



# Stanislaus County Employees' Retirement Association

832 12th Street, Ste. 600, Modesto, CA 95354 • PO Box 3150, Modesto, CA 95353 • [www.stancera.org](http://www.stancera.org) • 209-525-6393 • 209-558-4976 Fax

## AGENDA

### BOARD OF RETIREMENT

832 12<sup>th</sup> Street Ste. 600, **Wesley W. Hall Board Room**  
Modesto, CA 95354

**May 22, 2018**  
**1:30 p.m.**

The Board of Retirement welcomes you to its meetings, which are regularly held on the fourth Tuesday of each month. Your interest is encouraged and appreciated.

**CONSENT/ACTION ITEMS:** Consent matters include routine administrative actions and are identified under the Consent Items heading. All other items are considered to be action items "Action" means that the Board may dispose of any item by any action, including but not limited to the following acts: approve, disapprove, authorize, modify, defer, table, take no action, or receive and file.

**PUBLIC COMMENT:** Matters under jurisdiction of the Board, may be addressed by the general public before or during the regular agenda. However, California law prohibits the Board from taking action on any matter which is not on the posted agenda unless it is determined an emergency by the Board of Retirement. Any member of the public wishing to address the Board during the "Public Comment," period shall be permitted to be heard once up to three minutes. Please complete a Public Comment Form and give it to the Chair of the Board. Any person wishing to make a presentation to the Board must submit the presentation in written form, with copies furnished to all Board members. Presentations are limited to three minutes.

**BOARD AGENDAS & MINUTES:** Board agendas, minutes and copies of items to be considered by the Board of Retirement are customarily posted on the Internet by Friday afternoon preceding a meeting at the following website: [www.stancera.org](http://www.stancera.org).

Materials related to an item on this Agenda submitted to the Board after distribution of the agenda packet are available for public inspection at StanCERA, 832 12th Street, Suite 600, Modesto, CA 95354, during normal business hours.

**AUDIO:** All Board of Retirement regular meetings are audio recorded. Audio recordings of the meetings are available after the meetings at <http://www.stancera.org/agenda>.

**NOTICE REGARDING NON-ENGLISH SPEAKERS:** Board of Retirement meetings are conducted in English and translation to other languages is not provided. Please make arrangements for an interpreter if necessary.

**REASONABLE ACCOMMODATIONS:** In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary at (209) 525-6393. Notification 72 hours prior to the meeting will enable StanCERA to make reasonable arrangements to ensure accessibility to this meeting.

1. Call Meeting to Order
2. Roll Call
3. Announcements
4. Public Comment
5. Consent Items
  - a. Approval of the April 24, 2018 Meeting Minutes [View](#)
  - b. Monthly Staff Report  
Agenda Item [View](#)
  - c. Legal/Legislation Update
  - d. VERUS Workplan [View](#)
  - e. Approval of Service Retirement(s) – **Government Code Sections 31499.14, 31670, 31662.2 & 31810**
    1. Cardoza, Karen – BHRS – Effective 5-26-18
    2. Gomez, Hazel – DCSS – Effective 5-25-18
    3. Green Craig – Planning – Effective 3-31-18
    4. Marsh, Janna – BHRS – Effective 4-25-18
    5. Taylor, Debra – BHRS – Effective 3-17-18
    6. Tolman, Holly – DCSS – Effective 3-29-18
    7. Vieira, Debbie – BHRS – Effective 5-28-18
    8. West, John – D.A. – Effective 5-01-18

5. Consent Items (Cont.)

f. Approval of Deferred Retirement(s) – **Government Code Section 31700**

1. Earl, Robert – SO – Effective 04-18-18 \*
2. Fabela, Richard – Public Works – Effective 10-27-17
3. Grewal, Harinder – AG COMM – Effective 04-20-18
4. Lopez, Alicia – CSA – Effective 09-29-17
5. Sum, David – D.E.R. – Effective 11-10-17
6. UnRuh-Salonen, Karryn – HSA – Effective 04-27-18

*\* Indicates Safety Personnel*

g. Approval of Disability Retirement - **Government Code Section 31724**

1. Moyer, Roberta - Sheriff's Department, Non-Service Connected, Effective March 10, 2017
2. Myers Sr., Harry - DER, Service-Connected, Effective April 26, 2016

h. Approval of Death Benefit – **Government Code Section 31781, 31781.1, 31781.3**

1. Deal, Deborah, Deceased April 27, 2018, CSA - Active Member

6. Investment

- a. Functionally Focused Portfolio (FFP) Annual Reconciliation  
Agenda Item [View](#) Attachment 1 [View](#)
- b. Raven Capital Annual Meeting  
Agenda Item [View](#)
- c. Private Markets RFI Process Update  
Agenda Item [View](#)

7. Verus – Investment Consultant

- a. April Flash Report [View](#)
- b. Investment Performance 2018 Quarter 1 Review [View](#)
- c. Annual Asset Allocation Review  
Agenda Item [View](#) Attachment 1 [View](#)

8. Administrative

- a. Information Technology Solutions (ITS) Project Update [View](#)
- b. Board Room Committee Update
- c. Fiscal Year 2018-2019 Proposed Administrative Budget  
Agenda Item [View](#) Attachment 1 [View](#)

9. Closed Session

- a. Conference with Legal Counsel – Pending Litigation – One Case:  
O’Neal et al v. Stanislaus County Employees’ Retirement Association  
Stanislaus County Superior Court Case No. 648469  
Government Code Section 54956.9(d)(1)
- b . Conference with Legal Counsel – Pending Litigation – One Case:  
Stanislaus County Employees’ Retirement Association v. Buck Consultants,  
LLC, Mediation Pursuant to Evidence Code Sections 1115, 1119, 1152  
Government Code Section 54956.9d)(4)

10. Members’ Forum (Information and Future Agenda Requests Only)

11. Adjournment



## BOARD OF RETIREMENT MINUTES April 24, 2018

1. Call Meeting to Order

Meeting called to order 1:30 p.m. by Trustee Lynch, Chair

2. Roll Call

**Trustees Present:** Mike Lynch, Jim DeMartini, Donna Riley, Sam Sharpe, Darin Gharat  
Jeff Grover, Michael O'Neal, Lauren Klein and Mandip Dhillon

**Trustees Absent:** None

**Alternate Trustee:** Rhonda Biesemeier, Alternate Retiree Representative

**Staff Present:** Rick Santos, Executive Director  
Dawn Lea, Member and Employer Services Manager  
Natalie Elliott, Interim Fiscal Services Manager  
Kellie Gomes, Executive Board Assistant

**Others Present:** Fred Silva, General Legal Counsel  
Ed Hoffman, Verus Investment Consultant

3. Announcements

None

4. Public Comment

None

5. Consent Items

- a. Approval of the March 27, 2018 Meeting Minutes
- b. Monthly Staff Report
- c. Legal/Legislation Update
- d. StanCERA Complaint Log of January 1 – March 31, 2018
- e. Executive Director Goals Update Quarter 1 2017
- f. Approval of Service Retirement(s) – **Government Code Sections 31499.14, 31670, 31662.2 & 31810**
  1. Gustafson, Constance – BHRS – Effective 03-31-18
  2. Ham, Lesley – Auditor Controller – Effective 03-29-18
  3. Hatter, Michelle – Probation – Effective 04-13-18 \*
  4. Ott, Melinda – Stan Reg 911 - EFF 04-22-18
  5. Owen, Sharon - HSA - EFF 04-27-18



5. Consent Items (Cont.)

6. Smith, Patsy – Sheriff – Effective 04-07-18
7. Vohra, Firoz – Public Works – Effective 03-31-18
8. Welch, Paul – Veterans Services – Effective 03-16-18
9. Yarbery, Tommy – City of Ceres – Effective 03-14-18

*\* Indicates Safety Personnel*

g. Approval of Deferred Retirement(s) – **Government Code Section 31700**

1. Cordova, Dolores – CSA – Effective 02-24-18
2. Gregston, Erin – BHRS – 04-01-18
3. Lakshmi, Pajagopalan – StanCOG – Effective 11-17-17
4. Leiva, Robert – Sheriff – Effective 11-01-17 \*
5. Perry, Mark – Sheriff – Effective 03-10-18
6. Purto, Elizabeth – BHRS – Effective 01-13-18
7. Silva, Cynthia – CSA – Effective 01-06-18

*\* Indicates Safety Personnel*

h. Approval of Disability Retirement - **Government Code Section 31724**

1. Walters, Kendra - Treasurer - Tax Collector, Non-Service Connected, Effective April 25, 2018

i. Approval of Death Benefit – **Government Code Section 31781, 31781.1, 31781.3**

1. Forrette, Pamela. Deceased March 22, 2018, HSA - Active Member
2. Smith, Robert, Deceased April 2, 2018, Parks and Recreation - Active Member
3. Valencia, Tanya, Deceased February 23, 2018, HSA - Active Member

Motion was made by Trustee Gharat and seconded by Trustee O'Neal to accept the consent items as presented

Motion carried unanimously

6. Investment

None

7. Verus – Investment Consultant

- a. Workplan
- b. March Flash Report

Ed Hoffman VERUS Consultant presented both items by phone.

8. Administrative

- a. Direction for Voting Delegates of State Association of County Retirement Systems (SACRS) at the 2018 Spring Business Meeting.

Motion was made by Trustee O'Neal and seconded by Trustee Dhillon to support the SACRS nominating committee's recommended ballot as presented as well as direct the delegate to vote yes on all nominees if voted on separately.

Motion Carried unanimously

Motion was made by Trustee O'Neal and Seconded by Trustee Klein to approve SACRS co-sponsor or SB1270 and direct the delegate to vote yes.

Motion Carried unanimously

- b. Information Technology Solutions (ITS) Project Update  
c. New Board Room Tenant Improvements

Motion was made by Trustee Gharat and seconded by Trustee Riley to assemble an ad-hoc committee for the new board room tenant improvements. The committee is as follows:

Trustee Biesemeier  
Trustee O'Neal  
Trustee DeMartini  
Trustee Grover

Motion Carried unanimously

9. Standing Committees

- a. Internal Governance Committee  
i. Internal Governance Committee's Recommendation for the Biennial Bylaw Revision.

Motion was made by Trustee Gharat and seconded by Trustee Grover to accept the Internal Governance Committee's recommendation for the Biennial Bylaw revisions.

Motion Carried unanimously

10. Closed Session

- a. Conference with Legal Counsel – Pending Litigation – One Case:  
O'Neal et al v. Stanislaus County Employees' Retirement Association  
Stanislaus County Superior Court Case No. 648469  
Government Code Section 54956.9(d)(1)  
b. Conference with Legal Counsel – Pending Litigation – One Case:  
Stanislaus County Employees' Retirement Association v. Buck Consultants,  
LLC, Mediation Pursuant to Evidence Code Sections 1115, 1119, 1152  
Government Code Section 54956.9d)(4)

No Closed Session

11. Members' Forum (Information and Future Agenda Requests Only)

Trustee Grover and Trustee Lynch updated the board regarding the two day conference that they attended provided by Pension Bridge. Information shared summarized the event as a negative outlook for the investment future for equities.

Trustee Biesemeier and O'Neal updated the board on the CRCEA conference.

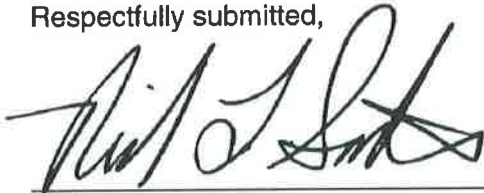
Chris Wisdom asked the board if it was the boards pleasure to move the workplan and the monthly flash report provided by VERUS to the consent portion of the agenda in the future. The board expressed wishes to have the workplan only to be moved to consent on future agendas.

Rick announced he appointed Natalie Elliott permanently to the position of Fiscal and Member Services Manager which she currently filled as interim.

12. Adjournment

Meeting adjourned at 2:11 p.m.

Respectfully submitted,



Rick Santos, Executive Director

APPROVED AS TO FORM:  
Fred Silva, GENERAL LEGAL COUNSEL

By:   
Fred Silva, General Legal Counsel



**May 22, 2018**

Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: Monthly Staff Report

II. ITEM NUMBER: 5.b

III. ITEM TYPE: Information Only

IV. STAFF RECOMMENDATION: None

V. ANALYSIS:

- a) *Member & Employer Services (MESS)* – During the month April, Member and Employer Services Staff processed 37 new hires (5 Safety and 32 General), 18 terminations, 12 member requests resulting in 27 estimates and 19 member requests resulting in 34 buy back contracts. There were 45 individual counseling sessions. MESS staff presented at 1 New Employee Orientation (NEO).

MESS staff continues to be a major player in the development of the Information Technology System. Staff are continuing to work closely with our plan sponsors in assisting them in the development of the file specifications for the regular employer payroll upload to StanCERA.

- b) *Investment Governance and Compliance* – In April, staff concluded contract negotiations with Prudential and Greenfield. In the case of Greenfield, we funded the first capital call to the Gap VIII Fund for approximately \$5.2 million. Staff continued to perform research on the topic of private markets investments through discussions with various service providers as well as conversations with investment staff at other '37 Act systems. Staff posted a Request for Information (RFI) on Private Markets Design and Implementation Services. Finally, staff completed StanCERA's membership application to ILPA (Institutional Limited Partners Association).

- c) *Fiscal Services* – Employer and employee contributions totaling \$8,035,998 were received through 12 different payroll batches in February. 21 contribution refunds and death benefit payouts totaling \$69,691 were processed. The retiree payroll for February totaled \$9,937,739 and was processed as scheduled.

Staff continues to partner with Member Services in defining the business rules for the new pension software. Staff is being proactive with the three upload employers discussing the import file specifications. Testing of the Employer Reporting will begin in April. Meetings have started with Tegrit regarding the Buy Back process which will be the next piece of the Pension Administration System to get programmed.

VI. RISK: None

VII. STRATEGIC PLAN: Strategic Objective IV: Refine StanCERA's business and policy practices in ways that enhance stakeholder awareness, the delivery of member services and the ability of the Organization to administer the System effectively and efficiently\*

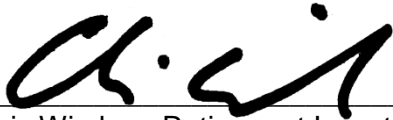
VIII. ADMINISTRATIVE BUDGET IMPACT: NONE

A handwritten signature in black ink, appearing to read "Rick Santos", written over a horizontal line.

Rick Santos, Executive Director

A handwritten signature in black ink, appearing to read "Natalie Elliott", written over a horizontal line.

Natalie Elliott, Interim Fiscal Services Manager

A handwritten signature in black ink, appearing to read "Chris Wisdom", written over a horizontal line.

Chris Wisdom, Retirement Investment Officer

## StanCERA Investment Program 12-Month Workplan

*changes from prior month highlighted in yellow*

	Time	Changes from prior month
<b>May, 2018</b>	<b>0:55</b>	
Flash report and 12-month workplan	0:05	
Quarterly investment performance report	0:30	
Annual review of FFP with updated capital market assumptions	0:20	
<b>June, 2018</b>	<b>1:05</b>	
Flash report and 12-month workplan	0:05	
Review of investment program governance documents	0:30	Moved from May 2018
Private markets next steps	0:30	
<b>July, 2018</b>	<b>0:35</b>	
Flash report and 12-month workplan	0:05	
Cash overlay education and search authorization	0:30	
<b>August, 2018</b>	<b>1:05</b>	
Flash report and 12-month workplan	0:05	
Quarterly investment performance report	0:30	
Transition management education and search authorization	0:30	
<b>September, 2018</b>	<b>0:35</b>	
Flash report and 12-month workplan	0:05	
Cash overlay search presentation & selection	0:30	
<b>October, 2018</b>	<b>0:35</b>	
Flash report and 12-month workplan	0:05	
Transition management search presentation & selection	0:30	

## StanCERA Investment Program 12-Month Workplan

*changes from prior month highlighted in yellow*

	Time Changes from prior month
<b>November, 2018</b>	<b>0:35</b>
Flash report and 12-month workplan	0:05
Quarterly investment performance report	0:30
<b>December, 2018</b>	<b>0:05</b>
Flash report and 12-month workplan	0:05
<b>January, 2019</b>	<b>0:05</b>
Flash report and 12-month workplan	0:05
<b>February, 2019</b>	<b>0:35</b>
Flash report and 12-month workplan	0:05
Quarterly investment performance report	0:30
<b>March, 2019</b>	<b>0:05</b>
Flash report and 12-month workplan	0:05
<b>April, 2019</b>	<b>0:05</b>
Flash report and 12-month workplan	0:05



**May 22, 2018**

Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

- I. SUBJECT: Functionally Focused Portfolio (FFP) Annual Reconciliation
- II. ITEM NUMBER: 6.a
- III. ITEM TYPE: Discussion and Action
- IV. STAFF RECOMMENDATION: 1) Maintain a 7 year shortfall immunization process 2) Transfer approximately \$143,000,000 from DFA to Insight on or around June 30, 2018 with the actual transfer value to be based on a final valuation in mid-June
- V. EXECUTIVE SUMMARY: Last year the Board approved the concept of a functionally focused portfolio (FFP). The FFP process essentially insures or immunizes future benefit payments that StanCERA will be required to pay over some pre-determined number of future years. It accomplishes this by using employer and employee contributions to fund as much of the benefit payments as possible and any leftover unfunded benefit payment (a "shortfall") would come from invested assets that produce cash flows precisely when these unfunded shortfalls come due each month. Shortfalls are defined as benefit payments plus administrative expenses less employer and employee contributions.

The FFP process provides several benefits:

- 1. *Operational efficiency:* Since shortfall payments are deposited by the investment manager directly into StanCERA's liquid account at a known time, staff has the luxury of knowing that all the money needed to pay retirement benefits is always there precisely when needed and can simply pay retirees without having to move money around various accounts or continually work with the managers to make sure enough money is available to pay benefits.
- 2. *Financial efficiency:* The shortfall payments deposited in StanCERA's account each month (just prior to paying benefits) come from assets that generally have just "thrown off" those payments (cash flows). That is, the investment was originally set up to remain fully invested for as long as possible and pays coupons or principal maturation at just the right time. Thus there is very little cash drag due to idle or uninvested cash.
- 3. *Liquidity coverage:* Since StanCERA has the comfort of knowing that its benefit payments are covered for a set number of years, it can take more strategic risk in other areas of the portfolio ("the functionally focused portfolio") without having to worry about selling assets at an inopportune time to pay benefits. Consequently, there is a growth component to the total portfolio that has an allocation to illiquid investments (i.e. private credit and equity). These investments are generally expected to pay a premium to the investor for giving up the ability to sell the assets on demand and are ideal for pension plans that have well defined, predictable liabilities.

Today staff is asking the Board to replenish that part of the shortfall portfolio that was used to fund this fiscal year's benefit payments and to add additional capital due to changes in shortfall payment assumptions caused by revised actuarial and salary projections. More detailed information will be provided today during staff's presentation (Attachment 1).



- VI. RISK: None
- VII. STRATEGIC PLAN: Strategic Objective IV: Refine StanCERA's business and policy practices in ways that enhance stakeholder awareness, the delivery of member services and the ability of the Organization to administer the System effectively and efficiently.
- VIII. ADMINISTRATIVE BUDGET IMPACT: No change



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Rick Santos, Executive Director



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Chris Wisdom, Retirement Investment Officer

# Functionally Focused Portfolio Reconciliation

May 22, 2018

# Idea behind FFP

1. Able to pay benefits in any market environment
2. Eliminate need to sell assets at the wrong time
3. Invest in assets that pay off precisely when benefits come due
4. Efficient administration
  - Operationally
  - Financially

# Desired Outcome from FFP

1. Little or no change in funded status related to StanCERA's shortfall liability
2. All benefit payments satisfied
3. Take advantage of illiquidity premium offered by alternative type assets

# FFP Basics

- Estimate monthly benefit shortfalls
  - $\text{Shortfall} = \text{Benefits} + \text{Expenses} - \text{Contributions}$
- Staff projections
  1. Benefits
  2. Expenses
  3. Contributions
- Send projection matrix to manager
  - 7 years monthly (84) shortfalls
- Manager sends shortfall cash each month



# Example of Shortfall Matrix

- Shortfall matrix sent to Insight on June 30, 2017
  - Shortfall = Benefits + Expenses - Contributions

<u>Month</u>	<u>Benefits</u>	<u>+ Expenses</u>	<u>- Contributions</u>	<u>= Shortfall</u>
July 2017	\$9,935,196	\$885,759	\$7,297,831	<b>\$3,523,124</b>
August 2017	9,962,969	668,709	12,160,430	<b>0</b>
September 2017	9,989,845	757,479	8,653,589	<b>2,093,735</b>
.....				
June 2024	13,375,184	606,535	12,443,060	<b>1,538,657</b>

# Shortfall Liability

- Shortfalls are a liability to the System
- Contributions + shortfall payments insure satisfaction of the liabilities
- Present value of liability calculated using the same return (discount rate) that risk free assets offer
- U.S. Treasuries are the risk free asset proxy (benchmark)

# Shortfall Assets

- Assets given to manager to fund shortfalls
- Shortfall liability calculated
- Assets in excess of liability considered surplus
- Manager evaluated based on change in funded status

Valuation Parameters as of June 30, 2017	
Assets given to Manager	\$100,000,000
Shortfall Liability	<u>88,136,753</u>
Surplus Assets	11,863,247
Funded Status	113.5%



# FFP Value Added

## Fiscal Year 2017-2018

	<u>Liability</u>	<u>Assets</u>	<u>Surplus/(UL)</u>	<u>Funded Status</u>
Beginning Value	\$88,136,753	\$100,000,000	\$11,863,247	113.46%
Less Shortfalls	(\$23,248,116)	(\$23,248,116)	\$0	-
Plus gains/(losses)	<u>(\$250,097)</u>	<u>(\$251,884)</u>	<u>(\$1,787)</u>	-
Ending Value	\$64,638,540	\$76,500,000	\$11,861,460	118.35%
Total Net Return	-0.33%	-0.29%	-	-
Change in Funded Status				4.89%

- Liabilities decreased by 0.33%
- Assets decreased by 0.29%
- Funded status increased by 4.9%

# Shortfall Liability Reconciliation

Year Over Year Change in Shortfall Liability	
Value at June 30, 2017 (7 years of shortfalls)	\$88,136,753
Less: 1 year of Shortfall Payments	(23,248,116)
Plus/Minus: Roll Down Yield	1,470,776
Plus/Minus: Interest Rate Change Yield	<u>(1,720,872)</u>
Value at June 30, 2018 (6 years of shortfalls)	\$64,638,540

# Rebalance 7-Year Shortfalls

- Derive new liability value as of June 30, 2018
  - Increase due to “new 7<sup>th</sup> year”
  - Increase/decrease due to annual recalculation of remaining shortfalls (6 years)
- Determine how much new money to give Insight

Rebalance 7 Years of Shortfall Payments	
Value as of June 30, 2018 (6 years)	\$64,638,540
Plus: Increase due to new 7 <sup>th</sup> Year	36,234,414
Plus: Increase due to recalculation of remaining shortfalls	<u>118,373,299</u>
Value as of June 30, 2018 (7 years)	219,246,253

# New Staff Shortfall Projection

	<b><u>Total \$ Change</u></b>
1) Benefit Payments	\$10,683,477
2) Expenses	(1,094,125)
3) Contributions: Due to Payroll Projection	(32,635,184)
4) Contributions: Due to Actuarial Projection	(76,148,763)
Increase due to new shortfall projection (1 + 2 – 3 - 4)	118,373,299

# Additional Assets Needed

- Maintain 7 years of shortfall payments
- Additional assets would come from DFA
- New assets to Insight

1) Insight Assets as of June 30, 2018	\$76,500,000
2) Shortfall Liability as of June 30, 2018	219,246,253
Additional Assets Needed (2 – 1)	<b>142,746,253</b>



# Additional Assets Needed Other Scenarios

- Shortfall years vs cost

<u>Shortfall Years</u>	<u>Liability Value</u>	<u>Current Assets</u>	<u>Additional Assets</u>
6	\$183,011,839	\$76,500,000	\$106,511,839
5	148,062,369	76,500,000	71,562,369
4	114,923,886	76,500,000	38,423,886
3	85,022,204	76,500,000	8,522,204

# Staff Recommendation

1. Maintain 7 year shortfall immunization
2. Transfer approximately \$142,766,253 (plus or minus some adjustment based on a final valuation in mid-June 2018) from DFA to Insight on or around June 30, 2018



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**May 22, 2018**

Retirement Board Agenda Item

TO: Retirement Board

FROM: Chris Wisdom, Retirement Investment Officer

I. SUBJECT: Raven Capital Annual Meeting

II. ITEM NUMBER: 6.b

III. ITEM TYPE: Information Only

IV. STAFF RECOMMENDATION: None

V. EXECUTIVE SUMMARY: On May 3, 2018, staff attended the Annual Investor Meeting with Raven Capital Management in New York. Raven provided a market update, industry review, and an organizational update. Additionally, they reviewed performance of their Opportunity Funds and their Credit Fund. StanCERA is invested in Raven Opportunity I and Raven Opportunity III.

Raven continues to see compelling investment opportunities across its five industry sectors: IP/Receivables, Real Estate, Infrastructure, Specialty Finance, and Transportation. One of the important themes that Raven will be focused on for Opportunity Fund IV is Co-Living, that is, specialty "attainable luxury" apartments with smaller private spaces and several shared, community-focused social spaces. The target demographic is the millennial generation.

Staff is not recommending any changes to our current investments with Raven, nor is staff recommending investment in Fund IV.

VI. RISK: None.

VII. STRATEGIC PLAN: Strategic Objective IV: Refine StanCERA's business and policy practices in ways that enhance stakeholder awareness, the delivery of member services and the ability of the Organization to administer the System effectively and efficiently.

VIII. ADMINISTRATIVE BUDGET IMPACT: None.

Chris Wisdom, Retirement Investment Officer

Rick Santos, Executive Director





**May 22, 2018**

Retirement Board Agenda Item

TO: Retirement Board

FROM: Chris Wisdom, Retirement Investment Officer

- I. SUBJECT: Private Markets RFI Process Update
- II. ITEM NUMBER: 6.c
- III. ITEM TYPE: Information Only
- IV. STAFF RECOMMENDATION: None
- V. EXECUTIVE SUMMARY: In April, staff issued a Request For Information (RFI) to learn about potential partners who could assist StanCERA design and implement a private markets portfolio. StanCERA received 26 responses from interested parties, and the responses varied widely in terms of the respondents' recommended approach to this issue. Staff will share some of the early findings from these RFIs as well as discuss how some of the other '37 Act systems have chosen to implement their portfolios. Staff is looking for Board input on some of the key decisions that we will need to make (examples include level of discretion, legal structure, desire for customization, and fees).
- VI. RISK: None.
- VII. STRATEGIC PLAN: Strategic Objective IV: Refine StanCERA's business and policy practices in ways that enhance stakeholder awareness, the delivery of member services and the ability of the Organization to administer the System effectively and efficiently.
- VIII. ADMINISTRATIVE BUDGET IMPACT: None.

  
Chris Wisdom, Retirement Investment Officer

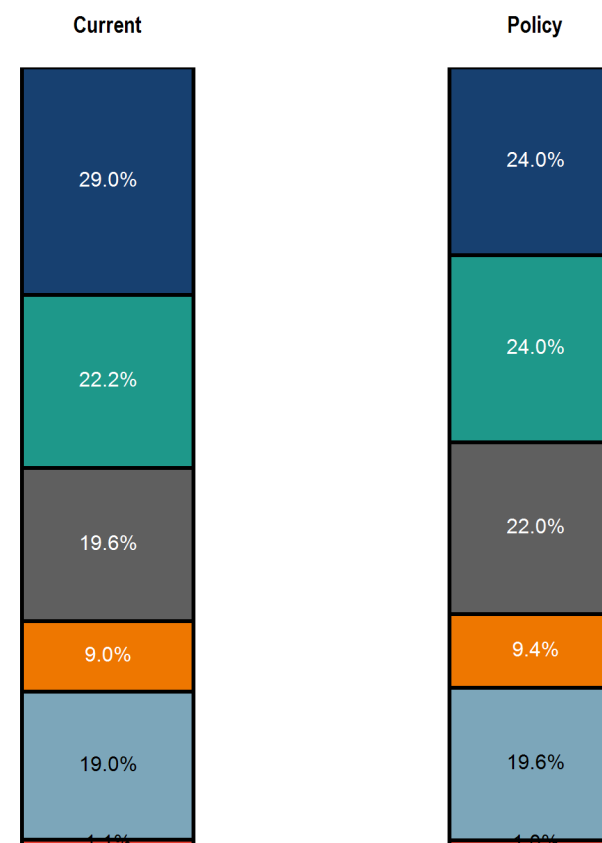
  
Rick Santos, Executive Director

# Total Fund Flash Report (Net of Fees) - Preliminary

Period Ending: April 30, 2018

	Market Value	% of Portfolio	1 Mo	YTD	Fiscal YTD
<b>Total Fund</b>	<b>2,099,848,499</b>	<b>100.0</b>	<b>0.6</b>	<b>0.2</b>	<b>7.4</b>
<i>Policy Index</i>			0.5	0.2	7.3
<b>US Equity</b>	<b>609,798,915</b>	<b>29.0</b>	<b>0.4</b>	<b>0.4</b>	<b>10.3</b>
<i>US Equity Blended</i>			0.4	-0.1	10.8
<i>Russell 3000</i>			0.4	-0.3	10.9
Northern Trust Russell 1000	169,618,669	8.1	0.3	-0.4	--
<i>Russell 1000</i>			0.3	-0.4	--
BlackRock Russell 1000 Growth	119,309,625	5.7	0.3	1.7	16.2
<i>Russell 1000 Growth</i>			0.3	1.8	16.2
BlackRock Russell 1000 Value	93,909,631	4.5	0.3	-2.5	5.9
<i>Russell 1000 Value</i>			0.3	-2.5	5.9
Dodge & Cox-Equity	112,555,038	5.4	0.8	-0.8	8.7
<i>Russell 1000 Value</i>			0.3	-2.5	5.9
Capital Prospects	114,405,925	5.4	0.5	-1.4	9.2
<i>Russell 2000 Value</i>			1.7	-1.0	6.2
<b>International Equity</b>	<b>466,738,426</b>	<b>22.2</b>	<b>1.7</b>	<b>0.9</b>	<b>11.8</b>
<i>MSCI ACWI ex USA Gross</i>			1.7	0.6	12.3
LSV Asset Mgt	238,949,901	11.4	1.9	1.7	13.3
<i>MSCI ACWI ex USA Gross</i>			1.7	0.6	12.3
Fidelity	227,788,525	10.8	1.5	0.0	10.3
<i>MSCI ACWI ex USA Gross</i>			1.7	0.6	12.3
<b>US Fixed Income</b>	<b>412,543,423</b>	<b>19.6</b>	<b>-0.2</b>	<b>-1.1</b>	<b>-0.3</b>
<i>BBgBarc US Aggregate TR</i>			-0.7	-2.2	-1.0
Insight	81,022,565	3.9	-0.2	-1.1	-0.5
<i>BBgBarc US Govt/Credit 1-5 Yr. TR</i>			-0.3	-0.8	-0.6
DFA	274,093,724	13.1	-0.1	-0.9	--
<i>ICE BofAML 1-5 Yrs US Corp &amp; Govt TR</i>			-0.3	-0.8	--
Northern Trust Intermediate Gov't Bond	43,031,148	2.0	-0.6	-1.3	--
<i>BBgBarc US Govt Int TR</i>			-0.6	-1.3	--
Northern Trust Long Term Gov't Bond	14,395,986	0.7	-1.9	-5.1	--
<i>BBgBarc US Govt Long TR</i>			-2.0	-5.1	--

	Current	%	Policy	%
Domestic Equity	\$609,798,915	29.0%	\$503,963,640	24.0%
International Equity	\$466,738,426	22.2%	\$503,963,640	24.0%
Domestic Fixed Income	\$412,543,423	19.6%	\$461,966,670	22.0%
Real Estate	\$189,078,303	9.0%	\$197,385,759	9.4%
Alternatives	\$398,611,928	19.0%	\$411,570,306	19.6%
Cash and Equivalents	\$23,077,503	1.1%	\$20,998,485	1.0%
<b>Total</b>	<b>\$2,099,848,499</b>	<b>100.0%</b>	<b>\$2,099,848,499</b>	<b>100.0%</b>



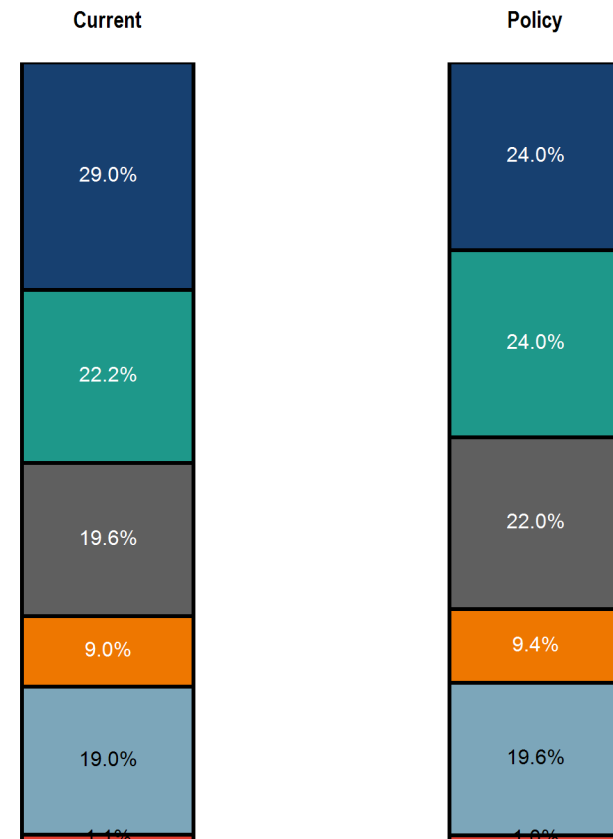
Policy Index (7/1/2017): 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 7.7% NCREIF Property, 1.7% NCREIF Property +2%, 0.6% CPI +5%, 5% BBgBarc US High Yield +2%, 14% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi 1 Month T-Bills. All data is preliminary.

# Total Fund Flash Report (Net of Fees) - Preliminary

Period Ending: April 30, 2018

	Market Value	% of Portfolio	1 Mo	YTD	Fiscal YTD
<b>Real Estate</b>	<b>189,078,303</b>	<b>9.0</b>	<b>1.1</b>	<b>-2.7</b>	<b>0.8</b>
DJ US Select RESI			1.5	-6.1	-3.8
Prime Property Fund	18,735,473	0.9	0.0	2.0	6.5
NCREIF-ODCE			0.0	2.2	6.3
American Strategic Value Realty	30,353,083	1.4	0.0	2.5	7.1
NCREIF Property Index			0.0	1.7	5.3
BlackRock US Real Estate	124,789,779	5.9	1.5	-6.0	-3.8
DJ US Select RESI TR USD			1.5	-6.1	-3.8
Greenfield Gap	15,199,968	0.7			
<b>Direct Lending</b>	<b>94,926,031</b>	<b>4.5</b>			
Medley Capital	18,290,986	0.9			
Raven Capital	15,989,408	0.8			
Raven Opportunity III	29,796,325	1.4			
White Oak Pinnacle	30,849,312	1.5			
<b>Risk Parity</b>	<b>281,003,994</b>	<b>13.4</b>	<b>0.3</b>	<b>-1.6</b>	<b>--</b>
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			-0.1	-0.1	--
AQR Global Risk Premium - EL	141,515,692	6.7	0.6	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			-0.1	--	--
PanAgora Risk Parity Multi Asset	139,488,302	6.6	0.1	-1.5	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			-0.1	-0.1	--
<b>Infrastructure</b>	<b>22,681,903</b>	<b>1.1</b>			
MS Infrastructure Partners II	22,681,903	1.1			
Cash Account					

	Current	%	Policy	%
Domestic Equity	\$609,798,915	29.0%	\$503,963,640	24.0%
International Equity	\$466,738,426	22.2%	\$503,963,640	24.0%
Domestic Fixed Income	\$412,543,423	19.6%	\$461,966,670	22.0%
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Cash and Equivalents	\$23,077,503	1.1%	\$20,998,485	1.0%
<b>Total</b>	<b>\$2,099,848,499</b>	<b>100.0%</b>	<b>\$2,099,848,499</b>	<b>100.0%</b>



Policy Index (7/1/2017): 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 7.7% NCREIF Property, 1.7% NCREIF Property +2%, 0.6% CPI +5%, 5% BBgBarc US High Yield +2%, 14% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi 1 Month T-Bills. All data is preliminary.

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# Stanislaus County Employees' Retirement Association

Investment Performance Review

Period Ending: March 31, 2018



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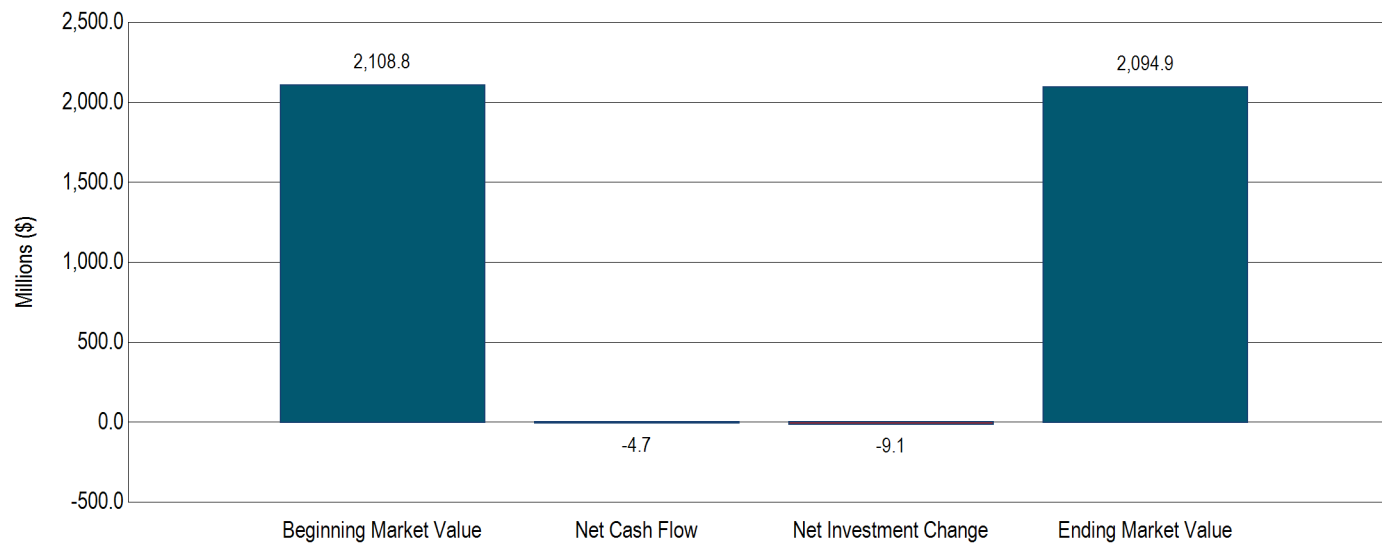
# Total Fund Portfolio Reconciliation

Period Ending: March 31, 2018

## Portfolio Reconciliation

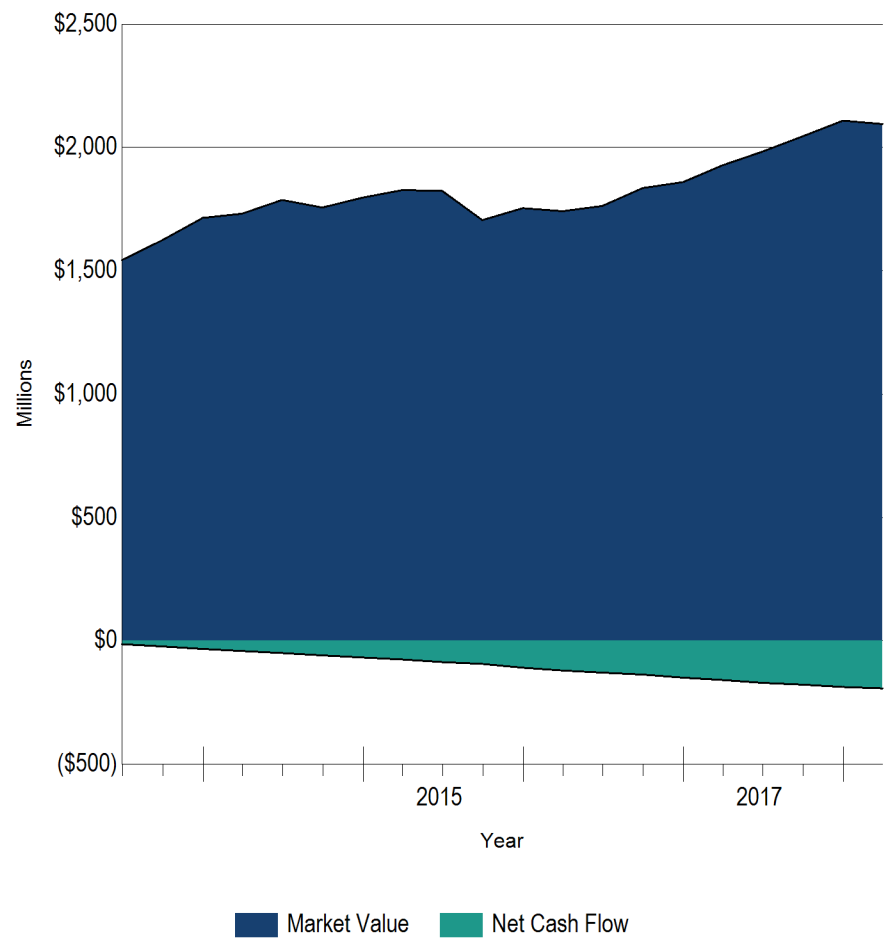
	Last Three Months	Fiscal Year-To-Date	Year-To-Date
Beginning Market Value	\$2,108,788,448	\$1,983,082,534	\$2,108,788,448
Net Cash Flow	-\$4,736,085	-\$19,617,357	-\$4,736,085
Net Investment Change	-\$9,106,961	\$131,480,224	-\$9,106,961
Ending Market Value	\$2,094,945,402	\$2,094,945,402	\$2,094,945,402

## Change in Market Value Last Three Months

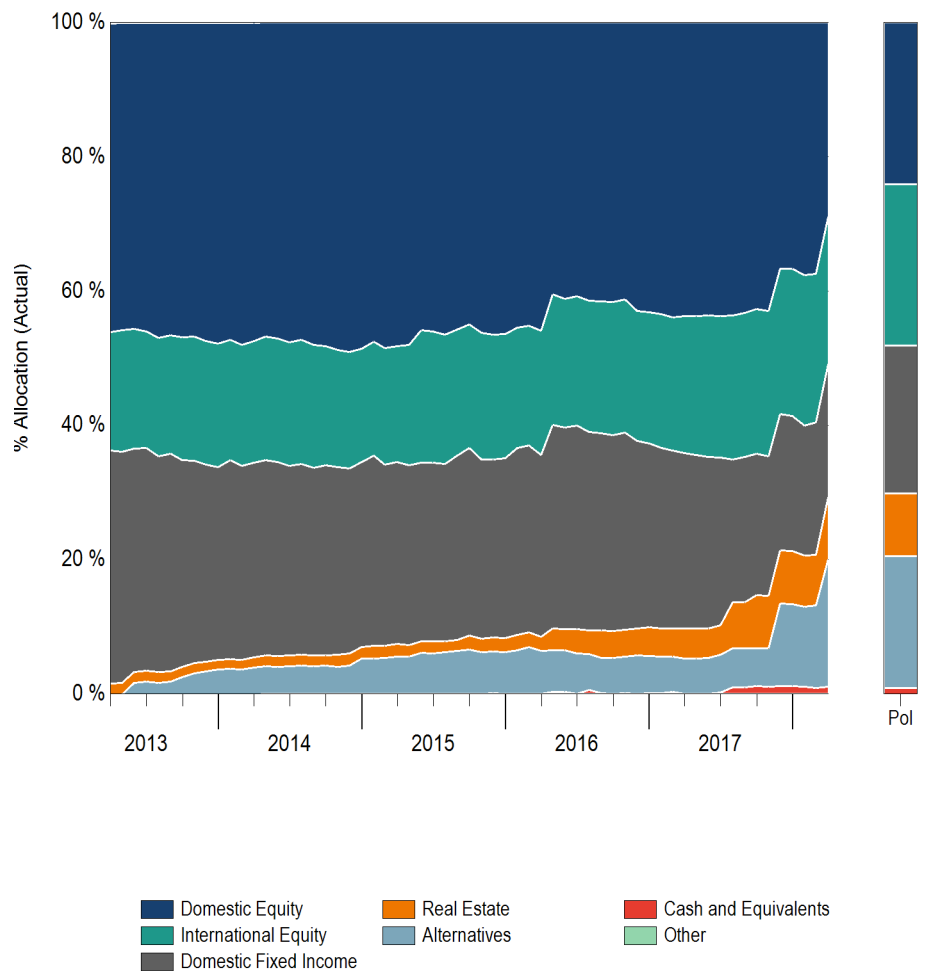


Contributions and withdrawals may include intra-account transfers between managers/funds.

Market Value History  
Cumulative Cash Flows

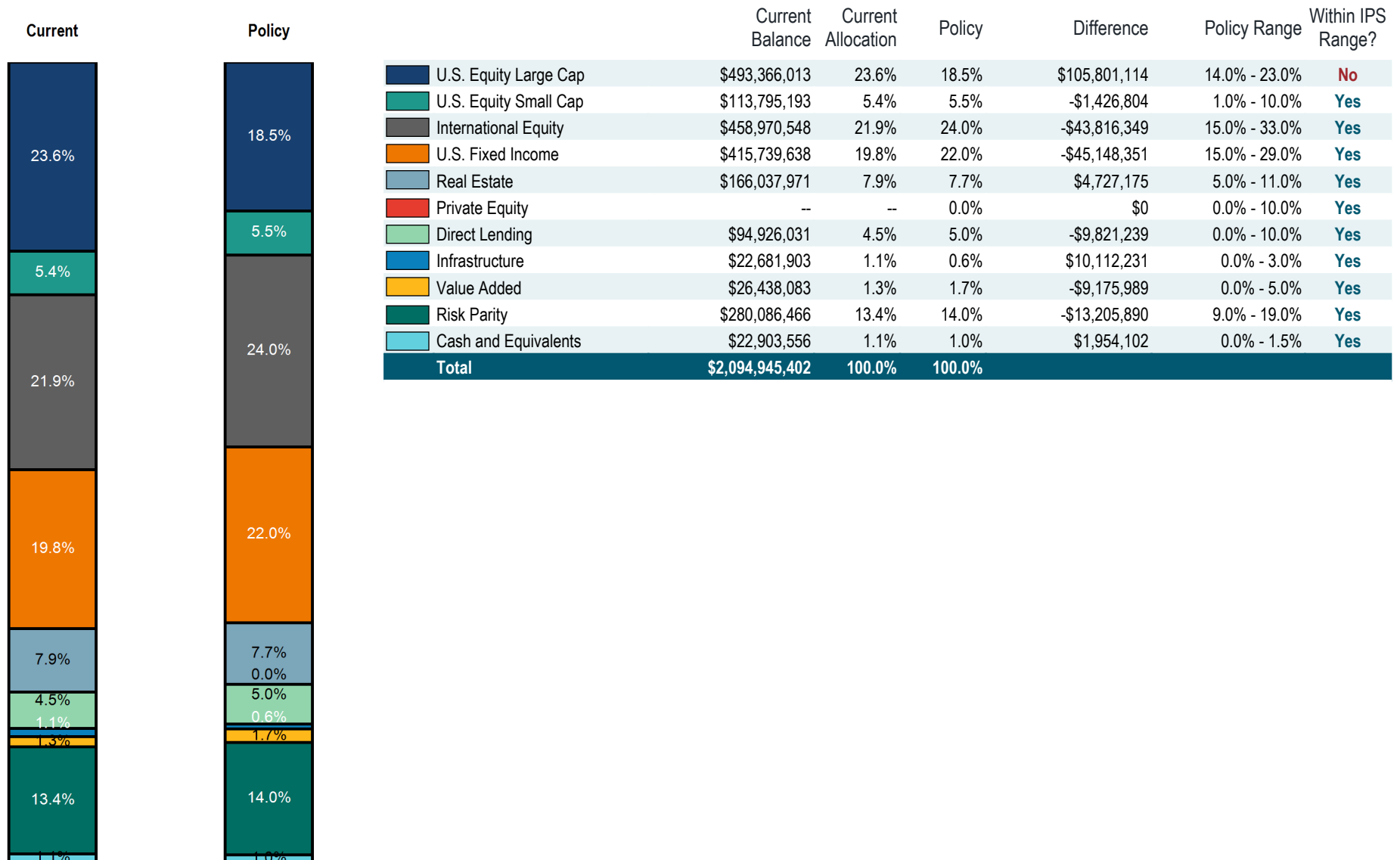


Asset Allocation History



# Total Fund Asset Allocation vs. Policy

Period Ending: March 31, 2018



	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
U.S. Equity Large Cap	\$493,366,013	23.6%	18.5%	\$105,801,114	14.0% - 23.0%	No
U.S. Equity Small Cap	\$113,795,193	5.4%	5.5%	-\$1,426,804	1.0% - 10.0%	Yes
International Equity	\$458,970,548	21.9%	24.0%	-\$43,816,349	15.0% - 33.0%	Yes
U.S. Fixed Income	\$415,739,638	19.8%	22.0%	-\$45,148,351	15.0% - 29.0%	Yes
Real Estate	\$166,037,971	7.9%	7.7%	\$4,727,175	5.0% - 11.0%	Yes
Private Equity	--	--	0.0%	\$0	0.0% - 10.0%	Yes
Direct Lending	\$94,926,031	4.5%	5.0%	-\$9,821,239	0.0% - 10.0%	Yes
Infrastructure	\$22,681,903	1.1%	0.6%	\$10,112,231	0.0% - 3.0%	Yes
Value Added	\$26,438,083	1.3%	1.7%	-\$9,175,989	0.0% - 5.0%	Yes
Risk Parity	\$280,086,466	13.4%	14.0%	-\$13,205,890	9.0% - 19.0%	Yes
Cash and Equivalents	\$22,903,556	1.1%	1.0%	\$1,954,102	0.0% - 1.5%	Yes
<b>Total</b>	<b>\$2,094,945,402</b>	<b>100.0%</b>	<b>100.0%</b>			

Cash Account includes cash held at Northern Trust for all closed end funds.

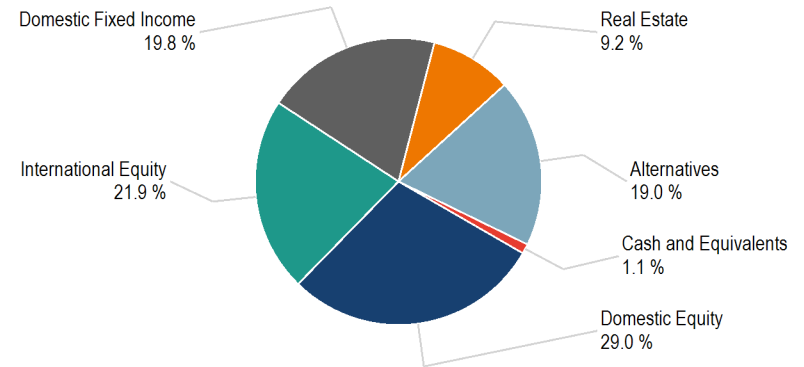


# Total Fund Executive Summary (Gross of Fees)

Period Ending: March 31, 2018

	QTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>-0.4</b>	<b>6.9</b>	<b>10.6</b>	<b>6.8</b>	<b>8.5</b>	<b>7.3</b>
Policy Index	-0.3	6.7	9.8	6.6	7.8	6.9
InvestorForce Public DB Gross Rank	65	54	43	44	22	13
<b>US Equity</b>	<b>0.0</b>	<b>10.0</b>	<b>13.8</b>	<b>9.7</b>	<b>12.9</b>	<b>9.6</b>
US Equity Blended	-0.6	10.3	13.6	10.0	12.9	9.8
Russell 3000	-0.6	10.5	13.8	10.2	13.0	9.6
InvestorForce All DB US Eq Gross Rank	29	72	54	63	48	51
<b>International Equity</b>	<b>-0.7</b>	<b>10.3</b>	<b>17.8</b>	<b>7.7</b>	<b>7.4</b>	<b>4.0</b>
MSCI ACWI ex USA Gross	-1.1	10.4	17.0	6.7	6.4	3.2
InvestorForce All DB ex-US Eq Gross Rank	70	63	54	42	43	34
<b>US Fixed Income</b>	<b>-0.9</b>	<b>0.1</b>	<b>1.7</b>	<b>2.4</b>	<b>2.9</b>	<b>5.2</b>
BBgBarc US Aggregate TR	-1.5	-0.2	1.2	1.2	1.8	3.6
InvestorForce All DB US Fix Inc Gross Rank	42	73	69	40	44	36
<b>Real Estate</b>	<b>-3.7</b>	<b>-0.3</b>	<b>1.5</b>	<b>6.0</b>	<b>8.7</b>	<b>3.6</b>
DJ US Select RESI	-7.4	-5.2	-3.7	0.7	6.0	4.4
<b>Direct Lending</b>	<b>2.6</b>	<b>3.0</b>	<b>4.3</b>	<b>3.8</b>	<b>--</b>	<b>--</b>
9% Annual	2.2	6.7	9.0	9.0	--	--
<b>Risk Parity</b>	<b>-1.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
60% MSCI ACWI Net/40% BBgBarc Global Aggregate	0.0	--	--	--	--	--
<b>Infrastructure</b>	<b>2.2</b>	<b>24.8</b>	<b>27.0</b>	<b>--</b>	<b>--</b>	<b>--</b>
CPI + 5%	2.5	5.2	7.0	--	--	--

Current Allocation



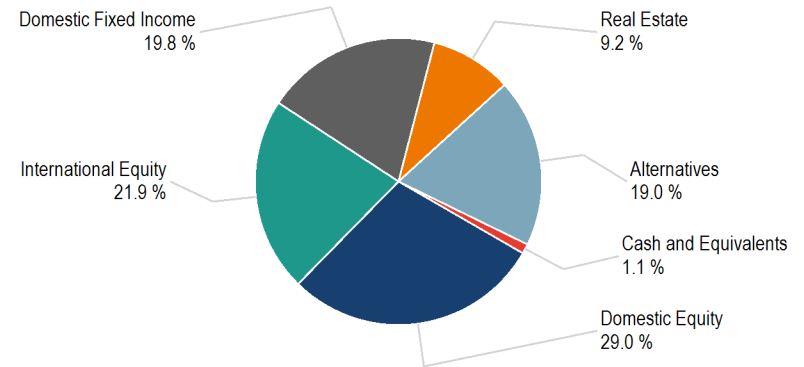
Policy Index (7/1/2017): 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 7.7% NCREIF Property, 1.7% NCREIF Property +2%, 0.6% CPI +5%, 5% BBgBarc US High Yield +2%, 14% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi 1 Month T-Bills. US Equity Blended: 80% Russell 1000, 20% Russell 2000.

# Total Fund Executive Summary (Net of Fees)

Period Ending: March 31, 2018

	QTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund</b>	<b>-0.4</b>	<b>6.7</b>	<b>10.3</b>	<b>6.4</b>	<b>8.1</b>	<b>6.9</b>
<i>Policy Index</i>	-0.3	6.7	9.8	6.6	7.8	6.9
<b>US Equity</b>	<b>0.0</b>	<b>9.8</b>	<b>13.5</b>	<b>9.4</b>	<b>12.6</b>	<b>9.3</b>
<i>US Equity Blended</i>	-0.6	10.3	13.6	10.0	12.9	9.8
<i>Russell 3000</i>	-0.6	10.5	13.8	10.2	13.0	9.6
<b>International Equity</b>	<b>-0.8</b>	<b>10.0</b>	<b>17.3</b>	<b>7.2</b>	<b>7.0</b>	<b>3.5</b>
<i>MSCI ACWI ex USA Gross</i>	-1.1	10.4	17.0	6.7	6.4	3.2
<b>US Fixed Income</b>	<b>-0.9</b>	<b>0.0</b>	<b>1.5</b>	<b>2.2</b>	<b>2.7</b>	<b>5.1</b>
<i>BBgBarc US Aggregate TR</i>	-1.5	-0.2	1.2	1.2	1.8	3.6
<b>Real Estate</b>	<b>-3.7</b>	<b>-0.3</b>	<b>1.5</b>	<b>5.3</b>	<b>8.0</b>	<b>2.7</b>
<i>DJ US Select RESI</i>	-7.4	-5.2	-3.7	0.7	6.0	4.4
<b>Direct Lending</b>	<b>2.6</b>	<b>3.0</b>	<b>4.3</b>	<b>2.8</b>	--	--
<i>9% Annual</i>	2.2	6.7	9.0	9.0	--	--
<b>Risk Parity</b>	<b>-1.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>60% MSCI ACWI Net/40% BBgBarc Global Aggregate</i>	0.0	--	--	--	--	--
<b>Infrastructure</b>	<b>2.2</b>	<b>24.8</b>	<b>27.0</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>CPI + 5%</i>	2.5	5.2	7.0	--	--	--

Current Allocation



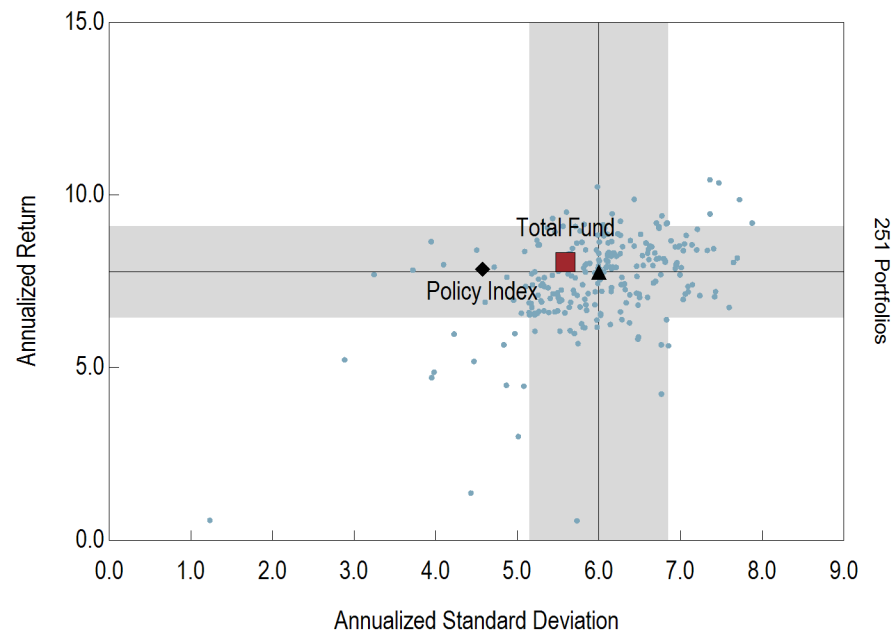
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Total Fund  
Risk Analysis - 5 Years (Net of Fees)

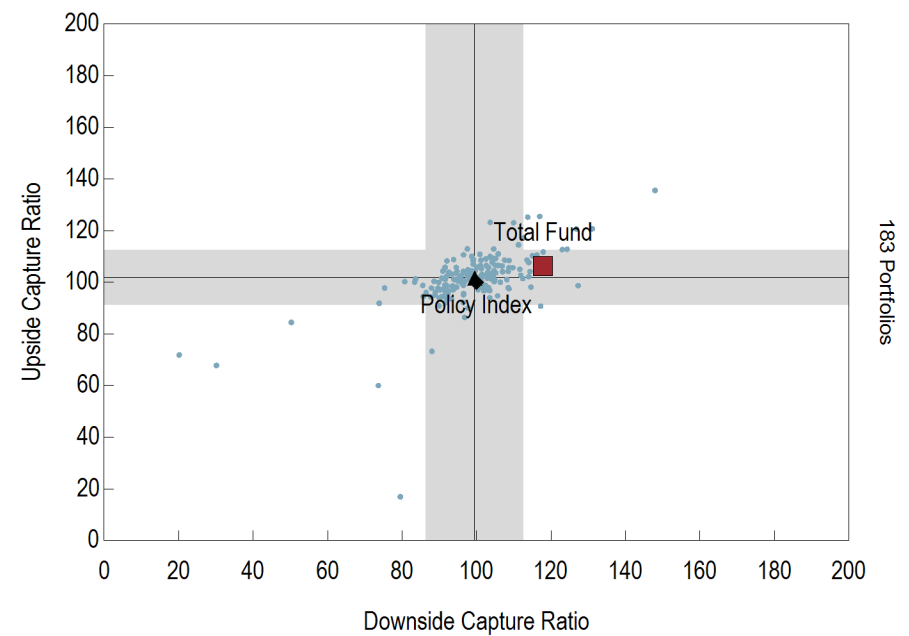
Period Ending: March 31, 2018

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Total Fund	8.06%	0.21%	5.59%	-1.21%	1.18	1.65%	0.93	1.38	0.13	106.25%	117.83%

Risk vs. Return



Up Markets vs. Down Markets



# Total Fund Performance Summary (Gross of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Inception	Inception Date
<b>Total Fund</b>	<b>2,094,945,402</b>	<b>100.0</b>	<b>-0.4</b>	<b>6.9</b>	<b>10.6</b>	<b>6.8</b>	<b>8.5</b>	<b>7.3</b>	<b>15.6</b>	<b>8.3</b>	<b>-0.2</b>	<b>6.9</b>	<b>19.8</b>	<b>9.4</b>	<b>Dec-94</b>
Policy Index			-0.3	6.7	9.8	6.6	7.8	6.9	14.3	8.5	0.2	7.5	15.4	8.2	Dec-94
InvestorForce Public DB Gross Rank			65	54	43	44	22	13	45	29	60	23	12		
<b>US Equity</b>	<b>607,161,207</b>	<b>29.0</b>	<b>0.0</b>	<b>10.0</b>	<b>13.8</b>	<b>9.7</b>	<b>12.9</b>	<b>9.6</b>	<b>19.7</b>	<b>12.4</b>	<b>-0.2</b>	<b>10.9</b>	<b>36.9</b>	<b>7.4</b>	<b>Jun-01</b>
US Equity Blended			-0.6	10.3	13.6	10.0	12.9	9.8	20.3	13.9	-0.1	11.6	34.3	7.3	Jun-01
Russell 3000			-0.6	10.5	13.8	10.2	13.0	9.6	21.1	12.7	0.5	12.6	33.6		
InvestorForce All DB US Eq Gross Rank			29	72	54	63	48	51	72	58	63	54	13		
Northern Trust Russell 1000	169,049,586	8.1	-0.7	--	--	--	--	--	--	--	--	--	--	8.1	Aug-17
Russell 1000			-0.7	--	--	--	--	--	--	--	--	--	--	8.1	Aug-17
eV US Large Cap Equity Gross Rank			49	--	--	--	--	--	--	--	--	--	--		
BlackRock Russell 1000 Growth	118,898,034	5.7	1.4	15.8	21.2	12.9	15.6	--	30.2	7.2	5.7	13.1	33.5	17.0	Jun-10
Russell 1000 Growth			1.4	15.8	21.3	12.9	15.5	--	30.2	7.1	5.7	13.0	33.5	17.0	Jun-10
eV US Large Cap Growth Equity Gross Rank			65	48	51	31	41	--	42	26	42	37	56		
BlackRock Russell 1000 Value	93,603,045	4.5	-2.8	5.6	7.1	8.0	10.9	--	13.8	17.3	-3.6	13.5	32.6	13.2	Jul-09
Russell 1000 Value			-2.8	5.5	6.9	7.9	10.8	--	13.7	17.3	-3.8	13.5	32.5	13.1	Jul-09
eV US Large Cap Value Equity Gross Rank			73	80	86	68	70	--	86	26	62	31	59		
Dodge & Cox-Equity	111,694,510	5.3	-1.5	8.1	10.1	10.9	13.3	9.4	17.1	21.4	-3.9	10.9	39.1	12.4	Dec-94
Russell 1000 Value			-2.8	5.5	6.9	7.9	10.8	7.8	13.7	17.3	-3.8	13.5	32.5	10.0	Dec-94
eV US Large Cap Value Equity Gross Rank			31	55	57	12	16	40	52	6	64	72	15		
Capital Prospects	113,795,193	5.4	-1.7	9.3	11.2	9.3	11.8	--	15.5	28.1	-7.0	5.8	37.9	15.9	Dec-08
Russell 2000 Value			-2.6	4.4	5.1	7.9	10.0	--	7.8	31.7	-7.5	4.2	34.5	12.6	Dec-08
eV US Small Cap Value Equity Gross Rank			44	24	22	36	44	--	18	40	72	51	53		
<b>International Equity</b>	<b>458,970,548</b>	<b>21.9</b>	<b>-0.7</b>	<b>10.3</b>	<b>17.8</b>	<b>7.7</b>	<b>7.4</b>	<b>4.0</b>	<b>27.9</b>	<b>6.0</b>	<b>-3.5</b>	<b>-4.2</b>	<b>20.0</b>	<b>6.5</b>	<b>Jun-01</b>
MSCI ACWI ex USA Gross			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8	6.7	Jun-01
InvestorForce All DB ex-US Eq Gross Rank			70	63	54	42	43	34	61	21	50	70	35		
LSV Asset Mgt	234,522,052	11.2	0.0	11.7	18.6	8.3	8.0	4.3	28.2	8.8	-5.1	-4.0	20.4	7.9	Aug-04
MSCI ACWI ex USA Gross			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8	7.2	Aug-04
eV ACWI ex-US Equity Unhedged Gross Rank			47	51	58	52	59	71	67	10	86	65	46		
Fidelity	224,448,496	10.7	-1.4	8.9	16.7	6.6	6.7	3.7	27.3	2.4	-2.0	-4.5	19.6	4.5	Apr-06
MSCI ACWI ex USA Gross			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8	4.0	Apr-06
eV ACWI ex-US Equity Unhedged Gross Rank			83	82	74	76	79	80	74	46	66	70	55		

Individual closed end funds are not shown in performance summary table.

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Inception	Inception Date
<b>US Fixed Income</b>	<b>415,739,638</b>	<b>19.8</b>	<b>-0.9</b>	<b>0.1</b>	<b>1.7</b>	<b>2.4</b>	<b>2.9</b>	<b>5.2</b>	<b>3.9</b>	<b>5.4</b>	<b>0.3</b>	<b>6.2</b>	<b>0.3</b>	<b>5.6</b>	<b>Jun-01</b>
BBgBarc US Aggregate TR			-1.5	-0.2	1.2	1.2	1.8	3.6	3.5	2.6	0.6	6.0	-2.0	4.5	Jun-01
InvestorForce All DB US Fix Inc Gross Rank			42	73	69	40	44	36	68	47	42	42	21		
Insight	83,333,426	4.0	-0.9	-0.2	--	--	--	--	--	--	--	--	--	-0.2	Jun-17
BBgBarc US Govt/Credit 1-5 Yr. TR			-0.5	-0.4	--	--	--	--	--	--	--	--	--	-0.4	Jun-17
eV US Short Duration Fixed Inc Gross Rank			99	95	--	--	--	--	--	--	--	--	--		
DFA	274,452,892	13.1	-0.7	--	--	--	--	--	--	--	--	--	--	-0.8	Jul-17
ICE BofAML 1-5 Yrs US Corp & Govt TR			-0.5	--	--	--	--	--	--	--	--	--	--	-0.7	Jul-17
eV US Short Duration Fixed Inc Gross Rank			99	--	--	--	--	--	--	--	--	--	--		
Northern Trust Intermediate Gov't Bond	43,272,865	2.1	-0.7	--	--	--	--	--	--	--	--	--	--	-1.1	Jul-17
BBgBarc US Govt Int TR			-0.7	--	--	--	--	--	--	--	--	--	--	-1.1	Jul-17
eV US Government Fixed Inc Gross Rank			47	--	--	--	--	--	--	--	--	--	--		
Northern Trust Long Term Gov't Bond	14,680,454	0.7	-3.2	--	--	--	--	--	--	--	--	--	--	0.2	Jul-17
BBgBarc US Govt Long TR			-3.2	--	--	--	--	--	--	--	--	--	--	0.2	Jul-17
eV US Government Fixed Inc Gross Rank			99	--	--	--	--	--	--	--	--	--	--		
<b>Real Estate</b>	<b>192,476,053</b>	<b>9.2</b>	<b>-3.7</b>	<b>-0.3</b>	<b>1.5</b>	<b>6.0</b>	<b>8.7</b>	<b>3.6</b>	<b>7.5</b>	<b>7.5</b>	<b>12.1</b>	<b>28.3</b>	<b>1.4</b>	<b>3.7</b>	<b>Feb-08</b>
DJ US Select RESI			-7.4	-5.2	-3.7	0.7	6.0	4.4	3.8	6.6	4.5	31.9	1.3	4.4	Feb-08
Prime Property Fund	18,735,473	0.9	2.0	6.5	8.8	--	--	--	8.8	10.4	--	--	--	9.9	Sep-15
NCREIF-ODCE			2.2	6.3	8.1	--	--	--	7.6	8.8	--	--	--	8.9	Sep-15
American Strategic Value Realty	26,438,083	1.3	2.5	7.1	9.6	13.4	--	--	10.1	13.1	21.4	--	--	14.4	Dec-14
NCREIF Property Index			1.7	5.3	7.1	8.7	--	--	7.0	8.0	13.3	--	--	9.2	Dec-14
BlackRock US Real Estate	132,251,328	6.3	-7.4	-5.2	-3.6	0.7	6.0	--	3.8	6.6	4.4	31.9	1.4	7.2	Sep-12
DJ US Select RESI TR USD			-7.4	-5.2	-3.7	0.7	6.0	--	3.8	6.6	4.5	31.9	1.3	7.2	Sep-12
eV US REIT Gross Rank			70	82	81	85	84	--	90	68	58	39	91		
<b>Risk Parity</b>	<b>280,086,466</b>	<b>13.4</b>	<b>-1.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-0.8</b>	<b>Nov-17</b>
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			0.0	--	--	--	--	--	--	--	--	--	--	1.1	Nov-17
AQR Global Risk Premium - EL	140,676,181	6.7	--	--	--	--	--	--	--	--	--	--	--	0.5	Mar-18
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			--	--	--	--	--	--	--	--	--	--	--	-0.3	Mar-18
PanAgora Risk Parity Multi Asset	139,410,285	6.7	-1.6	--	--	--	--	--	--	--	--	--	--	-0.4	Nov-17
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			0.0	--	--	--	--	--	--	--	--	--	--	1.1	Nov-17

Individual closed end funds are not shown in performance summary table.

# Total Fund Performance Summary (Net of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Inception	Inception Date
<b>Total Fund</b>	<b>2,094,945,402</b>	<b>100.0</b>	<b>-0.4</b>	<b>6.7</b>	<b>10.3</b>	<b>6.4</b>	<b>8.1</b>	<b>6.9</b>	<b>15.3</b>	<b>7.8</b>	<b>-0.6</b>	<b>6.5</b>	<b>19.2</b>	<b>9.2</b>	<b>Dec-94</b>
<i>Policy Index</i>			-0.3	6.7	9.8	6.6	7.8	6.9	14.3	8.5	0.2	7.5	15.4	8.2	Dec-94
<b>US Equity</b>	<b>607,161,207</b>	<b>29.0</b>	<b>0.0</b>	<b>9.8</b>	<b>13.5</b>	<b>9.4</b>	<b>12.6</b>	<b>9.3</b>	<b>19.4</b>	<b>12.1</b>	<b>-0.4</b>	<b>10.7</b>	<b>36.5</b>	<b>7.1</b>	<b>Jun-01</b>
<i>US Equity Blended</i>			-0.6	10.3	13.6	10.0	12.9	9.8	20.3	13.9	-0.1	11.6	34.3	7.3	Jun-01
<i>Russell 3000</i>			-0.6	10.5	13.8	10.2	13.0	9.6	21.1	12.7	0.5	12.6	33.6	7.1	Jun-01
Northern Trust Russell 1000	169,049,586	8.1	-0.7	--	--	--	--	--	--	--	--	--	--	8.1	Aug-17
<i>Russell 1000</i>			-0.7	--	--	--	--	--	--	--	--	--	--	8.1	Aug-17
BlackRock Russell 1000 Growth	118,898,034	5.7	1.4	15.8	21.2	12.9	15.5	--	30.2	7.2	5.7	13.1	33.5	17.0	Jun-10
<i>Russell 1000 Growth</i>			1.4	15.8	21.3	12.9	15.5	--	30.2	7.1	5.7	13.0	33.5	17.0	Jun-10
BlackRock Russell 1000 Value	93,603,045	4.5	-2.8	5.6	7.0	8.0	10.9	--	13.8	17.3	-3.6	13.5	32.6	13.2	Jul-09
<i>Russell 1000 Value</i>			-2.8	5.5	6.9	7.9	10.8	--	13.7	17.3	-3.8	13.5	32.5	13.1	Jul-09
Dodge & Cox-Equity	111,694,510	5.3	-1.5	7.9	9.9	10.7	13.1	9.2	16.9	21.2	-4.0	10.7	38.8	12.2	Dec-94
<i>Russell 1000 Value</i>			-2.8	5.5	6.9	7.9	10.8	7.8	13.7	17.3	-3.8	13.5	32.5	10.0	Dec-94
Capital Prospects	113,795,193	5.4	-1.9	8.7	10.4	8.5	11.1	--	14.7	27.1	-7.5	5.2	36.8	15.1	Dec-08
<i>Russell 2000 Value</i>			-2.6	4.4	5.1	7.9	10.0	--	7.8	31.7	-7.5	4.2	34.5	12.6	Dec-08
<b>International Equity</b>	<b>458,970,548</b>	<b>21.9</b>	<b>-0.8</b>	<b>10.0</b>	<b>17.3</b>	<b>7.2</b>	<b>7.0</b>	<b>3.5</b>	<b>27.4</b>	<b>5.3</b>	<b>-3.8</b>	<b>-4.5</b>	<b>19.4</b>	<b>6.0</b>	<b>Jun-01</b>
<i>MSCI ACWI ex USA Gross</i>			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8	6.7	Jun-01
LSV Asset Mgt	234,522,052	11.2	-0.1	11.2	18.0	7.8	7.5	3.7	27.5	8.2	-5.4	-4.2	19.8	7.3	Aug-04
<i>MSCI ACWI ex USA Gross</i>			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8	7.2	Aug-04
Fidelity	224,448,496	10.7	-1.5	8.7	16.5	6.1	6.2	3.2	27.0	1.8	-2.3	-4.9	19.1	4.1	Apr-06
<i>MSCI ACWI ex USA Gross</i>			-1.1	10.4	17.0	6.7	6.4	3.2	27.8	5.0	-5.3	-3.4	15.8	4.0	Apr-06
<b>US Fixed Income</b>	<b>415,739,638</b>	<b>19.8</b>	<b>-0.9</b>	<b>0.0</b>	<b>1.5</b>	<b>2.2</b>	<b>2.7</b>	<b>5.1</b>	<b>3.8</b>	<b>5.2</b>	<b>0.2</b>	<b>6.1</b>	<b>0.1</b>	<b>5.5</b>	<b>Jun-01</b>
<i>BBgBarc US Aggregate TR</i>			-1.5	-0.2	1.2	1.2	1.8	3.6	3.5	2.6	0.6	6.0	-2.0	4.5	Jun-01
Insight	83,333,426	4.0	-1.0	-0.3	--	--	--	--	--	--	--	--	--	-0.3	Jun-17
<i>BBgBarc US Govt/Credit 1-5 Yr. TR</i>			-0.5	-0.4	--	--	--	--	--	--	--	--	--	-0.4	Jun-17
DFA	274,452,892	13.1	-0.8	--	--	--	--	--	--	--	--	--	--	-0.8	Jul-17
<i>ICE BofAML 1-5 Yrs US Corp &amp; Govt TR</i>			-0.5	--	--	--	--	--	--	--	--	--	--	-0.7	Jul-17
Northern Trust Intermediate Gov't Bond	43,272,865	2.1	-0.7	--	--	--	--	--	--	--	--	--	--	-1.1	Jul-17
<i>BBgBarc US Govt Int TR</i>			-0.7	--	--	--	--	--	--	--	--	--	--	-1.1	Jul-17
Northern Trust Long Term Gov't Bond	14,680,454	0.7	-3.2	--	--	--	--	--	--	--	--	--	--	0.2	Jul-17
<i>BBgBarc US Govt Long TR</i>			-3.2	--	--	--	--	--	--	--	--	--	--	0.2	Jul-17

Individual closed end funds are not shown in performance summary table.



Total Fund  
Performance Summary (Net of Fees)

Period Ending: March 31, 2018

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Inception	Inception Date
<b>Real Estate</b>	<b>192,476,053</b>	<b>9.2</b>	<b>-3.7</b>	<b>-0.3</b>	<b>1.5</b>	<b>5.3</b>	<b>8.0</b>	<b>2.7</b>	<b>7.5</b>	<b>6.6</b>	<b>10.5</b>	<b>27.4</b>	<b>1.3</b>	<b>2.8</b>	<b>Feb-08</b>
<i>DJ US Select RESI</i>			-7.4	-5.2	-3.7	0.7	6.0	4.4	3.8	6.6	4.5	31.9	1.3	4.4	Feb-08
Prime Property Fund	18,735,473	0.9	2.0	6.5	8.8	--	--	--	8.8	9.2	--	--	--	9.3	Sep-15
<i>NCREIF-ODCE</i>			2.2	6.3	8.1	--	--	--	7.6	8.8	--	--	--	8.9	Sep-15
American Strategic Value Realty	26,438,083	1.3	2.5	7.1	9.6	12.4	--	--	10.1	11.7	18.3	--	--	13.1	Dec-14
<i>NCREIF Property Index</i>			1.7	5.3	7.1	8.7	--	--	7.0	8.0	13.3	--	--	9.2	Dec-14
BlackRock US Real Estate	132,251,328	6.3	-7.4	-5.2	-3.7	0.6	5.9	--	3.7	6.6	4.4	31.9	1.3	7.1	Sep-12
<i>DJ US Select RESI TR USD</i>			-7.4	-5.2	-3.7	0.7	6.0	--	3.8	6.6	4.5	31.9	1.3	7.2	Sep-12
<b>Risk Parity</b>	<b>280,086,466</b>	<b>13.4</b>	<b>-1.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-0.8</b>	<b>Nov-17</b>
<i>60% MSCI ACWI Net/40% BBgBarc Global Aggregate</i>			0.0	--	--	--	--	--	--	--	--	--	--	1.1	Nov-17
AQR Global Risk Premium - EL	140,676,181	6.7	--	--	--	--	--	--	--	--	--	--	--	0.5	Mar-18
<i>60% MSCI ACWI Net/40% BBgBarc Global Aggregate</i>			--	--	--	--	--	--	--	--	--	--	--	-0.3	Mar-18
PanAgora Risk Parity Multi Asset	139,410,285	6.7	-1.6	--	--	--	--	--	--	--	--	--	--	-0.4	Nov-17
<i>60% MSCI ACWI Net/40% BBgBarc Global Aggregate</i>			0.0	--	--	--	--	--	--	--	--	--	--	1.1	Nov-17

Individual closed end funds are not shown in performance summary table.

# Total Fund

## Closed End Funds - Investment Summary

Period Ending: March 31, 2018

Verus Internal Analysis										
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 3/31/2018 <sup>3</sup>	Total Commitment	Capital Called	% Called	Remaining Commitment	Total Distributions	Distrib./ Paid-In (DPI) <sup>1</sup>	Tot. Value/ Paid-In (TVPI) <sup>2</sup>	Latest Valuation
Real Estate										
7/31/2014	Greenfield Gap	\$15,051,170	\$15,000,000	\$13,284,201	89%	\$1,715,799	\$3,098,470	23.3%	136.6%	12/31/2017
Total Real Estate		\$15,051,170	\$15,000,000	\$13,284,201	89%	\$1,715,799	\$3,098,470	23.3%	136.6%	
% of Portfolio (Market Value)		0.7%								
Direct Lending										
5/31/2013	Medley Capital	\$18,290,986	\$30,000,000	\$29,000,453	97%	\$999,547	\$20,362,240	70.2%	133.3%	12/31/2017
5/31/2013	Raven Capital	\$15,989,408	\$40,000,000	\$34,505,763	86%	\$5,494,237	\$20,780,731	60.2%	106.6%	12/31/2017
7/31/2015	Raven Opportunity III	\$29,796,325	\$50,000,000	\$26,477,341	53%	\$23,522,659	\$481,014	1.8%	114.4%	12/31/2017
8/31/2013	White Oak Pinnacle	\$30,849,312	\$40,000,000	\$40,000,000 <sup>4</sup>	100%	\$5,153,060	\$35,705,104	89.3%	166.4%	12/31/2017
Total Direct Lending		\$94,926,031	\$160,000,000	\$129,983,557	81%	\$35,169,503	\$77,329,089	59.5%	132.5%	
% of Portfolio (Market Value)		4.5%								
Infrastructure										
5/31/2015	MS Infrastructure Partners II	\$22,681,903	\$50,000,000	\$22,542,165	45%	\$27,457,835	\$3,707,675	16.4%	117.1%	12/31/2017
Total Infrastructure		\$22,681,903	\$50,000,000	\$22,542,165	45%	\$27,457,835	\$3,707,675	16.4%	117.1%	
% of Portfolio (Market Value)		1.1%								

1 (DPI) is equal to (capital returned / capital called)

2 (TVPI) is equal to (market value + capital returned) / capital called

3 Last known market value + capital calls - distributions

4 Includes deemed contributions, which are amounts withheld from distributions and applied to fulfill capital calls.

Total Fund  
Closed End Funds - IRR Summary

Period Ending: March 31, 2018

Real Estate	Inception	Fund Level (G)	StanCERA (G)	Fund Level (N)	StanCERA (N)	IRR Date
Greenfield Gap	7/31/2014	19.0%	20.4%	15.4%	15.1%	12/31/2017
<b>Direct Lending</b>						
Medley Capital	5/31/2013	7.3%	6.1%	5.5%	3.9%	12/31/2017
Raven Capital	5/31/2013	6.1%	6.1%	2.4%	2.4%	12/31/2017
Raven Opportunity III	7/31/2015	9.8%	9.8%	1.0%	1.0%	12/31/2017
White Oak Pinnacle	8/31/2013	12.0%	12.3%	7.7%	7.7%	12/31/2017
<b>Infrastructure</b>						
MS Infrastructure Partners II	5/31/2015	25.3%	25.3%	14.6%	11.9%	12/31/2017

IRR information provided by managers.

# Total Fund

## Performance Analysis - 3 and 5 Years (Net of Fees)

Period Ending: March 31, 2018

### 3 Years

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
BlackRock Russell 1000 Growth	12.92%	0.03%	8.19%	0.04%	1.00	0.04%	1.00	1.51	0.69	100.22%	100.07%
BlackRock Russell 1000 Value	7.95%	0.08%	8.35%	0.11%	1.00	0.07%	1.00	0.89	1.11	100.47%	99.36%
Dodge & Cox-Equity	10.67%	2.80%	10.30%	2.11%	1.09	4.85%	0.78	0.98	0.58	127.11%	99.28%
Capital Prospects	8.52%	0.65%	11.62%	1.17%	0.93	2.46%	0.96	0.69	0.27	97.91%	84.90%
LSV Asset Mgt	7.80%	1.13%	11.83%	0.86%	1.04	2.80%	0.95	0.61	0.40	107.23%	93.97%
Fidelity	6.15%	-0.53%	10.66%	-0.16%	0.95	2.14%	0.96	0.53	-0.25	98.93%	106.73%
American Strategic Value Realty	12.40%	3.67%	1.49%	2.66%	1.12	0.72%	0.77	7.94	5.08	147.18%	--
BlackRock US Real Estate	0.65%	-0.05%	10.25%	-0.05%	1.00	0.04%	1.00	0.01	-1.26	99.45%	100.11%

### 5 Years

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
BlackRock Russell 1000 Growth	15.55%	0.02%	7.54%	0.03%	1.00	0.05%	1.00	2.02	0.32	100.14%	100.07%
BlackRock Russell 1000 Value	10.85%	0.07%	7.73%	0.11%	1.00	0.06%	1.00	1.36	1.19	100.38%	98.98%
Dodge & Cox-Equity	13.06%	2.28%	9.29%	1.50%	1.07	4.17%	0.80	1.37	0.55	121.45%	95.96%
Capital Prospects	11.07%	1.11%	11.03%	1.97%	0.91	2.78%	0.94	0.97	0.40	99.92%	81.17%
LSV Asset Mgt	7.48%	1.12%	11.43%	0.75%	1.06	2.29%	0.96	0.62	0.49	110.33%	97.73%
Fidelity	6.24%	-0.13%	9.94%	0.42%	0.91	2.42%	0.95	0.59	-0.05	92.64%	91.41%
BlackRock US Real Estate	5.91%	-0.05%	11.83%	-0.04%	1.00	0.05%	1.00	0.47	-0.98	99.65%	100.15%

Performance Analysis excludes closed end funds and those funds without 3 and 5 years of performance.

# Total Fund Investment Fund Fee Analysis

Period Ending: March 31, 2018

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Northern Trust Russell 1000	Domestic Equity	0.02% of Assets	\$169,049,586	\$25,357	0.02%
BlackRock Russell 1000 Growth	Domestic Equity	0.02% of Assets	\$118,898,034	\$23,780	0.02%
BlackRock Russell 1000 Value	Domestic Equity	0.02% of Assets	\$93,603,045	\$18,721	0.02%
Dodge & Cox-Equity	Domestic Equity	0.40% of First 10.0 Mil, 0.20% of Next 90.0 Mil, 0.15% Thereafter	\$111,694,510	\$237,542	0.21%
Capital Prospects	Domestic Equity	0.75% of Assets	\$113,795,193	\$853,464	0.75%
LSV Asset Mgt	International Equity	0.75% of First 25.0 Mil, 0.65% of Next 25.0 Mil, 0.55% of Next 50.0 Mil, 0.45% Thereafter	\$234,522,052	\$1,230,349	0.52%
Fidelity	International Equity	0.25% of Assets	\$224,448,496	\$561,121	0.25%
Insight	Domestic Fixed Income	0.12% of Assets	\$83,333,426	\$100,000	0.12%
DFA	Domestic Fixed Income	0.20% of First 25.0 Mil, 0.10% Thereafter	\$274,452,892	\$299,453	0.11%
Northern Trust Intermediate Gov't Bond	Domestic Fixed Income	0.05% of First 25.0 Mil, 0.04% Thereafter	\$43,272,865	\$19,809	0.05%
Northern Trust Long Term Gov't Bond	Domestic Fixed Income	0.05% of First 25.0 Mil, 0.04% Thereafter	\$14,680,454	\$7,340	0.05%
Prime Property Fund	Real Estate	0.84% of Assets	\$18,735,473	\$157,378	0.84%
American Strategic Value Realty	Real Estate	1.25% of First 10.0 Mil, 1.20% of Next 15.0 Mil, 1.10% of Next 25.0 Mil, 1.00% Thereafter	\$26,438,083	\$320,819	1.21%
BlackRock US Real Estate	Real Estate	0.09% of First 100.0 Mil, 0.07% Thereafter	\$132,251,328	\$112,576	0.09%
AQR Global Risk Premium - EL	Alternatives	0.38% of Assets	\$140,676,181	\$534,569	0.38%
PanAgora Risk Parity Multi Asset	Alternatives	0.35% of Assets	\$139,410,285	\$487,936	0.35%
Cash Account	Cash and Equivalents	0.10% of Assets	\$22,903,556	\$22,904	0.10%
<b>Total</b>			<b>\$1,848,370,266</b>	<b>\$5,013,118</b>	<b>0.27%</b>

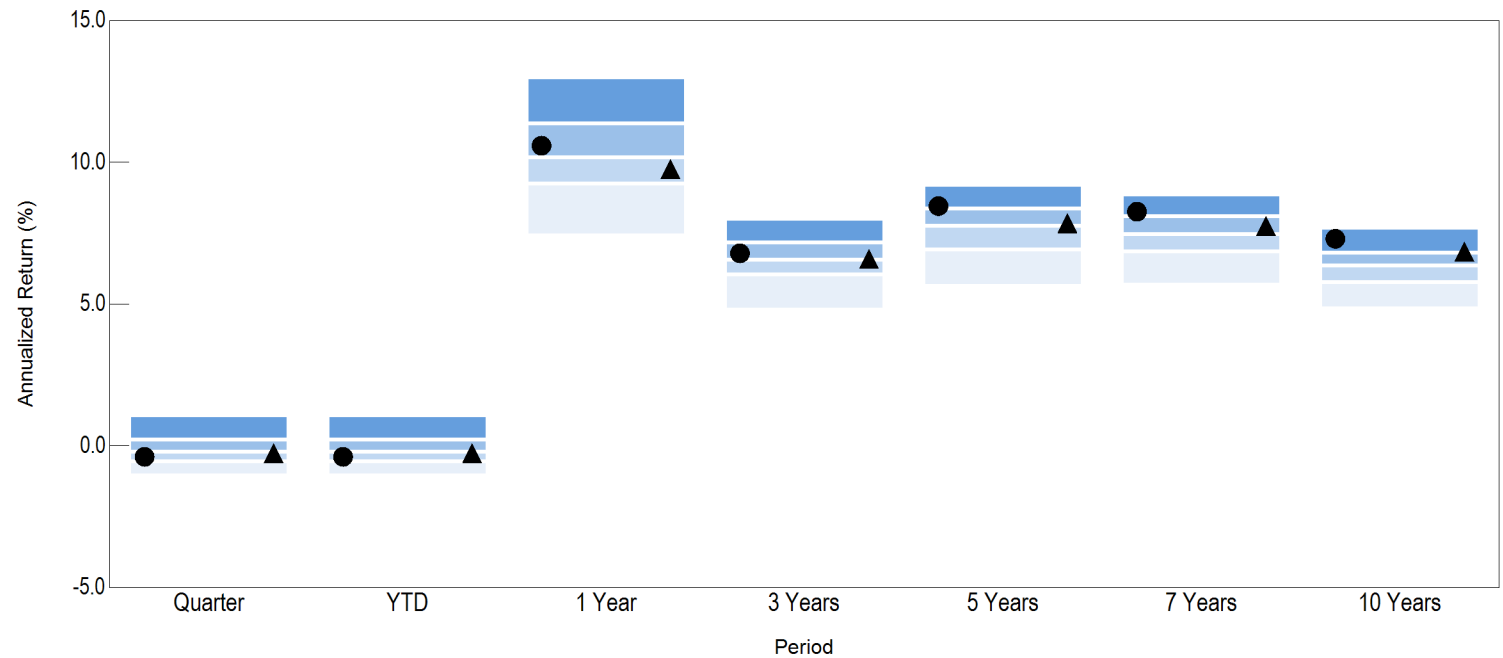
Closed end funds excluded from fee analysis. Fidelity has performance based fees which are not included in the analysis above; fee shown is the annual base fee only. Northern Trust aggregates StanCERA's Northern Trust Bond Funds.

# Total Fund

## Peer Universe Comparison: Cumulative Performance (Gross of Fees)

Period Ending: March 31, 2018

Total Fund Cumulative Performance vs. InvestorForce Public DB Gross

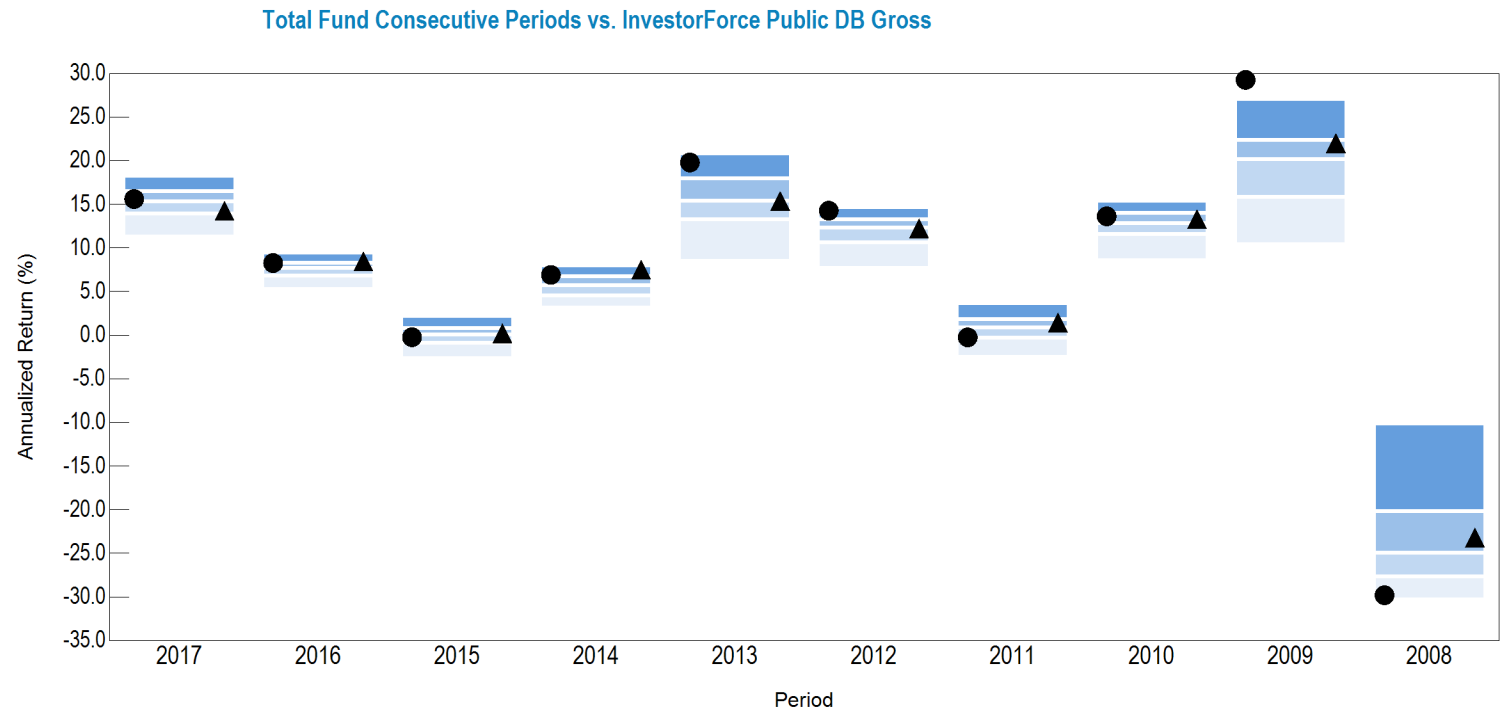


	Return (Rank)													
5th Percentile	1.1	1.1	13.0	8.0	9.2	8.9	7.7							
25th Percentile	0.2	0.2	11.4	7.2	8.4	8.1	6.8							
Median	-0.2	-0.2	10.2	6.6	7.8	7.5	6.4							
75th Percentile	-0.5	-0.5	9.2	6.1	6.9	6.9	5.8							
95th Percentile	-1.0	-1.0	7.4	4.8	5.7	5.7	4.9							
# of Portfolios	296	296	293	277	251	220	200							
● Total Fund	-0.4	(65)	-0.4	(65)	10.6	(43)	6.8	(44)	8.5	(22)	8.3	(20)	7.3	(13)
▲ Policy Index	-0.3	(55)	-0.3	(55)	9.8	(63)	6.6	(50)	7.8	(48)	7.7	(40)	6.9	(25)

# Total Fund

## Peer Universe Comparison: Consecutive Periods (Gross of Fees)

Period Ending: March 31, 2018



	Return (Rank)									
5th Percentile	18.2	9.4	2.2	8.0	20.8	14.6	3.6	15.4	27.0	-10.1
25th Percentile	16.5	8.4	0.9	6.8	18.0	13.4	1.9	14.0	22.4	-20.1
Median	15.3	7.7	0.1	5.8	15.5	12.4	0.9	12.9	20.2	-24.9
75th Percentile	14.0	6.9	-0.9	4.6	13.3	10.7	-0.3	11.7	15.9	-27.6
95th Percentile	11.3	5.3	-2.6	3.2	8.5	7.8	-2.5	8.6	10.5	-30.3
# of Portfolios	304	305	316	248	231	236	206	188	184	181
● Total Fund	15.6 (45)	8.3 (29)	-0.2 (60)	6.9 (23)	19.8 (12)	14.3 (10)	-0.3 (75)	13.6 (35)	29.3 (1)	-29.8 (92)
▲ Policy Index	14.3 (71)	8.5 (23)	0.2 (46)	7.5 (12)	15.4 (52)	12.3 (53)	1.4 (35)	13.3 (42)	22.0 (29)	-23.2 (37)



## Domestic Equity Managers

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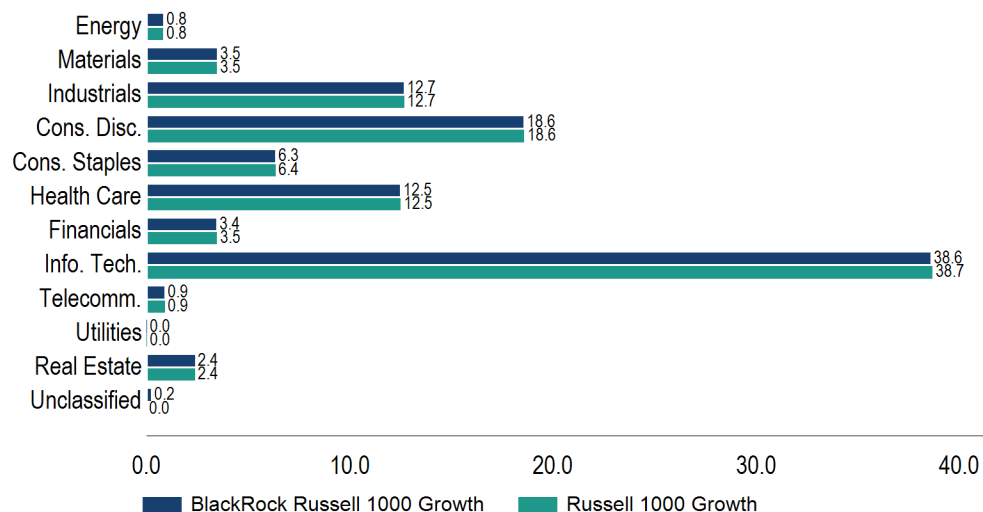
# BlackRock Russell 1000 Growth Manager Portfolio Overview

Period Ending: March 31, 2018

## Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	553	553
Weighted Avg. Market Cap. (\$B)	211.48	212.03
Median Market Cap. (\$B)	11.54	11.59
Price To Earnings	31.66	27.97
Price To Book	8.58	7.32
Price To Sales	5.28	5.23
Return on Equity (%)	35.32	29.91
Yield (%)	1.36	1.37
Beta	1.00	1.00

## Sector Allocation (%) vs Russell 1000 Growth



## Largest Holdings

	End Weight	Return
APPLE	6.58	-0.46
MICROSOFT	5.29	7.19
AMAZON.COM	4.50	23.76
FACEBOOK CLASS A	2.92	-9.45
ALPHABET 'C'	2.41	-1.40
ALPHABET A	2.38	-1.54
VISA 'A'	1.68	5.09
HOME DEPOT	1.62	-5.41
UNITEDHEALTH GROUP	1.58	-2.61
BOEING	1.41	11.76

## Top Contributors

	Avg Wgt	Return	Contribution
AMAZON.COM	1.20	23.76	0.29
MICROSOFT	1.66	7.19	0.12
NETFLIX	0.20	53.86	0.11
MASTERCARD	0.37	15.91	0.06
NVIDIA	0.28	19.76	0.06
ADOBE SYSTEMS	0.22	23.31	0.05
BOEING	0.42	11.76	0.05
BOOKING HOLDINGS	0.22	19.72	0.04
PROSHARES ULTRA SEMICS.	0.32	9.90	0.03
VISA 'A'	0.54	5.09	0.03

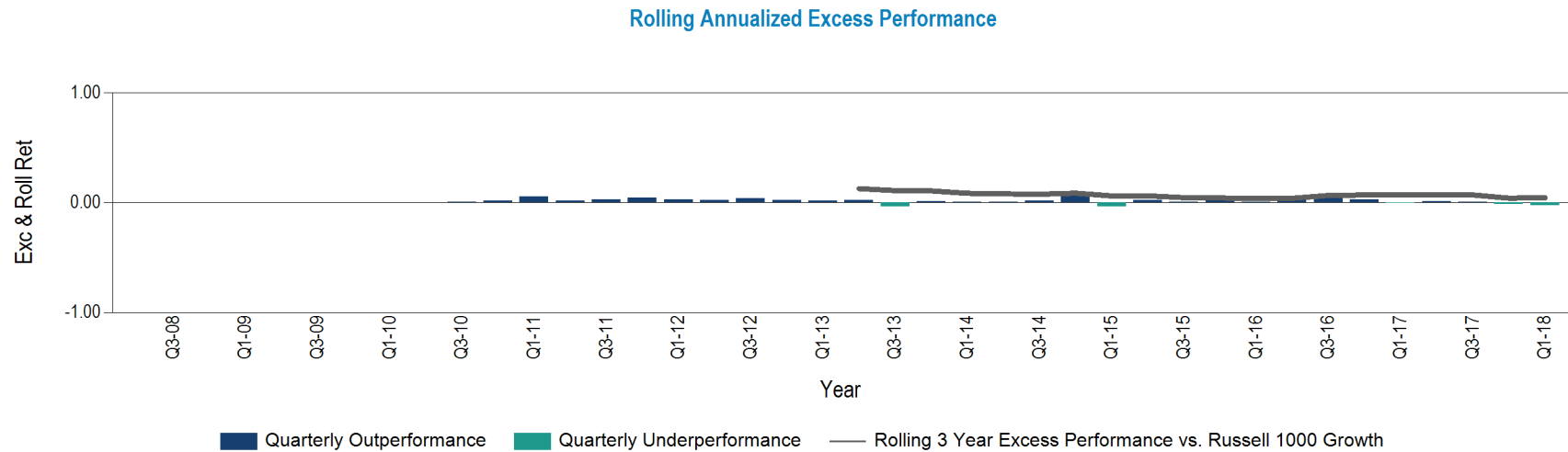
## Bottom Contributors

	Avg Wgt	Return	Contribution
FACEBOOK CLASS A	1.06	-9.45	-0.10
COMCAST 'A'	0.44	-14.35	-0.06
ALTRIA GROUP	0.35	-11.77	-0.04
PEPSICO	0.38	-8.30	-0.03
HOME DEPOT	0.58	-5.41	-0.03
MCDONALDS	0.35	-8.56	-0.03
CELGENE	0.21	-14.52	-0.03
UNITED PARCEL SER.'B'	0.21	-11.41	-0.02
VERIZON COMMUNICATIONS	0.28	-8.62	-0.02
BIOGEN	0.16	-14.05	-0.02

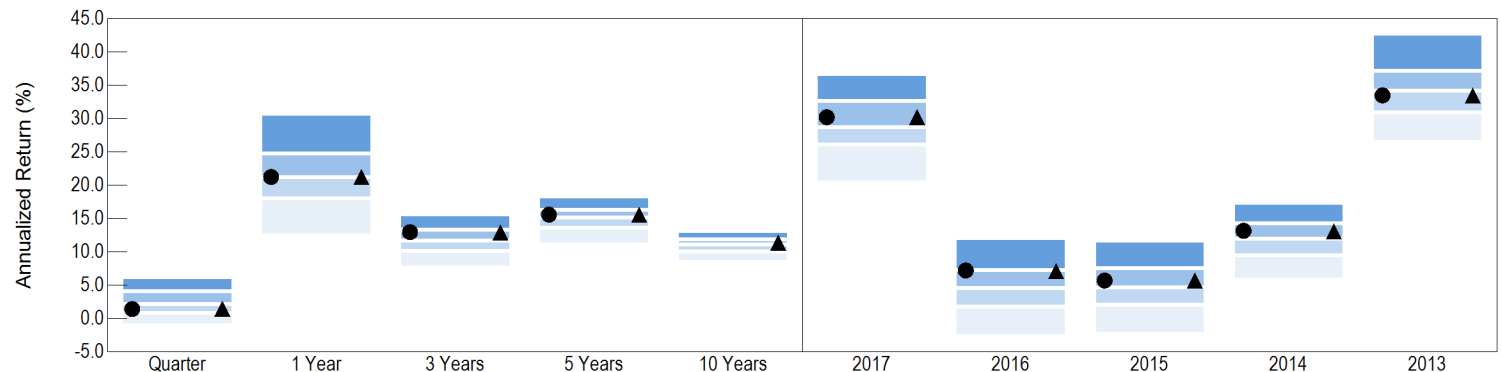
Unclassified sector allocation includes cash allocations.

# BlackRock Russell 1000 Growth Manager Performance Comparisons (Gross of Fees)

Period Ending: March 31, 2018



## BlackRock Russell 1000 Growth vs. eV US Large Cap Growth Equity Gross Universe

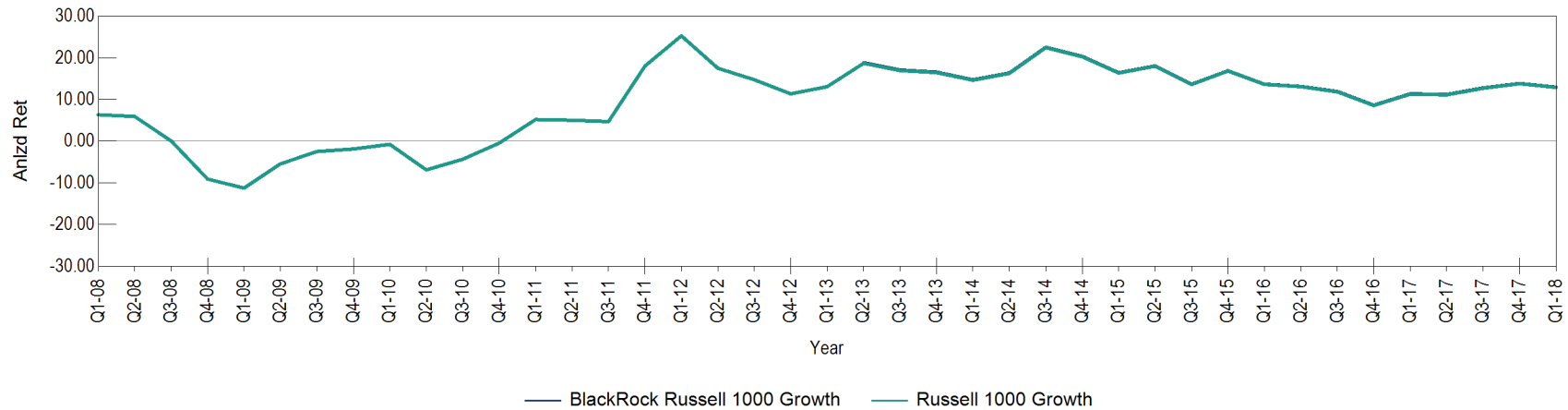


		Return (Rank)																			
5th Percentile		6.1		30.7		15.6		18.2		13.1		36.7		12.0		11.6		17.3		42.8	
25th Percentile		4.1		24.8		13.4		16.4		11.9		32.7		7.3		7.6		14.3		37.3	
Median		2.2		21.3		11.7		15.2		11.1		28.8		4.6		4.7		12.0		34.3	
75th Percentile		0.8		18.1		10.2		13.6		10.1		26.2		1.8		2.1		9.5		31.0	
95th Percentile		-1.0		12.5		7.7		11.2		8.6		20.5		-2.7		-2.4		5.8		26.6	
# of Portfolios		253		253		249		240		216		265		282		270		291		274	
●	BlackRock Russell 1000 Growth	1.4	(65)	21.2	(51)	12.9	(31)	15.6	(41)	--	(--)	30.2	(42)	7.2	(26)	5.7	(42)	13.1	(37)	33.5	(56)
▲	Russell 1000 Growth	1.4	(64)	21.3	(51)	12.9	(31)	15.5	(42)	11.3	(42)	30.2	(42)	7.1	(26)	5.7	(42)	13.0	(38)	33.5	(56)

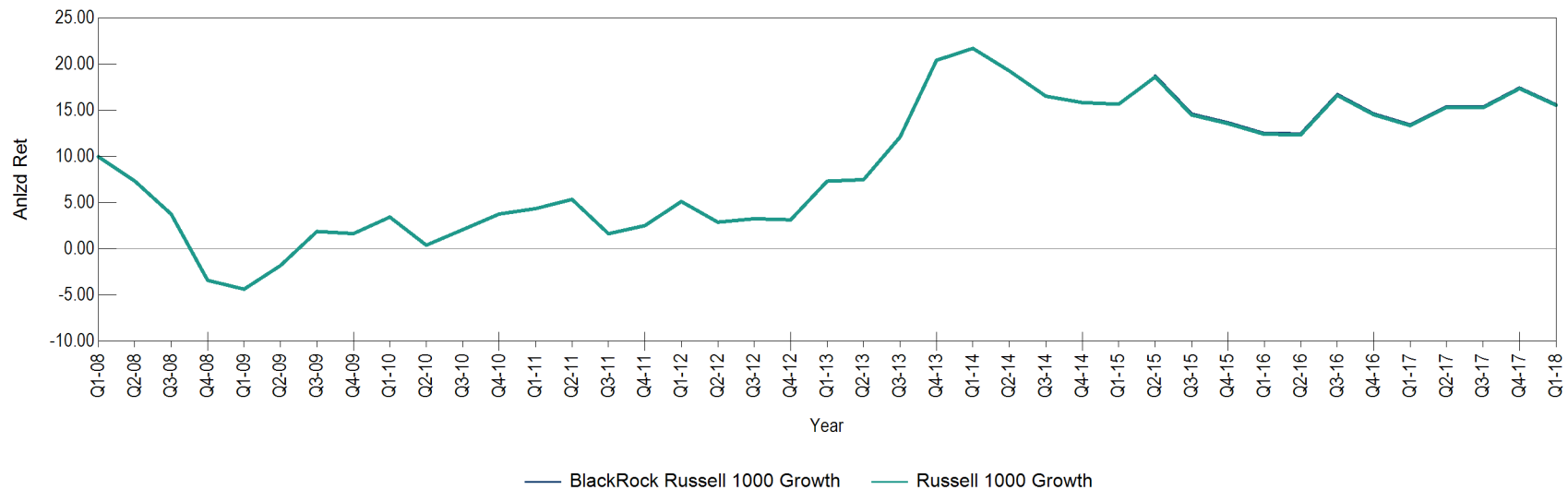
# BlackRock Russell 1000 Growth Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018

Rolling 3 Year Annualized Return (%)

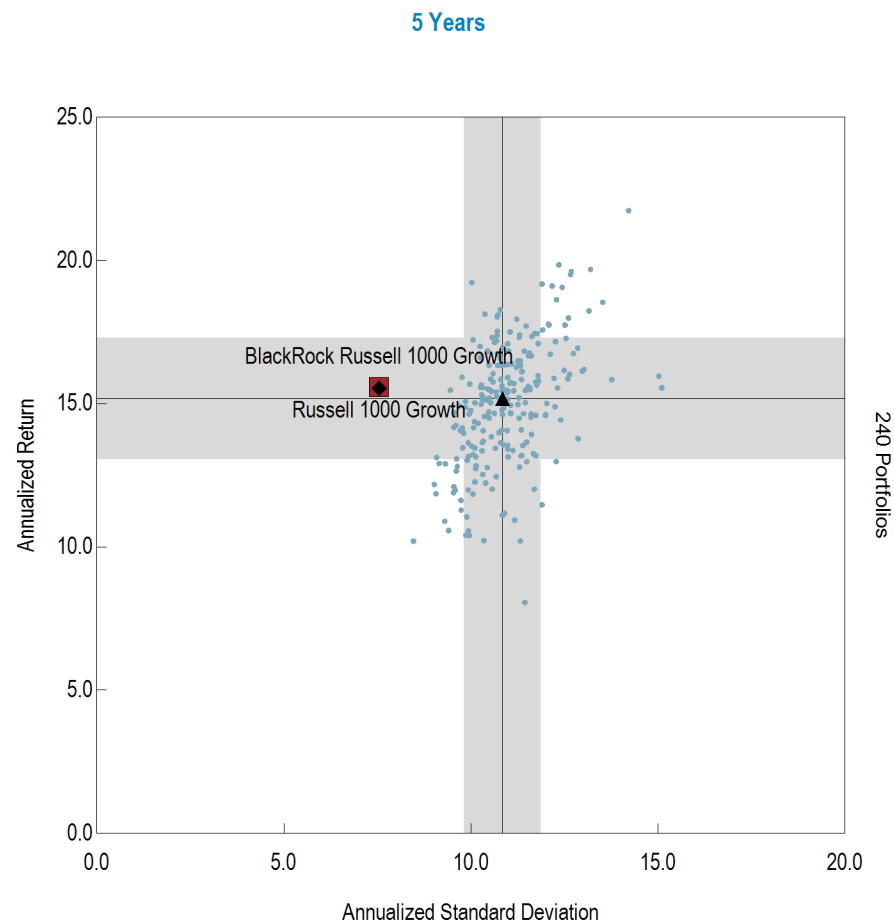
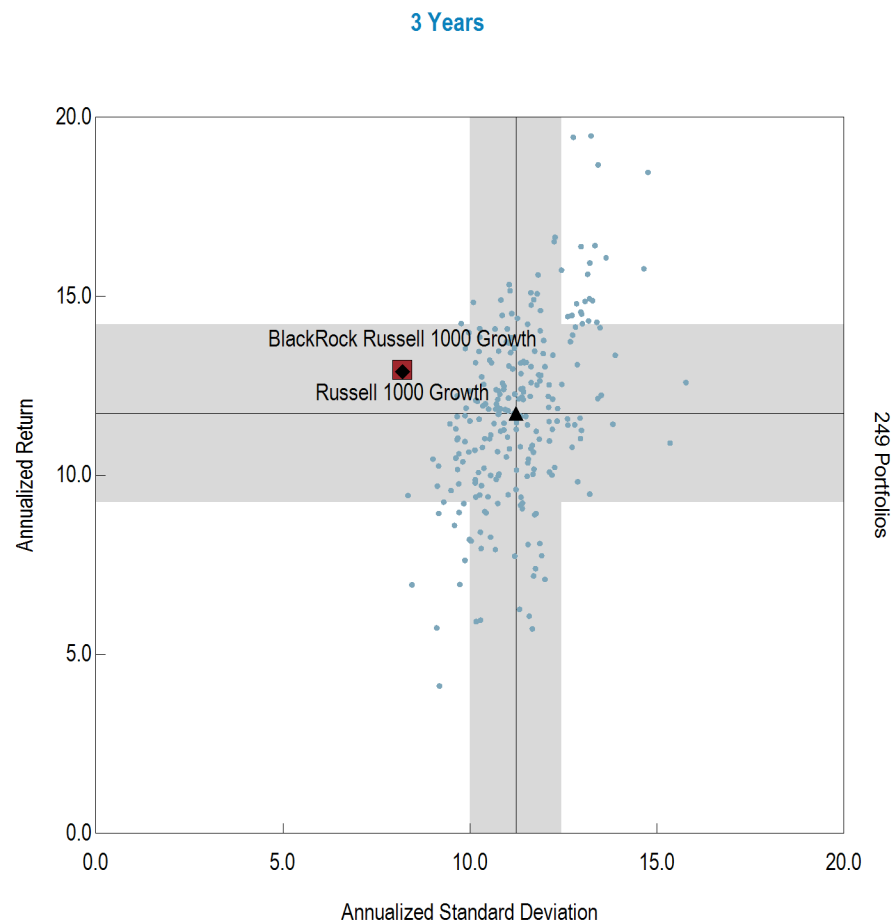


Rolling 5 Year Annualized Return (%)



# BlackRock Russell 1000 Growth Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018



	3 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Growth	12.9%	8.2%	1.5
Russell 1000 Growth	12.9%	8.2%	1.5
eV US Large Cap Growth Equity Gross Median	11.7%	11.2%	1.0

	5 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Growth	15.6%	7.5%	2.0
Russell 1000 Growth	15.5%	7.5%	2.0
eV US Large Cap Growth Equity Gross Median	15.2%	10.8%	1.4

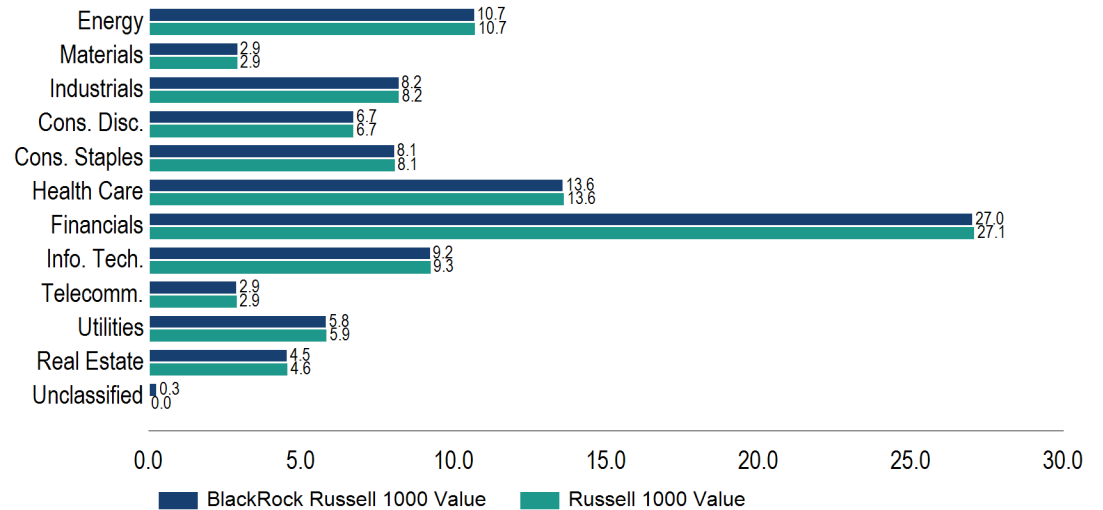
# BlackRock Russell 1000 Value Manager Portfolio Overview

Period Ending: March 31, 2018

## Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	709	711
Weighted Avg. Market Cap. (\$B)	113.10	113.40
Median Market Cap. (\$B)	9.02	9.02
Price To Earnings	20.88	20.40
Price To Book	2.31	2.52
Price To Sales	2.96	2.95
Return on Equity (%)	12.28	11.45
Yield (%)	2.49	2.45
Beta	1.00	1.00

## Sector Allocation (%) vs Russell 1000 Value



## Largest Holdings

	End Weight	Return
BERKSHIRE HATHAWAY 'B'	3.17	0.64
JP MORGAN CHASE & CO.	3.14	3.36
EXXON MOBIL	2.61	-9.89
JOHNSON & JOHNSON	2.42	-7.70
BANK OF AMERICA	2.37	1.98
INTEL	2.03	13.58
WELLS FARGO & CO	1.92	-13.10
AT&T	1.81	-7.08
CHEVRON	1.78	-8.00
CISCO SYSTEMS	1.76	12.82

## Top Contributors

	Avg Wgt	Return	Contribution
INTEL	0.58	13.58	0.08
CISCO SYSTEMS	0.50	12.82	0.06
JP MORGAN CHASE & CO.	0.98	3.36	0.03
BANK OF AMERICA	0.76	1.98	0.02
CONOCOPHILLIPS	0.17	8.61	0.01
CME GROUP	0.13	11.20	0.01
ABBOTT LABORATORIES	0.25	5.49	0.01
HEWLETT PACKARD ENTER.	0.06	22.63	0.01
RAYTHEON 'B'	0.09	15.38	0.01
NEXTERA ENERGY	0.19	5.32	0.01

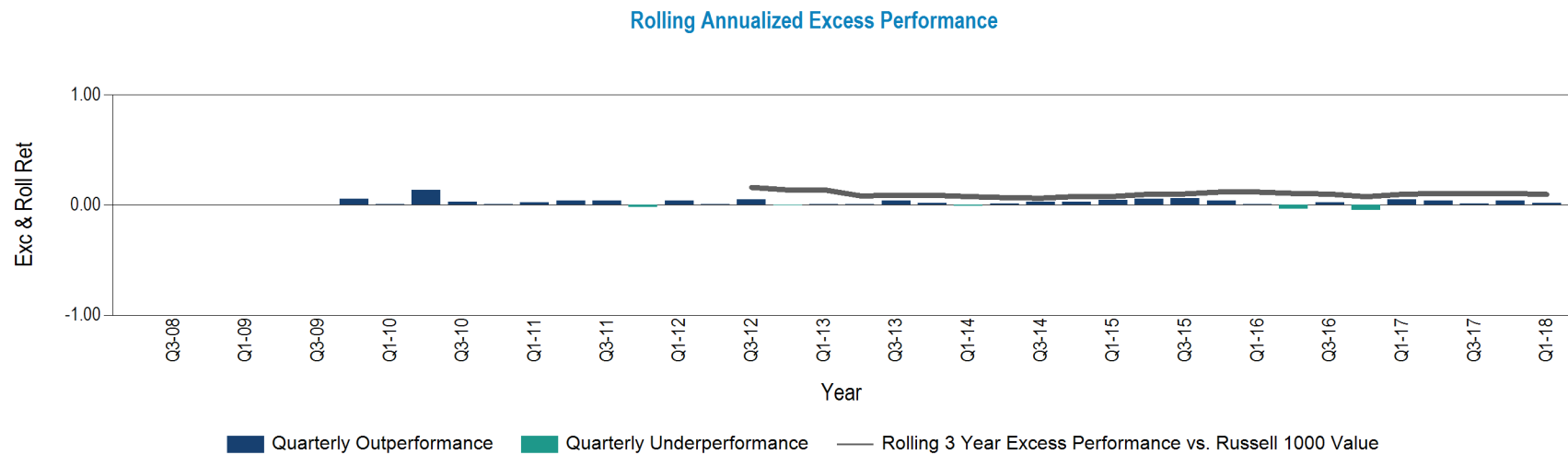
## Bottom Contributors

	Avg Wgt	Return	Contribution
WELLS FARGO & CO	0.71	-13.10	-0.09
EXXON MOBIL	0.94	-9.89	-0.09
PROCTER & GAMBLE	0.59	-13.05	-0.08
GENERAL ELECTRIC	0.33	-22.11	-0.07
JOHNSON & JOHNSON	0.85	-7.70	-0.07
CHEVRON	0.63	-8.00	-0.05
CITIGROUP	0.52	-8.91	-0.05
AT&T	0.63	-7.08	-0.04
WALMART	0.38	-9.37	-0.04
QUALCOMM	0.25	-12.71	-0.03

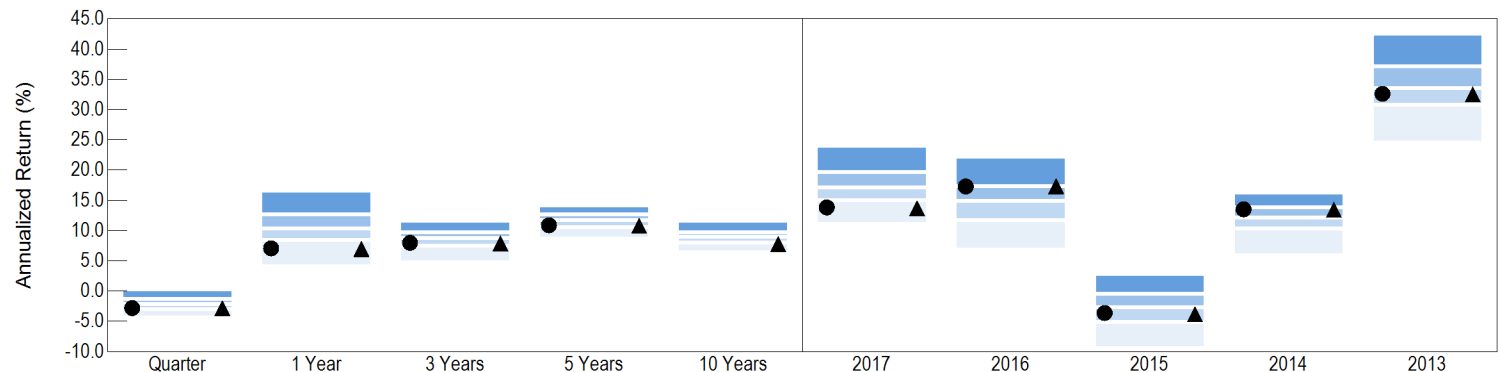
Unclassified sector allocation includes cash allocations.

# BlackRock Russell 1000 Value Manager Performance Comparisons (Gross of Fees)

Period Ending: March 31, 2018



## BlackRock Russell 1000 Value vs. eV US Large Cap Value Equity Gross Universe

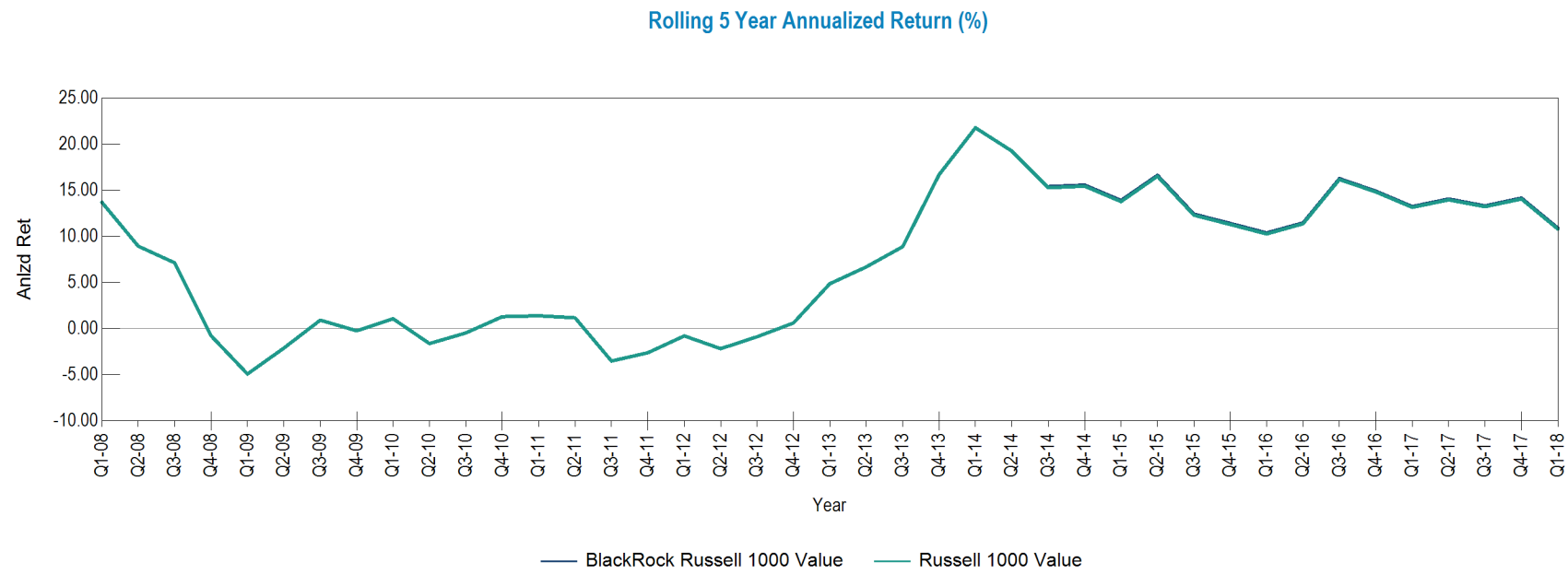
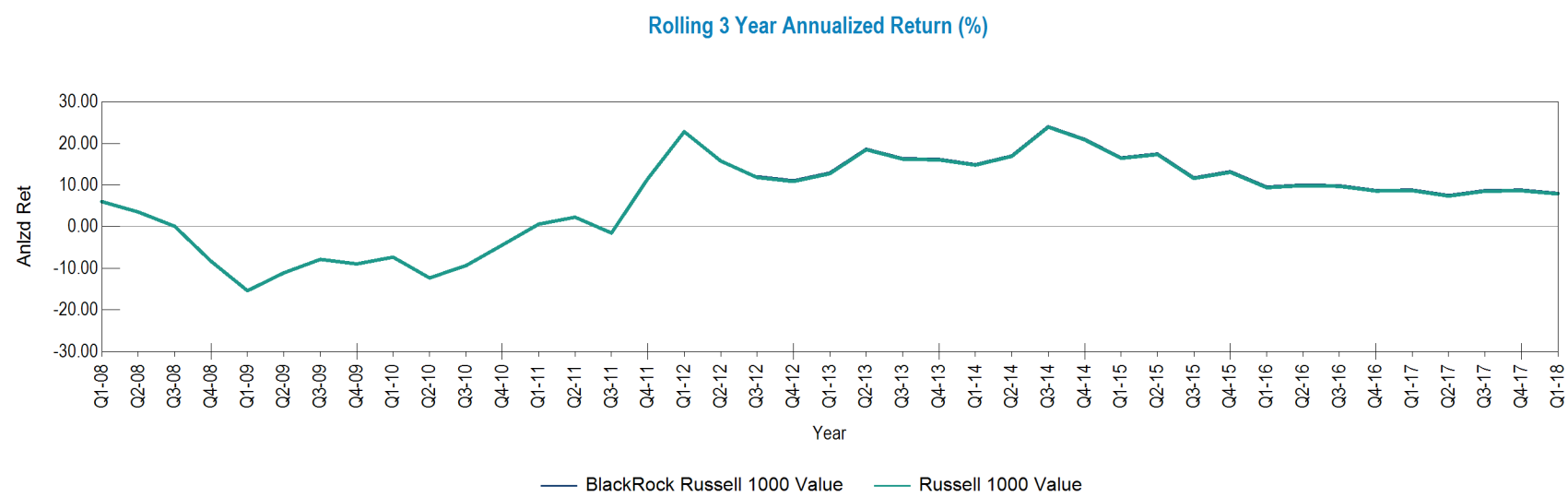


	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	0.3		16.5		11.5		14.1		11.6		24.0		22.1		2.8		16.3		42.5	
25th Percentile	-1.3		12.7		9.8		12.7		9.8		19.8		17.4		-0.4		13.9		37.2	
Median	-2.1		10.4		8.8		11.7		9.0		17.2		15.0		-2.6		12.2		33.6	
75th Percentile	-2.9		8.5		7.6		10.6		8.1		15.1		11.8		-5.1		10.4		30.8	
95th Percentile	-4.3		4.1		4.8		8.7		6.5		11.2		7.0		-9.4		5.9		24.6	
# of Portfolios	338		338		336		323		267		342		346		312		307		310	
● BlackRock Russell 1000 Value	-2.8	(73)	7.1	(86)	8.0	(68)	10.9	(70)	--	(--)	13.8	(86)	17.3	(26)	-3.6	(62)	13.5	(31)	32.6	(59)
▲ Russell 1000 Value	-2.8	(74)	6.9	(87)	7.9	(70)	10.8	(72)	7.8	(82)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)	32.5	(60)



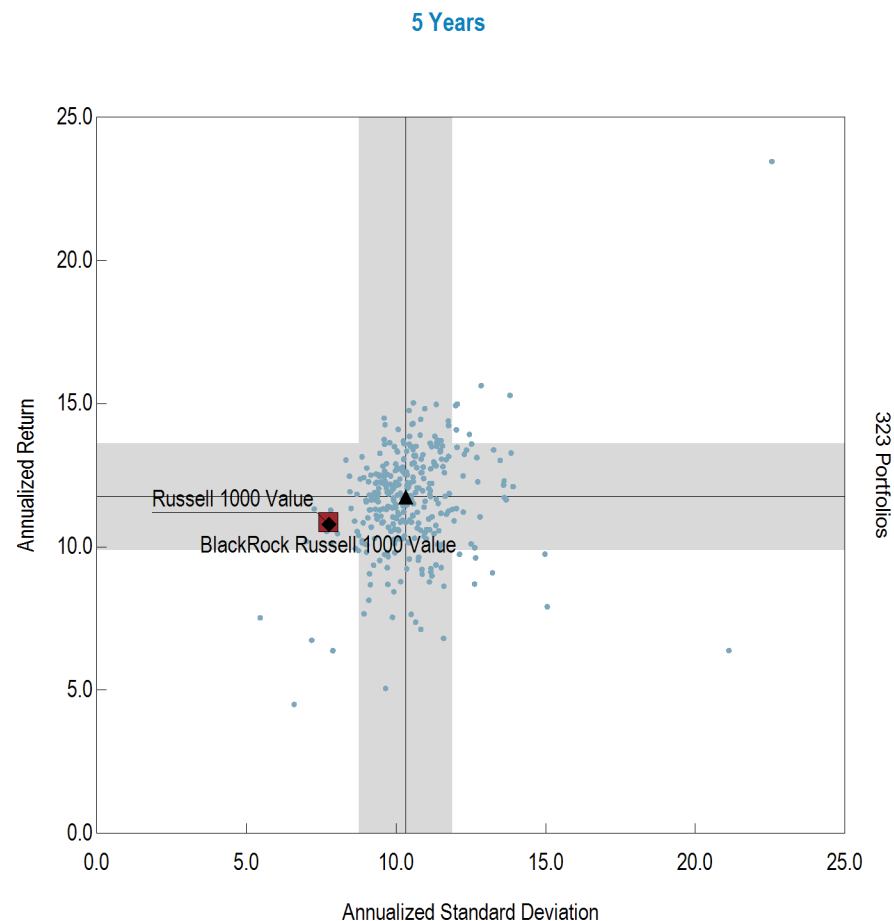
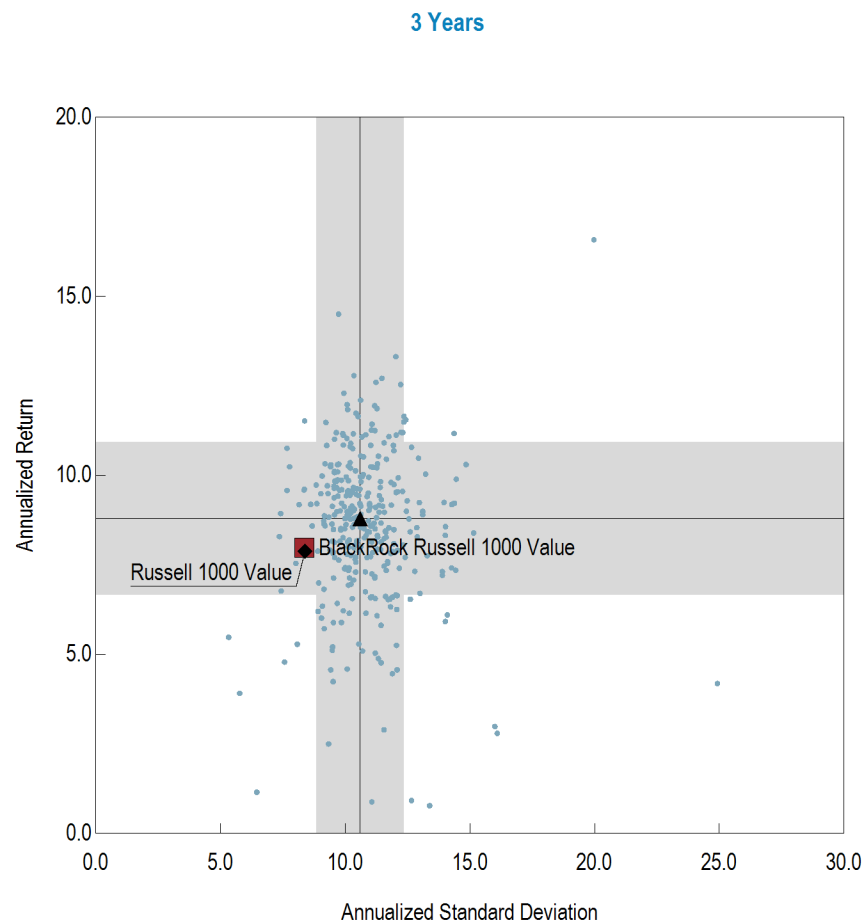
BlackRock Russell 1000 Value  
Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018



# BlackRock Russell 1000 Value Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018



	3 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Value	8.0%	8.4%	0.9
Russell 1000 Value	7.9%	8.4%	0.9
eV US Large Cap Value Equity Gross Median	8.8%	10.6%	0.8

	5 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Value	10.9%	7.7%	1.4
Russell 1000 Value	10.8%	7.8%	1.3
eV US Large Cap Value Equity Gross Median	11.7%	10.3%	1.1

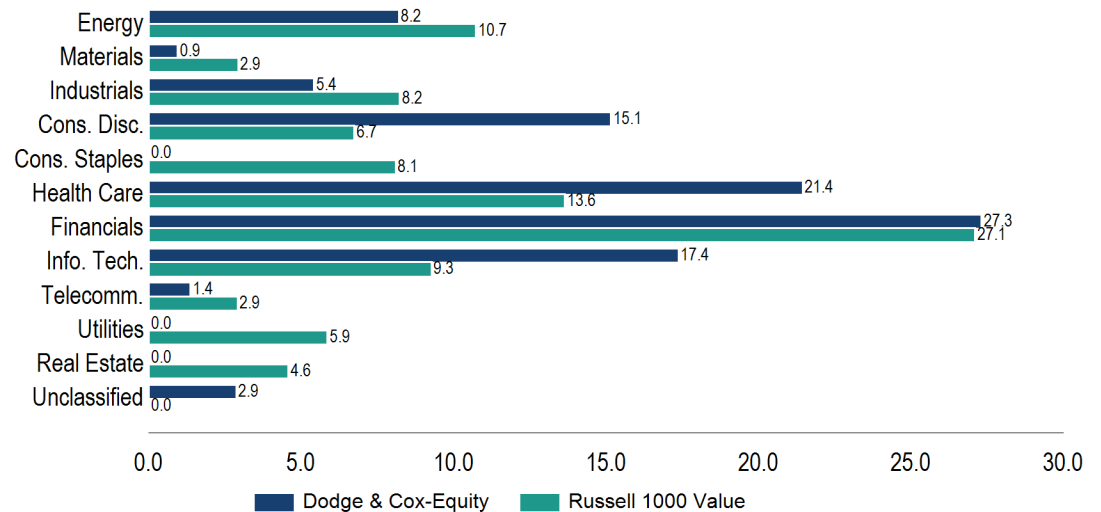
# Dodge & Cox-Equity Manager Portfolio Overview

Period Ending: March 31, 2018

## Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	67	711
Weighted Avg. Market Cap. (\$B)	106.57	113.40
Median Market Cap. (\$B)	40.59	9.02
Price To Earnings	20.45	20.40
Price To Book	2.87	2.52
Price To Sales	2.99	2.95
Return on Equity (%)	13.18	11.45
Yield (%)	2.06	2.45
Beta	1.09	1.00

## Sector Allocation (%) vs Russell 1000 Value



## Largest Holdings

	End Weight	Return
CHARLES SCHWAB	3.86	1.86
CAPITAL ONE FINL.	3.60	-3.36
BANK OF AMERICA	3.59	1.98
WELLS FARGO & CO	3.52	-13.10
COMCAST 'A'	3.06	-14.35
NOVARTIS 'B' SPN.ADR 1:1	2.99	-0.19
ALPHABET 'C'	2.69	-1.40
CHARTER COMMS.CL.A	2.65	-7.36
JP MORGAN CHASE & CO.	2.56	3.36
TIME WARNER	2.46	3.85

## Top Contributors

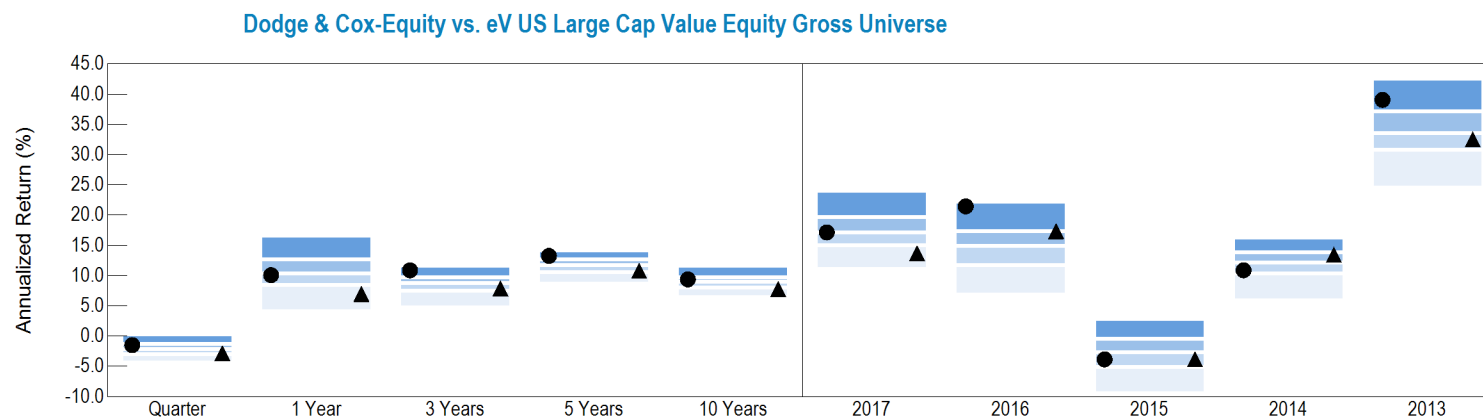
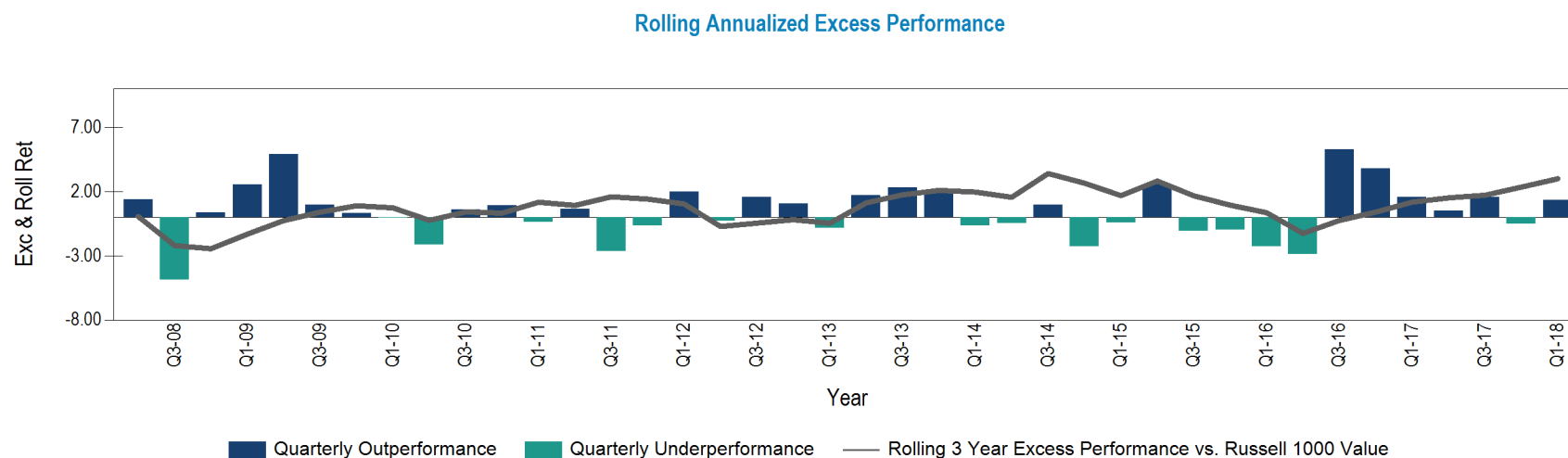
	Avg Wgt	Return	Contribution
HEWLETT PACKARD ENTER.	2.17	22.63	0.49
ANADARKO PETROLEUM	2.10	13.10	0.28
CISCO SYSTEMS	1.99	12.82	0.25
BOOKING HOLDINGS	1.14	19.72	0.22
GLAXOSMITHKLINE SPN.ADR 1:2	1.62	12.07	0.20
MAXIM INTEGRATED PRDS.	0.93	15.98	0.15
HP	2.13	4.95	0.11
JP MORGAN CHASE & CO.	2.52	3.36	0.08
TIME WARNER	2.00	3.85	0.08
TE CONNECTIVITY	1.34	5.53	0.07

## Bottom Contributors

	Avg Wgt	Return	Contribution
WELLS FARGO & CO	3.75	-13.10	-0.49
COMCAST 'A'	3.13	-14.35	-0.45
MICRO FOCUS	0.58	-57.72	-0.34
INTL.SPN.ADR 1:1	1.74	-17.39	-0.30
CIGNA	2.85	-7.36	-0.21
CHARTER COMMS.CL.A	2.43	-6.79	-0.16
SANOFI ADR 2:1	2.14	-7.45	-0.16
EXPRESS SCRIPTS HOLDING	1.71	-8.47	-0.14
METLIFE	0.75	-17.15	-0.13
SPRINT	2.21	-5.75	-0.13
AMERICAN EXPRESS			

Unclassified sector allocation includes cash allocations.

## Period Ending: March 31, 2018

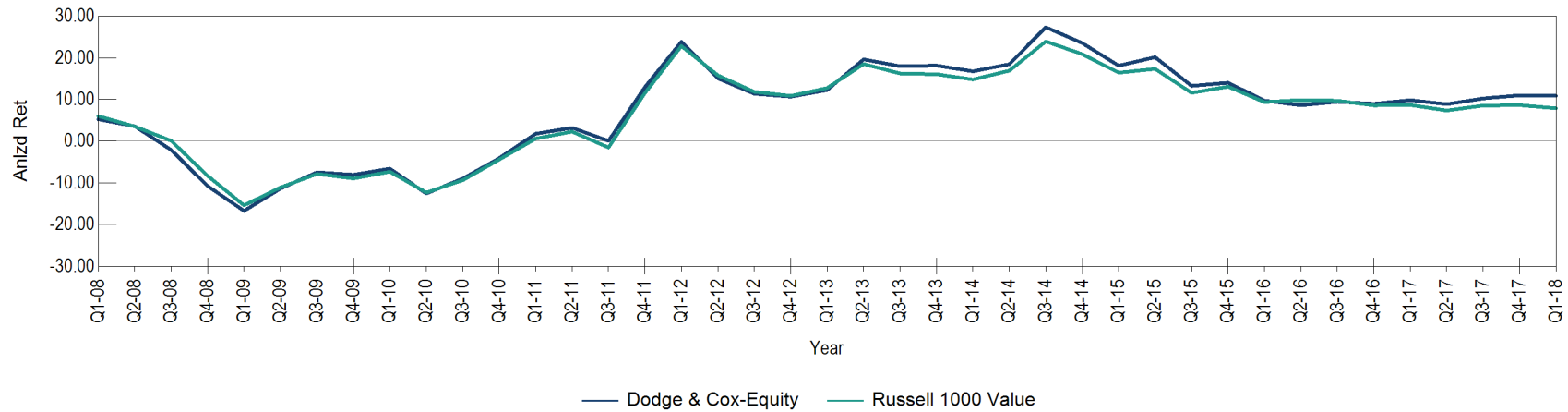


		Return (Rank)																			
5th Percentile		0.3	16.5	11.5	14.1	11.6	24.0	22.1	2.8	16.3	42.5										
25th Percentile		-1.3	12.7	9.8	12.7	9.8	19.8	17.4	-0.4	13.9	37.2										
Median		-2.1	10.4	8.8	11.7	9.0	17.2	15.0	-2.6	12.2	33.6										
75th Percentile		-2.9	8.5	7.6	10.6	8.1	15.1	11.8	-5.1	10.4	30.8										
95th Percentile		-4.3	4.1	4.8	8.7	6.5	11.2	7.0	-9.4	5.9	24.6										
# of Portfolios		338	338	336	323	267	342	346	312	307	310										
●	Dodge & Cox-Equity	-1.5	(31)	10.1	(57)	10.9	(12)	13.3	(16)	9.4	(40)	17.1	(52)	21.4	(6)	-3.9	(64)	10.9	(72)	39.1	(15)
▲	Russell 1000 Value	-2.8	(74)	6.9	(87)	7.9	(70)	10.8	(72)	7.8	(82)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)	32.5	(60)

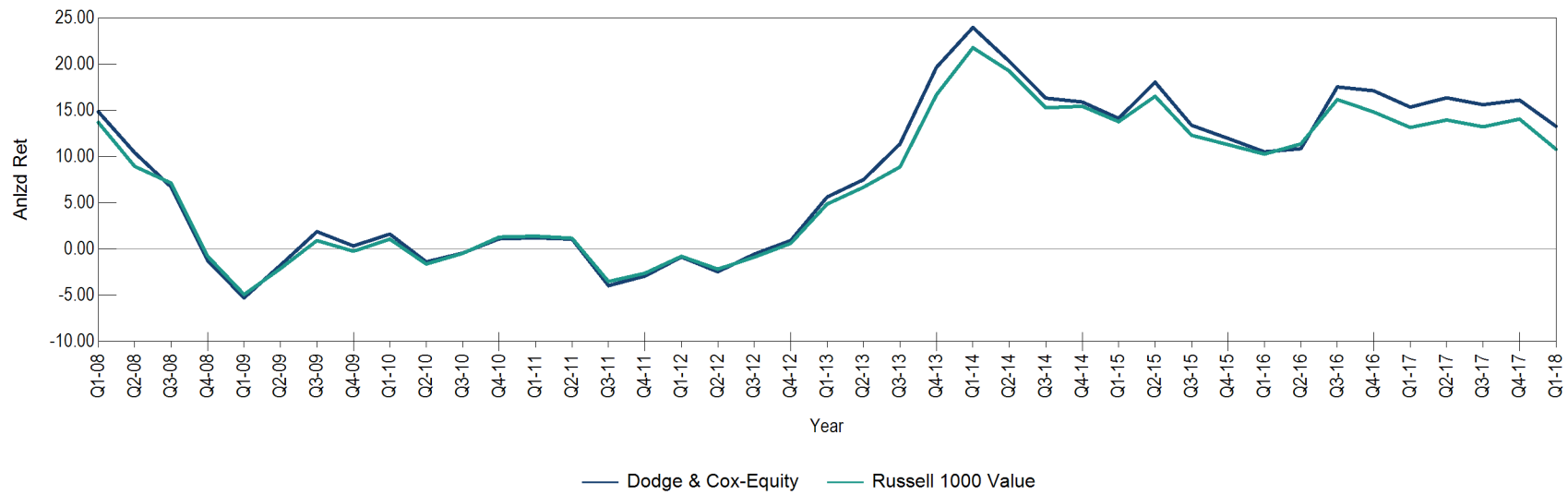
Dodge & Cox-Equity  
Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018

Rolling 3 Year Annualized Return (%)

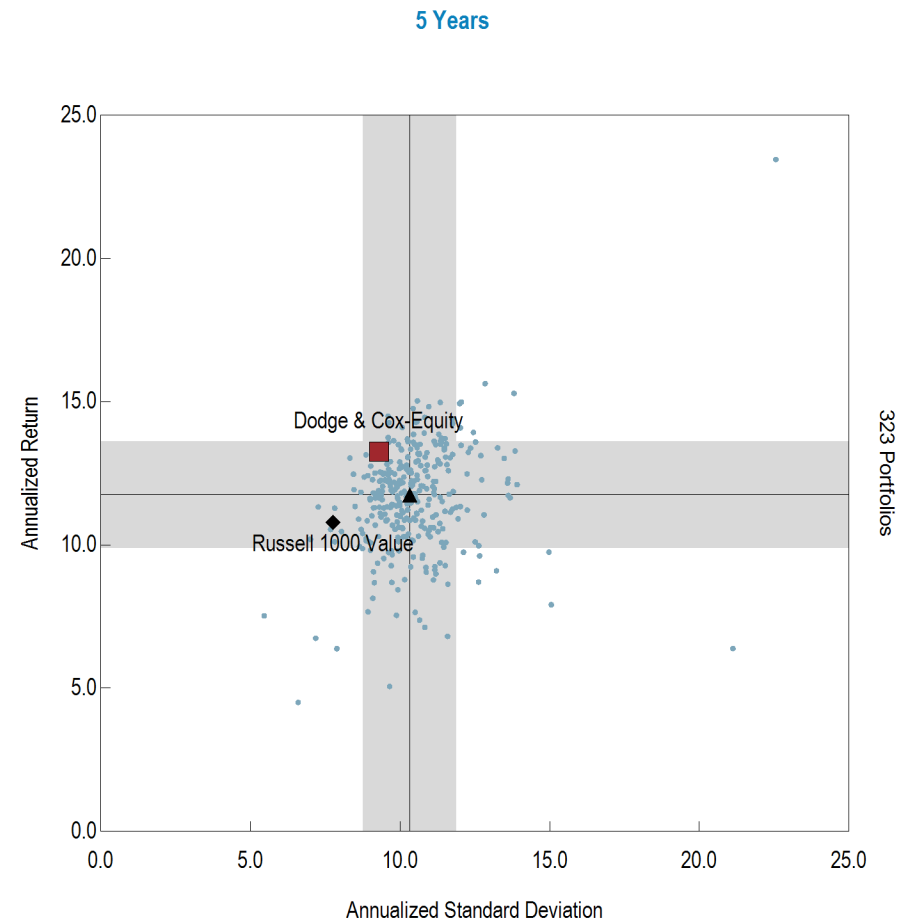
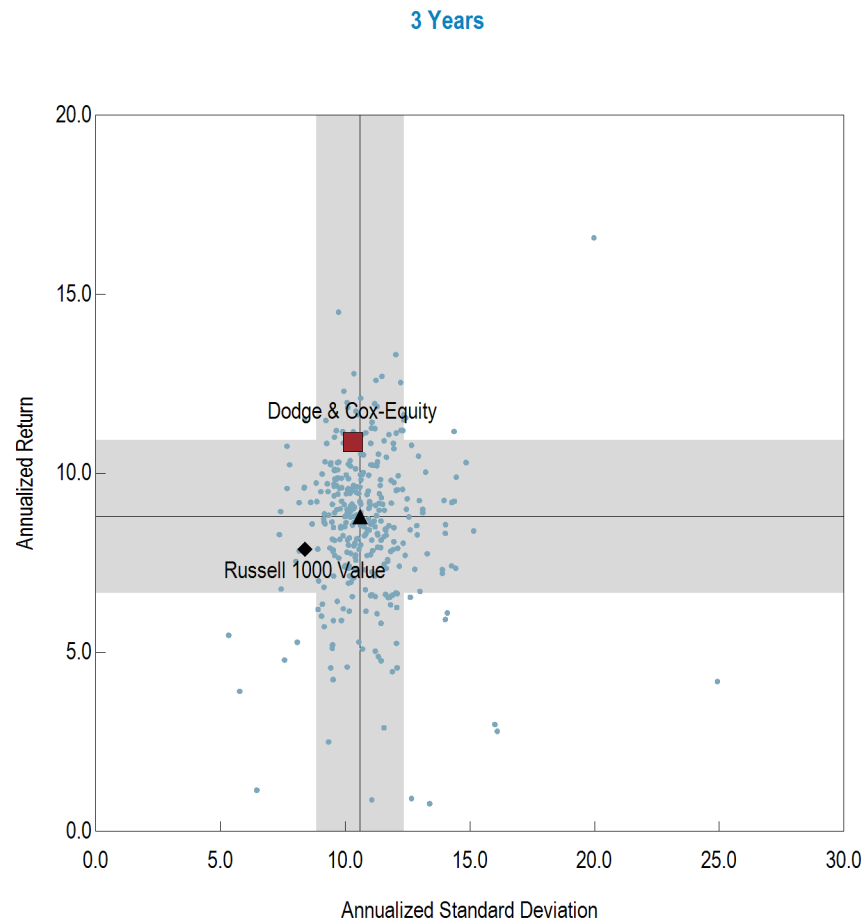


Rolling 5 Year Annualized Return (%)



# Dodge & Cox-Equity Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018



	<b>3 Years</b>		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Dodge & Cox-Equity	10.9%	10.3%	1.0
Russell 1000 Value	7.9%	8.4%	0.9
eV US Large Cap Value Equity Gross Median	8.8%	10.6%	0.8

	<b>5 Years</b>		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Dodge & Cox-Equity	13.3%	9.3%	1.4
Russell 1000 Value	10.8%	7.8%	1.3
eV US Large Cap Value Equity Gross Median	11.7%	10.3%	1.1

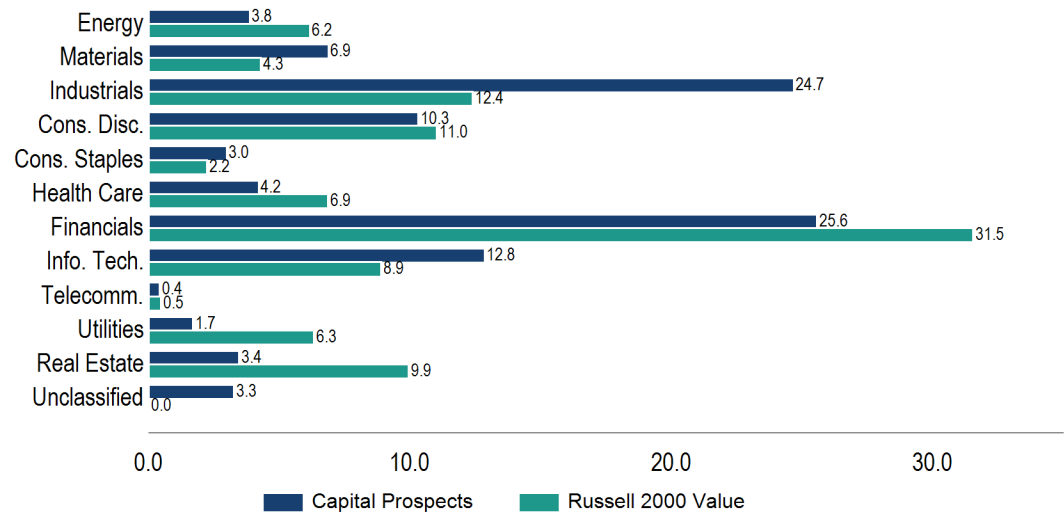
# Capital Prospects Manager Portfolio Overview

Period Ending: March 31, 2018

## Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	296	1,398
Weighted Avg. Market Cap. (\$B)	2.35	2.02
Median Market Cap. (\$B)	1.21	0.72
Price To Earnings	20.57	16.01
Price To Book	2.80	1.75
Price To Sales	2.40	2.66
Return on Equity (%)	14.80	6.23
Yield (%)	1.65	1.68
Beta	0.94	1.00

## Sector Allocation (%) vs Russell 2000 Value



## Largest Holdings

	End Weight	Return
HOSTESS BRANDS CL.A	1.73	-0.14
HILLENBRAND	1.43	3.15
LITTELFUSE	1.42	5.42
VERSO 'A'	1.21	-4.15
ARTISAN PTNS.ASTMGMT.	1.12	-12.18
ARCONIC	1.04	-15.28
MODINE MANUFACTURING	0.99	4.70
AIR LEASE	0.98	-11.17
AMERICAN EQ.INV.LF.HLDG.	0.87	-4.46
CINEMARK HOLDINGS	0.83	9.02

## Top Contributors

	Avg Wgt	Return	Contribution
COMTECH TELECOM.	0.44	35.76	0.16
MICROSEMI	0.55	25.30	0.14
MOBILE MINI	0.52	26.83	0.14
CALLAWAY GOLF	0.59	17.52	0.10
DOUGLAS DYNAMICS	0.66	15.35	0.10
REXNORD	0.70	14.07	0.10
BARRETT BUS.SVS.	0.33	28.89	0.10
BOTTOMLINE TECHS.	0.80	11.74	0.09
KAPSTONE PAPER & PACK.	0.18	51.65	0.09
PROFIRE ENERGY	0.19	42.19	0.08

## Bottom Contributors

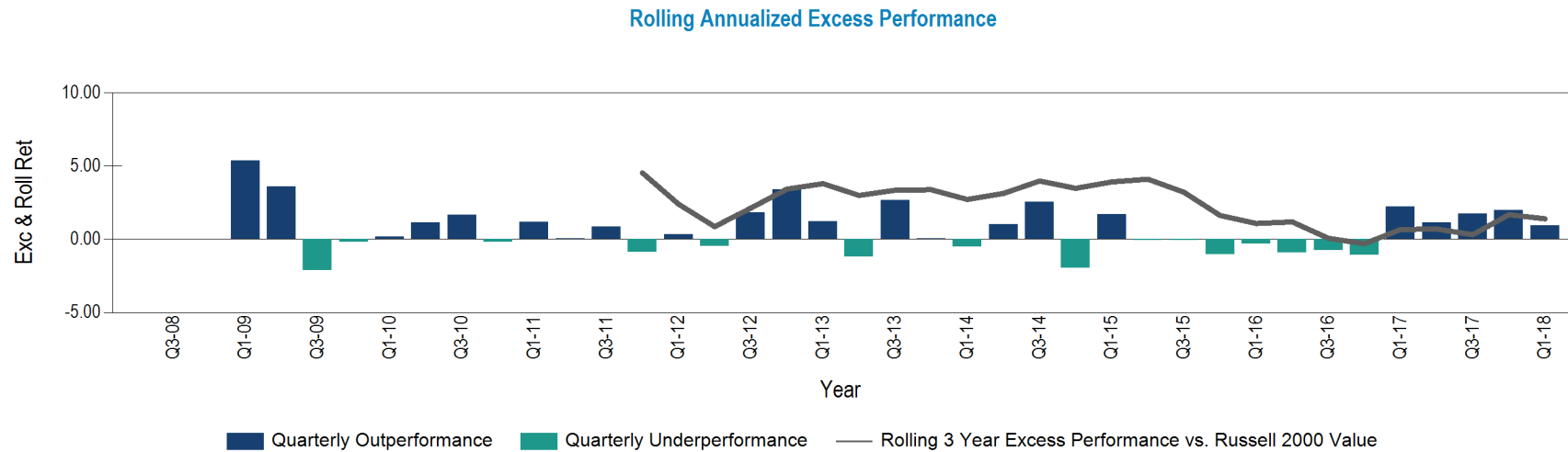
	Avg Wgt	Return	Contribution
ARCONIC	1.21	-15.28	-0.18
ARTISAN	1.21	-12.18	-0.15
PTNS.ASTMGMT.	0.67	-21.55	-0.14
AIR LEASE	1.05	-11.17	-0.12
ATLAS FINANCIAL (NAS) HOLDINGS	0.22	-49.63	-0.11
QUANTUM	0.30	-35.35	-0.11
MEREDITH	0.56	-17.78	-0.10
ABM INDS.	0.85	-10.83	-0.09
GULF ISLAND FABRICATION	0.20	-47.11	-0.09
RANGE RES.	0.63	-14.66	-0.09

Unclassified sector allocation includes cash allocations.



# Capital Prospects Manager Performance Comparisons (Gross of Fees)

Period Ending: March 31, 2018



## Capital Prospects vs. eV US Small Cap Value Equity Gross Universe



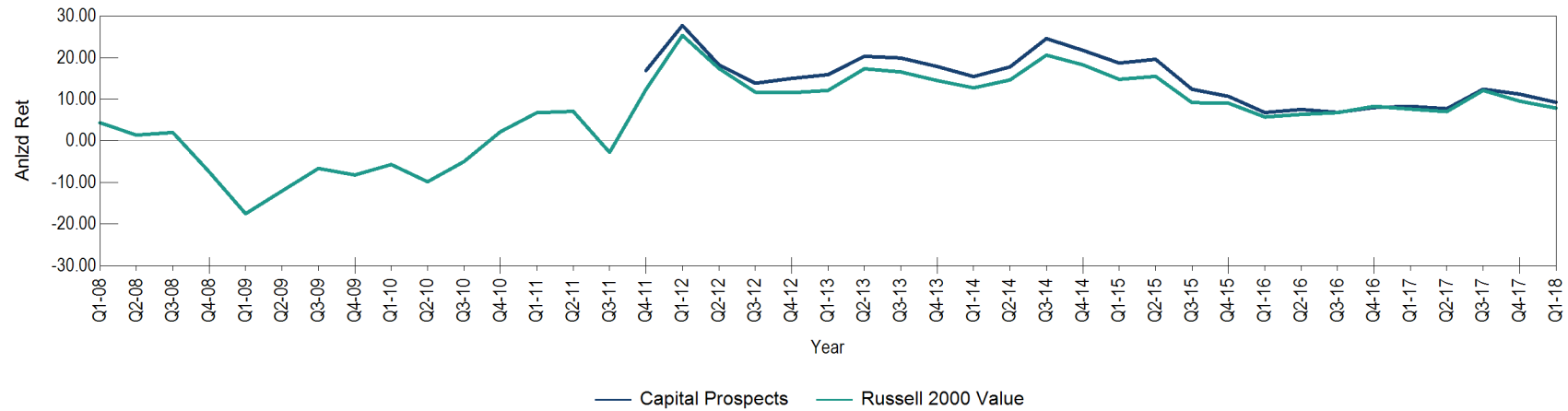
	Return (Rank)																	
5th Percentile	1.4	15.7	12.7	14.6	13.4	20.2	36.7	1.5	11.2	49.4								
25th Percentile	-0.9	10.7	10.1	12.5	11.7	14.1	30.7	-2.2	8.2	42.1								
Median	-2.0	7.7	8.5	11.5	10.6	11.1	27.2	-4.3	5.8	38.1								
75th Percentile	-3.1	5.2	7.1	10.1	9.7	7.8	22.2	-7.7	3.1	35.2								
95th Percentile	-4.8	1.0	3.3	7.3	7.5	3.7	16.8	-15.8	-6.3	27.8								
# of Portfolios	224	224	213	206	177	224	222	212	206	199								
● Capital Prospects	-1.7 (44)	11.2 (22)	9.3 (36)	11.8 (44)	-- (--)	15.5 (18)	28.1 (40)	-7.0 (72)	5.8 (51)	37.9 (53)								
▲ Russell 2000 Value	-2.6 (64)	5.1 (76)	7.9 (65)	10.0 (77)	8.6 (89)	7.8 (75)	31.7 (17)	-7.5 (74)	4.2 (68)	34.5 (78)								

# Capital Prospects

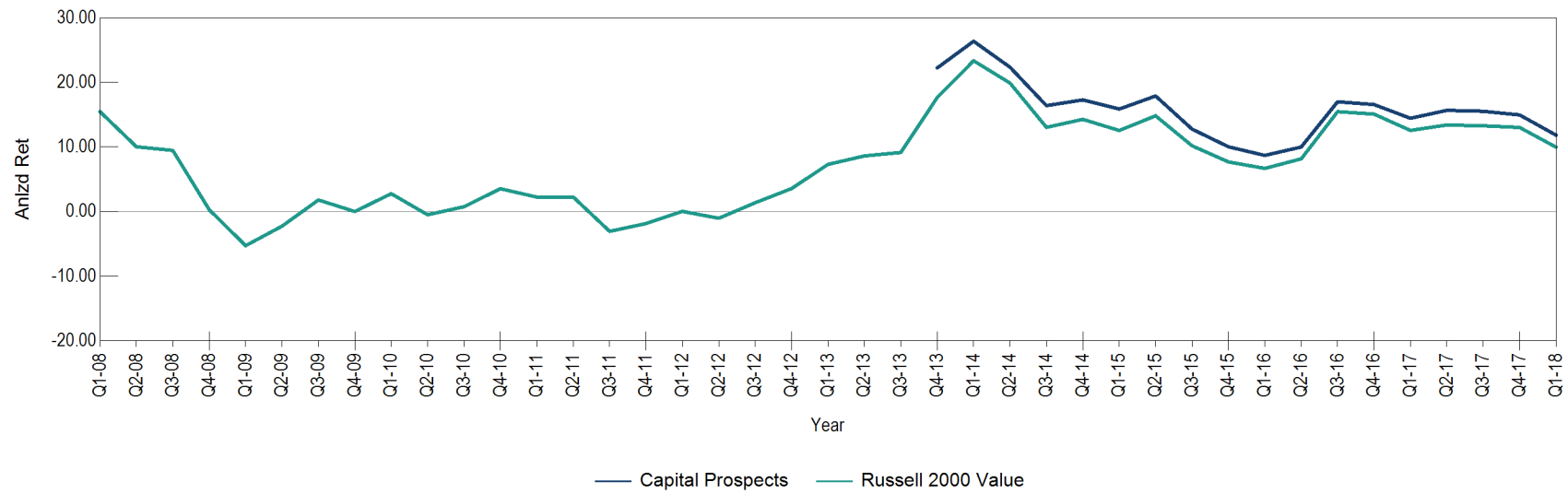
## Manager Performance - Rolling 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018

Rolling 3 Year Annualized Return (%)



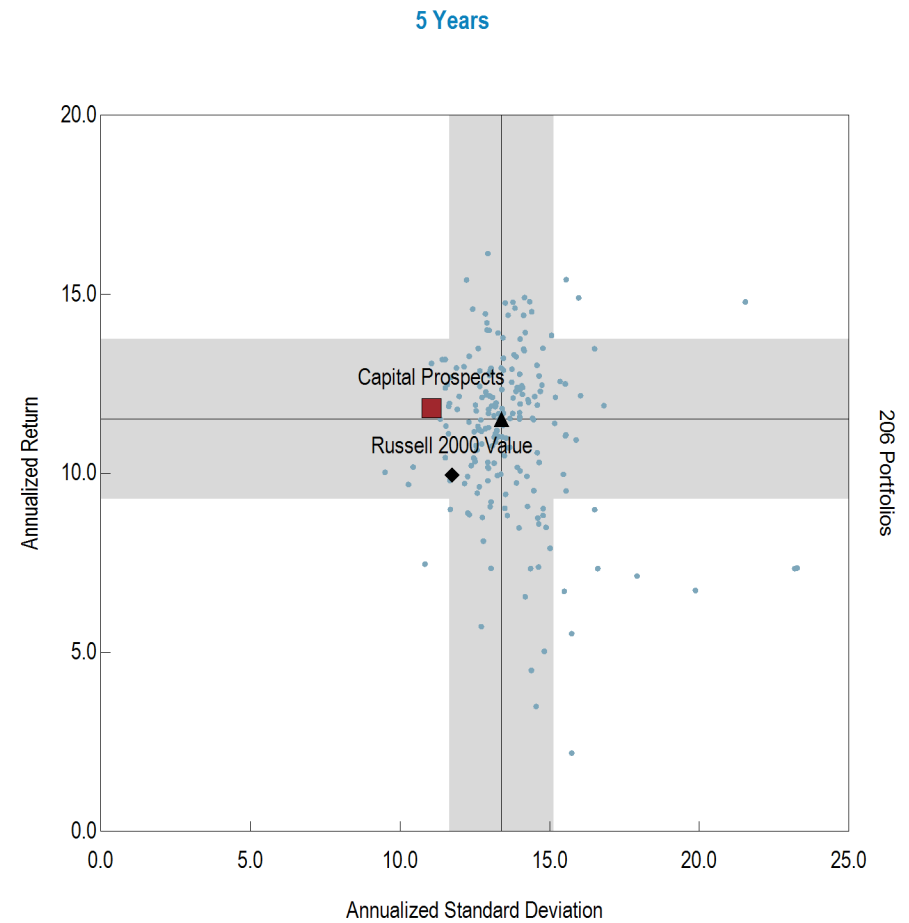
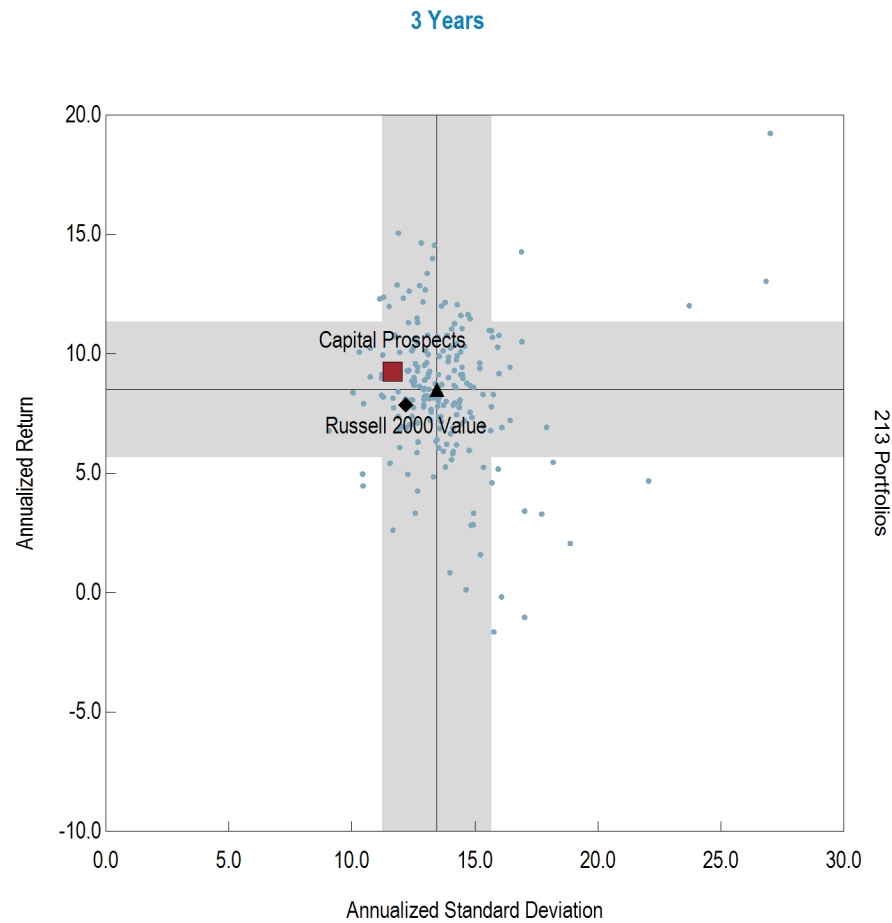
Rolling 5 Year Annualized Return (%)



# Capital Prospects

## Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018



	3 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Capital Prospects	9.3%	11.7%	0.7
Russell 2000 Value	7.9%	12.2%	0.6
eV US Small Cap Value Equity Gross Median	8.5%	13.5%	0.6

	5 Years		
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Capital Prospects	11.8%	11.0%	1.0
Russell 2000 Value	10.0%	11.7%	0.8
eV US Small Cap Value Equity Gross Median	11.5%	13.4%	0.8

## International Equity Managers

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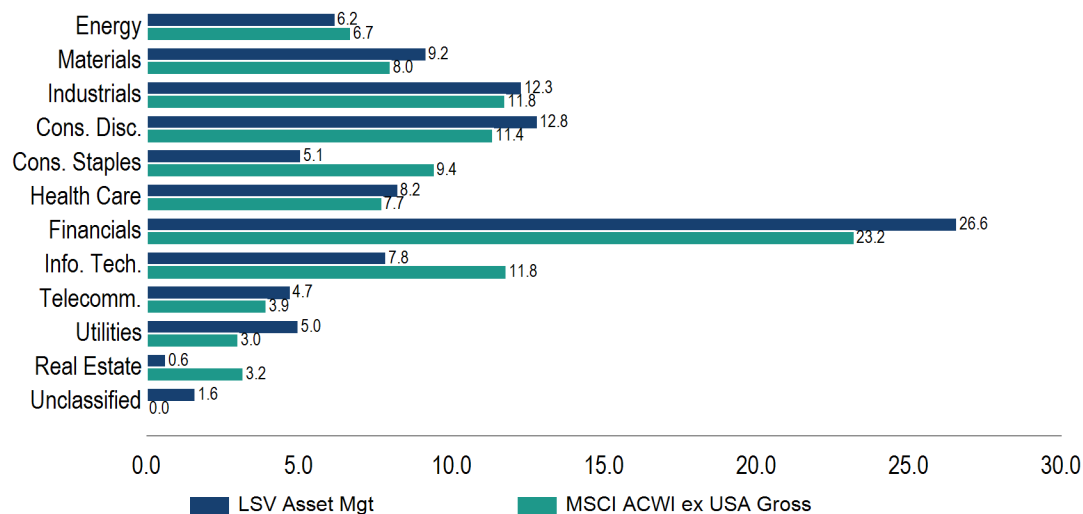
# LSV Asset Mgt Manager Portfolio Overview

Period Ending: March 31, 2018

## Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	248	1,864
Weighted Avg. Market Cap. (\$B)	35.78	64.97
Median Market Cap. (\$B)	7.66	8.49
Price To Earnings	13.96	18.59
Price To Book	1.53	2.50
Price To Sales	1.11	2.30
Return on Equity (%)	14.19	15.38
Yield (%)	3.66	2.96
Beta	1.04	1.00

## Sector Allocation (%) vs MSCI ACWI ex USA Gross



## Largest Holdings

	End Weight	Return
SAMSUNG ELECTRONICS	2.20	-2.99
SANOFI	1.62	-6.87
NIPPON TELG. & TEL.	1.36	-0.59
ENEL	1.32	1.21
KDDI	1.32	4.33
ALLIANZ	1.32	-1.63
MAGNA INTL.	1.29	-0.38
BAE SYSTEMS	1.27	5.22
GLAXOSMITHKLINE	1.22	11.24
ROCHE HOLDING	1.18	-6.15

## Top Contributors

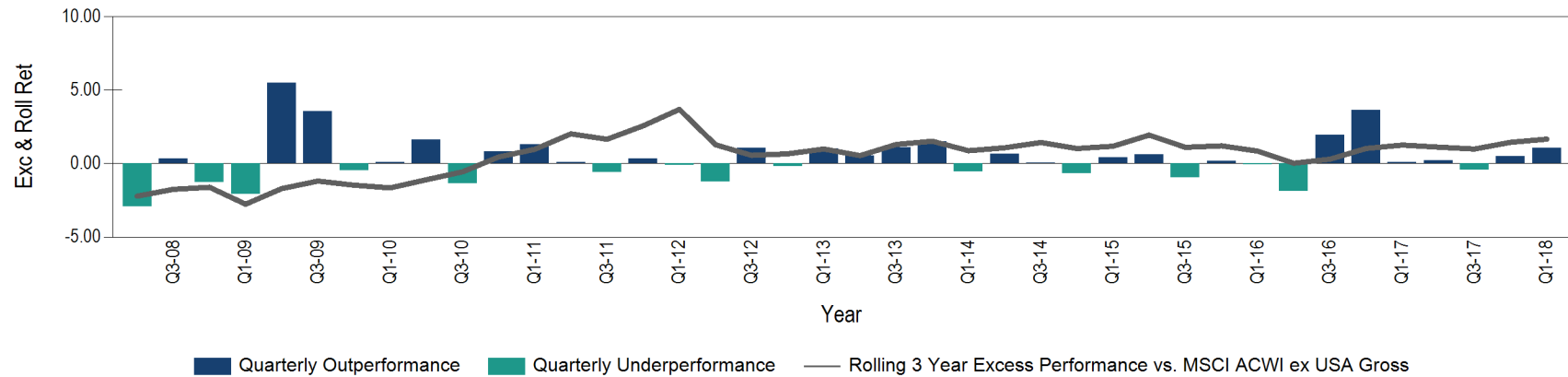
	Avg Wgt	Return	Contribution
NINE ENTERTAINMENT	0.61	48.14	0.29
GIGA-BYTE TECHNOLOGY	0.58	24.93	0.14
UPM-KYMMENE	0.67	18.98	0.13
BANCO BRASIL SPN.ADR 1:1	0.36	30.22	0.11
GLAXOSMITHKLINE	0.93	11.24	0.10
ASTRAL FOODS	0.40	26.08	0.10
LUKOIL OAO SPN.ADR 1:1	0.49	20.07	0.10
RHEINMETALL	0.76	12.17	0.09
CHINA RESOURCES CEMENT HOLDINGS	0.29	31.39	0.09
RENAULT	0.41	20.23	0.08

## Bottom Contributors

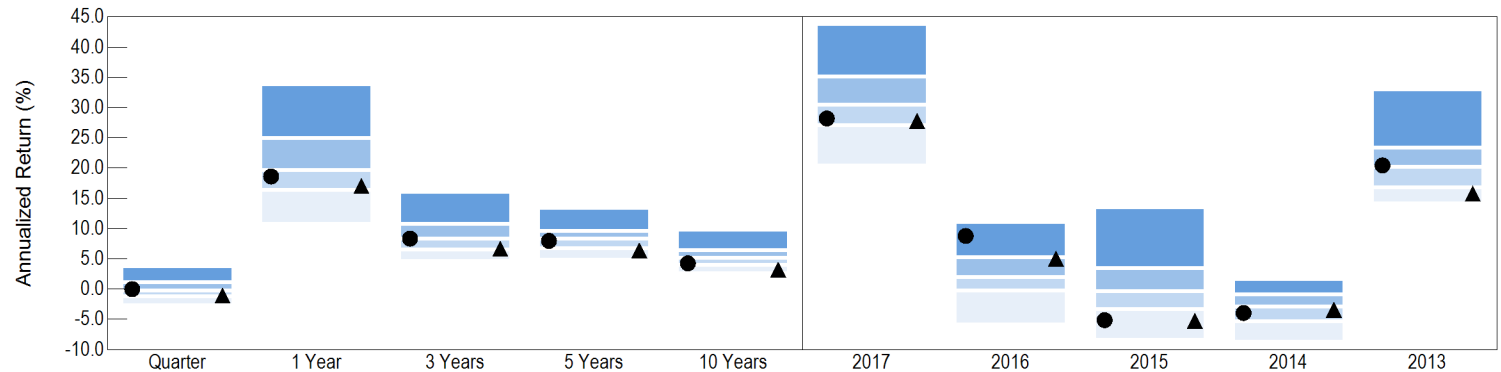
	Avg Wgt	Return	Contribution
DEUTSCHE BANK	0.45	-26.87	-0.12
SANOFI	1.55	-6.87	-0.11
FUJIKURA	0.40	-22.31	-0.09
BANK NEGARA INDONESIA	0.79	-11.10	-0.09
DEUTSCHE LUFTHANSA	0.61	-13.47	-0.08
BAYER	0.86	-9.04	-0.08
KINGBOARD CHEMICAL HDG.	0.50	-15.48	-0.08
BASF	0.88	-8.13	-0.07
RESONA HOLDINGS	0.69	-10.00	-0.07
CANADIAN IMP.BK.COM.	0.79	-8.75	-0.07

Unclassified sector allocation includes cash allocations.

Rolling Annualized Excess Performance

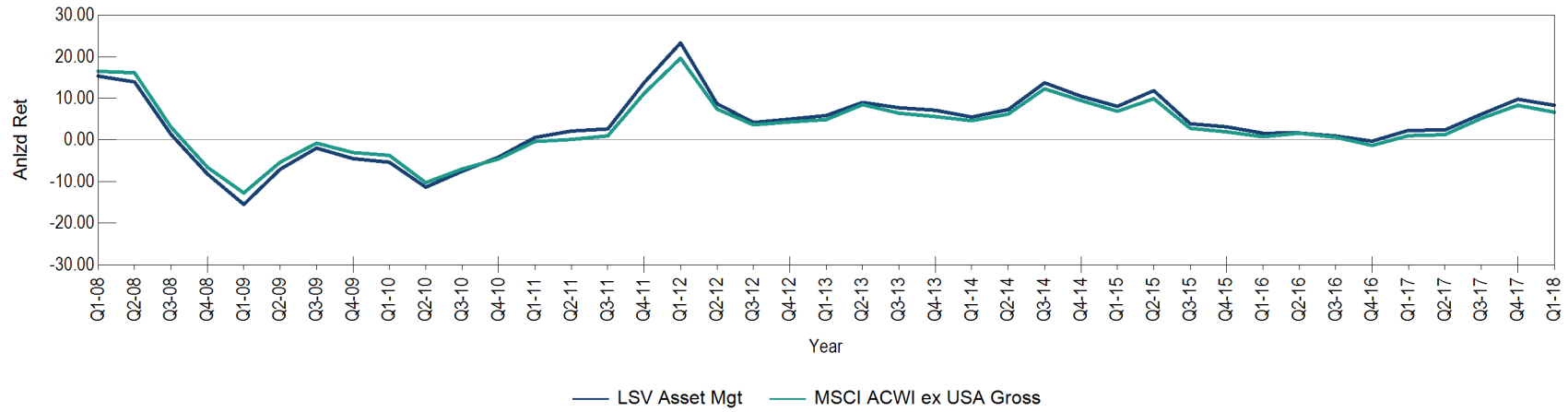


LSV Asset Mgt vs. eV ACWI ex-US Equity Unhedged Gross Universe

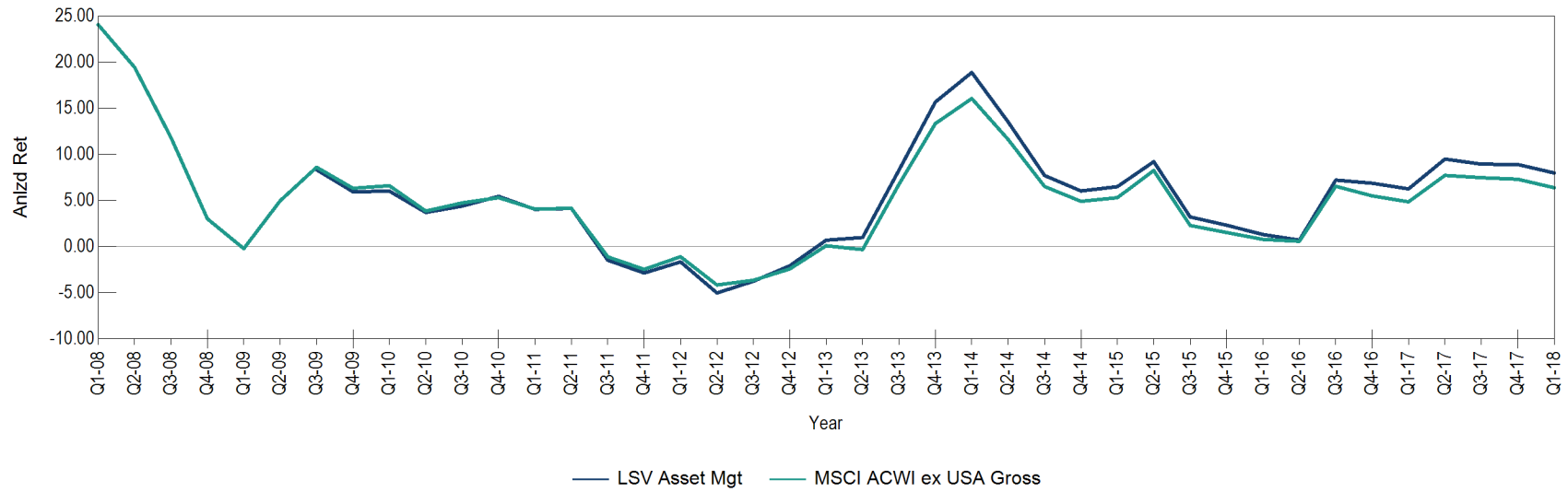


	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
<b>Return (Rank)</b>										
5th Percentile	3.7	33.9	16.0	13.4	9.7	43.8	11.1	13.5	1.6	32.9
25th Percentile	1.2	25.0	10.8	9.6	6.5	35.2	5.3	3.5	-0.8	23.4
Median	-0.2	19.7	8.4	8.4	5.2	30.6	2.1	-0.3	-2.9	20.3
75th Percentile	-1.1	16.4	6.6	6.8	4.1	27.2	-0.2	-3.3	-5.3	16.9
95th Percentile	-2.6	10.9	4.7	4.9	2.7	20.5	-5.8	-8.3	-8.7	14.3
# of Portfolios	248	248	234	201	135	254	238	179	147	136
● LSV Asset Mgt	0.0 (47)	18.6 (58)	8.3 (52)	8.0 (59)	4.3 (71)	28.2 (67)	8.8 (10)	-5.1 (86)	-4.0 (65)	20.4 (46)
▲ MSCI ACWI ex USA Gross	-1.1 (75)	17.0 (71)	6.7 (75)	6.4 (84)	3.2 (88)	27.8 (71)	5.0 (27)	-5.3 (87)	-3.4 (58)	15.8 (87)

Rolling 3 Year Annualized Return (%)



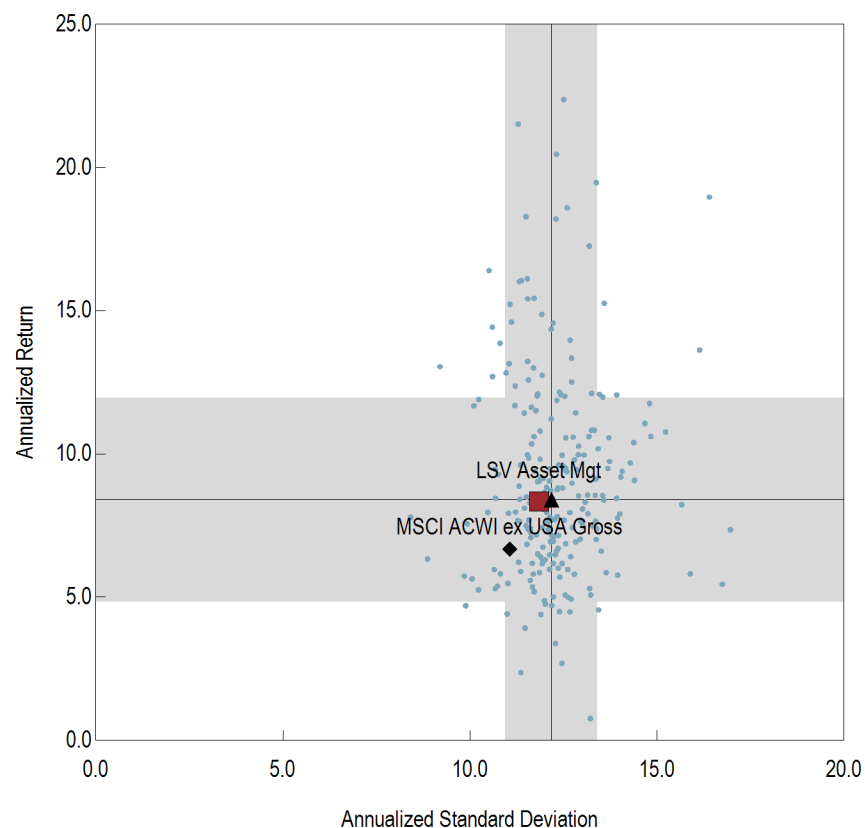
Rolling 5 Year Annualized Return (%)



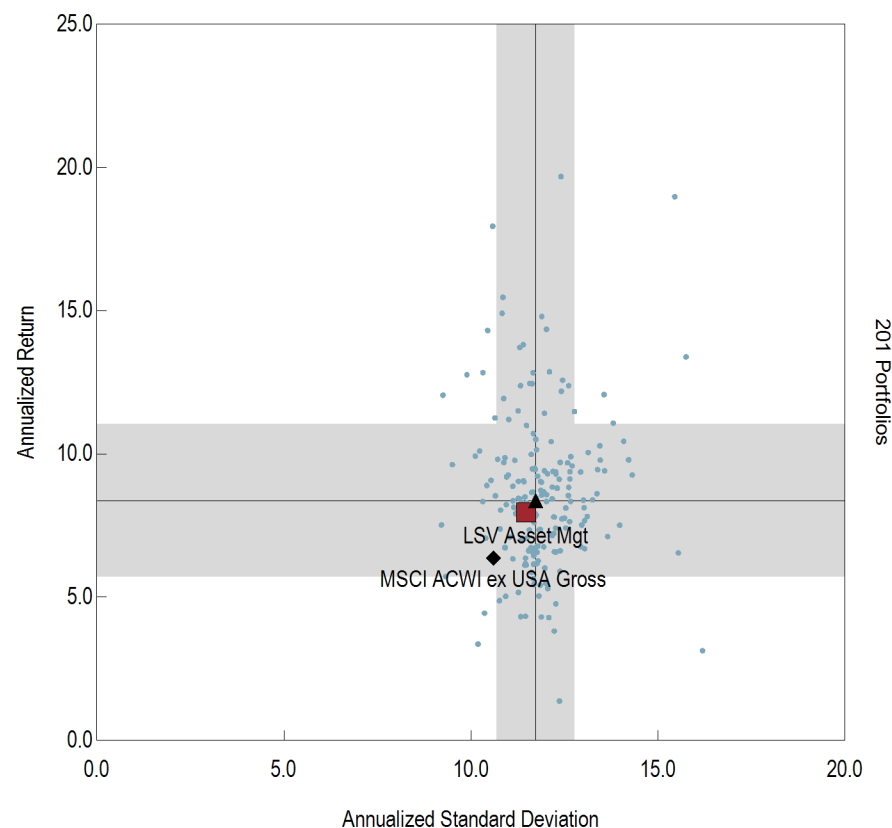
# LSV Asset Mgt Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: March 31, 2018

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
LSV Asset Mgt	8.3%	11.8%	0.7
MSCI ACWI ex USA Gross	6.7%	11.1%	0.6
eV ACWI ex-US Equity Unhedged Gross Median	8.4%	12.2%	0.6

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
LSV Asset Mgt	8.0%	11.5%	0.7
MSCI ACWI ex USA Gross	6.4%	10.6%	0.6
eV ACWI ex-US Equity Unhedged Gross Median	8.4%	11.7%	0.7



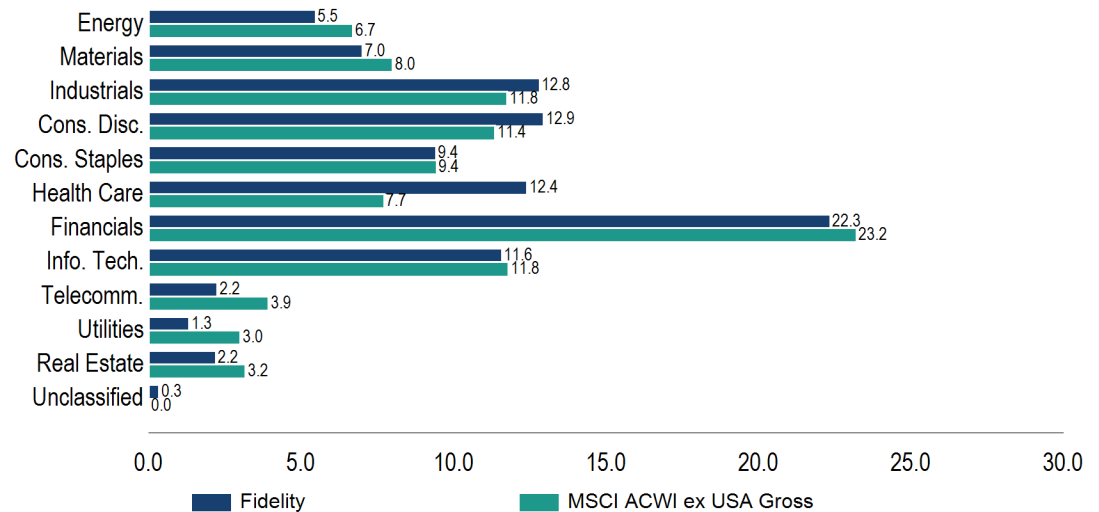
# Fidelity Manager Portfolio Overview

Period Ending: March 31, 2018

## Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	274	1,864
Weighted Avg. Market Cap. (\$B)	57.73	64.97
Median Market Cap. (\$B)	12.77	8.49
Price To Earnings	19.53	18.59
Price To Book	3.84	2.50
Price To Sales	3.21	2.30
Return on Equity (%)	18.61	15.38
Yield (%)	2.52	2.96
Beta	0.94	1.00

## Sector Allocation (%) vs MSCI ACWI ex USA Gross



## Largest Holdings

	End Weight	Return
NESTLE 'R'	1.54	-8.17
SAP	1.52	-6.83
ROYAL DUTCH SHELL A	1.35	-3.56
AIA GROUP	1.24	-0.77
BRITISH AMERICAN TOBACCO	1.16	-13.56
ROCHE HOLDING	1.16	-6.15
BP	1.14	-3.48
ORIX	1.10	4.37
NASPERS	1.02	-12.45
SHIRE	1.02	-4.43

NINTENDO
PEPTIDREAM
GENMAB
KOSE
ASML HOLDING
MARUI GROUP
KEYENCE
NITORI HOLDINGS
M3
LONDON STOCK EX.GROUP

## Top Contributors

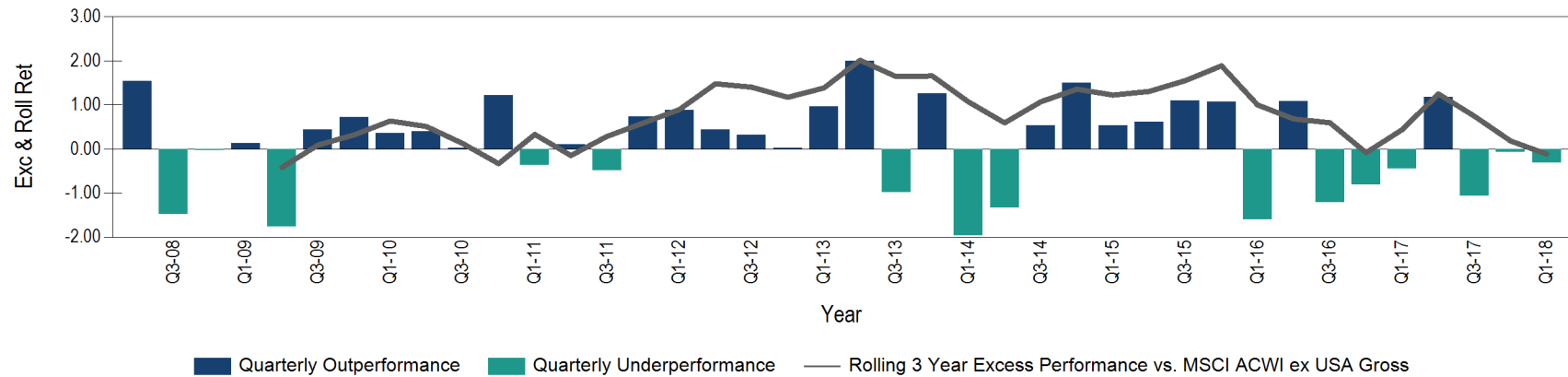
Avg Wgt	Return	Contribution
0.72	21.51	0.15
0.27	50.10	0.13
0.35	29.04	0.10
0.26	34.50	0.09
0.67	13.00	0.09
0.62	12.34	0.08
0.64	10.91	0.07
0.24	24.31	0.06
0.20	28.00	0.06
0.42	12.80	0.05

## Bottom Contributors

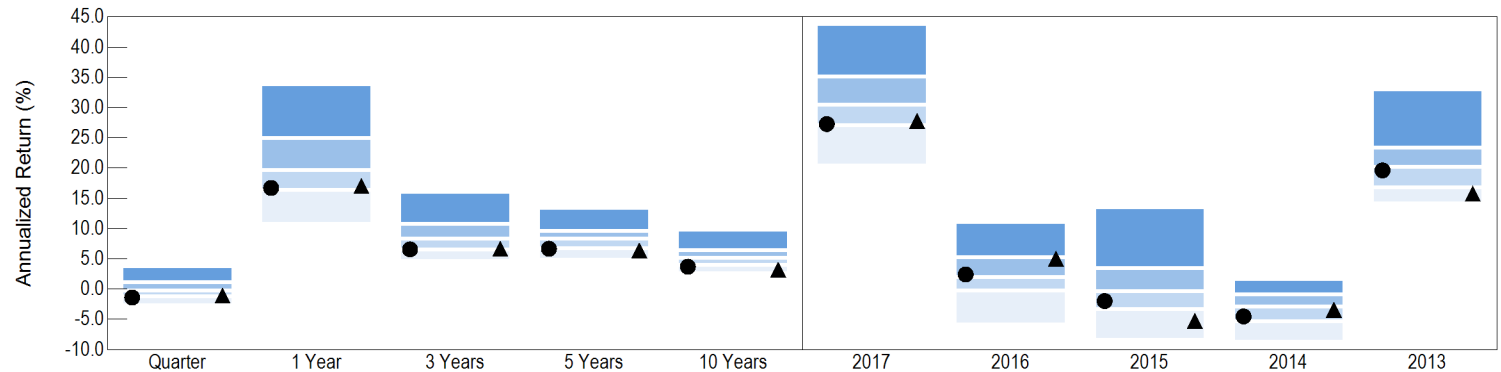
Avg Wgt	Return	Contribution
1.16	-13.56	-0.16
1.57	-8.17	-0.13
1.06	-9.52	-0.10
1.43	-6.83	-0.10
0.89	-10.56	-0.09
1.01	-9.04	-0.09
0.45	-18.19	-0.08
0.75	-9.97	-0.07
1.18	-6.15	-0.07
0.33	-22.00	-0.07

Unclassified sector allocation includes cash allocations.

Rolling Annualized Excess Performance

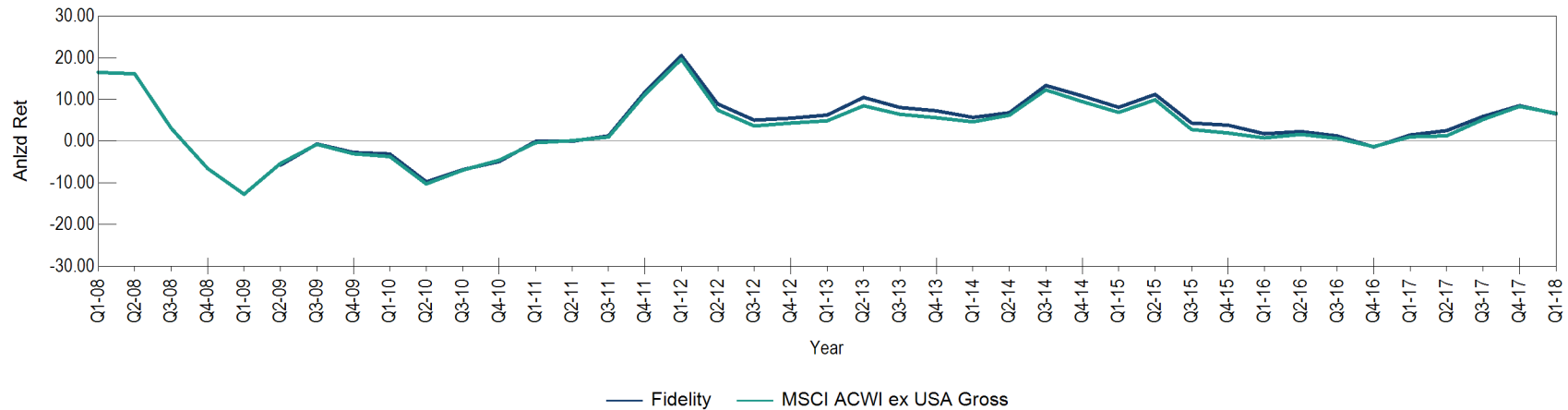


Fidelity vs. eV ACWI ex-US Equity Unhedged Gross Universe

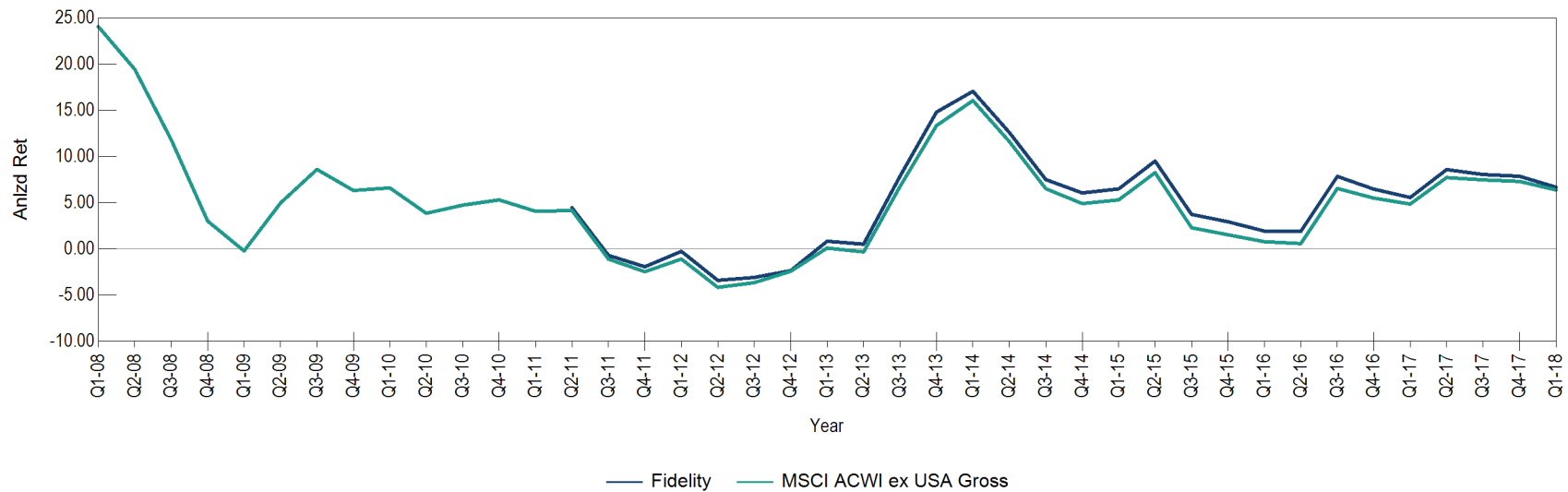


	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
<b>Return (Rank)</b>																				
5th Percentile	3.7		33.9		16.0		13.4		9.7		43.8		11.1		13.5		1.6		32.9	
25th Percentile	1.2		25.0		10.8		9.6		6.5		35.2		5.3		3.5		-0.8		23.4	
Median	-0.2		19.7		8.4		8.4		5.2		30.6		2.1		-0.3		-2.9		20.3	
75th Percentile	-1.1		16.4		6.6		6.8		4.1		27.2		-0.2		-3.3		-5.3		16.9	
95th Percentile	-2.6		10.9		4.7		4.9		2.7		20.5		-5.8		-8.3		-8.7		14.3	
# of Portfolios	248		248		234		201		135		254		238		179		147		136	
● Fidelity	-1.4	(83)	16.7	(74)	6.6	(76)	6.7	(79)	3.7	(80)	27.3	(74)	2.4	(46)	-2.0	(66)	-4.5	(70)	19.6	(55)
▲ MSCI ACWI ex USA Gross	-1.1	(75)	17.0	(71)	6.7	(75)	6.4	(84)	3.2	(88)	27.8	(71)	5.0	(27)	-5.3	(87)	-3.4	(58)	15.8	(87)

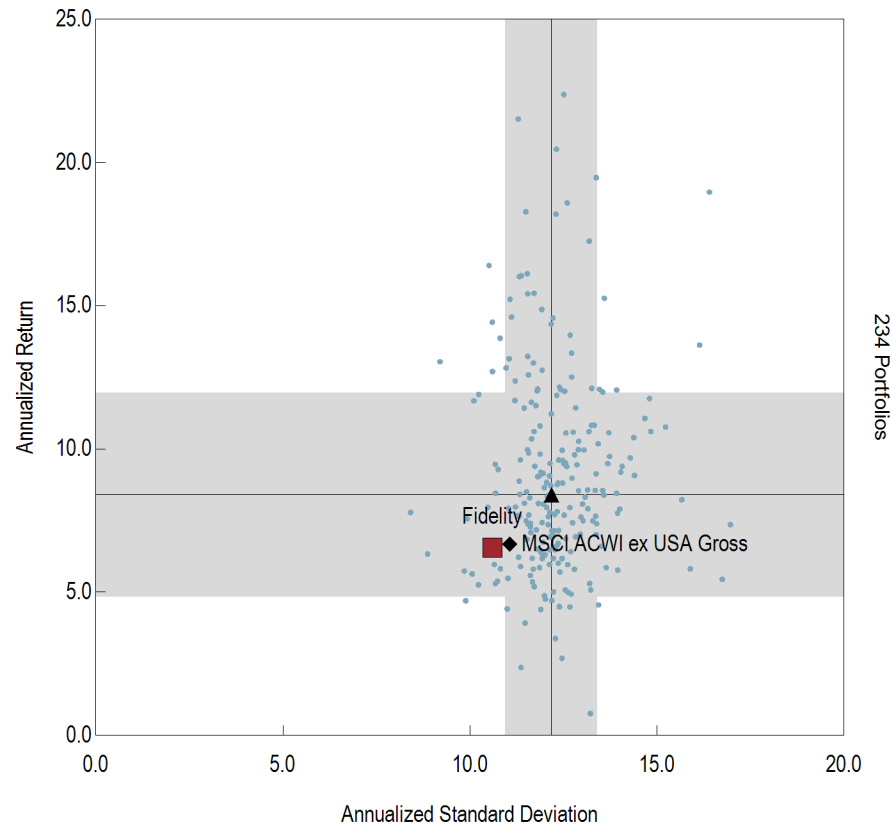
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)



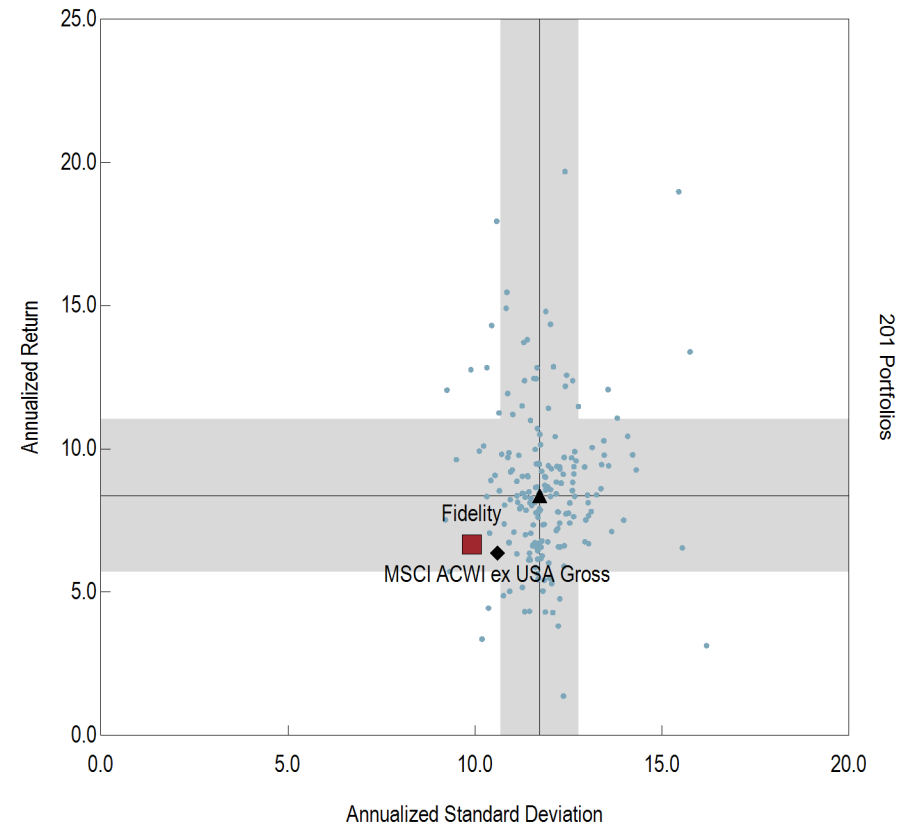
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Fidelity	6.6%	10.6%	0.6
MSCI ACWI ex USA Gross	6.7%	11.1%	0.6
eV ACWI ex-US Equity Unhedged Gross Median	8.4%	12.2%	0.6

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Fidelity	6.7%	9.9%	0.6
MSCI ACWI ex USA Gross	6.4%	10.6%	0.6
eV ACWI ex-US Equity Unhedged Gross Median	8.4%	11.7%	0.7

## Domestic Fixed Income Managers

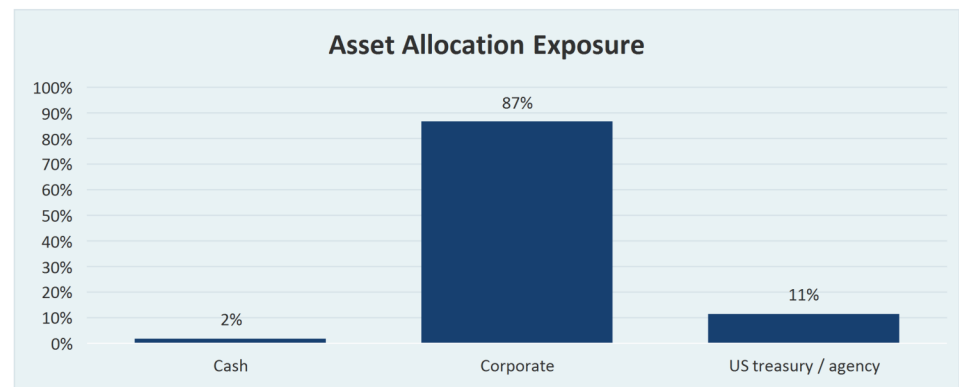
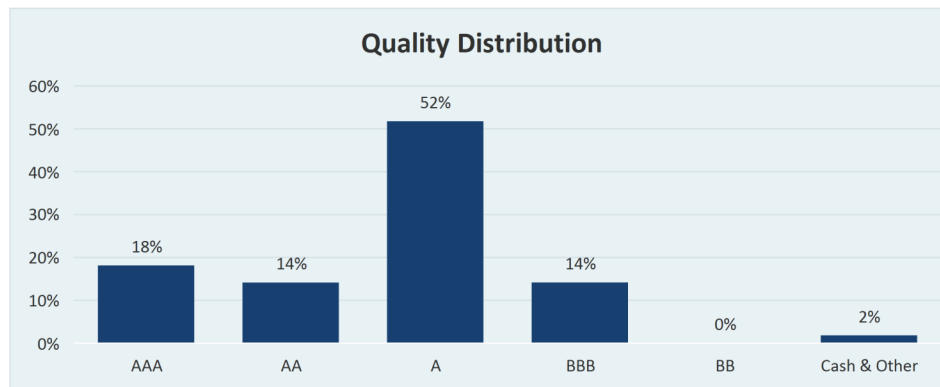
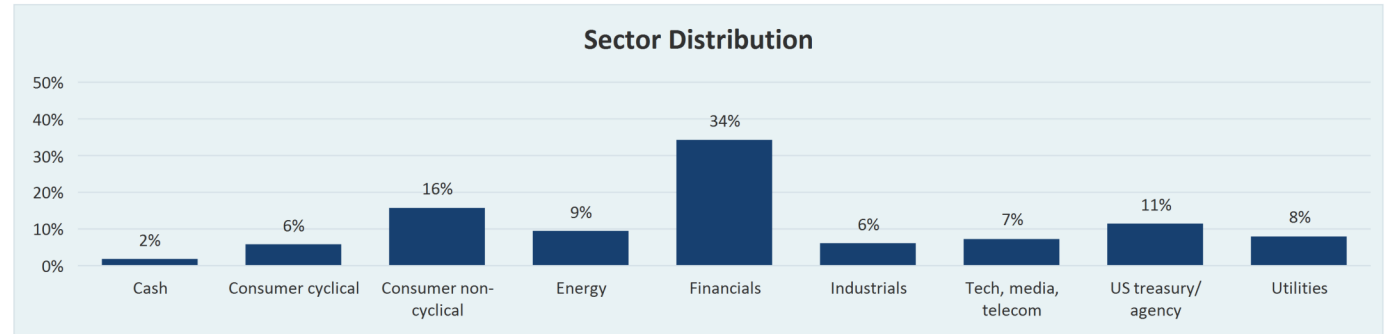
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# Insight

## Manager Portfolio Overview

Period Ending: March 31, 2018

Summary	Portfolio
Yield to worst (%)	3.07
OAS (bp)	68
Effective duration (years)	3.08
Spread duration (years)	3.12
Number of issuers	103
Average rating	A+

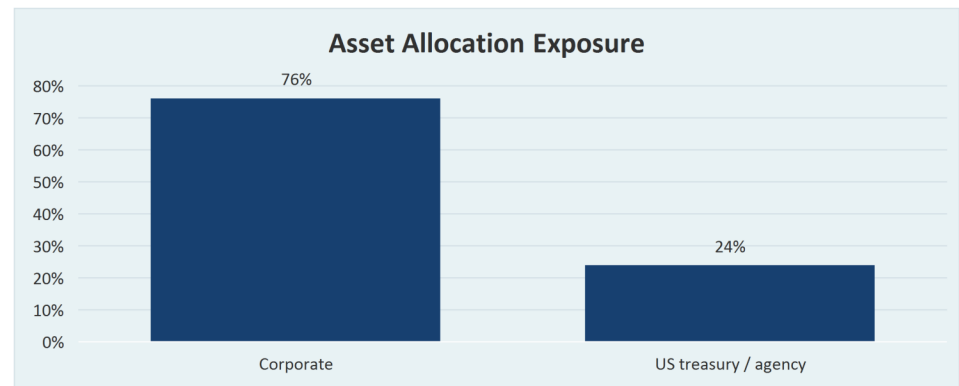
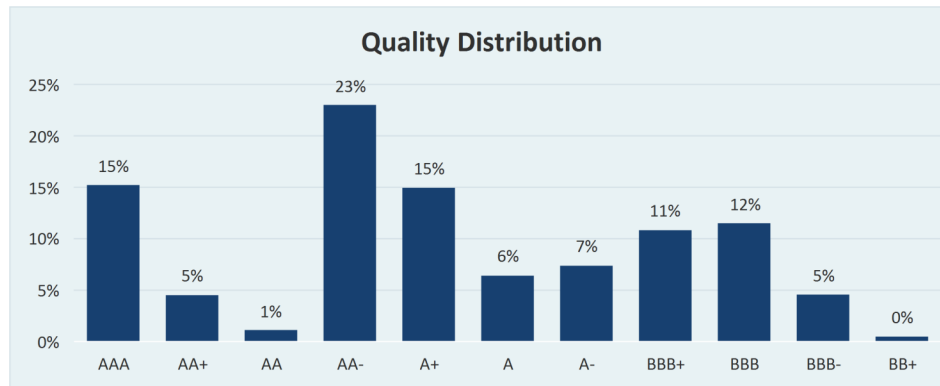
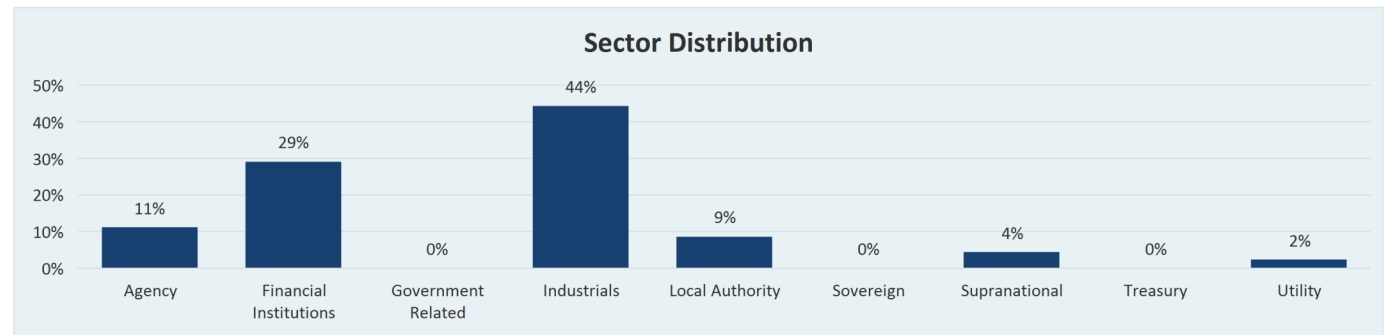


# DFA

## Manager Portfolio Overview

Period Ending: March 31, 2018

Summary	Portfolio
Average maturity (years)	3.03
Longest maturity (years)	4.96
Modified duration (years)	2.85
Average coupon (%)	2.73
Average rating	A+
Holdings	253



**Performance Return Calculations**

Performance is calculated using Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

**Data Source**

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

**Illiquid Alternatives**

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

**Manager Line Up**

<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Manager</u>	<u>Fund Incepted</u>	<u>Data Source</u>
Northern Trust Russell 1000	8/31/2017	Mellon	Prime Property Fund	9/30/2015	Prime Property
BlackRock Russell 1000 Growth	6/30/2010	BlackRock	American Strategic Value Realty	12/31/2014	American Realty
BlackRock Russell 1000 Value	7/31/2009	BlackRock	BlackRock US Real Estate	9/30/2012	BlackRock
Dodge & Cox - Equity	12/31/1994	Northern Trust	Greenfield Gap	7/31/2014	Greenfield
Capital Prospects	12/31/2008	Northern Trust	Medley Capital	5/31/2013	Medley Capital
LSV Asset Mgt	8/31/2004	Northern Trust	Raven Capital	5/31/2013	Raven Capital
Fidelity	4/30/2006	Northern Trust	Raven Opportunity III	7/31/2015	Raven Capital
Insight	6/29/2017	Northern Trust	White Oak Pinnacle	8/31/2013	White Oak
DFA	7/31/2017	Northern Trust	PanAgora Risk Parity Multi Asset	11/30/2017	PanAgora
Northern Trust Intermediate Gov't Bond	7/31/2017	Northern Trust	AQR Global Risk Premium - EL	3/5/2018	AQR
Northern Trust Long Term Gov't Bond	7/31/2017	Northern Trust	MS Infrastructure	5/31/2015	Morgan Stanley

**Policy & Custom Index Composition**

Policy Index (7/01/2017):	18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 7.7% NCREIF Property, 1.7% NCREIF Property +2%, 0.6% CPI +5%, 5% BBgBarc US High Yield +2%, 14% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi 1 Month T-Bills.
US Equity Blended:	80% Russell 1000, 20% Russell 2000.
Prior Policy Index:	14.4% Russell 1000 Value, 11.3% Russell 1000 Growth, 4.8% S&P 500, 4.0% Russell 2000 Value, 3.7% Russell 2000 Growth, 18.0% MSCI ACWI ex USA, 29.8% BBgBarc US Aggregate, 3.5% DJ US Select RESI, 7.5% 9% Annual, 3% CPI + 4%.

**Other Disclosures**

Fiscal Year End: 6/30

Cash Account includes cash held at Northern Trust for all closed end funds and cash held by BlackRock.

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

All data prior to 6/30/2015 provided by the previous consultant.

As of 3/31/2018, Total Fund market value includes liquidation value of \$120,838.27 for Jackson Square.



# Glossary

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**Allocation Effect:** An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

**Alpha:** The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as:  $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$ .

**Benchmark R-squared:** Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

**Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

**Book-to-Market:** The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

**Capture Ratio:** A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

**Correlation:** A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

**Excess Return:** A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

**Interaction Effect:** An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

**Portfolio Turnover:** The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

**Price-to-Earnings Ratio (P/E):** Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

**R-Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

**Selection Effect:** An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

**Sharpe Ratio:** A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

**Sortino Ratio:** Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

**Standard Deviation:** A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

**Style Analysis:** A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

**Style Map:** A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

## Disclaimer

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Verus receives universe data from InvestorForce, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.



**May 22, 2018**

Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: Annual Asset Allocation Review

II. ITEM NUMBER: 7.c

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION:

1. Approve Alternative Asset Mix B
2. Authorize Verus to initiate an emerging manager search for the debt allocation contingent on the approval of Mix B
3. Update the asset allocation in StanCERA's Investment Policy Statement to reflect the revised asset allocation

V. EXECUTIVE SUMMARY: Each year, staff is required to update its capital market expectations (CME's) and to recommend any changes to StanCERA's asset allocation to the Board of Retirement. Today, StanCERA's Investment Consultant will present the results of the change in CME's and a recommendation to make some changes to our long-term target asset allocation.

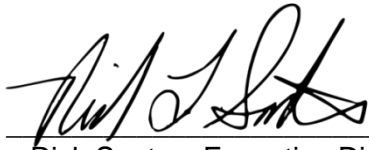
Given the current capital market environment and expectations, a more optimal portfolio exists relative to our current target. The new recommended allocation is expected to increase return slightly, lower risk slightly and ultimately reduce drawdown risk (portfolio stress and capital loss during a negative economic event). This revised allocation also has an expected real return that keeps us in line with our current actuarial discount rate (7.25%).

At its core, the new allocation achieves this through a reduction in domestic equity, a slight increase in high quality fixed income (short-term government and credit instruments) and an introduction to emerging market debt. The following table summarizes the changes staff is recommending:

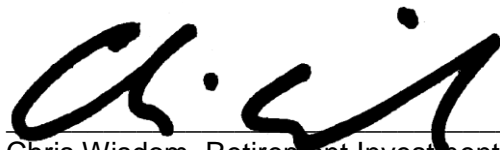
<u>Asset Class</u>	<u>Current Target</u>	<u>New Target</u>	<u>Change</u>
Dom. Equity US Large	16%	10%	-6%
Int. Equity Developed	19%	20%	1%
Emerg. Market Debt	0%	4%	4%
Private Credit	6%	5%	-1%
Infrastructure	0%	1%	1%
Short-Term Gov/Credit	18%	20%	2%
Risk Parity	14%	13%	-1%

Our Investment Consultant has also offered an Alternative Mix A which excludes an allocation to emerging market debt, however, staff is not recommending this today, since the drawdown risk is inferior. Should the Board choose to go with staff's recommendation for Mix B, it is further recommended that Verus initiate an emerging manager search for the debt allocation. Attachment 1 contains the consultant's presentation today.

- VI. RISK: None
- VII. STRATEGIC PLAN: Strategic Objective IV: Refine StanCERA's business and policy practices in ways that enhance stakeholder awareness, the delivery of member services and the ability of the Organization to administer the System effectively and efficiently.
- VIII. ADMINISTRATIVE BUDGET IMPACT: None

A handwritten signature in black ink, appearing to read "Rick Santos", written over a horizontal line.

Rick Santos, Executive Director

A handwritten signature in black ink, appearing to read "Chris Wisdom", written over a horizontal line.

Chris Wisdom, Retirement Investment Officer



# **PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS**



**MAY 22, 2018**

Annual Asset Allocation Analysis

**Stanislaus County Employees' Retirement Association**

# Executive summary

- Per StanCERA's IPS approved in January 2017, “the Board will review capital market expectations annually. The result of this review will be used to update the Investment Resolutions as needed.”
  - The Board's last review took place in April 2017 resulting in the adoption of the “FFP 6-Yr Alternative Mix”.
- The objective of the annual review process is not to make large changes to the asset allocation, but rather to:
  1. Adjust the size of the Liquidity sub-portfolio; and
  2. Make adjustment to the Growth & Risk Diversifying sub-portfolios based on updated Capital Market Assumptions and/or changes to the Liquidity sub-portfolio.
- Based on this year's review, the following allocation are presented:
  1. Mix A: reduces domestic equity and increases international equity, private markets, and the Liquidity sub-portfolio
  2. Mix B: reduces domestic equity, increases the Liquidity sub-portfolio, and introduces emerging market debt.
- The recommendation is to select Alternative Mix B as it offers the lowest volatility and downside risk while offering an expected return equal to the actuarial assumed rate, adjusted for inflation.

# Asset allocation analysis



# Asset allocation

	Current (3/31/2018)	Phase 1 Targets	Long-Term Targets	Alt. Mix A	Alt. Mix B	CMA's (10 Yr)		
						Return	Standard Deviation	Sharpe Ratio
US Large	23.6	18.5	16.0	10.0	10.0	4.5	15.7	0.15
US Small	5.4	5.5	3.0	3.0	3.0	4.4	21.5	0.10
Private Equity	-	-	5.0	6.0	5.0	6.4	25.8	0.16
<b>Total Domestic Equity</b>	<b>29.0</b>	<b>24.0</b>	<b>24.0</b>	<b>19.0</b>	<b>18.0</b>			
International Developed	17.4	18.0	19.0	21.0	20.0	8.6	18.1	0.35
Emerging Markets	4.5	6.0	5.0	6.0	5.0	7.3	26.6	0.19
<b>Total International Equity</b>	<b>21.9</b>	<b>24.0</b>	<b>24.0</b>	<b>27.0</b>	<b>25.0</b>			
Emerging Market Debt (Hard)	-	-	-	-	2.0	5.1	12.8	0.23
Emerging Market Debt (Local)	-	-	-	-	2.0	5.8	12.1	0.30
Private Credit	4.4	5.0	6.0	6.0	5.0	6.9	10.5	0.45
Core Real Estate	7.3	7.7	5.0	5.0	5.0	6.0	12.7	0.30
Value Add Real Estate	1.9	1.7	5.0	5.0	5.0	8.0	19.5	0.30
Infrastructure	1.1	0.6	-	1.0	1.0	7.1	18.9	0.26
<b>Total Growth Portfolio</b>	<b>65.6</b>	<b>63.0</b>	<b>64.0</b>	<b>63.0</b>	<b>63.0</b>			
Short-Term Gov't/Credit	17.1	19.0	18.0	20.0	20.0	2.5	3.7	0.08
Cash	1.1	1.0	1.0	1.0	1.0	2.2	1.2	-
<b>Total Liquidity Portfolio</b>	<b>18.2</b>	<b>20.0</b>	<b>19.0</b>	<b>21.0</b>	<b>21.0</b>			
US Treasury	2.8	3.0	3.0	3.0	3.0	2.4	6.8	0.03
Risk Parity	13.4	14.0	14.0	13.0	13.0	7.2	10.0	0.50
<b>Total Risk Diversifying</b>	<b>16.2</b>	<b>17.0</b>	<b>17.0</b>	<b>16.0</b>	<b>16.0</b>			
<b>Total Allocation</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>			

As of March 31, 2018

Based on Verus' 2018 Capital Market Assumptions



# Asset allocation analysis

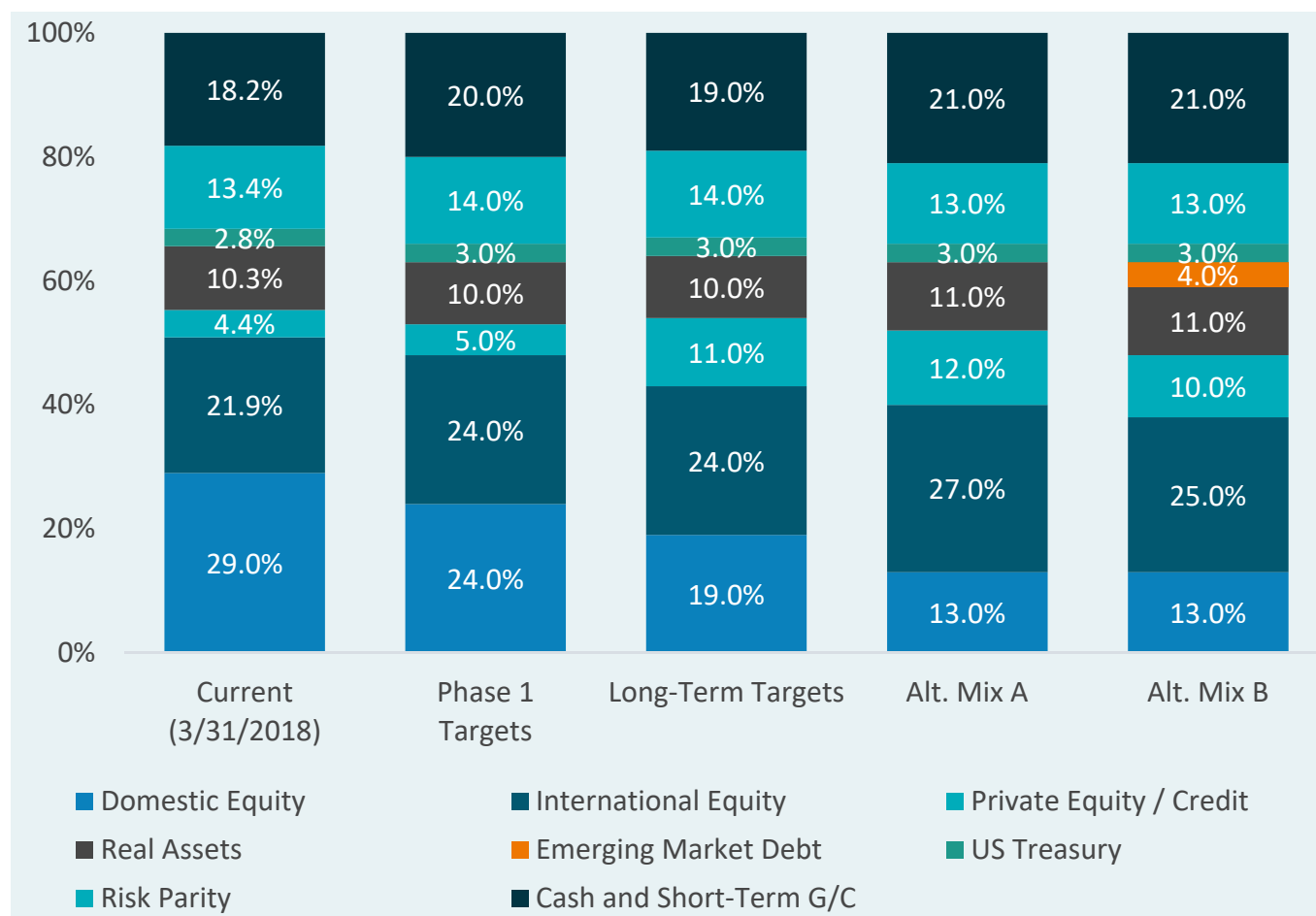
	Current (3/31/2018)	Phase 1 Targets	Long-Term Targets	Alt. Mix A	Alt. Mix B
<b>Mean Variance Analysis</b>					
Forecast 10 Year Return	6.0	6.1	6.4	6.6	6.5
Forecast 10 Year <u>Real</u> Return	3.9	4.0	4.3	4.5	4.4
Standard Deviation	10.8	10.5	10.5	10.5	10.2
Return/Std. Deviation	0.6	0.6	0.6	0.6	0.6
5th percentile ret. 1 year	-9.6	-9.2	-9.2	-9.1	-8.8
Sharpe Ratio	0.40	0.41	0.44	0.45	0.45
<b>Verus Scenario Analysis</b>					
<b>10 Year Return Forecast</b>					
Stagflation	5.5	5.6	5.5	5.5	5.6
Weak	2.8	2.9	3.0	3.1	3.3
<b>Base CMA</b>	<b>6.4</b>	<b>6.5</b>	<b>6.8</b>	<b>6.9</b>	<b>6.8</b>
Strong	10.5	10.4	10.9	11.0	10.6
Range of Scenario Forecast	7.8	7.5	7.9	7.9	7.3
Shock (1 year)	-17.9	-17.2	-17.9	-17.8	-16.3
<b>10 Year <u>Real</u> Return Forecast</b>					
Stagflation	-0.6	-0.5	-0.6	-0.6	-0.5
Weak	1.7	1.8	1.9	2.0	2.2
Base CMA	4.3	4.4	4.7	4.8	4.7
Strong	7.9	7.8	8.3	8.4	8.0
Range of Scenario Forecast	8.5	8.3	9.0	9.0	8.5

As of March 31, 2018

Based on Verus' 2018 Capital Market Assumptions

# Asset allocation

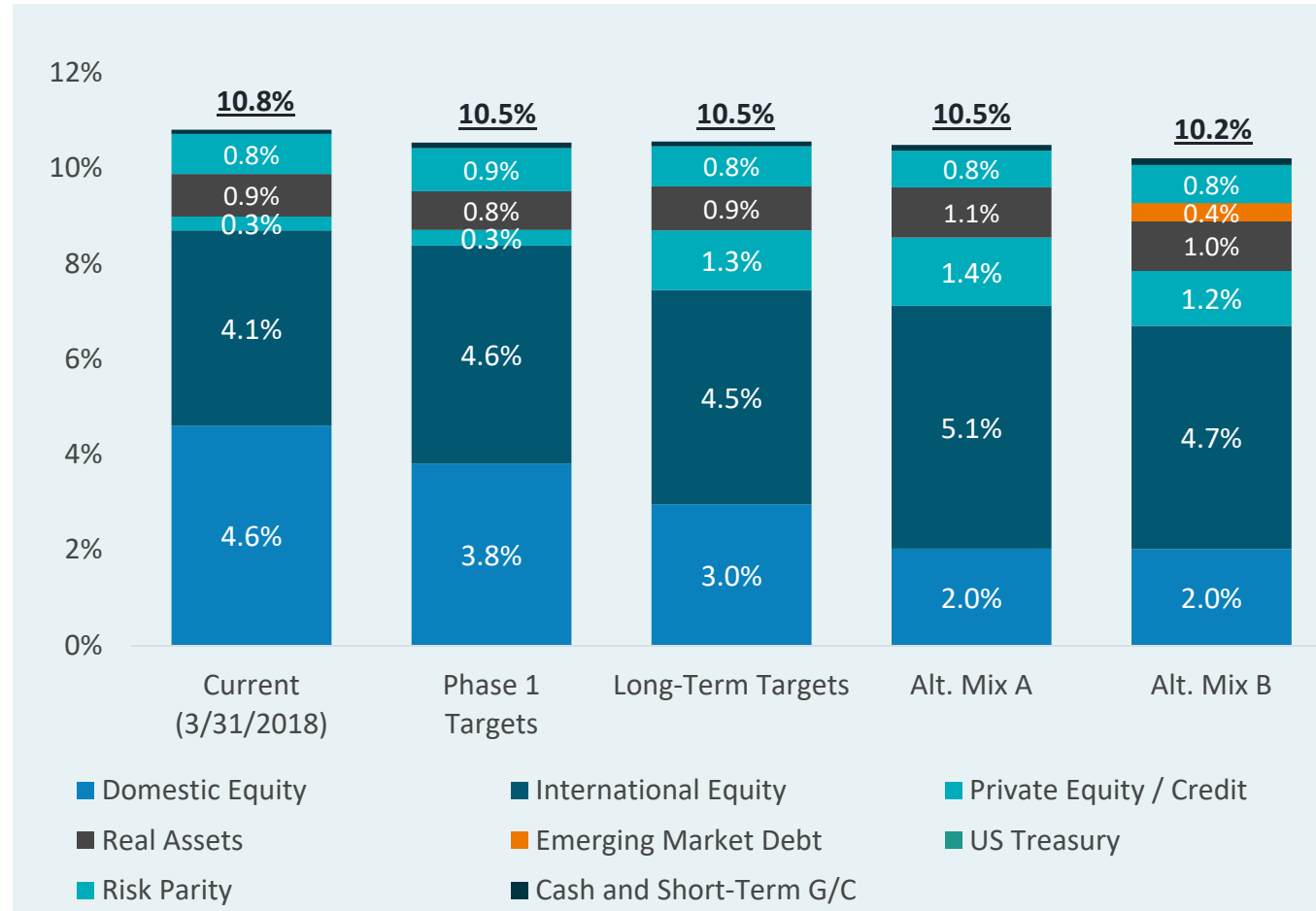
ASSET ALLOCATION BY ASSET CLASS



As of March 31, 2018

# Risk contribution

RISK CONTRIBUTION BY ASSET CLASS



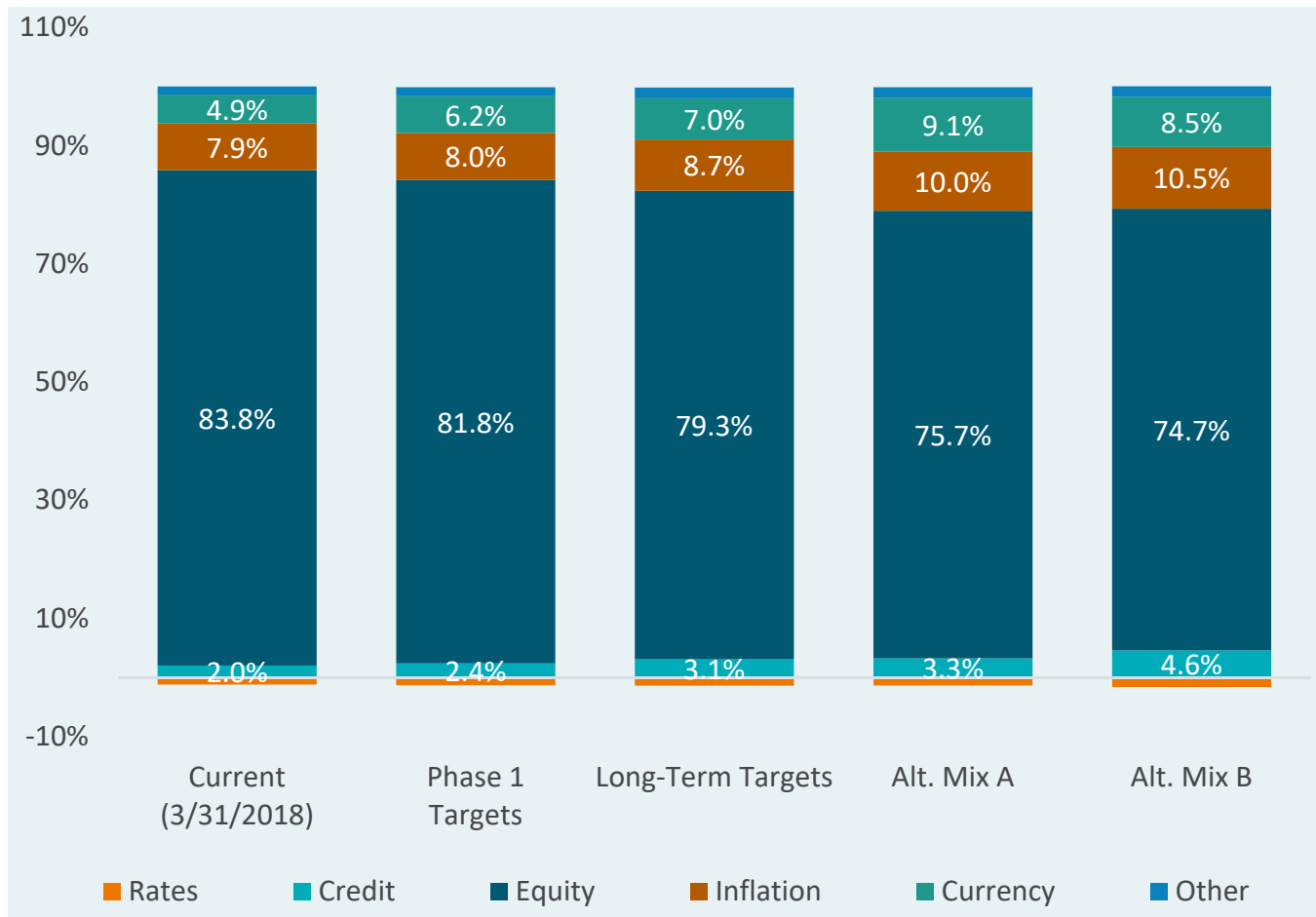
With the exception of the Current portfolio, international equity remains the largest contributor to risk.

As of March 31, 2018

Based on Verus' 2018 Capital Market Assumptions

# Risk contribution

RISK CONTRIBUTION BY RISK FACTOR



As of March 31, 2018

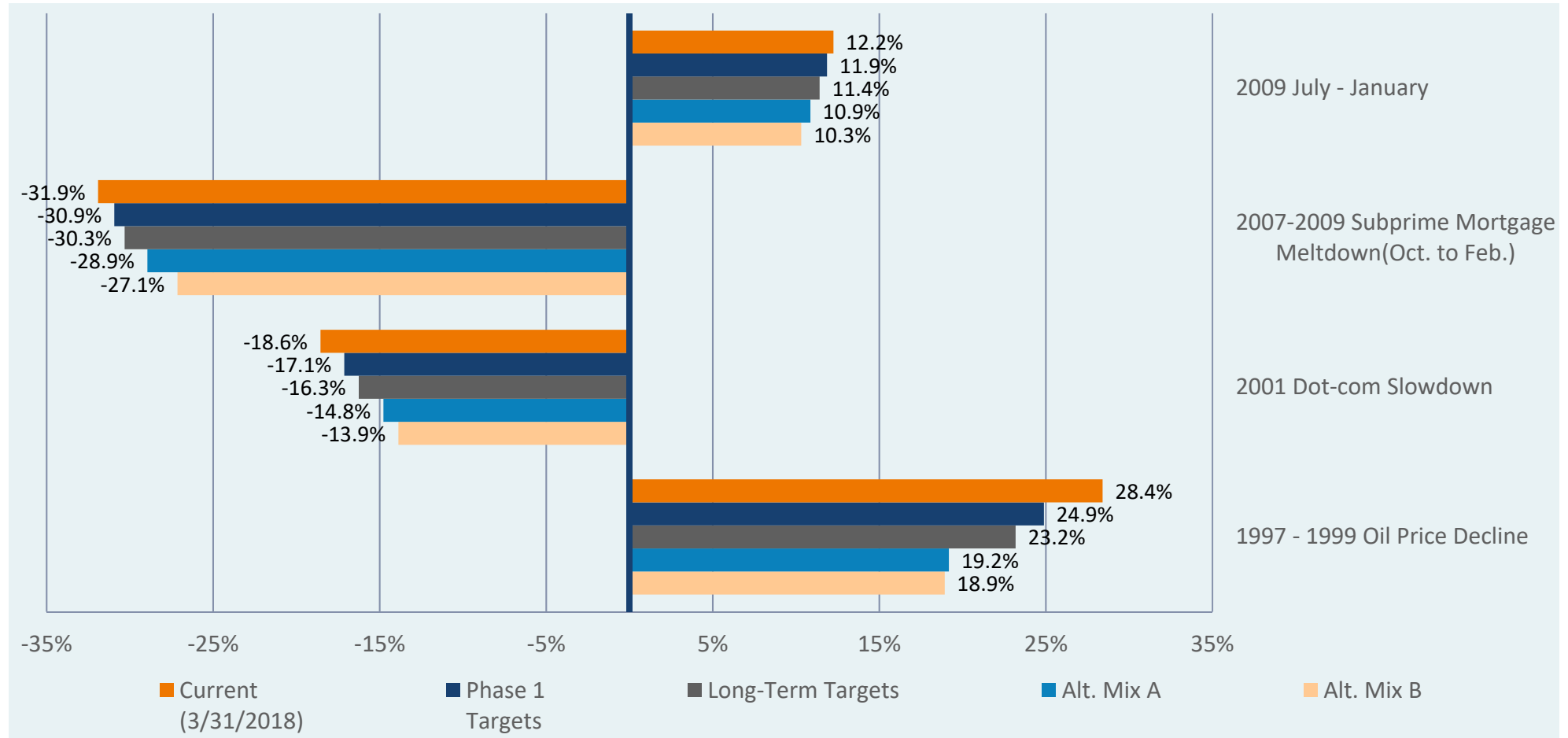
Based on MSCI BarraOne's 2018 Capital Market Assumptions

The main drivers behind the notable risk factors are:

- Equity: Domestic, International, and Private Equity
- Currency: International Equity
- Inflation: Real Assets
- Credit: Emerging Market Debt and Private Credit

# Historical scenario analysis

## TAIL RISK – SCENARIO ANALYSIS

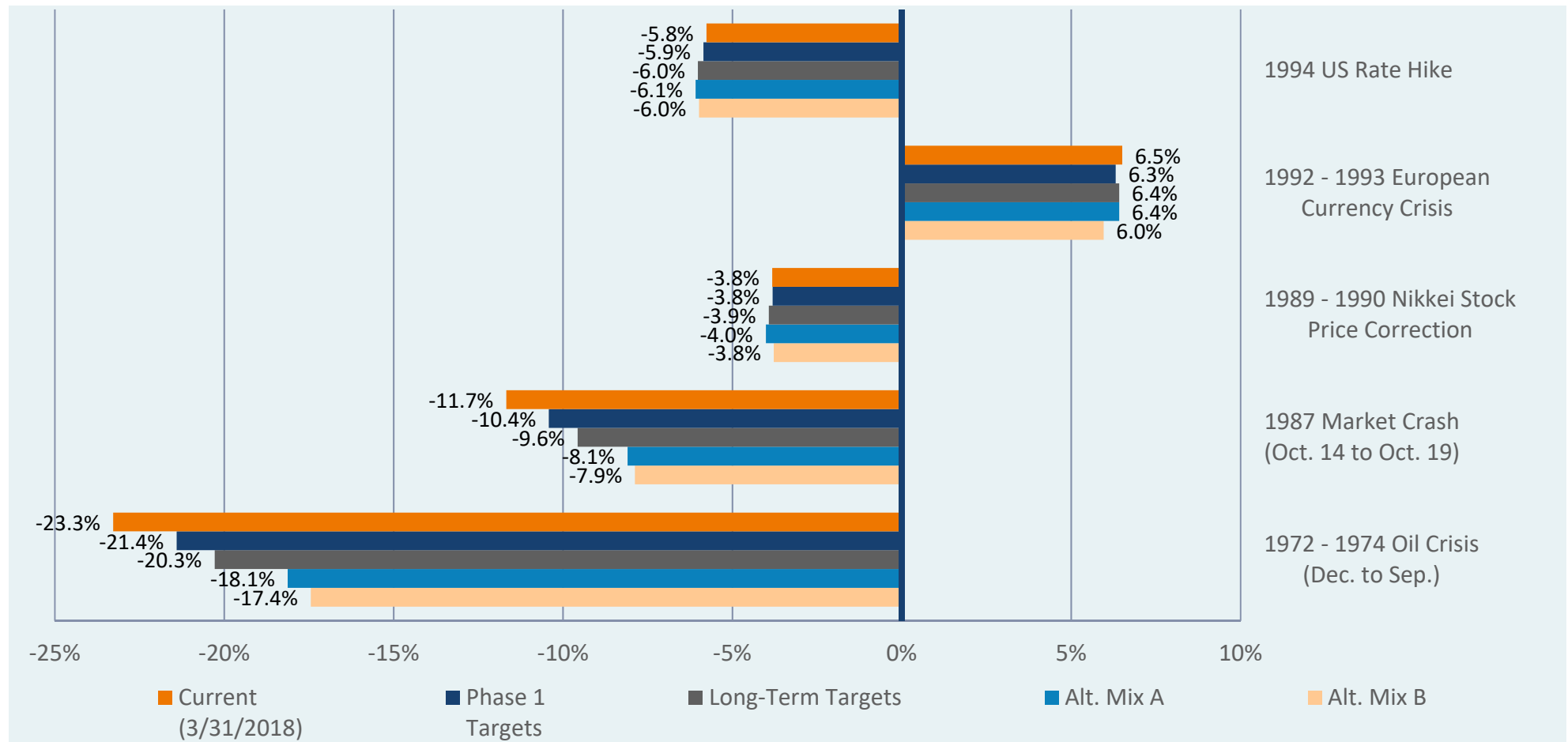


As of March 31, 2018

Scenario analysis based on risk factors in current policy index and computed as hypothetical scenarios using MSCI Barra One

# Historical scenario analysis

## TAIL RISK – SCENARIO ANALYSIS

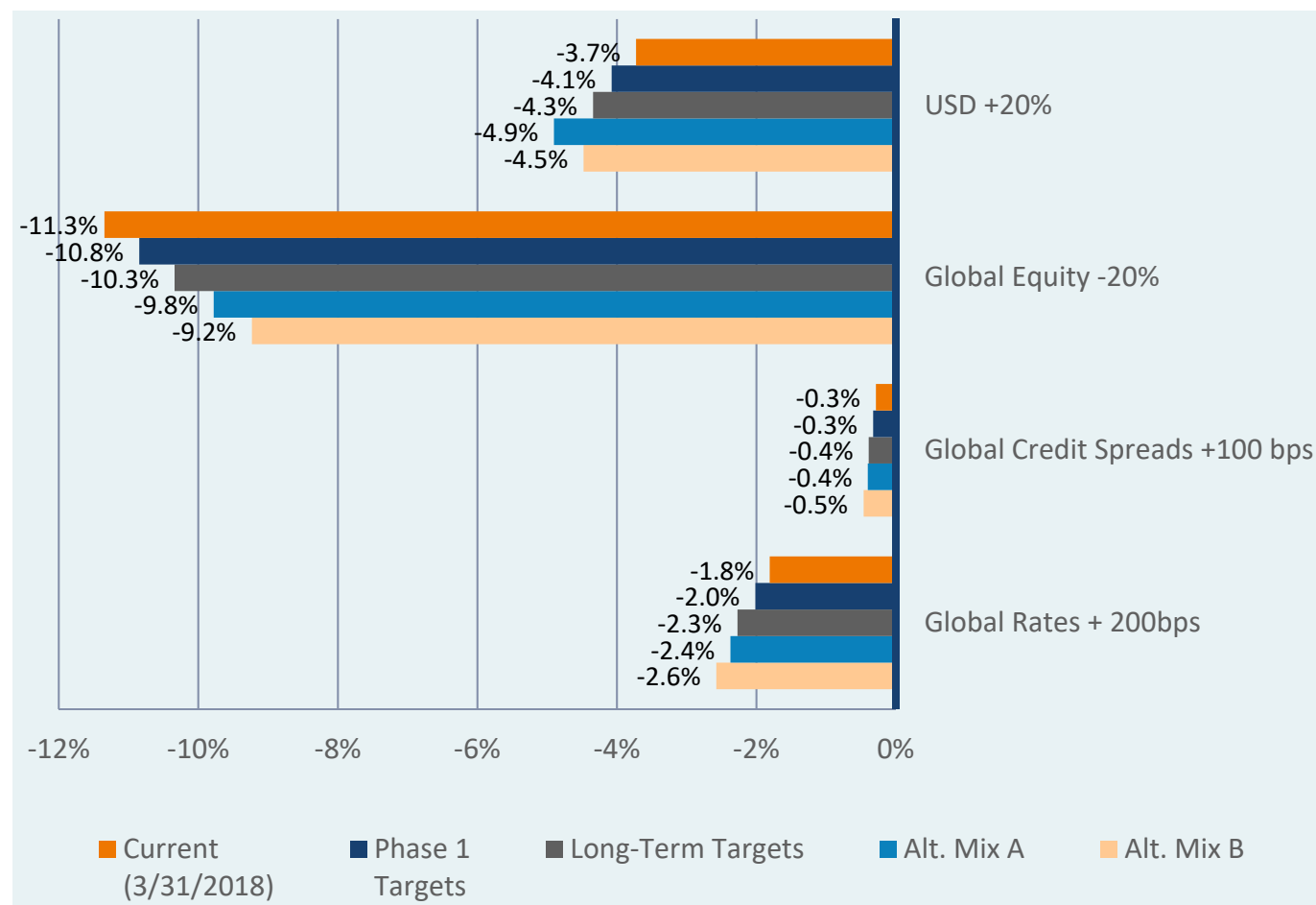


As of March 31, 2018

Scenario analysis based on risk factors in current policy index and computed as hypothetical scenarios using MSCI Barra One

# Stress test

## TAIL RISK – STRESS TEST



As of March 31, 2018

Based on MSCI BarraOne's 2018 Capital Market Assumptions

BarraOne's risk decomposition analysis can hypothesize how the different portfolios would have performed in certain hypothetical stress tests or historical environments.

This analysis is based on how the risk factors inherent in the current index holdings reacted in those environments.

# Next steps



# Next steps

- Recommendation is to approve the “Alternative Mix B”.
- Authorize Verus to conduct an emerging markets debt search.
- Update the Asset Allocation in the Investment Policy Statement.
  - The “Phase 1 targets & ranges” will be revised via an updated investment directive
  - Implementation will take place in phases following the selection of an emerging markets debt manager and approval of a rebalancing analysis at that time.

# Appendix

# Plan profile

## Assumptions:

- Inflation = 3.0%
- Total return = 7.25%
- Real return = 4.25%

## As of June 30, 2017:

- Average monthly Plan cash flows based on the previous 24 months:
  - Total Contributions .....\$7.11mm
    - Employer .....\$5.05mm
    - Employee .....\$2.06mm
  - Total Benefit Payments & Expenses .....\$(9.42)mm
    - Benefit Payments .....\$(9.22)mm
    - Operating Expenses .....\$(0.21)mm
  - Net Operating Cash Inflow (Outflow) .....\$(2.31)mm
  - Total Interest & Dividends .....\$3.85mm
  - Net Cash Inflow .....\$1.54mm
- Total participants = 9,126 (4,309 or 47.2% active, 1,071 or 11.7% inactive, 3,746 or 41.1% retired)
- Actuarial liability = \$2,648.2 mm
  
- Market value of assets as of March 31, 2018 = \$2,092.09 mm
- Funded ratio = 79.0% (based on March 31, 2018 market value of assets)

# 10-year return & risk assumptions

Asset Class	Index Proxy	Ten Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Equities								
U.S. Large	S&P 500	4.5%	5.6%	15.7%	0.15	0.22	0.50	0.56
U.S. Small	Russell 2000	4.4%	6.5%	21.5%	0.10	0.20	0.36	0.44
International Developed	MSCI EAFE	8.6%	10.1%	18.1%	0.35	0.44	0.11	0.2
International Developed Hedged	MSCI EAFE Hedged	8.6%	9.8%	16.2%	0.40	0.47	0.21	0.28
International Small	MSCI EAFE Small Cap	7.9%	10.2%	22.7%	0.25	0.35	0.24	0.33
International Small Hedged	MSCI EAFE Small Cap Hedged	7.9%	9.7%	20.1%	0.28	0.37	0.36	0.43
Emerging Markets	MSCI EM	7.3%	10.4%	26.6%	0.19	0.31	0.17	0.28
Global Equity	MSCI ACWI	6.3%	7.7%	17.5%	0.23	0.31	0.27	0.35
Private Equity	Cambridge Private Equity	6.4%	9.3%	25.8%	0.16	0.28	0.93	0.92
Fixed Income								
Cash	30 Day T-Bills	2.2%	2.2%	1.2%	-	-	-	-
U.S. TIPS	BBgBarc U.S. TIPS 5 - 10	2.6%	2.7%	5.5%	0.07	0.09	0.57	0.59
U.S. Treasury	BBgBarc Treasury 7-10 Year	2.4%	2.6%	6.8%	0.03	0.06	0.68	0.70
Global Sovereign ex U.S.	BBgBarc Global Treasury ex U.S.	2.7%	3.2%	9.9%	0.05	0.10	0.30	0.33
Global Sovereign ex U.S. Hedged	BBgBarc Global Treasury ex U.S. Hedged	2.7%	2.8%	3.3%	0.15	0.18	1.23	1.22
Core Fixed Income	BBgBarc U.S. Aggregate Bond	2.9%	3.1%	6.4%	0.11	0.14	1.09	1.08
Core Plus Fixed Income	BBgBarc U.S. Corporate IG	3.3%	3.6%	8.4%	0.13	0.17	0.81	0.81
Short-Term Gov't/Credit	BBgBarc U.S. Gov't/Credit 1 - 3 year	2.5%	2.6%	3.7%	0.08	0.11	1.36	1.34
Short-Term Credit	BBgBarc Credit 1-3 Year	2.4%	2.5%	3.7%	0.05	0.08	1.05	1.05
Long-Term Credit	BBgBarc Long U.S. Corporate	3.5%	3.9%	9.4%	0.14	0.18	0.64	0.67
High Yield Corp. Credit	BBgBarc U.S. Corporate High Yield	3.7%	4.3%	11.6%	0.13	0.18	0.64	0.67
Bank Loans	S&P/LSTA	4.9%	5.4%	10.5%	0.26	0.30	0.48	0.51
Global Credit	BBgBarc Global Credit	1.7%	2.0%	7.6%	-0.07	-0.03	0.59	0.61
Global Credit Hedged	BBgBarc Global Credit Hedged	1.7%	1.8%	5.0%	-0.10	-0.08	1.01	1.00
Emerging Markets Debt (Hard)	JPM EMBI Global Diversified	5.1%	5.9%	12.8%	0.23	0.29	0.74	0.76
Emerging Markets Debt (Local)	JPM GBI EM Global Diversified	5.8%	6.5%	12.1%	0.30	0.36	0.31	0.37
Private Credit	Bank Loans + 200 bps	6.9%	7.5%	10.5%	0.45	0.50	-	-
Other								
Commodities	Bloomberg Commodity	4.3%	5.5%	15.9%	0.13	0.21	-0.33	-0.25
Hedge Funds	HFRI Fund of Funds	4.0%	4.8%	7.9%	0.23	0.33	0.21	0.23
Hedge Fund of Funds	HFRI Fund of Funds	3.0%	3.8%	7.9%	0.10	0.20	0.21	0.23
Hedge Funds - Equity Hedge	HFRI Equity Hedge	4.2%	5.5%	11.1%	0.18	0.30	0.36	0.39
Hedge Funds - Event Driven	HFRI Event Driven	4.5%	5.6%	9.9%	0.22	0.34	0.55	0.57
Hedge Funds - Relative Value	HFRI Relative Value	3.9%	4.5%	6.8%	0.25	0.34	0.89	0.89
Hedge Funds - Macro	HFRI Macro	3.3%	4.7%	8.5%	0.12	0.29	0.43	0.44
Core Real Estate	NCREIF Property	6.0%	6.7%	12.7%	0.30	0.35	0.77	0.75
Value-Add Real Estate	NCREIF Property + 200bps	8.0%	9.7%	19.5%	0.30	0.38	-	-
Opportunistic Real Estate	NCREIF Property + 400bps	10.0%	12.9%	26.0%	0.30	0.41	-	-
REITs	Wilshire REIT	6.0%	7.7%	19.5%	0.19	0.28	0.16	0.28
Infrastructure	S&P Global Infrastructure	7.1%	8.7%	18.9%	0.26	0.34	0.27	0.34
Risk Parity	Risk Parity	7.2%	7.7%	10.0%	0.50	0.55	-	-
Currency Beta	Russell Conscious Currency	2.2%	2.3%	4.4%	0.00	0.02	0.23	0.24
Inflation		2.1%	-	-	-	-	-	-

Investors wishing to produce expected geometric return forecasts for their portfolios should use the arithmetic return forecasts provided here as inputs into that calculation, rather than the single-asset-class geometric return forecasts. This is the industry standard approach, but requires a complex explanation only a heavy quant could love, so we have chosen not to provide further details in this document – we will happily provide those details to any readers of this who are interested.

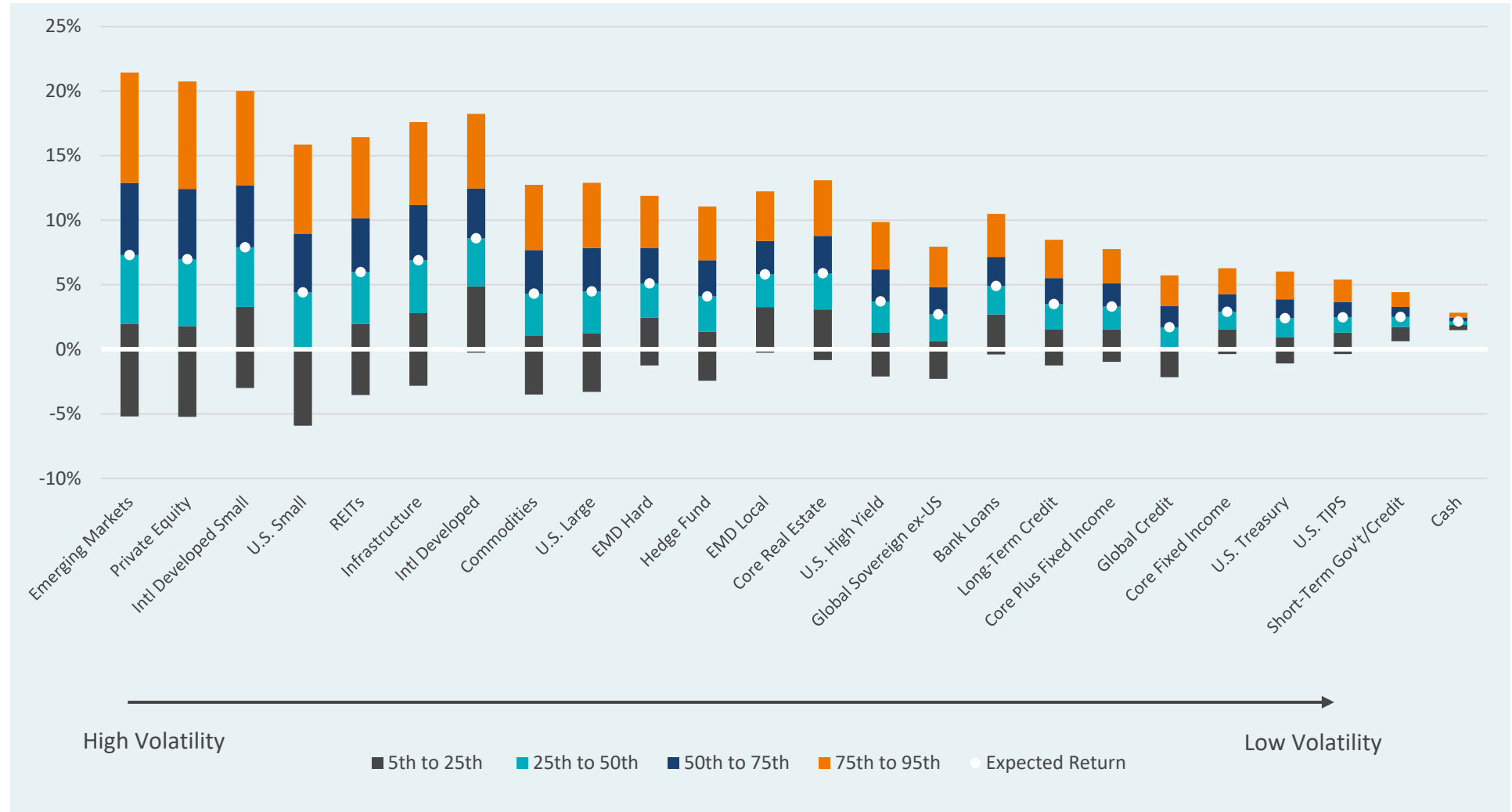
# Correlation assumptions

	Cash	US Large	US Small	Intl Large	Intl Large Hdg	Intl Small	Intl Small Hdg	EM	Global Equity	PE	US TIPS	US Treasury	Global Sovereign ex US	Global Sovereign ex US Hdg	US Core	US Core Plus	ST Govt/Credit	Short-Term Credit	Long-Term Credit	US HY	Bank Loans	Global Credit	Global Credit Hdg	EMD USD	EMD Local	Commodities	Hedge Funds	Real Estate	REITs	Infrastructure	Risk Parity	Currency Beta	Inflation
Cash	1.0																																
US Large	-0.3	1.0																															
US Small	-0.2	0.9	1.0																														
Intl Large	-0.3	0.9	0.8	1.0																													
Intl Large Hdg	-0.4	0.9	0.8	0.9	1.0																												
Intl Small	-0.3	0.9	0.8	1.0	0.9	1.0																											
Intl Small Hdg	-0.4	0.8	0.8	0.9	1.0	0.9	1.0																										
EM	-0.3	0.8	0.7	0.9	0.8	0.9	0.8	1.0																									
Global Equity	-0.3	1.0	0.9	1.0	0.9	0.9	0.9	0.9	1.0																								
PE	-0.2	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.7	1.0																							
US TIPS	0.0	0.2	0.1	0.3	0.1	0.3	0.2	0.4	0.3	0.1	1.0																						
US Treasury	0.1	-0.3	-0.3	-0.2	-0.3	-0.2	-0.3	-0.2	-0.2	-0.2	0.6	1.0																					
Global Sovereign ex US	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	0.4	0.0	0.6	0.5	1.0																				
Global Sovereign ex US Hdg	0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.2	-0.1	0.4	0.8	0.4	1.0																			
US Core	0.0	0.0	-0.1	0.2	0.0	0.2	0.0	0.2	0.1	-0.1	0.8	0.9	0.6	0.7	1.0																		
US Core Plus	-0.2	0.4	0.3	0.5	0.4	0.5	0.4	0.5	0.5	0.1	0.7	0.5	0.5	0.4	0.8	1.0																	
ST Govt/Credit	0.3	-0.1	-0.1	0.1	-0.1	0.1	-0.1	0.1	0.0	-0.1	0.6	0.6	0.6	0.5	0.7	0.6	1.0																
Short-Term Credit	-0.1	0.3	0.3	0.5	0.4	0.5	0.4	0.5	0.4	0.1	0.6	0.2	0.4	0.2	0.5	0.8	0.7	1.0															
Long-Term Credit	-0.2	0.3	0.2	0.4	0.3	0.4	0.4	0.4	0.4	0.0	0.6	0.5	0.5	0.5	0.8	1.0	0.5	0.6	1.0														
US HY	-0.3	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.4	0.5	-0.2	0.3	-0.2	0.2	0.6	0.2	0.6	0.5	1.0													
Bank Loans	-0.4	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.4	0.3	-0.4	0.0	-0.3	0.0	0.4	-0.1	0.5	0.3	0.9	1.0												
Global Credit	-0.2	0.6	0.5	0.8	0.6	0.8	0.6	0.8	0.7	0.2	0.7	0.2	0.7	0.2	0.6	0.8	0.5	0.7	0.8	0.8	0.5	1.0											
Global Credit Hdg	-0.2	0.5	0.4	0.6	0.6	0.6	0.6	0.7	0.6	0.2	0.7	0.3	0.5	0.4	0.7	1.0	0.5	0.8	0.9	0.8	0.6	0.9	1.0										
EMD USD	-0.2	0.6	0.5	0.7	0.6	0.7	0.6	0.7	0.7	0.3	0.7	0.3	0.5	0.2	0.6	0.8	0.4	0.7	0.7	0.8	0.6	0.9	0.9	1.0									
EMD Local	0.0	0.6	0.6	0.7	0.6	0.7	0.6	0.8	0.7	0.3	0.6	0.2	0.7	0.1	0.5	0.6	0.4	0.5	0.6	0.7	0.4	0.8	0.7	0.8	1.0								
Commodities	-0.1	0.5	0.4	0.6	0.4	0.6	0.4	0.7	0.6	0.3	0.4	-0.2	0.4	-0.3	0.1	0.3	0.2	0.4	0.2	0.5	0.5	0.6	0.4	0.5	0.6	1.0							
Hedge Funds	-0.4	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.5	0.3	-0.3	0.1	-0.2	0.0	0.4	-0.1	0.5	0.3	0.7	0.7	0.6	0.5	0.5	0.6	1.0							
Real Estate	-0.1	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.1	-0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.4	1.0					
REITs	-0.1	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.6	0.7	0.4	0.3	0.0	0.4	0.1	0.3	0.5	0.1	0.3	0.4	0.7	0.5	0.6	0.6	0.6	0.6	0.3	0.4	0.6	1.0			
Infrastructure	-0.3	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.2	0.4	-0.1	0.5	-0.1	0.2	0.5	0.1	0.5	0.5	0.7	0.5	0.8	0.7	0.7	0.7	0.6	0.6	0.1	0.6	1.0			
Risk Parity	-0.1	0.5	0.4	0.6	0.4	0.6	0.5	0.6	0.6	0.3	0.7	0.3	0.6	0.3	0.6	0.7	0.5	0.6	0.6	0.6	0.3	0.8	0.7	0.7	0.7	0.6	0.5	-0.1	0.5	0.7	1.0		
Currency Beta	-0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.2	-0.2	-0.2	-0.1	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	1.0	
Inflation	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	-0.3	0.0	-0.3	-0.2	-0.1	-0.2	0.0	-0.2	0.3	0.4	0.1	0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	-0.1	1.0

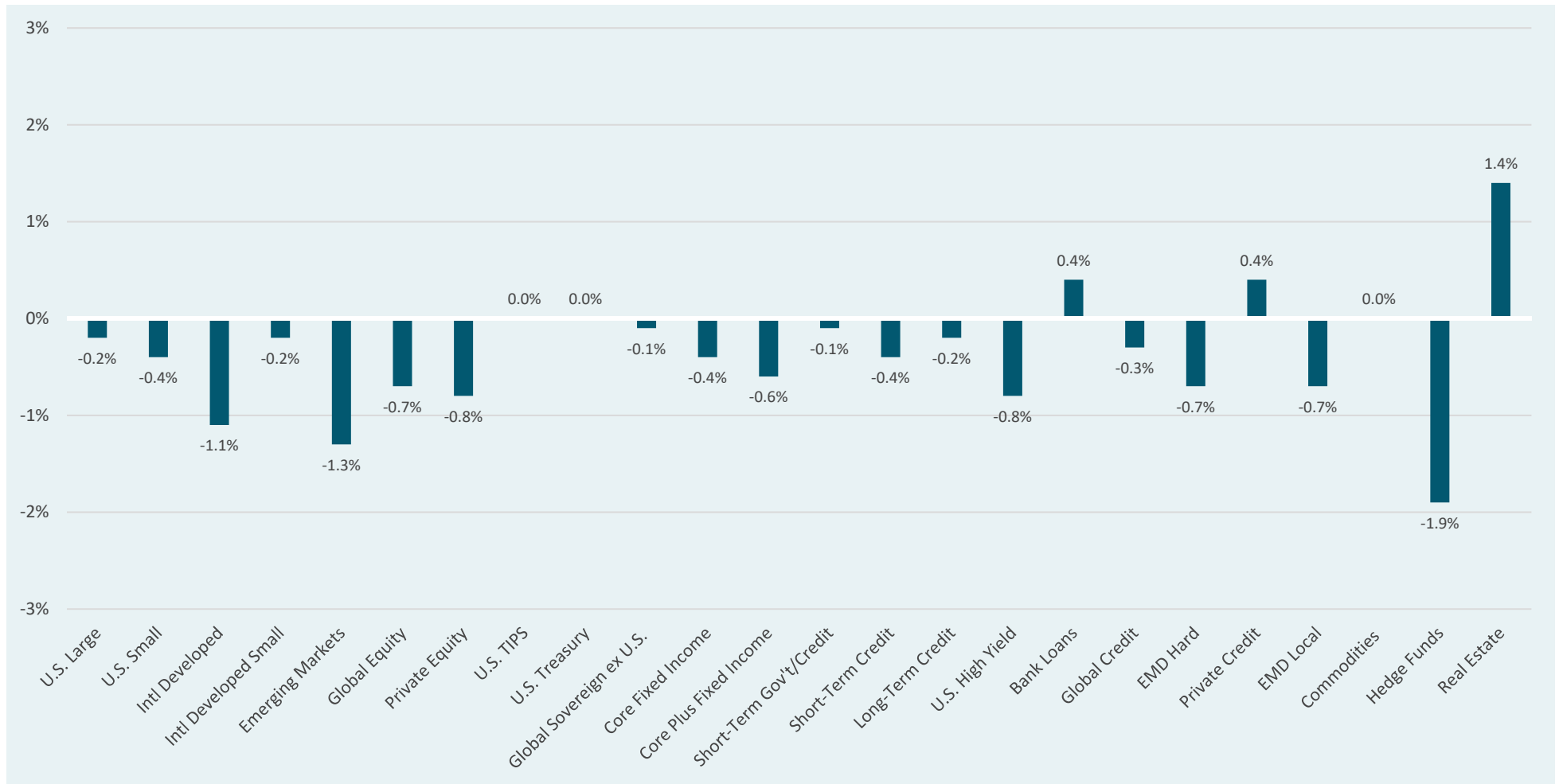
Note: Correlation assumptions are based on the last ten years. Private Equity and Real Estate correlations are especially difficult to model – we have therefore used BarraOne correlation data to strengthen these correlation estimates.

# Range of likely 10 year outcomes

10 YEAR RETURN 90% CONFIDENCE INTERVAL



# 2018 vs. 2017 return forecast



# Relevant forecast changes

- Risk premia contracted during 2017, especially in international equities and domestic credit, which resulted in lower return forecasts. High valuations across risk assets and low interest rates have resulted in lower expected returns for almost all asset classes.
- Price appreciation in international developed large cap equities helped normalize valuations, particularly the Shiller P/E ratio. Over the past year, the Shiller P/E ratio rose from 14.5 to 18.6, which placed it in the 36th percentile relative to history. Due to higher P/E ratios, the valuation adjustment to expected return fell from +0.5% to 0.0%.
- Higher valuations in emerging market equities caused expected returns to fall by -0.5%. The Shiller P/E ratio rose from 8.7 to 11.9 and the 12-month trailing P/E ratio rose from 15.4 to 15.9.
- U.S. interest rates were unchanged over the period, but spreads tightened further in both investment grade and high yield credit. Core fixed income spreads fell from 92 bps to 61 bps, and high yield spreads dropped from 437 bps to 356 bps. Tighter spreads in U.S. credit resulted in lower expected returns for almost all fixed income asset classes.
- Bank loans were an exception as a rise in LIBOR offset tighter spreads. The three-month LIBOR reference rate increased from 1.0% to 1.7%, while spreads contracted from 387 bps to 357 bps.
- Expected returns also declined for hard and local currency emerging market debt. In hard currency-denominated debt, spreads to U.S. Treasury yields dropped from 360 bps to 290 bps, while yields of local-denominated debt fell from 6.8% to 6.1%.

*All data cited above is as of 12/31/17*



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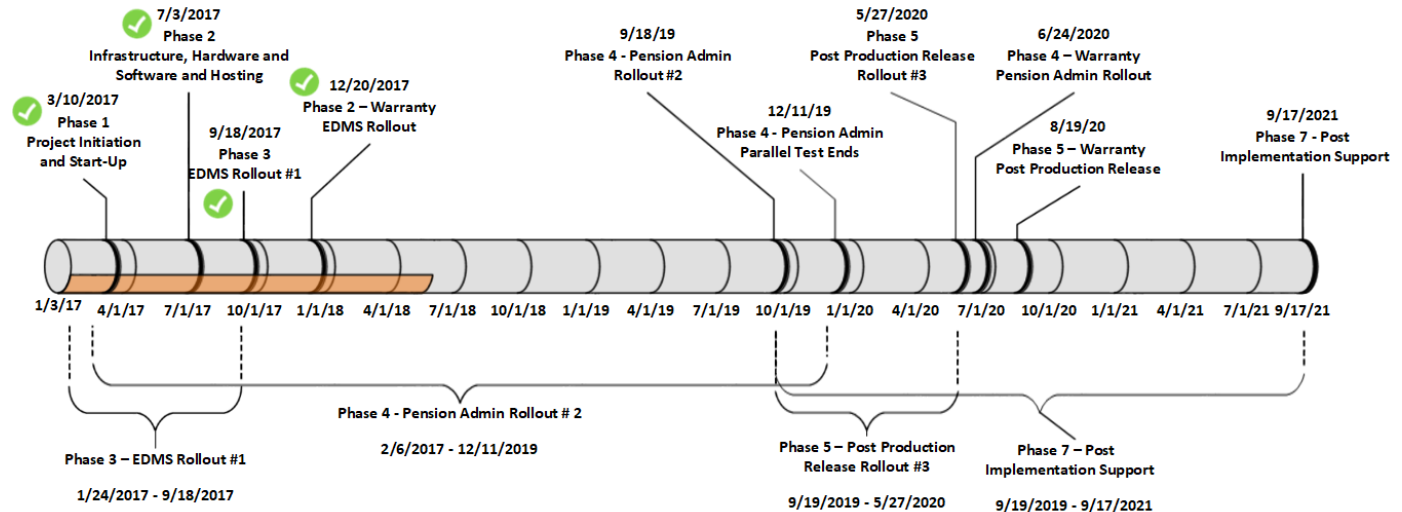


# PAS IMPLEMENTATION LINEA BI-WEEKLY STATUS UPDATE



**SPONSOR:** Rick Santos

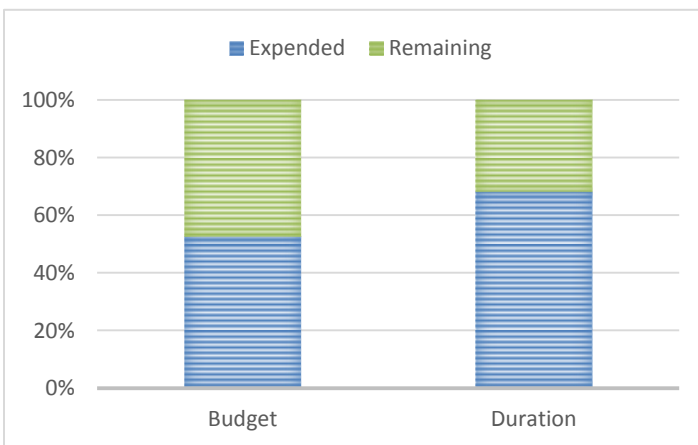
**REPORT DATE:** 05-18-2018



**Baseline 12/01/2016**

**STATUS**

**Risks & Issues:**



Linea Budget as of 04/30/18

No high-level risks have been identified at this time.

**Accomplishments:**

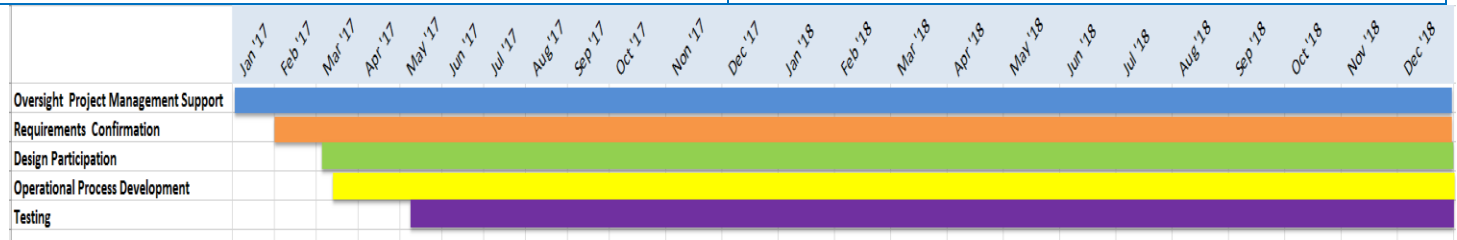
**Upcoming:**

- Participated in a meeting with County, StanCERA, and Tegrit personnel to further discuss specifics of the upload file specification and leave statuses.
- Continued work on Employer Reporting UAT, including providing support to testers, summarizing results, and evaluating results with testers to define bugs and changes to be submitted to Tegrit.
- Invited employer personnel to Slack collaboration tool and began communications regarding their upload file development following release of the final file specification document.

- Complete review of Employer Reporting BSRDs with SMEs and move toward StanCERA deliverable acceptance on these documents.
- Continue to support StanCERA's efforts in Employer Reporting UAT, including tracking and reporting results.
- Continue to administer Slack collaboration tool and monitor and coordinate communications to facilitate resolution of issues in transmittal file development.

## Ongoing Project Contributions

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>➤ Facilitate weekly Project Manager's meetings and create meeting minutes.</li> <li>➤ Facilitate monthly Steering Committee Meetings and create meeting minutes.</li> <li>➤ Participate in Tegrit work sessions, review meeting minutes, and compile resulting decision logs and action items (Calculators).</li> <li>➤ Regularly review action items for follow up and completion.</li> </ul> | <ul style="list-style-type: none"> <li>➤ Review and hold group review sessions for BSRD deliverables made by Tegrit (BSR020).</li> <li>➤ Track requirements, as discussed in work sessions and BSRDs, using the RTM and meet with StanCERA PM to update requirements confirmation.</li> <li>➤ Manage and participate in system testing efforts, including review of test scripts, compiling of results, input of PIRs, and tracking of issue resolution.</li> </ul> |
|---|---|





# Stanislaus County Employees' Retirement Association

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**May 22, 2018**

Retirement Board Agenda Item

TO: Retirement Board

FROM: Natalie Elliott, Fiscal Services Manager

- I. SUBJECT: Fiscal Year 2018-2019 Proposed Administrative Budget
- II. ITEM NUMBER: 8.c
- III. ITEM TYPE: Discussion and Action
- IV. STAFF RECOMMENDATION: Approve the Recommended Proposed Administrative Budget for Fiscal Year 2018-2019
- V. EXECUTIVE SUMMARY: Each year staff prepares a budget of general operating expenses for review and approval by the Board of Retirement (Board). Typically, there are few unexpected expenses and one budget presented and approved has been sufficient.

In preparation of the proposed budget, staff compares the current year budget with the current year expenditures. Those numbers, as well as the proposed budget request for Fiscal Year 2018-2019 are reflected in the summary below. In Fiscal Year 2017-2018 the total estimated expenditures of \$4,663,937 fall below the final budget approved by the Board. Projected legal fees, County support services, as well as salary savings and capital expenditures can be attributed with the bulk of the savings. A total of \$6,605,016 is being requested for Fiscal Year 2018-2019.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION					
PROPOSED FISCAL YEAR 2018-2019 ADMINISTRATIVE BUDGET					
DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
Salaries & Benefits	2,135,348	1,642,708	2,009,224	125,856	2,135,080
Technology	173,000	252,789	300,000		300,000
Legal Counsel & Services	868,350	401,862	577,250		577,250
County Support Services	194,655	124,368	200,700		200,700
Communication & Printing	74,000	68,323	74,000		74,000
General Operations	92,007	35,339	60,453		60,453
Fiduciary Education & Travel	186,250	155,239	179,476		179,476
<b>ADMINISTRATIVE BUDGET</b>	<b>3,723,610</b>	<b>2,680,628</b>	<b>3,401,103</b>	<b>125,856</b>	<b>3,526,959</b>
Capital Expenditures	2,859,154	1,897,069	365,000	2,625,097	2,990,097
Capital Depreciation	185,000	175,830	185,000		185,000
6th Floor Lease Revenue	(89,590)	(89,590)	(97,040)		(97,040)
<b>TOTAL BUDGET</b>	<b>6,678,174</b>	<b>4,663,937</b>	<b>3,854,063</b>	<b>2,750,953</b>	<b>6,605,016</b>
Valuation Year	2016		2017		
Actuarial Accrued Liability	2,537,067,000		2,648,162,000		
Maximum Administrative Budget Allowable (0.21% of Actuarial Accrued Liability)	5,327,841		5,561,140		
Percentage of Maximum	70%		61%		

Government Code section 31580.2 within the 1937 Act allows for expenditures of administrative services (other than software, hardware and computer technology consulting services) to be the greater of 0.21% of the accrued actuarial liability or \$2,000,000. The accrued actuarial liability of StanCERA as of the June 30, 2017 actuarial valuation was \$2,648,162,000 of which 0.21% (\$5,561,140) is available for administrative expenses. We have shown the costs related to the I.T. Coordinator, computer technology software, hardware and consulting services separately in this budget.

VI. ANALYSIS:

**Review of the Current Year's Administrative Budget and Expenditures**

In Fiscal Year 2017-2018 the total estimated expenditures of \$4,663,937 will fall below the budget approved by the Board. Legal fees, in particular were much lower (\$466,488) than anticipated, due to the completion of one lawsuit and little or no movement in either of the remaining two. StanCERA filled one new position mid year which was approved by the Board however two employees left at the end of fiscal year 2016-2017. StanCERA is in the process of filling these positions. The pension administration system and the I.T. project management and oversite expenditures also contributed to estimated costs being under the approved budgeted costs.

**Fiscal Year 2018-2019 Proposed Operating Budget Request**

A total of \$6,605,016 is requested for all expenses in Fiscal Year 2018-2019 including the \$2,750,953 related to the I.T. Coordinator and computer technology. **Attachment I** The cost for several projects either approved in concept or directly by the Board are included in this proposed budget. These include the pension software system; project management costs, Website redesign and implementation, as well as several construction projects. The 6<sup>th</sup> Floor lease revenue continues to offset 6<sup>th</sup> floor expenses.

**Salaries & Benefits**

Total estimated budget for **Salaries and Benefits** is \$2,135,080. Salaries include thirteen full-time staff, contract wages for temporary staff used for back fill on projects; and three part-time extra help staff who continue to work on a variety of projects 20 hours per week. Benefits include employer retirement contributions, medical, dental and vision care, workers comp and other negotiated and required taxes and fees.

Retirement and health care costs continue to rise. Health care is particularly dependent upon individual staff selections. If a staff member selects to use County health care coverage for a family of three or more, the budgeted amount is \$25,441 per year. Since staff does have some flexibility, the overall cost to the department can vary throughout the year.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>Salaries &amp; Benefits</b>					-
Salaries	1,355,087	1,056,508	1,309,689	-	1,309,689
Employee Benefits	673,534	497,000	699,535	-	699,535
I.T. Specialist - Salary & Benefits	106,727	89,200	-	125,856	125,856
<b>TOTALS</b>	<b>2,135,348</b>	<b>1,642,708</b>	<b>2,009,224</b>	<b>125,856</b>	<b>2,135,080</b>

## **Technology**

The technology budget includes contractual costs for annual maintenance of \$50,000, and disaster recovery of \$15,000 with **Tyler Technologies** for our current pension system. The Tyler maintenance contract is based on a percentage of the original implementation cost and has been extended to allow time for implementation of the new system. The technology budget also includes cloud hosting fees of \$78,000 for the electronic document system which went live in September 2017, and I.T. consulting services of \$60,000 to help with data cleanup for implementation of the new system.

The **StanCERA Website** budget of \$2,500 is based on a bare bones structure and allows room for required upgrades. As part of the overall Information Technology project the website will be redesigned.

The **Software Licenses and Fees** budget of \$15,000 reflect costs associated with the various software used in the day to day operations as well as any additional needs of the project implementation.

In order to keep **Computers and Equipment** somewhat current, \$20,000 is budgeted each year for the replacement and repair.

The **Copier Lease and Maintenance** of \$12,000 includes leases, maintenance, and supplies for copiers, printers, scanners, etc. StanCERA processes letterhead, specialized forms, member statements and retiree payroll notices on site.

StanCERA contracts with the County for network access, email, server maintenance, security and phones. The Strategic Business Technology (**SBT**) budgeted amount, \$47,500, is provided by the County Information Technology department for these services. The amount provided for Fiscal Year 2018-2019 is within a reasonable range of costs at this time.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>Technology</b>					-
Tyler Software Maintenance	53,000	42,295	50,000	-	50,000
Tyler Disaster Maintenance	15,000	12,440	15,000	-	15,000
Tegrit Hosting Fees	-	78,000	78,000	-	78,000
I.T. Consulting Services	-	52,945	60,000	-	60,000
Software Licenses & Fees	25,000	160	15,000	-	15,000
StanCERA Website	2,500	415	2,500	-	2,500
SBT - Data Processing	33,000	32,314	40,000	-	40,000
SBT - Telecommunications	7,500	6,112	7,500	-	7,500
Computers & Office Equipment	20,000	18,274	20,000	-	20,000
Copier Lease & Maintenance	17,000	9,834	12,000	-	12,000
<b>TOTALS</b>	<b>173,000</b>	<b>252,789</b>	<b>300,000</b>	<b>-</b>	<b>300,000</b>

### **Legal & Professional Services**

StanCERA contracts with multiple specialized firms for legal counsel. Only one firm is on retainer with a requested budget of \$60,000. The General Counsel budget may include expenses from multiple law firms depending on the subject matter. The estimated cost for **Legal Counsel** also includes \$150,000 for Disability Counsel, \$200,000 to continue to respond to the O'Neal vs StanCERA appeal, \$60,000 for General Legal Counsel based on current year expenditure levels, \$50,000 for the StanCERA vs Buck lawsuit, and \$20,000 for Domestic Relations Orders. The General Counsel budget may include expenses from multiple law firms depending on the subject matter.

StanCERA currently has agreements with the following law firms:

Reed Smith	Fiduciary & Information Technology
Hanson Bridgett	Tax & Investment
Rein & Rein	Real Estate
Damrell Nelson, et.al.	General & Domestic Relations Orders
Ted Cabrall	Disability

**Medical Exams, Reviews, and Hearing** costs related to the processing of disability retirement applications (medical exams, hearing costs, etc.) are budgeted at \$50,000 for the year. Fortunately, none of the cases reviewed during the previous year became so complicated to require the use of these funds.

**Auditing Services** are budgeted at \$47,250. Brown Armstrong has been retained for another three years to perform the annual financial audit for StanCERA.

Often during any fiscal year, legislation changes or a Board request will produce a need for professional services not provided by staff. The budgeted amount for **Other Professional Services** of \$30,000 is set aside to cover the cost of professional service providers not associated with investments.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>Legal &amp; Professional Services</b>					-
Legal Counsel - Disability	195,000	96,364	150,000	-	150,000
Legal Counsel - O'Neal vs StanCERA	300,000	186,021	200,000	-	200,000
Legal Counsel - General	85,000	42,052	60,000	-	60,000
Legal Counsel - DRO's	25,000	10,591	20,000	-	20,000
Legal Counsel - I.T.	50,000	-	-	-	-
Legal Counsel - StanCERA vs Buck	100,000	11,001	50,000	-	50,000
Medical Exams, Reviews, Hearings	37,000	7,500	20,000	-	20,000
Auditing Services	46,350	41,374	47,250	-	47,250
Other Professional Services	30,000	6,959	30,000	-	30,000
<b>TOTALS</b>	<b>868,350</b>	<b>401,862</b>	<b>577,250</b>	<b>-</b>	<b>577,250</b>



### **General Operations**

**Office Supplies** are budgeted at \$15,000. This includes a variety of supplies, ranging from paper to calculators. The transition of paper to electronic files has decreased the office supply expenditures.

The **Other Office Expense** budgeted at \$10,000 for Fiscal Year 2018-2019 includes document storage expenses as well as other items needed for securing critically important historical documents, confidential shredding, alarm services, and other ongoing services that are periodically used to complete special projects. This budget is also set aside to accommodate unexpected ergonomic needs, safety expenses, furniture needs, etc.

The **6<sup>th</sup> Floor** budget of \$35,453 includes the costs of regular janitorial services provided by an outside provider, the additional cost for cleaning and/or replacing flooring, window cleaning, some painting, as well as any cost due to the lease of the vacant space. This budget item will be offset by the estimated lease revenue.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>General Operations</b>					-
Office Supplies	30,000	7,280	15,000	-	15,000
Other Office Expense	15,000	4,835	10,000	-	10,000
6th Floor Maintenance	1,500	-	1,500	-	1,500
6th Floor Janitorial & Supplies	23,907	21,289	22,353	-	22,353
6th Floor Security	20,000	717	10,000	-	10,000
6th Floor Downtown Redevelopment	1,600	1,218	1,600	-	1,600
<b>TOTALS</b>	<b>92,007</b>	<b>35,339</b>	<b>60,453</b>	<b>-</b>	<b>60,453</b>

### **Communication & Printing**

We have budgeted for **Communications and Printing** a total of \$74,000 which includes the Comprehensive Annual Financial Report, Popular Annual Financial Report, semi-annual member statements, two elections, and printing and distribution of StanCERA's newsletter via U.S. Postal services to active members (employees). In addition, the printing of retiree payroll and the associated postage has now been included in this category, the bulk of which is retiree payroll. It's important to note that StanCERA does not pre-order letter head, specialized forms, member statements or retiree payroll notices. These items are printed in-house as needed.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>Communication &amp; Printing</b>					-
Member Statements, Trustee Election	34,000	34,023	34,000	-	34,000
Postage	40,000	34,300	40,000	-	40,000
<b>TOTALS</b>	<b>74,000</b>	<b>68,323</b>	<b>74,000</b>	<b>-</b>	<b>74,000</b>



### **County Support Services**

The Stanislaus County, General Services Agency (GSA) is responsible for acquiring goods and services, negotiating contracts, leasing property and equipment, providing consultation on procurement needs and contract facilitation to County departments, in addition to the sale and/or disposal of surplus County property, mailroom messenger, and salvage services. As an Internal Service Fund, the costs of these services are based on the level of service provided.

The budget for StanCERA's portion of the Building is \$131,200. This includes common area expenses for janitorial, maintenance, utilities and security. StanCERA is working with the District Attorney's Office to upgrade the 10 year old security equipment and systems for the whole building as well as improve security in the lobby.

GSA estimates StanCERA's **Central Services and Mail Room** cost to be \$8,000 for Fiscal Year 2018-2019. Postage is categorized separately.

Also provided by the County is general and auto liability insurance, administrative functions by CEO/Personnel, Auditor, Purchasing, Risk Management, and a true-up process for capital expenses from the previous year. The true-up amount can fluctuate considerably from positive to negative each year. The total for these services are budgeted at \$61,500.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>County Support Services</b>					-
Building Maintenance	45,000	27,988	45,000	-	45,000
Building Janitorial	1,155	947	1,200	-	1,200
Building Security	45,000	13,427	45,000	-	45,000
Building Utilities	40,000	30,198	40,000	-	40,000
Auditor	10,000	17,345	18,000	-	18,000
CEO/Personnel	10,000	13,296	15,000	-	15,000
Central Services Mail Room	12,300	785	8,000	-	8,000
Purchasing	7,000	487	5,000	-	5,000
Risk Management	3,700	2,102	3,000	-	3,000
Salvage & Disposal	2,500	452	2,500	-	2,500
Insurance (General Liability & Auto)	18,000	17,341	18,000	-	18,000
<b>TOTALS</b>	<b>194,655</b>	<b>124,368</b>	<b>200,700</b>	<b>-</b>	<b>200,700</b>

### **Fiduciary Education & Travel**

Staff, trustees and service providers to StanCERA have a fiduciary responsibility to the fund. As such, it is imperative that continuous education be provided. The Board of Retirement consists of nine members and one alternate. Continuing education for Board of Retirement Trustees is required by law. \$43,000 has been set aside to accommodate **Trustee Fiduciary Education**.

With StanCERA's needs for education in investment, tax, actuarial and the benefits arenas, maintaining this budget allows for Board Trustees and staff to receive appropriate training and is in line with the Retirement Board's Strategic Plan goal to keep current and up to date. \$28,000 is set aside for **Staff Education** and associated travel expenses.

The \$76,976 budgeted for **Insurance** includes the estimated cost of Automobile Liability, General Liability and Fiduciary insurances in Fiscal Year 2018-2019. The Fiduciary Insurance annual coverage cost is expected to increase. It will be based on the 6/30/2017 fund balance and past experience. In addition staff is reviewing other vulnerabilities to the system that might be well served by further coverage.

**Professional Publications and Memberships** are important to the continuing education of staff and trustees. The Wall Street Journal (WSJ) and other subscriptions provide key information to fiduciaries as well as memberships in specific associations. A budgeted amount of \$17,000 is in line with this fiscal year's estimated expenditures with a small increase for additional publications for the Investment Officer. Publications from and memberships in specific organizations continues to provide high quality education and access to pension and investment information to Board Trustees and staff.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>Fiduciary Education &amp; Travel</b>					-
Professional Subscriptions	6,000	3,900	6,000	-	6,000
Professional Memberships	11,000	8,130	11,000	-	11,000
Staff Education & Travel	33,000	22,328	28,000	-	28,000
Trustee Education & Travel	43,000	38,871	43,000	-	43,000
Trustee Meeting Allowance	14,500	8,700	14,500	-	14,500
Insurance (Fiduciary & Auto)	78,750	73,310	76,976	-	76,976
<b>TOTALS</b>	<b>186,250</b>	<b>155,239</b>	<b>179,476</b>	<b>-</b>	<b>179,476</b>

### **Capital Expenditures**

The budgeted **Depreciation** of \$185,000 includes the Tyler computer software, 12th Street offices, tenant improvements, furniture, phone systems, audio system, and security monitoring systems. The new pension administration system will not start depreciating until we go live with it in the fall of 2019.

The bulk of the current **Capital Expenditures** budget request of \$2,990,097 is attributed to the pension software system. \$300,000 of this budget request is for the new Board Room Tenant Improvements which were approved by the Board at the April 24, 2018 Retirement Board meeting. \$50,000 has been carried over from the prior year to update and redesign StanCERA's website.

DESCRIPTION	Approved FY 17/18 Budget including I.T.	FY 17/18 Estimated Expenditures	Fiscal Year 2018-2019 Requested Budget	CODE SECTION 31580.2(2)(b) Technology	Fiscal Year 2018-2019 Total Budget Request
<b>Capital Expenditures</b>					-
Pension Administration System	2,169,154	1,332,070	-	1,965,097	1,965,097
I.T. Project Management & Oversight	610,000	499,235	-	610,000	610,000
Project Room, Equipment Furniture	15,000	-	-	-	-
Audio Visual Equipment	15,000	-	15,000	-	15,000
Office Equipment	-	5,554	-	-	-
6th Floor Lobby Upgrade	-	-	TBD	-	0.00
12th St Lobby Upgrade	-	-	50,000	-	50,000
Security & Camera System	-	37,710	-	-	-
Design and Build of Board Room	-	22,500	-	-	-
Board Room Tenant Improvements	-	-	300,000	-	300,000
Website Redesign	50,000	-	-	50,000	50,000
<b>TOTALS</b>	<b>2,859,154</b>	<b>1,897,069</b>	<b>365,000</b>	<b>2,625,097</b>	<b>2,990,097</b>
Capital Depreciation	185,000	175,830	185,000		185,000

### **Non- Administrative Expenses**

Section 31596.1 of the CERL states: the following expenses shall not be considered a cost of administration to the retirement system, but shall be considered as a reduction in earnings from those investments or a charge against the assets of the retirement system as determined by the Board. These expenses are reported in the Audited financial statements presented to the Board of Retirement in the Comprehensive Annual Financial Report.

- Actuarial Fees
- Investment Consultant Fees
- Attorney Fees –directly related to an investment
- Investment Manager Fees
- Custodial Bank Fees.

VII. RISK: Government Code section 31580.2 allows for expenditures for administrative services (other than software, hardware and computer technology consulting services) to be the greater of 0.21% of the accrued actuarial liability or \$2,000,000. In Fiscal Year 2018-2019, we continue to exercise prudence in budgeting administrative expenses and are submitting a budget which is only 0.13% of the accrued actuarial liability and well below the allotted legal amount.

VIII. STRATEGIC PLAN: Strategic Objective IV: Refine StanCERA's business and policy practices in ways that enhance stakeholder awareness, the delivery of member services and the ability of the Organization to administer the System effectively and efficiently.

IX. ADMINISTRATIVE BUDGET IMPACT: A total of \$6,605,016 is requested for all operating expenses in Fiscal Year 2018-2019 including the \$2,750,953 related to the pension software and other technology related projects. Overall, the proposed budget for Fiscal Year 2018-2019 is flat with only a nominal decrease of \$73,158 from the prior fiscal year.

  
Natalie Elliott, Fiscal Services Manager

  
Rick Santos, Executive Director

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION FISCAL YEAR 2017-2018 PROPOSED BUDGET					
	Fiscal Year 2017-2018 Final Budget	Fiscal Year 2017-2018 Estimated Expenditures	Fiscal Year 2018-2019 Admin Services	Technology Adjustment \$31580.2(b)	Fiscal Year 2018-2019 Budget Request
<b>SALARIES &amp; BENEFITS</b>					
Salary and Wages	1,305,087	1,021,233	1,269,689		1,269,689
Contract Wages	50,000	35,275			-
Project Help Wages			40,000		
Information Technology Wages & Benefits	106,727	89,200		125,856	125,856
Employee Benefits	673,534	497,000	699,535		699,535
Salaries & Benefits	2,135,348	1,642,708	2,009,224	125,856	2,135,080
<b>TECHNOLOGY</b>					
Tyler Software Maint	53,000	42,295	50,000		50,000
Tyler Disaster Maint	15,000	12,440	15,000		15,000
Tegrit Hosting Fees		78,000	78,000		78,000
I.T. Consulting Services	-	52,945	60,000		60,000
Software Licenses & Fees	25,000	160	15,000		15,000
StanCERA Website	2,500	415	2,500		2,500
SBT - Data Processing Services	33,000	32,314	40,000		40,000
SBT - Telecommunications	7,500	6,112	7,500		7,500
Computers & Office Equipment	20,000	18,274	20,000		20,000
Copier Lease & Maint	17,000	9,834	12,000		12,000
Technology	173,000	252,789	300,000		300,000
<b>Legal &amp; Professional Services</b>					
Legal Counsel - Disability	195,000	96,364	150,000		150,000
Legal Counsel - O'Neal vs StanCERA	300,000	186,021	200,000		200,000
Legal Counsel - General	85,000	42,052	60,000		60,000
Legal Counsel - Domestic Relation Orders	25,000	10,591	20,000		20,000
Legal Counsel - Information Technology	50,000	0	-		-
Legal Counsel - StanCERA vs Buck	100,000	11,001	50,000		50,000
Medical Exams, Reviews, Hearings	37,000	7,500	20,000		20,000
Auditing Services	46,350	41,374	47,250		47,250
Other Professional Services	30,000	6,959	30,000		30,000
Legal & Other Professional & Services	868,350	401,862	577,250		577,250
<b>GENERAL OPERATIONS &amp; CONDOMINIUM</b>					
Office Supplies	30,000	7,280	15,000		15,000
Other Office Expense	15,000	4,835	10,000		10,000
6th Floor Maint	1,500	-	1,500		1,500
6th Floor Janitorial & Supplies	23,907	21,289	22,353		22,353
6th Floor Security	20,000	717	10,000		10,000
6th Floor taxes (Downtown Redevelopment)	1,600	1,218	1,600		1,600
General Operations & Condominium	92,007	35,339	60,453		60,453
<b>COMMUNICATION &amp; PRINTING</b>					
Member Statements, Trustee Elections	34,000	34,023	34,000		34,000
Postage	40,000	34,300	40,000		40,000
Communication & Printing	74,000	68,323	74,000		74,000
<b>COUNTY SUPPORT &amp; BUILDING SERVICES</b>					
Building Maintenance	45,000	27,988	45,000		45,000
Building Janitorial	1,155	947	1,200		1,200
Building Security	45,000	13,427	45,000		45,000
Building Utilities	40,000	30,198	40,000		40,000
Auditor	10,000	17,345	18,000		18,000
CEO/Personnel (true up)	10,000	13,296	15,000		15,000
Central Services, Mail Room, Salvage	12,300	785	8,000		8,000
Purchasing	7,000	487	5,000		5,000
Risk Management	3,700	2,102	3,000		3,000
Salvage & Disposal	2,500	452	2,500		2,500
Insurance (General Liability & Auto)	18,000	17,341	18,000		18,000
County Support Services & Building Services	194,655	124,368	200,700		200,700
<b>FIDUCIARY EDUCATION &amp; TRAVEL</b>					
Professional Publications & Subscriptions	6,000	3,900	6,000		6,000
Staff Education & Travel	33,000	22,328	28,000		28,000
Professional Memberships	11,000	8,130	11,000		11,000
Trustee Education & Travel	43,000	38,871	43,000		43,000
Trustee Meeting Allowance	14,500	8,700	14,500		14,500
Insurance (Fiduciary & Auto)	78,750	73,310	76,976		76,976
Fiduciary Education & Travel	186,250	155,239	179,476		179,476
<b>CAPITAL EXPENDITURES</b>					
Pension Administration System & Back File	2,169,154	1,332,070		1,965,097	1,965,097
I.T. Project Management & Oversight for	610,000	499,235		610,000	610,000
Project Room, Equipment Furniture	15,000	-			-
Audio Visual Equipment	15,000	-	15,000		15,000
Office Equipment	-	5,554			-
6th Floor Lobby Upgrade	-	-	TBD		-
12th St Lobby Upgrade	-	-	50,000		50,000
Security & Camera System	-	37,710			-
Design and Build of Board Room	-	22,500			-
Board Room Tenant Improvements	-	0	300,000		300,000
Website redesign & implementation	50,000	-		50,000	50,000
Capital Expenditures	2,859,154	1,897,069	365,000	2,625,097	2,990,097
Capital Depreciation	185,000	175,830	185,000		185,000
6th Floor Lease Revenue	(89,590)	(89,590)	(97,040)		(97,040)
<b>TOTAL BUDGET</b>	<b>6,678,174</b>	<b>4,663,937</b>	<b>3,854,063</b>	<b>2,750,953</b>	<b>6,605,016</b>