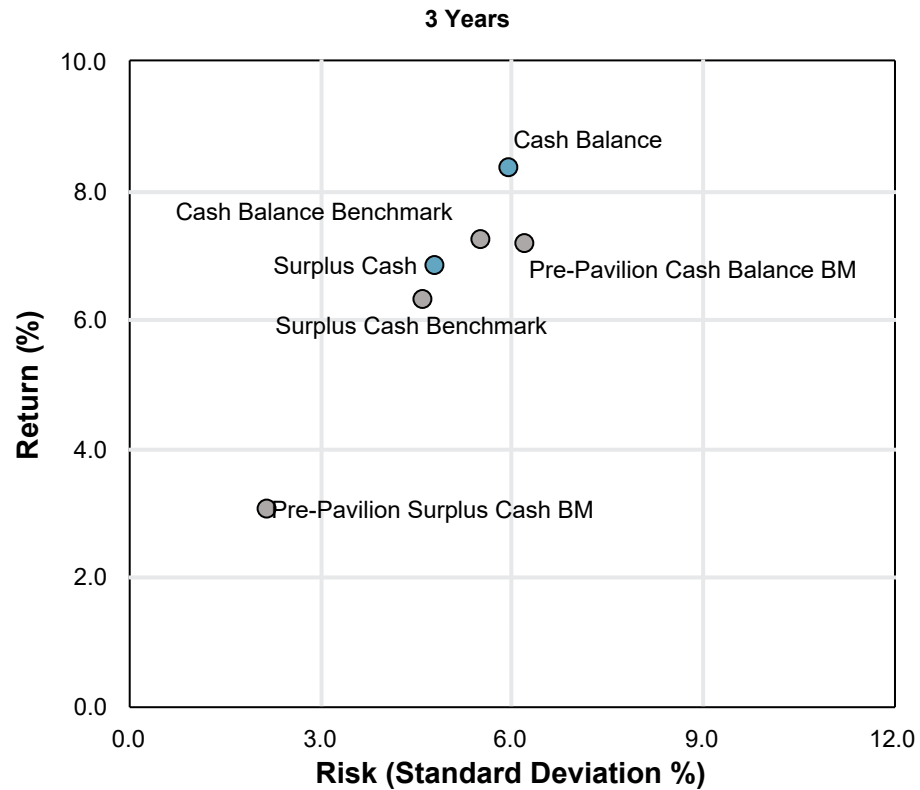
# Performance Summary



# Surplus Cash and Cash Balance Plan

## Risk and Return Summary (Net of Fees)

As of March 31, 2019



# Surplus Cash Portfolio ex District

## Composite Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Total Surplus Cash X District</b>	<b>999,784,551</b>	<b>100.0</b>	<b>6.7</b>	<b>2.6</b>	<b>3.9</b>	<b>6.9</b>	<b>4.7</b>	<b>6.3</b>	<b>5.4</b>	<b>6y 5m</b>
Surplus Cash Total Benchmark			6.7	2.6	3.5	6.3	4.7	6.1	5.2	
Pre-Pavilion Surplus Cash Total Benchmark			3.7	4.3	4.5	3.1	3.1	4.8	3.3	
<b>Total Surplus Cash X District X Privates</b>	<b>977,208,045</b>	<b>97.7</b>	<b>6.9</b>	<b>2.4</b>	<b>3.8</b>	<b>6.9</b>	<b>4.5</b>	<b>6.2</b>	<b>5.3</b>	<b>6y 5m</b>
Surplus Cash Total Benchmark x Privates			6.9	2.8	3.6	6.4	4.8	6.1	5.2	
<b>Total Equity Composite</b>	<b>406,568,769</b>	<b>40.7</b>	<b>13.3</b>	<b>2.2</b>	<b>5.1</b>	<b>12.0</b>	<b>7.5</b>	<b>13.8</b>	<b>10.8</b>	<b>6y 5m</b>
Total Equity Benchmark - Surplus			12.6	1.6	3.3	11.5	7.3	13.9	10.6	
<b>Domestic Equity Composite</b>	<b>263,011,992</b>	<b>26.3</b>	<b>14.0</b>	<b>4.0</b>	<b>10.0</b>	<b>14.4</b>	<b>9.6</b>	<b>15.5</b>	<b>13.5</b>	<b>6y 5m</b>
Domestic Equity Benchmark - Surplus			14.0	3.5	7.9	13.5	10.0	15.8	13.5	
Large Cap Equity Composite	216,703,771	21.7	14.6	5.6	10.9	14.5	10.4	15.9	14.0	6y 5m
Large Cap Equity Benchmark			13.8	5.7	9.4	13.5	10.8	16.0	13.8	
Small Cap Equity Composite	46,308,221	4.6	11.5	-2.9	5.9	13.6	6.9	-	11.5	6y 5m
Small Cap Equity Benchmark			14.5	-5.3	2.1	12.9	7.0	15.4	11.9	
<b>International Equity Composite</b>	<b>143,556,777</b>	<b>14.4</b>	<b>12.1</b>	<b>-1.0</b>	<b>-3.1</b>	<b>8.0</b>	<b>3.5</b>	<b>-</b>	<b>5.5</b>	<b>6y 5m</b>
MSCI AC World ex USA (Net)			10.3	-1.6	-4.2	8.1	2.6	8.9	5.2	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized. Peer group percentile ranks are shown in parentheses.

# Surplus Cash Portfolio ex District

## Composite Asset Allocation & Performance

As of March 31, 2019

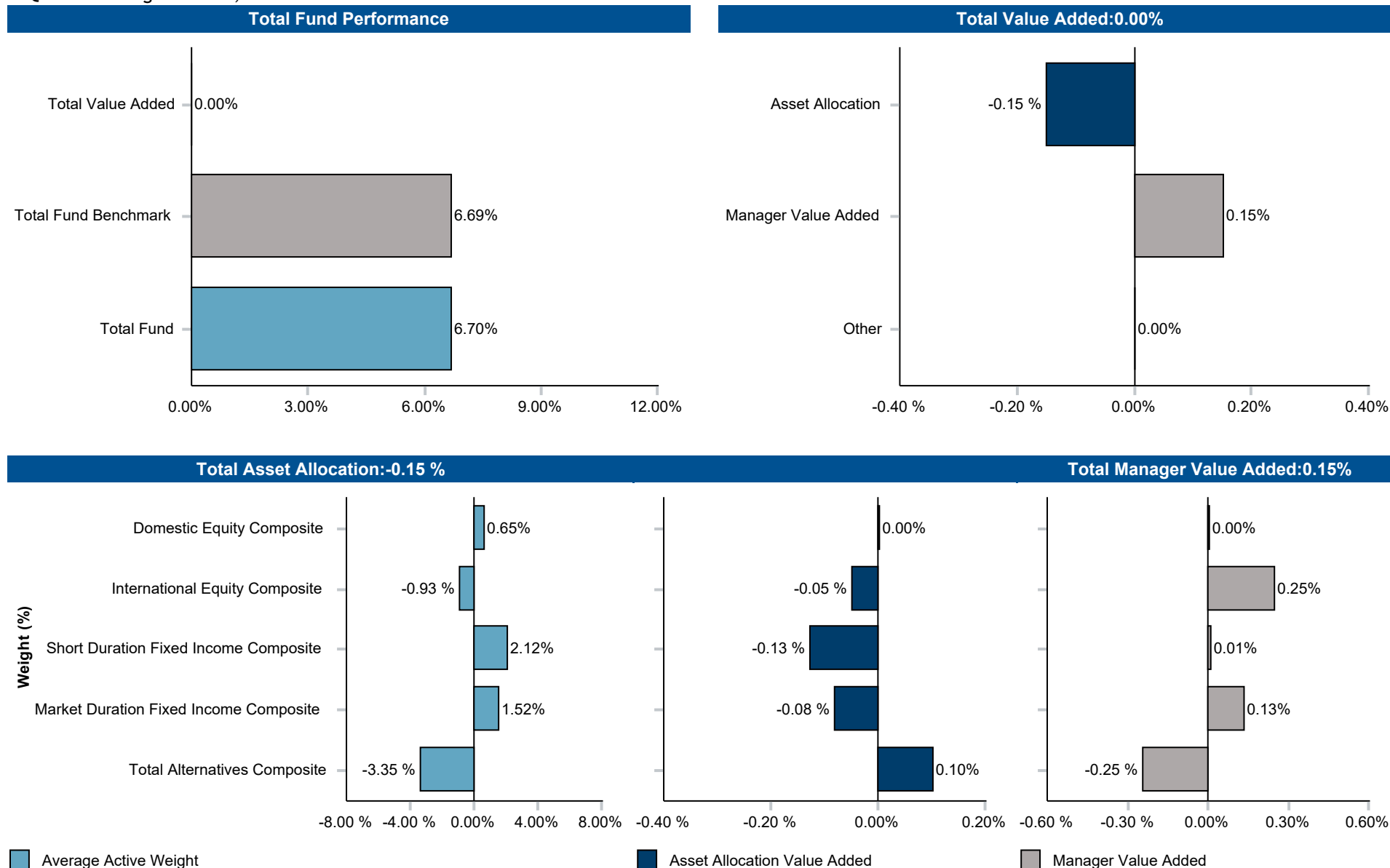
	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Total Fixed Income Composite</b>	<b>431,524,342</b>	<b>43.2</b>	<b>2.8</b>	<b>4.1</b>	<b>4.1</b>	<b>2.6</b>	<b>2.5</b>	<b>3.7</b>	<b>2.2</b>	<b>6y 5m</b>
Total Fixed Income Benchmark - Surplus			2.5	4.2	4.1	1.9	2.4	3.1	1.9	
 <b>Short Duration Fixed Income Composite</b>	 <b>118,445,520</b>	 <b>11.8</b>	 <b>1.3</b>	 <b>2.6</b>	 <b>2.9</b>	 <b>1.4</b>	 <b>1.2</b>	 <b>2.6</b>	 <b>1.1</b>	 <b>6y 5m</b>
Short Duration Fixed Income Benchmark - Surplus			1.2	2.7	3.0	1.3	1.2	2.3	1.1	
 <b>Market Duration Fixed Income Composite</b>	 <b>313,078,823</b>	 <b>31.3</b>	 <b>3.4</b>	 <b>4.7</b>	 <b>4.5</b>	 <b>3.0</b>	 <b>3.0</b>	 <b>4.9</b>	 <b>2.6</b>	 <b>6y 5m</b>
Blmbg. Barc. U.S. Aggregate			2.9	4.6	4.5	2.0	2.7	3.8	2.1	
 <b>Total Alternatives Composite</b>	 <b>161,691,439</b>	 <b>16.2</b>	 <b>2.0</b>	 <b>-0.3</b>	 <b>0.6</b>	 <b>4.8</b>	 <b>3.3</b>	 <b>-</b>	 <b>3.9</b>	 <b>5y 11m</b>
Total Alternatives Benchmark - Surplus			3.4	0.5	1.3	4.6	3.8	-	4.1	
 <b>Real Estate Composite</b>	 <b>22,576,506</b>	 <b>2.3</b>	 <b>-0.1</b>	 <b>8.0</b>	 <b>9.6</b>	 <b>6.8</b>	 <b>10.9</b>	 <b>-</b>	 <b>10.4</b>	 <b>5y 7m</b>
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	9.0	
 <b>Hedge Fund Composite</b>	 <b>139,114,933</b>	 <b>13.9</b>	 <b>2.4</b>	 <b>-1.5</b>	 <b>-0.8</b>	 <b>4.5</b>	 <b>1.7</b>	 <b>-</b>	 <b>2.6</b>	 <b>5y 11m</b>
HFRI Fund of Funds Composite Index			4.6	-0.4	0.1	3.9	2.2	3.5	2.7	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized. Peer group percentile ranks are shown in parentheses.

# Surplus Cash Portfolio ex District

## Attribution Analysis

1 Quarter Ending March 31, 2019



“Other” includes the effects of all other factors on the Fund’s relative return, including rebalancing and other trading activity.

# Surplus Cash Portfolio ex District

## Manager Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)								
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period	
Large-Cap Equity											
Vanguard S&P 500 Index	129,048,283	12.9	13.7 (35)	5.9 (31)	9.5 (25)	13.5 (21)	10.9 (16)	15.9 (16)	13.8 (-)	6y 5m	
S&P 500			13.6 (35)	5.9 (31)	9.5 (25)	13.5 (21)	10.9 (16)	15.9 (16)	13.8 (-)		
eV Large Cap Core Median			13.1	4.0	6.9	12.1	9.4	14.8	-		
Sands Large Cap Growth (Touchstone)	45,783,117	4.6	21.7 (3)	6.8 (36)	17.9 (8)	21.0 (6)	11.5 (63)	20.3 (4)	15.9 (-)	6y 5m	
Russell 1000 Growth Index			16.1 (50)	6.6 (39)	12.7 (37)	16.5 (39)	13.5 (22)	17.5 (24)	15.9 (-)		
eV Large Cap Growth Median			16.1	5.6	11.5	16.0	12.2	16.3	-		
Barrow Hanley Large Cap Value	41,872,371	4.2	10.1 (83)	3.4 (38)	8.5 (14)	11.7 (20)	8.1 (33)	14.6 (31)	9.0 (-)	18y 8m	
Russell 1000 Value Index			11.9 (40)	4.4 (29)	5.7 (32)	10.5 (46)	7.7 (42)	14.5 (35)	7.0 (-)		
eV Large Cap Value Median			11.5	2.0	3.7	10.3	7.4	14.0	-		
Small-Cap Equity											
Wellington Small Cap Value	22,371,559	2.2	10.1 (91)	-7.2 (48)	0.3 (30)	5.8 (90)	5.1 (56)	14.7 (57)	9.8 (-)	6y 5m	
Russell 2000 Value Index			11.9 (65)	-7.5 (51)	0.2 (32)	10.9 (27)	5.6 (45)	14.1 (70)	10.3 (-)		
eV Small Cap Value Median			12.6	-7.4	-1.9	8.9	5.3	15.0	-		
Conestoga Small Cap Growth	23,936,662	2.4	12.9 (89)	1.2 (40)	11.3 (36)	20.1 (25)	12.1 (16)	17.5 (43)	19.7 (-)	2y 9m	
Russell 2000 Growth Index			17.1 (52)	-3.2 (75)	3.9 (79)	14.9 (67)	8.4 (62)	16.5 (64)	15.0 (-)		
eV Small Cap Growth Median			17.3	0.1	8.7	16.8	9.1	17.0	-		
International Equity											
Causeway International Value	47,791,960	4.8	10.3 (13)	-4.8 (55)	-6.7 (45)	6.4 (49)	0.8 (65)	9.8 (36)	-8.8 (-)	0y 11m	
MSCI AC World ex USA (Net)			10.3 (13)	-1.6 (21)	-4.2 (25)	8.1 (22)	2.6 (27)	8.9 (52)	-5.7 (-)		
MSCI AC World ex USA Value (net)			8.3 (58)	-1.6 (20)	-5.4 (33)	7.7 (31)	1.1 (61)	8.2 (71)	-7.7 (-)		
Custom Non US Diversified Value Median			8.6	-4.5	-7.3	6.2	1.5	8.9	-		
Walter Scott Int'l (Dreyfus)	59,096,036	5.9	12.1 (65)	3.2 (1)	4.0 (4)	10.9 (25)	6.1 (20)	9.6 (78)	6.6 (-)	6y 5m	
MSCI AC World ex USA (Net)			10.3 (100)	-1.6 (34)	-4.2 (58)	8.1 (59)	2.6 (87)	8.9 (90)	5.2 (-)		
MSCI AC World ex USA Growth (Net)			12.3 (64)	-1.6 (34)	-3.0 (47)	8.4 (56)	4.0 (57)	9.5 (80)	6.3 (-)		
Custom Non US Diversified Growth Median			13.2	-2.9	-3.6	8.7	4.6	11.0	-		
Harding Loevner Emerging Markets	36,668,781	3.7	14.5 (9)	-2.6 (74)	-10.1 (67)	10.2 (44)	3.8 (47)	10.3 (38)	9.8 (-)	3y 7m	
MSCI Emerging Markets (Net)			9.9 (57)	0.6 (41)	-7.4 (37)	10.7 (37)	3.7 (49)	8.9 (65)	9.8 (-)		
eV International Emerging Equity Median			10.4	-0.2	-8.4	9.7	3.6	9.6	-		

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

Peer group percentile ranks are shown in parentheses.



# Surplus Cash Portfolio ex District

## Manager Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Short Duration Fixed Income</b>										
Barrow Hanley Short Fixed	107,374,968	10.7	1.4 (58)	2.7 (54)	3.1 (47)	1.4 (66)	1.3 (71)	1.5 (81)	4.6 (-)	28y
Blmbg. Barc. 1-3 Year Gov/Credit			1.2 (75)	2.7 (53)	3.0 (56)	1.3 (72)	1.2 (75)	1.6 (77)	4.1 (-)	
<i>eV US Short Fixed Income Median</i>			1.4	2.8	3.1	1.6	1.5	2.2	-	
Cash Composite	11,070,552	1.1	0.2	0.8	0.5	0.5	0.4	-	0.2	6y 5m
90 Day U.S. Treasury Bill			0.6	1.7	2.1	1.2	0.7	0.4	0.6	
<b>Market Duration Fixed Income</b>										
Dodge & Cox Fixed	154,828,983	15.5	3.6 (52)	4.7 (47)	4.4 (47)	3.8 (24)	3.3 (29)	5.4 (58)	3.0 (-)	6y 5m
Blmbg. Barc. U.S. Aggregate			2.9 (91)	4.6 (50)	4.5 (40)	2.0 (98)	2.7 (76)	3.8 (100)	2.1 (-)	
<i>eV Core Plus Fixed Income Median</i>			3.7	4.6	4.3	3.1	3.0	5.6	-	
MetWest Fixed	144,640,545	14.5	3.1 (85)	4.7 (43)	4.7 (22)	2.4 (86)	2.7 (77)	5.8 (46)	2.2 (-)	6y 5m
Blmbg. Barc. U.S. Aggregate			2.9 (91)	4.6 (50)	4.5 (40)	2.0 (98)	2.7 (76)	3.8 (100)	2.1 (-)	
<i>eV Core Plus Fixed Income Median</i>			3.7	4.6	4.3	3.1	3.0	5.6	-	
Met West Total Return Bond Plan - CONCERN	13,609,295	1.4	3.1 (80)	4.8 (39)	4.8 (17)	2.3 (88)	2.8 (74)	-	2.6 (-)	3y 2m
Blmbg. Barc. U.S. Aggregate			2.9 (91)	4.6 (50)	4.5 (40)	2.0 (98)	2.7 (76)	3.8 (100)	2.4 (-)	
<i>eV Core Plus Fixed Income Median</i>			3.7	4.6	4.3	3.1	3.0	5.6	-	
<b>Real Estate</b>										
Oaktree Real Estate Opportunities Fund VI	6,293,562	0.6	0.0	0.8	3.2	3.1	8.2	-	7.7	5y 7m
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	9.0	
Walton Street Real Estate Fund VII, L.P.	7,752,830	0.8	0.0	5.9	6.2	8.5	12.5	-	14.4	5y 5m
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	8.9	
Walton Street Real Estate Fund VIII, L.P.	8,530,114	0.9	-0.3	16.6	18.8	-	-	-	19.9	1y 10m
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	5.9	
<b>Hedge Funds</b>										
Hedge Fund Composite	139,114,933	13.9	2.4	-1.5	-0.8	4.5	1.7	-	2.6	5y 11m
HFRI Fund of Funds Composite Index			4.6	-0.4	0.1	3.9	2.2	3.5	2.7	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

Peer group percentile ranks are shown in parentheses.

# Surplus Cash Portfolio ex District

## Manager Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Total Plan</b>										
Total Surplus Cash X District	999,784,551	100.0	6.7	2.6	3.9	6.9	4.7	6.3	5.4	6y 5m
Total Surplus Cash Benchmark			6.7	2.6	3.5	6.3	4.7	6.1	5.2	
Pre-Pavilion Total Surplus Cash Benchmark			3.7	4.3	4.5	3.1	3.1	4.8	3.3	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized. Peer group percentile ranks are shown in parentheses.

# Cash Balance Plan

## Composite Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Total Cash Balance Plan</b>	<b>270,671,874</b>	<b>100.0</b>	<b>8.3</b>	<b>2.9</b>	<b>5.1</b>	<b>8.3</b>	<b>6.0</b>	<b>10.9</b>	<b>7.6</b>	<b>6y 5m</b>
Total Cash Balance Plan Benchmark			7.7	2.7	3.7	7.3	5.4	9.7	6.8	
Pre-Pavilion Total Cash Balance Plan Benchmark			8.3	4.8	5.5	7.2	5.9	10.4	7.9	
<b>Total Cash Balance Plan X Private Structures</b>	<b>256,072,060</b>	<b>94.6</b>	<b>8.9</b>	<b>2.7</b>	<b>4.9</b>	<b>8.5</b>	<b>5.7</b>	<b>10.7</b>	<b>7.4</b>	<b>6y 5m</b>
Cash Balance Plan Total X Privates Benchmark			8.2	2.6	3.5	7.3	5.2	9.5	6.6	
<b>Total Equity Composite</b>	<b>137,739,828</b>	<b>50.9</b>	<b>13.4</b>	<b>2.4</b>	<b>6.0</b>	<b>12.3</b>	<b>7.6</b>	<b>14.5</b>	<b>10.8</b>	<b>6y 5m</b>
Total Equity Benchmark			12.6	2.0	3.7	11.6	7.5	13.9	10.6	
<b>Domestic Equity Composite</b>	<b>90,065,539</b>	<b>33.3</b>	<b>14.2</b>	<b>4.1</b>	<b>10.7</b>	<b>14.8</b>	<b>9.9</b>	<b>16.4</b>	<b>13.7</b>	<b>6y 5m</b>
Domestic Equity Benchmark			14.0	4.0	8.2	13.5	10.2	15.8	13.6	
Large Cap Equity Composite	76,223,452	28.2	14.8	5.5	11.6	15.0	10.5	16.7	14.1	6y 5m
Large Cap Equity Benchmark			13.8	5.7	9.4	13.5	10.8	16.0	13.8	
Small Cap Equity Composite	13,842,087	5.1	11.5	-3.0	5.8	13.6	6.9	-	11.4	6y 5m
Small Cap Equity Benchmark			14.5	-5.3	2.1	12.9	7.0	15.4	11.9	
<b>International Equity Composite</b>	<b>47,674,288</b>	<b>17.6</b>	<b>11.7</b>	<b>-0.8</b>	<b>-2.3</b>	<b>7.9</b>	<b>3.3</b>	<b>-</b>	<b>5.5</b>	<b>6y 5m</b>
MSCI AC World ex USA (Net)			10.3	-1.6	-4.2	8.1	2.6	8.9	5.2	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized. Peer group percentile ranks are shown in parentheses.

# Cash Balance Plan

## Composite Asset Allocation & Performance

As of March 31, 2019

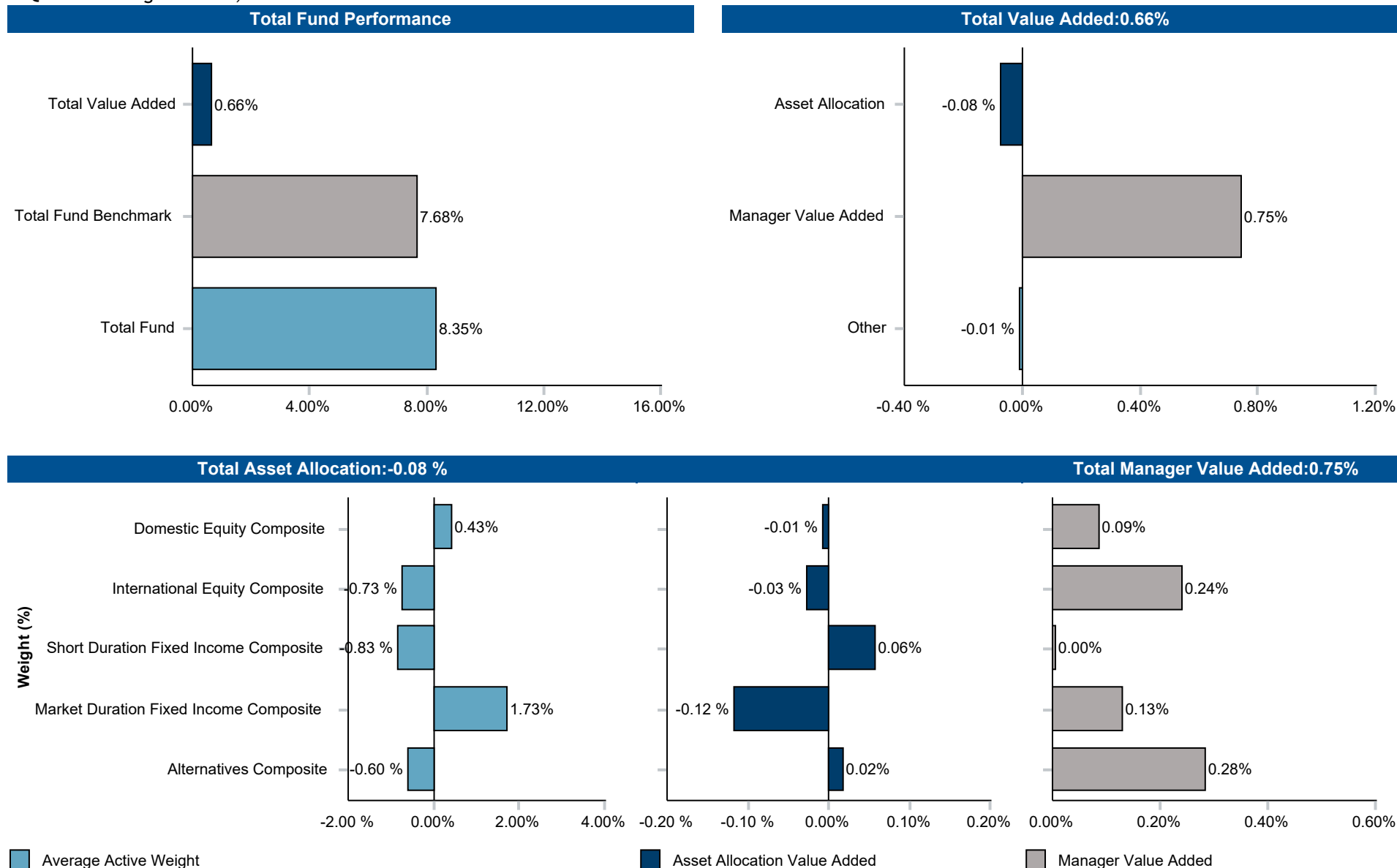
	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Total Fixed Income Composite</b>	<b>81,433,621</b>	<b>30.1</b>	<b>3.1</b>	<b>4.5</b>	<b>4.4</b>	<b>2.8</b>	<b>2.6</b>	<b>5.4</b>	<b>2.4</b>	<b>6y 5m</b>
Total Fixed Income Benchmark			2.7	4.3	4.2	1.9	2.3	3.6	1.8	
 <b>Short Duration Fixed Income Composite</b>	 <b>9,965,439</b>	 <b>3.7</b>	 <b>1.3</b>	 <b>2.6</b>	 <b>3.0</b>	 <b>1.6</b>	 <b>1.3</b>	 <b>-</b>	 <b>1.2</b>	 <b>6y 5m</b>
Short Duration Fixed Income Benchmark			1.2	2.7	3.0	1.3	1.2	0.8	1.1	
 <b>Market Duration Fixed Income Composite</b>	 <b>71,468,182</b>	 <b>26.4</b>	 <b>3.4</b>	 <b>4.8</b>	 <b>4.6</b>	 <b>3.0</b>	 <b>2.9</b>	 <b>5.6</b>	 <b>2.8</b>	 <b>6y 5m</b>
Blmbg. Barc. U.S. Aggregate			2.9	4.6	4.5	2.0	2.7	3.8	2.1	
 <b>Total Alternatives Composite</b>	 <b>51,498,425</b>	 <b>19.0</b>	 <b>4.5</b>	 <b>1.5</b>	 <b>3.2</b>	 <b>5.8</b>	 <b>6.6</b>	 <b>-</b>	 <b>7.5</b>	 <b>6y 5m</b>
Total Alternatives Benchmark			3.0	0.8	1.7	4.8	4.4	-	5.3	
 <b>Hedge Fund of Fund Composite</b>	 <b>36,898,611</b>	 <b>13.6</b>	 <b>6.5</b>	 <b>-0.6</b>	 <b>1.0</b>	 <b>5.7</b>	 <b>4.5</b>	 <b>-</b>	 <b>6.1</b>	 <b>6y 5m</b>
HFRI Fund of Funds Composite Index			4.6	-0.4	0.1	3.9	2.2	3.5	3.4	
 <b>Real Estate Composite</b>	 <b>14,599,814</b>	 <b>5.4</b>	 <b>-0.1</b>	 <b>6.6</b>	 <b>8.2</b>	 <b>6.3</b>	 <b>10.7</b>	 <b>-</b>	 <b>10.1</b>	 <b>6y 3m</b>
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	9.2	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized. Peer group percentile ranks are shown in parentheses.

# Cash Balance Plan

## Attribution Analysis

1 Quarter Ending March 31, 2019



“Other” includes the effects of all other factors on the Fund’s relative return, including rebalancing and other trading activity.

# Cash Balance Plan

## Manager Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)								
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period	
Large-Cap Equity											
Vanguard Institutional Index Fund	36,514,302	13.5	13.7 (35)	5.9 (31)	9.5 (25)	13.5 (21)	10.9 (16)	15.9 (16)	13.8 (-)	6y 5m	
S&P 500			13.6 (35)	5.9 (31)	9.5 (25)	13.5 (21)	10.9 (16)	15.9 (16)	13.8 (-)		
eV Large Cap Core Median			13.1	4.0	6.9	12.1	9.4	14.8	-		
Sands Large Cap Growth (Touchstone)	20,101,039	7.4	21.7 (3)	6.8 (36)	17.9 (8)	21.0 (6)	11.5 (63)	20.3 (4)	15.9 (-)	6y 5m	
Russell 1000 Growth Index			16.1 (50)	6.6 (39)	12.7 (37)	16.5 (39)	13.5 (22)	17.5 (24)	15.9 (-)		
eV Large Cap Growth Median			16.1	5.6	11.5	16.0	12.2	16.3	-		
Barrow Hanley Large Cap Value	19,608,111	7.2	10.3 (80)	3.5 (37)	8.8 (13)	11.9 (16)	8.3 (28)	14.8 (25)	12.4 (-)	6y 5m	
Russell 1000 Value Index			11.9 (40)	4.4 (29)	5.7 (32)	10.5 (46)	7.7 (42)	14.5 (35)	11.6 (-)		
eV Large Cap Value Median			11.5	2.0	3.7	10.3	7.4	14.0	-		
Small-Cap Equity											
Wellington Small Cap Value	6,937,934	2.6	10.1 (91)	-7.3 (49)	0.1 (32)	5.6 (90)	5.1 (56)	14.7 (57)	9.7 (-)	6y 5m	
Russell 2000 Value Index			11.9 (65)	-7.5 (51)	0.2 (32)	10.9 (27)	5.6 (45)	14.1 (70)	10.3 (-)		
eV Small Cap Value Median			12.6	-7.4	-1.9	8.9	5.3	15.0	-		
Conestoga Small Cap Growth	6,904,153	2.6	12.9 (89)	1.2 (39)	11.3 (36)	20.1 (25)	12.1 (16)	17.5 (43)	19.7 (-)	2y 9m	
Russell 2000 Growth Index			17.1 (52)	-3.2 (75)	3.9 (79)	14.9 (67)	8.4 (62)	16.5 (64)	15.0 (-)		
eV Small Cap Growth Median			17.3	0.1	8.7	16.8	9.1	17.0	-		
International Equity											
Causeway International Value	18,405,874	6.8	10.3 (13)	-4.8 (55)	-6.7 (45)	6.4 (49)	0.8 (65)	9.8 (36)	-8.8 (-)	0y 11m	
MSCI AC World ex USA (Net)			10.3 (13)	-1.6 (21)	-4.2 (25)	8.1 (22)	2.6 (27)	8.9 (52)	-5.7 (-)		
MSCI AC World ex USA Value (net)			8.3 (58)	-1.6 (20)	-5.4 (33)	7.7 (31)	1.1 (61)	8.2 (71)	-7.7 (-)		
Custom Non US Diversified Value Median			8.6	-4.5	-7.3	6.2	1.5	8.9	-		
Walter Scott Int'l (Dreyfus)	22,608,099	8.4	12.1 (65)	3.2 (1)	4.0 (4)	10.9 (25)	6.1 (20)	9.6 (78)	6.6 (-)	6y 5m	
MSCI AC World ex USA (Net)			10.3 (100)	-1.6 (34)	-4.2 (58)	8.1 (59)	2.6 (87)	8.9 (90)	5.2 (-)		
MSCI AC World ex USA Growth (Net)			12.3 (64)	-1.6 (34)	-3.0 (47)	8.4 (56)	4.0 (57)	9.5 (80)	6.3 (-)		
Custom Non US Diversified Growth Median			13.2	-2.9	-3.6	8.7	4.6	11.0	-		
Harding Loevner Inst. Emerging Markets I	6,660,315	2.5	14.5 (9)	-2.6 (74)	-10.1 (67)	10.2 (44)	3.8 (47)	10.3 (38)	8.2 (-)	2y 5m	
MSCI Emerging Markets (Net)			9.9 (57)	0.6 (41)	-7.4 (37)	10.7 (37)	3.7 (49)	8.9 (65)	9.0 (-)		
eV International Emerging Equity Median			10.4	-0.2	-8.4	9.7	3.6	9.6	-		

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

Peer group percentile ranks are shown in parentheses.

# Cash Balance Plan

## Manager Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)							
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Period
<b>Short Duration Fixed Income</b>										
Barrow Hanley Short Fixed	8,512,274	3.1	1.4 (56)	2.7 (56)	3.1 (47)	1.3 (72)	1.1 (82)	1.5 (84)	1.0 (-)	6y 5m
Blmbg. Barc. 1-3 Year Gov/Credit			1.2 (75)	2.7 (53)	3.0 (56)	1.3 (72)	1.2 (75)	1.6 (77)	1.1 (-)	
<i>eV US Short Fixed Income Median</i>			1.4	2.8	3.1	1.6	1.5	2.2	-	
Cash Composite	1,453,166	0.5	0.6	1.5	1.9	2.3	2.4	-	2.0	6y 5m
90 Day U.S. Treasury Bill			0.6	1.7	2.1	1.2	0.7	0.4	0.6	
<b>Market Duration Fixed Income</b>										
Dodge & Cox Income Fund	35,631,930	13.2	3.7 (51)	4.7 (48)	4.3 (52)	3.6 (30)	3.2 (43)	5.4 (60)	6.6 (-)	30y 3m
Blmbg. Barc. U.S. Aggregate			2.9 (91)	4.6 (50)	4.5 (40)	2.0 (98)	2.7 (76)	3.8 (100)	6.1 (-)	
<i>eV Core Plus Fixed Income Median</i>			3.7	4.6	4.3	3.1	3.0	5.6	-	
Met West Total Return Fund Pl	35,836,252	13.2	3.1 (80)	4.8 (38)	4.8 (16)	2.3 (90)	2.7 (77)	6.0 (39)	2.6 (-)	6y 5m
Blmbg. Barc. U.S. Aggregate			2.9 (91)	4.6 (50)	4.5 (40)	2.0 (98)	2.7 (76)	3.8 (100)	2.1 (-)	
<i>eV Core Plus Fixed Income Median</i>			3.7	4.6	4.3	3.1	3.0	5.6	-	
<b>Hedge Fund of Funds</b>										
Lighthouse Diversified	18,550,865	6.9	3.5	-0.1	0.5	3.3	3.1	5.6	4.8	6y 5m
HFRI Fund of Funds Composite Index			4.6	-0.4	0.1	3.9	2.2	3.5	3.4	
Pointer Offshore LTD	18,347,746	6.8	9.7	-1.0	1.7	8.6	6.3	8.1	7.6	6y 3m
HFRI Fund of Funds Composite Index			4.6	-0.4	0.1	3.9	2.2	3.5	3.3	
<b>Real Estate</b>										
Oaktree RE Opportunities Fund VI	3,716,354	1.4	0.0	0.8	4.7	3.4	8.5	-	8.3	6y 2m
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	9.2	
Walton Street Real Estate Fund VII, L.P.	4,321,834	1.6	0.0	-1.5	-1.3	6.0	10.9	-	12.3	5y 9m
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	9.0	
Walton Street Real Estate Fund VIII, L.P.	6,561,626	2.4	-0.3	16.6	18.8	-	-	-	19.9	1y 10m
NCREIF Property Index			0.0	3.1	4.9	6.4	8.7	8.3	5.9	
<b>Total Plan</b>										
Total Cash Balance Plan	270,671,874	100.0	8.3	2.9	5.1	8.3	6.0	10.9	7.6	6y 5m
Total Cash Balance Plan Benchmark			7.7	2.7	3.7	7.3	5.4	9.7	6.8	
Pre-Pavilion Total Cash Balance Plan Benchmark			8.3	4.8	5.5	7.2	5.9	10.4	7.9	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

Peer group percentile ranks are shown in parentheses.

# Private Real Estate Summary

As of March 31, 2019 (\$ in Millions)

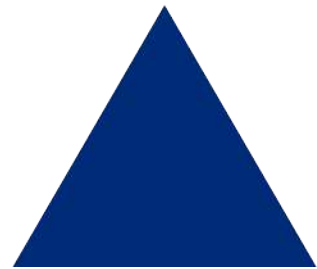
Partnership	Vintage Year	Committed Capital	Paid-in Capital	Unfunded Commitment	Market Value <sup>1</sup>	Distributions	Total Value	Net IRR <sup>2</sup>	TV / PI	D / PI
<b>Surplus Cash</b>										
Oaktree RE Opportunities VI	2012	\$14.0	\$14.0	\$0.0	\$6.3	\$13.5	\$19.8	8.0%	1.4	1.0
Walton Street RE Fund VII	2012	\$14.0	\$12.6	\$1.4	\$7.8	\$9.4	\$17.2	19.6%	1.4	0.7
Walton Street RE Fund VIII	2017	\$13.0	\$7.4	\$5.6	\$8.5	\$0.8	\$9.4	21.0%	1.3	0.1
Angelo Gordon Realty Value Fund X	2018	\$20.0	\$0.0	\$20.0	\$0.0	\$0.0	\$0.0	n/a	n/a	n/a
Total		\$61.0	\$34.0	\$27.0	\$22.6	\$23.7	\$46.3		1.4	0.7
<b>Cash Balance</b>										
Oaktree RE Opportunities VI	2012	\$8.4	\$8.4	\$0.0	\$3.7	\$10.4	\$14.1	8.2%	1.7	1.2
Walton Street RE Fund VII	2012	\$8.4	\$7.7	\$0.7	\$4.3	\$6.0	\$10.3	18.8%	1.3	0.8
Walton Street RE Fund VIII	2017	\$10.0	\$5.7	\$4.3	\$6.6	\$0.6	\$7.2	21.0%	1.3	0.1
Total		\$26.8	\$21.8	\$5.0	\$14.6	\$17.0	\$31.6		1.5	0.8

<sup>1</sup> If a market value has not yet been released for a particular fund, the previous quarter's value is adjusted according to subsequent contributions and distributions.

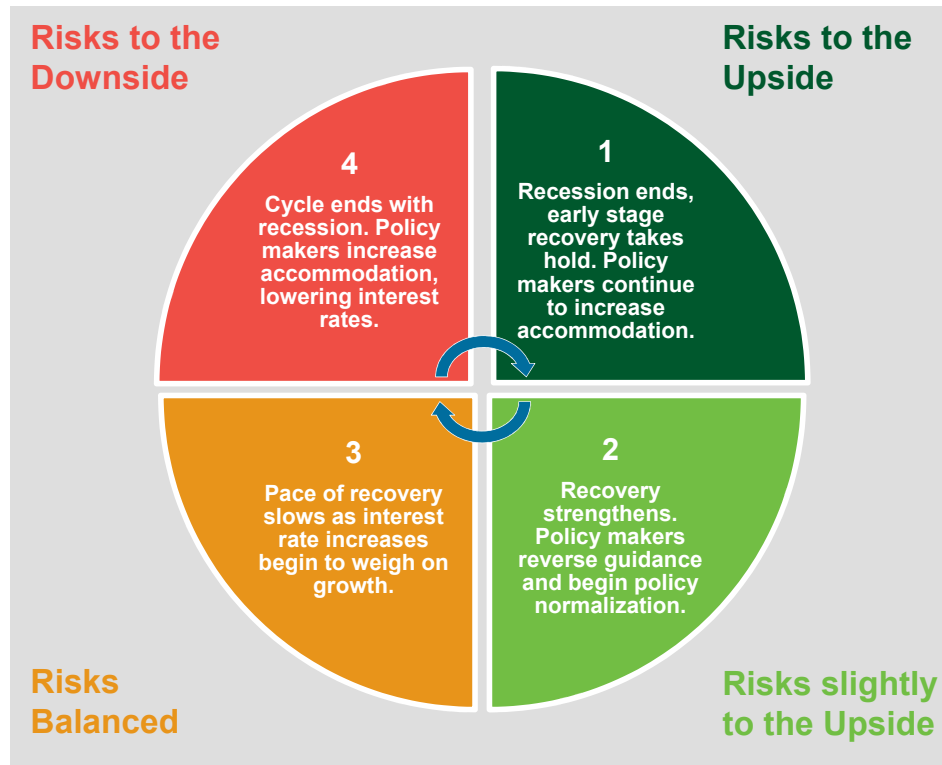
<sup>2</sup> Net IRR is through the previous quarter end.



# Asset Class Diversification



# WHERE ARE WE IN THE CYCLE



## Broad Indicators

- Global growth: **Slowing, at or near trend**
- Inflation risks: **Subdued, declining**
- Interest rates: **Inverted belly, relatively flat**
- Volatility: **Normalizing**
- Accommodation: **positive but declining**
- Earnings: **Short-term softening, long-run intact**
- Valuations: **Near long-term levels**

## First Quarter Recap

- Fourth quarter's swift re-rating of risk assets was nearly reversed in the first quarter, as fundamentals affirmed decelerating, not declining economic growth.
- In the near-term, first quarter equity earnings are likely to be weak, as political uncertainty and weather hindered demand. In addition, 1Q18 earnings were very strong due to fiscal stimulus, making the comparison difficult for 1Q19. Investors should focus longer-term indicators.
- Subdued inflation has allowed central bankers to proceed cautiously, pausing normalization or amending forward guidance in accordance with slowing growth.
- Decelerating growth is not uniform; the manufacturing sector has borne the brunt of the slowdown. Consumers and the service sector remain resilient and will be critical to prolonging the business cycle.

# GLOBAL GROWTH IS NORMALIZING

	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
<b>Global</b>	53.7	53.7	53.7	53.6	53.5	53.9	53.8	53.9	54.0	54.3	54.5	54.8	53.2	53.8	54.0	54.2	53.7	53.4	52.8	53.0	53.1	52.7	52.1	52.6	52.8
<b>Developed</b>	54.2	54.4	54.4	54.5	54.4	54.6	54.6	55.0	54.9	54.8	54.9	55.4	53.6	54.4	54.8	55.0	54.2	54.0	53.3	53.6	53.4	52.7	52.3	52.9	52.7
<b>Emerging</b>	52.5	52.0	52.2	51.5	51.4	52.0	51.9	51.5	51.9	53.0	53.5	53.3	52.3	52.4	52.2	52.4	52.4	51.8	51.6	51.3	52.6	52.5	51.6	51.6	52.8
<b>United States</b>	53.0	53.2	53.6	53.9	54.6	55.3	54.8	55.2	54.5	54.1	53.8	55.8	54.2	54.9	56.6	56.2	55.7	54.7	53.9	54.9	54.7	54.4	54.4	55.5	54.6
<b>Canada*</b>	55.5	55.9	55.1	54.7	55.5	54.6	55.0	54.3	54.4	54.7	55.9	55.6	55.7	55.5	56.2	57.1	56.9	56.8	54.8	53.9	54.9	53.6	53.0	52.6	50.5
<b>U.K</b>	54.8	56.3	54.3	53.9	54.2	53.9	54.0	55.9	54.9	54.8	53.4	54.5	52.4	53.2	54.4	55.1	53.5	54.2	54.1	52.1	50.8	51.4	50.3	51.5	50.0
<b>Euro Zone</b>	56.4	56.8	56.8	56.3	55.7	55.7	56.7	56.0	57.5	58.1	58.8	57.1	55.2	55.1	54.1	54.9	54.3	54.5	54.1	53.1	52.7	51.1	51.0	51.9	51.6
<b>Germany</b>	57.1	56.7	57.4	56.4	54.7	55.8	57.7	56.6	57.3	58.9	59.0	57.6	55.1	54.6	53.4	54.8	55.0	55.6	55.0	53.4	52.3	51.6	52.1	52.8	51.4
<b>France</b>	56.8	56.6	56.9	56.6	55.6	55.2	57.1	57.4	60.3	59.6	59.6	57.3	56.3	56.9	54.2	55.0	54.4	54.9	54.0	54.1	54.2	48.7	48.2	50.4	48.9
<b>Italy</b>	54.2	56.8	55.2	54.5	56.2	55.8	54.3	53.9	56.0	56.5	59.0	56.0	53.5	52.9	52.9	53.9	53.0	51.7	52.4	49.3	49.3	50.0	48.8	49.6	51.5
<b>Spain</b>	56.8	57.3	57.2	57.7	56.7	55.3	56.4	55.1	55.2	55.4	56.7	57.1	55.8	55.4	55.9	54.8	52.7	53.0	52.5	53.7	53.9	53.4	54.5	53.5	55.4
<b>Greece*</b>	46.7	48.2	49.6	50.5	50.5	52.2	52.8	52.1	52.2	53.1	55.2	56.1	55.0	52.9	54.2	53.5	53.5	53.9	53.6	53.1	54.0	53.8	53.7	54.2	54.7
<b>Ireland</b>	56.9	58.7	58.7	58.0	57.0	58.2	57.6	56.0	57.7	60.2	59.0	56.8	53.7	57.6	57.7	58.1	56.8	58.4	58.4	56.1	56.6	55.5	53.3	55.4	54.1
<b>Australia</b>	54.1	56.9	54.3	53.8	57.2	57.5	54.4	51.2	57.0	57.0	58.2	56.4	62.5	58.6	56.8	55.6	52.5	55.9	57.1	54.7	50.8	50.0	52.5	54.0	51.0
<b>Japan</b>	52.9	52.6	53.4	52.9	51.8	51.9	51.7	53.4	52.2	52.2	52.8	52.2	51.3	53.1	51.7	52.1	51.8	52.0	50.7	52.5	52.4	52.0	50.9	50.7	50.4
<b>China</b>	52.1	51.2	51.5	51.1	51.9	52.4	51.4	51.0	51.6	53.0	53.7	53.3	51.8	52.3	52.3	53.0	52.3	52.0	52.1	50.5	51.9	52.2	50.9	50.7	52.9
<b>Indonesia*</b>	50.5	51.2	50.6	49.5	48.6	50.7	50.4	50.1	50.4	49.3	49.9	51.4	50.7	51.6	51.7	50.3	50.5	51.9	50.7	50.5	50.4	51.2	49.9	50.1	51.2
<b>S. Korea*</b>	48.4	49.4	49.2	50.1	49.1	49.9	50.6	50.2	51.2	49.9	50.7	50.3	49.1	48.4	48.9	49.8	48.3	49.9	51.3	51.0	48.6	49.8	48.3	47.2	48.8
<b>Taiwan*</b>	56.2	54.4	53.1	53.3	53.6	54.3	54.2	53.6	56.3	56.6	56.9	56.0	55.3	54.8	53.4	54.5	53.1	53.0	50.8	48.7	48.4	47.7	47.5	46.3	49.0
<b>India</b>	52.3	51.3	52.5	52.7	46.0	49.0	51.1	51.3	50.3	53.0	52.5	49.7	50.8	51.9	50.4	53.3	54.1	51.9	51.6	53.0	54.5	53.6	53.6	53.8	52.7
<b>Brazil</b>	48.7	50.4	50.4	48.5	49.4	49.6	51.1	49.5	48.9	48.8	50.7	53.1	51.5	50.6	49.7	47.0	50.4	47.8	47.3	50.5	51.6	52.4	52.3	52.6	53.1
<b>Mexico*</b>	51.5	50.7	51.2	52.3	51.2	52.2	52.8	49.2	52.4	51.7	52.6	51.6	52.4	51.6	51.0	52.1	52.1	50.7	51.7	50.7	49.7	49.7	50.9	52.6	49.8
<b>Russia</b>	56.3	55.3	56.0	54.8	53.4	54.2	54.8	53.2	56.3	56.0	54.8	55.2	53.2	54.9	53.4	52.0	51.7	52.1	53.5	55.8	55.0	53.9	53.6	54.1	54.6

Key

Contraction

Expansion

Source: Bloomberg, JP Morgan, \* indicates manufacturing PMI data

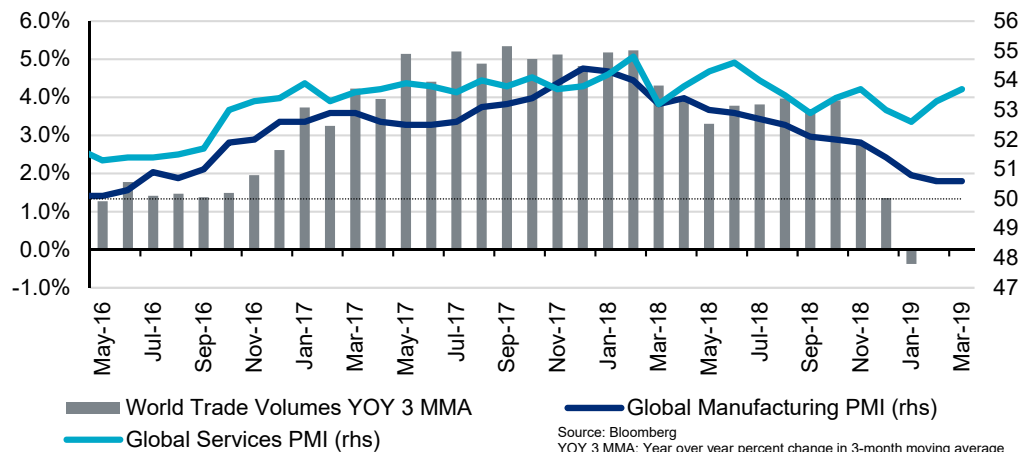
# DIVERGING GROWTH, IMPROVING FINANCIAL CONDITIONS

## Current Risk Levels

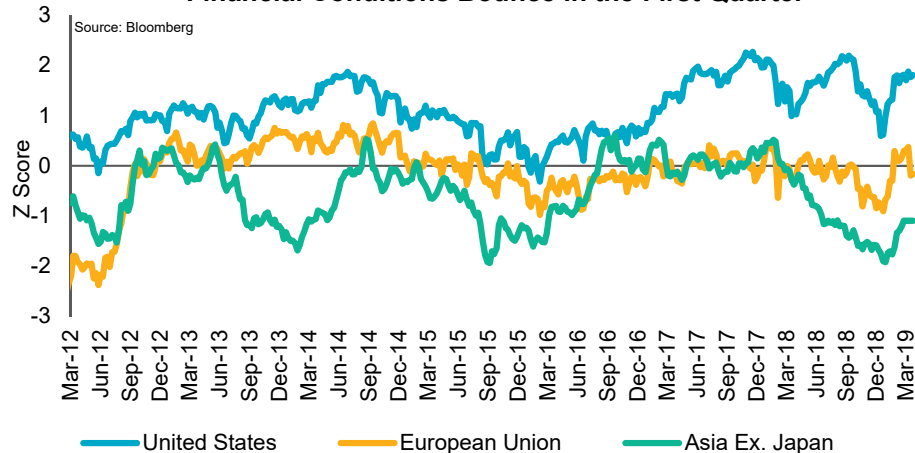


Source: Bloomberg, FactSet, Recession Alert, & Mercer Analysis

## Manufacturing Versus Services And Trade



## Financial Conditions Bounce in the First Quarter

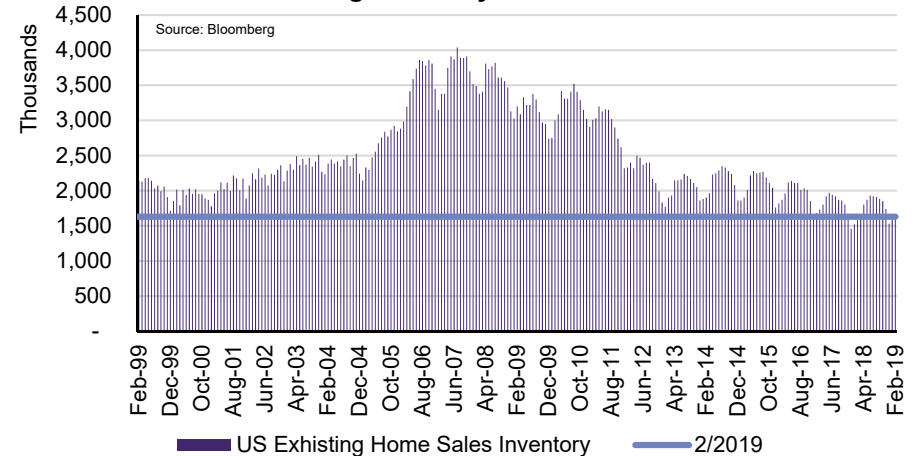


- Economic data softened at year-end. Slowing growth, particularly in the manufacturing sector, has weighed on global trade. A robust service sector, however, suggests the deceleration should not derail growth.
- Valuations have moved more in line with fundamentals and long-term averages, as spreads compressed and equity multiples expanded during the quarter.
- Financial conditions improved during the quarter, as year-end technical factors dissipated and central bankers amended forward guidance which reduced the risk of excessively tight monetary policy.

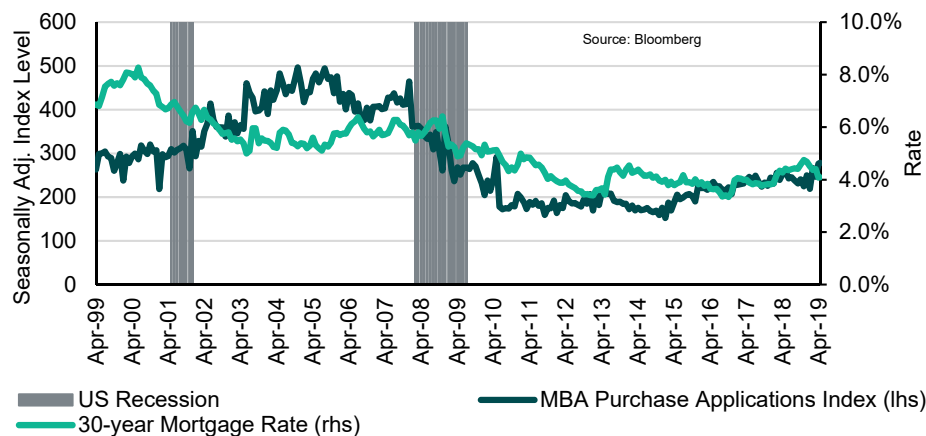
# HOUSING HAS ROOM TO GROW

- The housing sector remains a critical component of economic growth and has yet to return to its pre-crisis levels.
- Since the financial crisis, housing inventory has remained below long-term averages. Improvements in inventory may dampen price appreciation, but also help drive demand.
- While multi-family units have recovered, single family starts have yet to rebound. Increases in single family starts should have a higher economic multiplier, due to the materials and labor required.
- Declines in interest rates have helped pushed up recent mortgage applications.

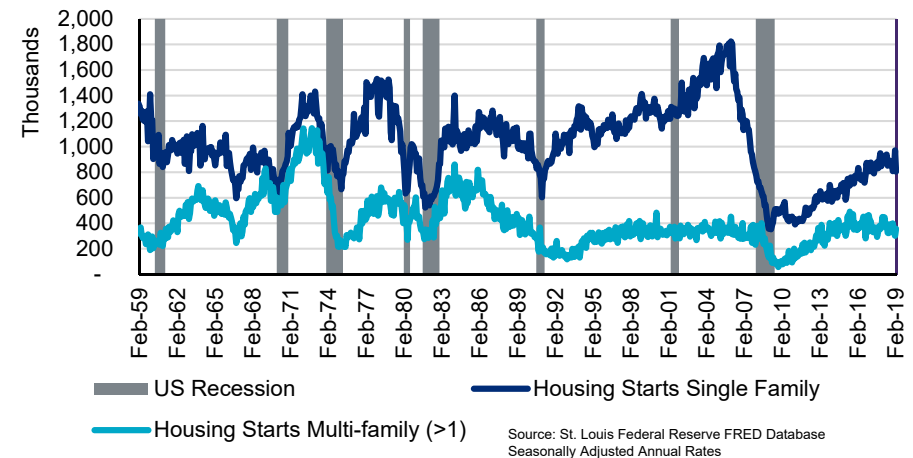
**Housing Inventory Remains Low**



**Lower Interest Rates Have Reignited Applications**



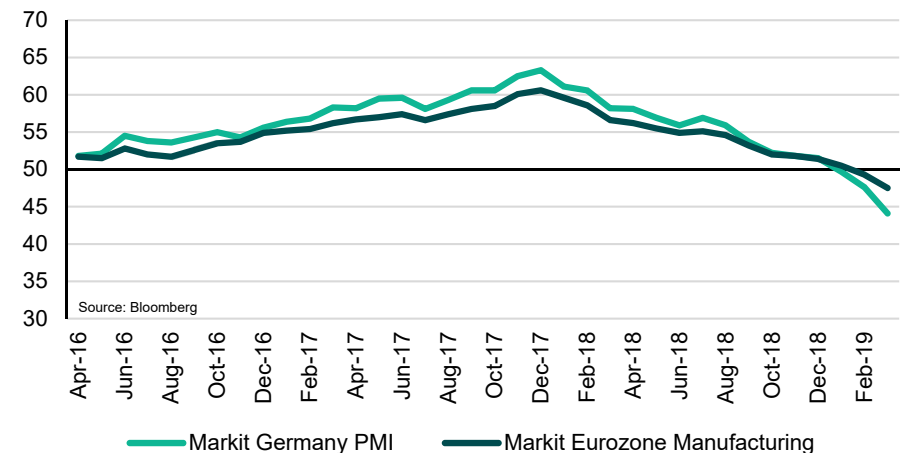
**Single Family Starts Remain Low**



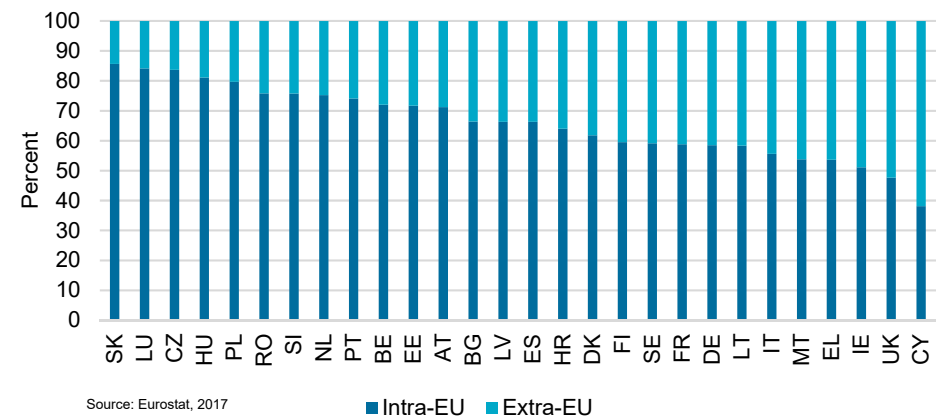
# TRADE POLICY UNCERTAINTY LOOMS

- Policy tensions have begun to manifest themselves in economic data, particularly in the fourth quarter and beginning of the year. While resolution of trade uncertainty is the most likely, the veil of uncertainty will challenge business planning and investment.
- After agreeing to a 90-day truce in the fourth quarter of 2018, U.S./China discussions have taken a more conciliatory tone with a potential path to resolution.
- Alternatively, recent communications between the U.S. and European Union (EU) have reignited historical frictions and further escalation could hurt an already slowing manufacturing sector.
- While the administration concluded its auto trade research in February, no action thus far has been taken. Targeting autos could hurt Germany, in particular, with ~12% of its exports to the US representing car sales.
- With the details of the UK's departure from the EU still in flux, investment planning for the Eurozone will remain restrained, especially given the interconnected nature of the region.

**Germany's Manufacturing Slowdown is Dragging on Europe**



**Intra EU exports of goods compared with Extra EU exports of goods**



# EQUITY OUTLOOK

## Summary

Global growth has been slowing gradually for several quarters, led primarily by a deceleration in China and Europe. This gradual slowing so far represents a transition from above trend growth in 2017 to a pace of growth closer to the estimated long-term trend. Fourth quarter's swift re-rating of risk assets was nearly reversed in the first quarter, as fundamentals affirmed decelerating, and potentially a bottoming in growth rather than declining economic growth.

## Themes & Implementation

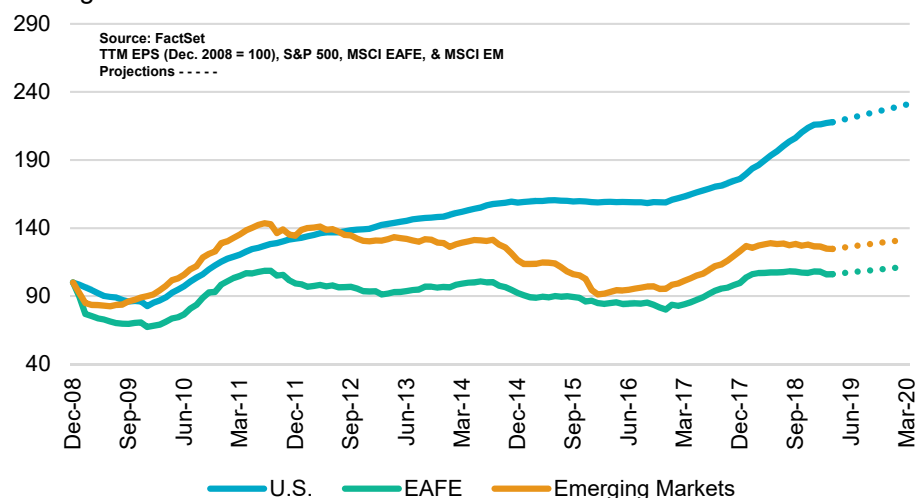
Trend Growth	Evaluate overall equity portfolio beta, concentration, and up/down market capture to assure appropriate upside participation and volatility control.
Uneven Regional Risks	Developed international markets, in particular Europe, face challenges, as countries within the region continue to experience an uneven recovery.
Emerging Market Opportunities	Turmoil lingers in select emerging economies, but broadly these developing economies continue to benefit from positive secular trends, such as a growing middle class as well as markets that are growth oriented. An overweight to emerging markets can increase a portfolio's beta. Investors should monitor total portfolio sensitivities, and may want to consider strategically greater allocations to the U.S. or defensive managers.

## Key Risks

Investment	Future U.S. growth is likely to be driven by corporate and residential investment and any weakness in these sectors would result in a downgrade to growth expectations. It is unclear whether new home construction will continue or stall, or whether trade uncertainty will delay or reduce planned business investment (manufacturing).
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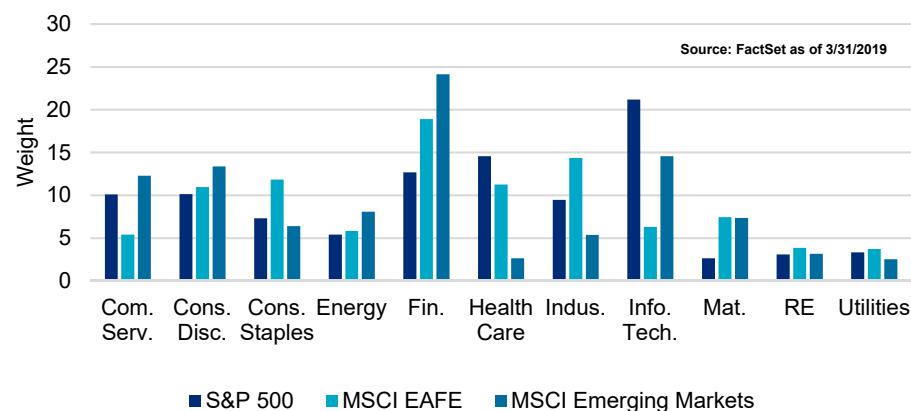
## Earnings Growth Accelerating Globally

U.S. Demonstrating Steadiest Growth While Emerging Markets Demonstrating Strongest Acceleration



## U.S. & Emerging Markets: Greater Concentration in Growth Sectors

About 30% of U.S. and EM Represented by IT and Communication Services; EAFE is Underweight these Sectors and Heavy Financials and Industrials



# FIXED INCOME OUTLOOK

## Summary

The yield curve partially inverted with global developed central banks pausing normalization and cautiously evaluating future changes. Investors should review their yield curve exposure. While longer duration positions can provide a ballast in flight-to-quality environments, shorter duration securitized or credit allocations represent competitive yields with muted upside rate risks.

## Themes & Implementation

**Selective Carry Positions** The securitized markets tied to U.S. housing and the consumer are providing managers with attractive value add opportunities and diversified income streams, while remaining somewhat insulated from global macro risks.

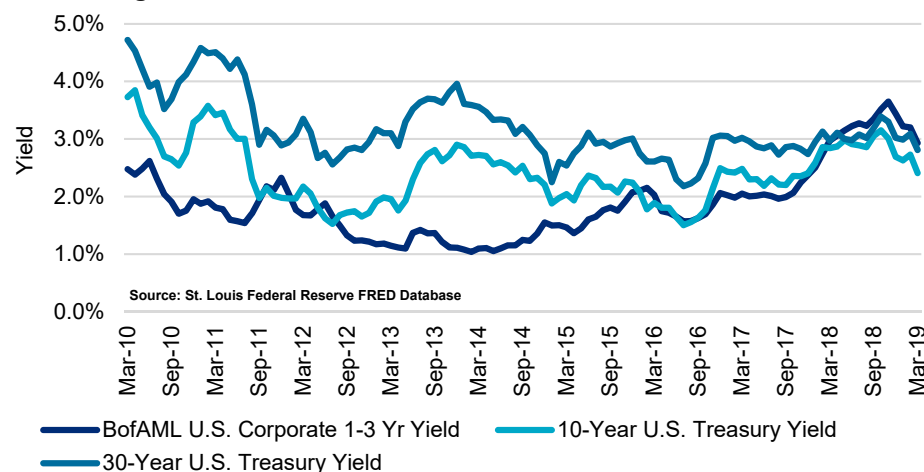
**Short Term Yield** Rising interest rates at the front-end of the curve have made money market and short-term funds a more attractive destination for liquidity needs. Short-term credit yields now match long-term Treasuries, providing portfolio ballast with low interest rate risk while investors wait for more attractive entry points.

**Emerging Markets** Upside opportunity exists as some markets may have caused yields to overshoot during the recent selloff, but allocation sizes should be considered carefully and in light of overall portfolio exposure to emerging markets. Downside volatility can be painful and the range of potential outcomes is quite wide.

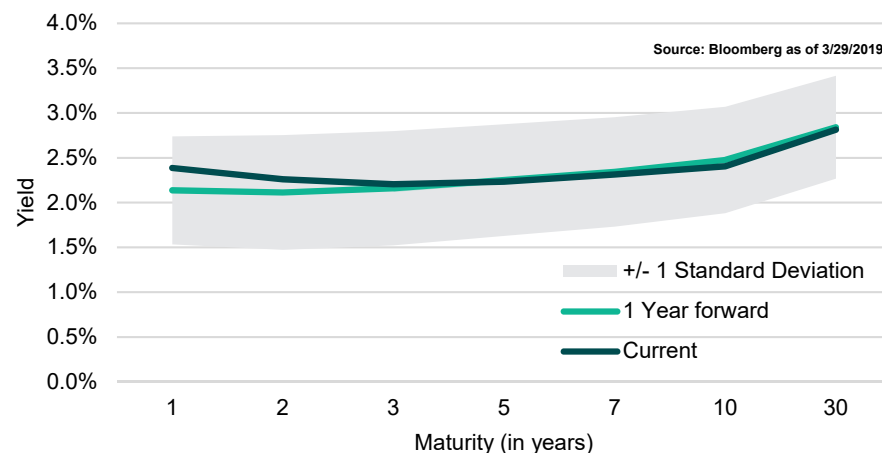
## Key Risks

**Central Bank Policy** Economic conditions have motivated developed central bankers to pause monetary policy normalization, amid slowing growth. While bankers are data dependent, sharp changes in guidance likely would result in spiking correlations between risk (equity) and defensive assets (fixed income).

## Rising Short-Term Yields



## U.S. Rates and Expectations





# REAL ASSETS OUTLOOK

## Summary

Inflationary risks remain muted, as a multitude of factors weigh on overall price levels. As a result, risk assets, like equities, should defend portfolios from small increases in inflation.

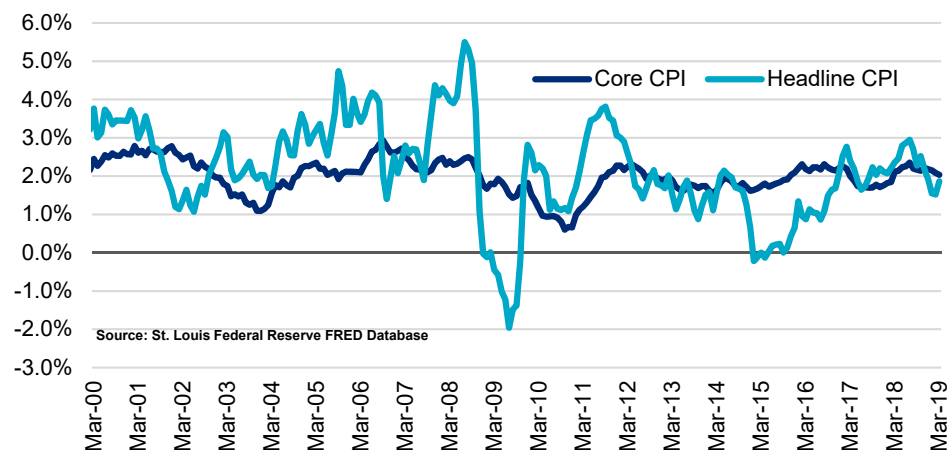
## Themes & Implementation

Economic Growth	We expect continued positive economic growth. Real assets are expected to have a modest tailwind from earnings growth.
Diversified Earnings	Inflation-linked allocations with economic growth drivers represent a balance between return diversification and inflation protection.
Stabilizing Inflation	With inflation unlikely to produce abnormal risks, assets that provide protection against unexpected inflation, like commodities and natural resource equities, likely will be constrained.

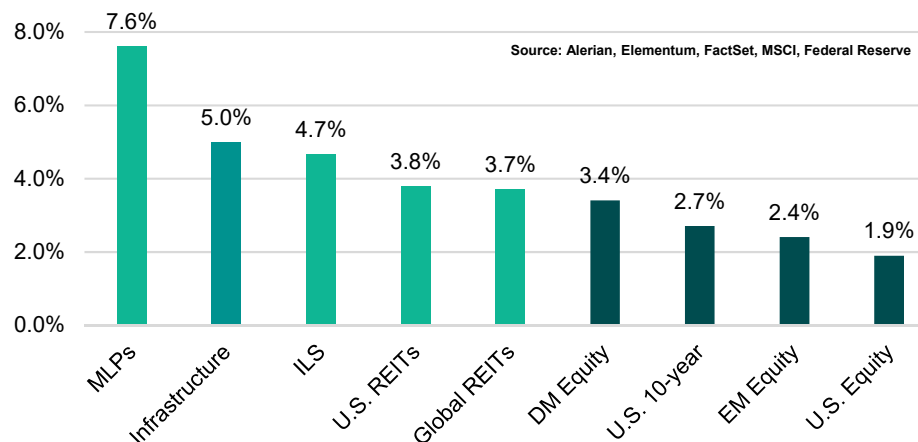
## Key Risks

Geopolitical Tensions	While the U.S. has increased oil production, tensions in the Middle East and OPEC decisions still significantly influence price moves.
Trade Policy	The introduction of tariffs has reignited trade war concerns. The full impact is not yet known. While discussions have resulted in updated trade agreements with South Korea, Mexico, and Canada, negotiations between the U.S. and China are ongoing. Additionally, recent communications between the U.S. and European Union have reignited historical frictions and further escalation could hurt an already slowing manufacturing sector.

## Year-Over-Year U.S. Inflation



## Asset Class Yields



# Asset Class Diversification

## Surplus Cash Investment Program Structure

As of March 31, 2019

Manager	Asset Class/Type	Total Assets (\$ mil.)	Percent of Total	Target Allocation	Weighting Relative to Target	Target Range
<b>Large-Cap Domestic Equity</b>		<b>\$216.7</b>	<b>21.7%</b>	<b>20.0%</b>	<b>+ 1.7%</b>	<b>20-30%</b>
Vanguard S&P 500 Index	Large-Cap Index	\$129.0	12.9%	10.0%	+ 2.9%	
Sands	Large-Cap Growth	\$ 45.8	4.6%	5.0%	- 0.4%	
Barrow Hanley	Large-Cap Value	\$ 41.9	4.2%	5.0%	- 0.8%	
<b>Small-Cap Domestic Equity</b>		<b>\$ 46.3</b>	<b>4.6%</b>	<b>5.0%</b>	<b>- 0.4%</b>	
Conestoga	Small-Cap Growth	\$ 23.9	2.4%	2.5%	- 0.1%	<b>10-20%</b>
Wellington	Small-Cap Value	\$ 22.4	2.2%	2.5%	- 0.3%	
<b>International Equity</b>		<b>\$143.6</b>	<b>14.4%</b>	<b>15.0%</b>	<b>- 0.6%</b>	
Causeway	International Value	\$ 47.8	4.8%			
Walter Scott	International Growth	\$ 59.1	5.9%			
Harding Loevner	Emerging	\$ 36.7	3.7%			
<b>Short-Duration Fixed Income</b>		<b>\$118.4</b>	<b>11.8%</b>	<b>10.0%</b>	<b>+ 1.8%</b>	<b>8-12%</b>
Barrow Hanley	Short Duration	\$107.4	10.7%			<b>25-35%</b>
Cash	Money Market	\$ 11.1	1.1%			
<b>Market-Duration Fixed Income</b>		<b>\$313.1</b>	<b>31.3%</b>	<b>30.0%</b>	<b>+ 1.3%</b>	
Dodge & Cox	Market Duration	\$154.8	15.5%	15.0%	+ 0.5%	
MetWest	Market Duration	\$158.2	15.8%	15.0%	+ 0.8%	
<b>Alternatives</b>		<b>\$161.7</b>	<b>16.2%</b>	<b>20.0%</b>	<b>- 3.8%</b>	<b>17-23%</b>
Oaktree RE Opps VI	Real Estate	\$ 6.3	0.6%			
Walton Street RE VII	Real Estate	\$ 7.8	0.8%			
Walton Street RE VIII	Real Estate	\$ 8.5	0.9%			
Direct Hedge Fund Composite	Hedge Fund	\$139.1	13.9%			
<b>Total (X District)</b>		<b>\$999.8</b>	<b>100.0%</b>			
District Assets - Barrow Hanley	Short Duration	\$ 37.7				
Debt Reserves - Ponder	Short Duration	\$104.5				
<b>Total Surplus Cash</b>		<b>\$1,142.0</b>				

\*Totals may not add due to rounding.

# Liquidity Schedule

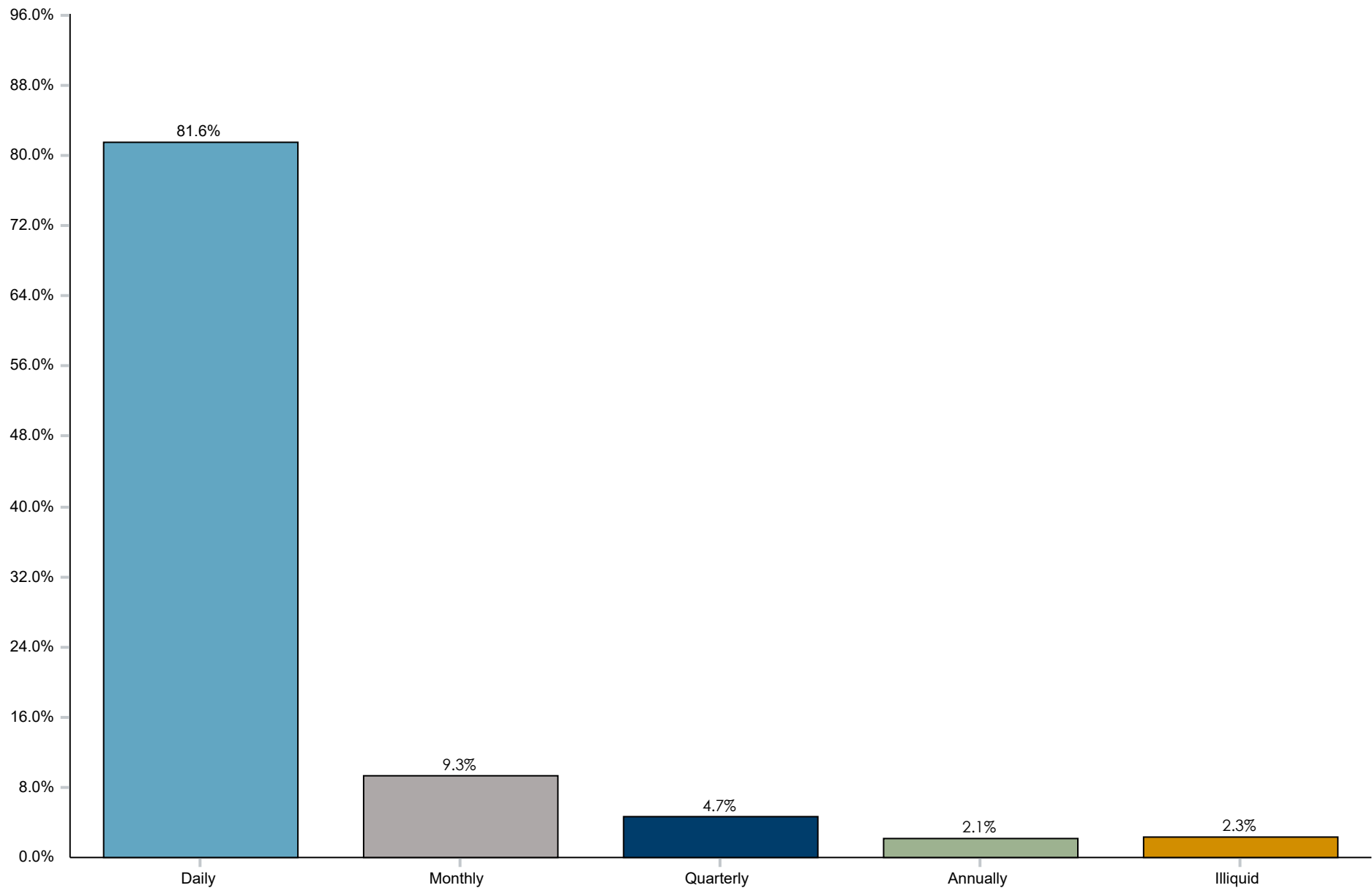
As of March 31, 2019

Investments	Market Value (\$)	Daily (\$)	Monthly (\$)	Quarterly (\$)	Annually (\$)	Illiquid (\$)	Withdrawals	Notes
Vanguard S&P 500 Index	129,048,283	129,048,283	--	--	--	--	Daily	Daily, No Lock-Up
Sands Large Cap Growth (Touchstone)	45,783,117	45,783,117	--	--	--	--	Daily	Daily, No Lock-Up
Barrow Hanley Large Cap Value	41,872,371	41,872,371	--	--	--	--	Daily	Daily, No Lock-Up
Wellington Small Cap Value	22,371,559	--	22,371,559	--	--	--	Monthly	10 Day Notice
Conestoga Small-Cap Fund I	23,936,662	23,936,662	--	--	--	--	Daily	Daily, No Lock-Up
Walter Scott Int'l (Dreyfus)	59,096,036	59,096,036	--	--	--	--	Daily	Daily, No Lock-Up
Causeway International Value	47,791,960	47,791,960	--	--	--	--	Daily	Daily, No Lock-Up
Harding Loevner Inst. Emerging Markets I	36,668,781	36,668,781	--	--	--	--	Daily	Daily, No Lock-Up
Barrow Hanley Short Fixed	107,374,968	107,374,968	--	--	--	--	Daily	Daily, No Lock-Up
Cash Account	865,990	865,990	--	--	--	--	Daily	Daily, No Lock-Up
Cash Account - CONCERN	86,735	86,735	--	--	--	--	Daily	Daily, No Lock-Up
Hedge Funds Cash	10,117,826	10,117,826	--	--	--	--	Daily	Daily, No Lock-Up
Dodge & Cox Fixed	154,828,983	154,828,983	--	--	--	--	Daily	Daily, No Lock-Up
MetWest Fixed	144,640,545	144,640,545	--	--	--	--	Daily	Daily, No Lock-Up
Met West Total Return Bond Plan - CONCERN	13,609,295	13,609,295	--	--	--	--	Daily	Daily, No Lock-Up
Oaktree Capital Management RE Opportunities Fund VI	6,293,562	--	--	--	--	6,293,562	Illiquid	Illiquid
Walton Street Real Estate Fund VII, L.P.	7,752,830	--	--	--	--	7,752,830	Illiquid	Illiquid
Walton Street Real Estate Fund VIII, L.P.	8,530,114	--	--	--	--	8,530,114	Illiquid	Illiquid
Blackrock The 32 Capital Fund, Ltd.[CE]	5,801,203	--	5,801,203	--	--	--	Monthly	30 Day Notice, No Lock-Up
Bloom Tree Offshore Fund Ltd.	10,593,475	--	--	10,593,475	--	--	Quarterly	45 Day Notice, No Lock-Up
Capeview Azri 2X Fund USD B - U	3,638,814	--	3,638,814	--	--	--	Monthly	30 Day Notice, No Lock-Up
Capeview Azri Fund USD B – UV	6,206,118	--	--	6,206,118	--	--	Quarterly	30 Day Notice, 2.5% Redemption Penalty
Chatham Asset High Yield Offshore Fund, Ltd	10,506,276	--	--	10,506,276	--	--	Quarterly	45 Day Notice, 20% Fund level gate
DK Distressed Opportunities International, Ltd.[CE]	10,943,082	--	--	--	10,943,082	--	Annually	90 Day Notice, No Lock-Up
EMSO Saguaro, Ltd.	10,269,323	--	10,269,323	--	--	--	Monthly	60 Day Notice, 15% Fund level gate
Fir Tree International Value Fund (Non-US), L.P.[CE]	365,472	--	--	--	365,472	--	Annually	Redemption in Progress
Indus Japan Fund Ltd.	8,777,497	--	--	8,777,497	--	--	Quarterly	30 Day Notice, No Lock-up
Luxor Capital Partners Offshore, Ltd.[CE]	714,670	--	--	714,670	--	--	Quarterly	Redemption in Progress
Marshall Wace Eureka Fund Class B2	10,076,415	--	10,076,415	--	--	--	Monthly	30 Day Notice, No Lock-Up
Moore Macro Managers Fund[CE]	10,040,308	--	--	10,040,308	--	--	Quarterly	60 Day Notice, No Lock-Up
Pine River Fund Ltd.[CE]	66,054	--	--	66,054	--	--	Quarterly	Redemption in Progress
Renaissance RIDGE	10,041,631	--	10,041,631	--	--	--	Monthly	Monthly with 45 Days Notice
Carlson Black Diamond Arbitrage Ltd.[CE]	10,412,739	--	10,412,739	--	--	--	Monthly	45 Day Notice, No Lock-Up
Robeco Transtrend Diversified Fund LLC	10,288,222	--	10,288,222	--	--	--	Monthly	5 Day Notice, No Lock-Up
Stone Milliner Macro Inc Class A NI	9,866,055	--	9,866,055	--	--	--	Monthly	60 Day Notice, 25% Master Fund level gate
Tiger Eye Fund, Ltd.	377,330	--	--	377,330	--	--	Quarterly	60 Day Notice, 1% Penalty within First Year
York Credit Opportunities Unit Trust[CE]	10,130,250	--	--	--	10,130,250	--	Annually	60 Day Notice, No Lock-Up
<b>Total (\$)</b>	<b>999,784,551</b>	<b>815,721,553</b>	<b>92,765,961</b>	<b>47,281,727</b>	<b>21,438,804</b>	<b>22,576,506</b>		
<b>Total (%)</b>	<b>100.0</b>	<b>81.6</b>	<b>9.3</b>	<b>4.7</b>	<b>2.1</b>	<b>2.3</b>		

# Liquidity Schedule

As of March 31, 2019

## Liquidity of Total Portfolio



# Asset Class Diversification

## Cash Balance Plan Investment Program Structure

As of March 31, 2019

Manager	Asset Class/Type	Total Assets (\$ mil.)	Percent of Total	Target Allocation	Weighting Relative to Target	Target Range
<b>Large-Cap Domestic Equity</b>		<b>\$ 76.2</b>	<b>28.2%</b>	<b>27.0%</b>	<b>+ 1.2%</b>	<b>27-37%</b>
Vanguard S&P 500 Index	Large-Cap Index	\$ 36.5	13.5%	13.5%	- 0.0%	
Sands	Large-Cap Growth	\$ 20.1	7.4%	6.8%	+ 0.6%	
Barrow Hanley	Large-Cap Value	\$ 19.6	7.2%	6.8%	+ 0.4%	
<b>Small-Cap Domestic Equity</b>		<b>\$ 13.8</b>	<b>5.1%</b>	<b>5.0%</b>	<b>+ 0.1%</b>	
Conestoga	Small-Cap Growth	\$ 6.9	2.6%	2.5%	+ 0.1%	
Wellington	Small-Cap Value	\$ 6.9	2.6%	2.5%	+ 0.1%	
<b>International Equity</b>		<b>\$ 47.7</b>	<b>17.6%</b>	<b>18.0%</b>	<b>- 0.4%</b>	<b>15-21%</b>
Causeway	International Value	\$ 18.4	6.8%			
Walter Scott	International Growth	\$ 22.6	8.4%			
Harding Loevner	Emerging Markets	\$ 6.7	2.5%			
<b>Short-Duration Fixed Income</b>		<b>\$ 10.0</b>	<b>3.7%</b>	<b>5.0%</b>	<b>- 1.3%</b>	<b>0-8%</b>
Barrow Hanley	Short Duration	\$ 8.5	3.1%			
Cash	Money Market	\$ 1.5	0.5%			
<b>Market-Duration Fixed Income</b>		<b>\$ 71.5</b>	<b>26.4%</b>	<b>25.0%</b>	<b>+ 1.4%</b>	<b>20-30%</b>
Dodge & Cox	Market Duration	\$ 35.6	13.2%	12.5%	+ 0.7%	
MetWest	Market Duration	\$ 35.8	13.2%	12.5%	+ 0.7%	
<b>Alternatives</b>		<b>\$ 51.5</b>	<b>19.0%</b>	<b>20.0%</b>	<b>- 1.0%</b>	<b>17-23%</b>
Lighthouse	HFOF	\$ 18.6	6.9%			
Pointer	HFOF	\$ 18.3	6.8%			
Oaktree RE Opps VI	Real Estate	\$ 3.7	1.4%			
Walton Street RE VII	Real Estate	\$ 4.3	1.6%			
Walton Street RE VIII	Real Estate	\$ 6.6	2.4%			
<b>Total</b>		<b>\$270.7</b>	<b>100.0%</b>			

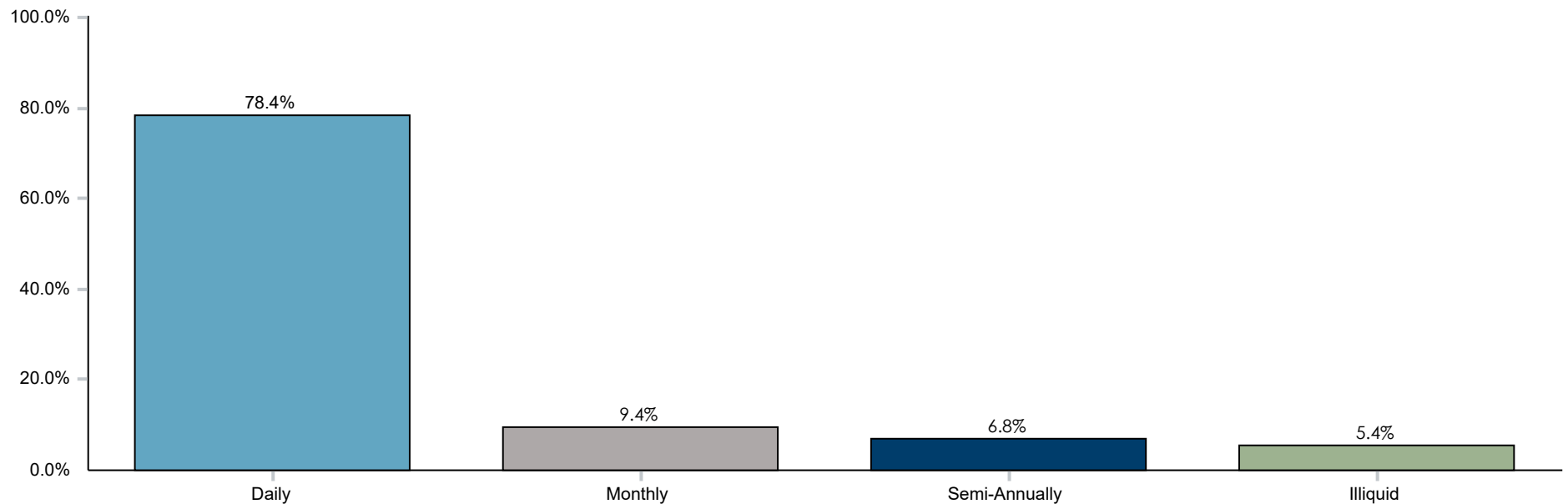
\*Totals may not add due to rounding.

# Liquidity Schedule - Cash Balance

As of March 31, 2019

Investments	Market Value (\$)	Daily (\$)	Monthly (\$)	Semi-Annually (\$)	Illiquid (\$)	Contributions	Withdrawals	Notes
Vanguard Institutional Index Fund	36,514,302	36,514,302	--	--	--	Daily	Daily	Daily, No Lock-Up
Sands Large Cap Growth (Touchstone)	20,101,039	20,101,039	--	--	--	Daily	Daily	Daily, No Lock-Up
Barrow Hanley Large Cap Value	19,608,111	19,608,111	--	--	--	Daily	Daily	Daily, No Lock-Up
Conestoga Small-Cap Fund I	6,904,153	6,904,153	--	--	--	Daily	Daily	Daily, No Lock-Up
Wellington Small Cap Value	6,937,934	--	6,937,934	--	--	Monthly	Monthly	Monthly, 10 Day Notice
Causeway International Value	18,405,874	18,405,874	--	--	--	Daily	Daily	Daily, No Lock-Up
Walter Scott Int'l (Dreyfus)	22,608,099	22,608,099	--	--	--	Daily	Daily	Daily, No Lock-Up
Harding Loevner Inst. Emerging Markets I	6,660,315	6,660,315	--	--	--	Daily	Daily	Daily, No Lock-Up
Barrow Hanley Short Fixed	8,512,274	8,512,274	--	--	--	Daily	Daily	Daily, No Lock-Up
Cash Account	1,452,384	1,452,384	--	--	--	Daily	Daily	Daily, No Lock-Up
Dodge & Cox Income Fund	35,631,930	35,631,930	--	--	--	Daily	Daily	Daily, No Lock-Up
Met West Total Return Fund Pl	35,836,252	35,836,252	--	--	--	Daily	Daily	Daily, No Lock-Up
Lighthouse Diversified	18,550,865	--	18,550,865	--	--	Monthly	Monthly	90 Day Notice
Pointer Offshore LTD	18,347,746	--	--	18,347,746	--	Semi-Annually	Semi-Annually	Notice by Mar 15/Sept 15
Oaktree RE Opportunities Fund V	3,716,354	--	--	--	3,716,354	Illiquid	Illiquid	Illiquid
Walton Street Real Estate Fund VII, L.P.	4,321,834	--	--	--	4,321,834	Illiquid	Illiquid	Illiquid
Walton Street Real Estate Fund VIII, L.P.	6,561,626	--	--	--	6,561,626	Illiquid	Illiquid	Illiquid
<b>Total (\$)</b>	<b>270,671,093</b>	<b>212,234,733</b>	<b>25,488,799</b>	<b>18,347,746</b>	<b>14,599,814</b>			
<b>Total (%)</b>	<b>100.0</b>	<b>78.4</b>	<b>9.4</b>	<b>6.8</b>	<b>5.4</b>			

Liquidity of Total Portfolio



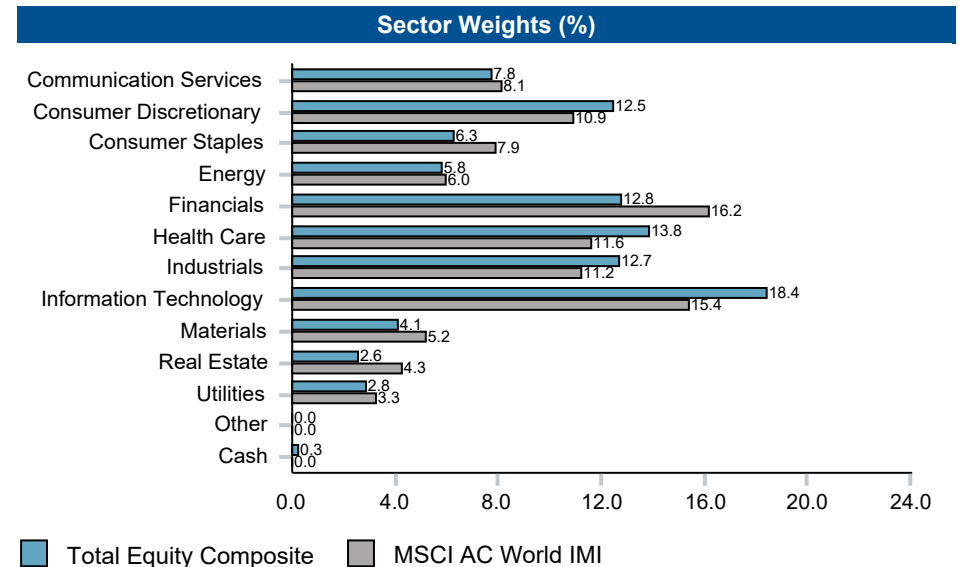
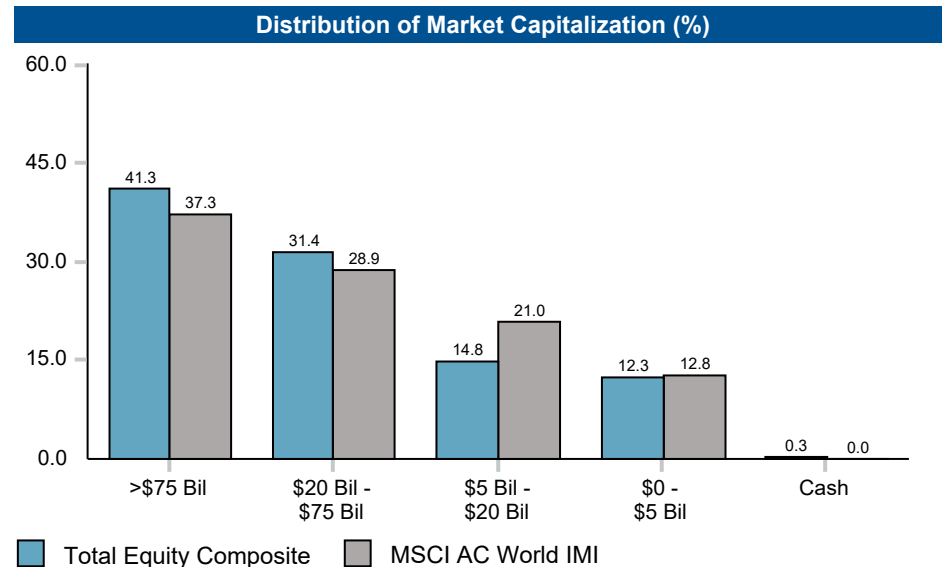
# Surplus Cash Equity Portfolio Characteristics

## Surplus Cash Equity Composite vs. MSCI AC World IMI

As of March 31, 2019

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	136,904	130,084
Median Mkt. Cap (\$M)	17,421	1,680
Price/Earnings ratio	20.0	16.6
Price/Book ratio	3.3	2.8
5 Yr. EPS Growth Rate (%)	13.8	13.1
Current Yield (%)	2.0	2.6
Debt to Equity	0.8	0.7
Number of Stocks	817	8,675
Beta (5 Years, Monthly)	1.00	1.00
Consistency (5 Years, Monthly)	50.00	0.00
Sharpe Ratio (5 Years, Monthly)	0.64	0.60
Information Ratio (5 Years, Monthly)	0.29	-
Up Market Capture (5 Years, Monthly)	102.02	100.00
Down Market Capture (5 Years, Monthly)	98.03	100.00

Top Ten Equity Holdings			
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)
Amazon.com Inc	1.9	1.4	0.5
Microsoft Corp	1.5	1.7	-0.2
Visa Inc	1.2	0.5	0.7
Alibaba Group Holding Ltd	1.2	0.5	0.7
Apple Inc	1.1	1.7	-0.6
Alphabet Inc	1.1	0.7	0.4
Netflix Inc	1.0	0.3	0.7
ServiceNow Inc	0.9	0.1	0.8
Salesforce.com Inc.	0.9	0.2	0.7
Facebook Inc	0.9	0.8	0.1
% of Portfolio	11.7	7.9	3.8



Equity composite holdings are a consolidation of the underlying manager exposures weighted by the ending market value. Cash holdings for certain managers may not be included.

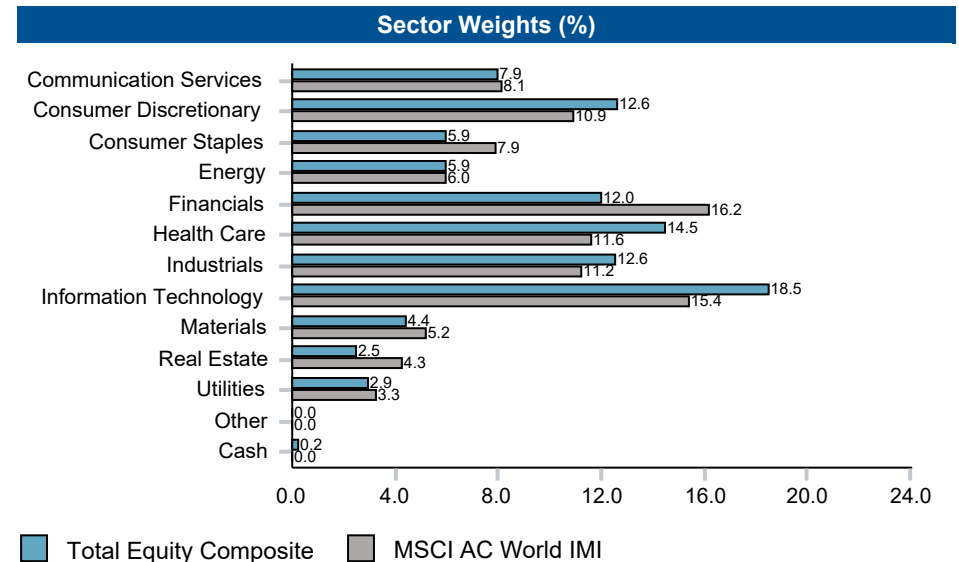
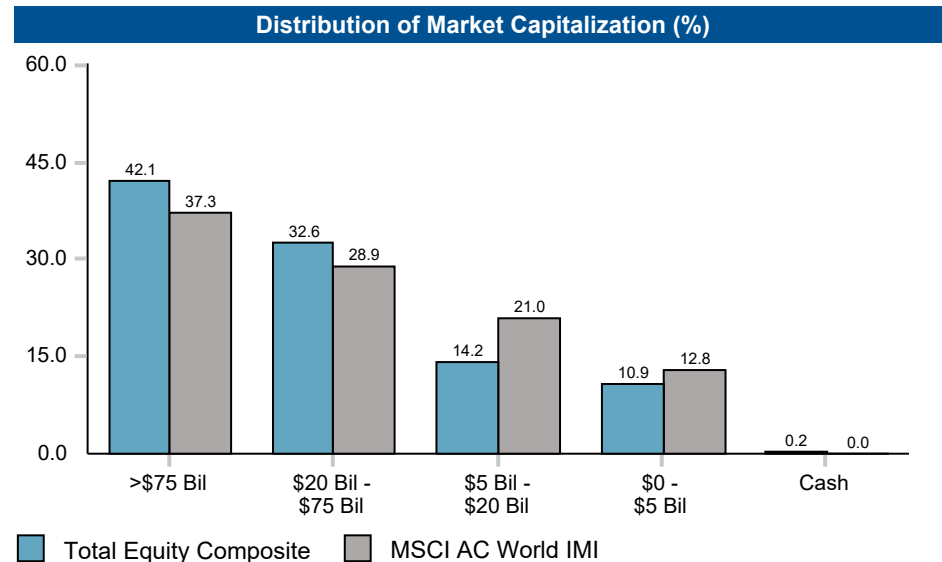
# Cash Balance Plan Equity Portfolio Characteristics

## Cash Balance Plan Equity Composite vs. MSCI AC World IMI

As of March 31, 2019

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	136,377	130,084
Median Mkt. Cap (\$M)	17,421	1,680
Price/Earnings ratio	20.1	16.6
Price/Book ratio	3.3	2.8
5 Yr. EPS Growth Rate (%)	13.8	13.1
Current Yield (%)	2.0	2.6
Debt to Equity	0.8	0.7
Number of Stocks	818	8,675
Beta (5 Years, Monthly)	1.00	1.00
Consistency (5 Years, Monthly)	48.33	0.00
Sharpe Ratio (5 Years, Monthly)	0.65	0.60
Information Ratio (5 Years, Monthly)	0.35	-
Up Market Capture (5 Years, Monthly)	103.24	100.00
Down Market Capture (5 Years, Monthly)	99.11	100.00

Top Ten Equity Holdings			
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)
Amazon.com Inc	2.1	1.4	0.7
Microsoft Corp	1.4	1.7	-0.3
Visa Inc	1.4	0.5	0.9
Alibaba Group Holding Ltd	1.3	0.5	0.8
Alphabet Inc	1.2	0.7	0.5
ServiceNow Inc	1.2	0.1	1.1
Netflix Inc	1.2	0.3	0.9
Salesforce.com Inc.	1.1	0.2	0.9
Apple Inc	1.0	1.7	-0.7
Facebook Inc	0.9	0.8	0.1
% of Portfolio	12.8	7.9	4.9



Equity composite holdings are a consolidation of the underlying manager exposures weighted by the ending market value. Cash holdings for certain managers may not be included.



# Surplus Cash Equity Portfolio - Country/Region Allocation

## Surplus Cash Equity Composite vs. MSCI AC World IMI

As of March 31, 2019

	Total Equity Composite	MSCI AC World IMI
Canada	1.5	3.2
United States	60.9	52.7
Australia	0.6	2.2
Hong Kong	4.9	3.0
New Zealand	0.0	0.1
Singapore	0.0	0.5
<b>Pacific ex Japan</b>	<b>5.5</b>	<b>5.8</b>
Japan	4.7	7.6
Austria	0.0	0.1
Belgium	0.0	0.4
Bermuda	0.2	0.2
Denmark	1.0	0.6
Finland	0.3	0.4
France	2.3	2.9
Germany	2.0	2.5
Ireland	1.6	1.1
Italy	0.4	0.7
Netherlands	1.2	1.7
Norway	0.0	0.3
Portugal	0.0	0.1
Spain	0.4	0.9
Sweden	0.0	0.9
Switzerland	3.4	2.9
<b>Europe ex UK</b>	<b>12.8</b>	<b>15.6</b>
United Kingdom	6.3	5.2
Israel	0.0	0.2
<b>Middle East</b>	<b>0.0</b>	<b>0.2</b>
<b>Developed Markets</b>	<b>91.8</b>	<b>90.3</b>

	Total Equity Composite	MSCI AC World IMI
China	1.1	1.5
India	0.5	1.1
Indonesia	0.3	0.3
Korea	1.4	1.6
Malaysia	0.0	0.3
Philippines	0.0	0.1
Taiwan	1.1	1.4
Thailand	0.1	0.3
<b>EM Asia</b>	<b>4.6</b>	<b>6.6</b>
Czech Republic	0.1	0.0
Greece	0.0	0.0
Hungary	0.0	0.0
Poland	0.0	0.1
Russia	0.7	0.4
Turkey	0.0	0.1
<b>EM Europe</b>	<b>0.8</b>	<b>0.7</b>
Brazil	0.6	0.8
Cayman Islands	0.0	0.0
Chile	0.0	0.1
Colombia	0.1	0.1
Mexico	0.4	0.3
Peru	0.0	0.0
Virgin Islands	0.0	0.0
<b>EM Latin America</b>	<b>1.2</b>	<b>1.3</b>
Egypt	0.1	0.0
Qatar	0.0	0.1
South Africa	0.5	0.7
United Arab Emirates	0.2	0.1
<b>EM Mid East+Africa</b>	<b>0.7</b>	<b>0.9</b>
<b>Emerging Markets</b>	<b>7.3</b>	<b>9.5</b>
<b>Frontier Markets</b>	<b>0.1</b>	<b>0.1</b>
Cash	0.3	0.0
Other	0.5	0.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

# Cash Balance Plan Equity Portfolio - Country/Region Allocation

## Cash Balance Plan Equity Composite vs. MSCI AC World IMI

As of March 31, 2019

	Total Equity Composite	MSCI AC World IMI
Canada	1.7	3.2
United States	61.1	52.7
Australia	0.7	2.2
Hong Kong	4.6	3.0
New Zealand	0.0	0.1
Singapore	0.0	0.5
<b>Pacific ex Japan</b>	<b>5.2</b>	<b>5.8</b>
Japan	5.3	7.6
Austria	0.0	0.1
Belgium	0.0	0.4
Bermuda	0.1	0.2
Denmark	1.1	0.6
Finland	0.4	0.4
France	2.6	2.9
Germany	2.3	2.5
Ireland	1.7	1.1
Italy	0.5	0.7
Netherlands	1.3	1.7
Norway	0.0	0.3
Portugal	0.0	0.1
Spain	0.5	0.9
Sweden	0.0	0.9
Switzerland	3.8	2.9
<b>Europe ex UK</b>	<b>14.3</b>	<b>15.6</b>
United Kingdom	7.1	5.2
Israel	0.0	0.2
<b>Middle East</b>	<b>0.0</b>	<b>0.2</b>
<b>Developed Markets</b>	<b>94.7</b>	<b>90.3</b>

	Total Equity Composite	MSCI AC World IMI
China	0.8	1.5
India	0.3	1.1
Indonesia	0.2	0.3
Korea	1.0	1.6
Malaysia	0.0	0.3
Philippines	0.0	0.1
Taiwan	0.8	1.4
Thailand	0.1	0.3
<b>EM Asia</b>	<b>3.2</b>	<b>6.6</b>
Czech Republic	0.1	0.0
Greece	0.0	0.0
Hungary	0.0	0.0
Poland	0.0	0.1
Russia	0.4	0.4
Turkey	0.0	0.1
<b>EM Europe</b>	<b>0.5</b>	<b>0.7</b>
Brazil	0.3	0.8
Cayman Islands	0.0	0.0
Chile	0.0	0.1
Colombia	0.1	0.1
Mexico	0.2	0.3
Peru	0.0	0.0
Virgin Islands	0.0	0.0
<b>EM Latin America</b>	<b>0.6</b>	<b>1.3</b>
Egypt	0.0	0.0
Qatar	0.0	0.1
South Africa	0.3	0.7
United Arab Emirates	0.1	0.1
<b>EM Mid East+Africa</b>	<b>0.4</b>	<b>0.9</b>
<b>Emerging Markets</b>	<b>4.6</b>	<b>9.5</b>
<b>Frontier Markets</b>	<b>0.1</b>	<b>0.1</b>
Cash	0.2	0.0
Other	0.3	0.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

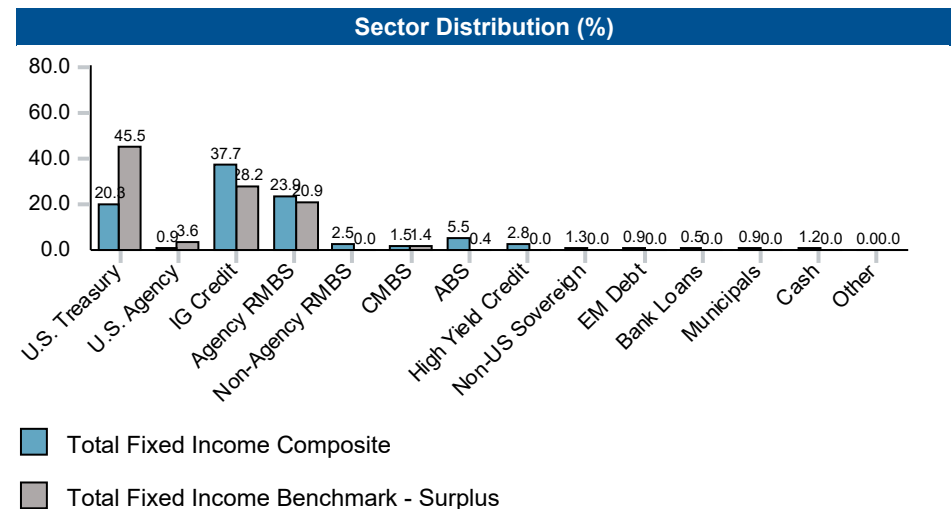
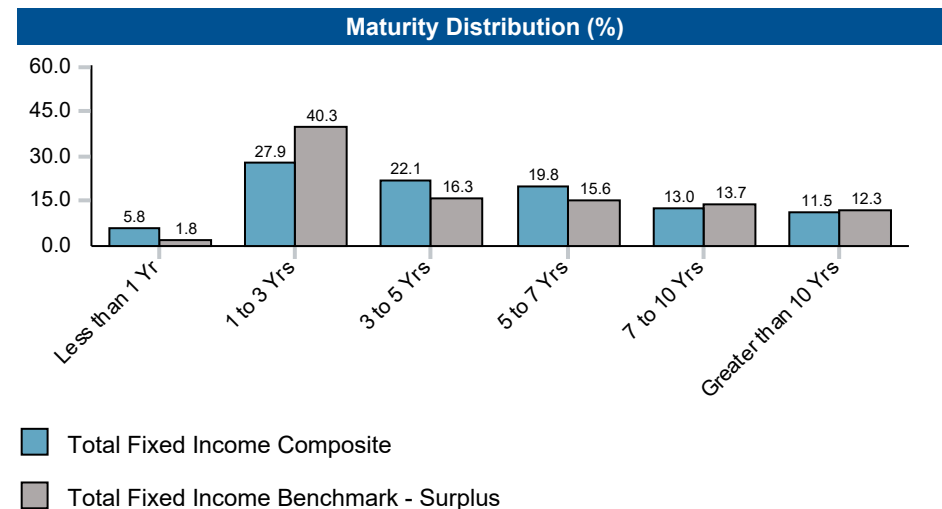
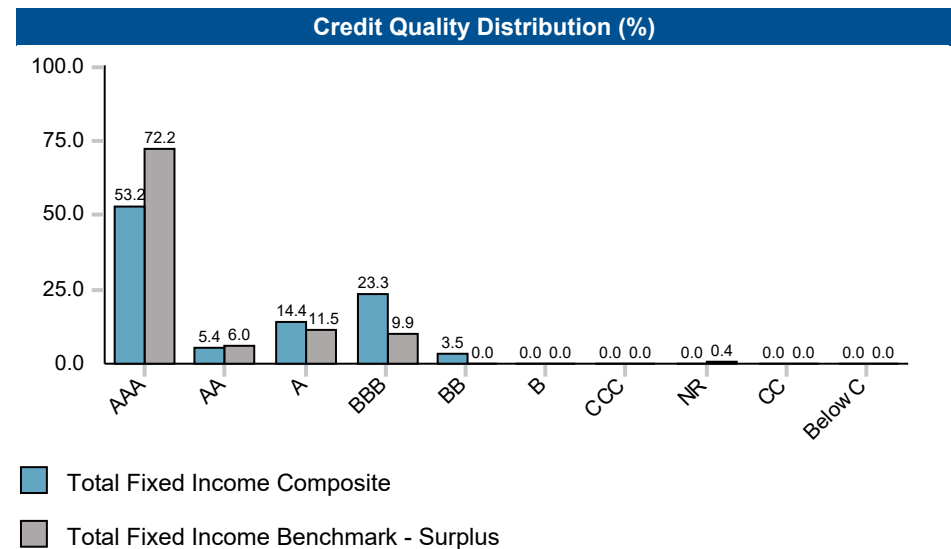
# Surplus Cash Fixed Income Portfolio Characteristics

## Surplus Cash Fixed Income Composite vs. Total Fixed Income Benchmark - Surplus

As of March 31, 2019

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	4.3	5.3
Avg. Maturity	6.4	6.5
Avg. Quality	A	AA-
Yield To Maturity (%)	3.2	2.8

Historical Statistics - 5 Years			
	Up Market Capture	Down Market Capture	Maximum Drawdown
Total Fixed Income Composite	89.4	71.3	-1.7
Total Fixed Income Benchmark - Surplus	100.0	100.0	-2.6



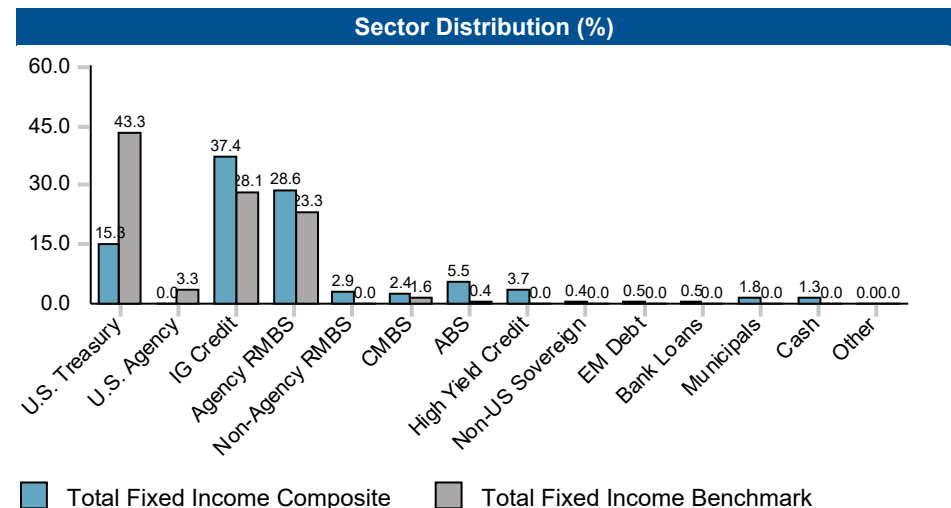
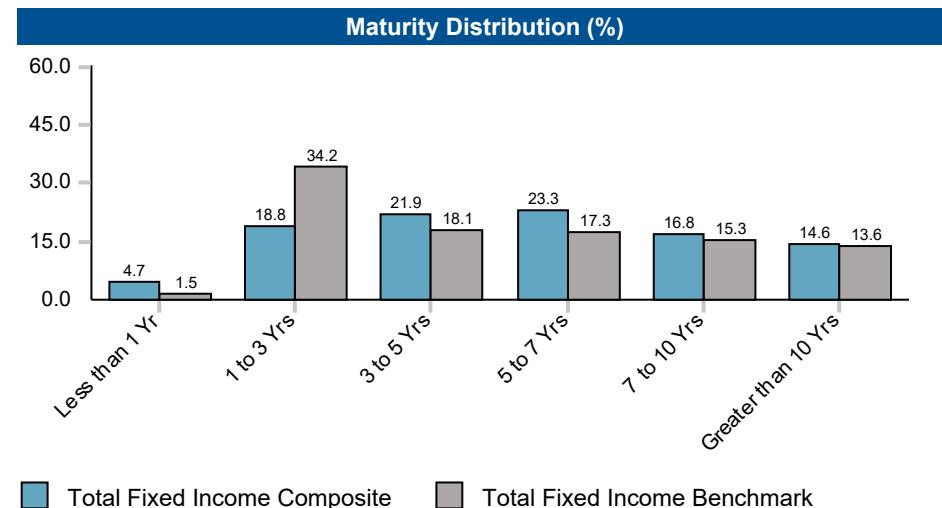
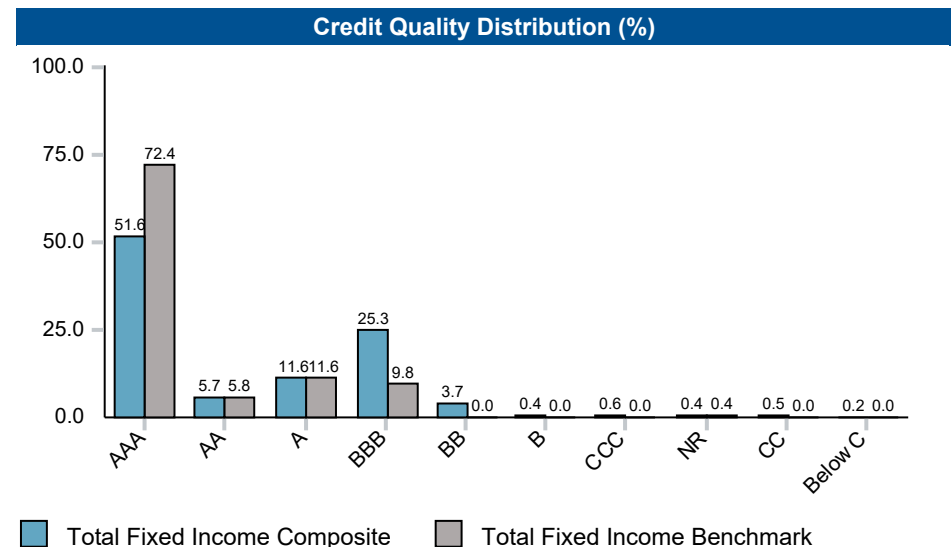
# Cash Balance Fixed Income Portfolio Characteristics

## Cash Balance Fixed Income Composite vs. Total Fixed Income Benchmark

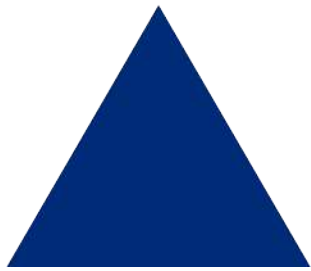
As of March 31, 2019

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	4.8	5.7
Avg. Maturity	7.4	7.0
Avg. Quality	AA	AA-
Yield To Maturity (%)	3.4	2.9

Historical Statistics - 5 Years			
	Up Market Capture	Down Market Capture	Maximum Drawdown
Total Fixed Income Composite	95.9	77.2	-2.0
Total Fixed Income Benchmark	100.0	100.0	-2.5



# Direct Hedge Fund Portfolio



# Surplus Cash Hedge Fund Portfolio Executive Summary

## Portfolio Update – First Quarter 2019

The Surplus Cash Hedge Fund Portfolio (the “Portfolio”) returned +2.4% during the first quarter of 2019, underperforming the HFRI Fund of Funds Composite Index by +2.2%. Each of the Portfolio’s four strategies contributed positively to the Portfolio’s performance on an absolute basis. Equity Long/Short strategies (+3.3%) contributed the most, followed by Relative Value (+2.6%), Credit (+2.0%), and Macro (+1.5%). On a relative basis, all four strategies detracted from their respective reference indices, namely Equity Long/Short (-4.5%), but also Credit (-1.2%), Macro (-1.1%), and Relative Value (-0.3%).

Strategy	Q1 Absolute Performance	12-Month Absolute Performance	Strategy Commentary	Manager Highlights Q1 Contributors/Detractors		
Equity Long / Short	+	-	<i>Indus’</i> core long positions bounced back significantly during the quarter. <i>Marshall Wace</i> posted a positive return on successful positioning around Consumer and Industrial names, while <i>Bloom Tree</i> gained mainly from long positions in the technology and industrial sectors which traded higher.	+	Indus Japan	+5.3%
					Marshall Wace	+4.4%
					Bloom Tree	+3.6%
				-		
Credit	+	+	<i>Davidson Kempner (DK)</i> added to performance largely on bond and equity positions in healthcare and energy names. <i>Chatham</i> posted a positive return despite lagging the high yield markets mainly due to its sizable equity index short. <i>York</i> detracted slightly due to its concentrated positioning in energy equity names which did not follow the increase in the price of oil.	+	DK	+3.6%
					Chatham	+2.6%
				-	York	-0.2%
Macro	+	-	Systematic macro manager <i>BP Transtrend</i> performed strongly largely due to gains in bond and interest rates futures markets, while <i>Emso</i> gained mostly on sovereign and local fixed income positions. Discretionary manager <i>Stone Milliner’s</i> positions in currency markets detracted.	+	BP Transtrend	+4.6%
					Emso	+2.8%
				-	Stone Milliner	-1.2%
					Moore	-0.2%
Relative Value	+	+	<i>BlackRock 32</i> performed well on gains in the fund’s global large/small cap and emerging market equity sleeves. Systematic manager <i>Renaissance</i> added to performance with gains from trading in international equity signals and from domestic security selection. <i>Carlson</i> was positive as several merger deals closed successfully during the quarter.	+	BlackRock 32	+5.9%
					Renaissance	+2.2%
					Carlson	+1.6%
				-		

## 1<sup>st</sup> Quarter Investment Activity

The Portfolio activity during the quarter is summarized in the table below:

Fund	Strategy	Activity Details	Status
<b>Tiger Eye Fund, Ltd.</b>	Equity Long / Short	Redemption submitted as of December 31, 2018.	<i>Redemption proceeds received, with audit holdback to be released in second quarter of 2019 following completion of annual audited financial statements.</i>
<b>The BlackRock 32 Capital Fund Ltd.</b>	Relative Value	Redemption submitted as of March 29, 2019.	<i>Redemption proceeds received in April 2019.</i>
<b>Chatham Asset High Yield Offshore Fund, Ltd.</b>	Credit	Redemption submitted as of June 30, 2019.	<i>In progress.</i>
<b>Palestra Capital Offshore Fund, Ltd.</b>	Equity Long / Short	Subscription submitted as of April 1, 2019.	<i>Completed.</i>
<b>Man Alternative Risk Premia Fund</b>	Relative Value	Subscription to be submitted during May 2019.	<i>In progress.</i>

## Rating Changes

During the quarter, the following rating changes occurred:

- **Indus Japan Fund:** *Watch* status added to fund rating.
- **Chatham Asset High Yield:** Fund rating downgraded.

## Recommendations or Action Items

Pavilion met with El Camino management to discuss their recommendation to liquidate exposure to the Chatham Asset High Yield Offshore Fund due to organizational concerns as well as concerns regarding portfolio liquidity. Management agreed and a redemption request was completed for June 30, 2019. Pavilion will provide a recommendation for the investment of the Chatham proceeds at the next Investment Committee meeting.

# Direct Hedge Fund Portfolio Asset Allocation & Performance

As of March 31, 2019

	Allocation		Performance(%)						
	Market Value (\$)	%	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	Since Invested	Inception Period
<b>Hedge Fund Composite</b>	<b>139,114,933</b>	<b>100.0</b>	<b>2.4</b>	<b>-1.5</b>	<b>-0.8</b>	<b>4.5</b>	<b>1.7</b>	<b>2.6</b>	<b>5y 11m</b>
HFRI Fund of Funds Composite Index			4.6	-0.4	0.1	3.9	2.2	2.7	
El Camino HF Composite Benchmark			4.9	-0.3	0.7	5.2	2.7	3.4	
<b>Equity HF Composite</b>	<b>40,384,318</b>	<b>29.0</b>	<b>3.3</b>	<b>-3.0</b>	<b>-2.9</b>	<b>3.8</b>	<b>0.9</b>	<b>2.1</b>	<b>5y 11m</b>
HFRI Equity Hedge (Total) Index			7.8	-1.0	-0.2	6.8	3.6	4.7	
<b>Credit HF Composite</b>	<b>31,579,607</b>	<b>22.7</b>	<b>2.0</b>	<b>-1.4</b>	<b>0.3</b>	<b>9.8</b>	<b>2.7</b>	<b>5.1</b>	<b>5y 11m</b>
HFRI ED: Distressed/Restructuring Index			3.2	-1.4	1.2	8.1	1.8	3.3	
<b>Macro HF Composite</b>	<b>40,463,908</b>	<b>29.1</b>	<b>1.5</b>	<b>-2.4</b>	<b>-2.2</b>	<b>0.3</b>	<b>2.5</b>	<b>1.2</b>	<b>5y 11m</b>
HFRI Macro (Total) Index			2.6	0.2	0.0	0.0	1.2	0.6	
<b>Relative Value HF Composite</b>	<b>26,687,099</b>	<b>19.2</b>	<b>2.6</b>	<b>3.3</b>	<b>5.1</b>	<b>6.3</b>	<b>1.7</b>	<b>2.9</b>	<b>5y 11m</b>
HFRI RV: Multi-Strategy Index			2.9	1.3	2.2	4.3	3.1	3.4	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

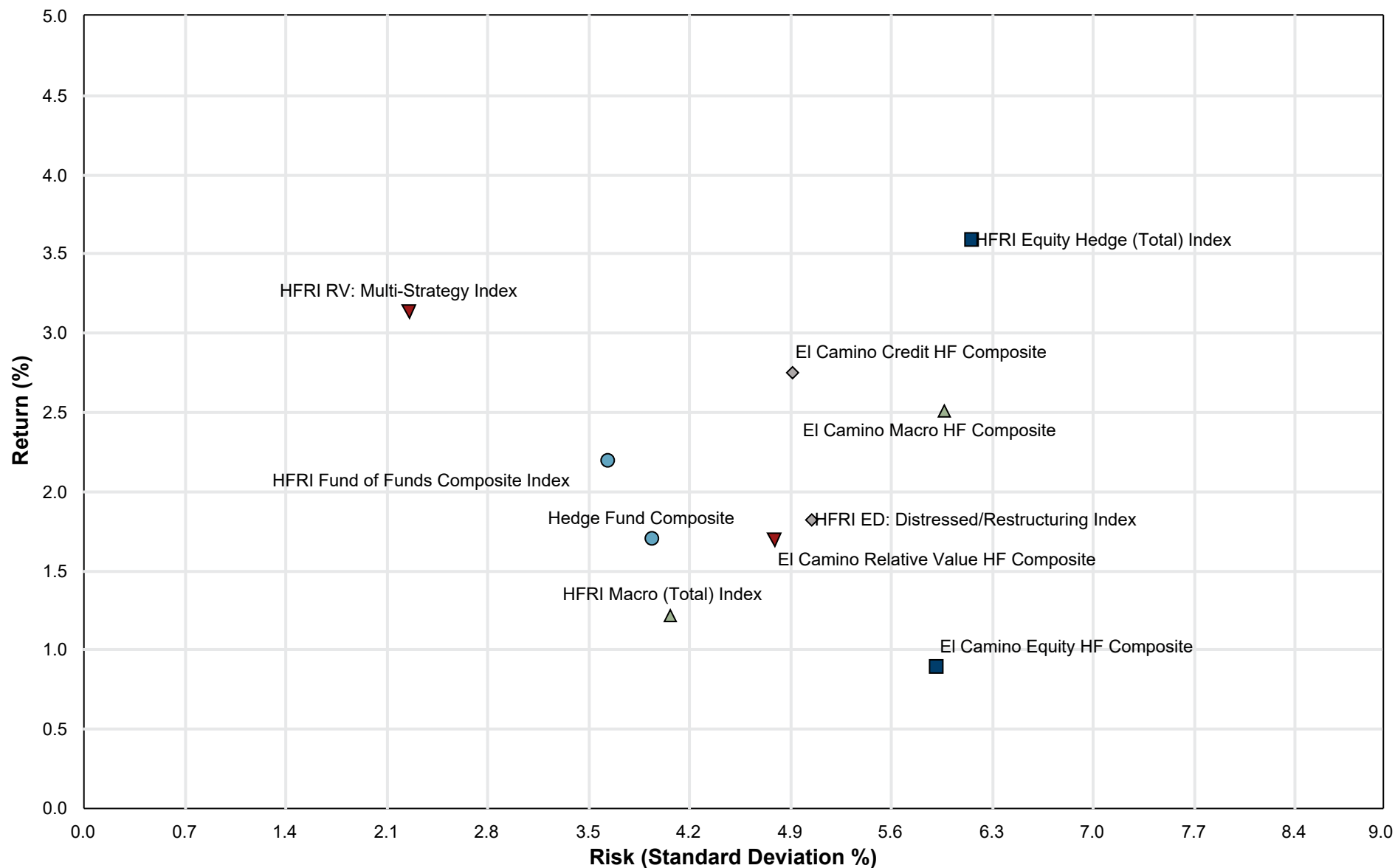
The El Camino HF Composite Benchmark consists of 40% HFRI Equity Hedge (Total) Index, 20% HFRI ED: Distressed/Restructuring Index, 20% HFRI Macro (Total) Index, and 20% HFRI RV: Multi-Strategy Index.



# Direct Hedge Fund Portfolio

## Risk and Return Summary (Net of Fees)

5 Years Ending March 31, 2019



Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

# Direct Hedge Fund Portfolio Risk Statistics

As of March 31, 2019

	Since Inception Return	Since Inception Standard Deviation	Since Inception Maximum Drawdown	Since Inception Best Quarter	Since Inception Worst Quarter	Since Inception Sharpe Ratio	Since Inception Sortino Ratio	Inception Period
<b>Total Portfolio</b>								
Hedge Fund Composite	2.6	3.9	-9.5	4.9	-5.7	0.5	0.8	5y 11m
HFRI Fund of Funds Composite Index	2.7	3.6	-7.6	4.6	-5.0	0.6	0.8	
<b>Equity Long/Short</b>								
El Camino Equity HF Composite	2.1	5.6	-14.3	5.7	-8.2	0.3	0.4	5y 11m
HFRI Equity Hedge (Total) Index	4.7	6.1	-10.3	7.8	-8.5	0.7	1.0	
<b>Credit</b>								
El Camino Credit HF Composite	5.1	5.1	-18.5	7.0	-6.6	0.9	1.4	5y 11m
HFRI ED: Distressed/Restructuring Index	3.3	5.0	-17.5	7.4	-6.4	0.6	0.8	
<b>Macro</b>								
El Camino Macro HF Composite	1.2	6.0	-7.4	7.9	-5.0	0.1	0.2	5y 11m
HFRI Macro (Total) Index	0.6	4.0	-6.8	5.1	-4.0	0.0	0.0	
<b>Relative Value</b>								
El Camino Relative Value HF Composite	2.9	4.6	-13.8	5.3	-8.1	0.5	0.7	5y 11m
HFRI RV: Multi-Strategy Index	3.4	2.3	-4.2	2.9	-2.4	1.2	2.1	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

# Asset Class Diversification

## Hedge Fund Portfolio

As of March 31, 2019

Manager	Asset Class/Type	Total Assets (\$ mil.)	Percent of Total	Target Allocation	Weighting Relative to Target
<b>Equity Hedge Funds</b>		<b>\$ 40.4</b>	<b>29.0%</b>	<b>40.0%</b>	<b>- 11.0%</b>
Luxor	Event Driven Equity	\$ 0.7	0.5%		
CapeView 1x	European Equity	\$ 6.2	4.5%		
CapeView 2x	European Equity	\$ 3.6	2.6%		
Bloom Tree	Global Equity	\$ 10.6	7.6%		
Marshall Wace Eureka	Global Equity	\$ 10.1	7.2%		
Tiger Eye	US Equity	\$ 0.4	0.3%		
Indus Japan	Japanese Equity	\$ 8.8	6.3%		
<b>Credit Hedge Funds</b>		<b>\$ 31.6</b>	<b>22.7%</b>	<b>20.0%</b>	<b>+ 2.7%</b>
Davidson Kempner	Distressed Credit	\$ 10.9	7.9%		
York	Multi-Strategy Credit	\$ 10.1	7.3%		
Chatham Asset	High Yield	\$ 10.5	7.6%		
<b>Macro Hedge Funds</b>		<b>\$ 40.5</b>	<b>29.1%</b>	<b>20.0%</b>	<b>+ 9.1%</b>
BP Transtrend	Systematic Macro	\$ 10.3	7.4%		
Moore	Discretionary Macro	\$ 10.0	7.2%		
Stone Milliner	Discretionary Macro	\$ 9.9	7.1%		
EMSO Saguaro	Discretionary Macro	\$ 10.3	7.4%		
<b>Relative Value Hedge Funds</b>		<b>\$ 26.7</b>	<b>19.2%</b>	<b>20.0%</b>	<b>- 0.8%</b>
BlackRock 32 Capital	Quantitative Market Neutral	\$ 5.8	4.2%		
Renaissance RIDGE	Quantitative Market Neutral	\$ 10.0	7.2%		
Fir Tree	Multi-Strategy	\$ 0.4	0.3%		
Pine River	Multi-Strategy	\$ 0.1	0.0%		
Black Diamond Arbitrage	Event/Merger Arbitrage	\$ 10.4	7.5%		
<b>Total Hedge Fund Portfolio</b>		<b>\$139.1</b>	<b>100.0%</b>		

\*Totals may not add due to rounding.

# Direct Hedge Fund Performance Summary

As of March 31, 2019

	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	Since Invested	2018	2017	2016	2015	2014	2013	Inception Period
<b>Total Portfolio</b>													
Hedge Fund Composite	2.4	-1.5	-0.8	4.5	1.7	2.6	-1.4	7.2	1.0	-1.6	2.2	-	5y 11m
HFRI Fund of Funds Composite Index	4.6	-0.4	0.1	3.9	2.2	2.7	-4.0	7.8	0.5	-0.3	3.4	9.0	
El Camino HF Composite Benchmark	4.9	-0.3	0.7	5.2	2.7	3.4	-4.1	7.7	6.7	-2.1	2.2	9.9	
<b>Equity Long/Short</b>													
Equity HF Composite	3.3	-3.0	-2.9	3.8	0.9	2.1	-3.7	12.1	-8.0	2.0	-0.4	-	5y 11m
HFRI Equity Hedge (Total) Index	7.8	-1.0	-0.2	6.8	3.6	4.7	-7.1	13.3	5.5	-1.0	1.8	14.3	
Bloom Tree Offshore Fund, Ltd.	3.6	9.1	1.7	7.0	3.9	3.9	0.5	8.6	-3.8	6.3	3.0	12.8	5y
HFRI Equity Hedge (Total) Index	7.8	-1.0	-0.2	6.8	3.6	3.6	-7.1	13.3	5.5	-1.0	1.8	14.3	
CapeView Azri Fund Limited	0.6	-3.7	-2.2	2.9	2.5	3.3	0.6	7.6	-8.3	9.8	4.6	11.4	5y 9m
HFRI Equity Hedge (Total) Index	7.8	-1.0	-0.2	6.8	3.6	4.9	-7.1	13.3	5.5	-1.0	1.8	14.3	
CapeView Azri 2X Fund	0.9	-8.7	-6.1	5.5	5.1	6.7	-0.4	16.2	-15.9	21.6	9.8	24.4	5y 9m
HFRI Equity Hedge (Total) Index	7.8	-1.0	-0.2	6.8	3.6	4.9	-7.1	13.3	5.5	-1.0	1.8	14.3	
Indus Japan Fund Ltd.	5.3	-15.4	-14.5	1.0	1.9	1.1	-20.1	21.6	-7.5	1.8	6.3	45.0	5y 4m
HFRI Equity Hedge (Total) Index	7.8	-1.0	-0.2	6.8	3.6	3.8	-7.1	13.3	5.5	-1.0	1.8	14.3	
Marshall Wace Eureka Fund Class B2	4.4	-1.2	0.3	7.6	7.6	5.6	-0.2	12.0	1.3	11.7	8.1	21.1	1y 8m
HFRI Equity Hedge (Total) Index	7.8	-1.0	-0.2	6.8	3.6	3.3	-7.1	13.3	5.5	-1.0	1.8	14.3	

Returns are expressed as percentages. Returns for periods greater than one year are annualized. From May 1, 2013, results shown are El Camino Hedge Fund Portfolio returns. Returns for CapeView Azri 2x Fund prior to October 2010 are those of CapeView Azri Fund Limited; returns for BP Transtrend Diversified Fund, LLC prior to April 2008 are those of the Transtrend Diversified Trend Program Enhanced Risk (USD) Fund.

# Direct Hedge Fund Performance Summary

As of March 31, 2019

	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	Since Invested	2018	2017	2016	2015	2014	2013	Inception Period
<b>Credit</b>													
Credit HF Composite	2.0	-1.4	0.3	9.8	2.7	5.1	0.7	9.9	14.7	-8.2	2.8	-	5y 11m
HFRI ED: Distressed/Restructuring Index	3.2	-1.4	1.2	8.1	1.8	3.3	-1.7	6.3	15.1	-8.1	-1.4	14.0	
Chatham Asset High Yield Offshore Fund, Ltd	2.6	3.3	4.3	14.7	10.9	8.3	4.7	13.5	24.3	5.6	5.5	12.5	1y 8m
HFRI ED: Distressed/Restructuring Index	3.2	-1.4	1.2	8.1	1.8	2.2	-1.7	6.3	15.1	-8.1	-1.4	14.0	
DK Distressed Opportunities International (Cayman) Ltd.[CE]	3.6	0.6	3.5	11.9	5.2	7.4	2.7	9.5	21.4	-6.2	3.2	21.7	5y 11m
HFRI ED: Distressed/Restructuring Index	3.2	-1.4	1.2	8.1	1.8	3.3	-1.7	6.3	15.1	-8.1	-1.4	14.0	
York Credit Opportunities Unit Trust[CE]	-0.2	-7.9	-6.4	5.2	-0.2	2.3	-4.8	12.5	4.1	-7.9	3.4	15.6	5y 11m
HFRI ED: Distressed/Restructuring Index	3.2	-1.4	1.2	8.1	1.8	3.3	-1.7	6.3	15.1	-8.1	-1.4	14.0	
<b>Macro</b>													
Macro HF Composite	1.5	-2.4	-2.2	0.3	2.5	1.2	-4.0	0.1	5.0	1.0	7.7	-	5y 11m
HFRI Macro (Total) Index	2.6	0.2	0.0	0.0	1.2	0.6	-4.1	2.2	1.0	-1.3	5.6	-0.4	
BP Transtrend Diversified Fund LLC	4.6	-2.2	2.2	-0.8	5.0	3.1	-7.2	1.4	8.2	-1.1	18.9	0.6	5y 11m
HFRI Macro (Total) Index	2.6	0.2	0.0	0.0	1.2	0.6	-4.1	2.2	1.0	-1.3	5.6	-0.4	
EMSO Saguaro, Ltd.	2.8	0.7	-3.2	4.4	4.7	0.4	-4.6	7.7	10.2	6.2	2.6	2.7	1y 8m
HFRI Macro (Total) Index	2.6	0.2	0.0	0.0	1.2	0.4	-4.1	2.2	1.0	-1.3	5.6	-0.4	
Moore Macro Managers Fund Ltd.[CE]	-0.2	-5.9	-6.2	0.6	0.9	0.9	-3.3	0.6	0.0	3.1	5.4	13.4	5y
HFRI Macro (Total) Index	2.6	0.2	0.0	0.0	1.2	1.2	-4.1	2.2	1.0	-1.3	5.6	-0.4	
Stone Milliner Macro Fund Inc.	-1.2	-2.0	-1.9	-0.3	3.3	0.4	1.2	-5.5	4.9	5.7	14.3	11.2	4y 1m
HFRI Macro (Total) Index	2.6	0.2	0.0	0.0	1.2	-0.6	-4.1	2.2	1.0	-1.3	5.6	-0.4	

Returns are expressed as percentages. Returns for periods greater than one year are annualized. From May 1, 2013, results shown are El Camino Hedge Fund Portfolio returns. Returns for CapeView Azri 2x Fund prior to October 2010 are those of CapeView Azri Fund Limited; returns for BP Transtrend Diversified Fund, LLC prior to April 2008 are those of the Transtrend Diversified Trend Program Enhanced Risk (USD) Fund.

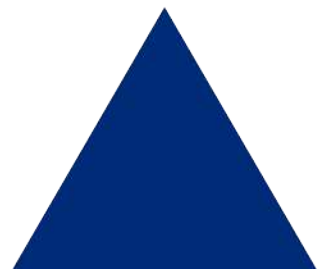
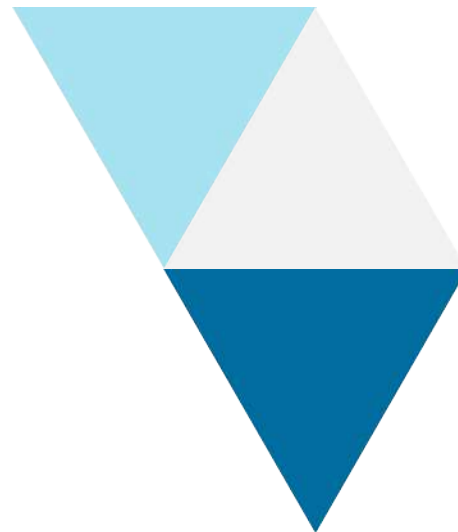
# Direct Hedge Fund Performance Summary

As of March 31, 2019

	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	Since Invested	2018	2017	2016	2015	2014	2013	Inception Period
<b>Relative Value</b>													
Relative Value HF Composite	2.6	3.3	5.1	6.3	1.7	2.9	5.3	4.4	-0.4	-4.0	1.6	-	5y 11m
HFRI RV: Multi-Strategy Index	2.9	1.3	2.2	4.3	3.1	3.4	-0.2	4.1	6.4	0.7	3.4	7.9	
(BlackRock) The 32 Capital Fund, Ltd.[CE]	5.9	-6.2	-3.5	1.2	1.7	2.0	-4.5	7.4	-11.4	8.6	-0.3	7.1	2y 8m
HFRI EH: Equity Market Neutral Index	1.3	-0.6	-0.5	2.3	2.7	2.4	-1.0	4.9	2.2	4.3	3.1	6.5	
HFRI RV: Multi-Strategy Index	2.9	1.3	2.2	4.3	3.1	3.7	-0.2	4.1	6.4	0.7	3.4	7.9	
(Carlson) Black Diamond Arbitrage Ltd.[CE]	1.6	3.5	7.6	7.2	7.7	3.9	6.4	6.8	10.8	10.5	3.9	7.5	0y 7m
HFRI ED: Merger Arbitrage Index	2.8	3.4	6.0	4.4	3.7	3.1	3.3	4.3	3.6	3.3	1.7	4.7	
HFRI RV: Multi-Strategy Index	2.9	1.3	2.2	4.3	3.1	0.9	-0.2	4.1	6.4	0.7	3.4	7.9	
Renaissance RIDGE	2.2	9.1	10.6	8.9	15.5	8.0	10.4	12.4	13.3	25.6	17.0	7.7	1y 5m
HFRI EH: Equity Market Neutral Index	1.3	-0.6	-0.5	2.3	2.7	0.9	-1.0	4.9	2.2	4.3	3.1	6.5	
HFRI RV: Multi-Strategy Index	2.9	1.3	2.2	4.3	3.1	2.3	-0.2	4.1	6.4	0.7	3.4	7.9	

Returns are expressed as percentages. Returns for periods greater than one year are annualized. From May 1, 2013, results shown are El Camino Hedge Fund Portfolio returns. Returns for CapeView Azri 2x Fund prior to October 2010 are those of CapeView Azri Fund Limited; returns for BP Transtrend Diversified Fund, LLC prior to April 2008 are those of the Transtrend Diversified Trend Program Enhanced Risk (USD) Fund.

# Appendix



# Appendix

## Benchmark Descriptions

As of March 31, 2019

### Surplus Cash

#### Surplus Cash Total Benchmark

Beginning March 2015, the Surplus Cash Total Benchmark consists of 40% Total Equity Benchmark - Surplus, 30% Barclays Capital Aggregate, 10% Short Duration Fixed Income Benchmark - Surplus, and 20% Total Alternatives Benchmark - Surplus. From April 2014 to February 2015, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 10% Short Duration Fixed Income Benchmark - Surplus, and 20% Total Alternatives Benchmark - Surplus. From August 2013 to March 2014, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 20% Short Duration Fixed Income Benchmark - Surplus, and 10% Total Alternatives Benchmark - Surplus. During July 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 21% Short Duration Fixed Income Benchmark - Surplus, and 9% Total Alternatives Benchmark - Surplus. From May 2013 to June 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 22% Short Duration Fixed Income Benchmark - Surplus, and 8% HFRI Fund of Funds Composite Index. From November 2012 to April 2013, the Surplus Cash Total Benchmark consists of 30% Total Equity Benchmark - Surplus and 70% Total Fixed Income Benchmark - Surplus. From January 2007 to October 2012, the Surplus Cash Total Benchmark consisted of 15% Total Equity Benchmark - Surplus and 85% Total Fixed Income Benchmark - Surplus. From August 2000 to December 2006, the Surplus Cash Total Benchmark consisted of 2% Total Equity Benchmark - Surplus and 98% Total Fixed Income Benchmark - Surplus. From April 1991 to July 2000, the Surplus Cash Total Benchmark consisted of 100% Total Fixed Income Benchmark - Surplus.

#### Surplus Cash Total Benchmark X Privates

Beginning March 2015 the Surplus Cash Total Benchmark consists of 42.1% Total Equity Benchmark - Surplus, 31.6% Barclays Capital Aggregate, 10.5% Short Duration Fixed Income Benchmark - Surplus, and 15.8% Total Alternatives Benchmark - Surplus. From April 2014 to February 2015 the Surplus Cash Total Benchmark consisted of 31.6% Total Equity Benchmark - Surplus, 42.1% Barclays Capital Aggregate, 10.5% Short Duration Fixed Income Benchmark - Surplus, and 15.8% Total Alternatives Benchmark - Surplus. From August 2013 to March 2014, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 20% Short Duration Fixed Income Benchmark - Surplus, and 10% Total Alternatives Benchmark - Surplus. During July 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 21% Short Duration Fixed Income Benchmark - Surplus, and 9% Total Alternatives Benchmark - Surplus. From May 2013 to June 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 22% Short Duration Fixed Income Benchmark - Surplus, and 8% HFRI Fund of Funds Composite Index. From November 2012 to April 2013, the Surplus Cash Total Benchmark consists of 30% Total Equity Benchmark - Surplus and 70% Total Fixed Income Benchmark - Surplus. From January 2007 to October 2012, the Surplus Cash Total Benchmark consisted of 15% Total Equity Benchmark - Surplus and 85% Total Fixed Income Benchmark - Surplus. From August 2000 to December 2006, the Surplus Cash Total Benchmark consisted of 2% Total Equity Benchmark - Surplus and 98% Total Fixed Income Benchmark - Surplus. From April 1991 to July 2000, the Surplus Cash Total Benchmark consisted of 100% Total Fixed Income Benchmark - Surplus.

#### Pre-Pavilion Surplus Cash Total Benchmark

Beginning January 2007, the Pre-Pavilion Surplus Cash Total Benchmark consists of 15% Total Equity Benchmark - Surplus and 85% Total Fixed Income Benchmark - Surplus. From August 2000 to December 2006, the Pre-Pavilion Surplus Cash Total Benchmark consisted of 2% Total Equity Benchmark - Surplus and 98% Total Fixed Income Benchmark - Surplus. From April 1991 to July 2000, the Pre-Pavilion Surplus Cash Total Benchmark consisted of 100% Total Fixed Income Benchmark - Surplus.

#### Total Equity Benchmark - Surplus

Beginning March 2015, the Total Equity Benchmark - Surplus consists of 50% Large Cap Equity Benchmark, 12.5% Small Cap Equity Benchmark, and 37.5% MSCI AC World ex USA (Net). From November 2012 to February 2015, the Total Equity Benchmark - Surplus consisted of 50% Large Cap Equity Benchmark, 16.67% Small Cap Equity Benchmark, and 33.33% MSCI AC World ex USA (Net). From April 1991 to October 2012, the Total Equity Benchmark - Surplus consisted of 100% Large Cap Equity Benchmark.

#### Domestic Equity Benchmark - Surplus

Beginning March 2015, the Domestic Equity Benchmark - Surplus consists of 80% Large Cap Equity Benchmark and 20% Small Cap Equity Benchmark. From November 2012 to February 2015, the Domestic Equity Benchmark - Surplus consisted of 75% Large Cap Equity Benchmark and 25% Small Cap Equity Benchmark. From April 1991 to October 2012, the Domestic Equity Benchmark - Surplus consisted of 100% Large Cap Equity Benchmark.



# Appendix

## Benchmark Descriptions

As of March 31, 2019

### **Large Cap Equity Benchmark**

Beginning November 2012, the Large Cap Equity Benchmark consists of 25% Russell 1000 Value Index, 25% Russell 1000 Growth Index, and 50% S&P 500 Index. From April 1991 to October 2012, the Large Cap Equity Benchmark consisted of 100% Russell 1000 Value Index.

### **Small Cap Equity Benchmark**

Beginning November 2012, the Small Cap Equity Benchmark consists of 50% Russell 2000 Growth Index and 50% Russell 2000 Value Index.

### **Total Fixed Income Benchmark - Surplus**

Beginning March 2015, the Total Fixed Income Benchmark - Surplus consists of 75% Barclays Capital Aggregate and 25% Short Duration Fixed Income Benchmark - Surplus. From April 2014 to February 2015, the Total Fixed Income Benchmark - Surplus consisted of 80% Barclays Capital Aggregate and 20% Short Duration Fixed Income Benchmark - Surplus. From August 2013 to March 2014, the Total Fixed Income Benchmark - Surplus consisted of 66.67% Barclays Capital Aggregate and 33.33% Short Duration Fixed Income Benchmark - Surplus. During July 2013, the Total Fixed Income Benchmark - Surplus consisted of 65.57% Barclays Capital Aggregate and 34.43% Short Duration Fixed Income Benchmark - Surplus. From May 2013 to June 2013, the Total Fixed Income Benchmark - Surplus consisted of 64.52% Barclays Capital Aggregate and 35.48% Short Duration Fixed Income Benchmark - Surplus. From November 2012 to April 2013, the Total Fixed Income Benchmark - Surplus consisted of 57.14% Barclays Capital Aggregate and 42.86% Short Duration Fixed Income Benchmark - Surplus. From January 2007 to October 2012, the Total Fixed Income Benchmark - Surplus consisted of 40% Barclays Capital Aggregate and 60% Short Duration Fixed Income Benchmark - Surplus. From April 1991 to December 2006, the Total Fixed Income Benchmark - Surplus consisted of 100% Short Duration Fixed Income Benchmark - Surplus.

### **Short Duration Fixed Income Benchmark - Surplus**

Beginning in November 2012, the Short Duration Fixed Income Benchmark - Surplus consists of 100% Barclays Capital 1-3 Year Gov't/Credit. From January 2007 to October 2012, the Short Duration Fixed Income Benchmark - Surplus consisted of 66.67% Barclays Capital Intermediate Aggregate and 33.33% Barclays Capital Gov't 1-3 Year. From May 2001 to December 2006, the Short Duration Fixed Income Benchmark - Surplus consisted of 84.69% Barclays Capital Intermediate Aggregate and 15.31% Barclays Capital Gov't 1-3 Year. From April 1991 to April 2001, the Short Duration Fixed Income Benchmark - Surplus consisted of 100% Barclays Capital Gov't 1-3 Year.

### **Total Alternatives Benchmark - Surplus**

Beginning April 2014 the Total Alternatives Benchmark - Surplus consists of 75% HFRI Fund of Funds Composite Index and 25% NCREIF Property Index. From May 2013 to March 2014, the Total Alternatives Benchmark - Surplus consisted of 100% HFRI Fund of Funds Composite Index.

# Appendix

## Benchmark Descriptions

As of March 31, 2019

### Cash Balance Plan

#### Cash Balance Plan Total Benchmark

Beginning July 2017, the Cash Balance Plan Total Benchmark consists of 50% Total Equity Benchmark, 30% Total Fixed Income Benchmark, and 20% Alternatives Benchmark. From January 2013 to June 2017, the Cash Balance Plan Total Benchmark consisted of 50% Total Equity Benchmark, 35% Total Fixed Income Benchmark, and 15% Alternatives Benchmark. From November 2012 to December 2012, the Cash Balance Plan Total Benchmark consisted of 50% Total Equity Benchmark, 45% Total Fixed Income Benchmark, and 5% Alternatives Benchmark. From October 1990 to October 2012, the Cash Balance Plan Total Benchmark consisted of 60% Russell 1000 Value Index and 40% Barclays Capital Aggregate.

#### Cash Balance Plan Total X Privates Benchmark

Beginning July 2017, the Cash Balance Plan Total Benchmark X Privates consists of 33.68% Domestic Equity Benchmark, 18.95% MSCI AC World ex USA Net, 26.31% Barclays Capital Aggregate, 5.27% Short Duration Fixed Income Benchmark, and 15.79% HFRI FOF Composite. From January 2013 to June 2017, the Cash Balance Plan Total Benchmark X Privates consisted of 33.68% Domestic Equity Benchmark, 18.95% MSCI AC World ex USA Net, 26.31% Barclays Capital Aggregate, 10.53% Short Duration Fixed Income Benchmark, and 10.53% HFRI FOF Composite. From November 2012 to December 2012, the Cash Balance Plan Total Benchmark X Privates consisted of 50% Total Equity Benchmark, 45% Total Fixed Income Benchmark, and 5% HFRI FOF Composite. From October 1990 to October 2012, the Cash Balance Plan Total Benchmark X Privates consisted of 60% Russell 1000 Value Index and 40% Barclays Capital Aggregate.

#### Pre-Pavilion Cash Balance Plan Total Benchmark

Beginning October 1990, the Cash Balance Plan Total Benchmark consists of 60% Russell 1000 Value Index and 40% Barclays Capital Aggregate.

#### Total Equity Benchmark

Beginning November 2012, the Total Equity Benchmark consists of 54% Large Cap Equity Benchmark, 10% Small Cap Equity Benchmark, and 36% MSCI AC World ex USA (Net). From October 1990 to October 2012, the Total Equity Benchmark consisted of 100% Large Cap Equity Benchmark.

#### Domestic Equity Benchmark

Beginning November 2012, the Domestic Equity Benchmark consists of 84.38% Large Cap Equity Benchmark and 15.62% Small Cap Equity Benchmark. From October 1990 to October 2012, the Domestic Equity Benchmark consisted of 100% Large Cap Equity Benchmark.

#### Large Cap Equity Benchmark

Beginning November 2012, the Large Cap Equity Benchmark consists of 25% Russell 1000 Value Index, 25% Russell 1000 Growth Index, and 50% S&P 500 Index. From October 1990 to October 2012, the Large Cap Equity Benchmark consisted of 100% Russell 1000 Value Index.

#### Small Cap Equity Benchmark

Beginning November 2012, the Small Cap Equity Benchmark consists of 50% Russell 2000 Growth Index and 50% Russell 2000 Value Index.

#### Total Fixed Income Benchmark

Beginning July 2017, the Total Fixed Income Benchmark consists of 83.3333% Barclays Capital Aggregate and 16.6667% Short Duration Fixed Income Benchmark. From January 2013 to June 2017, the Total Fixed Income Benchmark consisted of 71.43% Barclays Capital Aggregate and 28.57% Short Duration Fixed Income Benchmark. From November 2012 to December 2012, the Total Fixed Income Benchmark consists of 55.56% Barclays Capital Aggregate and 44.44% Short Duration Fixed Income Benchmark. From October 1990 to October 2012, the Total Fixed Income Benchmark consisted of 100% Barclays Aggregate.

#### Short Duration Fixed Income Benchmark

Beginning November 2012, the Short Duration Fixed Income Benchmark consists of 100% Barclays Capital 1-3 Year Gov't/Credit. From October 1990 to October 2012, the Short Duration Fixed Income Benchmark

# Appendix

## Benchmark Descriptions

As of March 31, 2019

consisted of 100% 90 Day U.S. Treasury Bills.

### **Total Alternatives Benchmark**

Beginning January 2013, the Alternatives Benchmark consists of 66.67% HFRI Fund of Funds Composite Index and 33.33% NCREIF Property Index. From November 2012 to December 2012, the Alternatives Benchmark consisted of 100% HFRI Fund of Funds Composite Index.

# Glossary of Terms for Scorecard

Key Performance Indicator	Definition / Explanation
Investment Performance	
Surplus cash balance (millions)	
Surplus cash return	Investment performance for the Surplus Cash portfolio matched the benchmark for the quarter with a +6.7% return. The portfolio has outgained its benchmark by 20 bps per annum since inception (Nov. 1, 2012) with a return of +5.4% annualized. The assets within the Surplus Cash account excluding debt reserves, balance sheet cash and District assets, but including Foundation and Concern assets ended the quarter at \$999.8 million, significantly higher than the beginning of the quarter due to strong investment performance. The adjusted fiscal year 2019 Surplus Cash projected balance at fiscal year end 2019 was \$892.9 million.
Cash balance plan balance (millions)	
Cash balance plan return	The Cash Balance Plan's performance outgained its benchmark by 60 bps for the quarter with a return of +8.3%, and has outperformed its benchmark since inception. The since inception annualized return stands at +7.6%, 80 basis points ahead of its benchmark per year. The assets within the Cash Balance Plan ended the quarter at \$270.7 million. The estimated expected amount for fiscal year 2019 is \$276.9 million.
403(b) plan balance (millions)	The 403(b) balance grew significantly during the quarter and now stands at \$496.8 million, an increase of \$61.5 million or 14.1% from the December 31, 2018 value.
Risk vs. Return	
Surplus cash 3-year Sharpe ratio	
3-year return	The Sharpe ratio is the excess return of an investment over the risk free rate (US Treasuries) generated per unit of risk (standard deviation) taken to obtain that return. The higher the value, the better the risk-adjusted return. It is important to view returns in this context because it takes into account the risk associated with a particular return rather than simply focusing on the absolute level of return.
3-year standard deviation	
	Sharpe ratio = (actual return - risk free rate) / standard deviation
Cash balance 3-year Sharpe ratio	
3-year return	The Surplus Cash portfolio's 3-year Sharpe ratio was above that of its benchmark and significantly higher than the expected Sharpe ratio modeled. This was due primarily to muted volatility over the period in comparison to what was modeled. The Cash Balance Plan's 3-year Sharpe ratio significantly exceeded modeling expectations and was above its benchmark as well. Both accounts have demonstrated strong risk-adjusted returns since inception.
3-year standard deviation	
Asset Allocation	
Surplus cash absolute variances to target	This represents the sum of the absolute differences between the portfolio's allocations to various asset classes and the target benchmark's allocations to those asset classes. The higher the number, the greater the portfolio's allocations deviate from the target benchmark's allocations, indicating a higher possibility for the portfolio's risk and return characteristics to differ from the Board's expectations.
Cash balance absolute variances to target	The threshold for an alert "yellow" status is set at 10% and the threshold for more severe "red" status is set at 20%. Both portfolios are below the 10% threshold. The Surplus Cash portfolio variance to target is elevated due to transitions within the hedge fund portfolio.
Manager Compliance	
Surplus cash manager flags	This section represents how individual investment managers have fared and draws attention to elevated concerns regarding performance and risk-adjusted performance all at the individual manager level. The number of flags are aggregated and a percentage of the total is used to highlight an alert "yellow" status (40% of the flags) and a more severe "red" status (50%). In total there are 60 potential flags for the Surplus Cash account and 68 for the Cash Balance Plan.
Cash balance plan manager flags	Currently, the Cash Balance Plan is within the threshold for alert "yellow" status while the Surplus Cash portfolio has not triggered an alert status. Cash flows within the Cash Balance Plan's Barrow Hanley Short Duration account have artificially skewed results and as a result have had a slightly more negative impact in relation to the Surplus Cash portfolio; however, they have triggered a meaningful difference in the number of alerts.

# Hedge Fund Strategy Definitions

The **Equity Strategy** is comprised of Equity Long/Short strategies. Equity hedge strategies typically have a directional bias (long or short) and trade in equities and equity-related derivatives. Managers seek to buy undervalued equities with improving fundamentals and short overvalued equities with deteriorating fundamentals.

*Trade Example: Long a basket of energy stocks and short a basket of consumer electronics stocks.*

The **Credit Strategy** is comprised of Distressed Securities, Credit Long/Short, Emerging Market Debt and Credit Event Driven. Credit strategies typically have a directional bias and involve the purchase of various types of debt, equity, trade claims and fixed income securities. Hedging using various instruments such as Credit Default swaps is frequently employed.

*Trade Example: Buying the distressed bonds of a company which has defaulted and participating in the corporate restructuring.*

The **Macro Strategy** consists of Global Macro, Managed Futures, Commodities and Currencies. Macro strategies usually have a directional bias (which can be either long or short) and involve the purchase of a variety of securities and/or derivatives related to major markets. Managed futures strategies trade similar instruments but are typically implemented by computerized systems.

*Trade Example: Long the US Dollar and short the Japanese Yen.*

The **Relative Value Strategy** typically does not display a distinct directional bias. Relative Value encompasses a range of strategies covering different asset classes. Arbitrage strategies focus on capturing movements or anomalies in the price spreads between related or similar instruments. The rationale for Arbitrage trades is the ultimate convergence of the market price relationship to a known, theoretical or equilibrium relationship.

*Trade Example: Long the stock of a merger bid target and short the stock of the acquirer.*

# Statistical Definitions

## Risk Statistics

As of March 31, 2019

Statistics	Definition
Alpha	- A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market, or a portfolio's non-systematic return.
Best Quarter	- The best of rolling 3 months(or 1 quarter) cumulative return.
Beta	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.
Consistency	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.
Downside Risk	- A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative set of returns. The higher the factor, the riskier the product.
Excess Return	- Arithmetic difference between the manager's return and the risk-free return over a specified time period.
Information Ratio	- Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.
Maximum Drawdown	- The drawdown is defined as the percent retrenchment from a fund's peak value to the fund's valley value. It is in effect from the time the fund's retrenchment begins until a new fund high is reached. The maximum drawdown encompasses both the period from the fund's peak to the fund's valley (length), and the time from the fund's valley to a new fund high (recovery). It measures the largest percentage drawdown that has occurred in any fund's data record.
Return	- Compounded rate of return for the period.
Sharpe Ratio	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.
Sortino Ratio	- A ratio developed by Frank A. Sortino to differentiate between good and bad volatility in the Sharpe ratio. This differentiation of upwards and downwards volatility allows the calculation to provide a risk-adjusted measure of a security or fund's performance without penalizing it for upward price changes.
Standard Deviation	- A statistical measure of the range of a portfolio's performance, the variability of a return around its average return over a specified time period.
Tracking Error	- A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.
Worst Quarter	- The worst of rolling 3 months(or 1 quarter) cumulative return.

# Custom Peer Group Universe

## Description

As of March 31, 2019

- **Custom Non US Diversified All:** The Custom Non US Diversified All universe is a custom universe that includes the eVestment Alliance Non-US Diversified Equity universe excluding all strategies included in the eVestment Alliance Non-US Diversified Small Cap Equity universe. The eVestment Alliance Non-US Diversified Equity universe is made up of all Non-US Diversified (EAFE and ACWI ex-US) Equity products inclusive of all style, capitalization, and strategy approaches. The eVestment Alliance Non-US Diversified Small Cap Equity universe consists of actively-managed Non-US Diversified (EAFE and ACWI ex-US) Equity products that primarily invest in small capitalization stocks regardless of the style (growth, value or core) focus.
- **Custom Non US Diversified Core:** The Custom Non US Diversified Core universe is a custom universe that includes the eVestment Alliance Non-US Diversified Core Equity universe excluding all strategies included in the eVestment Alliance Non-US Diversified Small Cap Equity universe. The eVestment Alliance Non-US Diversified Core Equity universe is made up of all actively-managed Non-US Diversified (EAFE and ACWI ex-US) Equity products that primarily invest in a mixture of growth and value stocks. This universe is inclusive of Non-US Diversified Equity strategies regardless of market capitalization. The eVestment Alliance Non-US Diversified Small Cap Equity universe consists of actively-managed Non-US Diversified (EAFE and ACWI ex-US) Equity products that primarily invest in small capitalization stocks regardless of the style (growth, value or core) focus.
- **Custom Non US Diversified Growth:** The Custom Non US Diversified Growth universe is a custom universe that includes the eVestment Alliance Non-US Diversified Growth Equity universe excluding all strategies included in the eVestment Alliance Non-US Diversified Small Cap Equity universe. The eVestment Alliance Non-US Diversified Growth Equity universe is made up of all actively-managed Non-US Diversified (EAFE and ACWI ex-US) Equity products that primarily invest in stocks that are expected to have an above-average capital appreciation rate relative to the market. This universe is inclusive of Non-US Diversified Equity strategies regardless of market capitalization. The eVestment Alliance Non-US Diversified Small Cap Equity universe consists of actively-managed Non-US Diversified (EAFE and ACWI ex-US) Equity products that primarily invest in small capitalization stocks regardless of the style (growth, value or core) focus.
- **Custom Non US Diversified Value:** The Custom Non US Diversified Value universe is a custom universe that includes the eVestment Alliance Non-US Diversified Value Equity universe excluding all strategies included in the eVestment Alliance Non-US Diversified Small Cap Equity universe. The eVestment Alliance Non-US Diversified Value Equity universe is made up of all actively-managed Non-US Diversified (EAFE and ACWI ex-US) Equity products that primarily invest in stocks that may be trading at lower prices lower than their fundamental or intrinsic value. This universe is inclusive of Non-US Diversified Equity strategies regardless of market capitalization. The eVestment Alliance Non-US Diversified Small Cap Equity universe consists of actively-managed Non-US Diversified (EAFE and ACWI ex-US) Equity products that primarily invest in small capitalization stocks regardless of the style (growth, value or core) focus.

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**EL CAMINO HOSPITAL**

**ASSET ALLOCATION REVIEW -  
HEALTHCARE ENTERPRISE  
RISK MODELING**

MAY 2019

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# EXECUTIVE SUMMARY

- The following slides present Pavilion's assessment of El Camino Hospital's risk tolerance and liquidity needs as part of our Healthcare Enterprise Risk Modeling ("HERM") exercise. Using El Camino Hospital's Long Range Financial Plan (January 2019), the analysis incorporates the overall risks and financial situation of the organization into the review of the Surplus Cash Portfolio asset allocation.
- Considerations throughout the analysis include the following:
  - Strong operating results are projected to continue. Current and projected financial position far exceeds that of its peers.
  - Ended Fiscal Year 2018 with nearly 603 Days Cash on Hand ("DCOH"), which is significantly higher than the Moody's A1 median (252.4) and the minimum debt covenant requirement of 90 Days.
  - DCOH is projected to decrease due to increased capital spending reserved for ongoing projects (Mountain View, Los Gatos). However, DCOH is then projected to stabilize at a level still significantly higher than the Moody's A1 median.
  - The Surplus Cash target asset allocation is marginally more defensive than similar Healthcare peers. DCOH is expected to remain above Moody's A1 median even when stressed under a 2008 market scenario occurring simultaneously with underperforming operating results.
- The factors above suggest that El Camino Hospital has the financial standing to maintain a long-term investment horizon and can weather bouts of volatility in an effort to grow the balance sheet over time. If desired, El Camino Hospital has the ability to increase its risk and return profile or allocate a higher percentage of the Surplus Cash portfolio to illiquid strategies.

# REVIEW OF FINANCIAL STANDING AND FINANCIAL PROJECTIONS

# FINANCIAL METRICS VS. PEERS

Financial Metric	Forecast Results Range		Moody's Medians (Aug 2018)		
	Highest	Lowest	Aa3	A1	A2
Net Patient Revenue (\$ Millions)	\$1,478.3	\$919.5	\$2,403.1	\$1,142.5	\$901.8
Operating Margin (%)	9.3%	4.6%	3.0%	2.6%	3.0%
EBIDTA Margin (%)	15.5%	12.5%	8.3%	9.0%	9.2%
Excess Margin (%)	12.0%	6.9%	5.8%	5.6%	5.8%
Annual Debt Service Coverage (x)	6.6x	4.3x	6.4x	5.7x	5.4x
Days Cash on Hand	516	344	234.2	252.4	223.5

- El Camino Hospital currently holds an A1 bond rating from Moody's Investor Service
- Operating margins remain strong and are projected to outperform peer medians
- The organization is supported by a healthy balance sheet, as reflected by Days Cash on Hand
- Leverage (debt service coverage) is relatively in line with peers
- Minimum Debt Covenants include:
  - Debt Service Coverage = 1.2x
  - Days Cash on Hand = 90 Days

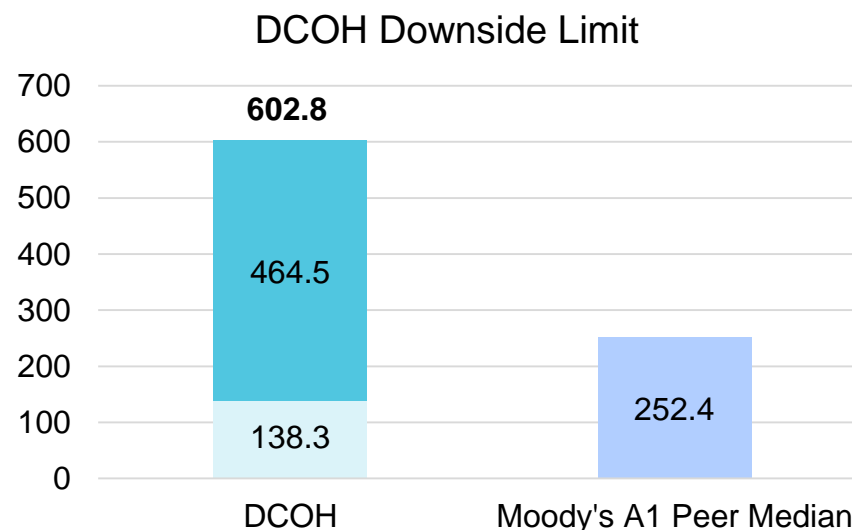
Source - El Camino Hospital Long Range Financial Plan (January 2019). Moody's US Not-for-profit and public healthcare medians published August 28, 2018.

# CURRENT DAYS CASH ON HAND

## FISCAL YEAR ENDED 2018 (JUNE 30)

	(\$ million)	Days Cash
Long-Term Investments (Portfolio)	\$962.9	464.5
Cash & Short-Term Investments	\$286.6	138.3
<b>Total Unrestricted</b>	<b>\$1,249.6</b>	<b>602.8</b>
Moody's A1 Peer Median		252.4
Days Cash on Hand Cushion		350.4
Note: 1 Day's Cash on Hand	\$2.07	

- El Camino Hospital ended Fiscal Year 2018 with nearly 603 Days Cash on Hand
- Current Days Cash on Hand is significantly higher than the Moody's peer median (252.4) and the minimum debt covenant requirement of 90 Days
- This cash balance is abnormally high and is in the process of being drawn down to cover upcoming capital expenditures

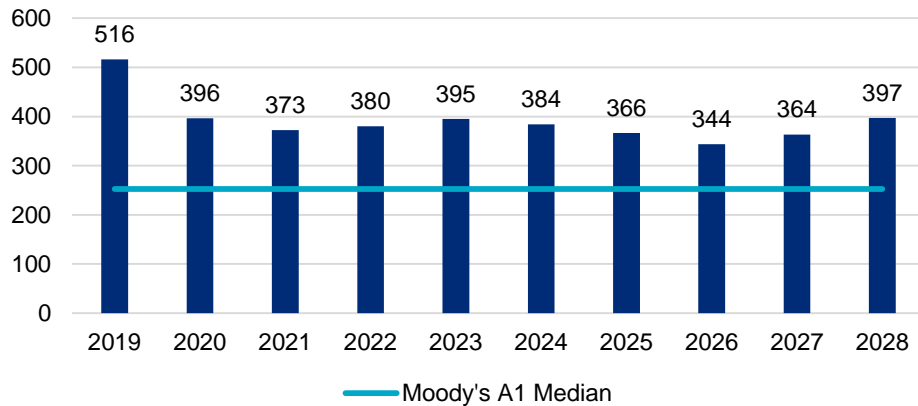


Source - El Camino Hospital Long Range Financial Plan (January 2019)

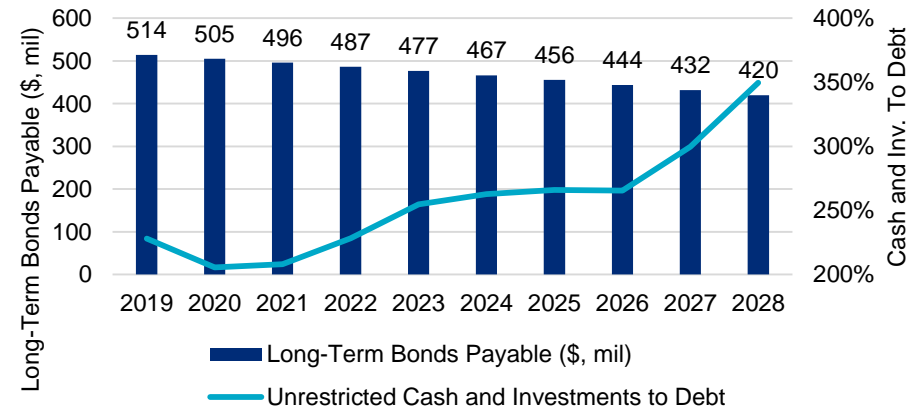
# FINANCIAL PROJECTIONS

(\$, millions)	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Unrestricted Cash and Investments	\$1,172	\$1,039	\$1,032	\$1,111	\$1,216	\$1,226	\$1,212	\$1,180	\$1,295	\$1,467
Construction in Progress	\$337	\$408	\$426	\$367	\$417	\$567	\$747	\$947	\$330	\$330
Non-Routine Capital Spend	\$197	\$233	\$123	\$64	\$62	\$161	\$188	\$208	\$64	\$8

Days Cash on Hand



Debt Profile



## Observation

- Days Cash on Hand will decrease over the next two years before stabilizing at a level still significantly higher than the current Moody's peer median (252.4)
- Cash to Debt stays above 200% and rises following the completion of spending reserved for projects; Mountain View (2022) and Los Gatos (2026)

## Effect on Investment Strategy

- El Camino Hospital's strong balance sheet suggests an ability to take risk and illiquidity in its investment program

Source - El Camino Hospital Long Range Financial Plan (January 2019)

# CASH FLOW PROJECTIONS

(\$, millions)	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY19 – FY28
Operating Cash Flow	\$165.1	\$135.8	\$151.7	\$175.6	\$197.9	\$205.8	\$208.9	\$209.8	\$211.6	\$211.2	\$1,873.4
Investing Cash Flow	-\$112.0	-\$290.4	-\$187.0	-\$128.8	-\$124.2	-\$232.3	-\$260.7	-\$282.2	-\$137.2	-\$83.3	-\$1,838.1
Financing Cash Flow	-\$3.9	-\$8.6	-\$9.0	-\$9.4	-\$9.9	-\$10.4	-\$10.9	-\$11.5	-\$12.0	-\$12.6	-\$98.3
Net	\$49.3	-\$161.6	-\$40.6	\$44.0	\$71.9	-\$27.8	-\$52.1	-\$72.9	\$73.5	\$129.0	-\$63.0

## Observation

- Positive operating cash flow is offset by negative cash flow from investing (capital spending), which is projected to slow down after 2026

## Effect on Investment Strategy

- Operations are strong and the organization is financially stable - El Camino Hospital can withstand periods of operational underperformance without relying on investment portfolio gains

Source - El Camino Hospital Long Range Financial Plan (January 2019)



# ASSET ALLOCATION ANALYSIS

# OPERATING PORTFOLIOS – PEER COMPARISON

	Surplus Cash (Current Policy)	Healthcare Organizations Over \$1 Billion	Healthcare Organizations \$501 Million – \$1 Billion
U.S. Equity	25%	20%	29%
Non-U.S. Equity	15%	20%	20%
Fixed Income	30%	31%	27%
Short-Term Securities / Cash	10%	3%	7%
Alternative Strategies	20%	26%	17%
<i>Private Equity</i>	<i>0%</i>	<i>6%</i>	<i>4%</i>
<i>Real Estate</i>	<i>5%</i>	<i>3%</i>	<i>2%</i>
<i>Hedge Funds</i>	<i>15%</i>	<i>14%</i>	<i>10%</i>
<i>Energy-Related</i>	<i>0%</i>	<i>3%</i>	<i>1%</i>
Other	0%	0%	3%

- The Surplus Cash target asset allocation is relatively defensive when compared to peers with total assets greater than \$1 Billion and between \$501 Million to \$1 Billion.
- The Surplus Cash notably has a greater allocation to Short-Term Securities and a lack of exposure to private equity.
- Pavilion believes the portfolio is sufficiently defensive and does not recommend reducing risk any further.

Responding Organizations

34

11

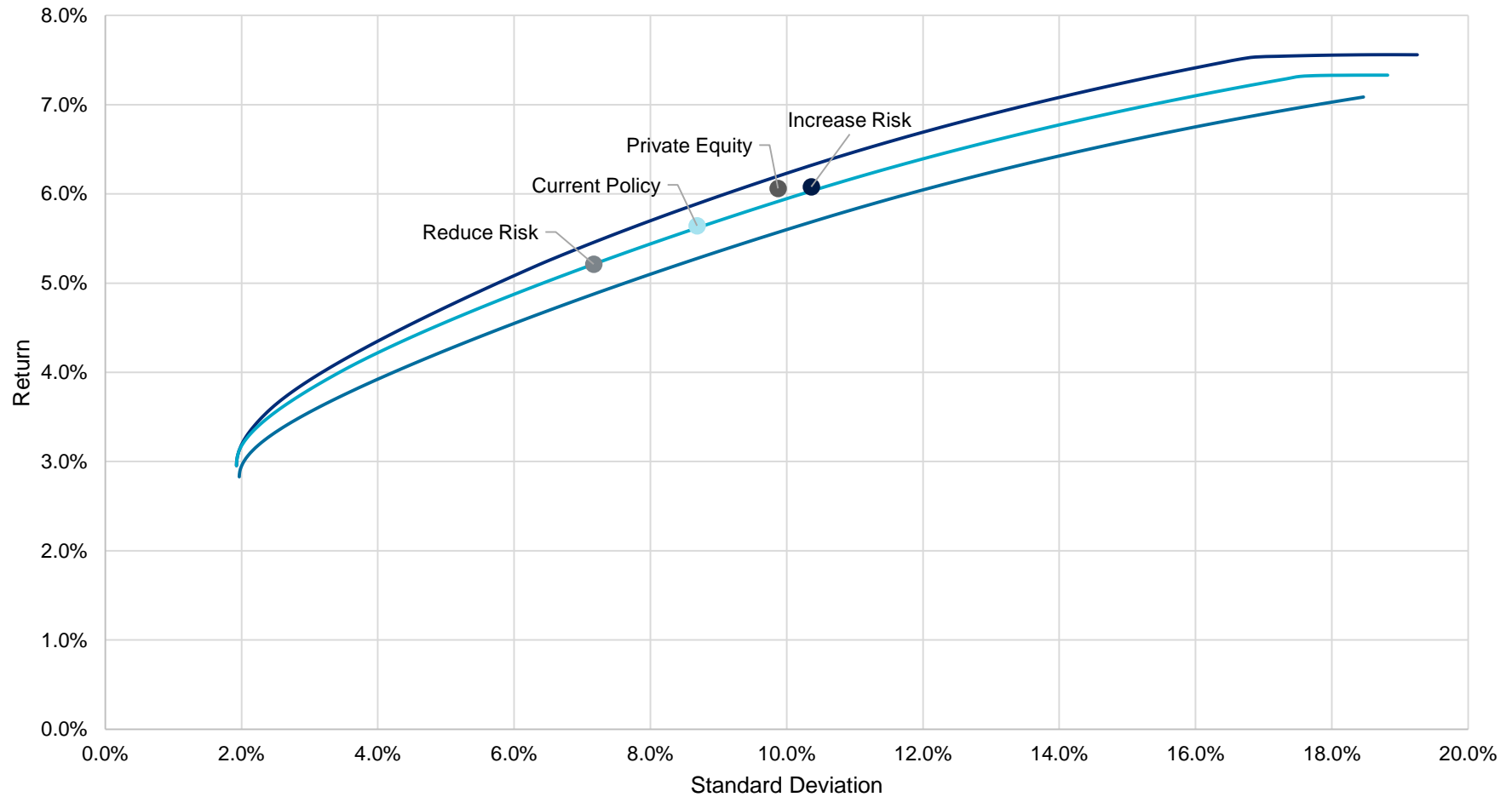
Source: 2016-2017 Commonfund Benchmarks Study of Healthcare Organizations. Allocations reflect dollar-weighted average.

# ASSET ALLOCATION SCENARIOS

	Current Policy	Reduce Risk	Private Equity	Increase Risk
U.S. Large Cap	20%	15%	18%	24%
U.S. Small Cap	5%	4%	4%	6%
International	12%	9%	10%	15%
Emerging Markets	3%	2%	3%	5%
<b>Total Equity</b>	<b>40%</b>	<b>30%</b>	<b>35%</b>	<b>50%</b>
Market Duration	30%	40%	28%	20%
Short Duration	10%	10%	10%	10%
<b>Total Fixed Income</b>	<b>40%</b>	<b>50%</b>	<b>38%</b>	<b>30%</b>
Private Real Estate	5%	5%	5%	5%
Direct Hedge Funds	15%	15%	12%	15%
Private Equity	0%	0%	10%	0%
<b>Total Alternatives</b>	<b>20%</b>	<b>20%</b>	<b>27%</b>	<b>20%</b>
Modeled Expectations				
Return	5.6%	5.2%	6.1%	6.1%
Standard Deviation	8.7%	7.2%	9.9%	10.4%
Max 1-Yr Loss (99%)	-14.6%	-11.5%	-16.9%	-18.0%
Sharpe ( $R_f=2.7\%$ )	0.34	0.35	0.34	0.32
Beta to Global Equity	0.45	0.35	0.51	0.55

- “Reduce Risk”: Moves 10% from Public Equity to Market Duration Fixed Income
- “Private Equity”: Captures illiquidity premium by introducing a 10% allocation to Private Equity at the expense of Public Equity (-5%), Market Duration Fixed Income (-2%) and Hedge Funds (-3%)
- “Increase Risk”: A similar return profile to the “Private Equity” portfolio, albeit with marginally greater risk, this moves 10% from Market Duration Fixed Income to Public Equity

# EFFICIENT FRONTIER – ADDING ALTERNATIVES

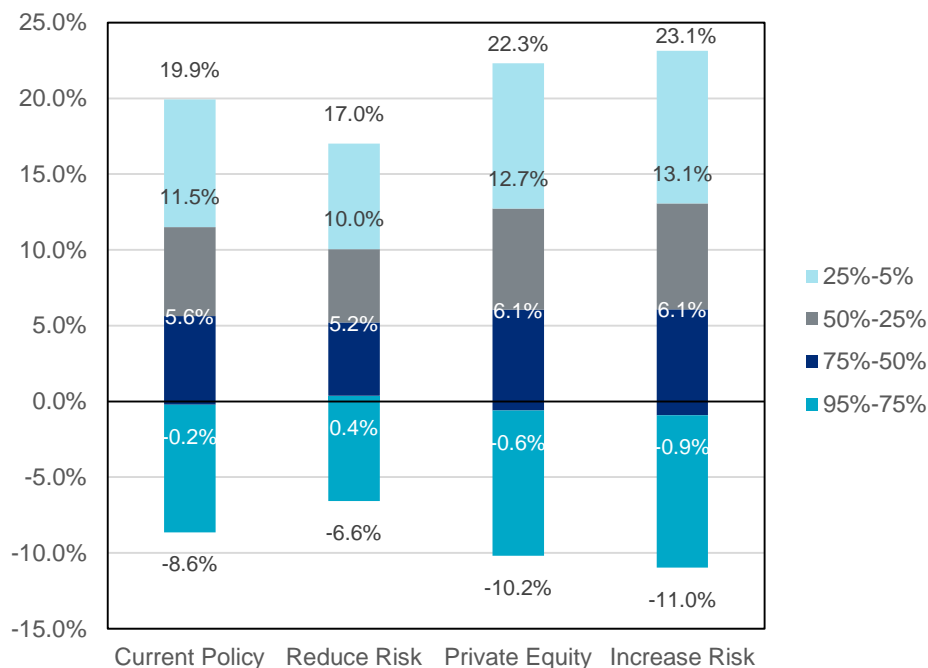


	Global Equity	Fixed Income	Private Equity	Hedge Funds	Cash
Option 1	0-100%	0-100%	0-20%	0-20%	0-100%
Option 2	0-100%	0-100%	0-10%	0-10%	0-100%
Option 3	0-100%	0-100%	0%	0%	0-100%

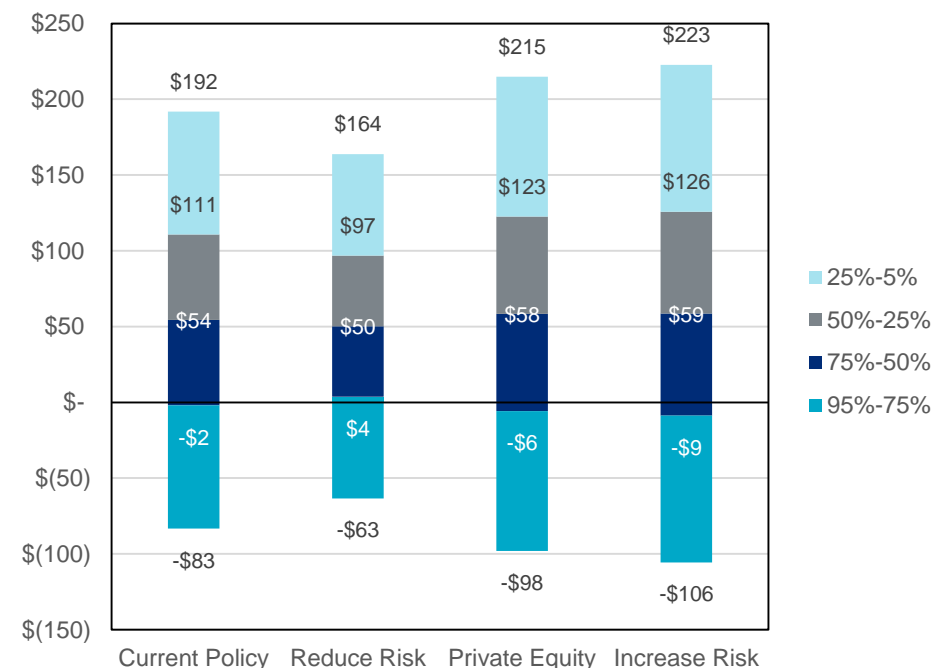
# VARIABILITY OF EXPECTED RETURN

	Current Policy	Reduce Risk	Private Equity	Increase Risk
1-Yr probability of exceeding 4.0% budgeted return	57.5%	56.7%	58.3%	58.0%

Annualized Return on Investments – One Year



Cumulative Gain/Loss (\$, mil) on Investments – One Year

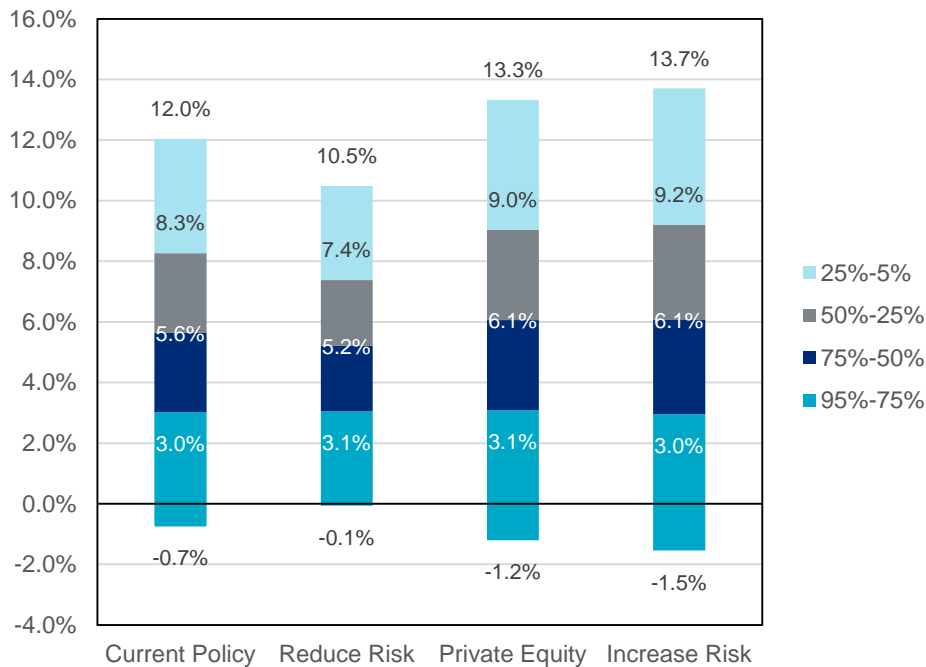


\$963 million starting market value (FY18) and incorporates projections from El Camino Hospital Long Range Financial Plan (January 2019)

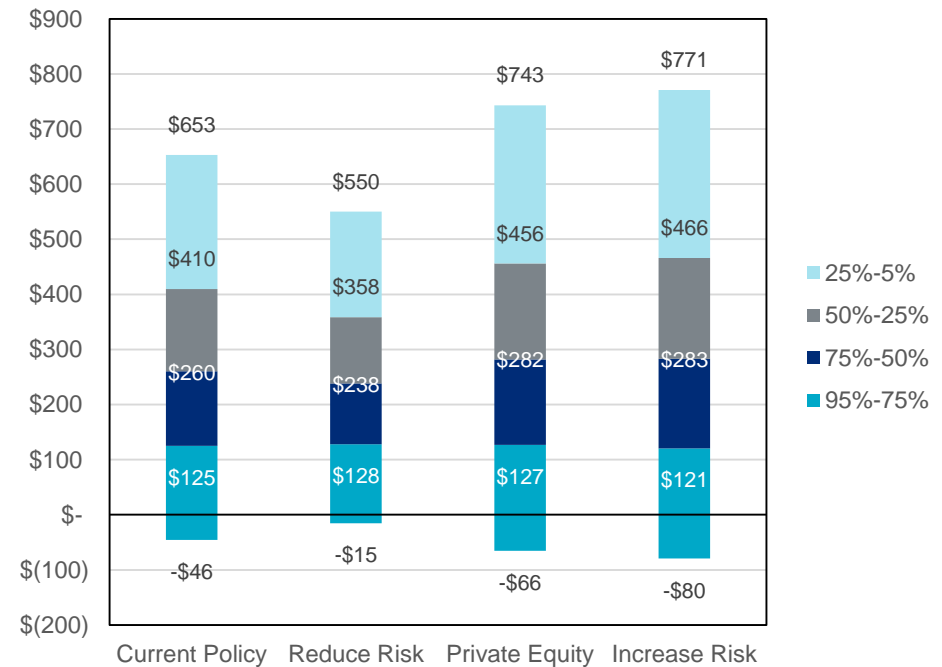
# VARIABILITY OF EXPECTED RETURN

	Current Policy	Reduce Risk	Private Equity	Increase Risk
5-Yr probability of exceeding 4.0% return (annualized)	66.4%	64.7%	68.0%	67.3%
Average expected investment gain per year through FY23	\$52.0 million	\$47.6 million	\$56.4 million	\$56.6 million

Annualized Return on Investments – Five Years

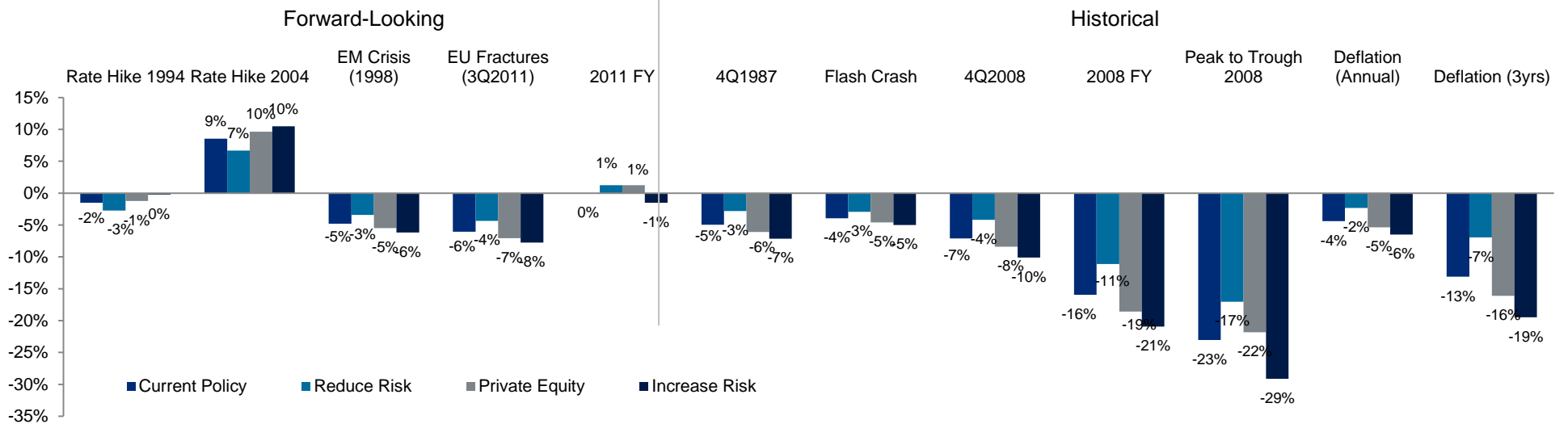
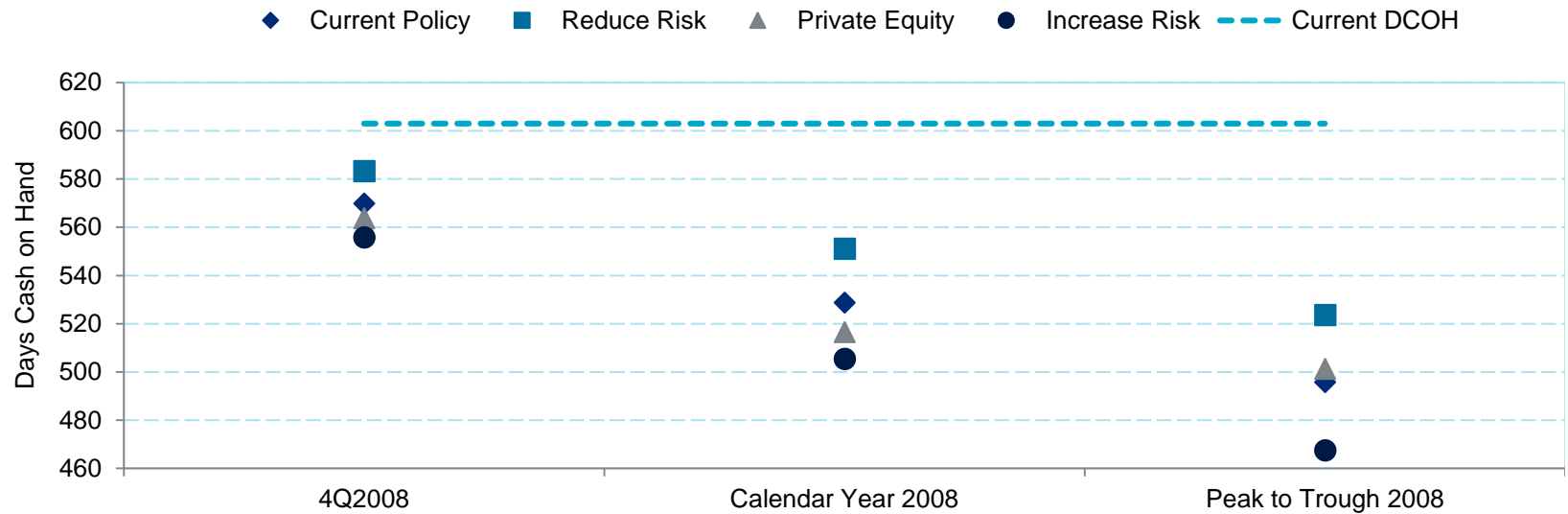


Cumulative Gain/Loss (\$, mil) on Investments – Five Years



\$963 million starting market value (FY18) and incorporates projections from El Camino Hospital Long Range Financial Plan (January 2019)

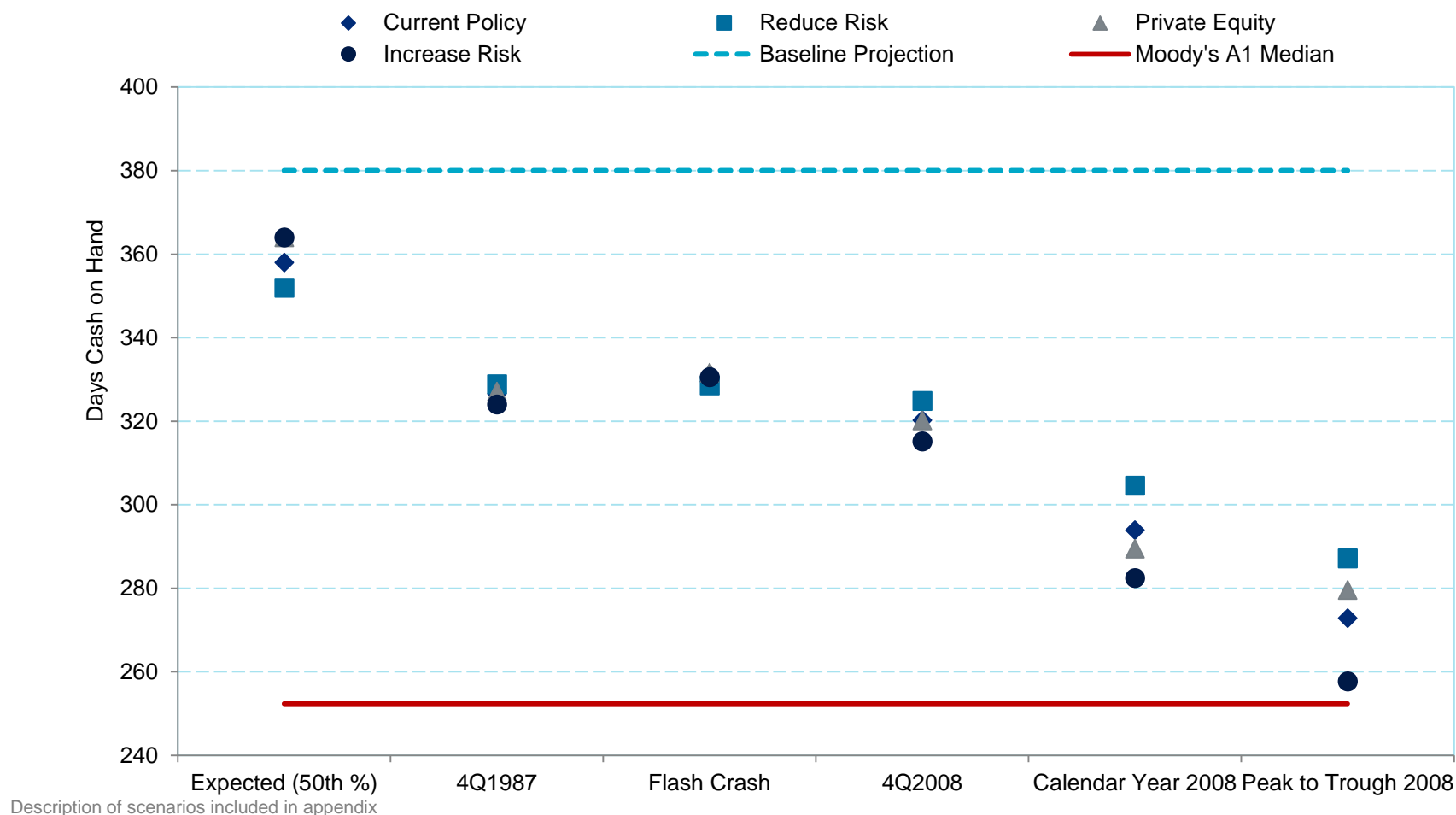
# HISTORICAL SCENARIO ANALYSIS



Description of scenarios included in appendix

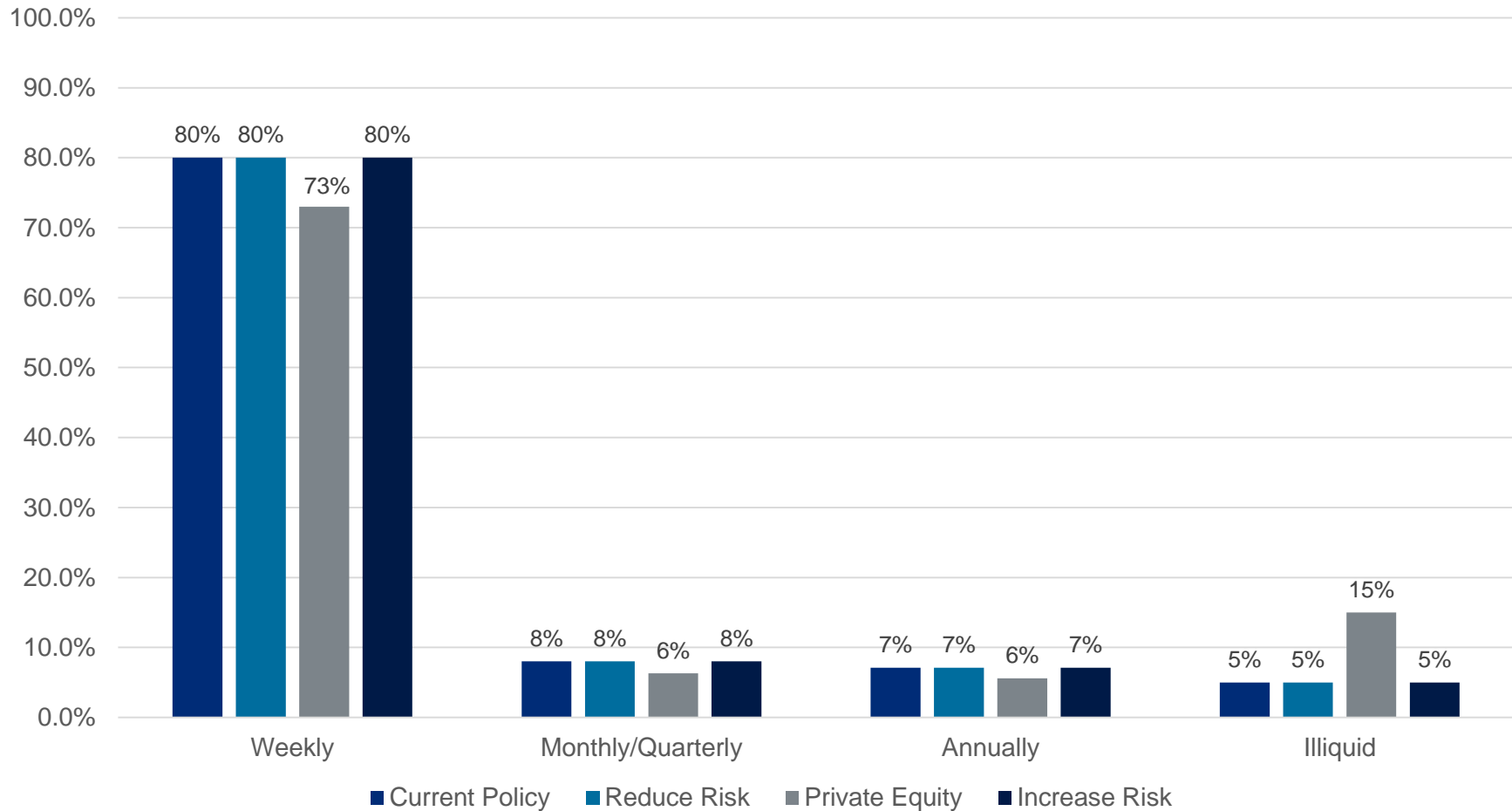
# DOWNSIDE STRESS TEST

**Scenario:** El Camino Hospital experiences a difficult operating environment and generates zero net operating income during FY21 and FY22 (currently projected to earn \$138 million during this period). The graph below depicts expected Days Cash on Hand at the end of FY22 and assumes the various return scenarios occur during FY22, while the portfolios generate the expected return in the years prior.





# LIQUIDITY COMPARISON



- Compared to the Current Policy, only the portfolio which adds Private Equity would impact the liquidity profile, shifting assets to illiquid investments.

# APPENDIX

# CAPITAL MARKET ASSUMPTIONS

## MERCER – 10 YEAR ASSUMPTIONS

Asset Class	Geometric Return	Standard Deviation
<b>Equity</b>		
US Large Cap Equity	6.0%	18.0%
US Small Cap Equity	6.4%	22.2%
Non-US Developed All Cap Equity Unhedged	7.4%	20.4%
Emerging Markets Equity Unhedged	8.9%	26.5%
Private Equity – Total	8.9%	24.4%
<b>Fixed Income</b>		
US Aggregate Fixed Income	3.1%	5.3%
US Short Duration Government/Credit Fixed Income	3.1%	4.5%
US Cash	2.7%	2.0%
<b>Alternatives</b>		
Global Real Estate - Private	7.3%	15.9%
Hedge Funds - Conservative	5.4%	6.0%

Source: Mercer assumptions published in January 2019

# SCENARIO ANALYSIS DEFINITIONS

**Stress Scenario Methodology:** Scenarios are estimated through a three phase process. First, key factors are determined along with the magnitude change. An analysis of historical and fundamental economics data aide in isolating and approximating values. Secondly, portfolio sensitivities to each factor are estimated by a linear regression. Finally, elements of step one and two are combined to estimate the portfolio's scenario sensitivity.

## Forward-Looking Stress Scenarios

- **Monetary Policy Misstep (1994 vs. 2004):** Recent history has shown two different rising rate environment in the U.S. In 1994, markets sold off sharply at first before recalibrating. Alternatively, in 2004 the market easily digested the rate rise.
- **E.U. Fractures (3Q 2011):** While the E.U. has seen many improvements since the end of the 2008 financial crisis, a growing concern is the prospect for markets to begin pricing in an increased probability of a future break-up of the Union. Potential catalysts for such an event include the ongoing negotiations of the U.K. and E.U. (BREXIT), a failure in negotiations with Greece to obtain an additional round of funding or both. While currently not likely, either event would likely cause a selloff in risk assets similar to that witnessed in 2011, with some consideration given to the current level of valuations.
- **Emerging Markets Shock (1998):** Although risks have subsided, a hard landing in China or capital flight amid a rising rate environment still exist.

## Historical Stress Scenarios

- **Flash Crash:** Flash crash represents returns from a single month (May 2010).
- **4Q 2008 (Financial Crisis):** The financial crisis intensified in the fourth quarter of 2008, as the S&P 500 Index fell -21.9%, the largest quarterly drop since 1987. In the third quarter, Lehman Brothers filed for bankruptcy on September 15th, punctuating a continuing tightening of financial markets. Monetary and fiscal measures sought to address the destabilizing fundamentals; however, asset prices and economic conditions deteriorated further. From the monetary perspective, the US Federal Reserve set the target federal funds range at 0 – 25 basis points on December 16th, as interested rates fell. On the fiscal side and in an effort begin recapitalizing the financial system, the Troubled Assets Relief Program ("TARP") was signed into law on October 3rd.
- **Financial Crisis Peak to Trough (November 2007 through February 2009):** The financial crisis sent shockwaves throughout the global economy and produced the great recession. Excess leverage coupled with poor underwriting emanating from the US real estate and financial sectors catalyzed a massive deterioration in systemically important institutions. Throughout the globally connected markets, liquidity dried up which seized financial markets and spurred fire sale prices. In the US, the real gross domestic product fell approximately -4% with the real estate and financial sectors at the epicenter. On a monthly basis, the S&P 500 Index peaked at the end of October 2007, only to fall -51% through the end of February 2009 with US 10-year treasury rates tumbling 150 basis points from 4.5% to 3.0%.
- **Deflation:** The deflation scenario is designed to simulate a Japan deflation scenario taking place over a 3-year horizon within the United States.

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# PAVILION

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**1<sup>st</sup> Quarter Investment Activity**

The Portfolio activity during the quarter is summarized in the table below:

<b>Fund</b>	<b>Strategy</b>	<b>Activity Details</b>	<b>Status</b>
<b>Tiger Eye Fund, Ltd.</b>	Equity Long / Short	Redemption submitted as of December 31, 2018.	<i>Redemption proceeds received, with audit holdback to be released in second quarter of 2019 following completion of annual audited financial statements.</i>
<b>The BlackRock 32 Capital Fund Ltd.</b>	Relative Value	Redemption submitted as of March 29, 2019.	<i>Redemption proceeds received in April 2019.</i>
<b>Chatham Asset High Yield Offshore Fund, Ltd.</b>	Credit	Redemption submitted as of June 30, 2019.	<i>In progress.</i>
<b>Palestra Capital Offshore Fund, Ltd.</b>	Equity Long / Short	Subscription submitted as of April 1, 2019.	<i>Completed.</i>
<b>Man Alternative Risk Premia Fund</b>	Relative Value	Subscription to be submitted during May 2019.	<i>In progress.</i>

**Rating Changes**

During the quarter, the following rating changes occurred:

- **Indus Japan Fund:** *Watch* status added to fund rating.
- **Chatham Asset High Yield:** Fund rating downgraded.

**Recommendations or Action Items**

Pavilion met with El Camino management to discuss their recommendation to liquidate exposure to the Chatham Asset High Yield Offshore Fund due to organizational concerns as well as concerns regarding portfolio liquidity. Management agreed and a redemption request was completed for June 30, 2019. Pavilion will provide a recommendation for the investment of the Chatham proceeds at the next Investment Committee meeting.