Stanislaus County Employees' Retirement Association
832 12th Street, Ste. 600, Modesto, CA 95354 • PO Box 3150, Modesto, CA 95353 • www.stancera.org • 209-525-6393 • 209-558-4976 Fax

AGENDA

BOARD OF RETIREMENT
832 12th Street Ste. 600, **Wesley W. Hall Board Room**
Modesto, CA 95354

February 27, 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.

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 January 23, 2017 Meeting Minutes View

   b. Monthly Staff Report
      Agenda Item View

   c. 2018 Cost of Living Adjustment
      Agenda Item View
      Attachment 1 View

   d. Fiscal year 2017-2018 Mid-Year Budget Review
      Agenda Item View
      Attachment 1 View

   e. Reed Smith Legal Fee Renewal
      Agenda Item View

5. Consent Items (Cont.)

f. Approval of Service Retirement(s) – **Government Code Sections 31499.14, 31670, 31662.2 & 31810**

1. De Forest, Douglas – Sheriff – Effective 02-03-18 *
2. Garza, Alvaro – HSA – Effective 01-08-18
3. Gonzales, Richardo – BHRS – Effective 02-04-18
4. Hamilton, Linda – Sheriff – Effective 02-09-18
5. King, Deborah – GSA – Effective 01-24-18
6. Magana, Rosa – CSA – Effective 02-03-18
7. Mahan, Liana – CSA – Effective 02-06-18
8. Mercurio, John – Sheriff – Effective 01-27-18 *
9. Mukherjee, Uday – BHRS – Effective 02-05-18
10. Nicholls, Theodore – Sheriff – Effective 02-15-18 *
11. Perez, Maria – HSA – Effective 01-20-18
12. Yesalavich, Rose – T/TC – Effective 02-2-18

** Indicates Safety Personnel*

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

1. Aleman, Rosa – Probation – 01-06-18
2. Bloom, Sarah – Auditor Controller – 10-12-17
3. Buck, Gregory – Sheriff – 09-14-17 *
4. Carrillo, Jared – DA – 01-06-18
5. German, Noemi – HSA – 02-03-18
6. Lawani, Abievhese – HSA – 07-15-17
7. Looney, Victoria – BHRS – Effective 12-09-17
8. McCay, Ryan – Sheriff – Effective 12-30-17
9. Samaniego, Paola – CSA – 01-20-18
10. Stewart, Juleana – HSA – 10-19-18
11. Torres, Jason – DA – Effective 10-07-17
12. Wilson, Michael – BHRS – Effective 01-27-18
13. Varner, Abbagail – Probation – Effective 01-06-18 *

** Indicates Safety Personnel*

6. Investment

a. Real Estate Allocation
Agenda Item View
Attachment 1 View

b. Prudential (PGIM) Real Estate US Debt Strategy
Agenda Item View

7. Verus – Investment Consultant

a. Workplan View

b. January Flash Report View

c. Investment Performance 2017 Quarter 4 Review View

8. Administrative

a. 2017 Actuarial Valuation
Agenda Item View
Attachment 1 View

8. Administrative (Cont.)

   b. Information Technology Solutions (ITS) Project Update View

   c. State Association of County Retirement Systems (SACRS) 2018 Spring Business Meeting
      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

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Agenda

BOARD OF RETIREMENT MINUTES
January 23, 2018

1. Call Meeting to Order

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

2. Roll Call

Trustees Present:	Darin Gharat, Mike Lynch, Sam Sharpe, Jim DeMartini, Donna Riley, 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 Natalie Elliott, Interim Fiscal Services Manager Kellie Gomes, Executive Board Assistant
Others Present:	Fred Silva, General Legal Counsel Ed Hoffman Verus Investment Consultant – By Phone

3. Announcements

Kellie Gomes announced as stated at last meeting the Rotation of Officers: - Pursuant to Bylaws Section 1.5, Trustee Mike Lynch is Chair of the 2018 Board of Retirement and Trustee Jim DeMartini is 2018 Board of Retirement Vice-Chair.

Kellie announced a revised 2017 continuing education record has been handed out today to replace Item 5.f.

4. Public Comment

None

5. Consent Items

a. Approval of the December 19, 2017 Meeting Minutes

b. Monthly Staff Report
Agenda Item

c. Legal/Legislation Update
Agenda Item

d. Executive Director Goals Update Quarter 4 2017
Agenda Item
Attachment 1

e. StanCERA Complaint Log of October 1 – December 1, 2017
Agenda Item

f. StanCERA 2017 Education Log for Trustees

g. Report on Earnings Allocation for Fiscal Year Ended June 30, 2017
Agenda Item
Attachment 1

5. Consent Items (Cont.)

h. Extension of Audit Services Contract with Brown Armstrong Accountancy Corporation
Agenda Item

i. Approval of Service Retirement(s) – **Government Code Sections 31499.14, 31670, 31662.2 & 31810**

1. Barron, Cecelia – CSA – Effective 01-20-18
2. Campbell, Edgar – Sheriff – Effective 01-15-18 *
3. Foutz, Carol – Probation – Effective 01-16-18 *
4. Hubble, Eulalee – BHRS – Effective 01-02-18
5. Johnsen, Brett– Public Works – Effective 01-08-18
6. Lukshin, Paul – BHRS – Effective 12-29-17
7. Moore, Martha – BHRS – Effective 01-15-18
8. Morris, Delbert – HSA – Effective 01-06-18
9. Serrato, Michelle – BHRS – Effective 12-21-17
10. Skiles, Dale – CEO OES – Effective 12-30-17
11. Stinnett, Carol – CSA – Effective 01-05-18
12. Sullivan, Patrick – City of Ceres – Effective 01-19-18 *
13. Vento, Noel – Sheriff – Effective 01-20-18 *

** Indicates Safety Personnel*

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

1. Allen, Amy – BHRS – Effective 10-14-17
2. Logan, Deborah – Superior Court – Effective 12-07-17
3. Mize, Whitney – Probation – Effective 12-09-17 *

** Indicates Safety Personnel*

Motion was made by Trustee Gharat and seconded by Trustee Sharpe to accept the consent items as presented

Motion carried unanimously

6. Executive Director – Investment

NONE

7. Verus – Investment Consultant

a. Workplan

b. December Flash Report

8. Executive Director – Administrative

a. Information Technology Solutions (ITS) Project Update

b. Accept the 2018 Executive Director Goals
Agenda Item
Attachment 1

Motion was made by Trustee Gharat and seconded by Trustee Riley to accept the report as presented

Motion carried unanimously

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)

Trustee Dhillion expressed concerns for the new pension system regarding cyber security in light of the recent cyber-attack at BHRS. Rick Santos, Director assured the board that this has been discussed and we are taking every precaution possible.

Trustee Lynch, Trustee O'Neal and Trustee Biesemeier all reported out regarding the 2018 Opal conference they attended. They expressed that is was a good training opportunity and would encourage others to attend.

11. Adjournment

Meeting adjourned at 1:53 p.m.

Respectfully submitted,

Rick Santos, Executive Director

Approved As To Form:

By: ______________________
Fred Silva, General Legal Counsel

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Agenda

February 27, 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 of December, Member and Employer Services Staff processed 59 new hires (6 Safety and 53 General), 27 terminations, 18 member requests resulting in 59 estimates and 19 member requests resulting in 44 buy back contracts. There were 34 individual counseling sessions.

Management continues to meet with individual staff members and as a group. Job and work process analyses continue as management is looking at more efficient ways of allocating and processing work flow both today and in anticipation of the new pension system. Initial results of this study are anticipated sometime in late March or early April.

Staff continue to perform diligently on the ITS project and are balancing normal workload with the additional demands of project. MESS staff are also gearing up for the preparation of the Annual Pre-Retirement Seminar in July.

b) *Investment Governance and Compliance* – The Investment Officer position was filled by Chris Wisdom who started work at StanCERA in January. Staff has spent time on orientation and on-boarding of the Investment Officer and has begun to allocate investment-related responsibilities more efficiently amongst the team. Staff completed due diligence on the PGIM Real Estate US Debt strategy. Additionally, staff advanced contract negotiations with AQR and we expect to have a signed agreement by February. Finally, staff continues to transition cash in the portfolio in order to meet capital calls.

c) *Fiscal Services* – Employer and employee contributions totaling $11,873,211 were received through 14 different payroll batches in January. 16 contribution refunds and death benefit payouts totaling $189,684 were processed. The retiree payroll for January totaled $9,933,282 and was processed as scheduled.

Staff continues to partner with Member Services in defining the business rules for the new pension software. The File Import Specification document for three sponsors has been completed and provided to the sponsors for their review. A meeting will be held March 13, 2018 with the employers for their feedback regarding the specifications and for StanCERA to provide clarity should the sponsors require some. In the coming months, staff will visit the smaller districts to introduce the new reporting requirements for them.

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

Rick Santos, Executive Director

Natalie Elliott

Natalie Elliott, Interim Fiscal Services Manager

Chris Wisdom, Retirement Investment Officer

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Agenda

February 27, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: 2018 Cost of Living Adjustment

II. ITEM NUMBER: 5.c.

III. ITEM TYPE: Consent

IV. STAFF RECOMMENDATION: Approve Cheiron's recommendation for a 3% Cost of Living Adjustment (COLA) to StanCERA retired member's monthly benefit beginning April 1, 2018.

V. EXECUTIVE SUMMARY: Attachment 1 contains Cheiron's recommendation for a 3% Cost of Living Adjustment beginning April 1, 2018 for all StanCERA retired members and the recalculation of the COLA banks for current retirees.

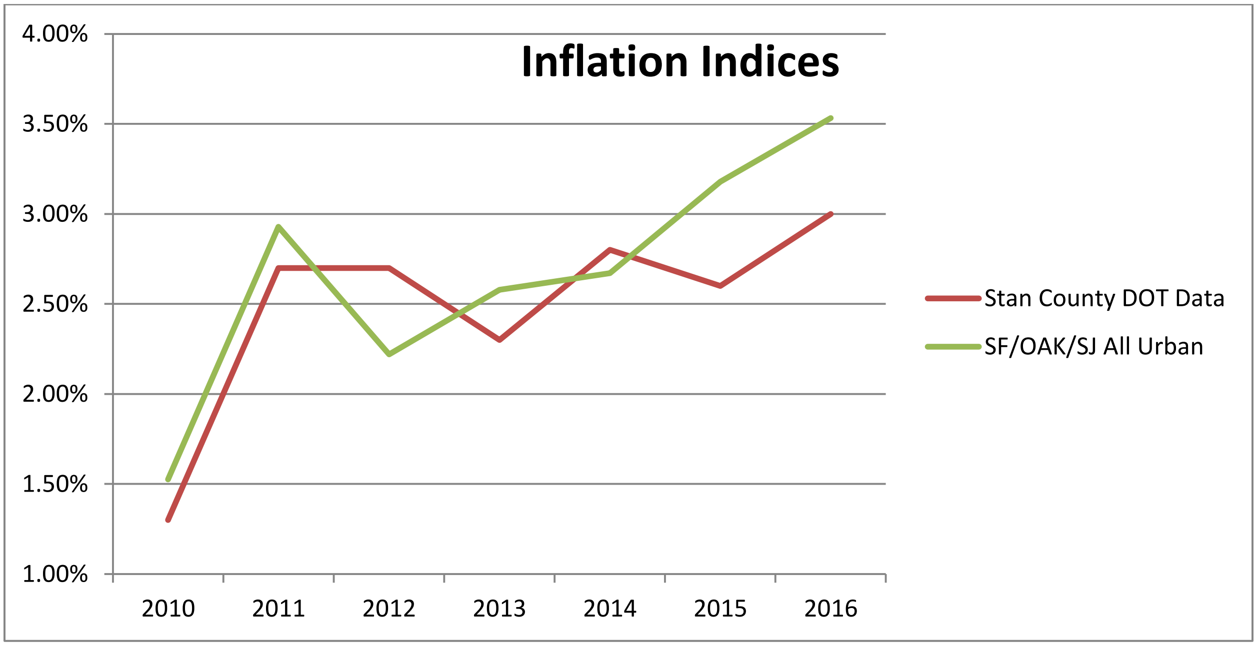
Currently, StanCERA bases its COLA increases on the All Urban Consumer Index for the San Francisco/Oakland/San Jose area. Each year, StanCERA staff examine the predictive power in this particular index and evaluate whether there may be an alternative solution or index that more appropriately accounts for inflation in Stanislaus County. After examining data from different indices published by the Bureau of Labor and Statistics, staff still believes that the San Francisco/Oakland/San Jose Index explains more of the change in inflation for this region than other potential indices. As a result, staff's recommendation is to accept Cheiron's recommendation for a 3% Cost of Living Adjustment to StanCERA retired member's benefit beginning April 1, 2018.

VI. ANALYSIS: As mentioned above, StanCERA bases its COLA increases on the All Urban Consumer Index for the San Francisco/Oakland/San Jose area. Given the differences in many aspects of the economic environment between our region and the San Francisco Bay area, it is natural to infer that inflation differences between the two regions may not be similar. As a result, staff examined 4 specific inflation indices published by the Bureau of Labor and Statistics and compared them to a published (California Department of Transportation) history of inflation for our region. Staff performed a simple linear regression on reported inflation measures for our region with those from the 4 aforementioned indices.

The following is an exhibit that compares the R-Square measure for each regression. R-Square is a measure between 0% and 100% that quantifies how strong the relationship is between two variables (inflation indices in this case). A measure of 0% means that one variable has no predictive power concerning changes in the other variable. On the other hand, a measure of 100% means that there is perfect correlation between the variables (that is, knowing the measure of the change in one variable allows one to accurately predict the change in the other).

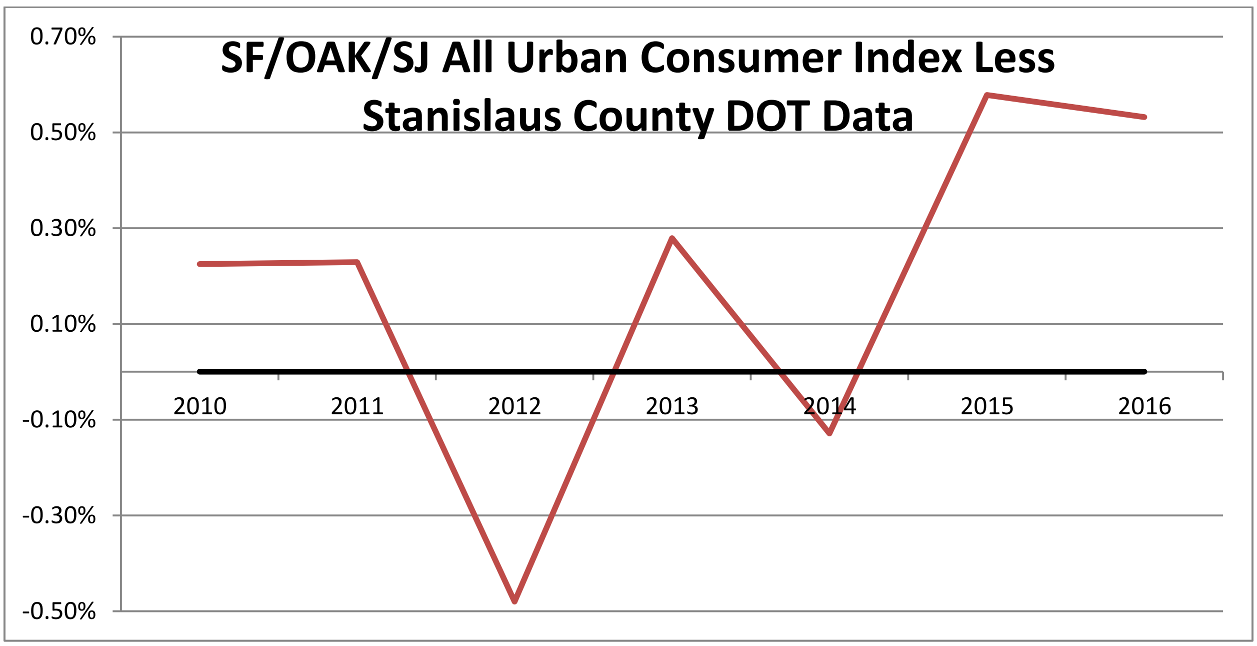
Index	R-Square
San Francisco	68.2%
West Region	28.0%
Los Angeles	25.0%
All Urban Consumer U.S. Cities	3.4%

As the exhibit shows, of the 4 indices that could potentially be used to predict inflation in our region, the San Francisco/Oakland/San Jose index explains changes in inflation for our region better than the others. The following is a chart that displays the actual inflation indices for Stanislaus County (DOT data) and the San Francisco/Oakland/San Jose region over the past 7 years (note that StanCERA inflation awards are capped at 3%):



Other Considerations

While the San Francisco index explains *changes* in inflation for our region better than the others, the *absolute* measure of inflation between the 2 regions could still be considerably different. The following is a chart that displays the *differences* in inflation over time for our region.



As can be seen, most of the differences are positive (5 out of 7), meaning that the San Francisco Index is higher most of the time. However, the sum of all the errors is only 1.23% or 0.17% annually. Given the magnitude of the sum of the errors and the relatively small number of data points, there is not enough evidence of any statistically significant difference in the two measures.

As a result, staff recommends retaining the San Francisco/Oakland/San Jose All Urban Consumer Index as a proxy for inflation in our region at this time. Staff will continue to analyze this issue from time to time and monitor what other systems are doing to address this problem.

VII. RISK: None

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: None

Rick Santos, Executive Director

Chris Wisdom, Retirement Investment Officer

January 25, 2018

2/27/18
Attachment 5. c

Mr. Rick Santos

Executive Director
Stanislaus County Employees' Retirement Association
832 12th Street, Suite 600
Modesto, CA 95354

Re: Cost of Living Adjustment (COLA) as of April 1, 2018

Dear Rick:

Pursuant to the scope of retainer services under Cheiron's agreement to provide actuarial services to the Stanislaus County Employees' Retirement Association (StanCERA), we have computed the Cost of Living Adjustment (COLA) percentages to be used as of April 1, 2018. The calculations outlined herein have been performed in accordance with 31870.1 of the County Employees Retirement Law of 1937.

Background

The cost-of-living-adjustment (COLA) is determined annually based on increases in the December Consumer Price Index (CPI) for All Urban Consumers in the San Francisco-Oakland-San Jose area, using a base period of 1982-1984. The ratio is calculated, and rounded to the nearest one-half percent.

COLA Calculations

The CPIs described above were 277.414 and 269.483 for December 2017 and December 2016 respectively. This represents an increase of 2.943%, which is rounded to 3.00%. As a point of comparison, the U.S. City CPI increased by only 2.11% over the same time period. The difference between the rates of increase in the Bay Area versus the U.S. average CPI was driven by the high rate of housing inflation (referred to as the "Shelter" component by the Bureau of Labor and Statistics) in the Bay Area. The increase in the average Bay Area CPI for all items excluding shelter was only 1.96% during the period.

Retirees – other than members of Tier 3 - are subject to the provisions of Section 31870.1, which limits annual COLA increases to 3.0% annually. Therefore, these members should receive an increase in benefits of 3.0%, based on the current year change in the CPI. The carry-over balances will not change, since the rounded CPI increase is the same as the current year COLA adjustment. The enclosed exhibit summarizes the COLA calculations and carry-over balances for these Tiers. Tier 3 members do not receive an automatic COLA from the Association.

Please contact us if you have any questions regarding these calculations.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, FCA, MAAA, EA	Jonathan B. Chipko, FSA, FCA, MAAA, EA
Consulting Actuary	Consulting Actuary

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

COST OF LIVING ADJUSTMENTS (COLA) - Section 31870.1
As of April 1, 2018

Maximum Annual COLA: 3.0%

Initial Retirement Date			April 1, 2017 Accumulated Carry-Over (A)	Increase in the Annual Average CPI [1] Actual (B)	Rounded (C)	April 1, 2018 **COLA** **(D)**	Accumulated Carry-Over (E)
On or Before 4/1/1970			67.0%	2.94%	3.0%	**3.0%**	67.0%
04/02/1970	to	04/01/1971	64.5%	2.94%	3.0%	**3.0%**	64.5%
04/02/1971	to	04/01/1972	62.5%	2.94%	3.0%	**3.0%**	62.5%
04/02/1972	to	04/01/1973	61.5%	2.94%	3.0%	**3.0%**	61.5%
04/02/1973	to	04/01/1974	61.0%	2.94%	3.0%	**3.0%**	61.0%
04/02/1974	to	04/01/1975	58.0%	2.94%	3.0%	**3.0%**	58.0%
04/02/1975	to	04/01/1976	51.0%	2.94%	3.0%	**3.0%**	51.0%
04/02/1976	to	04/01/1977	44.0%	2.94%	3.0%	**3.0%**	44.0%
04/02/1977	to	04/01/1978	41.5%	2.94%	3.0%	**3.0%**	41.5%
04/02/1978	to	04/01/1979	37.0%	2.94%	3.0%	**3.0%**	37.0%
04/02/1979	to	04/01/1980	30.5%	2.94%	3.0%	**3.0%**	30.5%
04/02/1980	to	04/01/1981	25.0%	2.94%	3.0%	**3.0%**	25.0%
04/02/1981	to	04/01/1982	13.0%	2.94%	3.0%	**3.0%**	13.0%
04/02/1982	to	04/01/1983	3.0%	2.94%	3.0%	**3.0%**	3.0%
04/02/1983	to	04/01/1984	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1984	to	04/01/1985	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1985	to	04/01/1986	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1986	to	04/01/1987	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1987	to	04/01/1988	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1988	to	04/01/1989	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1989	to	04/01/1990	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1990	to	04/01/1991	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1991	to	04/01/1992	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1992	to	04/01/1993	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1993	to	04/01/1994	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1994	to	04/01/1995	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1995	to	04/01/1996	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1996	to	04/01/1997	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1997	to	04/01/1998	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1998	to	04/01/1999	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/1999	to	04/01/2000	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2000	to	04/01/2001	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2001	to	04/01/2002	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2002	to	04/01/2003	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2003	to	04/01/2004	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2004	to	04/01/2005	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2005	to	04/01/2006	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2006	to	04/01/2007	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2007	to	04/01/2008	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2008	to	04/01/2009	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2009	to	04/01/2010	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2010	to	04/01/2011	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2011	to	04/01/2012	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2012	to	04/01/2013	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2013	to	04/01/2014	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2014	to	04/01/2015	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2015	to	04/01/2016	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2016	to	04/01/2017	0.5%	2.94%	3.0%	**3.0%**	0.5%
04/02/2017	to	04/01/2018	0.0%	2.94%	3.0%	**3.0%**	0.0%

[1] All Urban Consumers, San Francisco-Oakland-San Jose Area (1982-84 base). (G.C. 31870.1)

STANCERA

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Agenda

February 27, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Natalie Elliott, Interim Fiscal Services Manager

I. SUBJECT: Fiscal Year 2017-2018 Mid-Year Budget Review

II. ITEM NUMBER: 5.d

III. ITEM TYPE: Consent

IV. STAFF RECOMMENDATION: Accept Mid-Year Administrative Budget Review for Fiscal Year 2017-2018 (Attachment 1)

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 were few unexpected expenses and one budget presentation annually had been sufficient. With the Board's 2014 directive to move forward with updating the information systems, a formal mid-year review was put into place. The Fiscal Year 2017-2018 budget of $6,678,174 was approved on May 23, 2017. The formal mid-year review with Fiscal Year 2017-2018 expenses as of December 31, 2017 is shown below.

STANISLAUS COUNTY EMPLOYEES RETIREMENT ASSOCIATION FISCAL YEAR 2017-2018 Mid-Year Budget Review		
ADMINISTRATIVE EXPENDITURES	Fiscal Year 2017-2018 Final Budget	Fiscal Year 2017-2018 Mid-Year Actual
Salaries & Benefits	2,135,348	710,870
Technology	173,000	101,584
I.T.S. PAS Project	-	39,000
Legal Counsel & Services	868,350	164,610
County Support Services	194,655	56,057
Communication & Printing	74,000	42,618
General Operations	92,007	18,289
Education & Travel	186,250	46,240
Total Administrative Expenses	3,723,610	1,179,268
CAPITAL EXPENDITURES		
Pension Administration System	2,169,154	740,056
I.T.S. Project Management & Oversight	610,000	234,714
Project Room, Equipment, Furniture	15,000	5,554
Audio Visual Equipment	15,000	-
Website Redesign & Implementation	50,000	-
Total Capital Expenditures	2,859,154	980,324
Capital Depreciation	185,000	38,943
6th Floor Lease Revenue	(89,590)	(49,157)
TOTAL BUDGET	6,678,174	2,149,378

VI. ANALYSIS:

StanCERA's budget is within expected ranges for mid-year. Salary and benefits are tracking as expected with three budgeted positions not filled as of December 31, 2017. Expenditures are expected to stay within budget.

The Technology budget includes the maintenance, support, and disaster recovery for the current pension software system as well as County Information Technology (I.T.) services, computers and other I.T. related equipment used by StanCERA staff and is within range of approved funding. Two additional expenditures brought the Technology total higher than expected, however, we expect to stay within the approved budget in total. 1) With the budgeted Software Developer/Analyst III position not filled, the Information Technology Solutions (I.T.S.) Project required the procurement of an Information Technology Consultant. This consultant also provides support for StanCERA's current pension system and those costs are included in the Technology section of the mid-year expenditures. 2) With the I.T.S. Project came the back file conversion to electronic documentation of all the member files. StanCERA's member files are now hosted on the cloud with Tegrit and those costs are reported separately for the mid-year expenditures. These costs were not expected to start until 2019.

StanCERA contracts with several specialized legal service providers which are utilized as needed, (fiduciary, litigation, real estate, information technology, disability administration, tax, domestic relations and general governance). These mid-year expenditures are well within the approved funding.

County Support Services includes building maintenance utilities, security, and mailroom services as well as some administrative services provided by the County, such as purchasing, some insurances, auditor, and personnel. StanCERA is well within budget in these areas.

Communication & Printing are basically funds set aside for postage and trustee elections, mass production of annual reports, member statements, and retiree payroll. StanCERA had two trustee elections and those costs brought the mid-year expenditures a little higher than expected, however, these expenditures are expected to stay within budget.

General Operation funds are used for office supplies, 6th floor building expenses and other professional services such as our financial auditor or other professional consultants.

Fiduciary Education & Travel includes fiduciary insurance, education, and educational travel for trustees, executive, and general staff and is well under budget at this time.

The pension software budget and project consulting services budget approved by the Board are listed as capital expenditures and will be depreciated accordingly.

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 governed by individual agreements and reported in the audited financial statements presented to the Board of Retirement in the Comprehensive Annual Financial Report. The un-audited mid-year expenses are listed below.

Actuarial Fees	$30,764
Investment Consultant Fees	$145,166
Attorney Fees – directly related to an investment	$38,127
Investment Manager Fees	$868,545
Custodial Bank Fees	$172,273

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 2017-2018, we continued to exercise prudence in budgeting administrative expenses and are monitoring expenses to ensure StanCERA stays within allotted appropriations.

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 $6,678,174 was approved for the Fiscal Year 2017-2018 Administrative budget. No additional administrative funds are being requested at this time.

Natalie Elliott

Natalie Elliott, Interim Fiscal Services Manager

Rick Santos, Executive Director

Attachment 1

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION FISCAL YEAR 2017-2018 MID YEAR BUDGET REVIEW			
	Fiscal Year 2017-2018 Final Budget	Fiscal Year 2017-2018 Mid Year Expenditures	Percent of 2017-2018 Budget
SALARIES & BENEFITS			
Salary and Wages	1,305,087	462,535	
Contract Wages	50,000	13,221	
Project Help Wages	0		
Information Technology Wages & Benefits	106,727	0	
Employee Benefits	673,534	235,114	
Salaries & Benefits	2,135,348	710,870	33.29%
TECHNOLOGY			
Tyler Software Maint	53,000	24,880	
Tyler Disaster Maint	15,000	6,220	
Tegrit Hosting Fees	0	39,000	
I.T. Consulting Services (PAS RFP - Procurer	0	33,670	
Software Licenses & Fees	25,000	80	
StanCERA Website	2,500	314	
SBT - Data Processing Services	33,000	16,157	
SBT - Telecommunications	7,500	3,109	
Computers & Office Equipment	20,000	11,374	
Copier Lease & Maint	17,000	5,780	
Technology	173,000	140,584	81.26%
Legal & Professional Services			
Legal Counsel - Disability	195,000	63,403	
Legal Counsel - O'Neal vs StanCERA	300,000	26,488	
Legal Counsel - Nasrawi vs StanCERA	0	1,270	
Legal Counsel - General	85,000	19,565	
Legal Counsel - Domestic Relation Orders	25,000	4,511	
Legal Counsel - Information Technology	50,000	0	
Legal Counsel - StanCERA vs Buck	100,000	0	
Medical Exams, Reviews, Hearings	37,000	3,000	
Auditing Services	46,350	40,374	
Other Professional Services	30,000	5,999	
Legal & Other Professional & Services	868,350	164,610	18.96%
GENERAL OPERATIONS & CONDOMINIUM			
Office Supplies	30,000	4,189	
Other Office Expense	15,000	2,007	
6th Floor Maint	1,500	0	
6th Floor Janitorial & Supplies	23,907	10,686	
6th Floor Security	20,000	189	
6th Floor taxes (Downtown Redevelopment)	1,600	1,218	
Rebalance & Correction of 6th floor HVAC	0	0	
	0		
General Operations & Condominium	92,007	18,289	19.88%
COMMUNICATION & PRINTING			
Annual Reports, Trustee Elections	34,000	14,883	
Mass member communication	0	7,376	
Postage	40,000	20,359	
Communication & Printing	74,000	42,618	57.59%
COUNTY SUPPORT & BUILDING SERVICES			
Building Maintenance	45,000	16,463	
Building Janitorial	1,155	253	
Building Security	45,000	6,342	
Building Utilities	40,000	17,477	
Auditor	10,000	7,415	
CEO/Personnel (true up)	10,000	6,259	
Central Services, Mail Room	12,300	442	
Purchasing	7,000	235	
Risk Management	3,700	953	
Salvage & Disposal	2,500	218	
Insurance (General Liability & Auto)	18,000	0	
County Support Services & Building Services	194,655	56,057	28.80%
FIDUCIARY EDUCATION & TRAVEL			
Professional Publications & Subscriptions	6,000	3,665	
Staff Education & Travel	33,000	9,762	
Professional Memberships	11,000	7,844	
Trustee Education & Travel	43,000	11,754	
Trustee Meeting Allowance	14,500	3,200	
Insurance (Fiduciary & Auto)	78,750	10,015	
Fiduciary Education & Travel	186,250	46,240	24.83%
CAPITAL EXPENDITURES			
Pension Administration System & Back File	2,169,154	740,056	
I.T. Project Management & Oversite for P.A.S.	610,000	234,714	
Project Room, Equipment, Furniture	15,000	5,554	
Audio Visual Equipment	15,000	0	
6th Floor vacant space completion	0	0	
Design and Build of Board Room	0		
Website redesign & implementation	50,000	0	
Capital Expenditures	2,859,154	980,324	34.29%
Capital Depreciation	185,000	38,943	
6th Floor Lease Revenue	(89,590)	(49,157)	
TOTAL BUDGET	6,678,174	2,149,378	32.19%

Stanislaus County Employees' Retirement Association
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February 27, 2018
Retirement Board Agenda Item

Agenda

TO: Retirement Board

FROM: Natalie Elliott, Interim Fiscal Services Manager

I. SUBJECT: Reed Smith Legal Fees Renewal

II. ITEM NUMBER: 5.e

III. ITEM TYPE: Consent

IV. STAFF RECOMMENDATION: Agree to a 2-year extension of the legal engagement with Reed Smith LLP at an increase of 7% for the 2-year period

V. ANALYSIS: In 2009, Harvey Leiderman of Reed Smith LLP was hired as temporary Fiduciary Counsel and later engaged to handle litigation due to multiple lawsuits. At that time, a formal contract including fees was not entered into. Later, it was determined a contract was needed and the Board of Retirment approved entering into a contract with Reed Smith during the June 11, 2014 Board meeting. This contract can be extended or amended as needed or at the end of the term. Each of the attorneys and their assistants have spent hundreds of hours working with the Board, with StanCERA staff, studying the law and becoming experts in assisting StanCERA with their legal needs. After three years, Reed Smith is requesting an increase in fees due to cost of living. The increase is approximately 7% of the current fees and are in line with other law firms providing similar services. This fee increase would be for a two year period starting January 1, 2018 and will be revisited sometime in December 2020.

VI. RISK: Not consenting to this fee increase could potentially increase StanCERA's legal fees as work would need to be performed that Reed Smith has already performed should StanCERA need to retain a different attorney for these services.

VII. STRATEGIC PLAN: Strategic Objective III: Optimize StanCERA's organizational resources, ensure organizational quality and performance through continuous improvement.

VIII. ADMINISTRATIVE BUDGET IMPACT: Minimal

Natalie Elliott

Natalie Elliott, Interim Fiscal Services Manager

Rick Santos, Executive Director

Stanislaus County Employees' Retirement Association
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Agenda

February 27, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Chris Wisdom, Retirement Investment Officer

I. SUBJECT: Real Estate Allocation

II. ITEM NUMBER: 6.a.

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION:
1. Allocate 2.5% (approximately $54 million) to a dedicated US Real Estate Debt manager to be selected by the Board of Retirement.
2. Increase current allocation to Morgan Stanley Prime Property Fund to 2.5%.
3. Increase current allocation to American Realty Advisors Fund to 2.5%.
4. Maintain existing allocation of approximately 0.7% ($14 million) to Greenfield GAP VII Fund.
5. Authorize staff to negotiate and execute final contract to fund Greenfield GAP VIII Fund for an allocation of approximately 1.8% ($40 million).
6. Eliminate allocation to the Blackrock US Real Estate Fund.

V. EXECUTIVE SUMMARY: In April of 2017, the Board of Retirement approved the final asset allocation which included a 5% allocation to Core real estate and a 5% allocation to Value Added real estate. In November of 2017, Verus recommended real estate debt as an alternative to Core real estate given the similar risk/return characteristics and current market conditions. In November of 2017, the Board of Retirement instructed staff and Verus to conduct on-site due diligence with Prudential and bring back a recommendation for the full real estate allocation including core, value added, and debt strategies. The due diligence has been conducted, and staff is now making a recommendation as to how funds are to be allocated amongst the real estate managers.

Staff and Verus are recommending that the 5% Core allocation be split evenly between our existing core manager, Morgan Stanley Prime, and a new allocation to a dedicated US Real Estate Debt manager. Staff and Verus are recommending that the 5% Value Added allocation be split evenly between our existing value added managers, American Realty Advisors and Greenfield. As the Greenfield GAP VII fund is now closed, staff recommends maintaining our current investment and making a new allocation to the Greenfield VIII fund.

VI. ANALYSIS:

The recommendations presented here are intended to efficiently implement the asset allocation already approved by the Board of Retirement and recommended by Verus.

US Real Estate Debt:
Because of recent regulatory changes, traditional lenders such as banks and insurance companies have reduced lending to commercial real estate. This has created a need for capital. Investment managers are creating funds to address this market need and allow institutional investors to participate in this asset class. Verus has completed analysis in this space and has determined that the risk-return profile for commercial real estate loan origination appears to be favorable as compared to core real estate. As such, Verus has suggested that StanCERA may benefit from

making an allocation to a dedicated US Real Estate Debt manager as part of its Core Real Estate allocation. The recommendation is for 2.5% of assets be allocated to a new investment manager specifically focused on this strategy.

Morgan Stanley Prime Property:
StanCERA has had an allocation to this open-end core real estate fund since September, 2015. Staff and members of the Board of Retirement have conducted on-site due diligence with Morgan Stanley, and actual performance has generally been above benchmark. The current allocation is approximately 0.8% of the total portfolio. The recommendation is for StanCERA to join the funding queue to gradually increase this allocation to 2.5% of the total portfolio.

American Realty Advisors:
StanCERA has had an allocation to this open-end value added real estate fund since December, 2014. Staff and members of the Board of Retirement have conducted on-site due diligence with American Realty Advisors, and actual performance has generally been above benchmark. The current allocation is approximately 1.2% of the total portfolio. The recommendation is for StanCERA to join the funding queue to gradually increase this allocation to 2.5% of the total portfolio.

Greenfield:
StanCERA has had an allocation to the closed-end, value added, Greenfield GAP VII fund since July, 2014. Staff and members of the Board of Retirement have conducted on-site due diligence with Greenfield. As of December 31, 2017, Verus calculated the Net IRR of this strategy to be 14.0% - in excess of Greenfield's targeted net return of 13%. StanCERA currently has an allocation of approximately 0.7% ($14 million) to this strategy. The GAP VII fund is now closed to new investment.

In February of 2018, staff held a conference call with Dean Sotter and Raj Menon of Greenfield to review the Greenfield GAP VIII fund. GAP VIII will be a diversified fund of primarily equity real estate investments, utilizing Greenfield's broad experience to exploit non-mainstream investment opportunities. They have currently raised $105 million for the fund and expect to close the fund around $400 million. Greenfield is targeting a similar overall risk/return profile for GAP VIII as their previous funds, although they will have a modest shift in strategy within the fund. Targeted allocations are as follows:

- Industrial (20-30%)
- Debt Origination (30-40%)
- Office (15-20%)
- Situational Opportunities (10-15%)

The most notable changes between GAP VIII and our current fund will be a targeted reduction to the Office sector and a targeted increase to Debt Origination. These changes are based on where Greenfield is currently seeing marketplace opportunities and should be considered normal. Funding for GAP VIII will close on April 26, 2018.

Greenfield has offered StanCERA a discounted management fee of 1.25% in exchange for a commitment of $40 million to the fund. The recommendation is that the Board of Retirement authorize staff to negotiate and execute a final contract to fund GAP VIII with an allocation of approximately 1.8% ($40 million).

Blackrock US Real Estate:
StanCERA currently has approximately 4.9% of the portfolio allocated to this public market REIT fund. While it serves to give the portfolio liquid exposure to real estate, REITs typically have moderately high correlations with the small cap value public equity markets. Verus has recommended that StanCERA would be better served to achieve its real estate exposure in the private markets. As such the recommendation is to gradually reduce the allocation to this fund to $0, using the proceeds to fund the other private real estate managers previously mentioned.

StanCERA Real Estate Exposures
as of January 31, 2018

	Market Value	Current Allocation	Target Allocation %	Target Allocation $	Calculated Rebalance	Recommended Rebalance	New Allocation %	New Allocation $	Variance (vs. Target)
Core			5.0%	108,321,323					
Prime Property Fund	$ 18,368,188	0.8%	2.5%	54,160,661	35,792,473	35,000,000	2.5%	53,368,188	0.0%
US Real Estate Debt Manager	-	0.0%	2.5%	54,160,661	54,160,661	54,000,000	2.5%	54,000,000	0.0%
Value-add			5.0%	108,321,323					
American Strategic Value Fun	$25,733,580	1.2%	2.5%	54,160,661	28,427,082	28,000,000	2.5%	53,733,580	0.0%
Greenfield Gap VII[1]	$14,131,850	0.7%	0.7%	15,000,000	868,150	2,000,000	0.7%	16,131,850	0.1%
Greenfield Gap VIII			1.8%	38,995,676	38,995,676	40,000,000	1.8%	40,000,000	0.0%
REIT									
BlackRock US Real Estate	$106,807,988	4.9%	0.0%	-	(106,807,988)	(106,807,988)	0.0%	-	0.0%
Total Real Estate	$ 165,041,606	7.6%	10.0%	216,642,645	51,601,039	52,192,012	10.0%	217,233,618	0.0%
Total Plan Assets	$ 2,166,426,451								

Notes:
[1] $15mm committed; over $12.3mm called to date

The timing is uncertain as to exactly how long it will take to implement the proposed allocation, and it will be dependent on the funding queues and capital calls. It is reasonable to expect that the process will take several quarters at least.

There is a currently a “shortfall” of approximately $52 million to the overall real estate allocation. If and when additional funds are required to fund the aforementioned allocations, staff will source funds from existing managers in asset classes where StanCERA is overweight compared to the targets outlined in the Investment Policy Statement.

VII. RISK: Indeterminable. Past performance and expectations are not necessarily indicative of future results.

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: None. StanCERA internal resources and costs dedicated to the investment governance process are reasonably fixed at this time.

Chris Wisdom, Retirement Investment Officer

Rick Santos, Executive Director

2/27/18
Attachment 6.a

Verus

PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS

FEBRUARY 27, 2018

Real Estate Allocations for

Stanislaus County Employees' Retirement Association

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Verus

VERUSINVESTMENTS.COM

SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

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Appendix 10

Executive summary

Executive summary

The long-term asset allocation approved by the Board has a target allocation to value-add real estate of 5.0% (~$105mm) and an allocation to core real estate of 5.0% (~$105mm).

As of December 31st, the Plan had allocations to core (0.9%), value-add (1.8%), and REIT (5.3%) strategies totaling approximately $166mm.

Having concluded the due diligence on the Prudential Real Estate Debt fund and a review of the allocations to the current real estate investment managers, this presentation includes the comprehensive real estate rebalancing analysis to reach target allocations.

Proposal: The Board approve the proposed rebalancing found on page 9 of this presentation, including a follow-on commitment to Greenfield (GAP VIII) and Prudential Real Estate Debt, pending legal review of the documents.

Real estate allocations

Background

— At the April 2017 Board meeting, the Board approved an asset allocation that included 5% to core real estate and 5% to value-added real estate.

— At the September 2017 Board meeting, Verus presented its Real Assets Outlook to review current market conditions for each component of the real assets asset class.

— As a result of the Real Assets Outlook, Verus recommended real estate debt as an alternative to core real estate given the similar risk/return characteristics, current market conditions, and availability of worthy investment strategies.

— At the October 2017 Board meeting, the Board heard from American Realty to further explore options across the real estate spectrum.

— At the November 2017 Board meeting, the Board reviewed a real estate debt search concluding to conduct on-site due diligence with PGIM (Prudential).

— In January, Staff and Verus conducted on-site due diligence with PGIM.

— In February, Staff and Verus reviewed Greenfield Partners GAP VIII fund as a follow-on commitment to the GAP VII fund currently in StanCERA's investment program.

PGIM Real Estate U.S. Debt Fund

- Staff and Verus visited PGIM's New York offices on January 30th.
- The meetings included detailed discussions with the portfolio management team, the debt origination team leader, members of the research team, and operations, compliance, and risk teams.
- No issues were identified during the meetings.
- As the fund continues to raise capital and invest it accordingly, StanCERA would fall into tranche 4, which is expected to be invested during the 3rd quarter of 2018, possibly extending into the 4th quarter.
- The portfolio management team is seeing loans in the $30-45mm range as well as the $75-90mm range, allowing them to deploy capital faster than initially expected.
- The benchmark applied to this strategy is evolving to better reflect the characteristics of the market dynamics.

Greenfield Partners GAP VIII

- First close occurred in October of 2016
- Expected to call approximately 8% per quarter over the first 2 ½ years
    - For a $40mm commitment, StanCERA should anticipate $3.3mm called per quarter
- Investment strategy anticipates the following exposures:
    - Industrial (20-30%). Emphasis on warehousing, fulfillment and showrooms; potential development opportunities for regional bulk distribution.
    - Office (15-20%). Well-built, high-quality spaces to satisfy new generation tenants
    - Debt origination (30-40%). Small balance, transitional loans; mezzanine; and lot financing
    - Situational opportunities (10-15%).

Proposed rebalancing to long-term targets

	Market Value	Current Allocation	Target Allocation %	Target Allocation $	Recommended Rebalance	New Allocation %	New Allocation $	Variance (vs. Target)
Core			5.0%	$ 105,413,863				
Prime Property Fund	$ 18,368,188	0.9%	2.5%	52,706,931	$ 34,000,000	2.5%	$ 52,368,188	0.0%
PGIM U.S. Real Estate Debt	-	0.0%	2.5%	52,706,931	53,000,000	2.5%	53,000,000	0.0%
Value-add			5.0%	105,413,863				
American Strategic Value Fund	22,647,938	1.1%	2.5%	52,706,931	30,000,000	2.5%	52,647,938	0.0%
Greenfield Gap VII[1]	14,100,000	0.7%	0.7%	15,000,000	2,000,000	0.8%	16,100,000	0.1%
Greenfield Gap VIII			1.8%	37,948,991	40,000,000	1.9%	40,000,000	0.1%
REIT								
BlackRock US Real Estate	111,209,496	5.3%	0.0%	-	(111,209,496)	0.0%	-	0.0%
Total Real Estate	$ 166,325,622	7.9%	10.0%	$ 210,827,726	$ 47,790,504	10.2%	$ 214,116,126	0.2%
Total Plan Assets	$ 2,108,277,255							

Notes:

[1] *$15mm committed; over $12.3mm called to date*

Implementation

Investing in real estate typically involves investment queues and capital calling cycles. Similarly, divesting typically involves redemption queues and distribution cycles.

To better manage the liquidity of the program, StanCERA has historically used a REIT strategy. REITs tend to exhibit more volatility than private real estate positions, so while the underlying assets are similar, the risk/return behaviors are different. Liquidity is more frequent than private real estate strategies, so it has been helpful in reaching desired allocations.

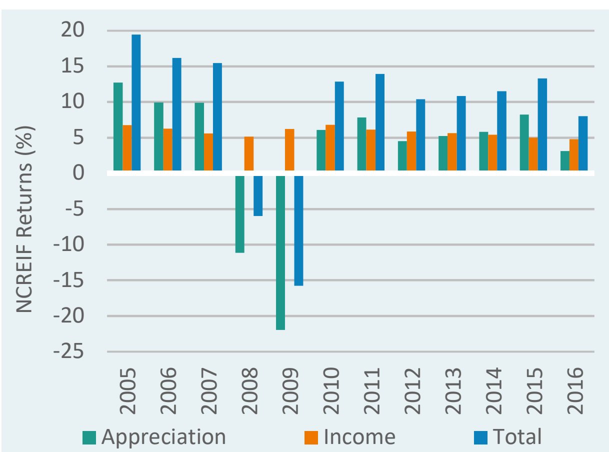
The proposed rebalancing reflects a 0% allocation to REITs long-term, but it is anticipated that a reduced allocation to the REIT strategy will be maintained until capital is fully called by the various investment managers.

Appendix

Real estate performance – Recent history

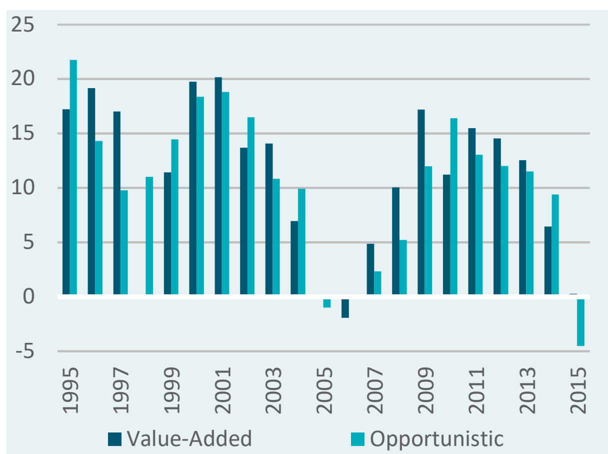
- Core real estate has seen an extended period of outsized returns. From 2010 to 2015, core real estate generated six consecutive years of 10-14% annual returns following the global financial crisis. In 2016, returns moderated to a more normal level as the NCREIF Property Index returned 8%. The recent trend in performance has been slowing, but remains positive.
- Correlation between GDP growth and core real estate returns has historically been very high. A slow but steady recovery has created a positive environment for real estate fundamentals without leading to excessive new supply overheating the market.
- Some of the best non-core real estate vintage years occur during recessionary years (2001-2003 and 2008-2009) as market dislocations create attractive entry valuations.
- Late stage vintage years for non-core have historically been the most challenged (1998-1999) and (2005-2007).

NCREIF RETURNS



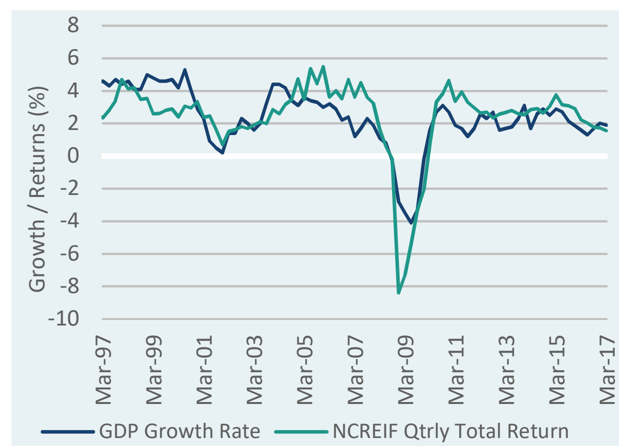
Source: NCREIF, as of 12/31/16

VINTAGE YEAR RETURN (%) – NON CORE REAL ESTATE



Source: Cambridge Associates, as of 9/30/16

REAL ESTATE AND THE BUSINESS CYCLE

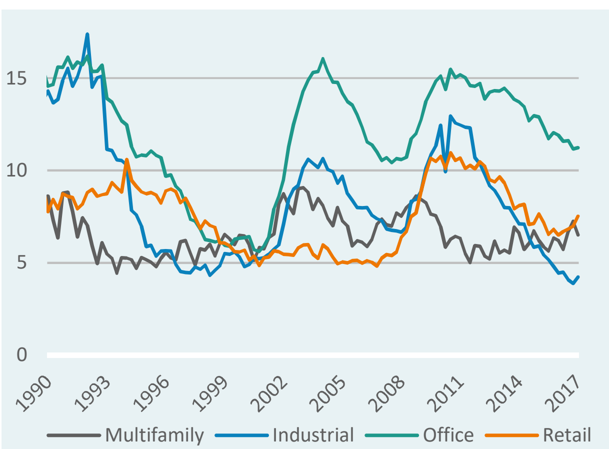


Source: NCREIF, Bloomberg, as of 3/31/17

Real estate fundamentals

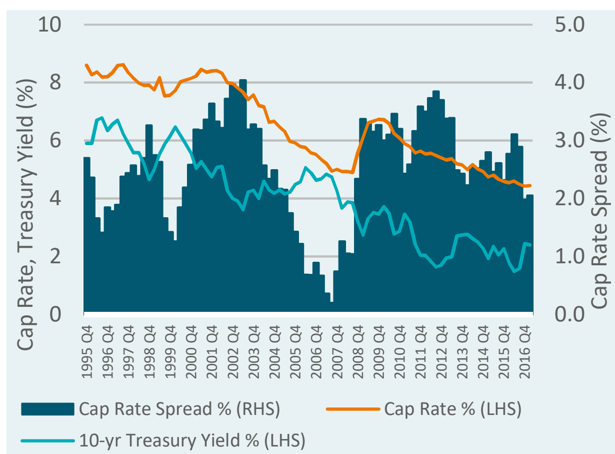
- Real estate fundamentals remain generally healthy across the board. Vacancy rates continue to decline in most property types. Multifamily is the only exception, which has seen a slight uptick in vacancy after being the earliest sector to recover. This move has been influenced by an increase in prices and some pockets of strong new supply.
- Cap rates continue to move in a steady downward trend and now sit at historic lows. The spread versus the 10-year Treasury yield remains moderate however, providing a slight cushion against rising interest rates. This was recently tested when the 10-year yield rose from 1.5% to 2.4% after the presidential election, yet cap rates remained flat. Capital continues to flow into the asset class as investors seek sources of high quality income and U.S. dollar-denominated assets.
- Net operating income (NOI) growth has remained strong - above 5% in the first quarter for all property types. Multifamily NOI has come down from above 10% growth, while industrial properties have seen the strongest improvement.

VACANCY BY PROPERTY TYPE



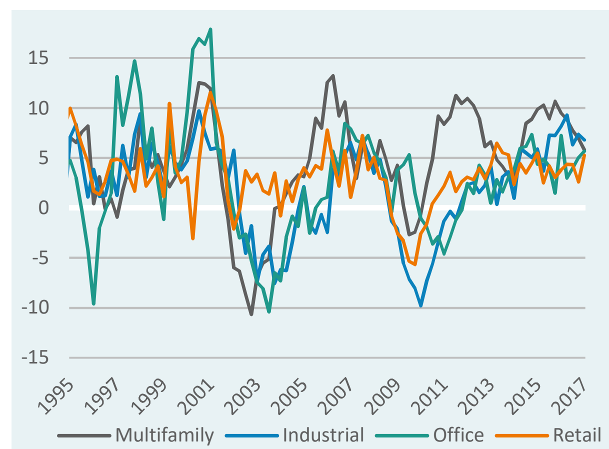
Source: NCREIF, as of 3/31/17

CAP RATE SPREADS



Source: FRED, NCREIF, as of 3/31/17

4-QTR ROLLING NOI GROWTH (%) BY PROPERTY TYPE

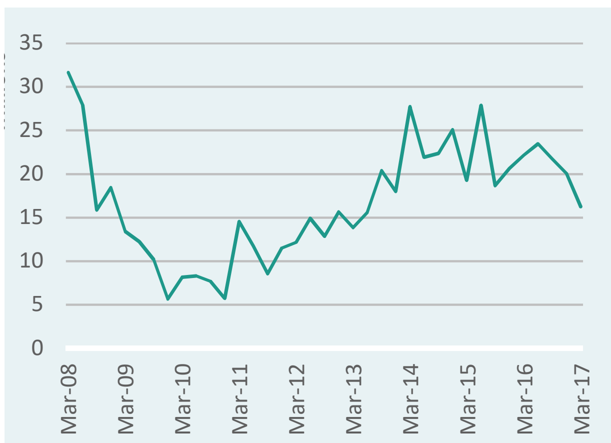


Source: NCREIF, as of 3/31/17

Real estate fundamentals – Commercial

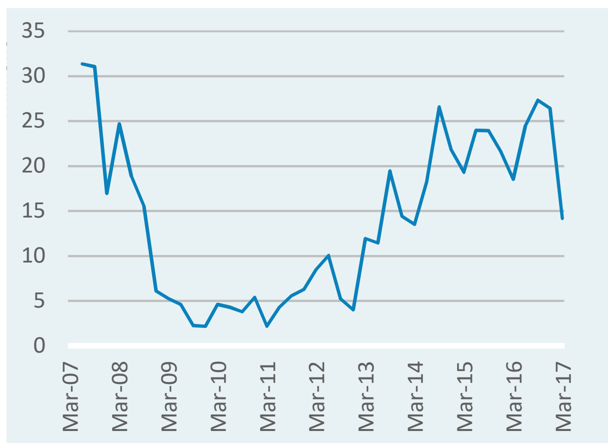
- New supply has remained moderate throughout this cycle and has even started to come down over the last several years for office, industrial and retail. Current levels are well below peak and remain below historical averages.
- Tighter lending standards have continued post-financial crisis. More stringent regulations on tier-one capital requirements for banks and insurance companies have kept new supply in check.
- Much of the new supply has occurred in primary and gateway markets and been heavily concentrated in urban markets that have experienced the most job growth.

NEW DEVELOPMENT – OFFICE (MM SQ. FT)



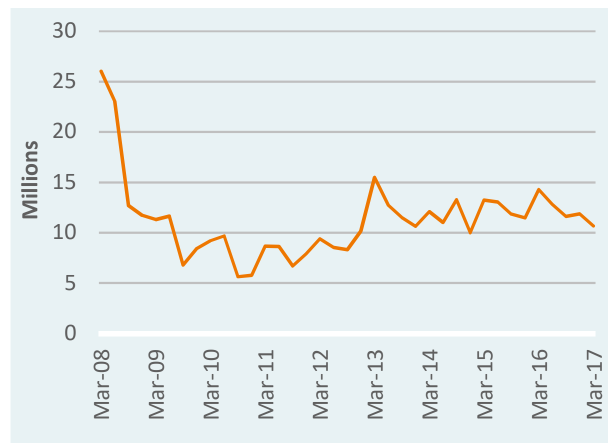
Source: JPMorgan, CoStar

NEW DEVELOPMENT – INDUSTRIAL (MM SQ. FT)



Source: JPMorgan, Dodge Construction

NEW DEVELOPMENT –RETAIL (MM SQ. FT)

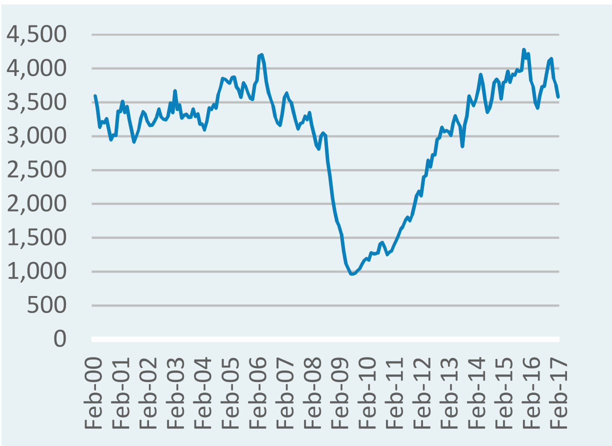


Source: JPMorgan, CoStar

Real estate fundamentals – Multifamily

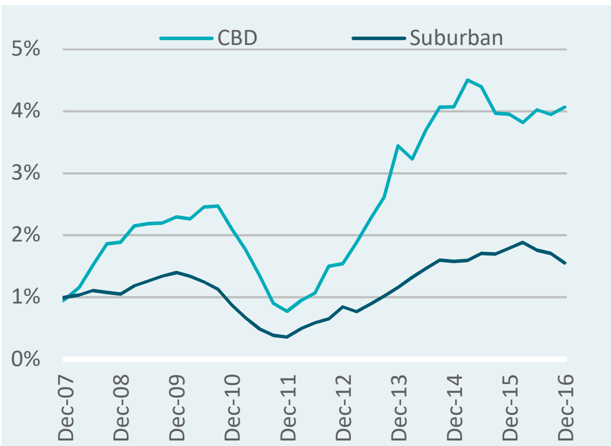
- Multifamily is one area of the real estate market where there has been significant new supply. New apartment supply has reached prior peak levels. Multifamily was the first sector to recover after the financial crisis as homeownership rates declined and job growth increased.
- The majority of new supply has been in high-end apartments and Central Business Districts (CBD). New developments in suburban markets remain between 1-2% of total stock.
- Because of the new supply coming on-line in downtown and luxury markets, rental growth rates have declined. Due to the spread in growth rates between downtown and suburban markets, opportunities may still exist in higher growth, transit-oriented suburban markets. However, we continue to be cautious with lower quality secondary markets.

ANNUAL APARTMENT PERMITS (EX NY)



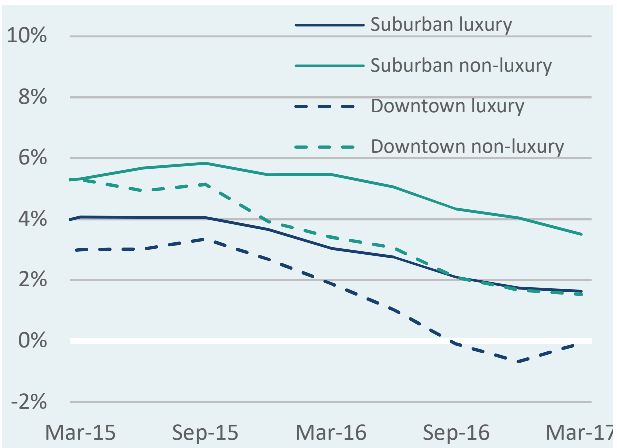
Source: Bureau of Census, JPMorgan, as of 2/28/17

APARTMENT SUPPLY AS A SHARE OF STOCK



Source: JPMorgan, Axiometrics, as of 12/31/17

APARTMENT RENT GROWTH (YOY)

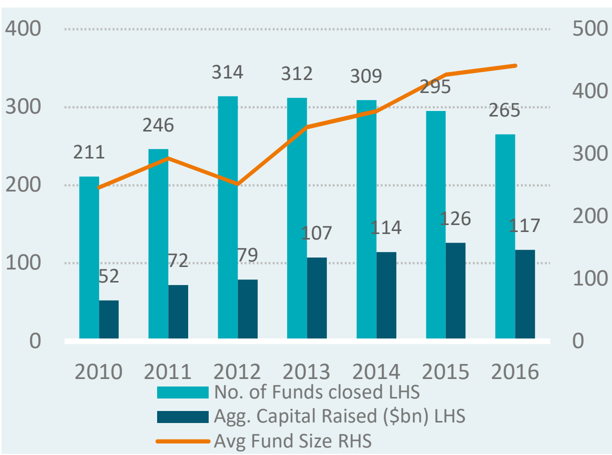


Source: JPMorgan, Axiometrics, as of 3/31/17

Real estate fundraising

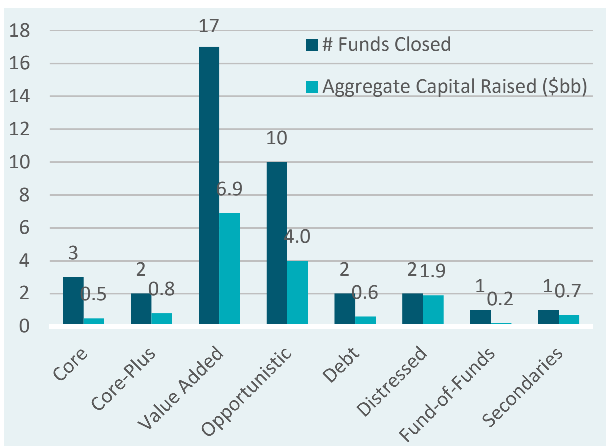
- Aggregate capital raised by closed-end funds has increased over the last several years, although it flattened a bit in 2016. The number of funds that have been raised declined slightly, which has led to larger average fund sizes.
- Core real estate queues have come down dramatically over the last 12 months. Competition from foreign capital remains strong, however, as many sovereign funds view U.S. core real estate as a high quality income proxy for fixed income.
- Dry powder in the closed-end fund space (heavily weighted towards non-core real estate) has risen to all time highs. The bulk of this capital continues to favor North American real estate strategies.
- Fundraising in Q1 (a combined $15bb) was down from the first quarter of 2016 ($26bb) and well below Q4 2016 ($32bb). The majority of fund raising was through value-add strategies.

HISTORICAL PRIVATE REAL ESTATE CLOSED-END FUNDRAISING



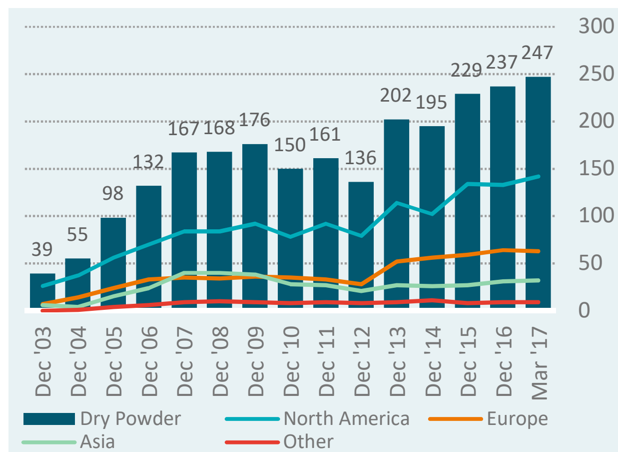
Source: Preqin, as of 4/30/17

2016 PRIVATE REAL ESTATE CLOSED-END FUNDRAISING BY STRATEGY



Source: Preqin, as of 4/30/17

DRY POWDER BY REGION – CLOSED-END FUNDS

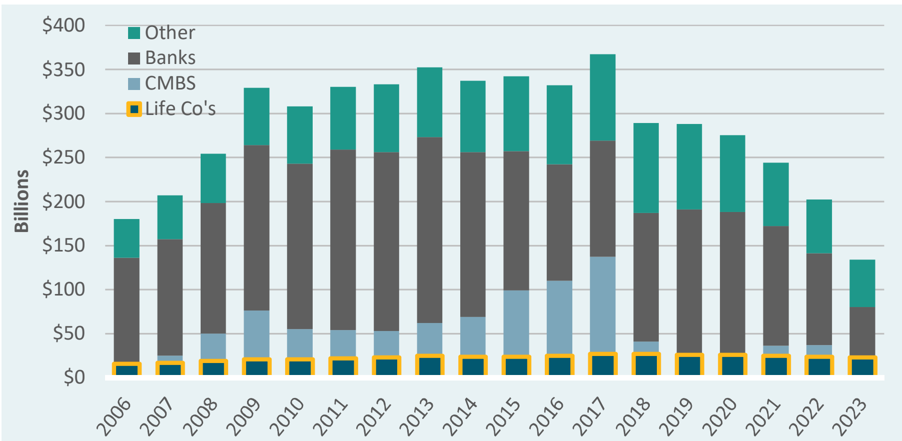


Source: Preqin, as of 4/30/17

Real estate debt

- Over the last several years, due to regulatory pressures for risk retention (Dodd-Frank) and increased capital requirements for "High Volatility Commercial Real Estate Loans" or HVCRE loans, traditional sources of lending from banks and insurance companies has declined, allowing private capital sources to step in and garner a premium for providing capital.
- Real estate transaction volumes have remained healthy and there will be a continued need for debt refinancing over the next several years.
- The potential returns for providing mezzanine loans on core-plus and light transitional assets or leveraged returns on senior whole loans on stable assets appear to offer a favorable risk versus return tradeoff in comparison to real estate equity.
- These loans are typically floating rate and tied to a premium over LIBOR, which provides some protection against rising interest rates.

WALL OF DEBT MATURITIES



Source: Seeking Alpha

LENDING PREMIUMS

	Stable Asset Whole Loans	Transitional Asset Whole Loans	Lower Risk Mezzanine	Transitional Asset Mezzanine & Preferred Equity	Developmental Asset Mezzanine & Preferred Equity
Capital Stack	0 - 70% LTV	0 - 85% LTV	50-85% LTV	65-90% LTC	65 - 90% LTC
Duration	2-5 Years	2-5 Years	2-7 Years	2-4 Years	2-4 Years
Typical Lending Spreads	LIBOR + 2.75 - 4.0%	LIBOR + 3.0 - 5.5%	LIBOR + 6 - 7%	LIBOR + 7 - 8.5%	LIBOR + 10 - 15%

Source: Invesco, CIM Group, Brookfield

REITs

— REITs have broadly benefitted from the overall strength of the real estate market, however REITs have underperformed broader equities over the last year. A rise in interest rates and increased economic growth expectations led to a rotation away from yield-oriented assets.

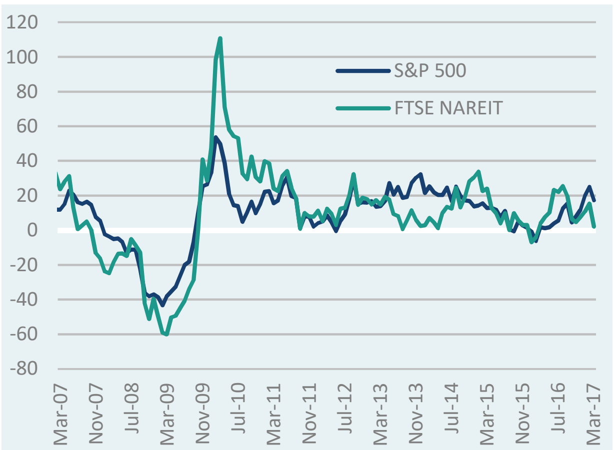
— Valuations currently appear fair on a number of metrics. Implied cap rate spreads relative to Treasuries look fairly valued compared to history.

— REITs also appear fairly valued relative to equities as measured by the adjusted funds from operations (AFFO) multiple in comparison to the S&P 500 forward P/E.

— REITs can provide liquid exposure to real estate with the following caveats: high sensitivity to equity market volatility over shorter holding periods, higher leverage and higher exposures to non-core sectors such as hotels, self storage, for-rent residential, etc.

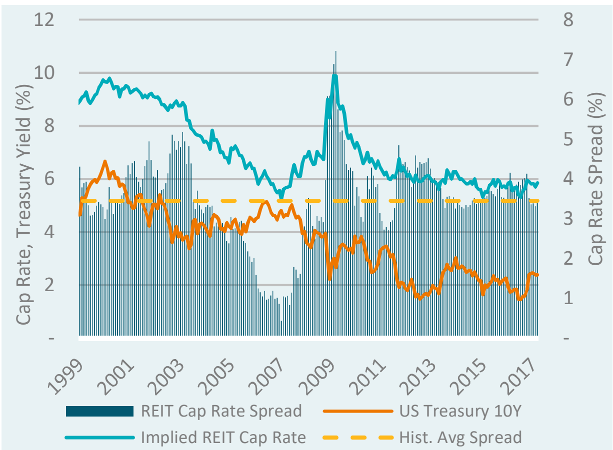
— Verus recommends utilizing active management in REITs with managers that have significant private real estate expertise.

PERFORMANCE VS. S&P 500 (1-YEAR ROLLING)



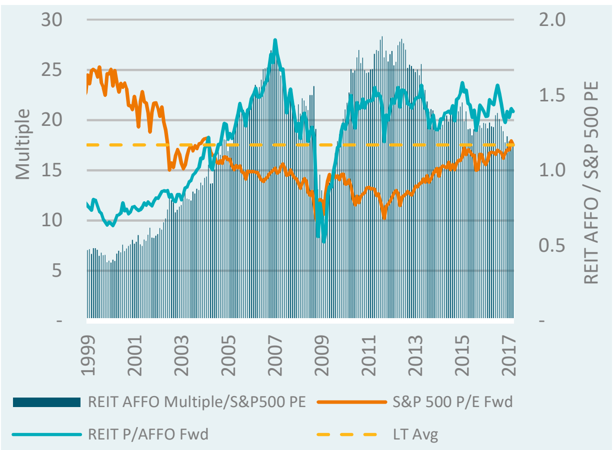
Source: MPI

YIELDS (VS. TREASURIES)



Source: JPMorgan, as of 3/31/17

VALUATION (VS. EQUITIES)



Source: JPMorgan, as of 3/31/17

Real estate summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Core	Fundamentals remain strong, however valuations are getting expensive, especially for high quality assets in gateway markets.	— New supply could increase ahead of current projections and outpace demand. — A sharp rise in interest rates could lead to increased cap rates, hurting values. — A general economic slowdown would drastically impact demand for real estate.	Steady, but slow growth could lead to a longer than normal cycle, as we have not seen the level of overheating and new construction that typically occurs near the end of a cycle.	Neutral/ Positive
Value-Add	Heavy demand for high quality core real estate assets has been a tailwind for value-add strategies, as the completed project are often core real estate buyers.	— Slowing demand for core real estate could lead to fewer buyers of value-add assets. — Any decline in demand due to an economic slowdown would likely impact renovation and lease-up strategies. — Increased capital moving up the risk spectrum could lead to increased competition.	A flat to positive environment for core real estate should be a good environment for value-add. Increased capital raising in the space will lead to additional competition however, squeezing returns.	Neutral
Opportunistic	The strong recovery in the commercial real estate market has led to fewer distressed opportunities available for opportunistic funds, especially in the U.S. Lending standards remain tight for new construction opportunities, pressuring returns.	— A turn in the market might dramatically affect the performance of investments with a long time horizon, such as construction or complex distressed situations. — Increased capital moving up the risk spectrum could lead to increased competition.	Fewer distressed opportunities should continue to put downward pressure on returns. We would caution against broad development strategies at this point in the cycle.	Negative
Debt	Traditional lenders, such as banks and insurance companies have reduced lending to commercial real estate, creating a need for capital.	— Changes in regulations, such as the elimination or loosening of Dodd-Frank, could possibly lead to a re-emergence of banks and insurance companies in lending, increasing competition and reducing potential returns.	The risk-return profile for commercial real estate loan origination, both senior loans and mezzanine loans, appears to be favorable compared to core real estate. These strategies can be implemented in both open end and closed end fund structures.	Positive

Glossary of terms

Adjusted Funds From Operations (AFFO): A measurement which is helpful in analyzing real estate investment trusts (REITs). The AFFO typically equals the trust's funds from operations (FFO) but is adjusted for ongoing capital expenditures which are necessary for upkeep of the REIT's assets.

Capitalization Rates: The rate of return of a real estate investment, which is calculated by dividing the property's net operating income by the property's purchase price.

Core Real Estate: This category of real estate will include a preponderance of stabilized properties. Core real estate should achieve relatively high income returns and exhibit relatively low volatility. Core real estate funds tend to use less leverage.

Consumer Price Index (CPI): A measure of purchasing power and inflation that takes the average prices of a basket of consumer goods and services, such as food, medical care, and transportation, and compares the same basket of goods in terms of prices to the same period in a previous year. Changes in CPI are used to assess price changes associated with the cost of living.

Dry Powder: Investment reserves raised by investment funds to cover future obligations or to purchase assets in the future.

GDP: The total value of all services and goods produced within a country's borders, for a given time period. This calculation includes both private and public consumption, government expenditures, investments, along with total exports net of total imports.

Internal Rate of Return (IRR): the IRR is the discount rate that equates the present value of cash outflows (investment) with the present value of cash inflows (return of capital). IRR is often referred to as a dollar-weighted rate of return that accounts for the timing of cash inflows and outflows.

Master Limited Partnerships (MLPs): A limited partnership structure which is publicly traded on an exchange. MLPs combine the tax benefits of a limited partnership with the liquidity of publicly traded securities. To qualify as an MLP, the entity must generate 90% of its income from the production, processing and transportation of oil, natural gas and coal.

Net Operating Income (NOI): A calculation which is used to analyze real estate investments that generate income. NOI is the property's annual income generated by operations after deducting all expenses incurred from those operations. The growth rate in NOI is a common metric used in determining the health of a property.

Opportunistic Real Estate: An opportunistic fund is one that includes preponderantly non-core assets. The fund as a whole is expected to derive most of its return from property appreciation which may result in significantly volatile returns. These funds may employ a variety of tools such as development, significant leasing risk and potentially high leverage.

Real Estate Investment Trusts (REITs): A REIT is a company that owns and operates commercial real estate properties. REITs can be publicly traded or privately held. There are two main type of REITs: Equity REITs which generate income from the operation of properties, and Mortgage REITs, which invest in mortgages or mortgage securities.

Timber Investment Management Organizations (TIMOs): A management group that invests in timberland assets for institutional investors. TIMOs will purchase, manage and sell various timberland properties on behalf of investors.

Treasury Inflation Protected Securities (TIPS): A treasury bond that is adjusted to eliminate the effects of inflation on interest and principal payments, as measured by the Consumer Price Index (CPI). TIPS are issued in terms of five, ten and twenty years and are auctioned twice per year.

Value-Added Real Estate: A value-added real estate fund often holds a combination of core assets and other assets characterized by less dependable cash flows. These strategies are likely to have moderate lease exposure and employ moderate leverage. Consequentially, these strategies seek significant returns from property appreciation and typically exhibit moderate volatility.

Vacancy Rates: The vacancy rate is calculated as the total number of unoccupied units of a property divided by the total units of the property, at a particular point in time.

Vintage Year: Represents the year the first capital call or portfolio company investment was made.

Notices & disclosures

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Stanislaus County Employees' Retirement Association
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February 27, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Chris Wisdom, Retirement Investment Officer

I. SUBJECT: Prudential (PGIM) Real Estate US Debt Strategy

II. ITEM NUMBER: 6.b

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION: Allocate 2.5% (approximately $54 million) to the PGIM Real Estate US Debt (PREDS) strategy. Authorize staff to negotiate and execute final contract with Prudential.

V. EXECUTIVE SUMMARY: In November of 2017, the Board of Retirement instructed staff and Verus to conduct on-site due diligence with Prudential and bring back a recommendation for the full real estate allocation including core, value added, and debt strategies. Staff and Verus conducted the due diligence visit with Prudential in January of 2018 and is now recommending a formal allocation to the PGIM Real Estate US Debt Strategy.

VI. ANALYSIS:

VII. PGIM is the asset management arm of Prudential Financial Inc. The PGIM Real Estate US Debt (PREDS) strategy was one of two suitable strategies recommended by Verus for this allocation.

VIII. This is a new fund which is coming to market and it is managed by an experienced team of real estate investors. The team is headed by Steve Bailey who has 23 years of institutional real estate experience. Steve has been with PGIM for two years and is supported by several other professionals with 15+ years of real estate experience.

IX. PGIM is actively marketing this strategy and expects to raise apprxomiately $2 billion over a three year period. Once fully invested, the team expects to hold about 65 debt investments at any given time. Target strategy returns are in the range of 7 to 8% gross which translate to 6.25% - 7.25% target net returns.

Historically, there has been no industry-accepted standard benchmark for mandates such as this. PGIM is currently using the Giliberto-Levy (GL-1) index, which has been published since 1993 and focuses on senior commercial mortgages. Just this year, a new GL-2 index was launched and it is intended to be more of a high-yield index. Neither one is an ideal benchmark at this point in time. Over the coming years, PGIM expects that the GL-2 data set will be further built out and that a more suitable benchmark will likely become available.

The PREDS vehicle is an open-end fund comprised of senior and subordinated loans which are secured by institutional real estate with strong fundamentals and predictable income streams. The strategy may employ moderate leverage on the less risky loans in order to enhance yields. The strategy will primarily look for senior floating rate mortgages with expected duration of three to four years.

One of the distinguishing characteristics of the PREDS strategy is the focus on direct loan origination and servicing model. Rather than buy and sell loans, the PREDS strategy will focus on originating and holding loans through repayment. Prudential Asset Resources ("PAR") is the 6th largest commercial / multifamily servicer in the United States.

PGIM has offered StanCERA a discounted "Founders Fee" schedule for funds committed in the first year of the life of the fund. This alternative fee schedule represents a discount of 0.15% compared to the standard fee schedule and requires a two-year commitment on StanCERAs part. The investment management fee schedule is as follows:

Invested Amount	Standard Fee	Founders Fee
First $50M	0.95%	0.80%
$50M - $100M	0.85%	0.70%
$100M - $150M	0.75%	0.60%
Over $150M	0.65%	0.50%

The fund will pay for organizational and offering expenses incurred in connection with the formation of the fund, up to a maximum reimbursement of $2 million. As the fund grows in size, we can expect the expenses to decrease on a percentage basis.

Prudential provided us with the following fund level expense projections. These should be considered to be illustrative and potentially subject to change.

	2018	2019	2020	2021	2022
Fund Formation	0.14%	0.05%	0.03%	0.02%	0.01%
Appraisals	0.05%	0.04%	0.04%	0.04%	0.04%
Fund Admin. Fee	0.07%	0.07%	0.07%	0.07%	0.07%
Audit/Tax/Statement Prep	0.08%	0.04%	0.04%	0.03%	0.03%
Total Expenses	**0.34%**	**0.21%**	**0.18%**	**0.16%**	**0.14%**

The recommendation is to allow staff to negotiate and excecute a contract with PGIM and allocate 2.5% (approximately $54 million) to the PGIM Real Estate US Debt strategy.

X. RISK: Indeterminable. Past performance and expectations are not necessarily indicative of future results.

XI. 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.

XII. ADMINISTRATIVE BUDGET IMPACT: None. StanCERA internal resources and costs dedicated to the investment governance process are reasonably fixed at this time.

Chris Wisdom, Retirement Investment Officer

Rick Santos, Executive Director

Verus

2/27/18
Item 7.a

StanCERA Investment Program 12-Month Workplan

changes from prior month highlighted in yellow

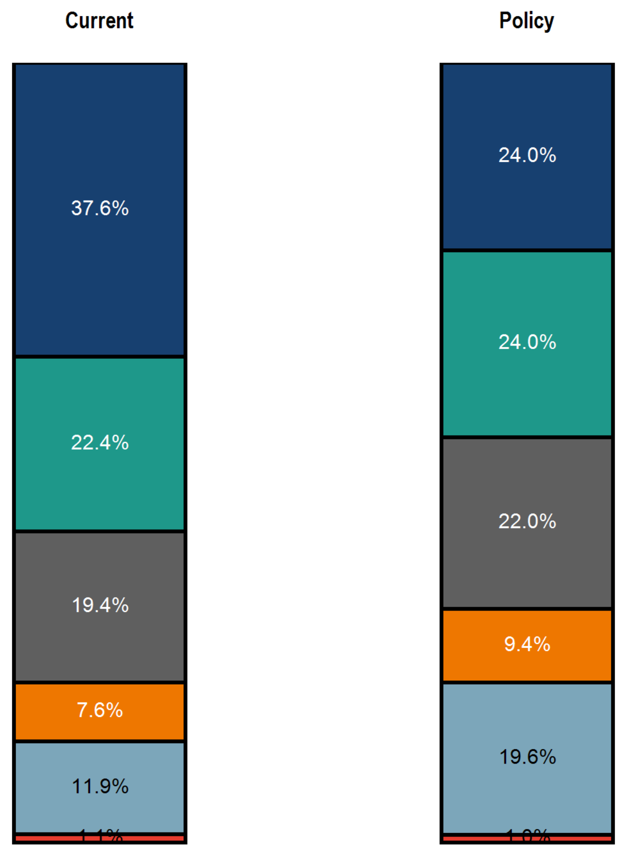
	Time	Changes from prior month
February, 2018	**1:00**	
Flash report and 12-month workplan	0:05	
Quarterly investment performance report	0:30	
Real estate rebalacing recommendation	0:10	
Private markets search launch	0:15	
March, 2018	**0:35**	
Flash report and 12-month workplan	0:05	
Annual review of IPS	0:30	
April, 2018	**1:25**	
Flash report and 12-month workplan	0:05	
Annual review of FFP with updated capital market assumptions	0:20	
Private markets finalist presentations	1:00	
May, 2018	**0:35**	
Flash report and 12-month workplan	0:05	
Quarterly investment performance report	0:30	
June, 2018	**0:35**	
Flash report and 12-month workplan	0:05	
Cash overlay education and search authorization	0:30	
July, 2018	**0:35**	
Flash report and 12-month workplan	0:05	
Transition management education and search authorization	0:30	
August, 2018	**1:05**	
Flash report and 12-month workplan	0:05	
Quarterly investment performance report	0:30	
Cash overlay search presentation & selection	0:30	
September, 2018	**0:35**	
Flash report and 12-month workplan	0:05	
Transition management search presentation & selection	0:30	
October, 2018	**0:05**	
Flash report and 12-month workplan	0:05	
November, 2018	**0:35**	
Flash report and 12-month workplan	0:05	
Quarterly investment performance report	0:30	
December, 2018	**0:05**	
Flash report and 12-month workplan	0:05	
January, 2019	**0:05**	
Flash report and 12-month workplan	0:05	

2/27/18
Item 7.b

Total Fund
Flash Report (Net of Fees) - Preliminary
Period Ending: January 31, 2018

	Market Value	% of Portfolio	1 Mo	Fiscal YTD
Total Fund	**2,170,822,698**	**100.0**	**2.8**	**10.2**
Policy Index			*3.0*	*10.2*
US Equity	**816,545,706**	**37.6**	**5.5**	**15.9**
US Equity Blended			*4.9*	*16.4*
Russell 3000			*5.3*	*17.1*
Northern Trust Russell 1000	179,588,949	8.3	5.5	--
Russell 1000			*5.5*	*--*
BlackRock Russell 1000 Growth	125,563,060	5.8	7.1	22.3
Russell 1000 Growth			*7.1*	*22.3*
Jackson Square	173,086,497	8.0	7.9	21.3
Russell 1000 Growth			*7.1*	*22.3*
BlackRock Russell 1000 Value	100,057,855	4.6	3.9	12.9
Russell 1000 Value			*3.9*	*12.8*
Dodge & Cox-Equity	120,004,515	5.5	5.7	15.9
Russell 1000 Value			*3.9*	*12.8*
Capital Prospects	118,244,829	5.4	1.9	12.8
Russell 2000 Value			*1.2*	*8.6*
International Equity	**486,849,297**	**22.4**	**5.2**	**16.6**
MSCI ACWI ex USA Gross			*5.6*	*17.9*
LSV Asset Mgt	247,698,082	11.4	5.4	17.4
MSCI ACWI ex USA Gross			*5.6*	*17.9*
Fidelity	239,151,215	11.0	5.0	15.8
MSCI ACWI ex USA Gross			*5.6*	*17.9*
US Fixed Income	**420,781,332**	**19.4**	**-0.7**	**0.2**
BBgBarc US Aggregate TR			*-1.2*	*0.1*
Insight	87,773,829	4.0	-0.6	0.1
BBgBarc US Govt/Credit 1-5 Yr. TR			*-0.5*	*-0.4*
DFA	275,146,643	12.7	-0.5	--
BofA Merrill Lynch US Corp & Gov 1-5 Yrs			*-0.5*	*--*
Northern Trust Intermediate Gov't Bond	43,178,658	2.0	-1.0	--
BBgBarc US Govt Int TR			*-1.0*	*--*
Northern Trust Long Term Gov't Bond	14,682,201	0.7	-3.2	--
BBgBarc US Govt Long TR			*-3.2*	*--*

	Current	%	Policy	%
Domestic Equity	$816,545,706	37.6%	$520,997,447	24.0%
International Equity	$486,849,297	22.4%	$520,997,447	24.0%
Domestic Fixed Income	$420,781,332	19.4%	$477,580,994	22.0%
Real Estate	$164,135,991	7.6%	$204,057,334	9.4%
Alternatives	$258,603,802	11.9%	$425,481,249	19.6%
Cash and Equivalents	$23,906,570	1.1%	$21,708,227	1.0%
Total	**$2,170,822,698**	**100.0%**	**$2,170,822,698**	**100.0%**



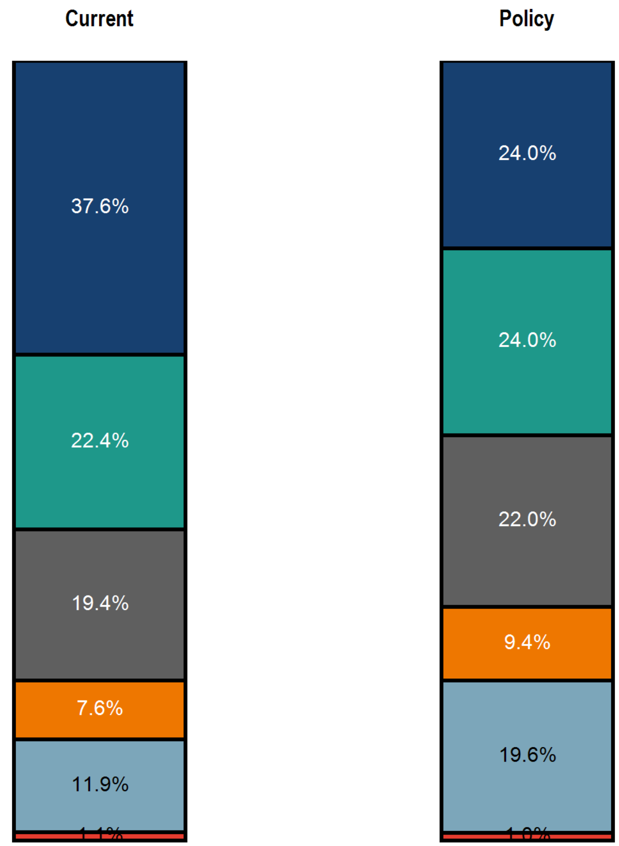
Policy Index (7/1/2017): 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 7.7% NCREIF Property, 1.7% NCREIF Property +2%, 0.6% CPI +5%, 5% BBgBarc US High Yield +2%, 14% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi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

Total Fund
Flash Report (Net of Fees) - Preliminary

Period Ending: January 31, 2018

	Market Value	% of Portfolio	1 Mo	Fiscal YTD
Real Estate	**164,135,991**	**7.6**	**-2.6**	**0.9**
DJ US Select RESI			*-4.0*	*-1.7*
Prime Property Fund	18,368,188	0.8	0.0	4.4
NCREIF-ODCE			*0.0*	*4.0*
American Strategic Value Realty	25,799,133	1.2	0.0	4.5
NCREIF Property Index			*0.0*	*3.5*
BlackRock US Real Estate	106,807,988	4.9	-4.0	-1.7
DJ US Select RESI TR USD			*-4.0*	*-1.7*
Greenfield Gap	13,160,683	0.6		
Direct Lending	**94,798,120**	**4.4**		
Medley Capital	20,880,110	1.0		
Raven Capital	15,360,875	0.7		
Raven Opportunity III	24,963,131	1.1		
White Oak Pinnacle	33,594,004	1.5		
Risk Parity	**141,606,184**	**6.5**	**0.0**	**--**
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			*3.9*	*--*
PanAgora Risk Parity Multi Asset	141,606,184	6.5	0.0	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			*3.9*	*--*
Infrastructure	**22,199,498**	**1.0**		
MS Infrastructure Partners II	22,199,498	1.0		
Cash Account	23,906,570	1.1	0.1	0.5

	Current	%	Policy	%
Domestic Equity	$816,545,706	37.6%	$520,997,447	24.0%
International Equity	$486,849,297	22.4%	$520,997,447	24.0%
Domestic Fixed Income	$420,781,332	19.4%	$477,580,994	22.0%
Real Estate	$164,135,991	7.6%	$204,057,334	9.4%
Alternatives	$258,603,802	11.9%	$425,481,249	19.6%
Cash and Equivalents	$23,906,570	1.1%	$21,708,227	1.0%
Total	**$2,170,822,698**	**100.0%**	**$2,170,822,698**	**100.0%**



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.

Disclosures

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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.

2/27/18
Item 7.c

Verus

PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS

PERIOD ENDING: DECEMBER 31, 2017

Investment Performance Review for

Stanislaus County Employees' Retirement Association

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Investment Performance Review — TAB II

Real Estate Allocations — TAB III

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

1ST QUARTER 2018

Investment Landscape

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4th quarter summary

THE ECONOMIC CLIMATE

— Global growth forecasts for 2018 have been revised higher, most notably in the Eurozone. U.S. expected 2018 GDP growth is 2.6%, above the expansion average. ***p. 15***

— The Eurozone has experienced an impressive economic recovery. In the third quarter, real GDP accelerated to 2.6%, the fastest pace of growth since 2011. ***p. 16***

— The House and Senate agreed to a final tax bill that was signed into law by President Trump on December 22nd. The bill, formally known as the Tax Cuts & Jobs Act, represents a major overhaul of the U.S. tax system. ***p. 27***

PORTFOLIO IMPACTS

— A synchronized pickup in global economic growth, low inflation, strong employment, and accommodative central banks should support global equities moving forward. We recommend maintaining an overweight equity position. ***p. 14***

— Markets remain expensive by most measures. However, it is important to note the merits and flaws of various valuation metrics. ***p. 32***

THE INVESTMENT CLIMATE

— Global equities produced strong returns over the quarter and finished the year on a positive note. Emerging market equities led the way, driven by high earnings growth and expansion of valuation multiples off of low levels. ***p. 25***

— The outlook for U.S. equity earnings has improved further, following the signing of the Tax Cuts and Jobs Act. S&P 500 earnings expectations for 2018 were revised upwards from 11.1% to 13.1%. ***p. 27***

— U.S. high yield spreads became increasingly tight. Credit premiums are near all time lows, which may warrant an underweight to U.S. credit. ***p. 22***

ASSET ALLOCATION ISSUES

— Risk assets continue to deliver strong performance, fueled by improving fundamentals and accelerating growth. The current environment appears accommodative for further gains. ***p. 4***

— Equity volatility is very low, helped by stable economic conditions and inflation. Historically, low volatility has indicated less risk of an equity downside event. ***p. 33***

We believe a moderate overweight to risk is warranted

What drove the market in Q4?

"Tax plan optimism propels Wall Street to record highs"

S&P 500 HIGH TAX RATE BASKET MONTHLY RETURN

Jul	Aug	Sep	Oct	Nov	Dec
0.9%	-1.9%	4.1%	0.5%	6.1%	5.8%

Article Source: Reuters, December 18th, 2017

"GDP swings up to 3.2% for best gain in three years"

U.S. REAL GDP (QUARTERLY ANNUALIZED RATE)

Q2 16	Q3 16	Q4 16	Q1 17	Q2 17	Q3 17
2.2%	2.8%	1.8%	1.2%	3.1%	3.2%

Article Source: U.S. News & World Report, November 29th, 2017

"U.S. yield curve hits its flattest point since November 2007"

10-YEAR MINUS 2-YEAR TREASURY YIELD SPREAD (BPS)

Jul	Aug	Sep	Oct	Nov	Dec
94	78	84	78	62	52

Article Source: Financial Times, November 21st, 2017

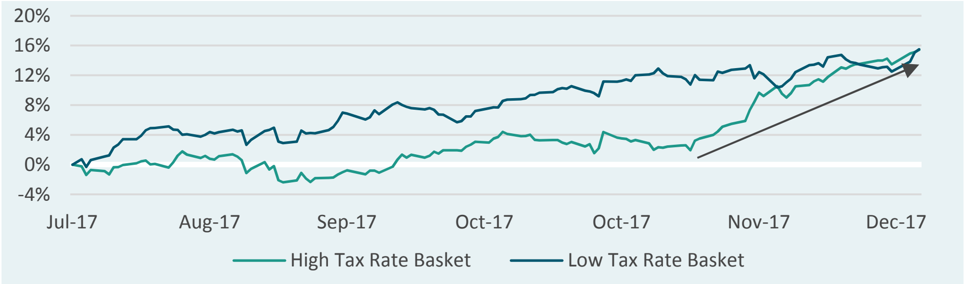
"Global manufacturers strain to keep up with faster economy"

GLOBAL PURCHASING MANAGERS INDEX (PMI)

Jul	Aug	Sep	Oct	Nov	Dec
53	53	53	54	54	55

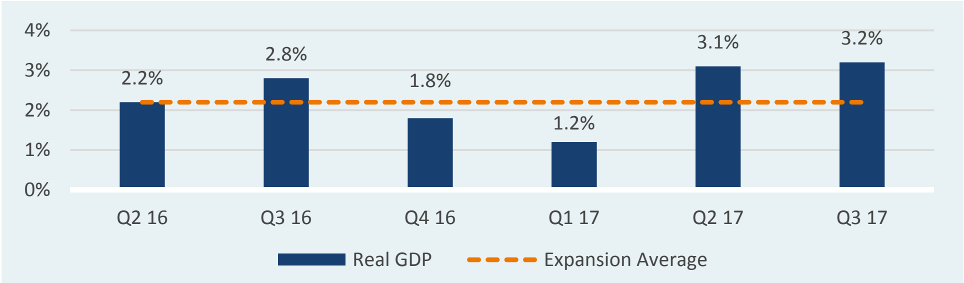
Article Source: Bloomberg, January 2nd, 2018

S&P 500 HIGH TAX RATE VS. LOW TAX RATE BASKET



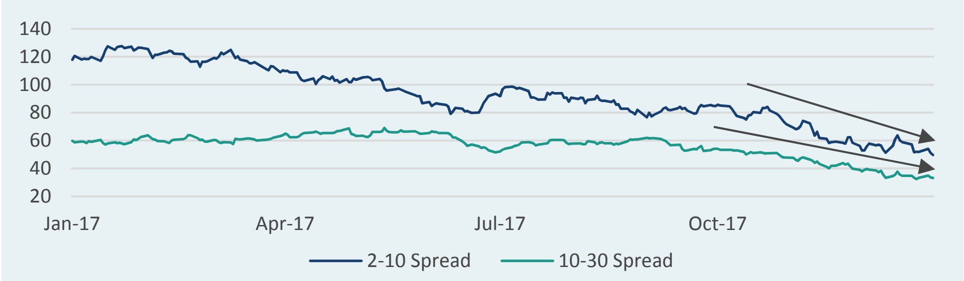
Source: Verus, Bloomberg, as of 1/4/18

REAL GDP VS. EXPANSION AVERAGE



Source: FRED, as of 9/30/17, quarterly annualized rate

U.S. YIELD CURVE SPREADS (BPS)



Source: Bloomberg, as of 1/4/18

Economic environment

U.S. economics summary

— U.S. real GDP grew 2.3% from the previous year in Q3, the fastest pace in more than two years. Growth was driven by consumer spending, private inventory accumulation, and business investment.

— Growth in business investment has provided a material support to the economy over recent periods for the first time in the recovery. Rising domestic and external demand has influenced companies to ramp up production. Survey based measures indicate firms are planning to increase capex over the next six months.

— Core inflation rose slightly from 1.7% to 1.8% over the quarter, driven by higher shelter prices. Strong demand, higher raw material prices, and a weaker dollar may provide modest pressures on inflation, but overall levels remain low. Any material rise in inflation would likely be met by more aggressive monetary tightening than what is priced into markets.

— The U3 unemployment rate fell further from 4.2% to 4.1%, its lowest level in 17 years.

— Net job creation averaged 204,000 per month in Q3 - above the expansion average of 196,000. Despite robust job gains and low unemployment, wage growth remained modest at 2.5% YoY.

— The Fed raised interest rates for the third time this year to a target rate of 1.25-1.50%. Fed dot plots indicate three more interest rate hikes in 2018, while the market is only forecasting two. Officials noted that strong economic growth is expected to continue, and raised the 2018 GDP forecast from 2.1% to 2.5%.

	Most Recent	12 Months Prior
GDP *(YoY)*	2.3% *9/30/17*	1.5% *9/30/16*
Inflation *(CPI YoY, Core)*	1.8% *12/31/17*	2.2% *12/31/16*
Expected Inflation *(5yr-5yr forward)*	2.1% *12/31/17*	2.1% *12/31/16*
Fed Funds Target Range	1.25 – 1.50% *12/31/17*	0.50 – 0.75% *12/31/16*
10 Year Rate	2.4% *12/31/17*	2.4% *12/31/16*
U-3 Unemployment	4.1% *12/31/17*	4.7% *12/31/16*
U-6 Unemployment	8.1% *12/31/17*	9.1% *12/31/16*

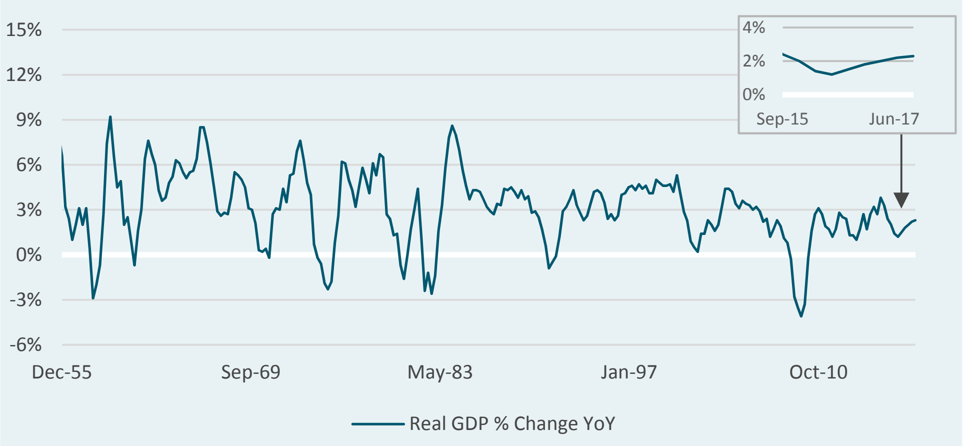
GDP growth

Real GDP rose by 2.3% from the previous year (3.2% quarterly annualized rate) in Q3, the fastest pace of growth in two years. Economic growth picked up meaningfully in 2017 and consumer and business surveys indicate further strength. Support to the economy includes strong consumer demand both domestically and abroad, low unemployment, and stable core inflation. Despite Fed moves toward normalizing monetary policy, financial conditions have yet to slow down the expansion, likely due to a slower pace of interest rate hikes than expected by the market.

All major components of the economy were positive contributors to growth in Q3, which has only happened in 6% of quarters since 1947. The main source of growth was consumer spending, which rose 2.5% from the previous quarter and contributed 1.4% to the overall growth rate. A faster pace of inventory accumulation was the second largest contributor to GDP, followed by non-residential business investment. According to the Atlanta Fed GDPNow forecast, real GDP growth is expected to be 3.3% in Q4. Looking ahead to 2018, we believe the economic backdrop is positive, and will remain supportive of the recent pickup in growth.

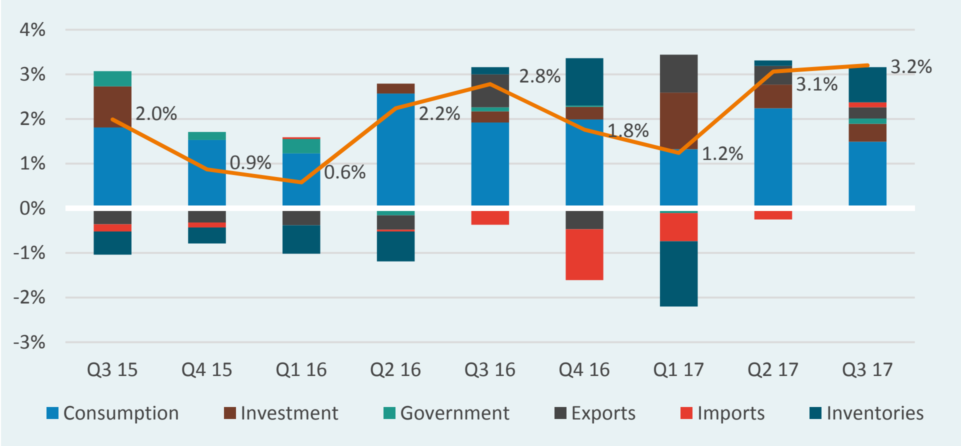
Economic growth has accelerated over the past two quarters

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 9/30/17

U.S. GDP COMPONENTS



Source: BEA, annualized quarterly rate, as of 9/30/17

Business investment

During most of the current expansion, corporate investment has been minimal. Many companies have held higher than normal cash balances or used the abundant liquidity created by easy monetary policy to buy back stock. Over the past year, however, there has been a meaningful increase in business capital expenditure (capex) as firms have needed to ramp up production to meet rising global demand. With the labor market close to full employment and jobs more difficult to fill, businesses may rely on investment to meet rising demand. Moving forward, business capex will likely be an important factor if economic growth is set to continue.

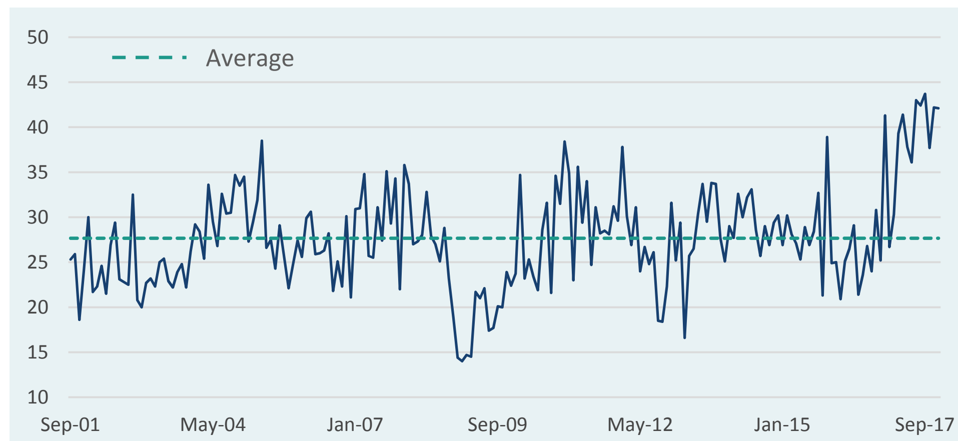
Survey based measures indicate that businesses are making plans to increase investment over the next six months. In addition to rising demand, the changes to the U.S. tax code should provide incentives for businesses to invest. Most notably, the mandatory repatriation of foreign profits at a special tax rate will give firms an ample source of cash that can be used for investment.

Business investment has been a material contributor to the recent pickup in growth

NON-FINANCIAL CORPORATE CAPEX GROWTH (YOY)

Source: Bloomberg, as of 9/30/17

SIX MONTH FORECAST OF CAPEX INCREASES



Source: Philadelphia FRB Business Outlook Survey, the x-axis represents the % of firms expecting to increase capex minus the % of firms expecting to decrease capex over the next six months

Inflation

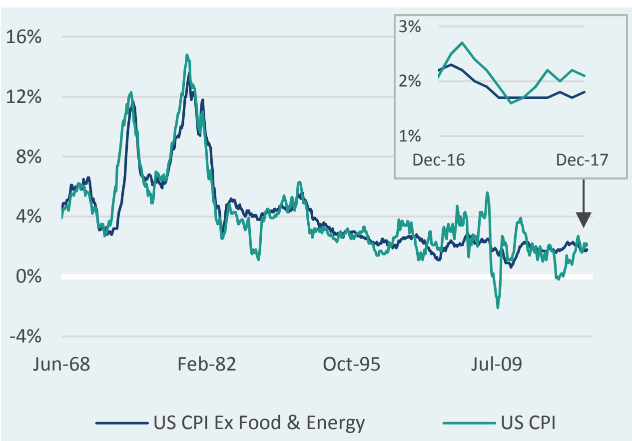
Core U.S. inflation picked up slightly to 1.8% YoY in December, a rise from 1.7% in September. Increases in housing and healthcare costs contributed to the move. Headline inflation fell from 2.2% to 2.1% over the quarter.

Market based inflation expectations increased slightly as the 10-year TIPS breakeven inflation rate moved from 1.8% to 2.0%. Investors expect inflation to stay low for the long-run based on market pricing.

Low inflation remains a roadblock for central banks hoping to normalize interest rates. However, lower inflation may benefit markets overall by dampening the need for central bank market intervention, which contributes to lower borrowing costs and lower market volatility through greater price stability. The current inflation level may provide markets with a happy medium.

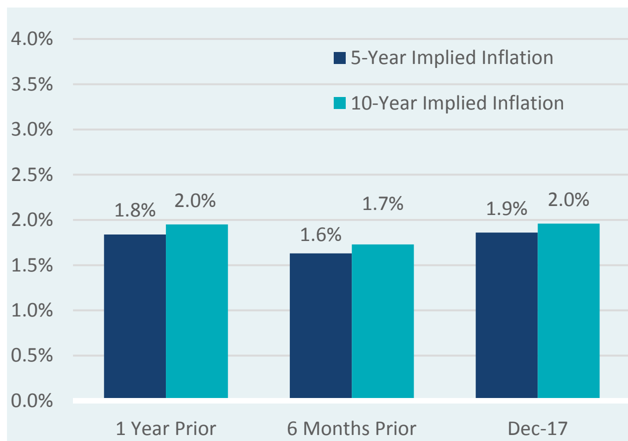
Low inflation may be supportive of further economic expansion

U.S. CPI (YOY)



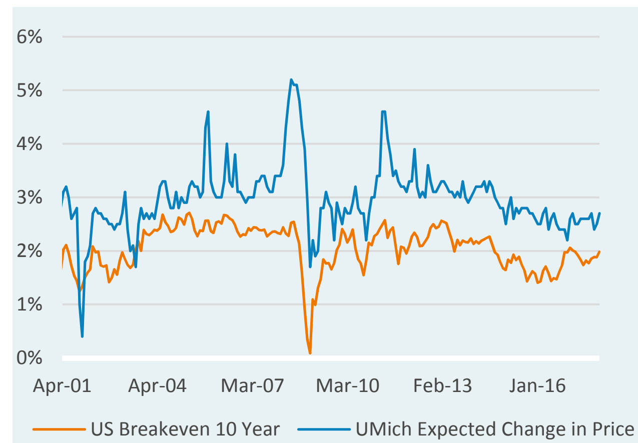
Source: FRED, as of 12/31/17

U.S. TIPS BREAKEVEN RATES



Source: Federal Reserve, as of 12/31/17

INFLATION EXPECTATIONS



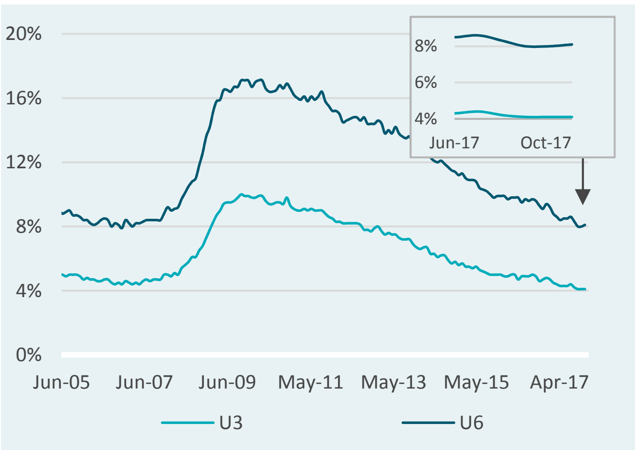
Source: Bloomberg, as of 12/31/17

Labor market

The U.S. labor market tightened further as unemployment fell from 4.2% to 4.1% over the quarter. Net job creation was robust, averaging 204,000 per month in the third quarter, higher than the expansion average of 196,000. A falling unemployment rate and above average job creation points toward some remaining slack in the labor market despite the longer length of the recovery relative to history. Wage growth improved modestly at 2.5% YoY, but remains below average relative to past economic expansions.

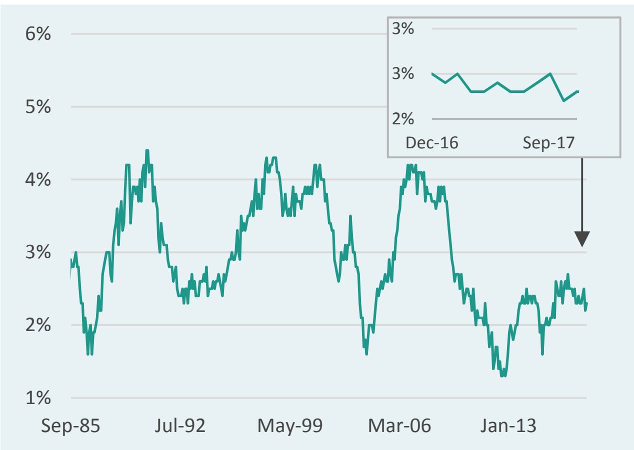
In previous quarters, we noted that the headline unemployment rate may be overstating tight labor market conditions due to discouraged or longer-term unemployed workers not included in traditional measures. It appears these individuals are slowly making their way back into the labor force, especially during the past two years. The core age (25-54) participation rate was 81.9% in December, up from a low of 80.6% in September of 2015. This figure was 83.3% prior to the global financial crisis, suggesting there may still be room for additional workers to reenter the labor force.

UNEMPLOYMENT RATE



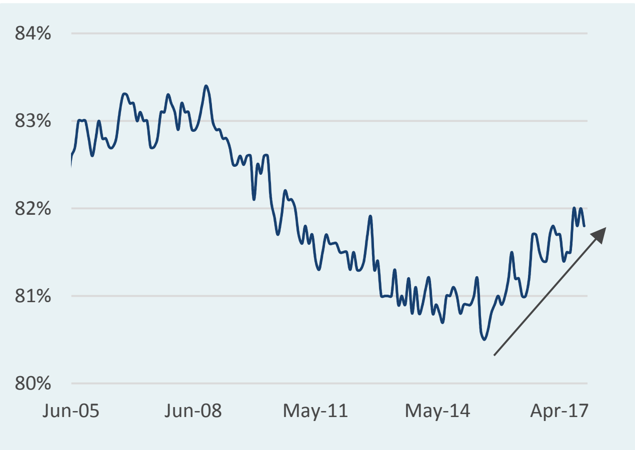
Source: FRED, as of 12/31/17

AVERAGE HOURLY EARNINGS (YOY)



Source: Bloomberg, as of 11/30/17

CORE AGE PARTICIPATION RATE



Source: FRED, as of 12/31/17

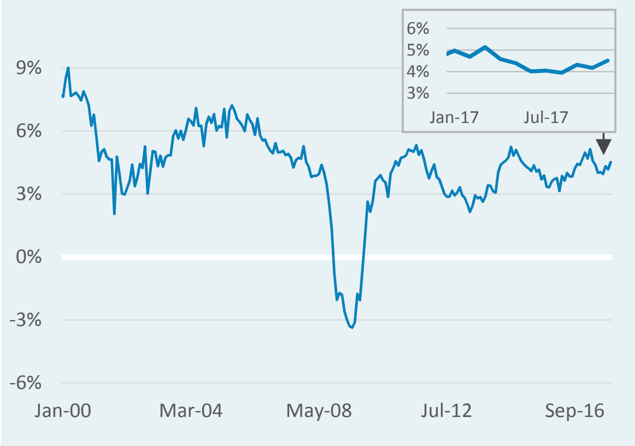
The consumer

Positive economic conditions are providing continued support to strong consumer demand, although this has not led to signs of late-cycle overheating. Consumer spending was 4.5% YoY in November, up from 4.0% three months prior.

Low unemployment, low inflation, and modest wage gains have helped create consistent growth in consumer spending. Monetary tightening has yet to have a material negative impact on consumers through higher borrowing costs and increasing interest payments on existing debt. Furthermore, a portion of individual costs are determined by the long end of the curve, which has remained fairly stable.

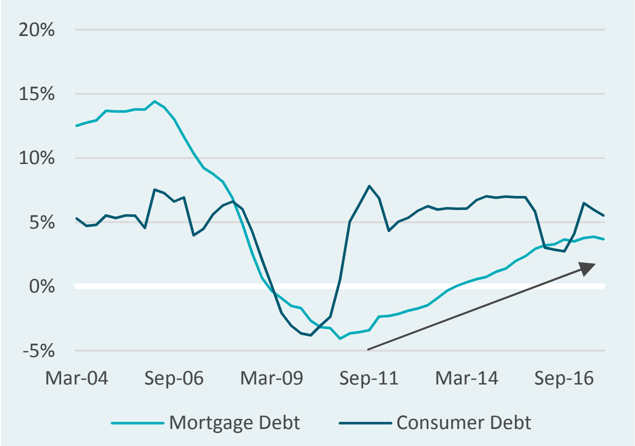
Low interest rates have not led individuals to take on large debt loads as both borrowers and lenders remain cautious. Consumer debt has seen modest growth, while mortgage debt is still recovering from a sharp decline following the 2008-2009 financial crisis. Growth in consumer debt has been mostly fueled by increases in student and auto loans, which would likely be impacted by further interest rate rises.

CONSUMER SPENDING (YOY GROWTH)



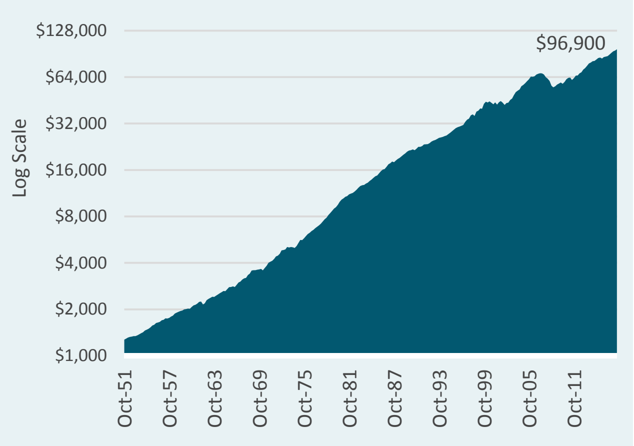
Source: Bloomberg, as of 11/30/17

DEBT GROWTH (YOY)



Source: FRED, as of 9/30/17

HOUSEHOLD NET WORTH



Source: Bloomberg, as of 7/31/17

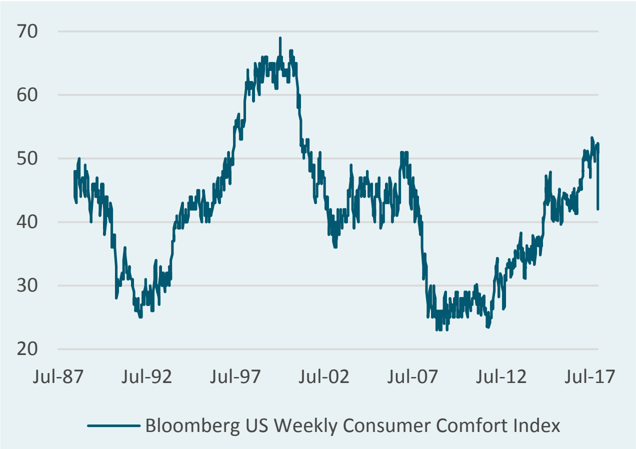
Sentiment

Measures of consumer and business sentiment remained above average in the fourth quarter. The University of Michigan Consumer Sentiment Index was 95.9 in December, which placed it in the 85th percentile relative to its own history, since 1978. The average value of the index in 2017 was the highest since 2000, driven by consumers' positive attitudes toward current economic conditions. U.S. tax reform did not result in an increase in sentiment and was only mentioned by 29% of respondents, who demonstrated mixed reactions.

The NFIB Small Business Optimism Index increased to 107.5 in November – near a record high. This indicator jumped following the election in 2016 and has stayed high, reflecting positive attitudes towards policy changes, deregulation, and economic conditions. A net 37% of small businesses expect the economy to improve and a net 27% are planning on increasing capital outlays. Companies also reported that finding qualified workers to hire is getting increasingly difficult. Higher labor costs would be a headwind to small businesses.

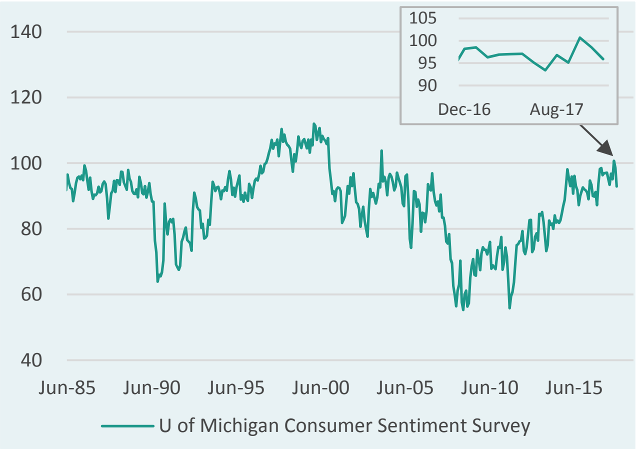
Consumers and small businesses have a positive outlook on the economy

CONSUMER COMFORT INDEX



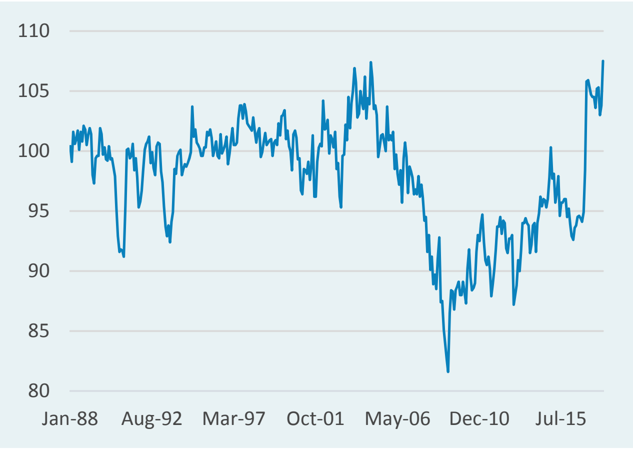
Source: Bloomberg, as of 12/31/17 (see Appendix)

CONSUMER SENTIMENT



Source: University of Michigan, as of 12/31/17 (see Appendix)

NFIB SMALL BUSINESS OPTIMISM INDEX



Source: NFIB, as of 11/30/17 (see Appendix for details)

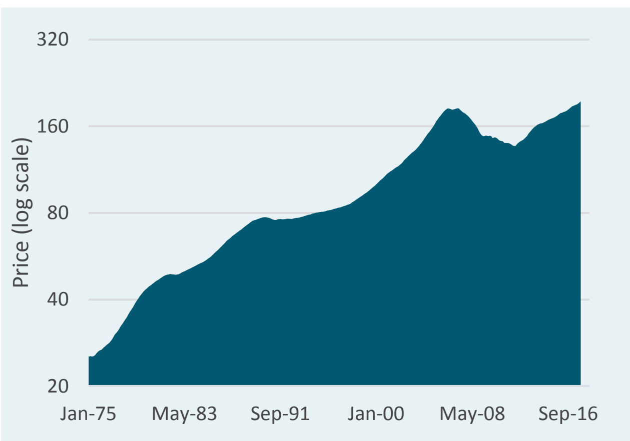
Housing

Growth in U.S. home prices has steadily accelerated over the past three years. National home prices increased 6.2% YoY in October, according to the S&P/Case-Shiller Index, up from a growth rate of 5.2% one year prior. Sales growth continued to be constrained by a lack of supply, which has helped lead to higher prices due to demand outpacing supply. At the current sales rate, it would take only 4.7 months to completely exhaust the supply in the market, below the long-term historical average of 6.1.

Thus far, tightening from the Fed has not led to a material rise in mortgage rates. Home ownership has remained affordable as lower interest costs have somewhat offset rising home prices.

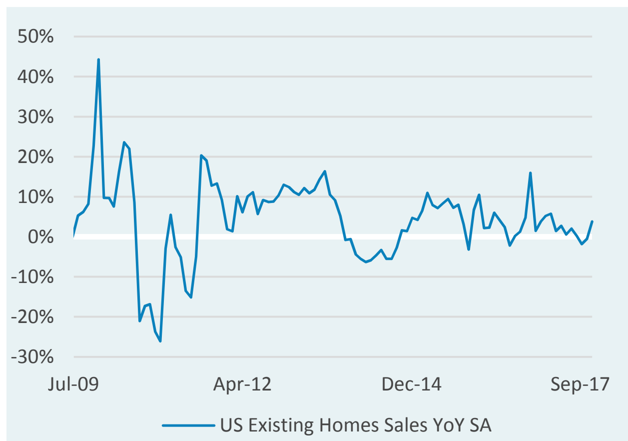
Total mortgage debt outstanding has just recently recovered from the global financial crisis. Mortgage lending standards are still tight, which has led to a higher quality pool of mortgage borrowers relative to past cycles.

CASE-SHILLER HOME PRICE INDEX



Source: FRED, as of 10/31/17

HOUSING SALES



Source: Bloomberg, as of 11/30/17

MONTHLY SUPPLY OF HOMES

Source: FRED, as of 11/30/17

International economics summary

— Economic growth advanced in the third quarter across developed and emerging markets. The United States grew at 2.3% YoY, the Eurozone improved to 2.6%, and overall growth in the BRICS nations accelerated to 5.6%. Central bank policy is still broadly accommodative, which is supportive of continued progress.

— Expectations for global GDP growth for the next two years has been revised upward in the past six months, according to the consensus estimate from Bloomberg. The upward revision to global growth forecasts were driven by the Eurozone and emerging markets.

— A pickup in lending and investment, strong external demand, and accommodative monetary policy has helped fuel an impressive economic recovery in the Eurozone. GDP grew 2.6% in Q3 from the previous year and the unemployment rate fell to 8.8%, the lowest level in nine years.

— PMIs across major markets were all above 50, indicating further expansion in the manufacturing sector.

— There are still concerns of a hard landing in China because the central bank has been tightening financial conditions on the short-end of the yield curve to reign in excessive leverage. Thus far, this process has been successful with economic growth slowing only moderately.

— Low inflation in developed economies has persisted, contributing to slower monetary tightening as central banks have been reluctant to raise rates too quickly.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.3% *9/30/17*	2.1% *12/31/17*	4.1% *12/31/17*
Western Europe	2.5% *9/30/17*	1.6% *12/31/17*	7.4% *12/31/17*
Japan	2.1% *9/30/17*	0.6% *11/30/17*	2.7% *11/30/17*
BRICS Nations	5.6% *9/30/17*	2.0% *12/31/17*	5.7% *9/30/17*
Brazil	1.4% *9/30/17*	3.0% *12/31/17*	12.1% *12/31/17*
Russia	1.8% *9/30/17*	2.5% *12/31/17*	5.1% *11/30/17*
India	5.3% *9/30/17*	4.9% *11/30/17*	8.0% *12/31/16*
China	6.8% *9/30/17*	1.8% *12/31/17*	4.0% *9/30/17*

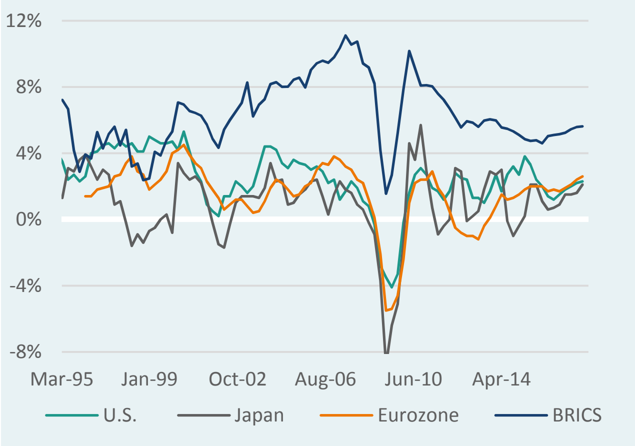
International economics

Economic growth accelerated broadly over the quarter, while inflation remained moderate in the developed world and fell in many emerging markets. Emerging economies appear to be very early in their cycle. Brazil and Russia recently pulled out of recession, with economic slack and room for expansion. Improving economic conditions and rising global demand have led to a material pickup in growth expectations for future years. The consensus forecast for 2018 Eurozone real GDP growth was revised upwards by 50 bps over the past six months.

Central bank policies in developed markets remained accommodative, but the intent to move towards tighter financial conditions has been clearly communicated. Stimulus from central banks, notably the ECB and BOJ, is likely still necessary to support the recent improvement in economic growth. A lack of pressure in inflation, however, should allow central banks to take a careful approach to future policy changes.

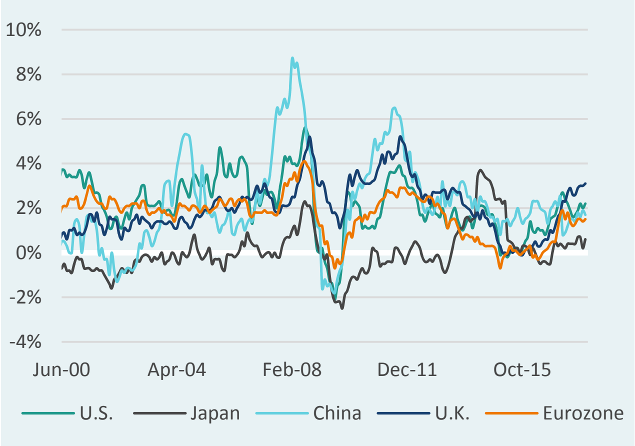
Growth accelerated, while inflation remained moderate

REAL GDP GROWTH (YOY)



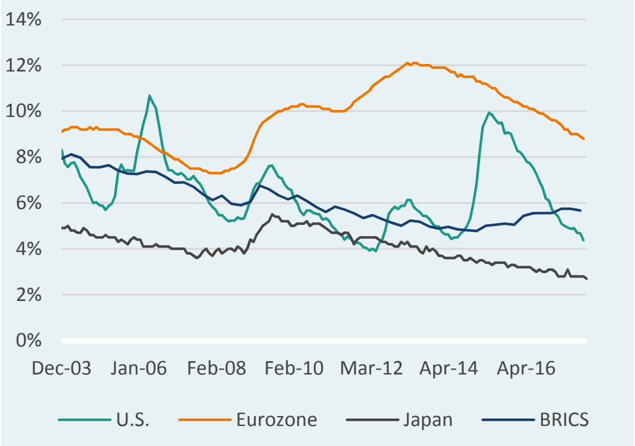
Source: Bloomberg, as of 9/30/17

INFLATION (CPI)



Source: Bloomberg, as of 11/30/17

UNEMPLOYMENT



Source: Bloomberg, as of 11/30/17 or most recent release

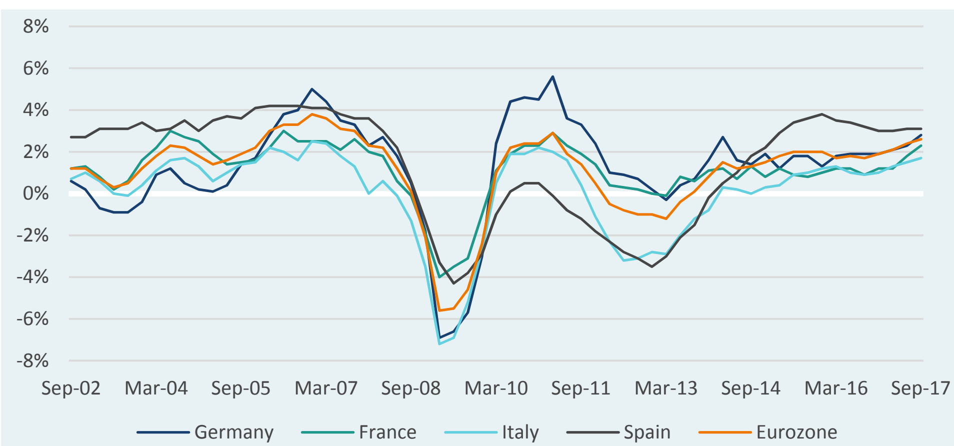
Eurozone economic recovery

A pickup in lending and investment, strong external demand, and accommodative monetary policy has helped fuel an impressive economic recovery in the Eurozone. In Q3, real GDP was 2.6% YoY - its highest rate of growth since 2011. Economic data has come in better than expected for most of the past year and economic forecasts have been revised upwards significantly. Additionally, labor markets have also improved markedly with the overall Eurozone unemployment rate falling from 9.6% to 8.8% over the past year, with further room for improvement.

The continuing recovery is not without risks. Most notably, economies are still heavily reliant on monetary stimulus. The ECB has already started to taper asset purchases, although any additional tightening will likely be considered with caution. The recovery in economic conditions has been led by Germany, while periphery countries such as Italy and Spain have lagged behind and are still experiencing high unemployment rates. Finally, political risk in Europe, such as the Italian election this year, is still lurking in the background.

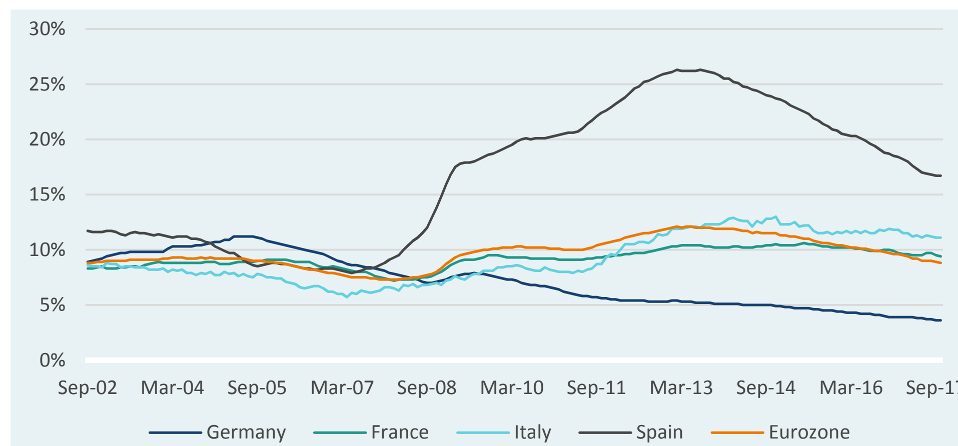
The Eurozone is experiencing an impressive economic recovery

REAL GDP GROWTH



Source: Bloomberg, as of 9/30/17

UNEMPLOYMENT RATE



Source: Bloomberg, as of 10/31/17

Global PMIs

PMI 1 YEAR (CROSS SECTION) – BLUE HIGH / ORANGE LOW

	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
Manufacturing												
Global	53	53	53	53	53	53	53	53	53	54	54	55
Developed	54	54	54	54	54	54	54	54	55	55	56	56
US	56	58	57	55	55	58	56	59	61	59	58	60
UK	55	55	54	57	56	54	55	57	56	56	58	56
Eurozone	55	55	56	57	57	57	57	57	58	59	60	61
Germany	56	57	58	58	60	60	58	59	61	61	63	63
Japan	53	53	52	53	53	52	52	52	53	53	54	54
EM	51	51	52	51	51	51	51	52	51	51	52	52
Services												
Global	54	53	54	54	54	54	54	54	54	54	54	54
Developed	55	54	54	54	54	55	55	55	55	55	54	54
US	57	58	55	58	57	57	54	55	60	60	57	56
UK	55	53	55	56	54	53	54	53	54	56	54	54
Eurozone	54	56	56	56	56	55	55	55	56	55	56	57
Germany	53	54	56	55	55	54	53	54	56	55	54	56
Japan	52	51	53	52	53	53	52	52	51	53	51	51
EM	54	56	56	56	56	55	55	55	56	55	56	57

Source: Bloomberg, as of 12/31/17 – PMIs are based on survey data compiled from purchasing and supply managers. Survey questions are asked about several different components of each sector, such as new orders, employment, prices, etc. The final PMI reading is based on the percentage of respondents with a positive view on the sector. A reading above 50 indicates expansion in the sector while a reading below 50 indicates contraction. Historically, PMIs have had a relatively strong positive relationship with actual economic activity.

Fixed income rates & credit

Interest rate environment

— On December 13th, the Federal Reserve raised the benchmark interest rate by 25 bps to a target range of 1.25%-1.50%. The Fed has communicated three rate hikes in 2018, while the market is pricing in only two.

— U.S. Treasury yields experienced significant increases on the short end of the curve, while longer term rates were modestly higher. The 2- and 10-year yields rose 40 bps and 8 bps, respectively. The increase in short-term rates was likely caused by the Fed raising overnight borrowing rates.

— The Fed began to reduce its balance sheet slowly. Approximately $30 billion in Treasuries and mortgage-backed securities were trimmed from the balance sheet over the quarter, which did not have a material impact on the market.

— Minutes from the ECB meeting in December showed that officials discussed additional tapering of asset purchases in early 2018 due to stronger than expected economic growth.

— Markets generally expect minimal yield rises across developed markets – between 0% and 0.3% movement over the next year in U.S., U.K., German, and Japanese sovereign bonds. However, we remain watchful of bond market reactions to balance sheet unwinding, given the unprecedented size of central bank assets.

— We remain underweight to U.S. and developed sovereign bonds (currency hedged) primarily due to low yields. It is important to keep in mind the diversification benefits that fixed income provides to the portfolio, despite near record prices.

Area	Short Term (3M)	10 Year
United States	1.38%	2.41%
Germany	(0.80%)	0.42%
France	(0.78%)	0.78%
Spain	(0.58%)	1.56%
Italy	(0.63%)	2.00%
Greece	1.40%	4.10%
U.K.	0.36%	1.19%
Japan	(0.15%)	0.04%
Australia	1.74%	2.63%
China	3.95%	3.90%
Brazil	6.77%	10.25%
Russia	6.55%	7.42%

Source: Bloomberg, as of 12/31/17

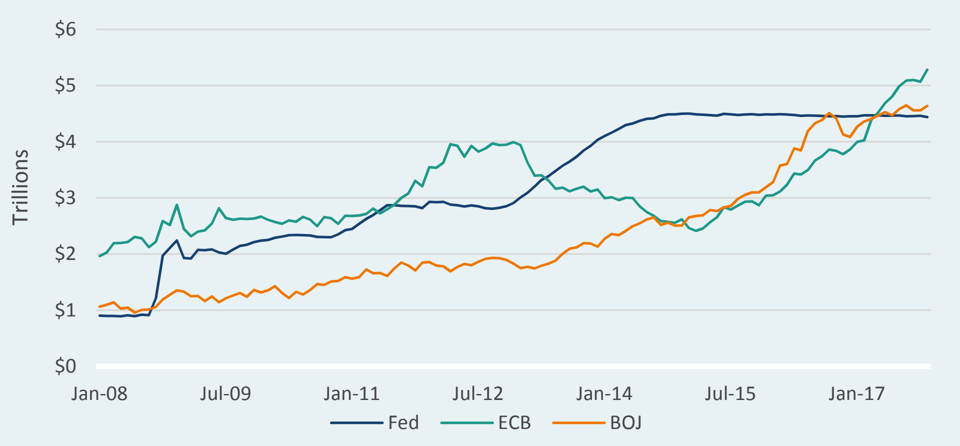
Monetary policy

The global shift towards tighter monetary policy will be an important theme in financial markets moving forward, and the possibility of a policy mistake represents a major risk. Thus far, the Fed is the only major central bank to take steps to tighten policy by raising interest rates and trimming its balance sheet. Moderate inflation has allowed the Fed to take a cautious approach to tightening, which at this point does not appear to have had a material impact on markets. While other central banks remain accommodative, several have begun tightening, including a rate hike from the BOE, and asset purchase tapering from the ECB.

Looking ahead at the next two years, there is not much monetary tightening priced into markets, which creates greater chance of a negative surprise. In the current cycle, central banks have been cautious and worked hard to clearly communicate changes in policy to avoid market surprises. We think this behavior is likely to continue, but with so little priced into markets even a slightly faster pace of tightening than expected might have a significant impact. A policy mistake is especially a concern for the Eurozone and Japan because improving economic conditions are probably still dependent on support from monetary stimulus.

Very little monetary tightening is priced into markets

MAJOR CENTRAL BANK BALANCE SHEET SIZE



Source: Bloomberg, as of 11/30/17

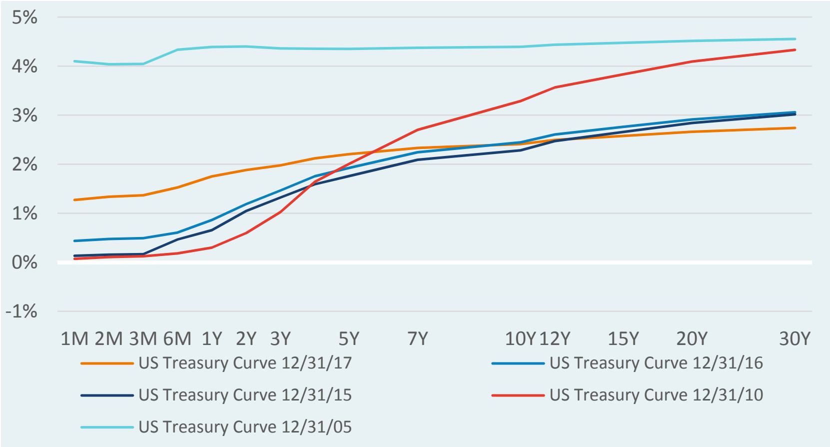
MAJOR CENTRAL BANK POLICY RATES AND EXPECTATIONS

	Policy Rate	Rate Hikes in 2017	Market Pricing YE 2018	Market Pricing YE 2019
Fed	1.4%	3	1.9%	2.1%
ECB	-0.4%	0	-0.3%	-0.1%
BOJ	-0.1%	0	-0.1%	0.0%
BOE	0.5%	1	0.7%	0.9%

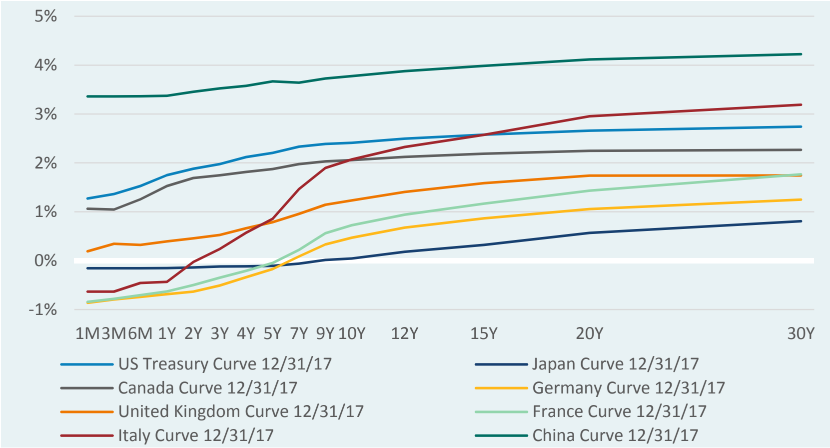
Source: Bloomberg, as of 1/4/18

Yield environment

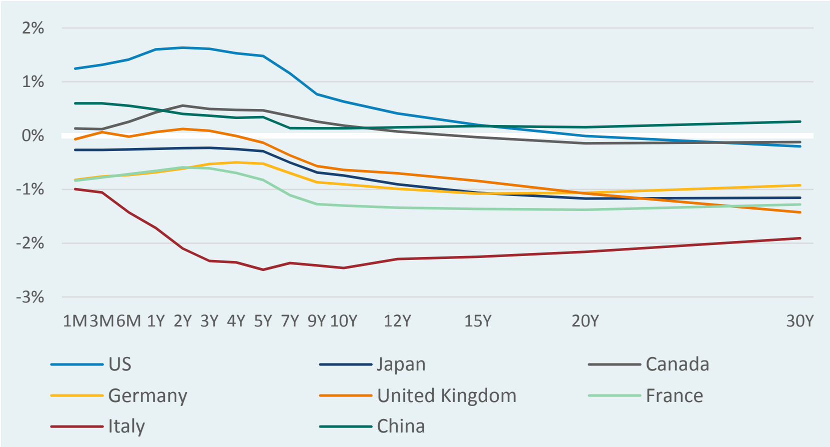
U.S. YIELD CURVE



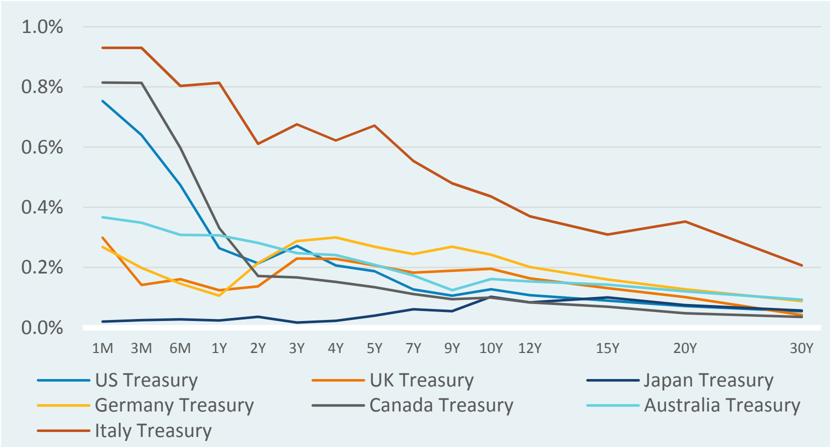
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/17

Credit environment

Credit spreads fell throughout 2017 to all-time tight levels. U.S. high yield option-adjusted spreads compressed in the fourth quarter to 3.4%, and the asset class generated a 0.5% total return for the quarter and 7.5% for 2017 (BBgBarc U.S. Corp. High Yield Index). High yield spreads are tighter than those of bank loans on a duration-neutral basis.

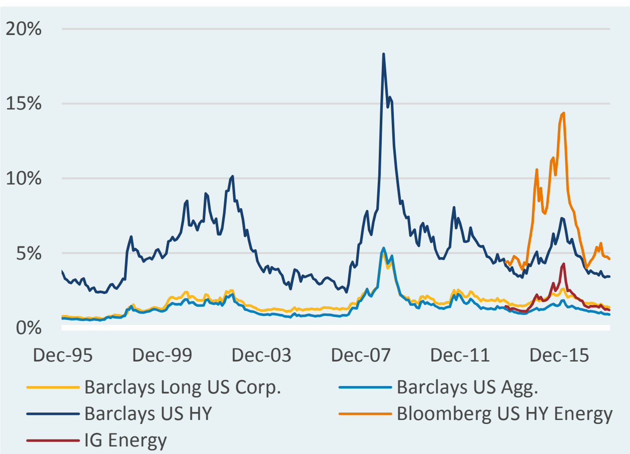
Credit spreads in both high yield and loans have continued to tighten close to multi-year lows, driven by strong corporate fundamentals and general macroeconomic improvement.

The combination of tighter credit spreads and higher yields over Treasuries led credit to broadly outperform U.S. Treasuries in Q4. High yield spreads began the year at 4.1% and tightened by 66 bps in 2017. Credit spreads have historically been a good indicator of future performance relative to Treasuries.

Based on low interest rates and tight spreads, we recommend an underweight to U.S. investment and high yield credit.

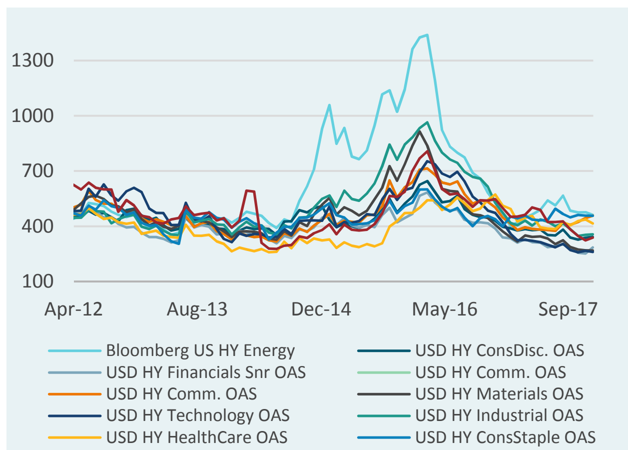
Credit spreads are tight across the capital structure

SPREADS



Source: Barclays, Bloomberg, as of 12/31/17

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 12/31/17

Market	Credit Spread (12/31/17)	Credit Spread (1 Year Ago)
Long US Corporate	1.4%	1.6%
US Aggregate	0.9%	1.2%
US High Yield	3.4%	4.1%
US High Yield Energy	4.6%	4.6%
US Bank Loans	3.6%	3.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/17

Issuance and default

Default activity remains low and stable in U.S. and international credit markets. The par-weighted U.S. default rate remains below its long-term average of 3.0-3.5%. Four U.S. companies defaulted in December totaling $1.6 Billion in bonds and $582 Million in loans. Total default activity during 2017 was at levels not seen since 2013.

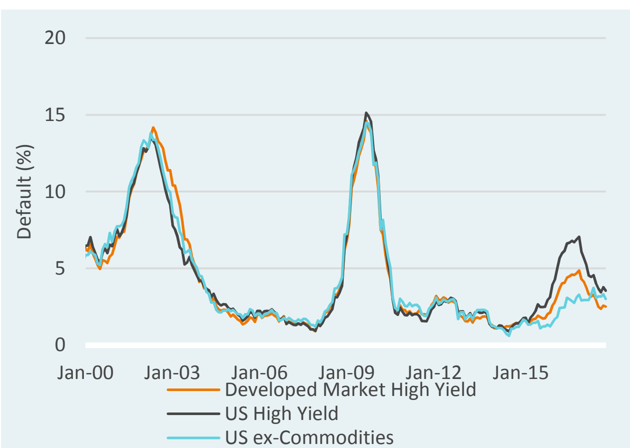
Senior loan and high yield markets normalized in 2017, compared to 2016 when a majority of defaults were generated from energy and metals/mining sectors.

Issuance in bonds and loans both increased in 2017. The majority of proceeds were used for refinancing activity as the market continues to be borrower-friendly, allowing issuers to refinance at lower rates.

Active management may offer value to investors in the high yield space.

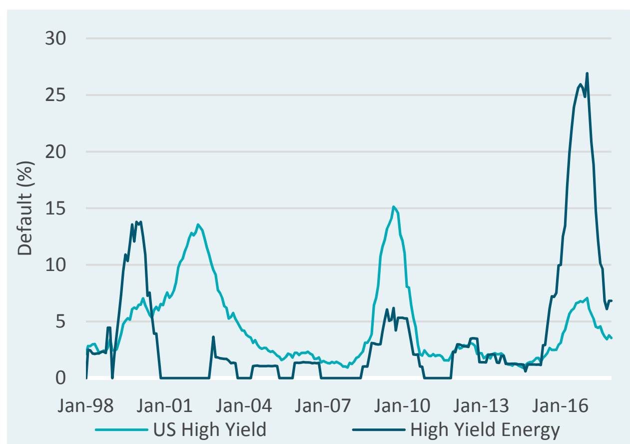
The effects of commodity related defaults are subsiding

HY DEFAULT TRENDS (ROLLING 1 YEAR)



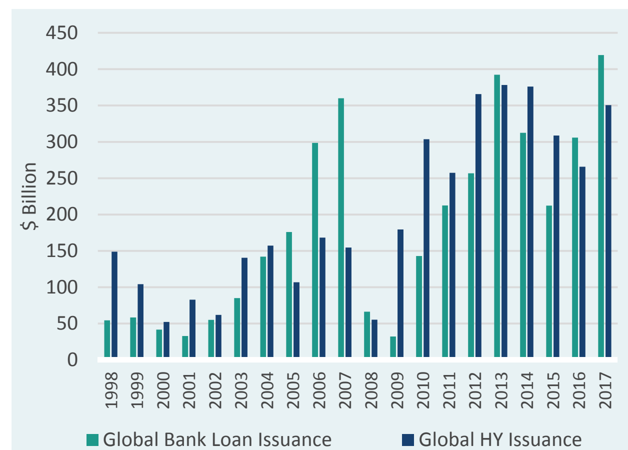
Source: BofA Merrill Lynch, as of 12/31/17

ENERGY DEFAULT TRENDS



Source: BofA Merrill Lynch, as of 12/31/17

GLOBAL ISSUANCE



Source: Bloomberg, BofA Merrill Lynch, as of 12/31/17

Equity

Equity environment

— We maintain an overweight position to equities with a preference for emerging markets. Equity markets delivered strong returns over the quarter and were supported by robust earnings growth. Emerging markets provided outsized gains as is often the case in periods of strong economic growth.

— U.S. corporate earnings are expected to increase by 13.1% YoY in 2018 according to Factset. Expectations improved by a net 2% following the Tax Cuts & Jobs Act, which lowered the corporate tax rate from 35% to 21%, effective January 1st, 2018. Energy and Financial sectors are expected to lead in earnings with growth of 47% and 25%, respectively.

— The way businesses spend tax savings may have significant positive effects on wages, capital investment, and equity returns. We will be monitoring this activity throughout the year.

— Equity volatility has stayed extraordinarily low. U.S. market volatility over the past year was 3.9% (S&P 500), followed by International at 4.2% (MSCI EAFE) and emerging markets at 6.5% (MSCI Emerging Markets). Low equity volatility has historically indicated less risk of an equity downside event.

— Currency movement contributed to volatility and uncertainty in international assets for investors with unhedged exposure. Recently, the U.S. dollar has weakened, creating a tailwind for unhedged performance.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	6.6%		21.7%		21.7%	
US Small Cap (Russell 2000)	3.3%		14.6%		14.6%	
US Large Value (Russell 1000 Value)	5.3%		13.7%		13.7%	
US Large Growth (Russell 1000 Growth)	7.9%		30.2%		30.2%	
International Large (MSCI EAFE)	4.3%	4.0%	25.7%	16.8%	25.7%	16.8%
Eurozone (Euro Stoxx 50)	(0.4%)	(1.8%)	25.3%	11.1%	25.3%	11.1%
U.K. (FTSE 100)	6.0%	5.3%	22.6%	12.9%	22.6%	12.9%
Japan (NIKKEI 225)	12.0%	12.3%	25.7%	21.9%	25.7%	21.9%
Emerging Markets (MSCI Emerging Markets)	7.3%	5.3%	37.3%	28.6%	37.3%	28.6%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/17

Domestic equity

U.S. equities produced gains over the quarter (S&P 500 +6.6%), adding to record highs. Over the past year, U.S. equity performance (S&P 500 +21.8%) has lagged international developed equities (MSCI EAFE +25.0%) and emerging markets (MSCI Emerging Markets +37.3%). Performance of each equity market is in line with the degree of earnings growth – emerging markets have produced the strongest year-over-year growth and the U.S. has produced the weakest earnings growth. However, earnings growth in the U.S. has still been strong relative to history.

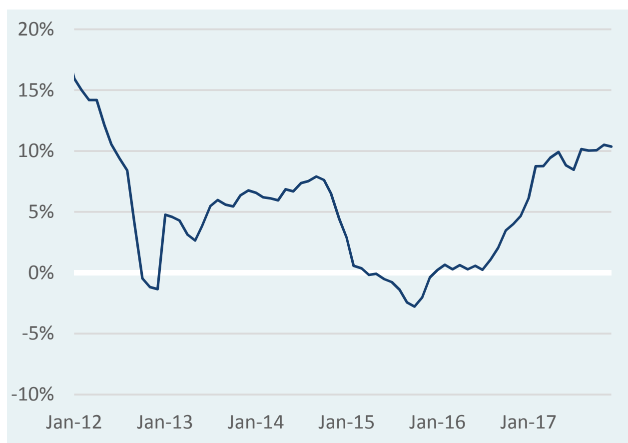
U.S. corporate earnings are expected to increase by 13.1% YoY in 2018, according to Factset. Forecasts were revised upwards by a net 2% following the passing of tax cuts. Energy and Financial sectors are expected to lead in earnings with growth of 47% and 25%, respectively. The way businesses spend additional tax savings may have significant positive effects on wages, capital investment, and equity returns. We will be monitoring the situation throughout the year.

We maintain a neutral weight to U.S. equities

U.S. EQUITIES

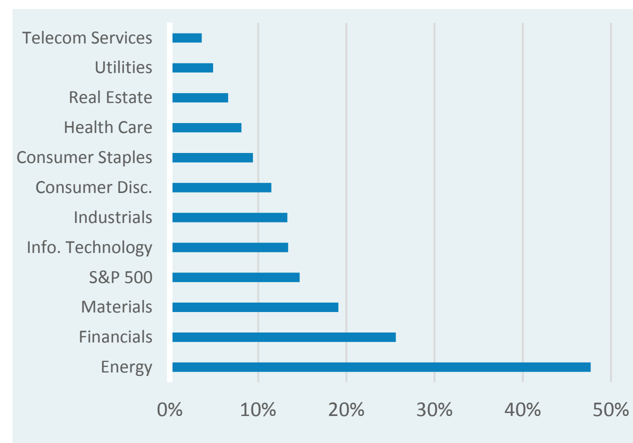
Source: Russell Investments, as of 12/31/17

EARNINGS GROWTH



Source: MSCI, as of 12/31/17, YoY growth in forward earnings

2018 S&P 500 EARNINGS EXPECTATIONS



Source: FactSet, as of 1/12/18

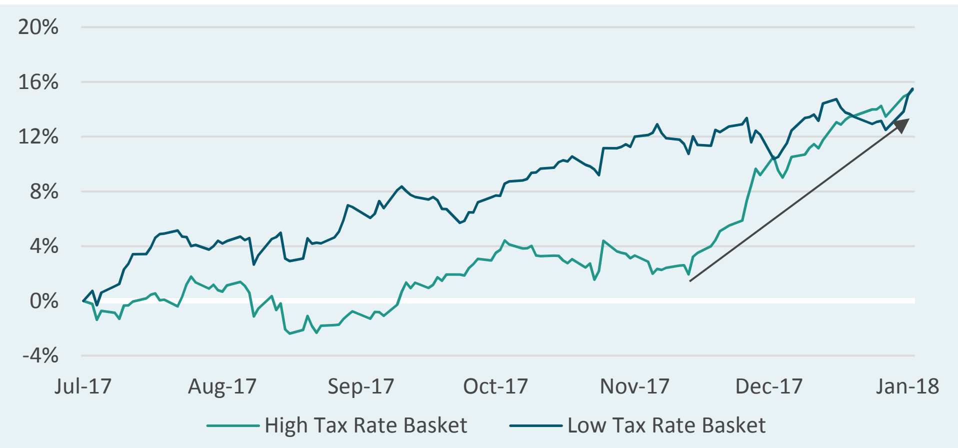
U.S. tax reform

The House and Senate passed a final tax bill, which was then signed into law by President Trump on December 22, 2017. The most widely publicized component of the bill is a corporate tax cut that lowers the statutory tax rate from 35% to 21%. The tax cut should result in a material boost to corporate earnings, which was priced into markets as the proposal was negotiated. Equities with relatively high effective tax rates significantly outperformed those with low effective tax rates since November. We believe that higher earnings growth resulting from the one-time tax cut is likely fully priced into equities.

The second component to the tax cut relates to the way corporations choose to use the savings. Its impact is more difficult to determine. In the past, firms have used tax savings to return capital to shareholders, which will likely play an important role once again. We believe that in the current economic and deregulatory environment, a material gain in business investment and wages is possible. A rise in investment could lead to further earnings growth and would have a more lasting impact on the economy than if firms simply return the savings to shareholders.

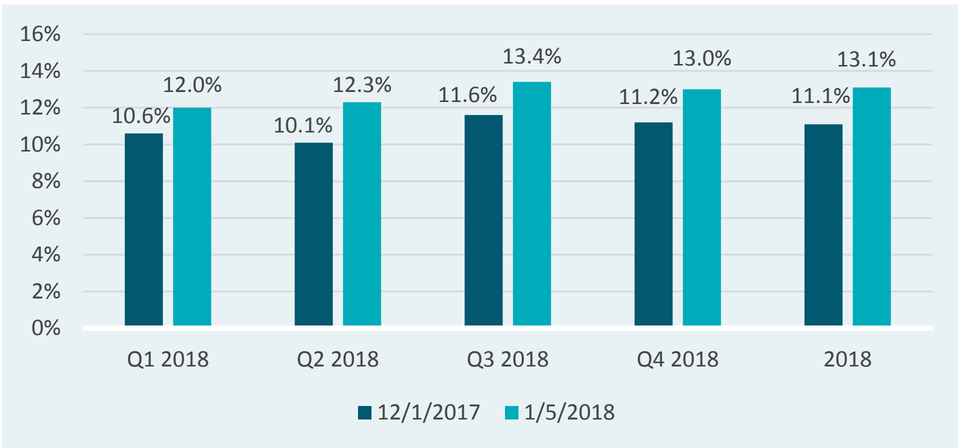
Corporate tax cuts will be a boost to earnings

S&P 500 HIGH TAX RATE VS. LOW TAX RATE BASKET



Source: Bloomberg, Verus, as of 1/4/18

S&P 500 2018 EARNINGS EXPECTATIONS



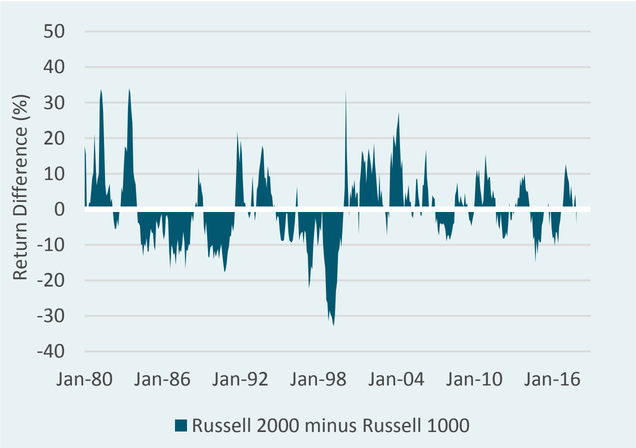
Source: FactSet, as of 1/5/18

Domestic equity size and style

Large cap equities (Russell 1000 +6.6%) continued to outperform small cap equities (Russell 2000 +3.3%) during the quarter. Small cap stocks are very expensive relative to history based on traditional measures. It appears that a greater number of companies in the small cap universe with low or negative earnings has contributed to rising price-to-earnings multiples of the index.

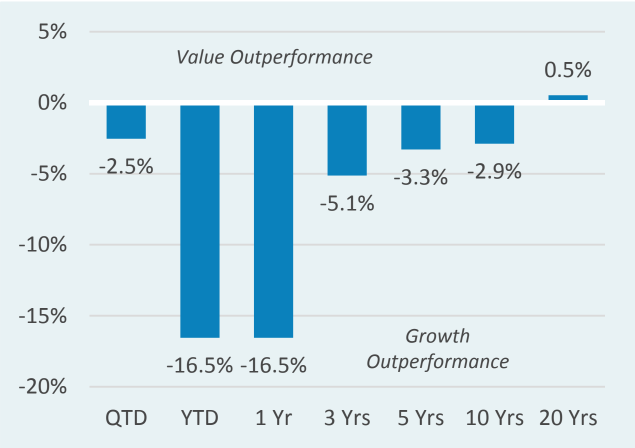
Value equities underperformed growth equities over the quarter and the past year – caused by extremely positive technology sector performance (growth stocks are highly concentrated in the tech sector). Value has now underperformed on a 1-, 3-, 5-, and 10-year basis. Value stocks have underperformed over a 10-year period only twice in the past 100 years – during the great depression (1937) and during the dotcom bubble (1999). Both of these occasions were followed by an impressive bounce back in value performance.

SMALL CAP VS LARGE CAP (YOY)



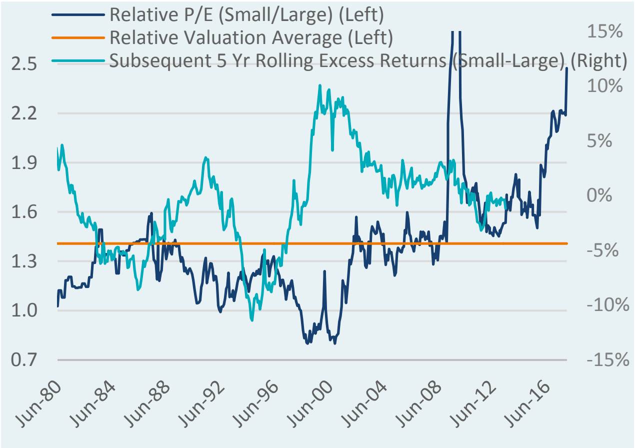
Source: Russell Investments, as of 12/31/17

U.S. VALUE VS GROWTH RELATIVE PERFORMANCE



Source: Morningstar, as of 12/31/17

U.S. LARGE VS. SMALL RELATIVE VALUATIONS



Source: Russell, Bloomberg, as of 12/31/17

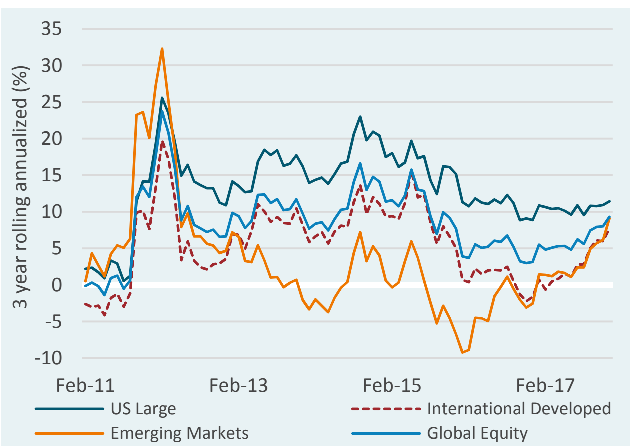
International developed equity

International equities lagged U.S. equities during the fourth quarter as U.S. tax reform contributed to a strong domestic rally. The MSCI EAFE Index returned 4.3% (+4.0% hedged) while the S&P 500 returned 6.6%. Emerging markets continued to outperform (MSCI EM +7.4% unhedged).

Japan outperformed among developed markets, which is particularly notable when considering the pessimism baked into Japan's equity valuations. Japan generated a 12.0% return in the fourth quarter and a 25.7% return in 2017 (Nikkei 225 unhedged). Recent equity gains were fundamentally supported by earnings growth.

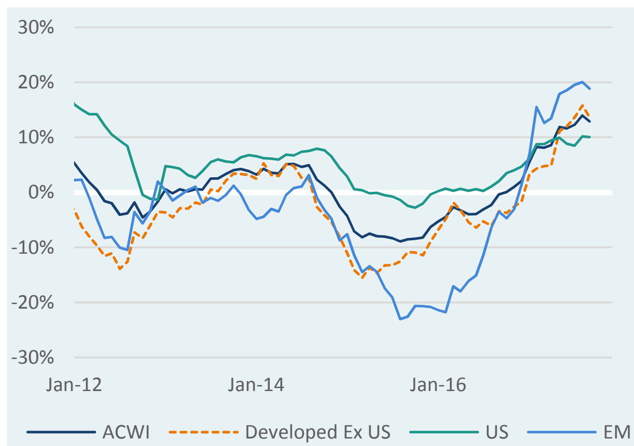
Currency effects added a positive 0.3% to the unhedged MSCI EAFE in Q4 (+8.9% year-to-date), as the U.S. dollar weakened slightly against a trade weighted basket of currencies.

EQUITY PERFORMANCE (3YR ROLLING)



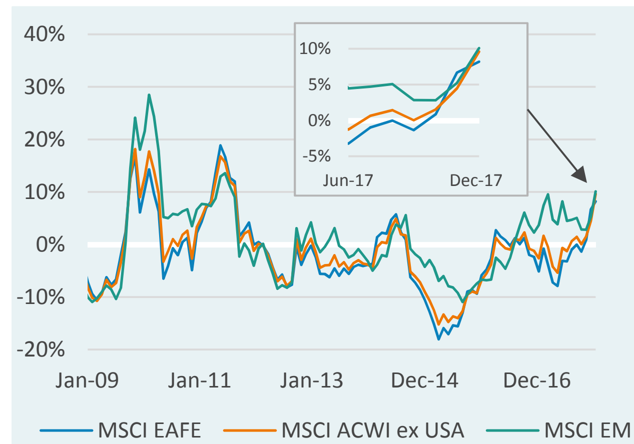
Source: Bloomberg, as of 12/31/17

EARNINGS GROWTH



Source: MSCI, as of 12/31/17 – YoY growth in forward earnings

EFFECT OF CURRENCY (1 YEAR ROLLING)



Source: MSCI, as of 12/31/17

Emerging market equity

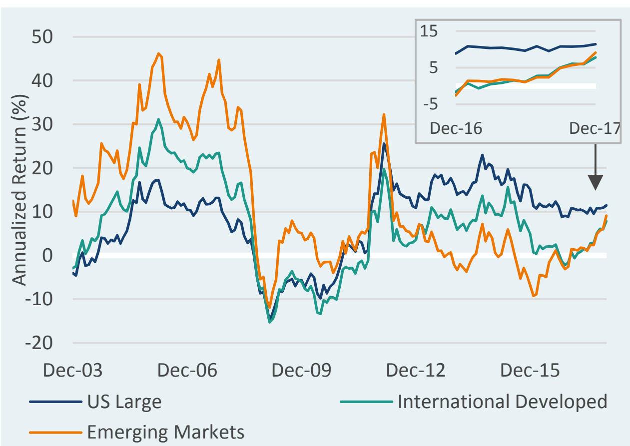
We maintain an overweight to emerging market equities. These markets have led the way in economic growth, earnings, and equity performance. Emerging market equities delivered exceptional returns in 2017 (MSCI Emerging Markets +37.3%) relative to developed markets (MSCI ACWI +24.2%) and during the fourth quarter (7.4% vs. 4.2%).

Emerging markets have lagged the U.S. significantly since the global financial crisis, prior to the recent rotation. Emerging market currencies remain depressed relative to history, and a reversal could provide additional tailwinds to recent outperformance.

Equity multiples have risen modestly, supported by a brighter earnings outlook. As these economies evolve, it has become more difficult to refer to emerging markets as a distinct category. Different levels of economic progress, capital market development, and valuations can be witnessed across emerging market indices. Active management is typically preferred in this asset class.

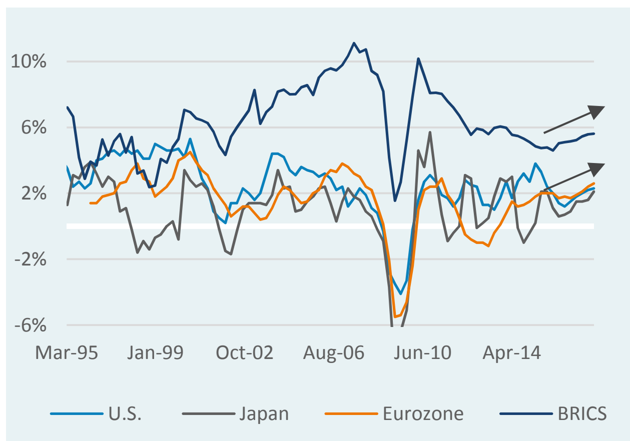
Coordinated global growth has helped propel emerging market equities

EQUITY PERFORMANCE (3YR ROLLING)



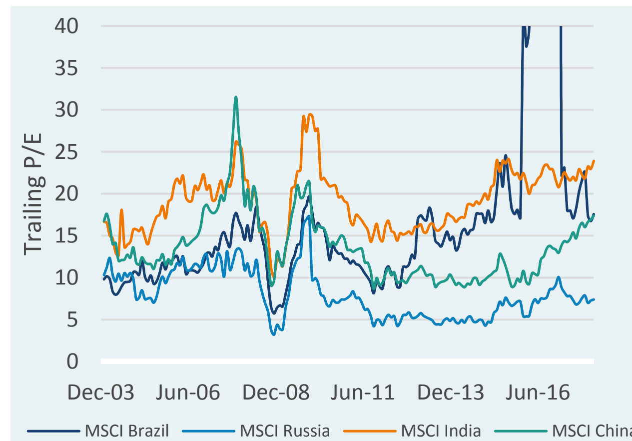
Source: Standard & Poor's, MSCI, as of 12/31/17

ECONOMIC MOMENTUM



Source: Bloomberg, as of 9/30/17

BRIC VALUATIONS



Source: MSCI, as of 12/31/17

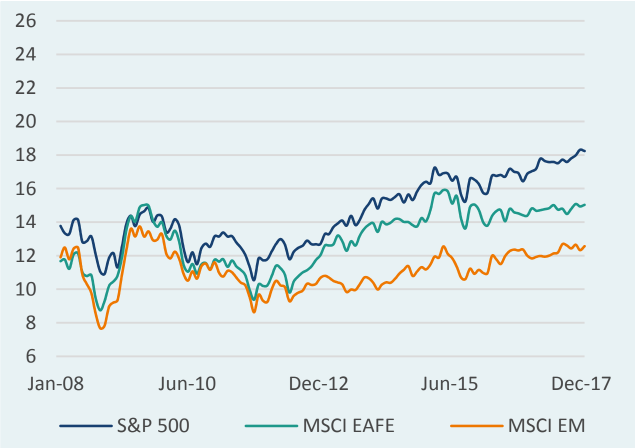
Equity valuations

Equity valuations grew slightly richer over the quarter and remain high. However, strong underlying earnings growth has sustained above-average performance. Global economic acceleration, robust earnings growth, and accommodative monetary policies contribute to our view that a risk overweight position is warranted.

Comparing valuation increases to earnings growth demonstrates that the recent pickup in equity performance is fundamentally driven (fueled by earnings rather than higher equity prices). In this environment the forward P/E measure tends to provide a more accurate representation of valuations. Equity price is a product of expectations for future earnings and cash flows. The forward P/E measure takes into account future earnings while the trailing P/E focuses on past earnings, which leads the trailing P/E measure to incorrectly rise during times when prices and earnings may in fact be rising at the same pace (implying no true valuation movement).

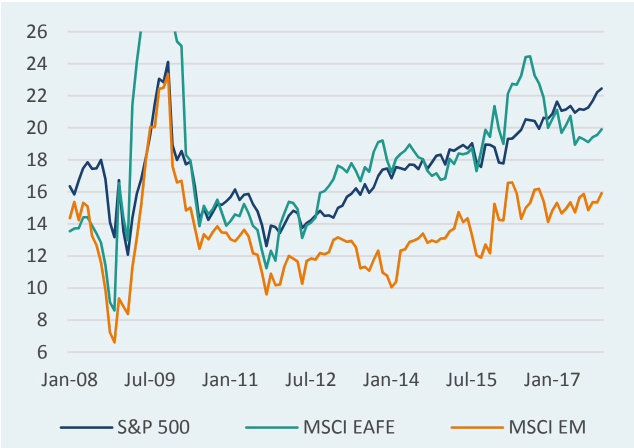
Higher valuations imply lower future equity returns over the longer-term. However, over shorter periods of time equities may produce strong returns despite high valuations, as seen recently.

FORWARD P/E RATIOS



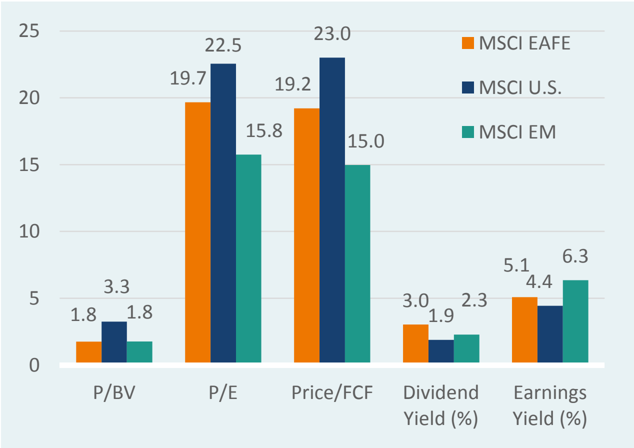
Source: MSCI, as of 12/31/17

TRAILING P/E RATIOS



Source: Bloomberg, as of 12/31/17

VALUATION METRICS



Source: Bloomberg, as of 12/31/17 - trailing P/E

Shiller P/E

Source: Robert Shiller, Verus – The light blue line is Robert Shiller's CAPE ratio over the past 30 years. Each line illustrates how the CAPE ratio will move assuming various after-inflation earnings growth rates, and assuming equity prices increase at the rate of inflation.

- The Shiller P/E, or CAPE ratio (cyclically adjusted price-to-earnings), uses current market price divided by average real (inflation-adjusted) corporate earnings of the past 10 years to arrive at a valuation multiple.
- The CAPE ratio is currently very high relative to history, though this can be partly explained by the fact that the past 10 years of earnings includes the global financial crisis – one of worst earnings depressions in history (which has pushed the CAPE ratio upward).
- The chart on the left illustrates that the CAPE ratio will come down significantly in the near future, all other things being equal, as the global financial crisis falls out of the CAPE's 10 year earnings window.

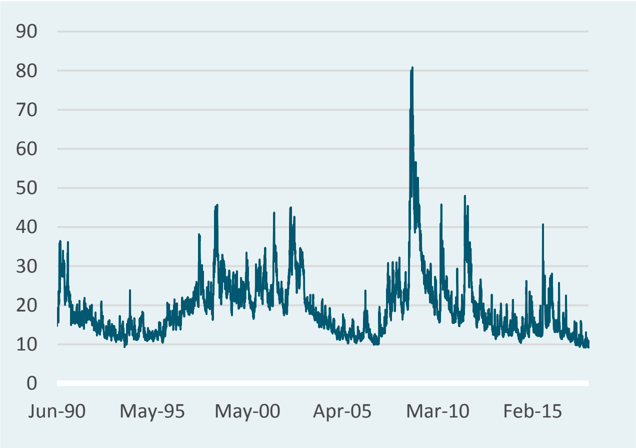
Equity volatility

Equity volatility has stayed extraordinarily low. U.S. market volatility over the past year was 3.9% (S&P 500), compared to its historical average annualized volatility of 14.2%. International equity volatility has also been low with developed markets at 4.2% (MSCI EAFE) and emerging markets at 6.5% (MSCI Emerging Markets). Implied volatility as indicated by the VIX has also remained suppressed. Muted volatility environments have historically resulted in a lower probability of a significant market drawdown.

The current low volatility environment has been influenced by very few significant economic surprises. Steady increases in GDP growth and consistent inflation, which is likely a byproduct of central bank intervention, has helped lead to stable asset price movements. Volatility may begin to return to more normal levels if central banks stay on course with monetary tightening. However, central banks will likely remain very sensitive to contributing to market volatility.

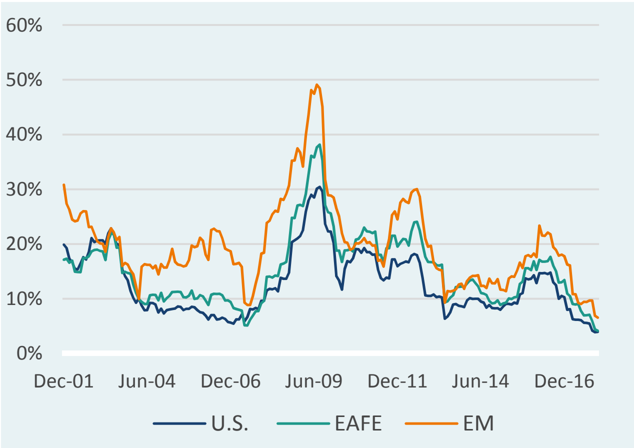
Equity volatility has trended downwards

U.S. IMPLIED VOLATILITY (VIX)



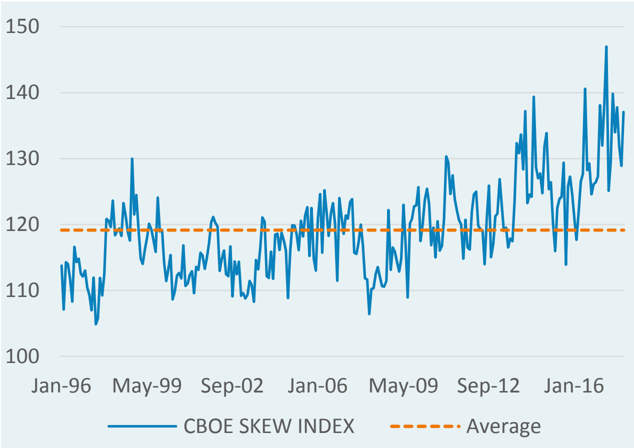
Source: CBOE, as of 12/31/17

REALIZED 1-YEAR ROLLING VOLATILITY



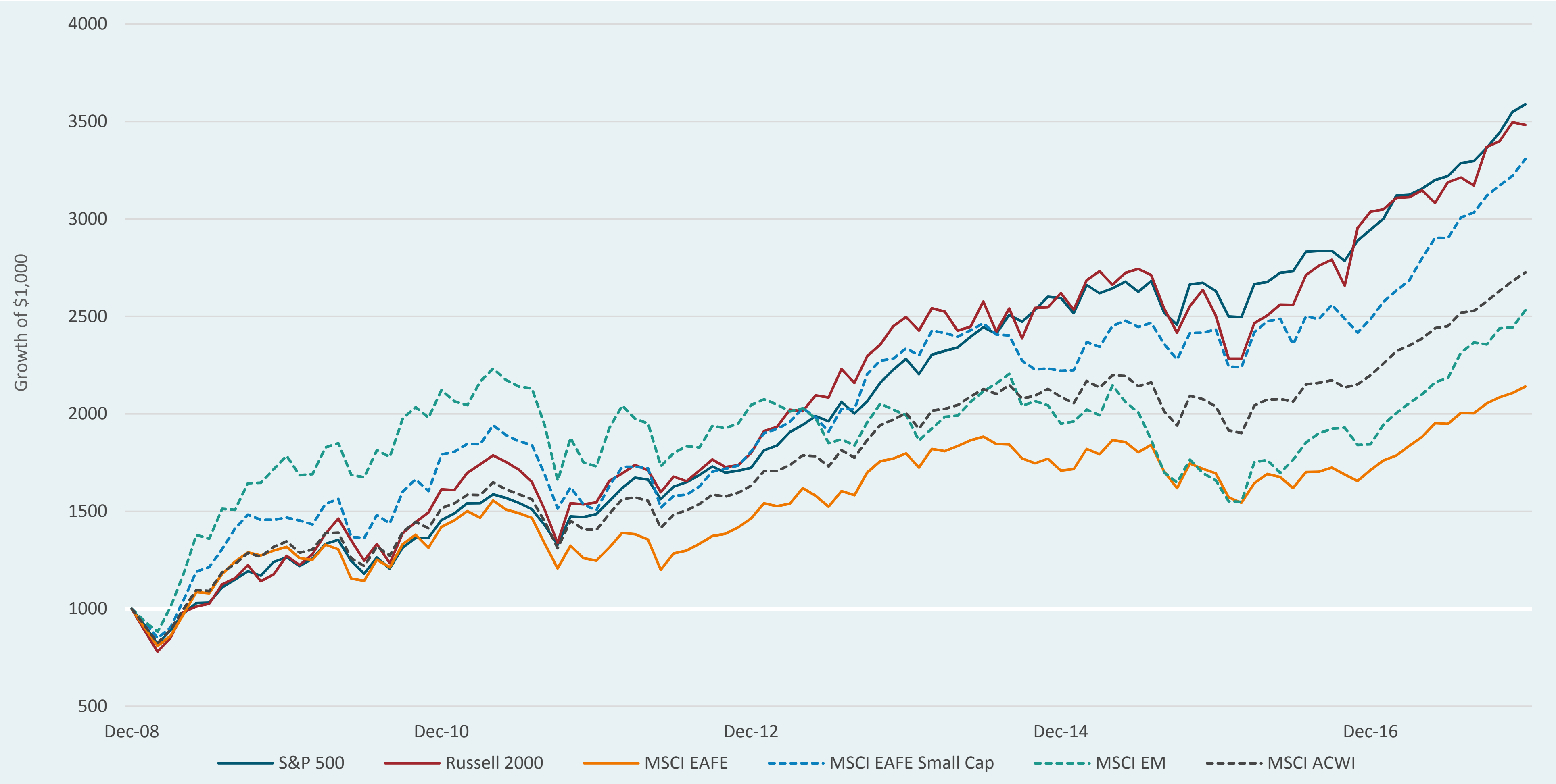
Source: Bloomberg, as of 12/31/17

U.S. VOLATILITY SKEW



Source: CBOE, as of 12/31/17

Long-term equity performance



Source: MPI, as of 12/31/17

Other assets

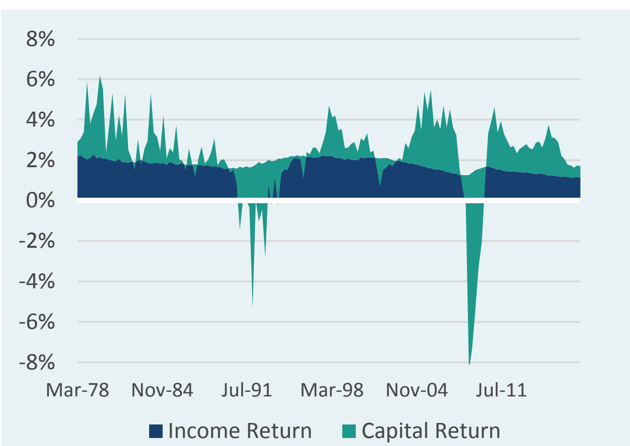
Real estate

The core real estate market experienced lower returns in recent quarters than earlier in the cycle as price appreciation has slowed. In the third quarter, the NCREIF Property Index returned 1.7%, of which a net 1.1% came from income. With cap rates at 4.4% as of September 30th, further real estate price appreciation may be difficult. Income will likely continue to play a central role in overall returns.

Although valuations are high, fundamentals remain positive. Growth in net operating income (NOI) has leveled out, but is still healthy at 5.2% and transaction volumes are above average. NOI growth has been driven by industrial properties, which have benefitted from the expansion of e-commerce. On the other side of the e-commerce trend, retail properties have experienced weak NOI growth. The downtrend in vacancy rates has flattened out, but vacancies are still low relative to history at 6.7%.

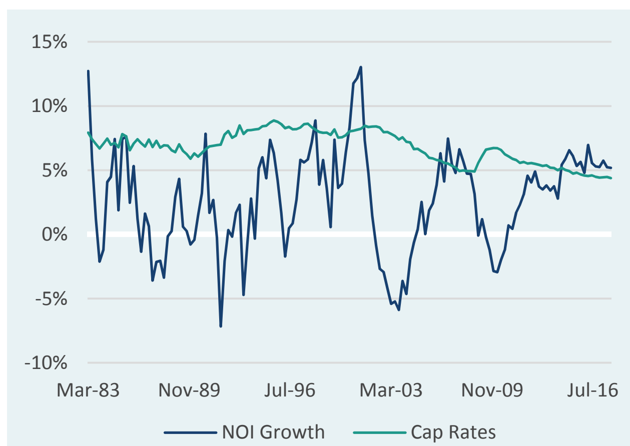
Given where real estate stands in the cycle, we recommend a conservative approach to leverage, liquidity, and quality. We are more constructive on core real estate, as opposed to value add or opportunistic.

NCREIF PROPERY INDEX RETURNS



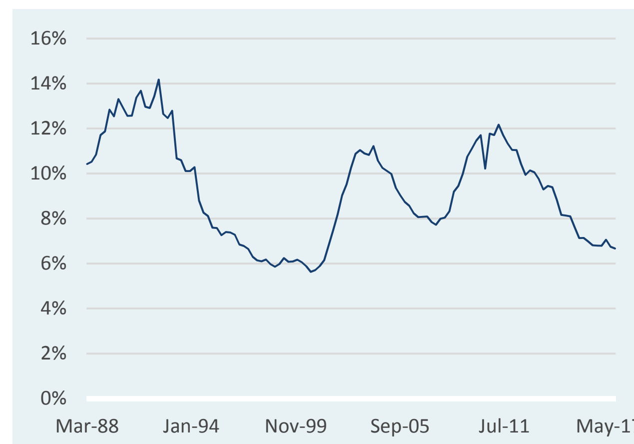
Source: NCREIF, as of 9/30/17

NOI GROWTH & CAP RATES



Source: NCREIF, as of 9/30/17

VACANCY RATES



Source: NCREIF, as of 9/30/17

Currency

The U.S. dollar was little changed in the fourth quarter, but finished the year down 7%. Investors with unhedged international asset exposure have seen large disparities in performance as currency movement continued to contribute to volatility and uncertainty.

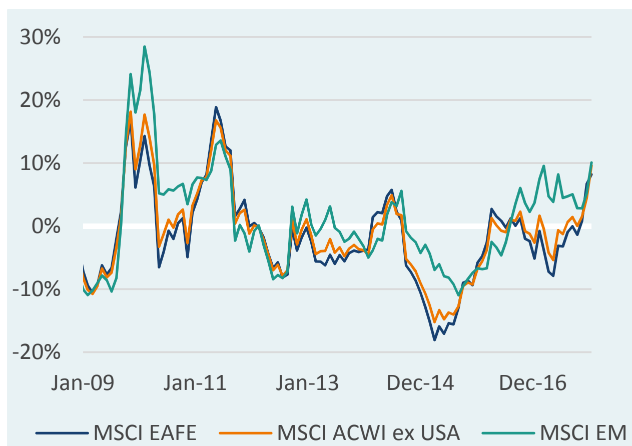
Recent strengthening of developed and developing economies relative to the U.S. has likely contributed to U.S. dollar weakness. The U.S. Federal Reserve is engaged in monetary tightening, which implies a stronger dollar on a standalone basis. However, U.S. growth expectations have shifted relative to international economies which has influenced exchange rates and contributed to recent U.S. dollar movement. Fluctuations in relative growth expectations implies changes in expected inflation and interest rate levels, which directly impacts the foreign exchange market.

Forecasting currency movement over short periods of time can be extremely difficult. Hedging currency risk is an appropriate method for mitigating currency volatility and uncertainty.

U.S. DOLLAR TRADE WEIGHTED INDEX

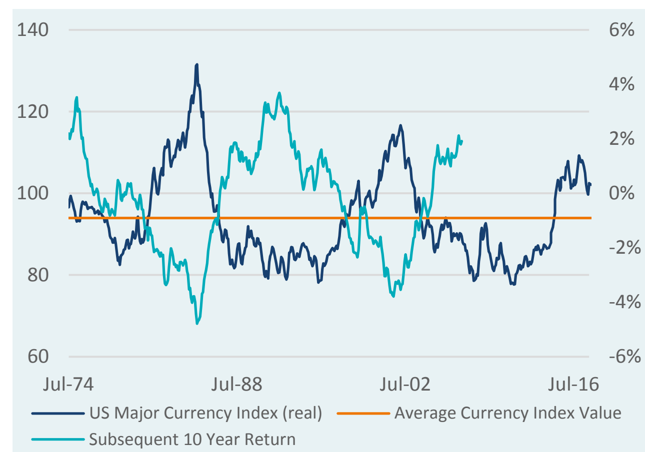
Source: Federal Reserve, as of 12/27/17

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MPI, as of 12/31/17

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 12/31/17

Appendix

Periodic table of returns

BEST

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD	5-Year	10-Year
Emerging Markets Equity	16.6	38.4	23.2	35.2	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	17.3	10.0
Large Cap Growth	8.1	37.8	23.1	32.9	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	15.2	9.2
International Equity	6.4	37.2	22.4	31.8	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	15.7	8.7
Small Cap Growth	4.4	31.0	21.6	30.5	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	14.1	8.6
Large Cap Equity	3.2	28.5	21.4	22.4	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	14.0	8.2
60/40 Global Portfolio	2.6	25.7	16.5	16.2	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	13.0	7.1
Small Cap Equity	0.4	19.6	14.4	13.9	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	10.3	6.2
Large Cap Value	-1.5	18.5	11.3	12.9	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	7.9	4.3
Small Cap Value	-1.8	15.2	10.3	10.6	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	6.8	4.0
Hedge Funds of Funds	-2.0	11.6	9.9	9.7	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	4.3	1.9
Real Estate	-2.4	11.1	6.4	5.2	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	5.1	4.0	1.7
US Bonds	-2.9	7.5	6.0	2.1	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	2.1	1.1
Commodities	-3.5	5.7	5.1	-3.4	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	0.3	0.3
Cash	-7.3	-5.2	3.6	-11.6	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-8.5	-6.8

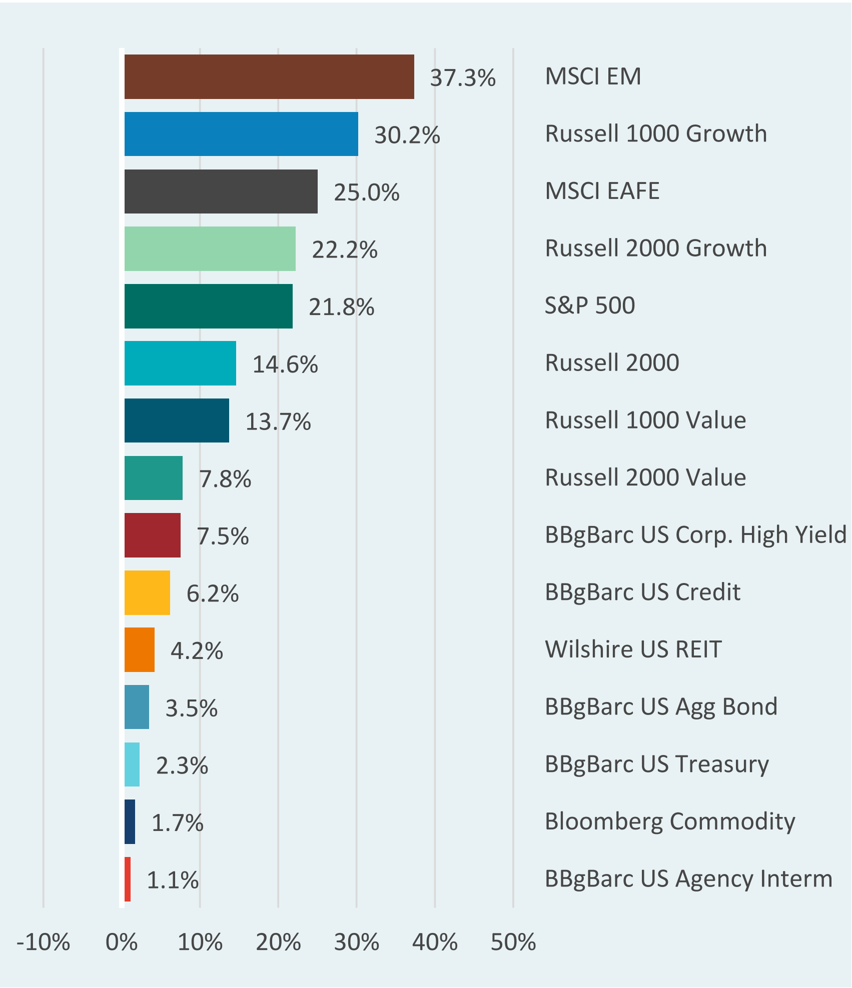
WORST

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value
- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash
- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% BBgBarc Global Bond

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 9/30/17.

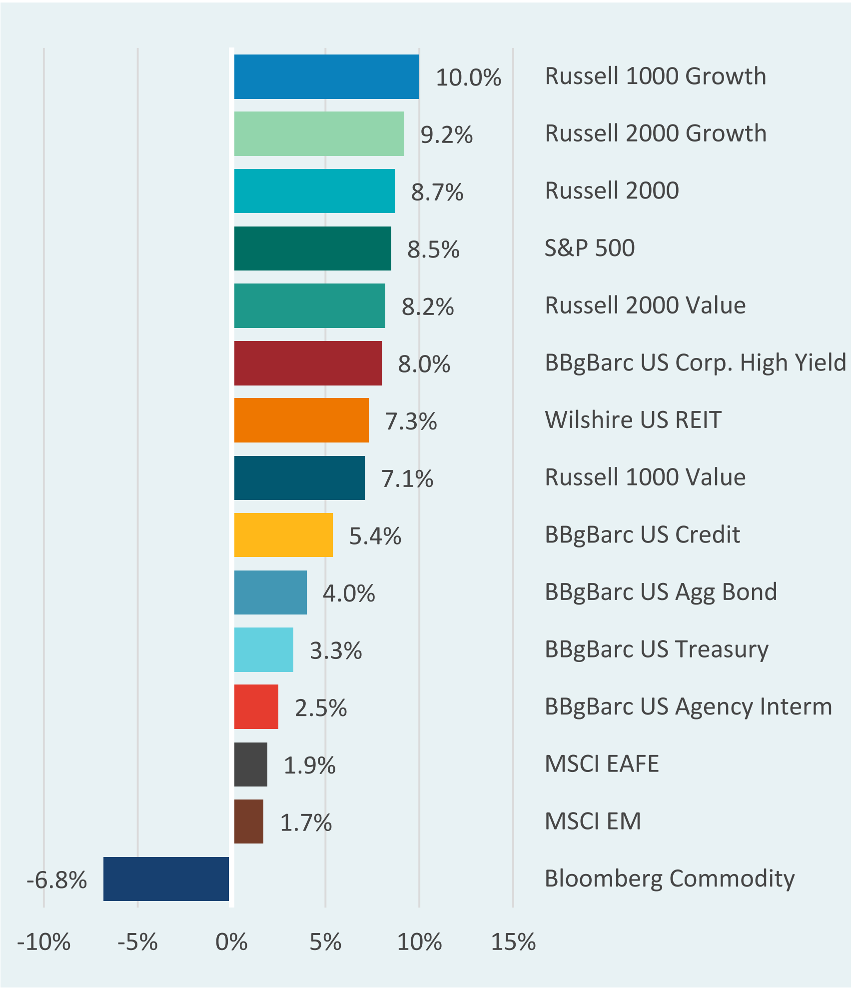
Major asset class returns

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/17

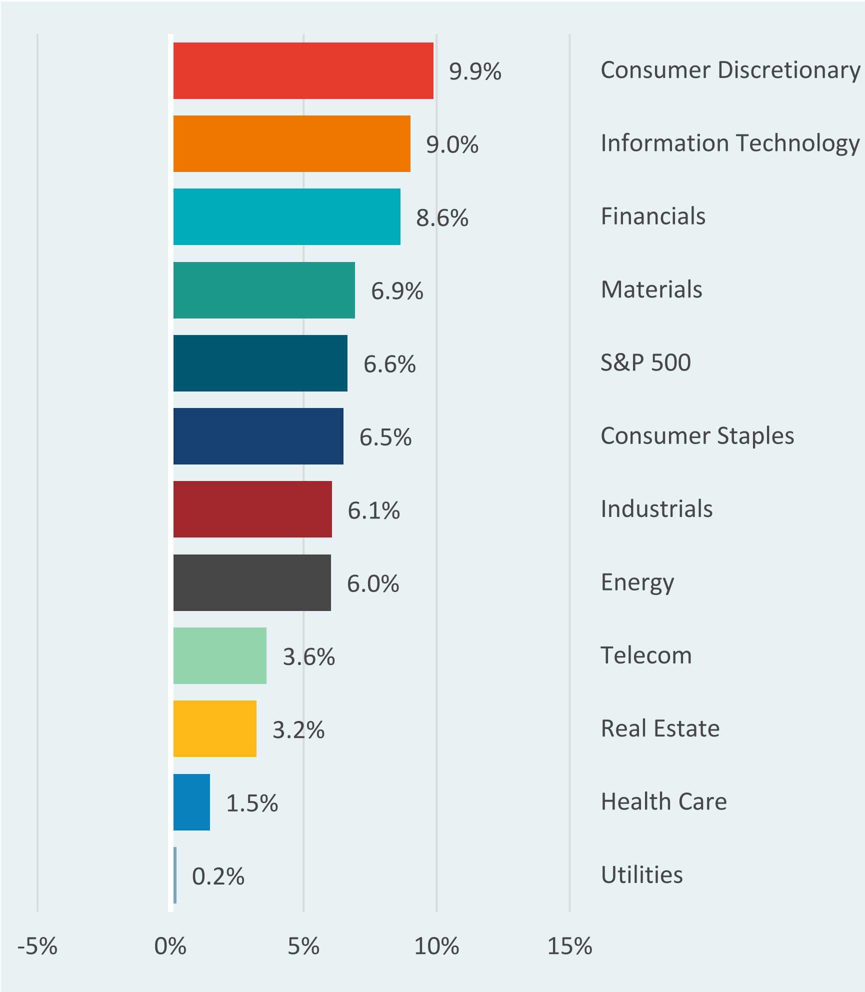
TEN YEARS ENDING DECEMBER



Source: Morningstar, as of 12/31/17

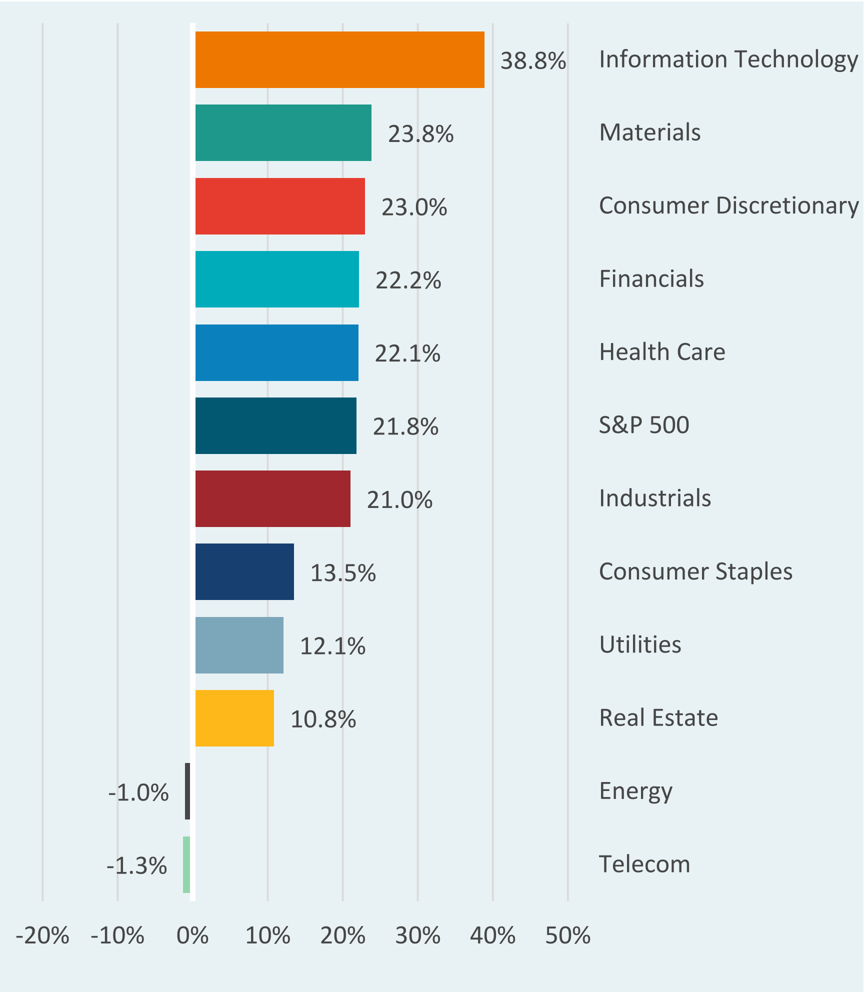
S&P 500 sector returns

4TH QUARTER



Source: Morningstar, as of 12/31/17

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/17

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	1.1	6.6	21.8	21.8	11.4	15.8	8.5
S&P 500 Equal Weighted	1.2	6.2	18.9	18.9	10.1	15.8	10.2
DJ Industrial Average	1.9	11.0	28.1	28.1	14.4	16.4	9.3
Russell Top 200	1.2	6.8	23.0	23.0	11.9	16.0	8.4
Russell 1000	1.1	6.6	21.7	21.7	11.2	15.7	8.6
Russell 2000	(0.4)	3.3	14.6	14.6	10.0	14.1	8.7
Russell 3000	1.0	6.3	21.1	21.1	11.1	15.6	8.6
Russell Mid Cap	0.9	6.1	18.5	18.5	9.6	15.0	9.1
Style Index							
Russell 1000 Growth	0.8	7.9	30.2	30.2	13.8	17.3	10.0
Russell 1000 Value	1.5	5.3	13.7	13.7	8.7	14.0	7.1
Russell 2000 Growth	0.1	4.6	22.2	22.2	10.3	15.2	9.2
Russell 2000 Value	(1.0)	2.0	7.8	7.8	9.5	13.0	8.2

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US Treasury US TIPS	0.9	1.3	3.0	3.0	2.1	0.1	3.5
BBgBarc US Treasury Bills	0.1	0.2	0.8	0.8	0.4	0.3	0.5
BBgBarc US Agg Bond	0.5	0.4	3.5	3.5	2.2	2.1	4.0
Duration							
BBgBarc US Treasury 1-3 Yr	0.0	(0.3)	0.4	0.4	0.6	0.6	1.5
BBgBarc US Treasury Long	1.7	2.4	8.5	8.5	2.8	3.5	6.6
BBgBarc US Treasury	0.3	0.1	2.3	2.3	1.4	1.3	3.3
Issuer							
BBgBarc US MBS	0.3	0.2	2.5	2.5	1.9	2.0	3.8
BBgBarc US Corp. High Yield	0.3	0.5	7.5	7.5	6.4	5.8	8.0
BBgBarc US Agency Interm	0.0	(0.3)	1.1	1.1	1.1	1.0	2.5
BBgBarc US Credit	0.8	1.0	6.2	6.2	3.6	3.2	5.4

INTERNATIONAL EQUITY

Broad Index							
MSCI ACWI	1.6	5.7	24.0	24.0	9.3	10.8	4.7
MSCI ACWI ex US	2.2	5.0	27.2	27.2	7.8	6.8	1.8
MSCI EAFE	1.6	4.2	25.0	25.0	7.8	7.9	1.9
MSCI EM	3.6	7.4	37.3	37.3	9.1	4.3	1.7
MSCI EAFE Small Cap	2.7	6.1	33.0	33.0	14.2	12.9	5.8
Style Index							
MSCI EAFE Growth	1.7	5.2	28.9	28.9	9.2	8.8	2.7
MSCI EAFE Value	1.5	3.2	21.4	21.4	6.4	6.9	1.1
Regional Index							
MSCI UK	5.0	5.7	22.3	22.3	4.1	5.2	1.5
MSCI Japan	0.7	8.5	24.0	24.0	11.6	11.2	3.2
MSCI Euro	(0.5)	0.4	26.5	26.5	7.6	7.9	(0.3)
MSCI EM Asia	2.8	8.4	42.8	42.8	11.0	7.9	3.6
MSCI EM Latin American	4.4	(2.3)	23.7	23.7	3.8	(3.2)	(1.7)

OTHER

Index							
Bloomberg Commodity	3.0	4.7	1.7	1.7	(5.0)	(8.5)	(6.8)
Wilshire US REIT	(0.1)	1.7	4.2	4.2	5.2	9.3	7.3
CS Leveraged Loans	0.4	1.2	4.2	4.2	4.5	4.3	4.6
Regional Index							
JPM EMBI Global Div	0.7	1.2	10.3	10.3	7.1	4.6	7.3
JPM GBI-EM Global Div	2.0	0.8	15.2	15.2	2.5	(1.5)	3.6
Hedge Funds							
HFRI Composite	0.9	2.5	8.5	8.5	4.2	4.9	3.2
HFRI FOF Composite	0.9	2.0	7.7	7.7	2.6	4.0	1.1
Currency (Spot)							
Euro	0.7	1.6	13.8	13.8	(0.3)	(1.9)	(1.9)
Pound	(0.1)	0.8	9.5	9.5	(4.6)	(3.6)	(3.8)
Yen	(0.7)	(0.1)	3.5	3.5	2.1	(5.2)	(0.1)

Source: Morningstar, as of 12/31/17

Definitions

Bloomberg US Weekly Consumer Comfort Index *- tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.langerresearch.com)*

University of Michigan Consumer Sentiment Index *- A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)*

Citi Economic Surprise Index *- objective and quantitative measures of economic news. Defined as weighted historical standard deviations of data surprises (actual releases vs Bloomberg survey median). A positive reading of the Economic Surprise Index suggests that economic releases have on balance been beating consensus. The indices are calculated daily in a rolling three-month window. The weights of economic indicators are derived from relative high-frequency spot FX impacts of 1 standard deviation data surprises. The indices also employ a time decay function to replicate the limited memory of markets. (www.Bloomberg.com)*

NFIB Small Business Outlook *- Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (http://www.nfib-sbet.org/about/)*

Notices & disclosures

Stanislaus County Employees' Retirement Association

Investment Performance Review

Period Ending: December 31, 2017

Verus

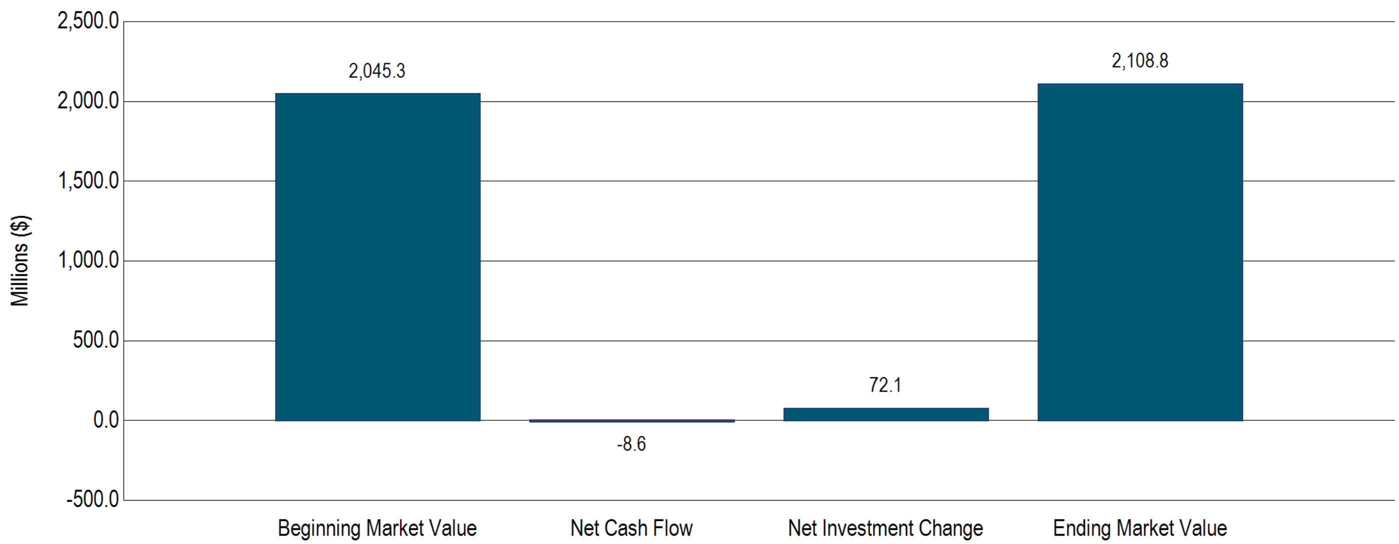
VERUSINVESTMENTS.COM

SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

Portfolio Reconciliation

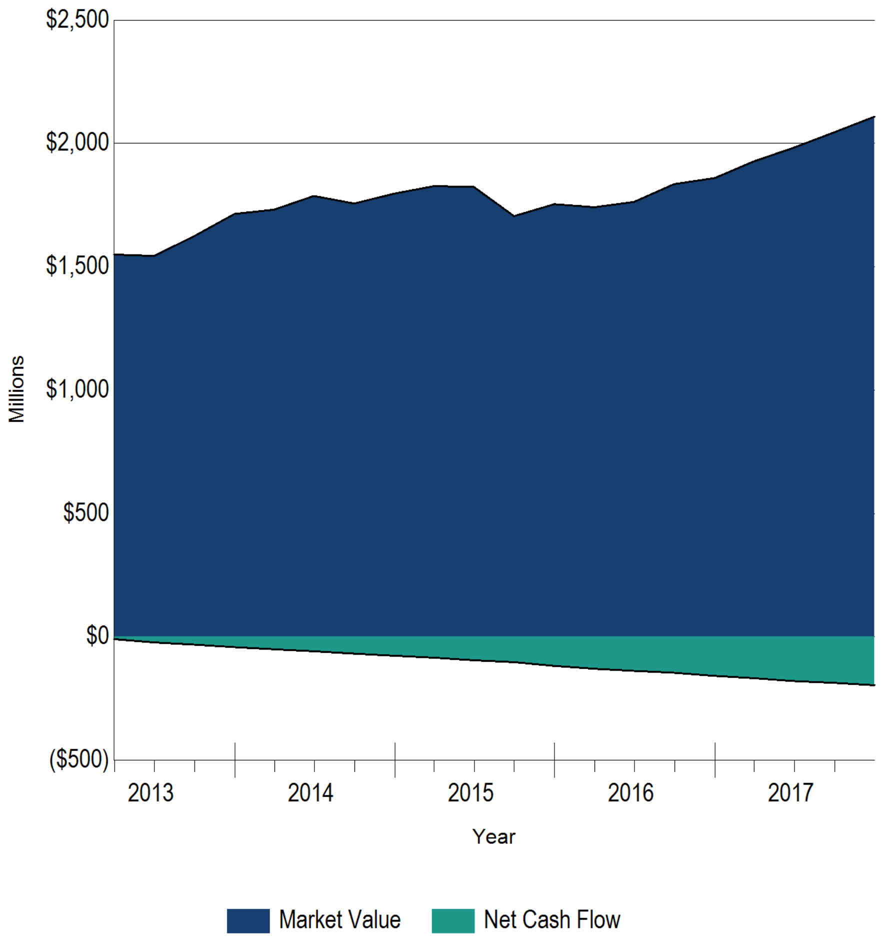
	Last Three Months	Fiscal Year-To-Date	Year-To-Date
Beginning Market Value	$2,045,287,345	$1,983,082,534	$1,859,742,905
Net Cash Flow	-$8,568,210	-$14,881,272	-$33,989,833
Net Investment Change	$72,069,313	$140,587,186	$283,035,377
Ending Market Value	$2,108,788,448	$2,108,788,448	$2,108,788,448

Change in Market Value
Last Three Months

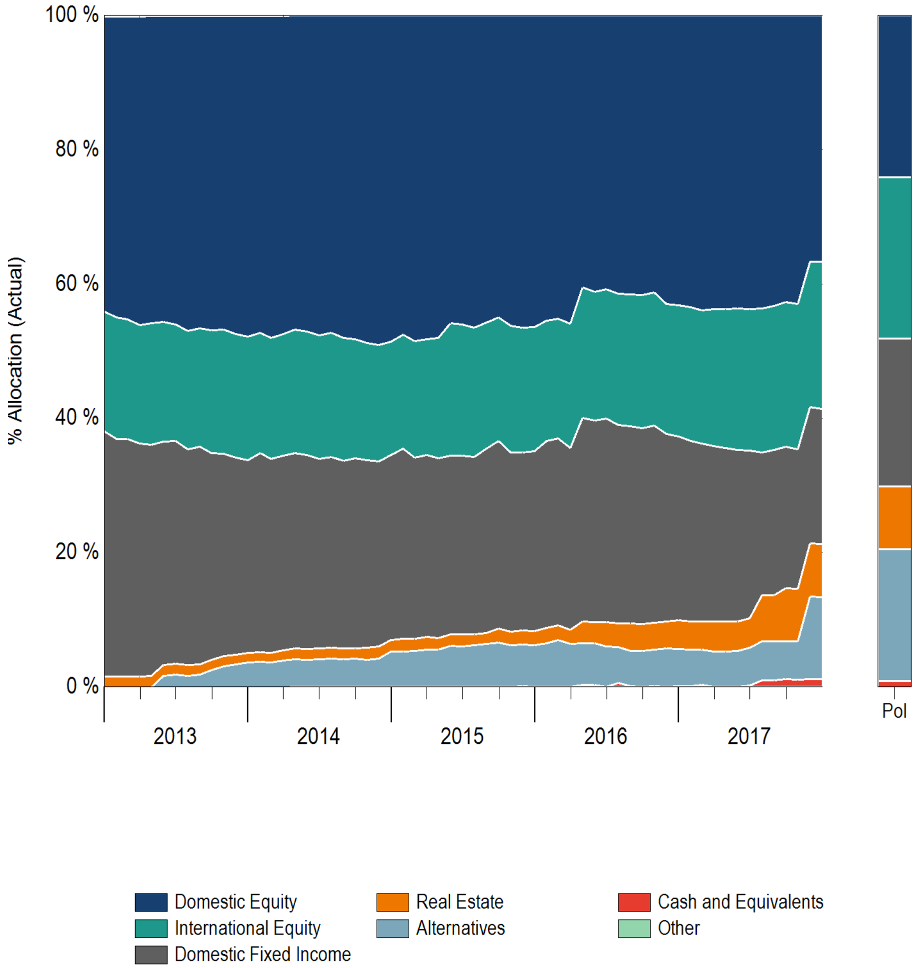


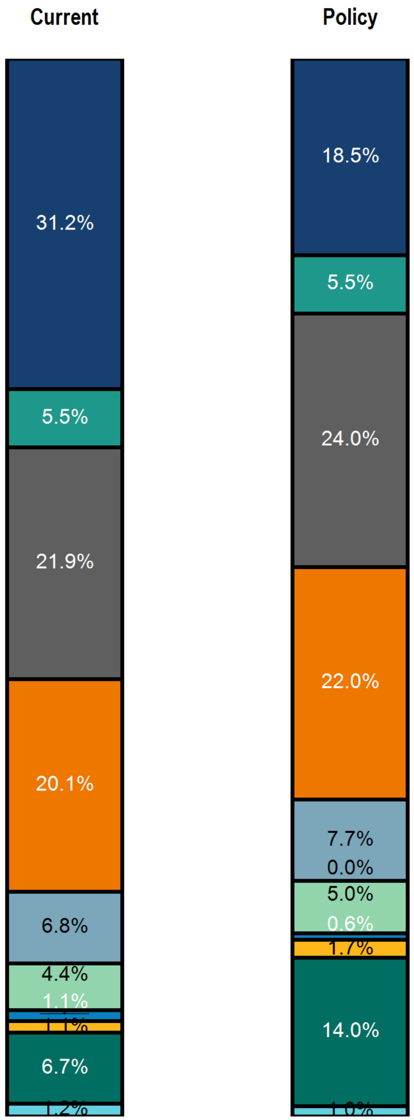
Contributions and withdrawals may include intra-account transfers between managers/funds.

Market Value History
Cumulative Cash Flows



Asset Allocation History



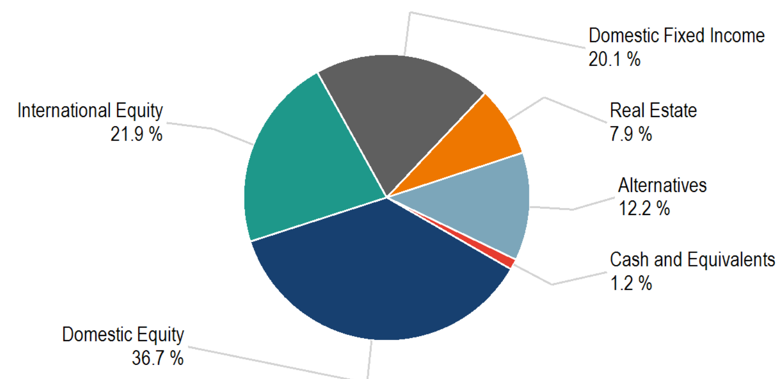


	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
U.S. Equity Large Cap	$657,683,065	31.2%	18.5%	$267,557,202	14.0% - 23.0%	No
U.S. Equity Small Cap	$115,977,301	5.5%	5.5%	-$6,064	1.0% - 10.0%	Yes
International Equity	$462,814,748	21.9%	24.0%	-$43,294,480	15.0% - 33.0%	Yes
U.S. Fixed Income	$423,793,294	20.1%	22.0%	-$40,140,164	15.0% - 29.0%	Yes
Real Estate	$142,738,366	6.8%	7.7%	-$19,638,344	5.0% - 11.0%	Yes
Private Equity	--	--	0.0%	$0	0.0% - 10.0%	Yes
Direct Lending	$93,589,935	4.4%	5.0%	-$11,849,487	0.0% - 10.0%	Yes
Infrastructure	$22,199,498	1.1%	0.6%	$9,546,767	0.0% - 3.0%	Yes
Value Added	$23,159,133	1.1%	1.7%	-$12,690,271	0.0% - 5.0%	Yes
Risk Parity	$141,652,770	6.7%	14.0%	-$153,577,613	9.0% - 19.0%	No
Cash and Equivalents	$25,180,338	1.2%	1.0%	$4,092,454	0.0% - 1.5%	Yes
Total	**$2,108,788,448**	**100.0%**	**100.0%**			

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

	QTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	**3.6**	**7.3**	**15.6**	**7.7**	**9.8**	**6.5**
Policy Index	*3.3*	*7.0*	*14.3*	*7.5*	*9.0*	*6.4*
InvestorForce Public DB Gross Rank	*54*	*46*	*45*	*42*	*17*	*19*
US Equity	**5.0**	**10.0**	**19.7**	**10.4**	**15.3**	**8.2**
US Equity Blended	*5.9*	*10.9*	*20.3*	*11.0*	*15.5*	*8.7*
Russell 3000	*6.3*	*11.2*	*21.1*	*11.1*	*15.6*	*8.6*
InvestorForce All DB US Eq Gross Rank	*94*	*89*	*72*	*74*	*51*	*68*
International Equity	**5.3**	**11.1**	**27.9**	**9.4**	**8.5**	**3.0**
MSCI ACWI ex USA Gross	*5.1*	*11.6*	*27.8*	*8.3*	*7.3*	*2.3*
InvestorForce All DB ex-US Eq Gross Rank	*28*	*56*	*61*	*39*	*38*	*41*
US Fixed Income	**0.0**	**0.9**	**3.9**	**3.2**	**3.2**	**5.4**
BBgBarc US Aggregate TR	*0.4*	*1.2*	*3.5*	*2.2*	*2.1*	*4.0*
InvestorForce All DB US Fix Inc Gross Rank	*88*	*80*	*68*	*53*	*45*	*35*
Real Estate	**1.9**	**3.6**	**7.5**	**9.0**	**11.0**	**--**
DJ US Select RESI	*2.0*	*2.4*	*3.8*	*4.9*	*9.1*	--
Direct Lending	**-0.2**	**0.3**	**-0.4**	**3.3**	**--**	**--**
9% Annual	*2.2*	*4.4*	*9.0*	*9.0*	--	--
Risk Parity	**--**	**--**	**--**	**--**	**--**	**--**
60% MSCI ACWI Net/40% BBgBarc Global Aggregate	--	--	--	--	--	--
Infrastructure	**17.3**	**22.1**	**20.9**	**--**	**--**	**--**
CPI + 5%	*0.7*	*2.7*	*6.8*	--	--	--

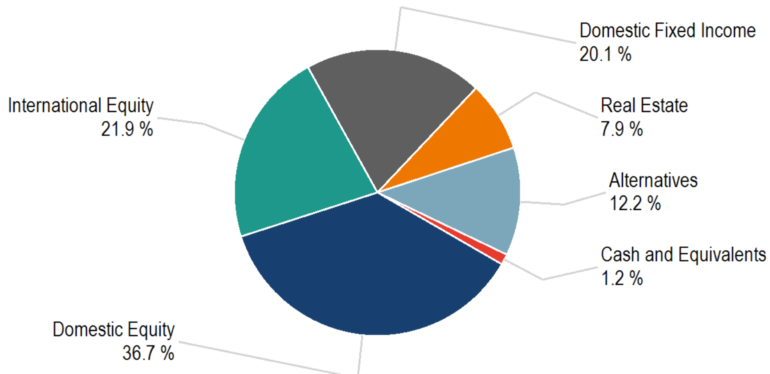
Current Allocation



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.

	QTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	3.5	7.2	15.3	7.3	9.4	6.2
Policy Index	3.3	7.0	14.3	7.5	9.0	6.4
US Equity	5.0	9.9	19.4	10.1	15.0	7.9
US Equity Blended	5.9	10.9	20.3	11.0	15.5	8.7
Russell 3000	6.3	11.2	21.1	11.1	15.6	8.6
International Equity	5.2	10.8	27.4	8.9	8.0	2.5
MSCI ACWI ex USA Gross	5.1	11.6	27.8	8.3	7.3	2.3
US Fixed Income	-0.1	0.9	3.8	3.0	3.0	5.3
BBgBarc US Aggregate TR	0.4	1.2	3.5	2.2	2.1	4.0
Real Estate	1.9	3.6	7.5	8.2	10.3	--
DJ US Select RESI	2.0	2.4	3.8	4.9	9.1	--
Direct Lending	-0.2	0.3	-0.4	2.2	--	--
9% Annual	2.2	4.4	9.0	9.0	--	--
Risk Parity	--	--	--	--	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate	--	--	--	--	--	--
Infrastructure	17.3	22.1	20.9	--	--	--
CPI + 5%	0.7	2.7	6.8	--	--	--

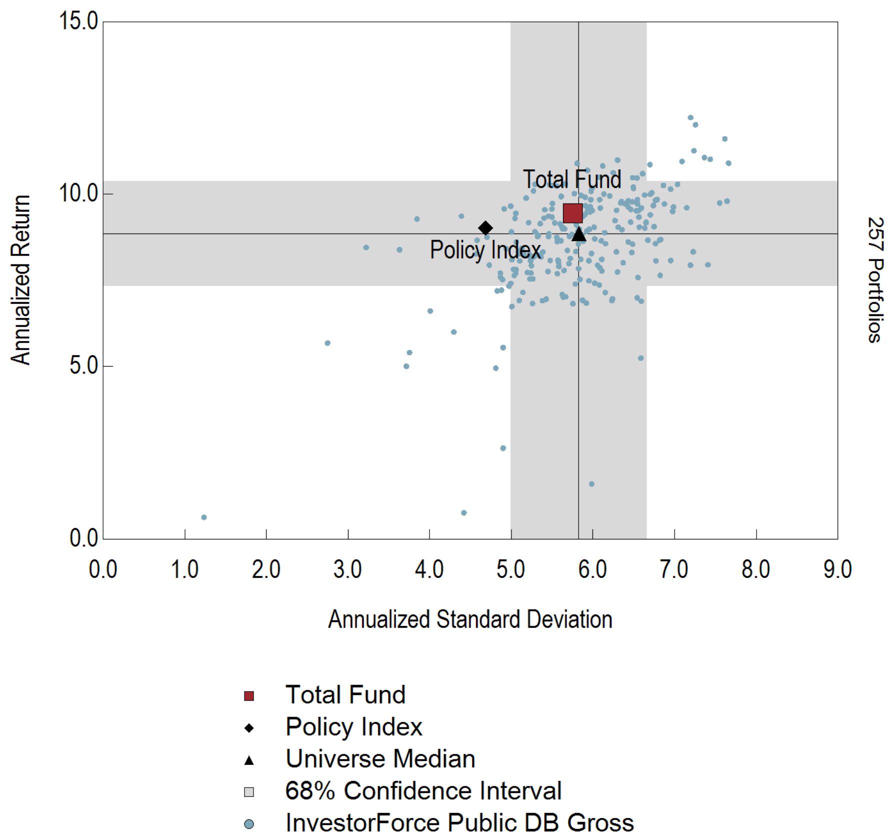
Current Allocation



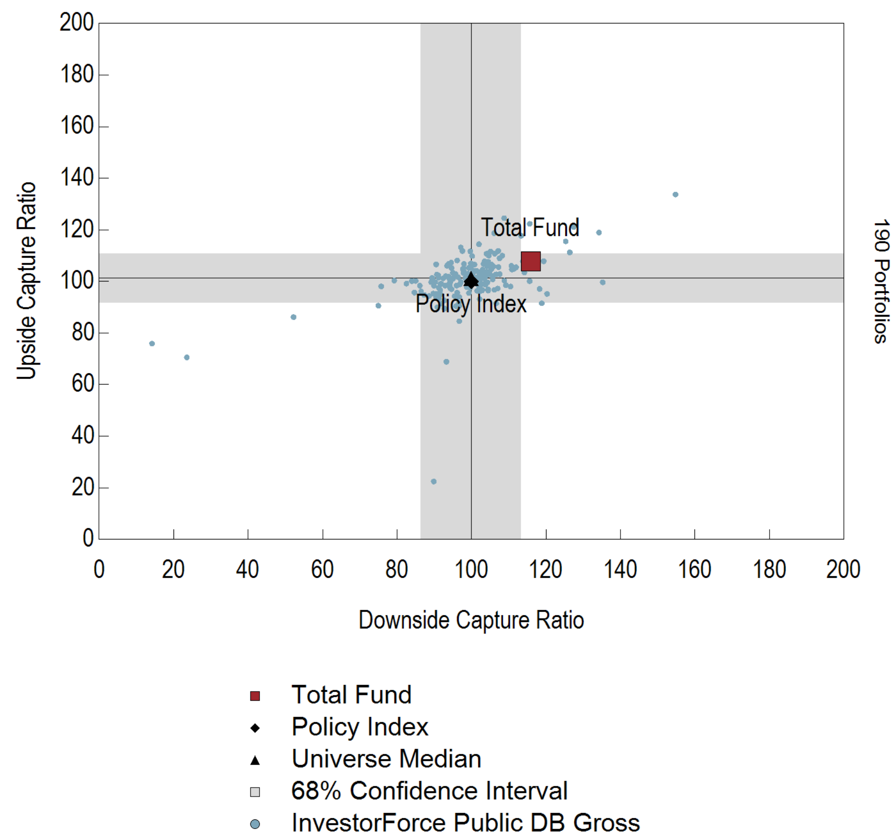
Policy Index (7/1/2017): 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 7.7% NCREIF Property, 1.7% NCREIF Property +2%, 0.6% CPI +5%, 5% BBgBarc US High Yield +2%, 14% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi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

	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	9.44%	0.42%	5.75%	-1.28%	1.19	1.68%	0.94	1.59	0.25	107.70%	115.86%

Risk vs. Return



Up Markets vs. Down Markets



Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2017

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Return	Since
Total Fund	**2,108,788,449**	**100.0**	**3.6**	**7.3**	**15.6**	**7.7**	**9.8**	**6.5**	**15.6**	**8.3**	**-0.2**	**6.9**	**19.8**	**9.5**	**Dec-94**
Policy Index			*3.3*	*7.0*	*14.3*	*7.5*	*9.0*	*6.4*	*14.3*	*8.5*	*0.2*	*7.5*	*15.4*	*8.3*	*Dec-94*
InvestorForce Public DB Gross Rank			*54*	*46*	*45*	*42*	*17*	*19*	*45*	*29*	*60*	*23*	*12*		
US Equity	**773,660,367**	**36.7**	**5.0**	**10.0**	**19.7**	**10.4**	**15.3**	**8.2**	**19.7**	**12.4**	**-0.2**	**10.9**	**36.9**	**7.5**	**Jun-01**
US Equity Blended			*5.9*	*10.9*	*20.3*	*11.0*	*15.5*	*8.7*	*20.3*	*13.9*	*-0.1*	*11.6*	*34.3*	*7.5*	*Jun-01*
Russell 3000			*6.3*	*11.2*	*21.1*	*11.1*	*15.6*	*8.6*	*21.1*	*12.7*	*0.5*	*12.6*	*33.6*	*7.3*	*Jun-01*
InvestorForce All DB US Eq Gross Rank			*94*	*89*	*72*	*74*	*51*	*68*	*72*	*58*	*63*	*54*	*13*		
Northern Trust Russell 1000	170,238,401	8.1	6.6	--	--	--	--	--	--	--	--	--	--	8.9	Aug-17
Russell 1000			*6.6*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*8.9*	*Aug-17*
eV US Large Cap Equity Gross Rank			*54*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*		
BlackRock Russell 1000 Growth	117,267,647	5.6	7.8	14.2	30.2	13.8	17.4	--	30.2	7.2	5.7	13.1	33.5	17.4	Jun-10
Russell 1000 Growth			*7.9*	*14.2*	*30.2*	*13.8*	*17.3*	*--*	*30.2*	*7.1*	*5.7*	*13.0*	*33.5*	*17.4*	*Jun-10*
eV US Large Cap Growth Equity Gross Rank			*24*	*27*	*42*	*25*	*33*	*--*	*42*	*26*	*42*	*37*	*56*		
Jackson Square	160,383,436	7.6	3.4	12.7	29.2	9.4	15.1	9.3	29.2	-4.4	5.9	13.8	35.6	10.1	Aug-06
Russell 1000 Growth			*7.9*	*14.2*	*30.2*	*13.8*	*17.3*	*10.0*	*30.2*	*7.1*	*5.7*	*13.0*	*33.5*	*10.7*	*Aug-06*
eV US Large Cap Growth Equity Gross Rank			*98*	*52*	*47*	*94*	*78*	*60*	*47*	*98*	*39*	*32*	*39*		
BlackRock Russell 1000 Value	96,315,888	4.6	5.4	8.7	13.8	8.8	14.1	--	13.8	17.3	-3.6	13.5	32.6	14.0	Jul-09
Russell 1000 Value			*5.3*	*8.6*	*13.7*	*8.7*	*14.0*	*--*	*13.7*	*17.3*	*-3.8*	*13.5*	*32.5*	*13.9*	*Jul-09*
eV US Large Cap Value Equity Gross Rank			*75*	*79*	*86*	*71*	*63*	*--*	*86*	*26*	*62*	*31*	*59*		
Dodge & Cox-Equity	113,477,694	5.4	4.8	9.7	17.1	11.0	16.1	8.2	17.1	21.4	-3.9	10.9	39.1	12.6	Dec-94
Russell 1000 Value			*5.3*	*8.6*	*13.7*	*8.7*	*14.0*	*7.1*	*13.7*	*17.3*	*-3.8*	*13.5*	*32.5*	*10.3*	*Dec-94*
eV US Large Cap Value Equity Gross Rank			*84*	*66*	*52*	*21*	*21*	*49*	*52*	*6*	*64*	*72*	*15*		
Capital Prospects	115,977,301	5.5	4.0	11.2	15.5	11.2	14.9	--	15.5	28.1	-7.0	5.8	37.9	16.6	Dec-08
Russell 2000 Value			*2.0*	*7.3*	*7.8*	*9.5*	*13.0*	*--*	*7.8*	*31.7*	*-7.5*	*4.2*	*34.5*	*13.3*	*Dec-08*
eV US Small Cap Value Equity Gross Rank			*39*	*23*	*18*	*36*	*43*	*--*	*18*	*40*	*72*	*51*	*53*		
International Equity	**462,814,748**	**21.9**	**5.3**	**11.1**	**27.9**	**9.4**	**8.5**	**3.0**	**27.9**	**6.0**	**-3.5**	**-4.2**	**20.0**	**6.6**	**Jun-01**
MSCI ACWI ex USA Gross			*5.1*	*11.6*	*27.8*	*8.3*	*7.3*	*2.3*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*	*6.8*	*Jun-01*
InvestorForce All DB ex-US Eq Gross Rank			*28*	*56*	*61*	*39*	*38*	*41*	*61*	*21*	*50*	*70*	*35*		
LSV Asset Mgt	235,014,821	11.1	5.6	11.7	28.2	9.8	8.9	3.2	28.2	8.8	-5.1	-4.0	20.4	8.0	Aug-04
MSCI ACWI ex USA Gross			*5.1*	*11.6*	*27.8*	*8.3*	*7.3*	*2.3*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*	*7.5*	*Aug-04*
eV ACWI ex-US Equity Unhedged Gross Rank			*39*	*54*	*67*	*53*	*59*	*67*	*67*	*10*	*86*	*65*	*46*		
Fidelity	227,799,927	10.8	5.0	10.4	27.3	8.5	7.8	2.6	27.3	2.4	-2.0	-4.5	19.6	4.8	Apr-06
MSCI ACWI ex USA Gross			*5.1*	*11.6*	*27.8*	*8.3*	*7.3*	*2.3*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*	*4.2*	*Apr-06*
eV ACWI ex-US Equity Unhedged Gross Rank			*54*	*75*	*74*	*74*	*77*	*80*	*74*	*46*	*66*	*70*	*55*		

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

Performance Summary (Gross of Fees)

Period Ending: December 31, 2017

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Return	Since
US Fixed Income	**423,793,294**	**20.1**	**0.0**	**0.9**	**3.9**	**3.2**	**3.2**	**5.4**	**3.9**	**5.4**	**0.3**	**6.2**	**0.3**	**5.7**	**Jun-01**
BBgBarc US Aggregate TR			*0.4*	*1.2*	*3.5*	*2.2*	*2.1*	*4.0*	*3.5*	*2.6*	*0.6*	*6.0*	*-2.0*	*4.7*	*Jun-01*
InvestorForce All DB US Fix Inc Gross Rank			*88*	*80*	*68*	*53*	*45*	*35*	*68*	*47*	*42*	*42*	*21*		
Insight	88,311,903	4.2	0.2	0.7	--	--	--	--	--	--	--	--	--	0.7	Jun-17
BBgBarc US Govt/Credit 1-5 Yr. TR			*-0.3*	*0.1*	--	--	--	--	--	--	--	--	--	*0.1*	*Jun-17*
eV US Short Duration Fixed Inc Gross Rank			*13*	*17*	--	--	--	--	--	--	--	--	--		
DFA	276,630,498	13.1	-0.2	--	--	--	--	--	--	--	--	--	--	0.0	Jul-17
BofA Merrill Lynch US Corp & Gov 1-5 Yrs			*-0.3*	--	--	--	--	--	--	--	--	--	--	*-0.2*	*Jul-17*
eV US Short Duration Fixed Inc Gross Rank			*94*	--	--	--	--	--	--	--	--	--	--		
Northern Trust Intermediate Gov't Bond	43,593,157	2.1	-0.4	--	--	--	--	--	--	--	--	--	--	-0.4	Jul-17
BBgBarc US Govt Int TR			*-0.4*	--	--	--	--	--	--	--	--	--	--	*-0.4*	*Jul-17*
eV US Government Fixed Inc Gross Rank			*99*	--	--	--	--	--	--	--	--	--	--		
Northern Trust Long Term Gov't Bond	15,170,536	0.7	2.4	--	--	--	--	--	--	--	--	--	--	3.6	Jul-17
BBgBarc US Govt Long TR			*2.3*	--	--	--	--	--	--	--	--	--	--	*3.5*	*Jul-17*
eV US Government Fixed Inc Gross Rank			*1*	--	--	--	--	--	--	--	--	--	--		
Real Estate	**165,897,499**	**7.9**	**1.9**	**3.6**	**7.5**	**9.0**	**11.0**	**--**	**7.5**	**7.5**	**12.1**	**28.3**	**1.4**	**4.2**	**Feb-08**
DJ US Select RESI			*2.0*	*2.4*	*3.8*	*4.9*	*9.1*	--	*3.8*	*6.6*	*4.5*	*31.9*	*1.3*	*5.3*	*Feb-08*
Prime Property Fund	18,368,188	0.9	2.1	4.4	8.8	--	--	--	8.8	10.4	--	--	--	10.1	Sep-15
NCREIF-ODCE			*2.1*	*4.0*	*7.6*	--	--	--	*7.6*	*8.8*	--	--	--	*8.8*	*Sep-15*
American Strategic Value Realty	23,159,133	1.1	2.3	4.5	10.1	14.8	--	--	10.1	13.1	21.4	--	--	14.8	Dec-14
NCREIF Property Index			*1.8*	*3.5*	*7.0*	*9.4*	--	--	*7.0*	*8.0*	*13.3*	--	--	*9.4*	*Dec-14*
BlackRock US Real Estate	111,209,496	5.3	2.0	2.4	3.8	4.9	9.1	--	3.8	6.6	4.4	31.9	1.4	9.1	Sep-12
DJ US Select RESI TR USD			*2.0*	*2.4*	*3.8*	*4.9*	*9.1*	--	*3.8*	*6.6*	*4.5*	*31.9*	*1.3*	*9.1*	*Sep-12*
eV US REIT Gross Rank			*71*	*77*	*90*	*86*	*86*	--	*90*	*68*	*58*	*39*	*91*		
Risk Parity	**141,652,770**	**6.7**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.2**	**Nov-17**
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			--	--	--	--	--	--	--	--	--	--	--	*1.1*	*Nov-17*
PanAgora Risk Parity Multi Asset	141,652,770	6.7	--	--	--	--	--	--	--	--	--	--	--	1.2	Nov-17
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			--	--	--	--	--	--	--	--	--	--	--	*1.1*	*Nov-17*

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

Performance Summary (Net of Fees)

Period Ending: December 31, 2017

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Return	Since
Total Fund	**2,108,788,449**	**100.0**	**3.5**	**7.2**	**15.3**	**7.3**	**9.4**	**6.2**	**15.3**	**7.8**	**-0.6**	**6.5**	**19.2**	**9.3**	**Dec-94**
Policy Index			*3.3*	*7.0*	*14.3*	*7.5*	*9.0*	*6.4*	*14.3*	*8.5*	*0.2*	*7.5*	*15.4*	*8.3*	*Dec-94*
US Equity	**773,660,367**	**36.7**	**5.0**	**9.9**	**19.4**	**10.1**	**15.0**	**7.9**	**19.4**	**12.1**	**-0.4**	**10.7**	**36.5**	**7.2**	**Jun-01**
US Equity Blended			*5.9*	*10.9*	*20.3*	*11.0*	*15.5*	*8.7*	*20.3*	*13.9*	*-0.1*	*11.6*	*34.3*	*7.5*	*Jun-01*
Russell 3000			*6.3*	*11.2*	*21.1*	*11.1*	*15.6*	*8.6*	*21.1*	*12.7*	*0.5*	*12.6*	*33.6*	*7.3*	*Jun-01*
Northern Trust Russell 1000	170,238,401	8.1	6.6	--	--	--	--	--	--	--	--	--	--	8.9	Aug-17
Russell 1000			*6.6*	--	--	--	--	--	--	--	--	--	--	*8.9*	*Aug-17*
BlackRock Russell 1000 Growth	117,267,647	5.6	7.8	14.2	30.2	13.8	17.4	--	30.2	7.2	5.7	13.1	33.5	17.4	Jun-10
Russell 1000 Growth			*7.9*	*14.2*	*30.2*	*13.8*	*17.3*	--	*30.2*	*7.1*	*5.7*	*13.0*	*33.5*	*17.4*	*Jun-10*
Jackson Square	160,383,436	7.6	3.3	12.4	28.6	8.9	14.6	8.8	28.6	-4.9	5.5	13.4	34.9	9.6	Aug-06
Russell 1000 Growth			*7.9*	*14.2*	*30.2*	*13.8*	*17.3*	*10.0*	*30.2*	*7.1*	*5.7*	*13.0*	*33.5*	*10.7*	*Aug-06*
BlackRock Russell 1000 Value	96,315,888	4.6	5.4	8.6	13.8	8.7	14.1	--	13.8	17.3	-3.6	13.5	32.6	14.0	Jul-09
Russell 1000 Value			*5.3*	*8.6*	*13.7*	*8.7*	*14.0*	--	*13.7*	*17.3*	*-3.8*	*13.5*	*32.5*	*13.9*	*Jul-09*
Dodge & Cox-Equity	113,477,694	5.4	4.8	9.6	16.9	10.8	15.9	8.0	16.9	21.2	-4.0	10.7	38.8	12.4	Dec-94
Russell 1000 Value			*5.3*	*8.6*	*13.7*	*8.7*	*14.0*	*7.1*	*13.7*	*17.3*	*-3.8*	*13.5*	*32.5*	*10.3*	*Dec-94*
Capital Prospects	115,977,301	5.5	3.8	10.7	14.7	10.5	14.2	--	14.7	27.1	-7.5	5.2	36.8	15.8	Dec-08
Russell 2000 Value			*2.0*	*7.3*	*7.8*	*9.5*	*13.0*	--	*7.8*	*31.7*	*-7.5*	*4.2*	*34.5*	*13.3*	*Dec-08*
International Equity	**462,814,748**	**21.9**	**5.2**	**10.8**	**27.4**	**8.9**	**8.0**	**2.5**	**27.4**	**5.3**	**-3.8**	**-4.5**	**19.4**	**6.1**	**Jun-01**
MSCI ACWI ex USA Gross			*5.1*	*11.6*	*27.8*	*8.3*	*7.3*	*2.3*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*	*6.8*	*Jun-01*
LSV Asset Mgt	235,014,821	11.1	5.4	11.4	27.5	9.3	8.4	2.7	27.5	8.2	-5.4	-4.2	19.8	7.4	Aug-04
MSCI ACWI ex USA Gross			*5.1*	*11.6*	*27.8*	*8.3*	*7.3*	*2.3*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*	*7.5*	*Aug-04*
Fidelity	227,799,927	10.8	4.9	10.3	27.0	8.1	7.4	2.2	27.0	1.8	-2.3	-4.9	19.1	4.3	Apr-06
MSCI ACWI ex USA Gross			*5.1*	*11.6*	*27.8*	*8.3*	*7.3*	*2.3*	*27.8*	*5.0*	*-5.3*	*-3.4*	*15.8*	*4.2*	*Apr-06*
US Fixed Income	**423,793,294**	**20.1**	**-0.1**	**0.9**	**3.8**	**3.0**	**3.0**	**5.3**	**3.8**	**5.2**	**0.2**	**6.1**	**0.1**	**5.6**	**Jun-01**
BBgBarc US Aggregate TR			*0.4*	*1.2*	*3.5*	*2.2*	*2.1*	*4.0*	*3.5*	*2.6*	*0.6*	*6.0*	*-2.0*	*4.7*	*Jun-01*
Insight	88,311,903	4.2	0.2	0.7	--	--	--	--	--	--	--	--	--	0.7	Jun-17
BBgBarc US Govt/Credit 1-5 Yr. TR			*-0.3*	*0.1*	--	--	--	--	--	--	--	--	--	*0.1*	*Jun-17*
DFA	276,630,498	13.1	-0.2	--	--	--	--	--	--	--	--	--	--	-0.1	Jul-17
BofA Merrill Lynch US Corp & Gov 1-5 Yrs			*-0.3*	--	--	--	--	--	--	--	--	--	--	*-0.2*	*Jul-17*
Northern Trust Intermediate Gov't Bond	43,593,157	2.1	-0.4	--	--	--	--	--	--	--	--	--	--	-0.4	Jul-17
BBgBarc US Govt Int TR			*-0.4*	--	--	--	--	--	--	--	--	--	--	*-0.4*	*Jul-17*
Northern Trust Long Term Gov't Bond	15,170,536	0.7	2.3	--	--	--	--	--	--	--	--	--	--	3.6	Jul-17
BBgBarc US Govt Long TR			*2.3*	--	--	--	--	--	--	--	--	--	--	*3.5*	*Jul-17*

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

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2017	2016	2015	2014	2013	Return	Since
Real Estate	**165,897,499**	**7.9**	**1.9**	**3.6**	**7.5**	**8.2**	**10.3**	**--**	**7.5**	**6.6**	**10.5**	**27.4**	**1.3**	**3.3**	**Feb-08**
DJ US Select RESI			*2.0*	*2.4*	*3.8*	*4.9*	*9.1*	*--*	*3.8*	*6.6*	*4.5*	*31.9*	*1.3*	*5.3*	*Feb-08*
Prime Property Fund	18,368,188	0.9	2.1	4.4	8.8	--	--	--	8.8	9.2	--	--	--	9.4	Sep-15
NCREIF-ODCE			*2.1*	*4.0*	*7.6*	*--*	*--*	*--*	*7.6*	*8.8*	*--*	*--*	*--*	*8.8*	*Sep-15*
American Strategic Value Realty	23,159,133	1.1	2.3	4.5	10.1	13.3	--	--	10.1	11.7	18.3	--	--	13.3	Dec-14
NCREIF Property Index			*1.8*	*3.5*	*7.0*	*9.4*	*--*	*--*	*7.0*	*8.0*	*13.3*	*--*	*--*	*9.4*	*Dec-14*
BlackRock US Real Estate	111,209,496	5.3	2.0	2.4	3.7	4.9	9.0	--	3.7	6.6	4.4	31.9	1.3	9.1	Sep-12
DJ US Select RESI TR USD			*2.0*	*2.4*	*3.8*	*4.9*	*9.1*	*--*	*3.8*	*6.6*	*4.5*	*31.9*	*1.3*	*9.1*	*Sep-12*
Risk Parity	**141,652,770**	**6.7**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.2**	**Nov-17**
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.1*	*Nov-17*
PanAgora Risk Parity Multi Asset	141,652,770	6.7	--	--	--	--	--	--	--	--	--	--	--	1.2	Nov-17
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.1*	*Nov-17*

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

			Verus Internal Analysis								
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 12/31/2017[3]	Total Commitment	Capital Called	% Called	Remaining Commitment	Total Distributions	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Latest Valuation
Real Estate										
7/31/2014	Greenfield Gap	$13,160,683	$15,000,000	$12,264,451	82%	$2,735,549	$3,098,470	25.3%	*132.6%*	9/30/2017
	Total Real Estate	**$13,160,683**	$15,000,000	$12,264,451	82%	$2,735,549	$3,098,470	25.3%	*132.6%*	
	% of Portfolio (Market Value)	***0.6%***								
Direct Lending										
5/31/2013	Medley Capital	$20,880,110	$30,000,000	$29,000,453	97%	$999,547	$18,555,082	64.0%	*136.0%*	9/30/2017
5/31/2013	Raven Capital	$15,360,875	$40,000,000	$34,505,763	86%	$5,494,237	$20,603,337	59.7%	*104.2%*	9/30/2017
7/31/2015	Raven Opportunity III	$24,963,131	$50,000,000	$26,477,341	53%	$23,522,659	$258,653	1.0%	*95.3%*	9/30/2017
8/31/2013	White Oak Pinnacle	$32,385,819	$40,000,000	$40,000,000 [4]	100%	$5,153,060	$33,160,672	82.9%	*163.9%*	9/30/2017
	Total Direct Lending	**$93,589,935**	$160,000,000	$129,983,557	81%	$35,169,503	$72,577,744	55.8%	*127.8%*	
	% of Portfolio (Market Value)	***4.4%***								
Infrastructure										
5/31/2015	MS Infrastructure Partners II	$22,199,498	$50,000,000	$22,542,165	45%	$27,457,835	$3,707,675	16.4%	*114.9%*	9/30/2017
	Total Infrastructure	**$22,199,498**	$50,000,000	$22,542,165	45%	$27,457,835	$3,707,675	16.4%	*114.9%*	
	% 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.

Real Estate	Inception	Fund Level (G)	StanCERA (G)	Fund Level (N)	StanCERA (N)	IRR Date
Greenfield Gap	7/31/2014	17.8%	19.2%	14.2%	14.0%	9/30/2017
Direct Lending						
Medley Capital	5/31/2013	8.1%	7.0%	6.4%	4.7%	9/30/2017
Raven Capital	5/31/2013	4.5%	4.5%	1.6%	1.6%	9/30/2017
Raven Opportunity III	7/31/2015	6.2%	6.2%	-4.5%	-4.5%	9/30/2017
White Oak Pinnacle	8/31/2013	11.0%	11.4%	7.4%	7.5%	9/30/2017
Infrastructure						
MS Infrastructure Partners II	5/31/2015	27.1%	27.1%	15.5%	12.5%	9/30/2017

IRR information provided by managers.

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	13.81%	0.02%	8.12%	0.04%	1.00	0.04%	1.00	1.65	0.49	100.17%	100.07%
Jackson Square	8.88%	-4.90%	11.66%	-7.71%	1.20	6.55%	0.70	0.73	-0.75	70.37%	136.05%
BlackRock Russell 1000 Value	8.74%	0.09%	7.99%	0.13%	0.99	0.07%	1.00	1.04	1.21	100.47%	98.99%
Dodge & Cox-Equity	10.80%	2.15%	10.25%	1.02%	1.13	4.88%	0.78	1.01	0.44	127.11%	117.02%
Capital Prospects	10.47%	0.92%	11.35%	1.53%	0.94	2.56%	0.95	0.89	0.36	102.50%	87.36%
LSV Asset Mgt	9.26%	0.93%	11.79%	0.53%	1.05	2.77%	0.95	0.75	0.34	107.79%	99.41%
Fidelity	8.08%	-0.25%	10.55%	0.21%	0.94	2.15%	0.96	0.73	-0.12	100.25%	104.81%
Dodge & Cox-Fixed	48.66%	46.42%	78.07%	48.43%	0.10	78.13%	0.00	0.62	0.59	1,857.27%	39.36%
PIMCO	36.55%	34.32%	80.10%	36.51%	0.02	80.17%	0.00	0.45	0.43	1,303.39%	77.07%
BlackRock US Real Estate	4.87%	-0.08%	9.30%	-0.07%	1.00	0.04%	1.00	0.48	-2.19	99.34%	100.36%

5 Years

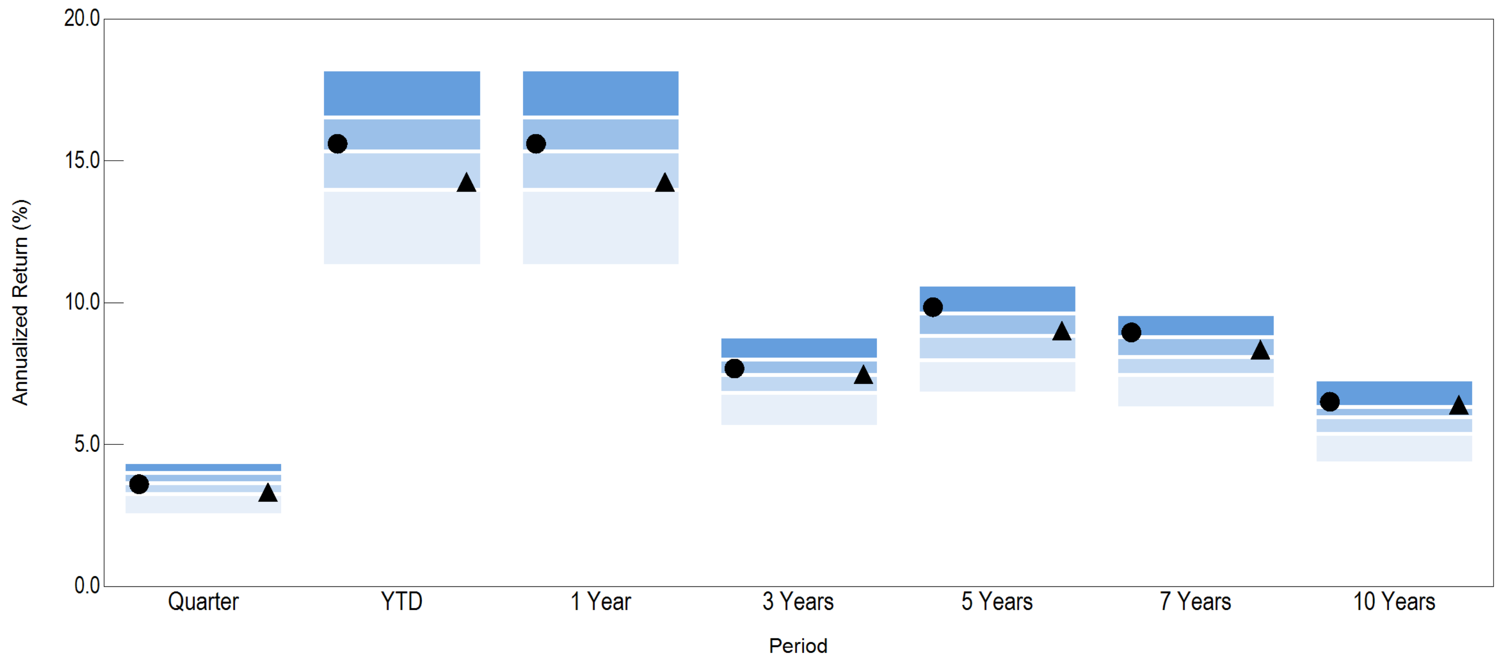
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
BlackRock Russell 1000 Growth	17.35%	0.02%	7.88%	0.05%	1.00	0.05%	1.00	2.17	0.50	100.19%	100.07%
Jackson Square	14.59%	-2.74%	11.07%	-7.05%	1.25	5.43%	0.79	1.29	-0.50	83.78%	136.05%
BlackRock Russell 1000 Value	14.10%	0.07%	8.39%	0.12%	1.00	0.06%	1.00	1.65	1.12	100.33%	98.83%
Dodge & Cox-Equity	15.89%	1.85%	9.69%	1.34%	1.04	4.21%	0.81	1.61	0.44	117.46%	107.58%
Capital Prospects	14.18%	1.17%	11.63%	2.04%	0.93	2.79%	0.95	1.20	0.42	101.56%	81.92%
LSV Asset Mgt	8.40%	1.11%	11.43%	0.65%	1.06	2.29%	0.96	0.71	0.49	111.90%	100.66%
Fidelity	7.42%	0.13%	9.89%	0.77%	0.91	2.44%	0.95	0.72	0.05	94.62%	89.70%
Dodge & Cox-Fixed	28.67%	26.57%	60.95%	27.66%	0.48	60.95%	0.00	0.47	0.44	1,296.00%	27.38%
PIMCO	21.06%	18.96%	62.13%	20.08%	0.47	62.14%	0.00	0.33	0.31	893.93%	91.33%

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

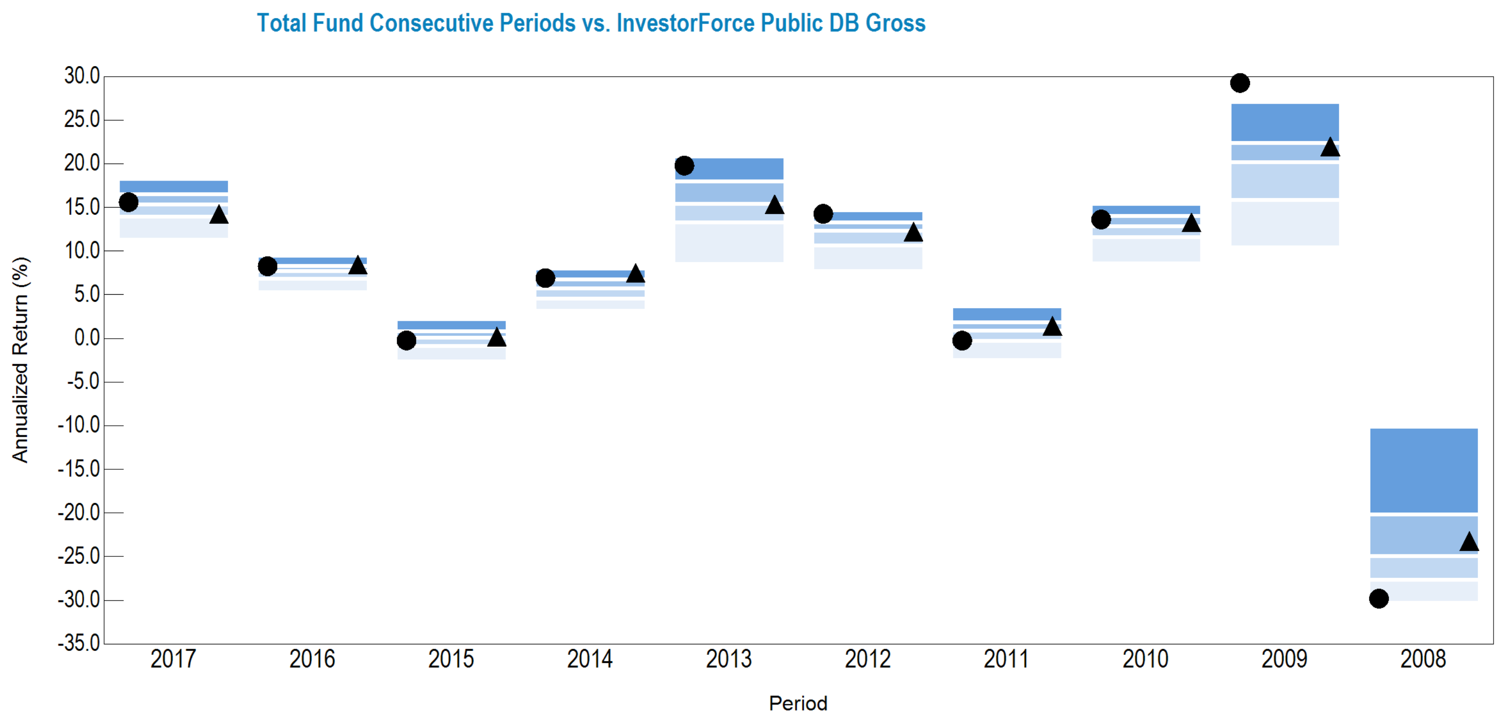
Total Fund
Investment Fund Fee Analysis — Period Ending: December 31, 2017

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Northern Trust Russell 1000	Domestic Equity	0.02% of Assets	$170,238,401	$25,536	0.02%
BlackRock Russell 1000 Growth	Domestic Equity	0.02% of Assets	$117,267,647	$23,454	0.02%
Jackson Square	Domestic Equity	0.50% of First $100.0 Mil, 0.45% Thereafter	$160,383,436	$771,725	0.48%
BlackRock Russell 1000 Value	Domestic Equity	0.02% of Assets	$96,315,888	$19,263	0.02%
Dodge & Cox-Equity	Domestic Equity	0.40% of First $10.0 Mil, 0.20% of Next $90.0 Mil, 0.15% Thereafter	$113,477,694	$240,217	0.21%
Capital Prospects		0.75% of Assets	$115,977,301	$869,830	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	$235,014,821	$1,232,567	0.52%
Fidelity	International Equity	0.25% of Assets	$227,799,927	$569,500	0.25%
Insight	Domestic Fixed Income	0.12% of Assets	$88,311,903	$105,974	0.12%
DFA	Domestic Fixed Income	0.20% of First $25.0 Mil, 0.10% Thereafter	$276,630,498	$301,630	0.11%
Northern Trust Intermediate Gov't Bond	Domestic Fixed Income	0.05% of First $25.0 Mil, 0.04% Thereafter	$43,593,157	$19,937	0.05%
Northern Trust Long Term Gov't Bond	Domestic Fixed Income	0.05% of First $25.0 Mil, 0.04% Thereafter	$15,170,536	$7,585	0.05%
Prime Property Fund	Real Estate	0.84% of Assets	$18,368,188	$154,293	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	$23,159,133	$282,910	1.22%
BlackRock US Real Estate	Real Estate	0.09% of First $100.0 Mil, 0.07% Thereafter	$111,209,496	$97,847	0.09%
PanAgora Risk Parity Multi Asset	Alternatives	0.35% of Assets	$141,652,770	$495,785	0.35%
Cash Account	Cash and Equivalents	0.10% of Assets	$25,180,338	$25,180	0.10%
Total			**$1,979,751,131**	**$5,243,232**	**0.28%**

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.



	Return (Rank)													
5th Percentile	4.4		18.2		18.2		8.8		10.6		9.6		7.3	
25th Percentile	4.0		16.5		16.5		8.0		9.6		8.8		6.3	
Median	3.7		15.3		15.3		7.5		8.9		8.1		6.0	
75th Percentile	3.3		14.0		14.0		6.8		8.0		7.5		5.4	
95th Percentile	2.5		11.3		11.3		5.6		6.8		6.3		4.3	
# of Portfolios	307		304		304		279		257		226		207	
● Total Fund	3.6	(54)	15.6	(45)	15.6	(45)	7.7	(42)	9.8	(17)	9.0	(19)	6.5	(19)
▲ Policy Index	3.3	(70)	14.3	(71)	14.3	(71)	7.5	(49)	9.0	(45)	8.4	(43)	6.4	(22)



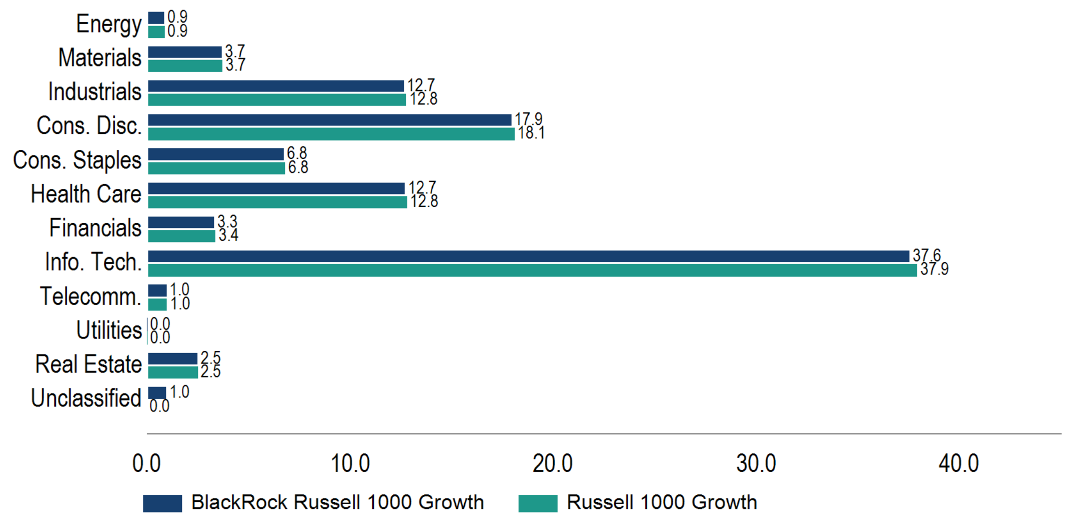
Return (Rank)	2017		2016		2015		2014		2013		2012		2011		2010		2009		2008	
5th Percentile	18.2		9.4		2.2		8.0		20.8		14.6		3.6		15.4		27.0		-10.1	
25th Percentile	16.5		8.4		0.9		6.8		18.0		13.4		1.9		14.0		22.4		-20.1	
Median	15.3		7.7		0.1		5.8		15.5		12.4		0.9		12.9		20.2		-24.9	
75th Percentile	14.0		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

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	551	551
Weighted Avg. Market Cap. ($B)	202.49	204.47
Median Market Cap. ($B)	11.62	11.69
Price To Earnings	29.91	28.84
Price To Book	9.61	7.69
Price To Sales	4.72	4.68
Return on Equity (%)	34.34	27.71
Yield (%)	1.31	1.32
Beta	1.00	1.00

Sector Allocation (%) vs Russell 1000 Growth



Largest Holdings

	End Weight	Return
APPLE	6.74	10.20
MICROSOFT	4.97	15.42
AMAZON.COM	3.60	21.65
FACEBOOK CLASS A	3.19	3.27
ALPHABET 'C'	2.45	9.10
ALPHABET A	2.43	8.18
HOME DEPOT	1.73	16.46
UNITEDHEALTH GROUP	1.64	12.94
VISA 'A'	1.61	8.53
COMCAST 'A'	1.33	4.51

Top Contributors

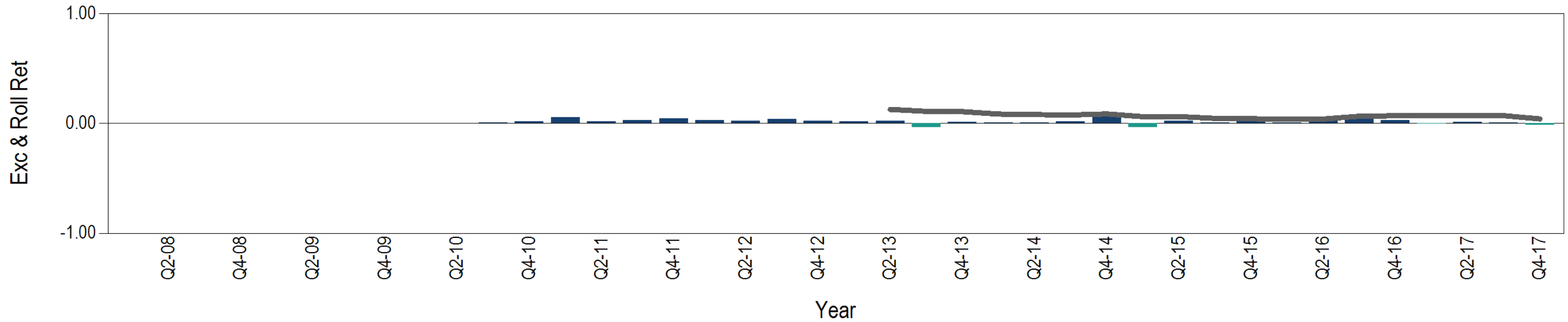
	Avg Wgt	Return	Contribution
APPLE	2.42	10.20	0.25
MICROSOFT	1.58	15.42	0.24
AMAZON.COM	1.10	21.65	0.24
HOME DEPOT	0.51	16.46	0.08
ALPHABET 'C'	0.80	9.10	0.07
UNITEDHEALTH GROUP	0.54	12.94	0.07
ALPHABET A	0.80	8.18	0.07
BOEING	0.38	16.64	0.06
ALTRIA GROUP	0.35	13.62	0.05
CATERPILLAR	0.17	27.11	0.05

Bottom Contributors

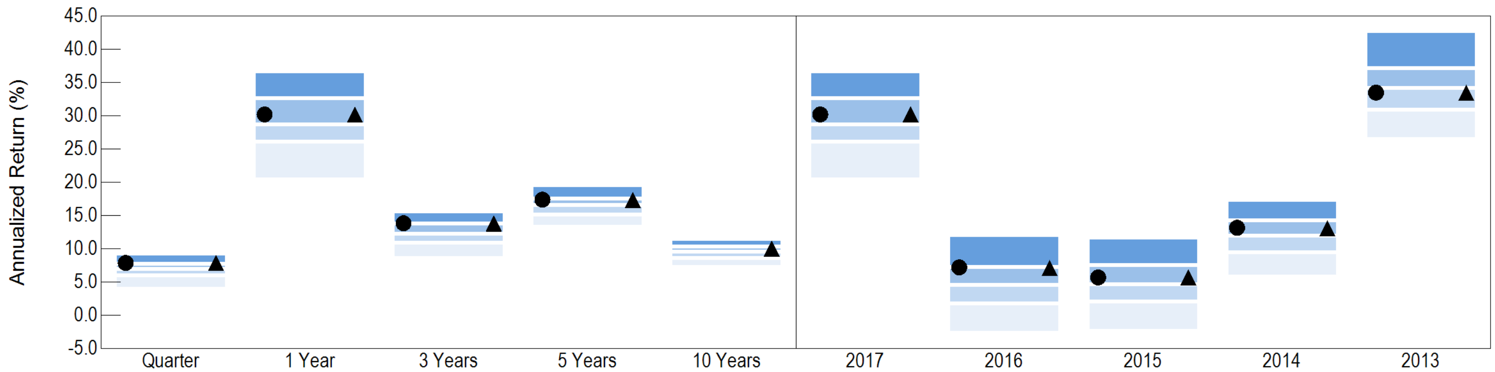
	Avg Wgt	Return	Contribution
CELGENE	0.30	-28.43	-0.09
GENERAL ELECTRIC	0.10	-27.34	-0.03
GILEAD SCIENCES	0.22	-10.96	-0.02
REGENERON PHARMS.	0.11	-15.92	-0.02
BOSTON SCIENTIFIC	0.11	-15.02	-0.02
PRICELINE GROUP	0.26	-5.08	-0.01
INCYTE	0.07	-18.87	-0.01
TESLA	0.13	-8.72	-0.01
CHARTER COMMS.CL.A	0.15	-7.56	-0.01
ELECTRONIC ARTS	0.10	-11.01	-0.01

Unclassified sector allocation includes cash allocations.

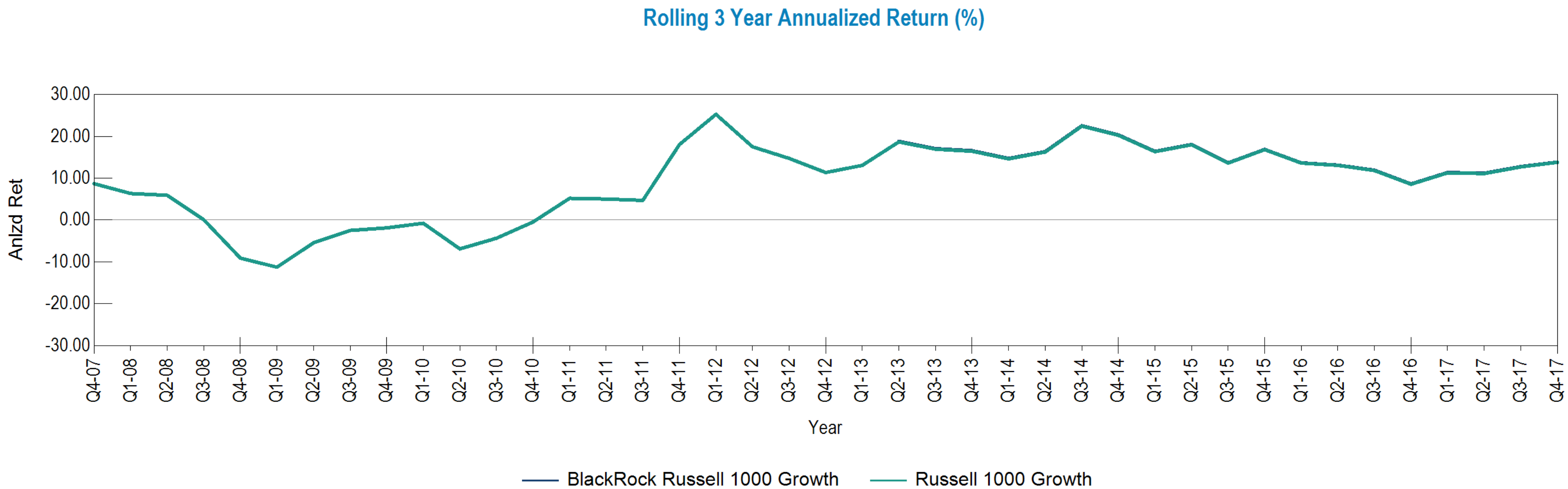
Rolling Annualized Excess Performance

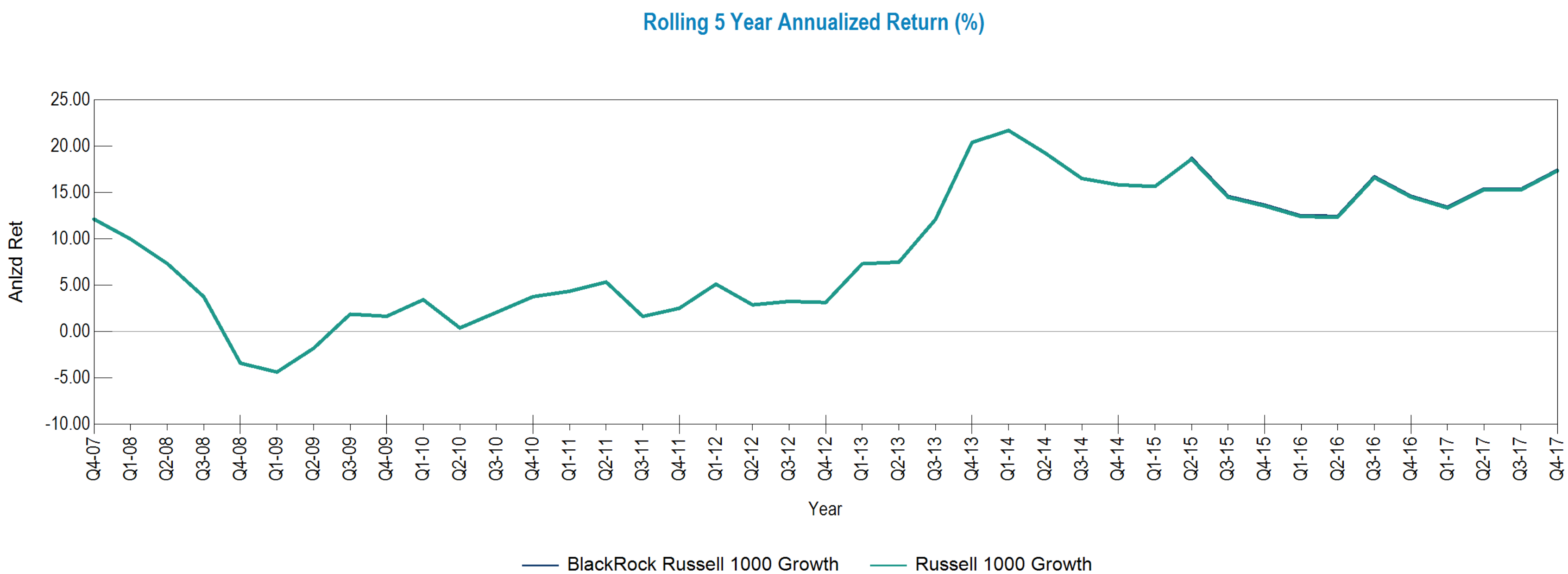


BlackRock Russell 1000 Growth vs. eV US Large Cap Growth Equity Gross Universe



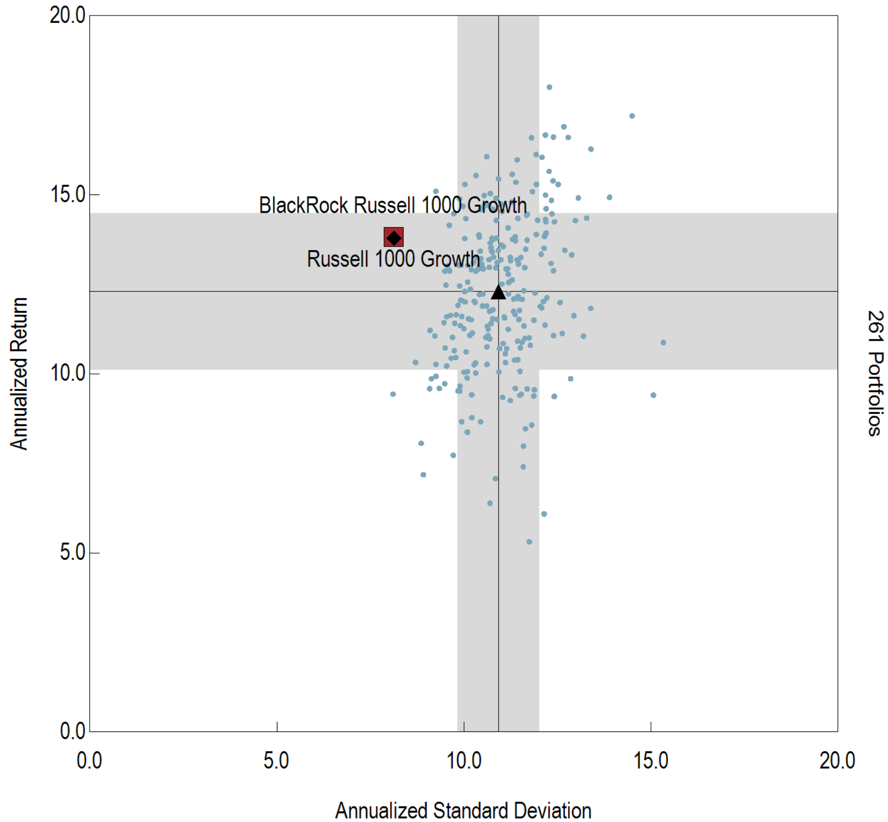
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	9.2		36.7		15.6		19.5		11.5		36.7		12.0		11.6		17.3		42.8	
25th Percentile	7.8		32.7		13.8		17.6		10.4		32.7		7.3		7.6		14.3		37.3	
Median	7.0		28.8		12.3		16.7		9.6		28.8		4.6		4.7		12.0		34.3	
75th Percentile	6.1		26.2		10.9		15.2		8.7		26.2		1.8		2.1		9.5		31.0	
95th Percentile	4.0		20.5		8.7		13.4		7.3		20.5		-2.7		-2.4		5.8		26.6	
# of Portfolios	265		265		261		250		225		265		282		270		291		274	
● BlackRock Russell 1000 Growth	7.8	(24)	30.2	(42)	13.8	(25)	17.4	(33)	--	(--)	30.2	(42)	7.2	(26)	5.7	(42)	13.1	(37)	33.5	(56)
▲ Russell 1000 Growth	7.9	(23)	30.2	(42)	13.8	(26)	17.3	(34)	10.0	(36)	30.2	(42)	7.1	(26)	5.7	(42)	13.0	(38)	33.5	(56)

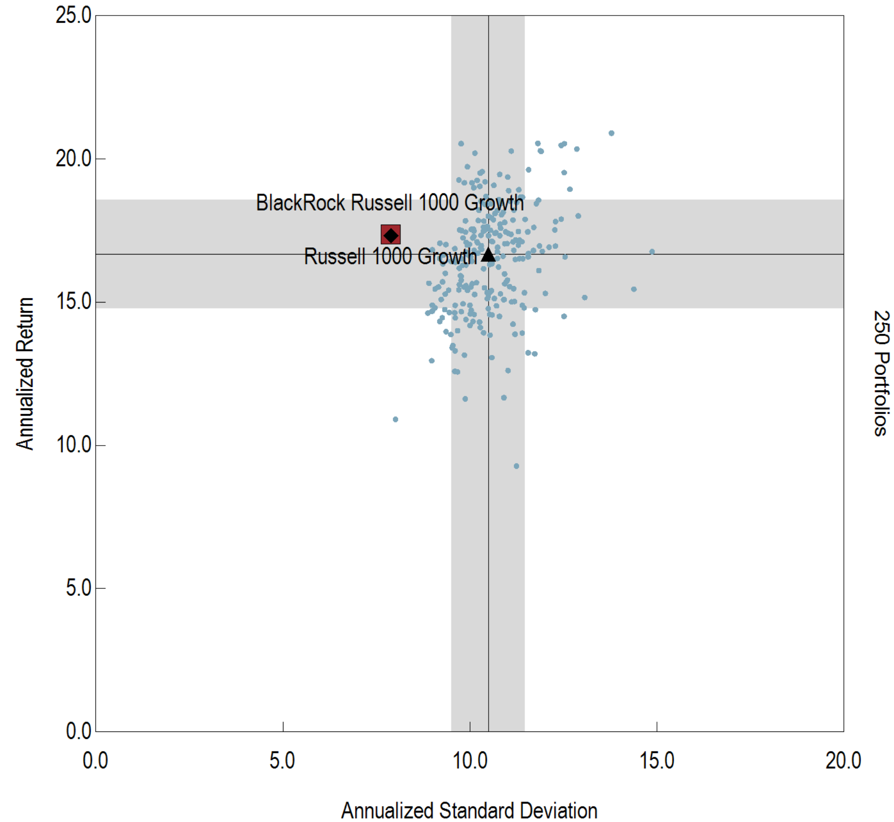

Rolling 3 Year Annualized Return (%)
Anlzd Ret
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
Year
BlackRock Russell 1000 Growth
Russell 1000 Growth


Rolling 5 Year Annualized Return (%)
Anlzd Ret
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
Year
BlackRock Russell 1000 Growth
Russell 1000 Growth

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

Period Ending: December 31, 2017





3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Growth	13.8%	8.1%	1.7
Russell 1000 Growth	13.8%	8.1%	1.6
eV US Large Cap Growth Equity Gross Median	12.3%	10.9%	1.1

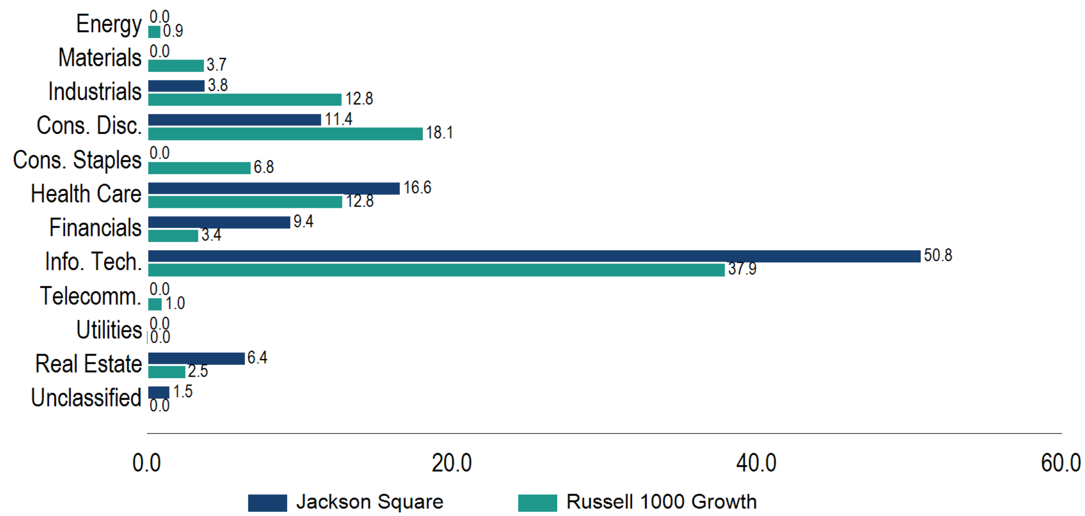
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Growth	17.4%	7.9%	2.2
Russell 1000 Growth	17.3%	7.9%	2.2
eV US Large Cap Growth Equity Gross Median	16.7%	10.5%	1.6

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	34	551
Weighted Avg. Market Cap. ($B)	92.35	204.47
Median Market Cap. ($B)	41.28	11.69
Price To Earnings	35.65	28.84
Price To Book	7.17	7.69
Price To Sales	6.21	4.68
Return on Equity (%)	22.30	27.71
Yield (%)	0.57	1.32
Beta	1.21	1.00

Sector Allocation (%) vs Russell 1000 Growth



Largest Holdings

	End Weight	Return
PAYPAL HOLDINGS	7.05	14.98
VISA 'A'	5.94	8.53
MASTERCARD	4.94	7.36
CROWN CASTLE INTL.	4.43	12.09
ALPHABET A	3.90	8.18
BIOGEN	3.84	1.74
FEDEX	3.79	10.85
INTERCONTINENTAL EX.	3.68	3.00
CELGENE	3.58	-28.43
CHARLES SCHWAB	3.50	17.66

Top Contributors

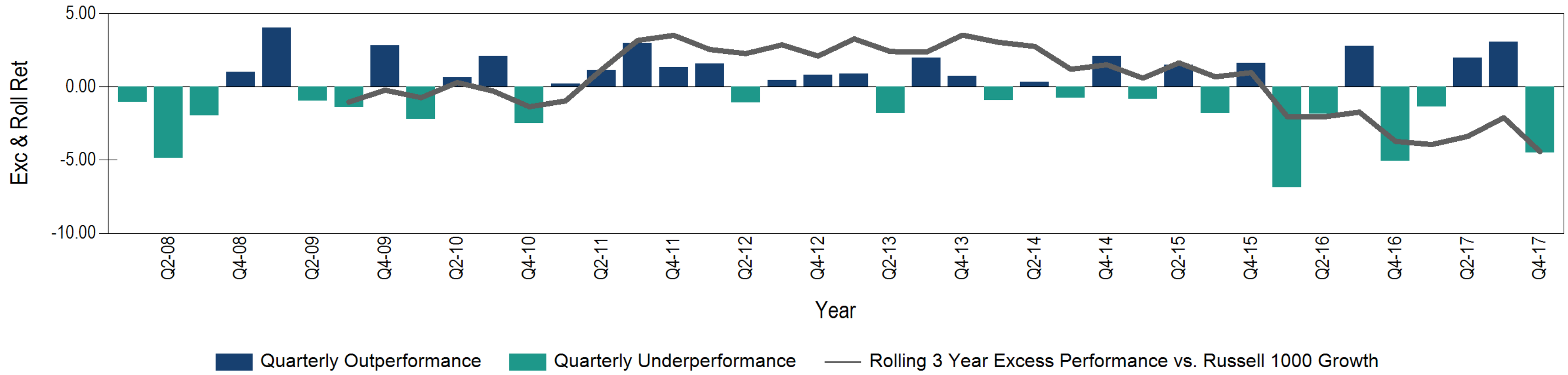
	Avg Wgt	Return	Contribution
PAYPAL HOLDINGS	7.33	14.98	1.10
MICROSOFT	6.17	15.42	0.95
CHARLES SCHWAB	3.18	17.66	0.56
CROWN CASTLE INTL.	4.29	12.09	0.52
VISA 'A'	6.00	8.53	0.51
FEDEX	3.52	10.85	0.38
MASTERCARD	5.08	7.36	0.37
DOLLAR GENERAL	2.15	15.13	0.33
ALPHABET A	3.83	8.18	0.31
DENTSPLY SIRONA	2.86	10.21	0.29

Bottom Contributors

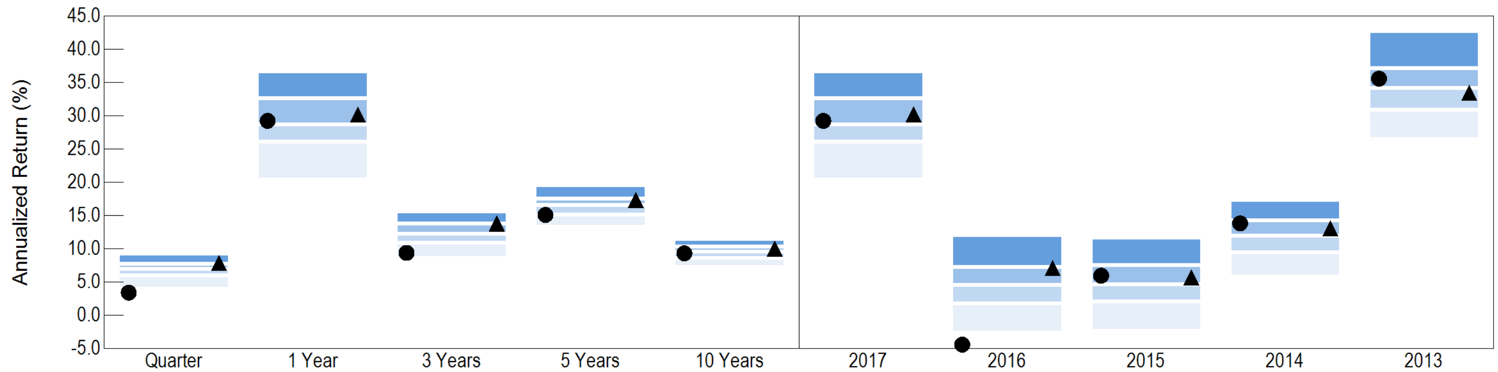
	Avg Wgt	Return	Contribution
CELGENE	4.17	-28.43	-1.18
SYMANTEC	2.96	-14.25	-0.42
ALLERGAN	1.85	-19.87	-0.37
TRIPADVISOR 'A'	2.05	-14.98	-0.31
ELECTRONIC ARTS	2.72	-11.01	-0.30
NIELSEN	1.81	-11.35	-0.21
EBAY	3.69	-1.87	-0.07
ASML HLDG.ADR 1:1	2.31	1.53	0.04
LIBERTY GLOBAL CL.A	0.71	5.69	0.04
EQUINIX	2.16	1.97	0.04

Unclassified sector allocation includes cash allocations.

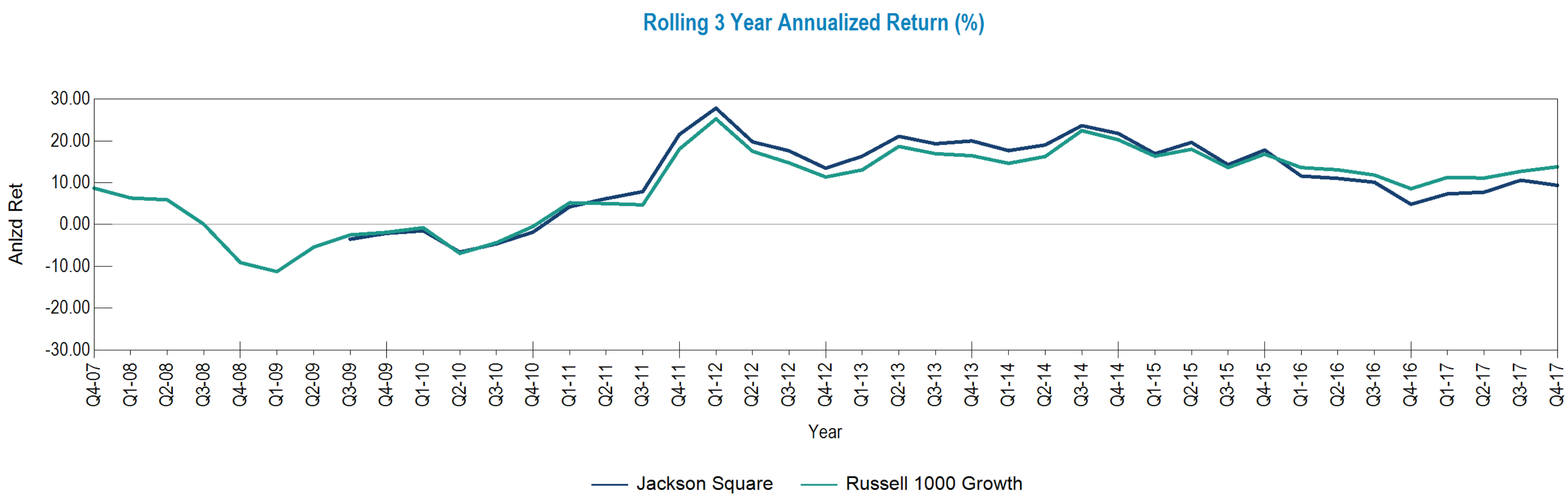
Rolling Annualized Excess Performance

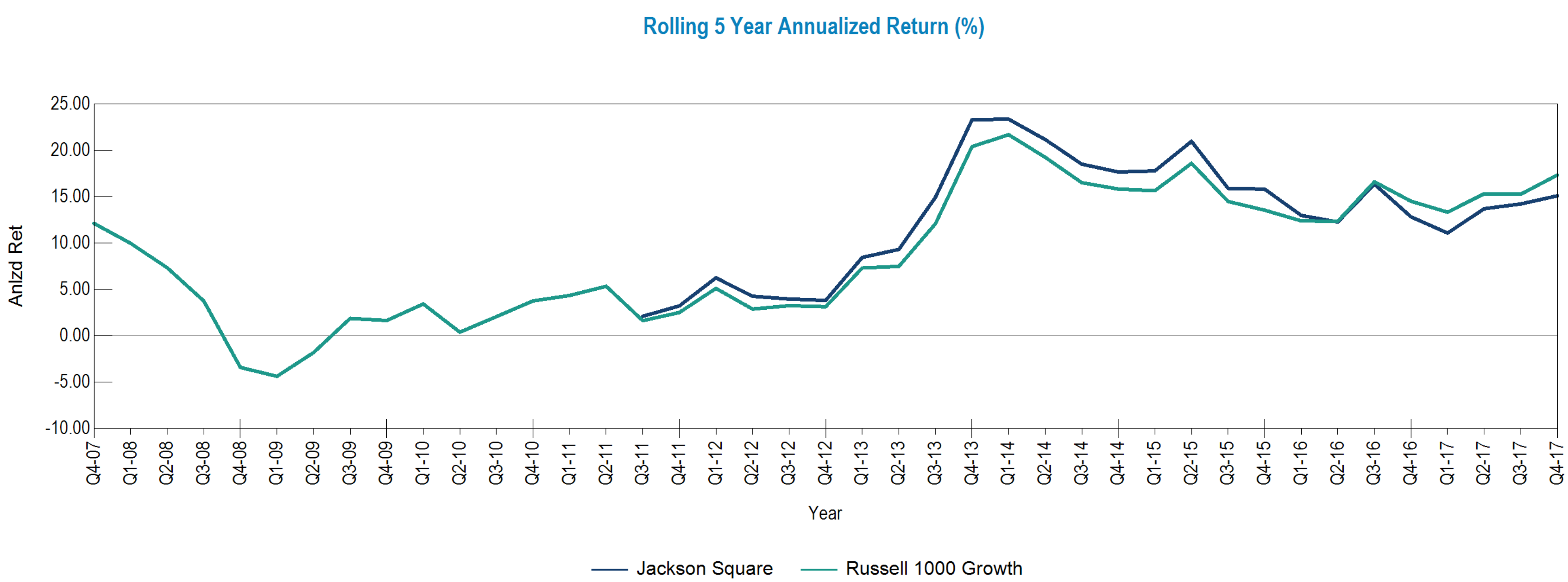


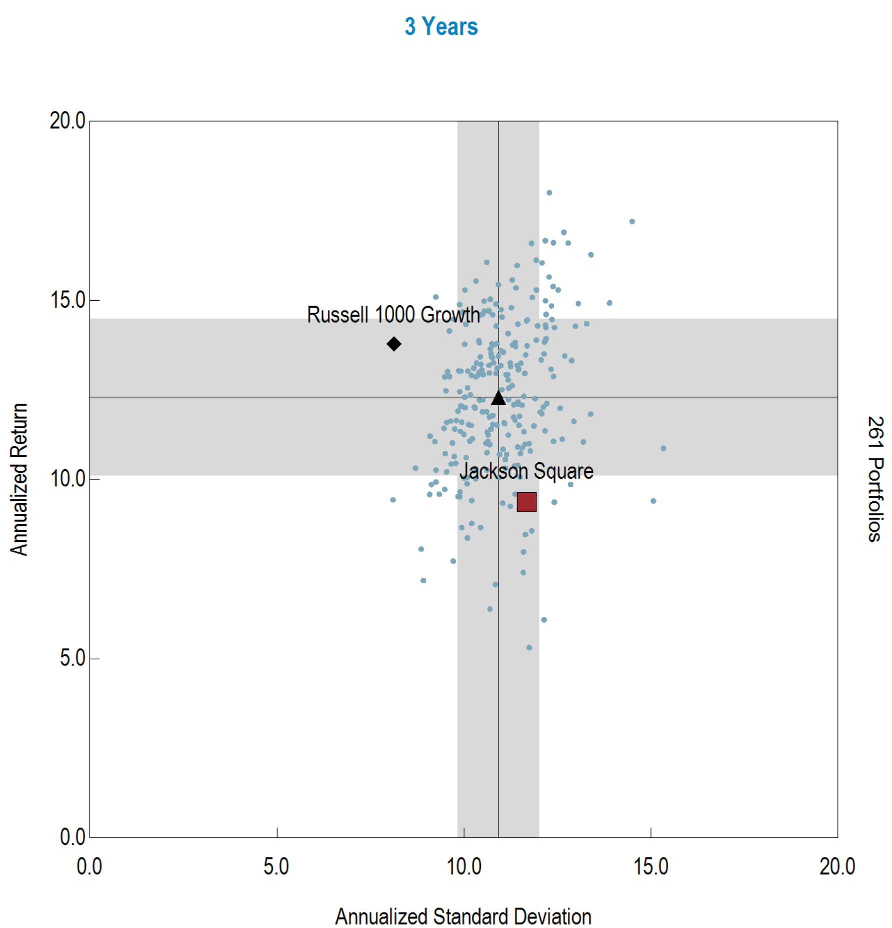
Jackson Square vs. eV US Large Cap Growth Equity Gross Universe

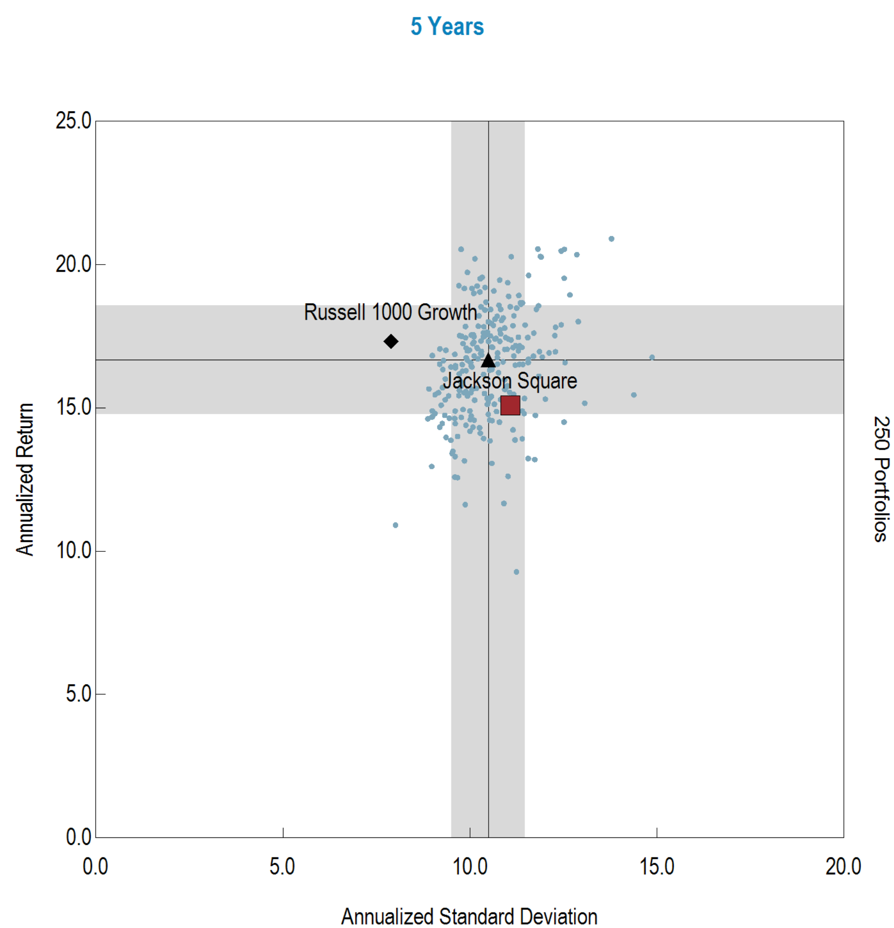


Return (Rank)	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
5th Percentile	9.2	36.7	15.6	19.5	11.5	36.7	12.0	11.6	17.3	42.8
25th Percentile	7.8	32.7	13.8	17.6	10.4	32.7	7.3	7.6	14.3	37.3
Median	7.0	28.8	12.3	16.7	9.6	28.8	4.6	4.7	12.0	34.3
75th Percentile	6.1	26.2	10.9	15.2	8.7	26.2	1.8	2.1	9.5	31.0
95th Percentile	4.0	20.5	8.7	13.4	7.3	20.5	-2.7	-2.4	5.8	26.6
# of Portfolios	265	265	261	250	225	265	282	270	291	274
● Jackson Square	3.4 (98)	29.2 (47)	9.4 (94)	15.1 (78)	9.3 (60)	29.2 (47)	-4.4 (98)	5.9 (39)	13.8 (32)	35.6 (39)
▲ Russell 1000 Growth	7.9 (23)	30.2 (42)	13.8 (26)	17.3 (34)	10.0 (36)	30.2 (42)	7.1 (26)	5.7 (42)	13.0 (38)	33.5 (56)


Rolling 3 Year Annualized Return (%)
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
Anlzd Ret
Q4-07 Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17
Year
Jackson Square
Russell 1000 Growth


Rolling 5 Year Annualized Return (%)
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
Anlzd Ret
Q4-07 Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17
Year
Jackson Square
Russell 1000 Growth





3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square	9.4%	11.7%	0.8
Russell 1000 Growth	13.8%	8.1%	1.6
eV US Large Cap Growth Equity Gross Median	12.3%	10.9%	1.1

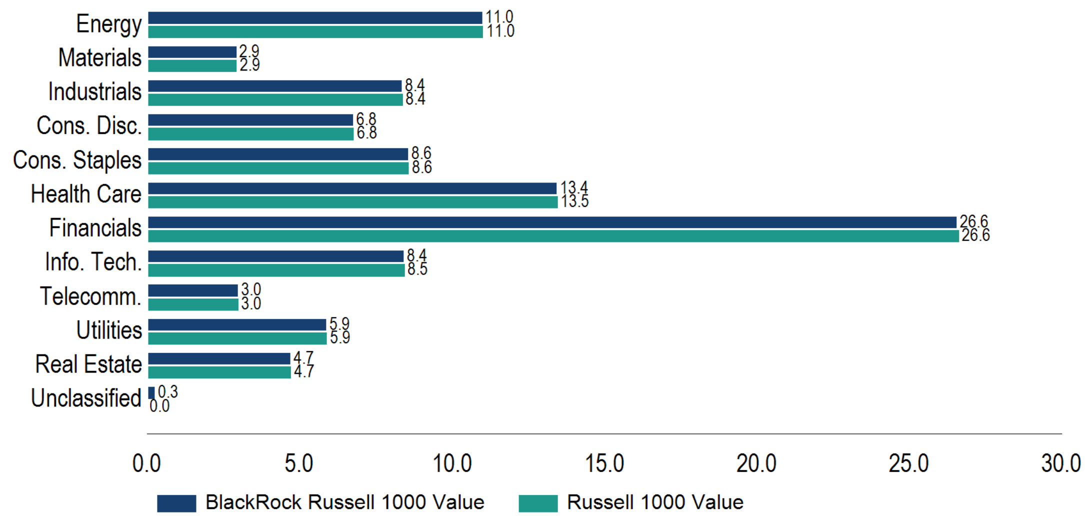
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square	15.1%	11.1%	1.3
Russell 1000 Growth	17.3%	7.9%	2.2
eV US Large Cap Growth Equity Gross Median	16.7%	10.5%	1.6

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	712	713
Weighted Avg. Market Cap. ($B)	119.05	119.36
Median Market Cap. ($B)	9.36	9.42
Price To Earnings	24.39	21.04
Price To Book	2.52	2.73
Price To Sales	2.90	2.88
Return on Equity (%)	12.92	11.48
Yield (%)	2.34	2.31
Beta	1.00	1.00

Sector Allocation (%) vs Russell 1000 Value



Largest Holdings

	End Weight	Return
BERKSHIRE HATHAWAY 'B'	3.03	8.13
JP MORGAN CHASE & CO.	2.94	12.61
EXXON MOBIL	2.82	2.97
JOHNSON & JOHNSON	2.54	8.12
BANK OF AMERICA	2.27	16.99
WELLS FARGO & CO	2.13	10.77
AT&T	1.90	0.52
CHEVRON	1.88	7.55
PROCTER & GAMBLE	1.77	1.75
INTEL	1.73	21.93

Top Contributors

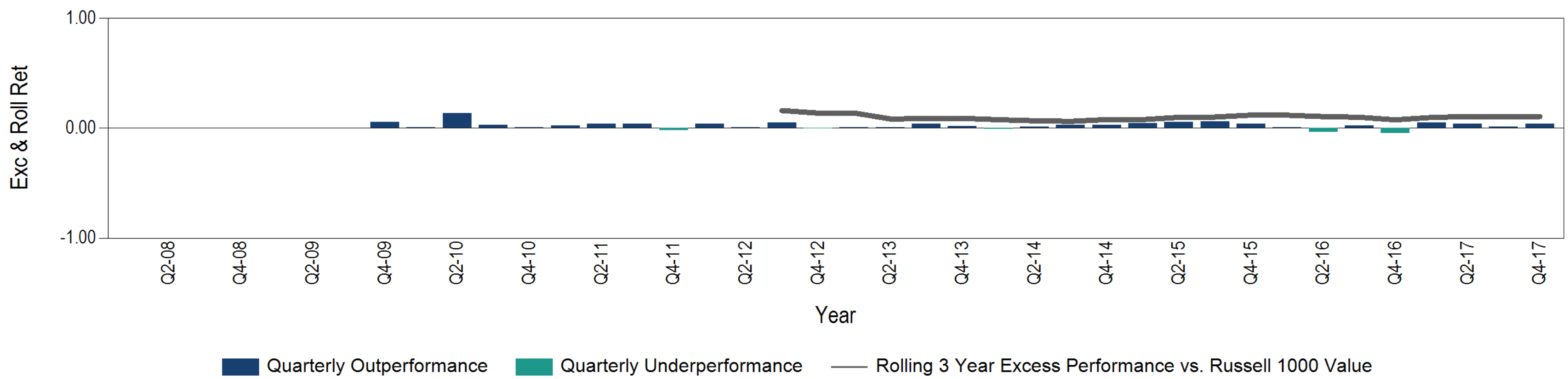
	Avg Wgt	Return	Contribution
JP MORGAN CHASE & CO.	0.95	12.61	0.12
BANK OF AMERICA	0.71	16.99	0.12
INTEL	0.49	21.93	0.11
WALMART	0.34	27.04	0.09
BERKSHIRE HATHAWAY 'B'	1.03	8.13	0.08
WELLS FARGO & CO	0.68	10.77	0.07
JOHNSON & JOHNSON	0.90	8.12	0.07
CISCO SYSTEMS	0.48	14.87	0.07
QUALCOMM	0.23	24.52	0.06
CHEVRON	0.60	7.55	0.05

Bottom Contributors

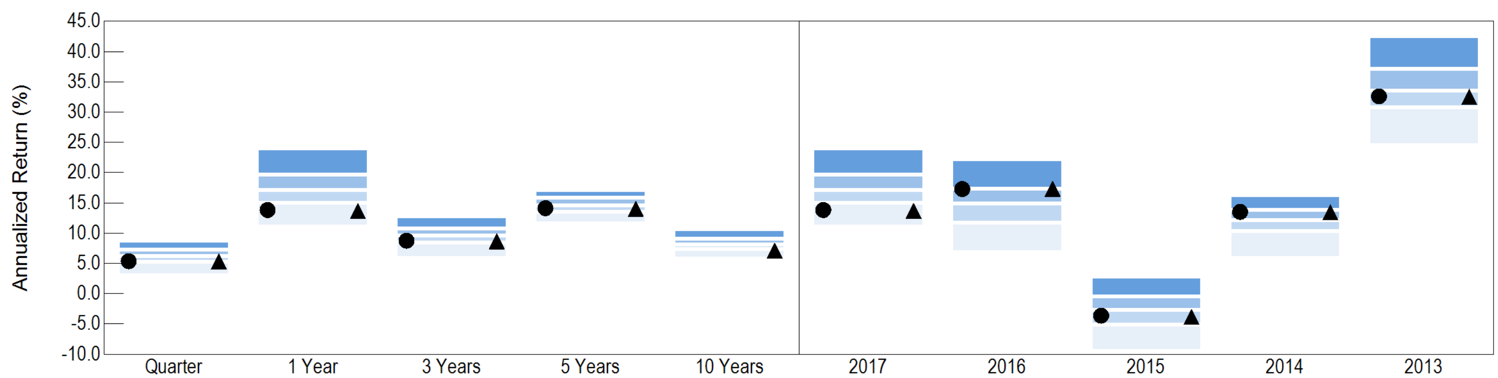
	Avg Wgt	Return	Contribution
GENERAL ELECTRIC	0.52	-27.34	-0.14
MERCK & COMPANY	0.49	-11.37	-0.06
PG&E	0.11	-34.16	-0.04
TIME WARNER	0.23	-10.37	-0.02
CVS HEALTH	0.23	-10.26	-0.02
PHILIP MORRIS INTL.	0.49	-3.85	-0.02
NEWELL BRANDS	0.07	-27.04	-0.02
AMGEN	0.28	-6.10	-0.02
PPL	0.08	-17.53	-0.01
EDISON INTL.	0.08	-17.28	-0.01

Unclassified sector allocation includes cash allocations.

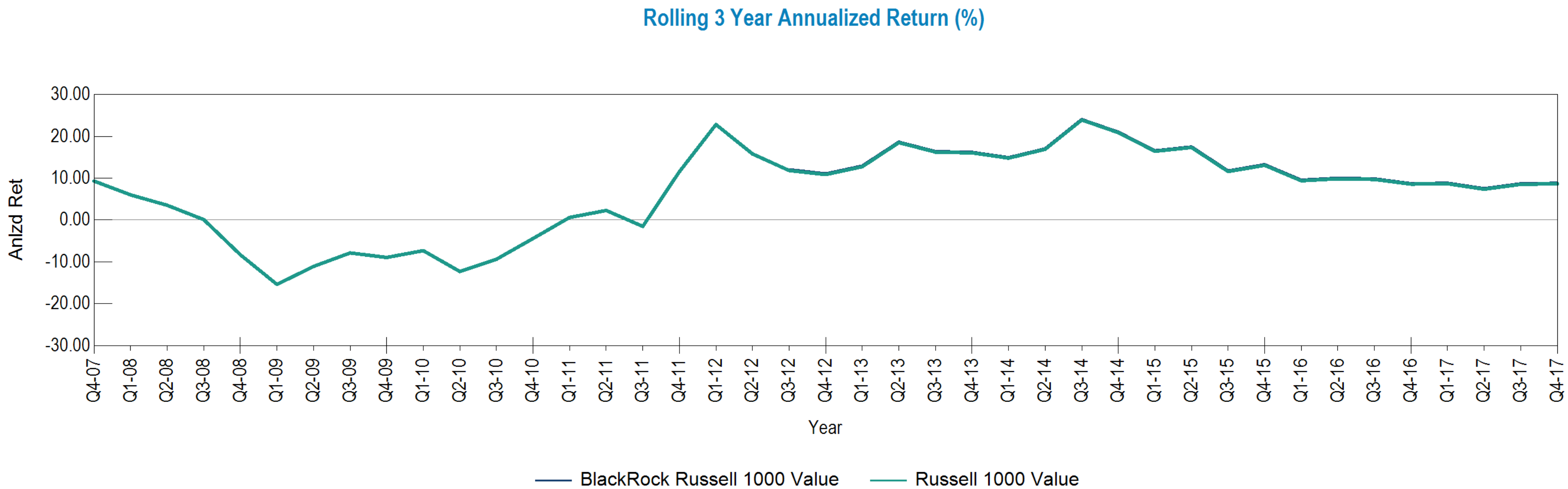
Rolling Annualized Excess Performance

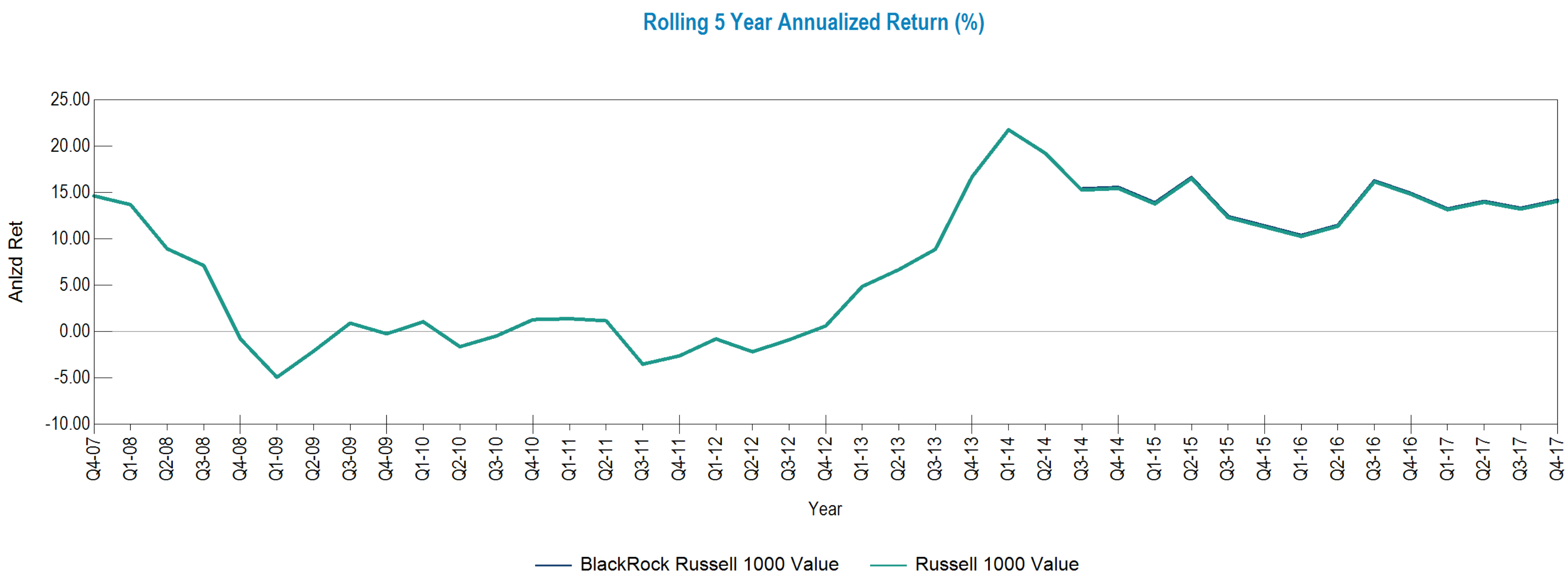


BlackRock Russell 1000 Value vs. eV US Large Cap Value Equity Gross Universe



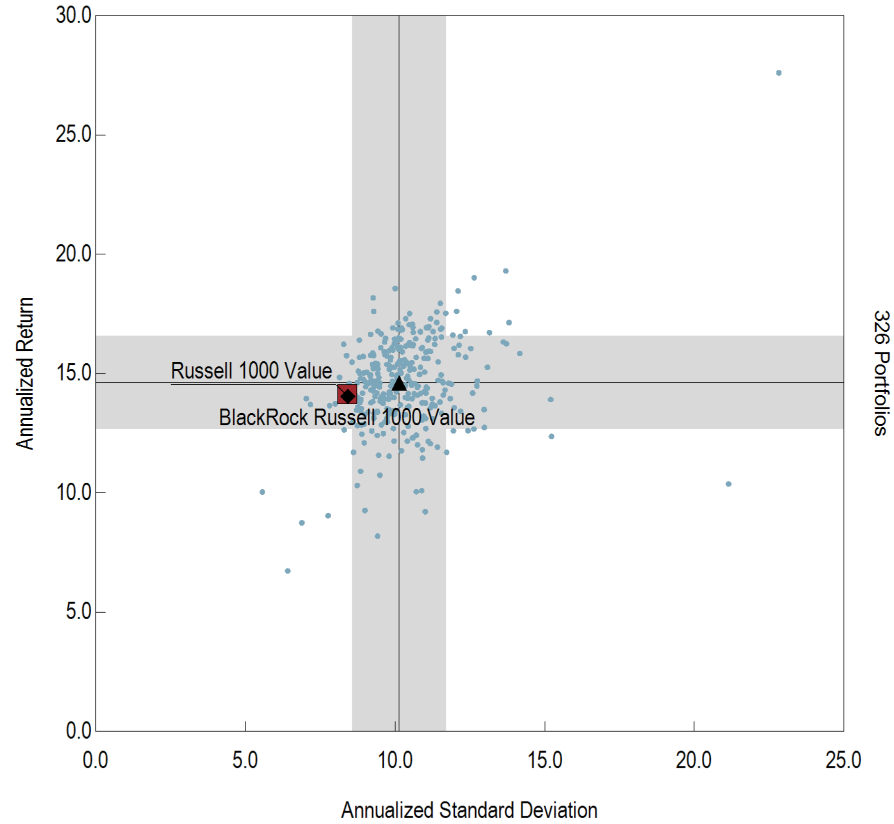
Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	8.7		24.0		12.7		17.1		10.6		24.0		22.1		2.8		16.3		42.5	
25th Percentile	7.3		19.8		10.8		15.9		9.1		19.8		17.4		-0.4		13.9		37.2	
Median	6.2		17.2		9.7		14.6		8.2		17.2		15.0		-2.6		12.2		33.6	
75th Percentile	5.3		15.1		8.5		13.6		7.4		15.1		11.8		-5.1		10.4		30.8	
95th Percentile	3.1		11.2		6.0		11.7		5.8		11.2		7.0		-9.4		5.9		24.6	
# of Portfolios	342		342		338		326		267		342		346		312		307		310	
● **BlackRock Russell 1000 Value**	5.4	(75)	13.8	(86)	8.8	(71)	14.1	(63)	--	(--)	13.8	(86)	17.3	(26)	-3.6	(62)	13.5	(31)	32.6	(59)
▲ **Russell 1000 Value**	5.3	(75)	13.7	(87)	8.7	(74)	14.0	(65)	7.1	(82)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)	32.5	(60)


Rolling 3 Year Annualized Return (%)
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
Anlzd Ret
Q4-07 Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17
Year
BlackRock Russell 1000 Value
Russell 1000 Value


Rolling 5 Year Annualized Return (%)
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
Anlzd Ret
Q4-07 Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17
Year
BlackRock Russell 1000 Value
Russell 1000 Value

3 Years

5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Value	8.8%	8.0%	1.0
Russell 1000 Value	8.7%	8.0%	1.0
eV US Large Cap Value Equity Gross Median	9.7%	10.6%	0.9

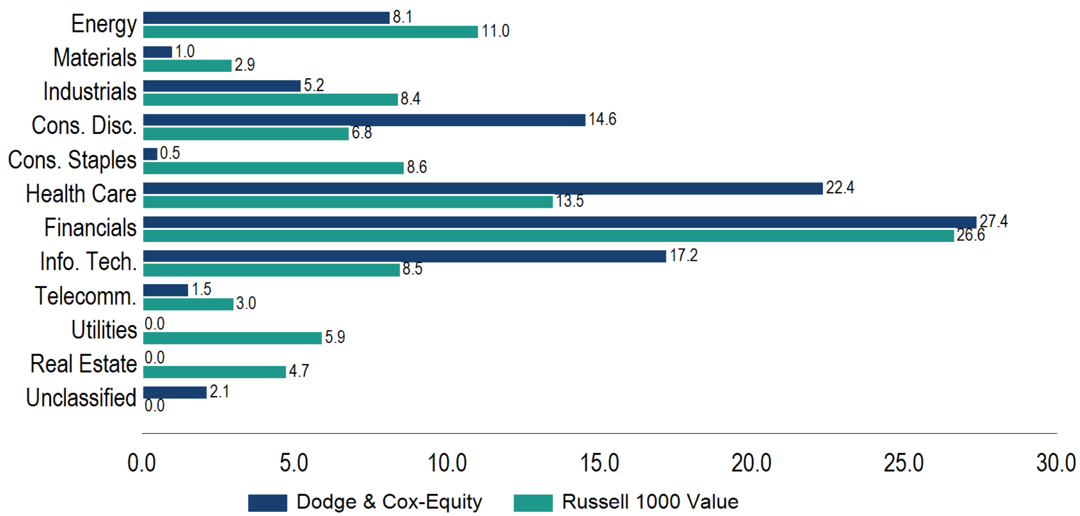
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
BlackRock Russell 1000 Value	14.1%	8.4%	1.7
Russell 1000 Value	14.0%	8.4%	1.6
eV US Large Cap Value Equity Gross Median	14.6%	10.1%	1.4

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	70	713
Weighted Avg. Market Cap. ($B)	110.38	119.36
Median Market Cap. ($B)	42.27	9.42
Price To Earnings	24.30	21.04
Price To Book	3.11	2.73
Price To Sales	2.88	2.88
Return on Equity (%)	14.90	11.48
Yield (%)	1.85	2.31
Beta	1.13	1.00

Sector Allocation (%) vs Russell 1000 Value



Largest Holdings

	End Weight	Return
CHARLES SCHWAB	3.73	17.66
CAPITAL ONE FINL.	3.69	18.16
WELLS FARGO & CO	3.67	10.77
BANK OF AMERICA	3.64	16.99
COMCAST 'A'	3.18	4.51
NOVARTIS 'B' SPN.ADR 1:1	2.96	-2.20
CHARTER COMMS.CL.A	2.73	-7.56
ALPHABET 'C'	2.69	9.10
SANOFI ADR 2:1	2.54	-13.64
GOLDMAN SACHS GP.	2.47	7.74

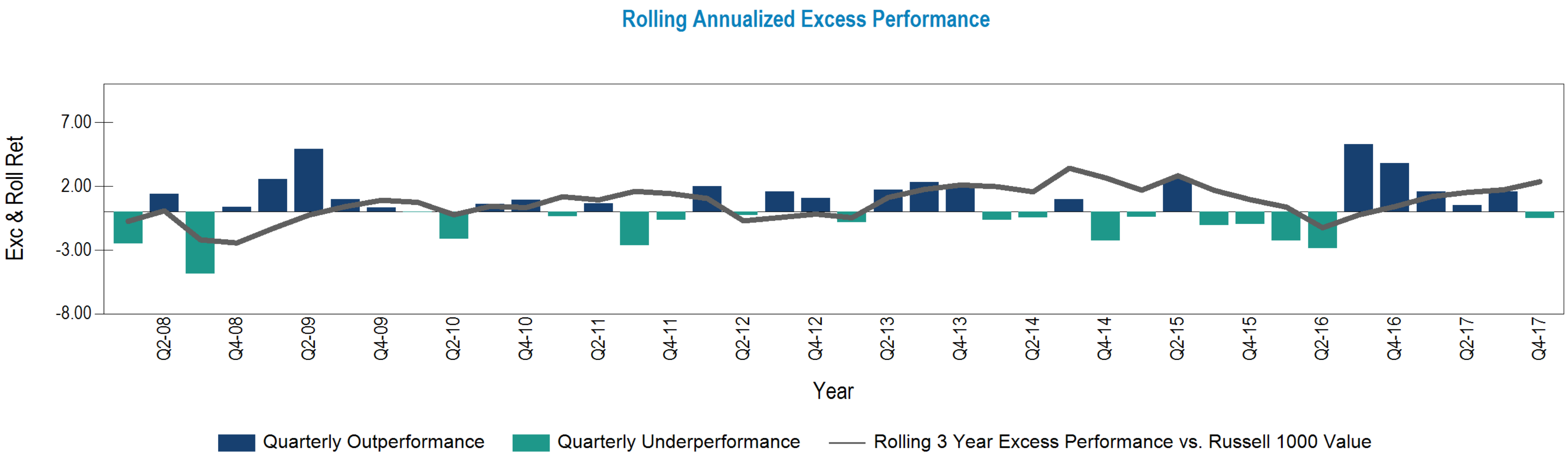
Top Contributors

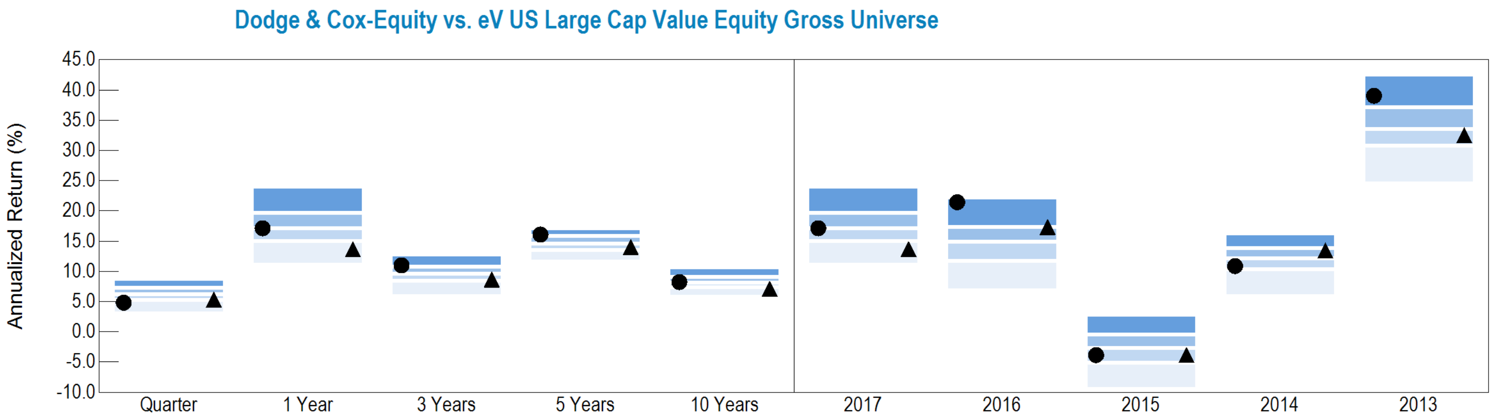
	Avg Wgt	Return	Contribution
BANK OF AMERICA	3.71	16.99	0.63
CHARLES SCHWAB	3.53	17.66	0.62
CAPITAL ONE FINL.	3.43	18.16	0.62
MICROSOFT	2.86	15.42	0.44
WALMART	1.61	27.04	0.44
WELLS FARGO & CO	3.49	10.77	0.38
EXPRESS SCRIPTS HOLDING	1.88	17.88	0.34
JP MORGAN CHASE & CO.	2.40	12.61	0.30
CISCO SYSTEMS	1.90	14.87	0.28
FEDEX	2.19	10.85	0.24

Bottom Contributors

	Avg Wgt	Return	Contribution
SANOFI ADR 2:1	2.80	-13.64	-0.38
SPRINT	0.95	-24.29	-0.23
CHARTER COMMS.CL.A	3.02	-7.56	-0.23
TIME WARNER	1.95	-10.37	-0.20
GLAXOSMITHKLINE SPN.ADR 1:2	0.98	-11.41	-0.11
BAKER HUGHES A	0.82	-13.10	-0.11
GILEAD SCIENCES	0.79	-10.96	-0.09
DISH NETWORK 'A'	0.72	-11.95	-0.09
APACHE	1.10	-7.26	-0.08
NOVARTIS 'B' SPN.ADR 1:1	2.75	-2.20	-0.06

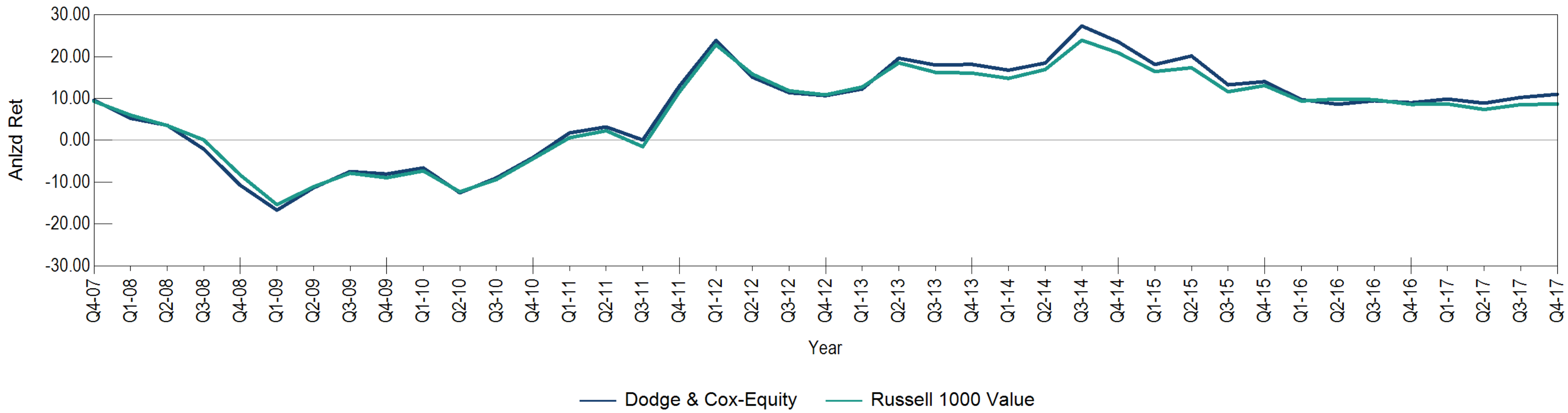
Unclassified sector allocation includes cash allocations.



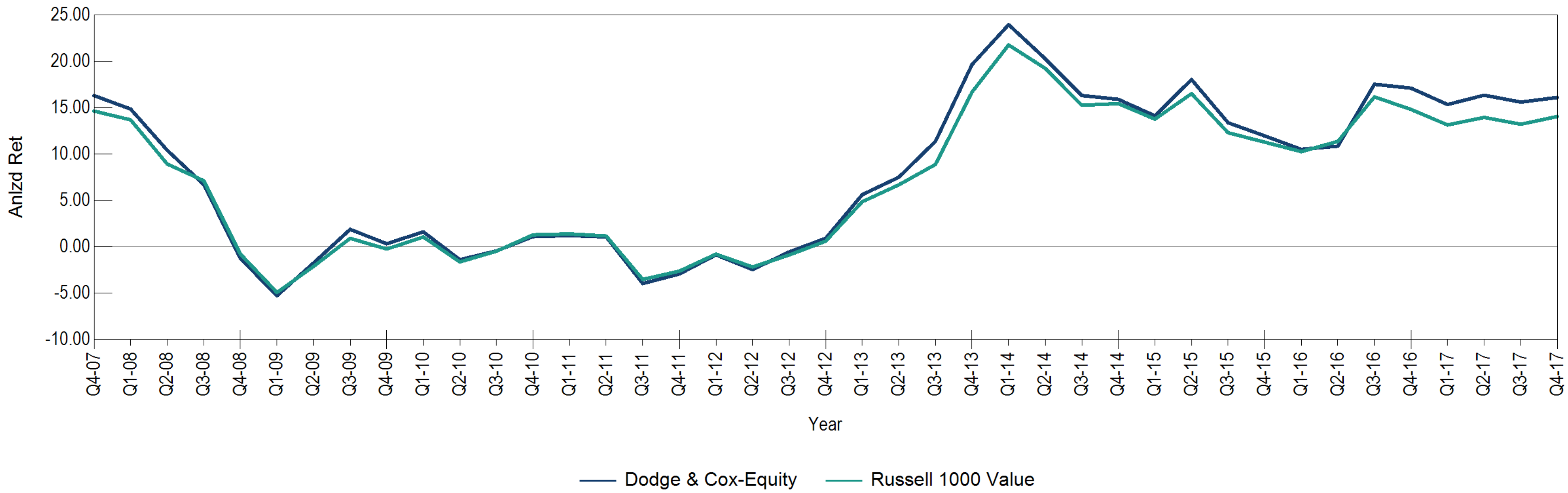


	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
Return (Rank)																				
5th Percentile	8.7		24.0		12.7		17.1		10.6		24.0		22.1		2.8		16.3		42.5	
25th Percentile	7.3		19.8		10.8		15.9		9.1		19.8		17.4		-0.4		13.9		37.2	
Median	6.2		17.2		9.7		14.6		8.2		17.2		15.0		-2.6		12.2		33.6	
75th Percentile	5.3		15.1		8.5		13.6		7.4		15.1		11.8		-5.1		10.4		30.8	
95th Percentile	3.1		11.2		6.0		11.7		5.8		11.2		7.0		-9.4		5.9		24.6	
# of Portfolios	342		342		338		326		267		342		346		312		307		310	
● Dodge & Cox-Equity	4.8	(84)	17.1	(52)	11.0	(21)	16.1	(21)	8.2	(49)	17.1	(52)	21.4	(6)	-3.9	(64)	10.9	(72)	39.1	(15)
▲ Russell 1000 Value	5.3	(75)	13.7	(87)	8.7	(74)	14.0	(65)	7.1	(82)	13.7	(87)	17.3	(26)	-3.8	(64)	13.5	(33)	32.5	(60)

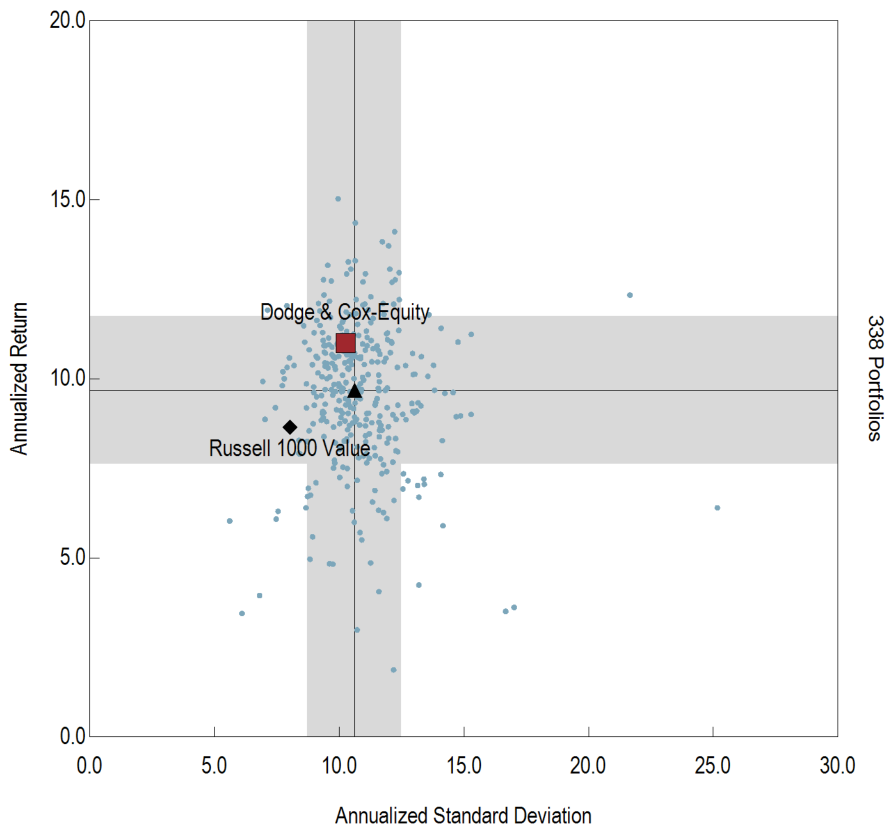
Rolling 3 Year Annualized Return (%)



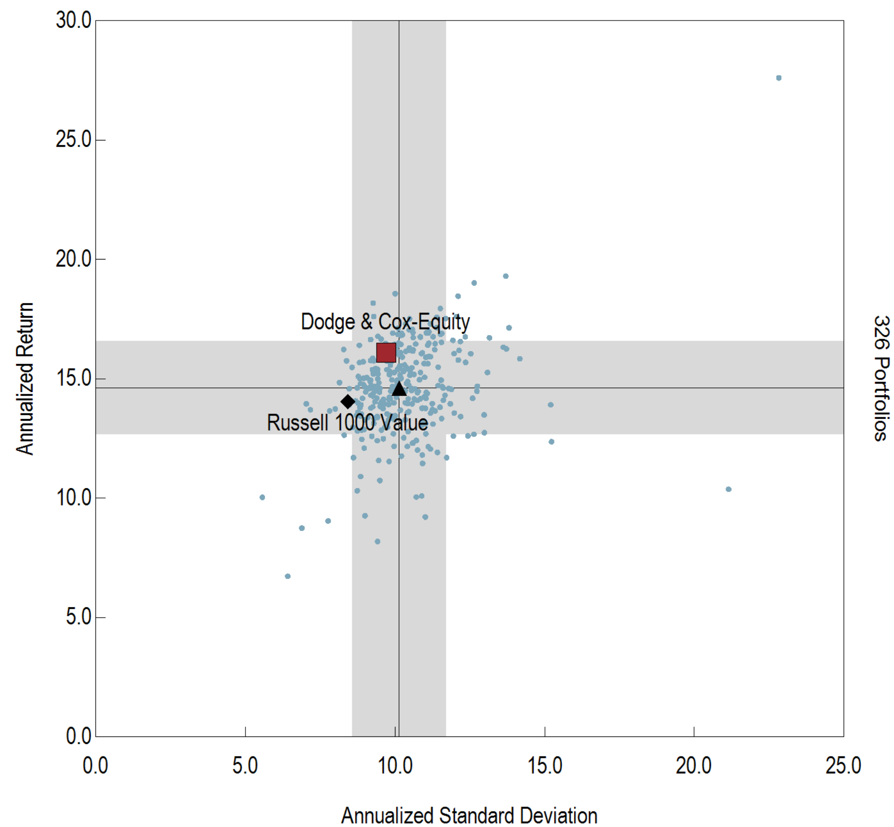
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Dodge & Cox-Equity	11.0%	10.3%	1.0
Russell 1000 Value	8.7%	8.0%	1.0
eV US Large Cap Value Equity Gross Median	9.7%	10.6%	0.9

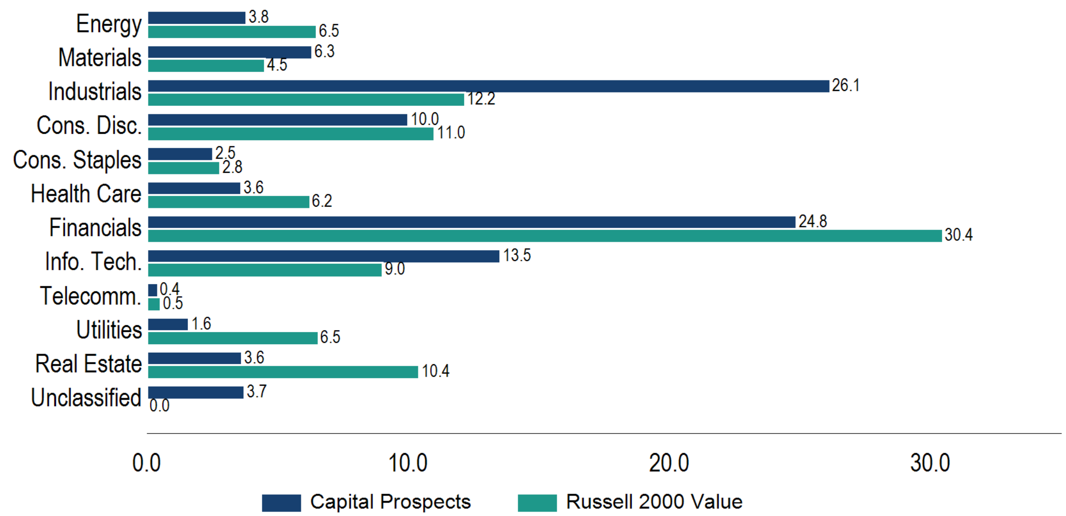
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Dodge & Cox-Equity	16.1%	9.7%	1.6
Russell 1000 Value	14.0%	8.4%	1.6
eV US Large Cap Value Equity Gross Median	14.6%	10.1%	1.4

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	297	1,387
Weighted Avg. Market Cap. ($B)	2.42	2.06
Median Market Cap. ($B)	1.28	0.72
Price To Earnings	19.99	17.61
Price To Book	3.25	1.83
Price To Sales	2.26	2.70
Return on Equity (%)	12.27	5.50
Yield (%)	1.52	1.60
Beta	0.94	1.00

Sector Allocation (%) vs Russell 2000 Value



Largest Holdings

	End Weight	Return
HOSTESS BRANDS CL.A	1.45	8.42
HILLENBRAND	1.36	15.59
LITTELFUSE	1.32	1.17
ARTISAN PTNS.ASTMGMT.	1.31	23.17
VERSO 'A'	1.23	245.19
ARCONIC	1.21	9.79
AIR LEASE	1.08	13.08
MB FINANCIAL	1.06	-0.63
MODINE MANUFACTURING	0.92	4.94
BANC OF CALIFORNIA	0.91	0.15

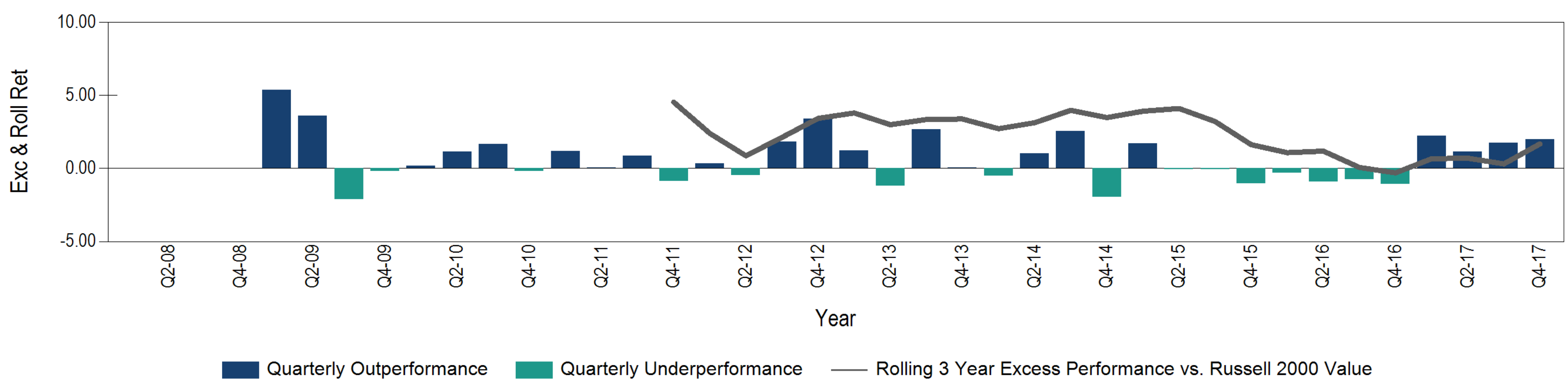
Top Contributors

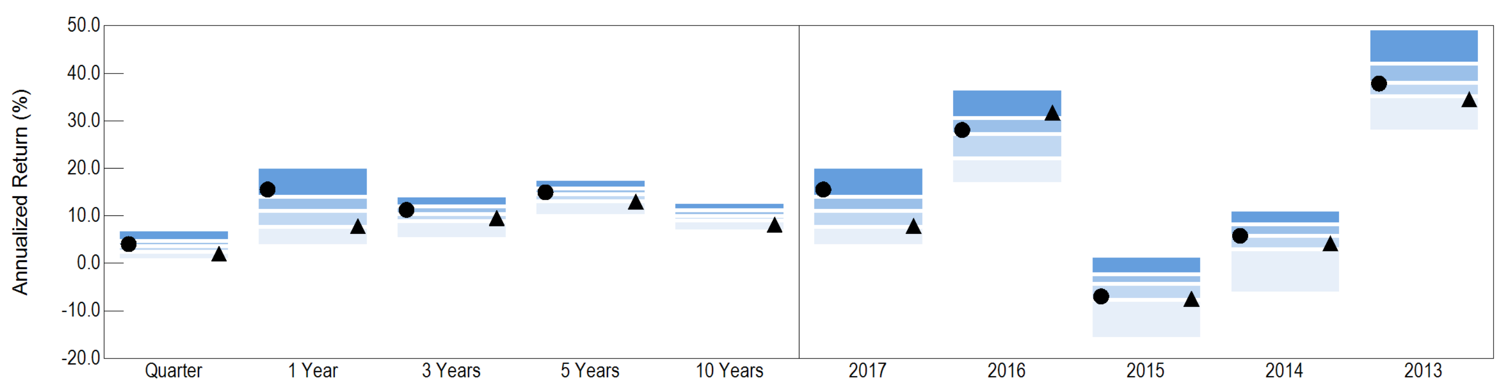
	Avg Wgt	Return	Contribution
VERSO 'A'	0.56	245.19	1.37
ARTISAN PTNS.ASTMGMT.	1.12	23.17	0.26
HILLENBRAND	1.27	15.59	0.20
DMC GLOBAL	0.40	48.34	0.19
TWIN DISC	0.44	42.77	0.19
ELECTRO SCIEN.INDS.	0.33	53.95	0.18
PAM TRANSPORTATION SVS.	0.37	43.88	0.16
GENERAL CABLE	0.24	57.98	0.14
AIR LEASE	0.99	13.08	0.13
SPARTAN MOTORS	0.29	43.02	0.13

Bottom Contributors

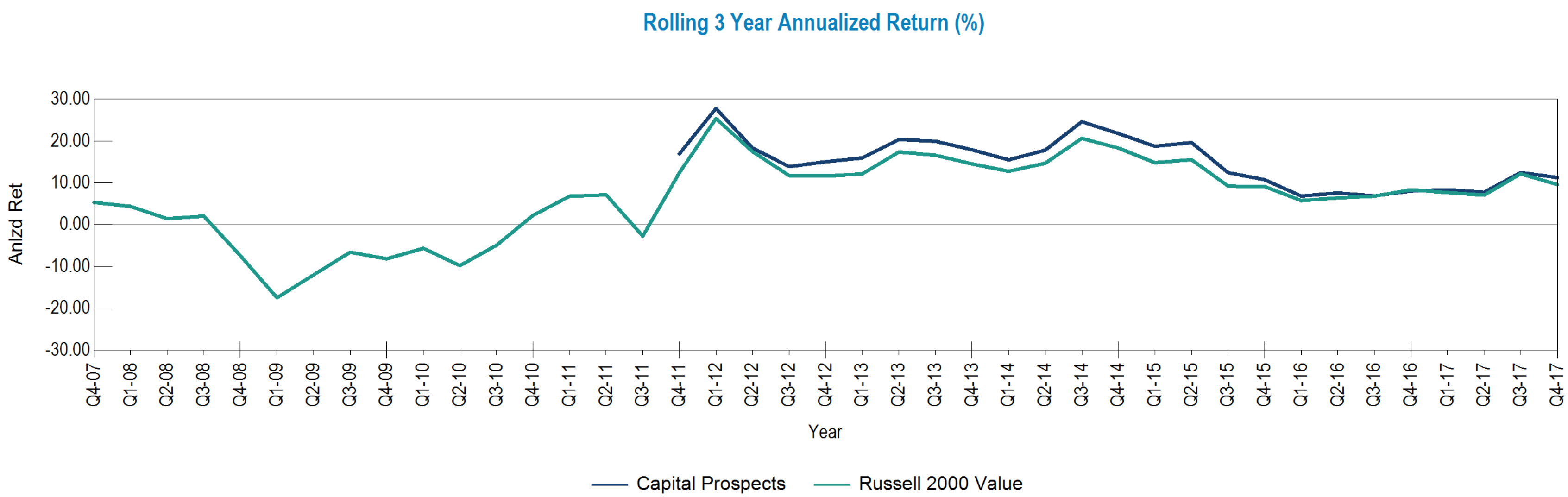
	Avg Wgt	Return	Contribution
OCH-ZIFF CAP.MAN.GP.CL.A	0.72	-21.88	-0.16
MERITOR	1.10	-9.80	-0.11
GNC HOLDINGS CL.A	0.18	-58.26	-0.11
VISTA OUTDOOR	0.24	-36.49	-0.09
ABM INDS.	0.93	-9.21	-0.09
MATTHEWS INTL.'A'	0.57	-14.88	-0.09
FREIGHTCAR AMERICA	0.64	-12.68	-0.08
PCM	0.25	-29.29	-0.07
ARC DOCUMENT SOLUTIONS	0.19	-37.65	-0.07
ULTRA CLEAN HOLDINGS	0.27	-24.59	-0.07

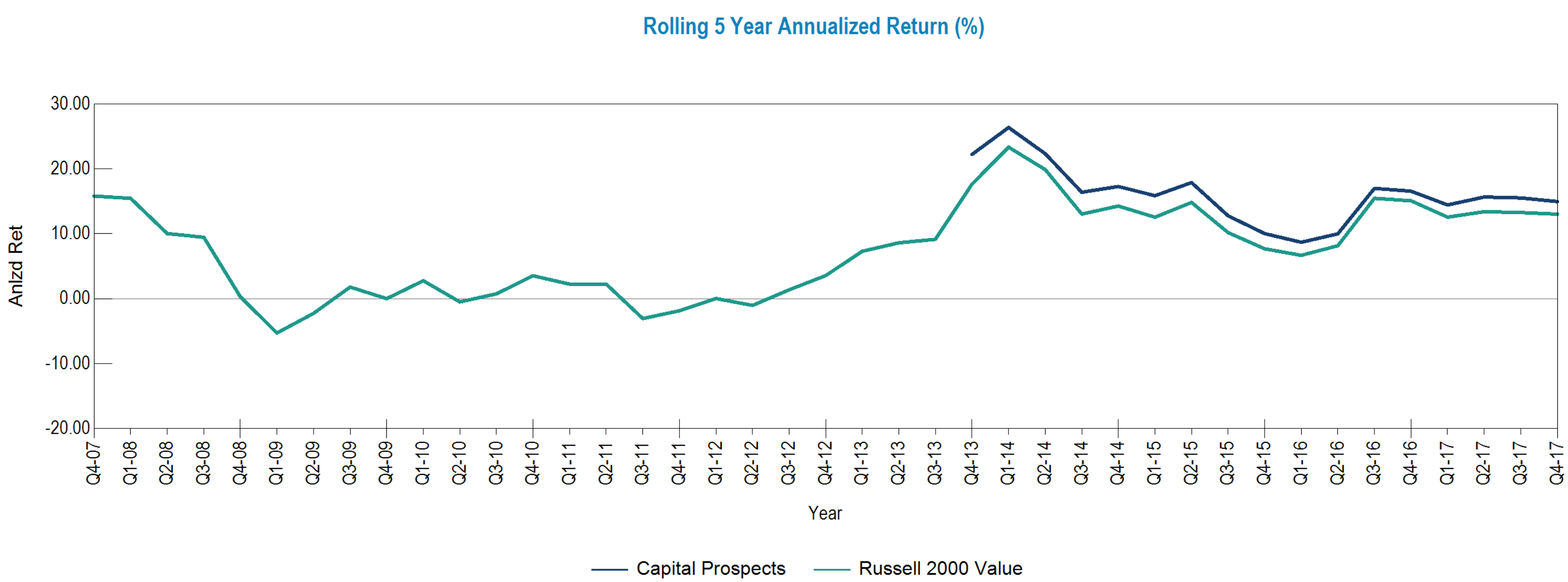
Unclassified sector allocation includes cash allocations.



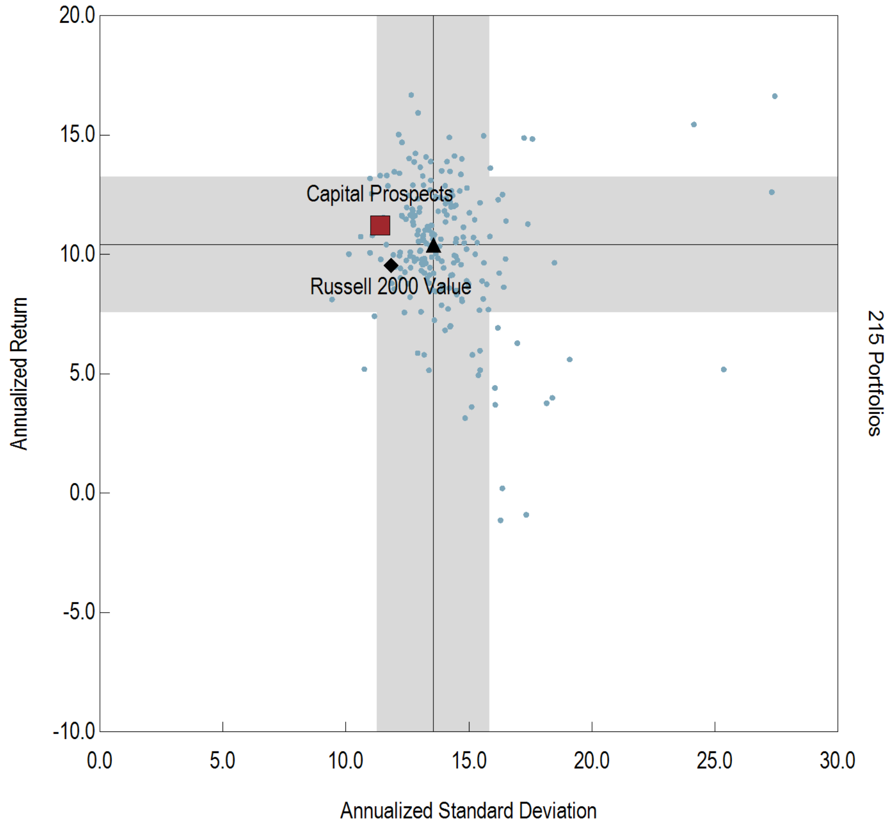


Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	7.0		20.2		14.2		17.7		12.8		20.2		36.7		1.5		11.2		49.4	
25th Percentile	4.7		14.1		12.0		15.8		11.2		14.1		30.7		-2.2		8.2		42.1	
Median	3.7		11.1		10.4		14.6		10.1		11.1		27.2		-4.3		5.8		38.1	
75th Percentile	2.5		7.8		9.0		13.2		9.1		7.8		22.2		-7.7		3.1		35.2	
95th Percentile	0.7		3.7		5.2		10.0		6.8		3.7		16.8		-15.8		-6.3		27.8	
# of Portfolios	224		224		215		207		178		224		222		212		206		199	
● Capital Prospects	4.0	(39)	15.5	(18)	11.2	(36)	14.9	(43)	--	(--)	15.5	(18)	28.1	(40)	-7.0	(72)	5.8	(51)	37.9	(53)
▲ Russell 2000 Value	2.0	(81)	7.8	(75)	9.5	(68)	13.0	(78)	8.2	(87)	7.8	(75)	31.7	(17)	-7.5	(74)	4.2	(68)	34.5	(78)

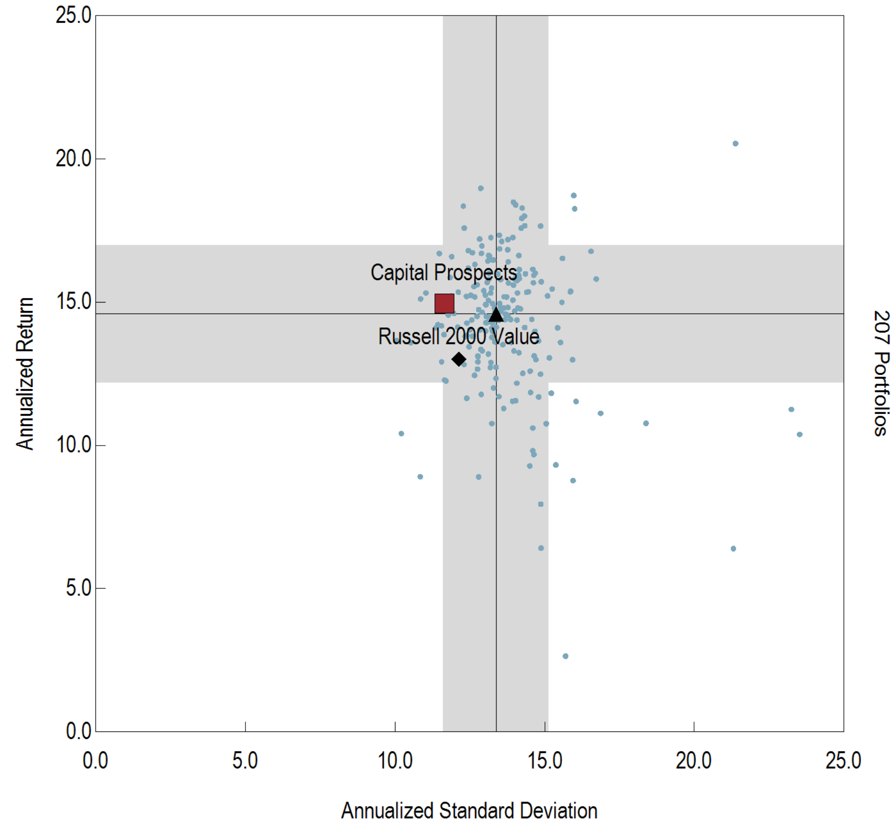

Rolling 3 Year Annualized Return (%)
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
Anlzd Ret
Q4-07 Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17
Year
Capital Prospects
Russell 2000 Value


Rolling 5 Year Annualized Return (%)
30.00
20.00
10.00
0.00
-10.00
-20.00
Anlzd Ret
Q4-07 Q1-08 Q2-08 Q3-08 Q4-08 Q1-09 Q2-09 Q3-09 Q4-09 Q1-10 Q2-10 Q3-10 Q4-10 Q1-11 Q2-11 Q3-11 Q4-11 Q1-12 Q2-12 Q3-12 Q4-12 Q1-13 Q2-13 Q3-13 Q4-13 Q1-14 Q2-14 Q3-14 Q4-14 Q1-15 Q2-15 Q3-15 Q4-15 Q1-16 Q2-16 Q3-16 Q4-16 Q1-17 Q2-17 Q3-17 Q4-17
Year
Capital Prospects
Russell 2000 Value

3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Capital Prospects	11.2%	11.4%	0.9
Russell 2000 Value	9.5%	11.8%	0.8
eV US Small Cap Value Equity Gross Median	10.4%	13.6%	0.7

5 Years

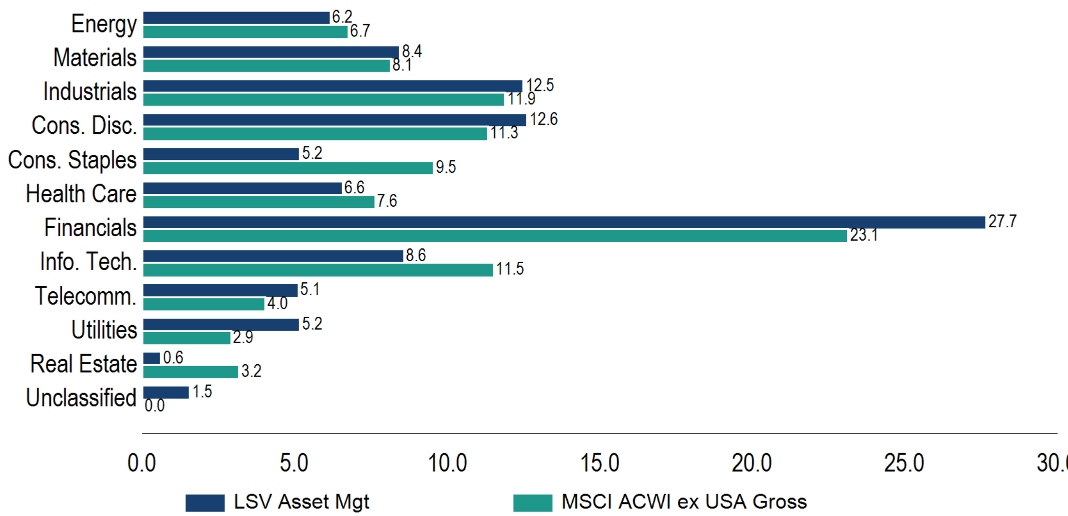
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Capital Prospects	14.9%	11.6%	1.3
Russell 2000 Value	13.0%	12.1%	1.1
eV US Small Cap Value Equity Gross Median	14.6%	13.4%	1.1

International Equity Managers

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	250	1,866
Weighted Avg. Market Cap. ($B)	36.16	66.27
Median Market Cap. ($B)	8.07	8.57
Price To Earnings	13.07	20.78
Price To Book	1.71	2.82
Price To Sales	1.05	2.19
Return on Equity (%)	14.49	15.04
Yield (%)	3.37	2.70
Beta	1.05	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Gross



Largest Holdings

	End Weight	Return
SAMSUNG ELECTRONICS	2.23	6.32
SANOFI	1.43	-13.13
NIPPON TELG. & TEL.	1.36	2.71
ALLIANZ	1.34	3.18
ENEL	1.33	2.27
MAGNA INTL.	1.30	7.33
BAE SYSTEMS	1.10	-7.17
KDDI	1.05	-5.55
SWISS LIFE HOLDING	1.04	0.43
BANK NEGARA INDONESIA	0.97	32.81

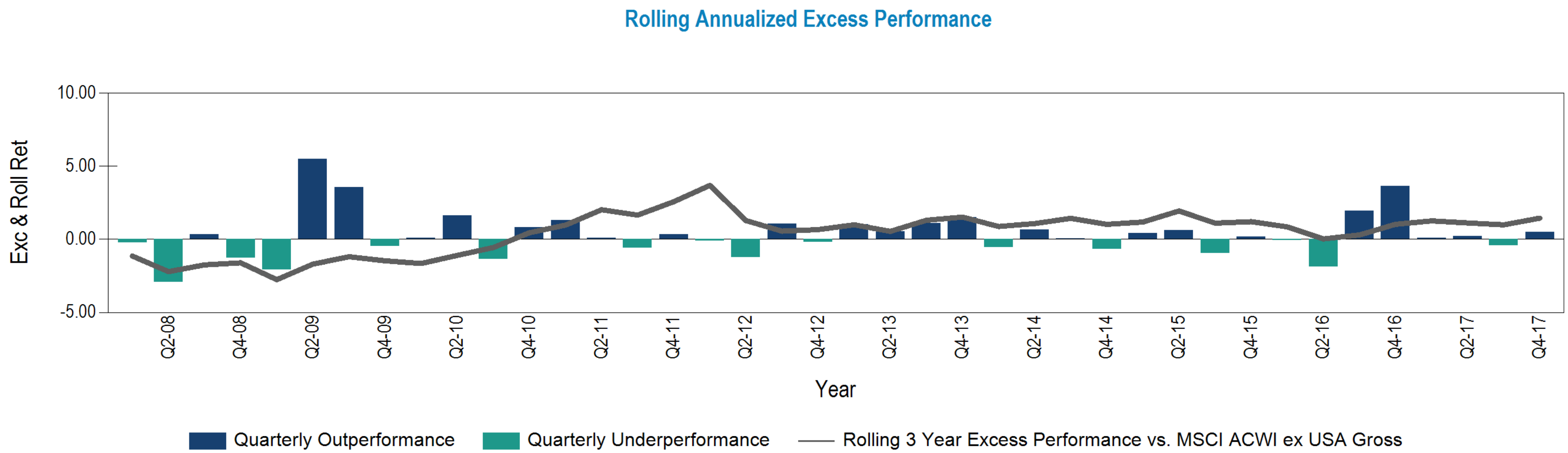
Top Contributors

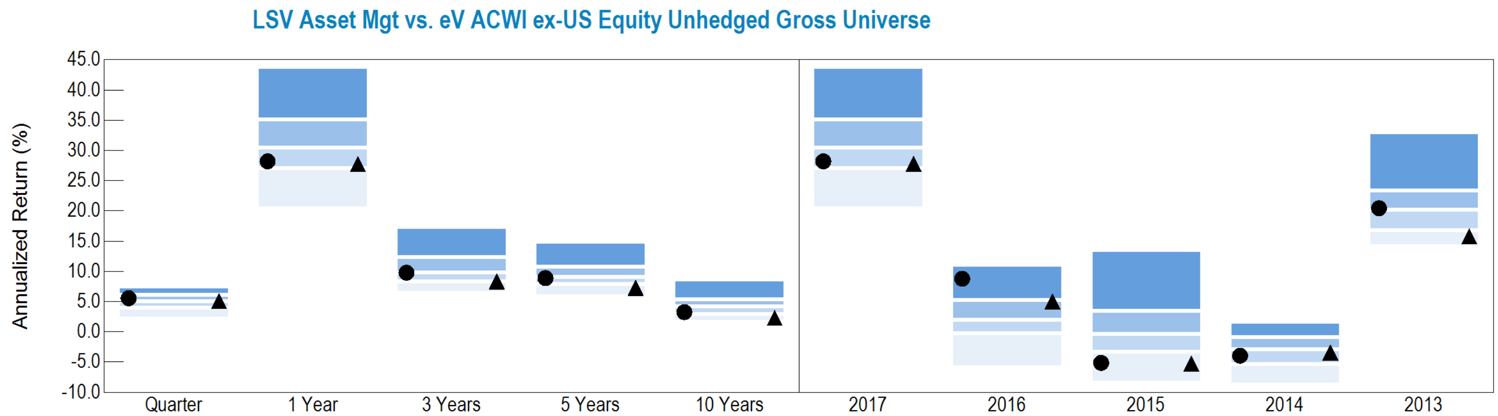
	Avg Wgt	Return	Contribution
AT&S AU.TCHG.& (XET) SYSTK.	0.29	99.25	0.29
BANK NEGARA INDONESIA	0.79	32.81	0.26
NESTE	0.46	46.65	0.22
AIR CHINA 'H'	0.45	45.95	0.21
ASTRAL FOODS	0.28	69.80	0.19
DEUTSCHE LUFTHANSA	0.58	33.16	0.19
IMPERIAL	0.38	49.51	0.19
DBS GROUP HOLDINGS	0.84	21.28	0.18
GIGA-BYTE TECHNOLOGY	0.41	43.86	0.18
VOLKSWAGEN PREF.	0.77	23.07	0.18

Bottom Contributors

	Avg Wgt	Return	Contribution
SANOFI	1.64	-13.13	-0.21
BYD ELECTRONIC (INTL.)	0.54	-26.38	-0.14
BAE SYSTEMS	1.18	-7.17	-0.08
BAYER	0.97	-8.57	-0.08
SOCIETE GENERALE	0.69	-11.73	-0.08
GLAXOSMITHKLINE	0.85	-9.15	-0.08
LEONARDO	0.21	-36.43	-0.08
CENTRICA	0.28	-24.48	-0.07
QANTAS AIRWAYS	0.50	-13.83	-0.07
KDDI	1.21	-5.55	-0.07

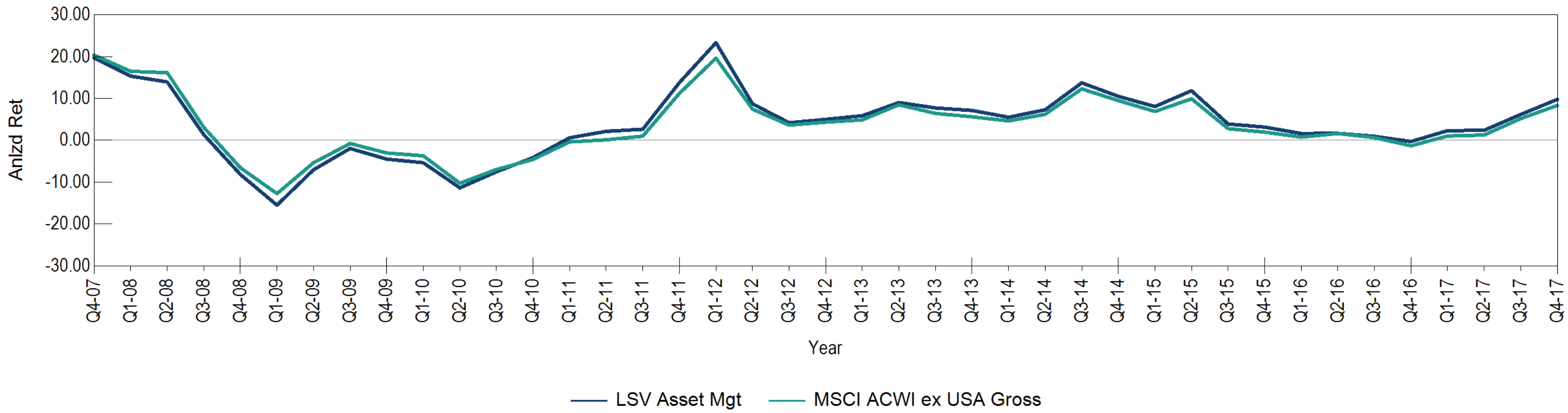
Unclassified sector allocation includes cash allocations.



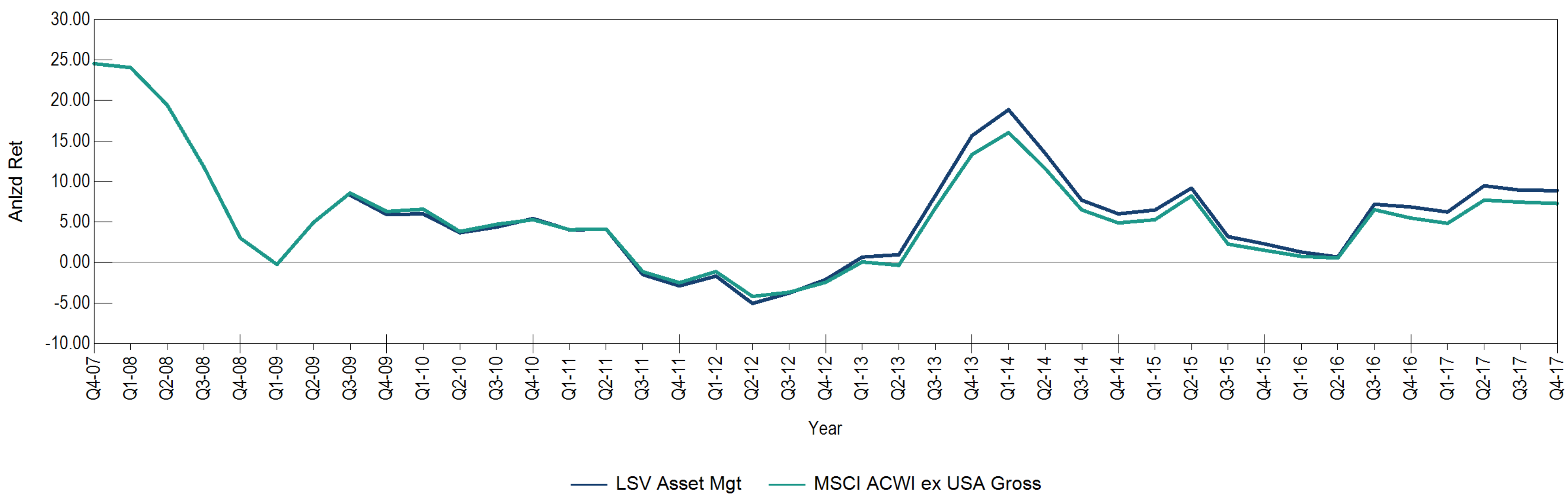


Return (Rank)	Quarter		1 Year		3 Years		5 Years		10 Years		2017		2016		2015		2014		2013	
5th Percentile	7.5		43.8		17.3		14.9		8.6		43.8		11.1		13.5		1.6		32.9	
25th Percentile	6.1		35.2		12.4		10.8		5.4		35.2		5.3		3.5		-0.8		23.4	
Median	5.1		30.6		9.9		9.2		4.2		30.6		2.1		-0.3		-2.9		20.3	
75th Percentile	4.1		27.2		8.4		8.0		2.9		27.2		-0.2		-3.3		-5.3		16.9	
95th Percentile	2.2		20.5		6.5		6.0		1.7		20.5		-5.8		-8.3		-8.7		14.3	
# of Portfolios	254		254		237		204		135		254		238		179		147		136	
● LSV Asset Mgt	5.6	(39)	28.2	(67)	9.8	(53)	8.9	(59)	3.2	(67)	28.2	(67)	8.8	(10)	-5.1	(86)	-4.0	(65)	20.4	(46)
▲ MSCI ACWI ex USA Gross	5.1	(51)	27.8	(71)	8.3	(76)	7.3	(85)	2.3	(86)	27.8	(71)	5.0	(27)	-5.3	(87)	-3.4	(58)	15.8	(87)

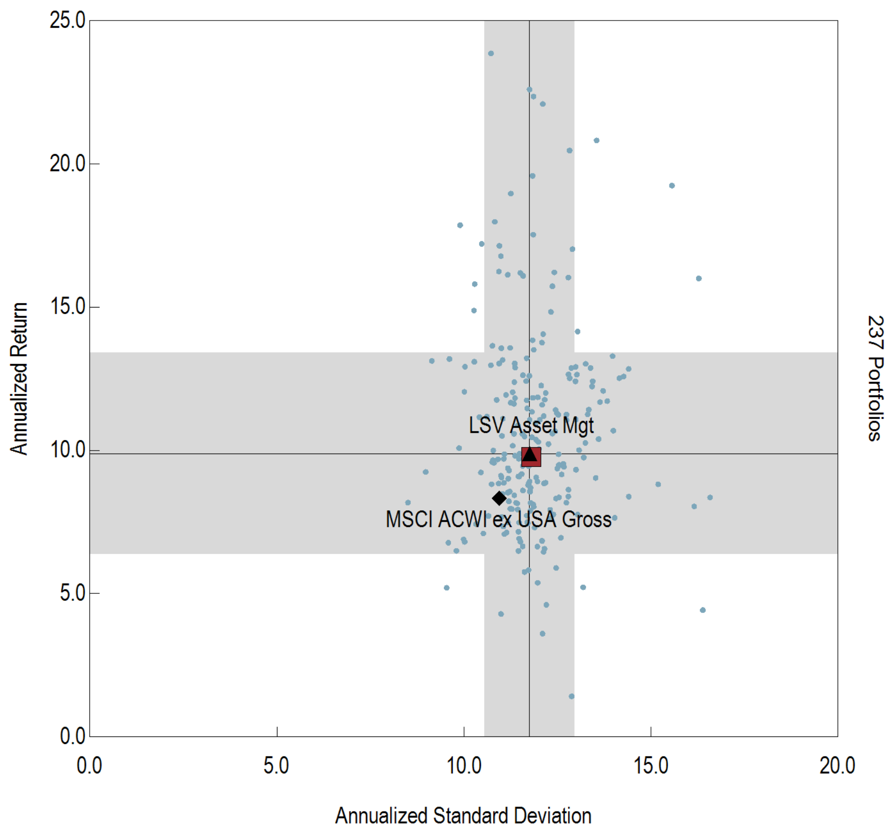
Rolling 3 Year Annualized Return (%)



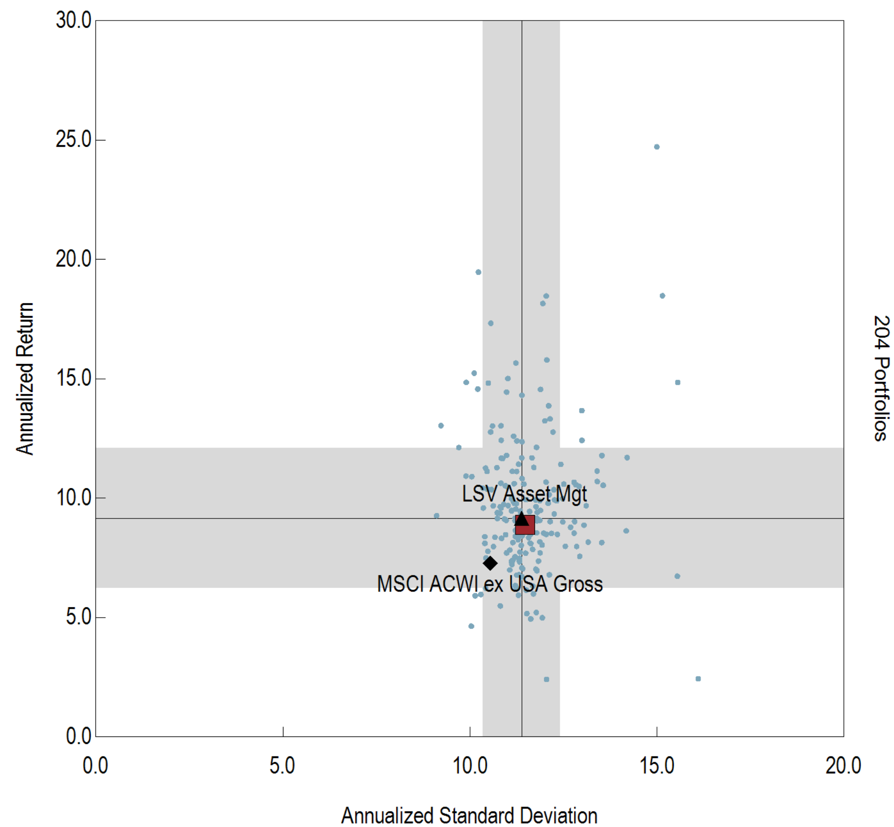
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
LSV Asset Mgt	9.8%	11.8%	0.8
MSCI ACWI ex USA Gross	8.3%	10.9%	0.7
eV ACWI ex-US Equity Unhedged Gross Median	9.9%	11.8%	0.8

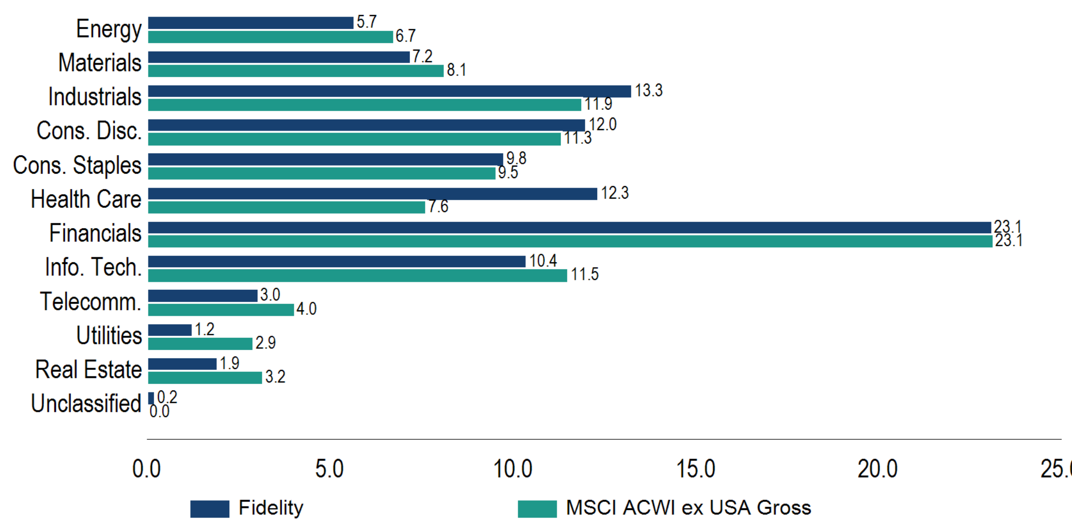
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
LSV Asset Mgt	8.9%	11.5%	0.8
MSCI ACWI ex USA Gross	7.3%	10.5%	0.7
eV ACWI ex-US Equity Unhedged Gross Median	9.2%	11.4%	0.8

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	285	1,866
Weighted Avg. Market Cap. ($B)	59.75	66.27
Median Market Cap. ($B)	11.80	8.57
Price To Earnings	20.92	20.78
Price To Book	4.16	2.82
Price To Sales	2.86	2.19
Return on Equity (%)	19.21	15.04
Yield (%)	2.42	2.70
Beta	0.94	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Gross



Largest Holdings

	End Weight	Return
NESTLE 'R'	1.66	2.60
SAP	1.50	2.60
ROYAL DUTCH SHELL A	1.38	12.05
ROCHE HOLDING	1.27	-0.99
BRITISH AMERICAN TOBACCO	1.26	9.25
MITSUBISHI UFJ FINL.GP.	1.22	13.01
AIA GROUP	1.22	15.61
NASPERS	1.13	28.90
BP	1.12	12.05
SAMSUNG ELECTRONICS	1.02	6.32

Top Contributors

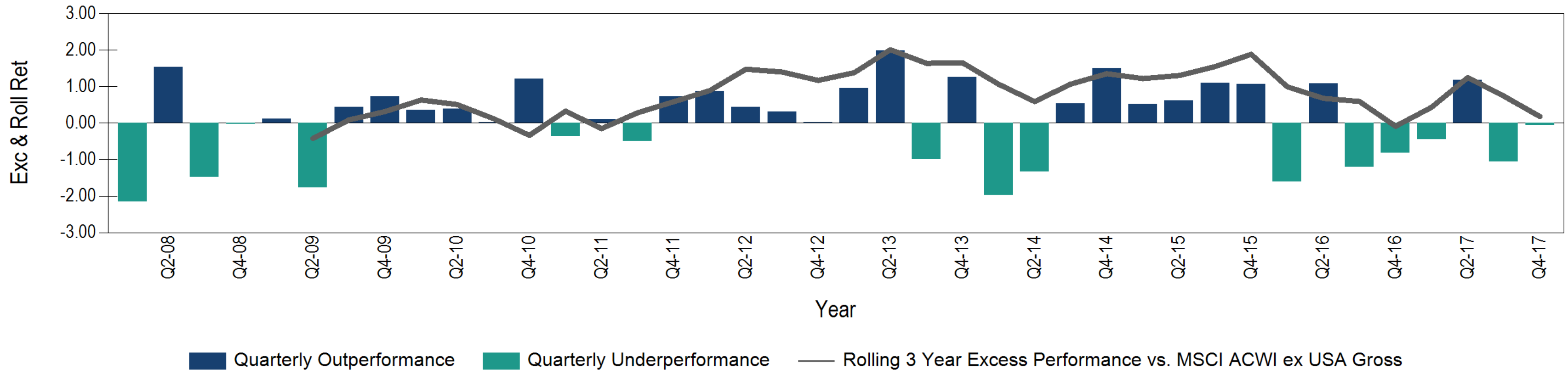
	Avg Wgt	Return	Contribution
ROYAL DUTCH SHELL A	1.60	12.05	0.19
DON QUIJOTE HOLDINGS	0.37	40.08	0.15
MARUI GROUP	0.52	27.96	0.15
AIA GROUP	0.82	15.61	0.13
MITSUBISHI UFJ FINL.GP.	0.98	13.01	0.13
BP	1.04	12.05	0.13
SONY	0.54	21.34	0.12
FANUC	0.60	18.65	0.11
BRITISH AMERICAN TOBACCO	1.19	9.25	0.11
TECHTRONIC INDS.	0.45	22.08	0.10

Bottom Contributors

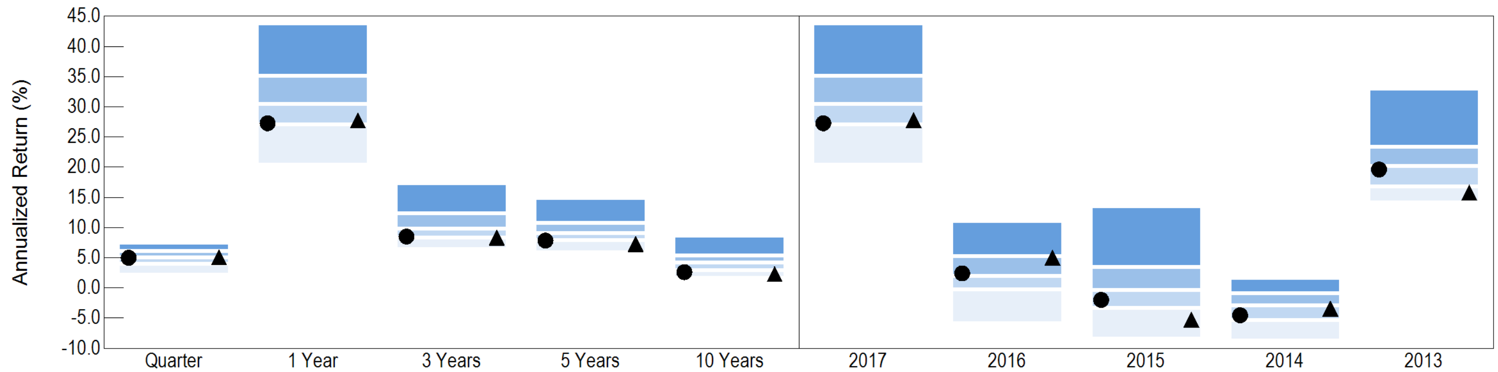
	Avg Wgt	Return	Contribution
SANOFI	0.82	-13.13	-0.11
BAYER	1.07	-8.57	-0.09
GENMAB	0.35	-24.84	-0.09
GENTERA	0.17	-47.34	-0.08
MAGNIT	0.19	-36.88	-0.07
PHILIPS ELTN.KONINKLIJKE	0.83	-8.29	-0.07
BNP PARIBAS	0.93	-7.36	-0.07
STEINHOFF INTL.HDG.(FRA)	0.07	-91.49	-0.06
UNICREDIT	0.42	-12.18	-0.05
DNB	0.63	-7.77	-0.05

Unclassified sector allocation includes cash allocations.

Rolling Annualized Excess Performance

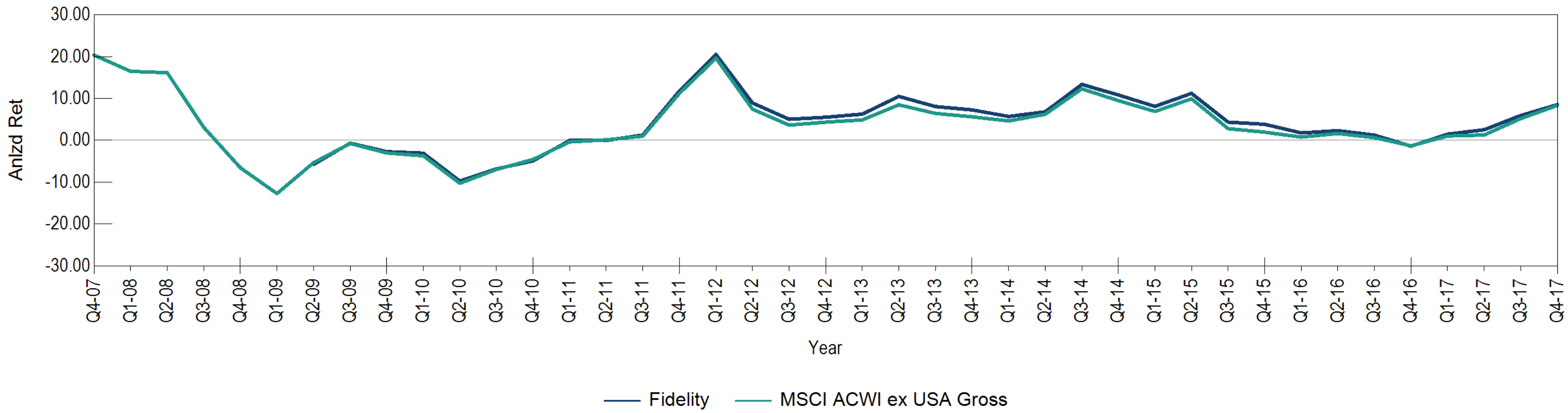


Fidelity vs. eV ACWI ex-US Equity Unhedged Gross Universe

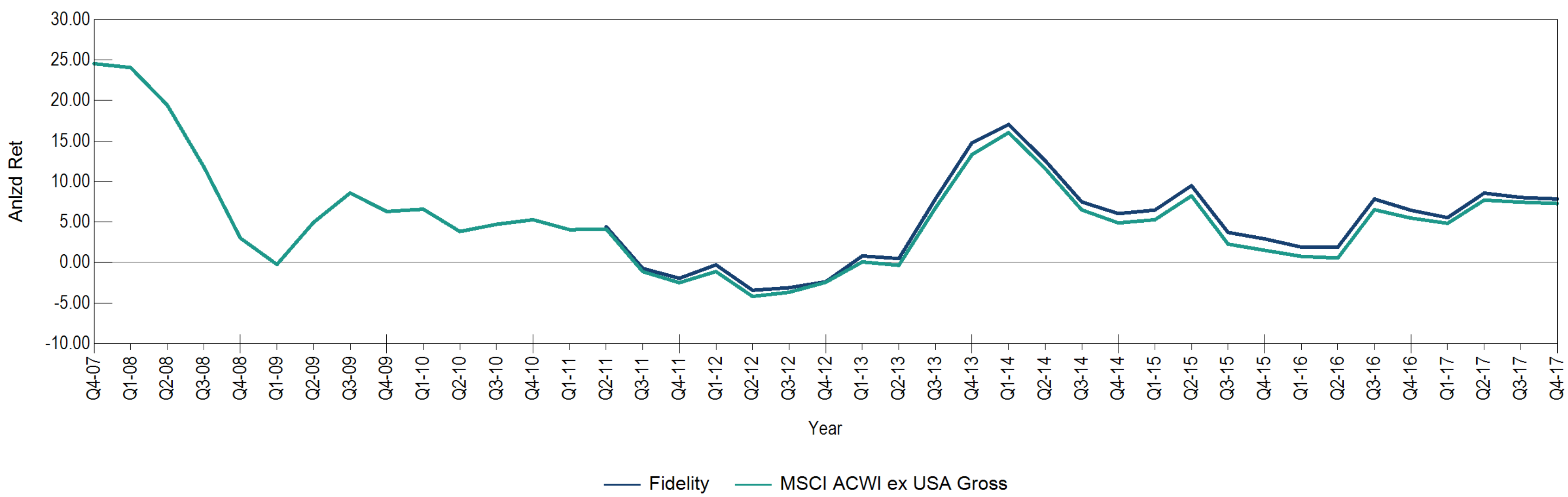


Return (Rank)	Quarter	1 Year	3 Years	5 Years	10 Years	2017	2016	2015	2014	2013
5th Percentile	7.5	43.8	17.3	14.9	8.6	43.8	11.1	13.5	1.6	32.9
25th Percentile	6.1	35.2	12.4	10.8	5.4	35.2	5.3	3.5	-0.8	23.4
Median	5.1	30.6	9.9	9.2	4.2	30.6	2.1	-0.3	-2.9	20.3
75th Percentile	4.1	27.2	8.4	8.0	2.9	27.2	-0.2	-3.3	-5.3	16.9
95th Percentile	2.2	20.5	6.5	6.0	1.7	20.5	-5.8	-8.3	-8.7	14.3
# of Portfolios	254	254	237	204	135	254	238	179	147	136
● Fidelity	5.0 (54)	27.3 (74)	8.5 (74)	7.8 (77)	2.6 (80)	27.3 (74)	2.4 (46)	-2.0 (66)	-4.5 (70)	19.6 (55)
▲ MSCI ACWI ex USA Gross	5.1 (51)	27.8 (71)	8.3 (76)	7.3 (85)	2.3 (86)	27.8 (71)	5.0 (27)	-5.3 (87)	-3.4 (58)	15.8 (87)

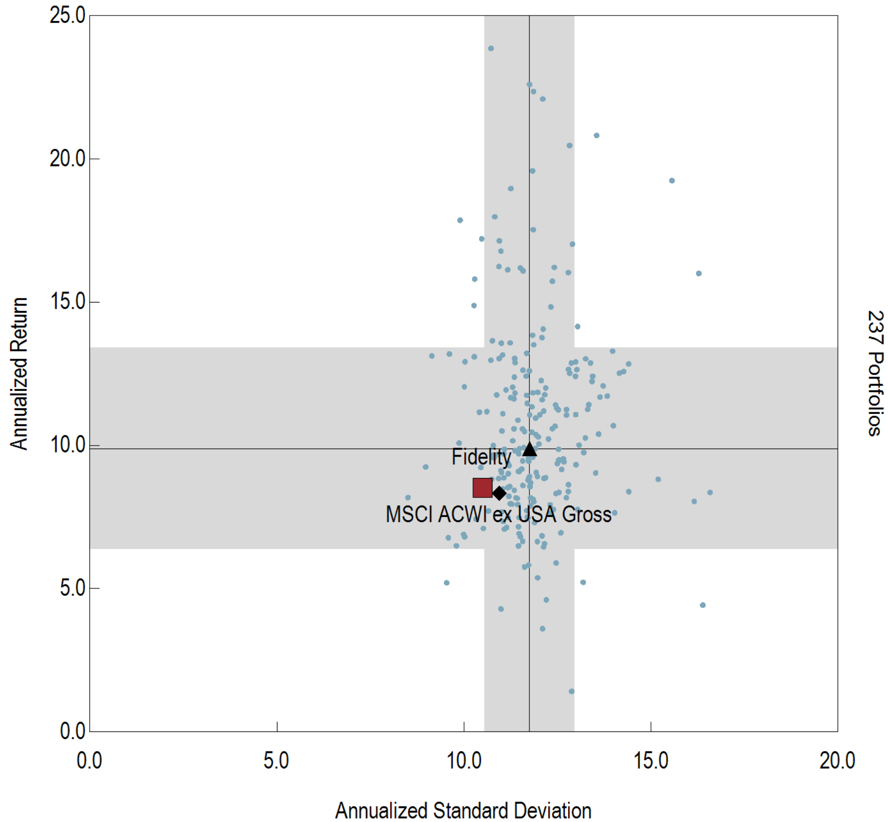
Rolling 3 Year Annualized Return (%)



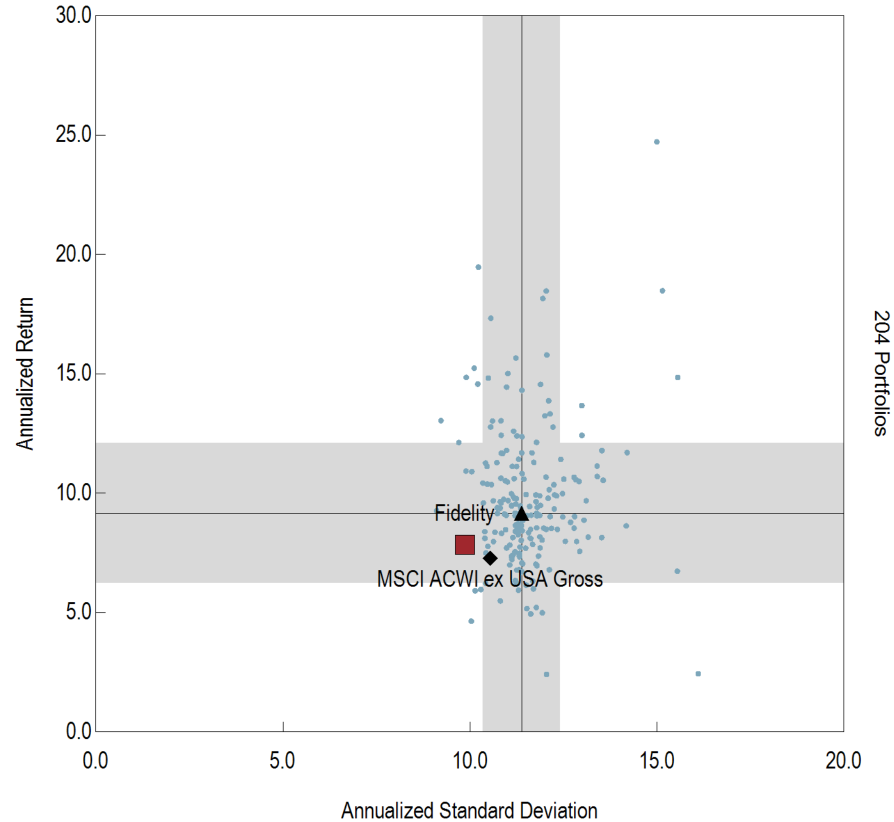
Rolling 5 Year Annualized Return (%)



3 Years



5 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Fidelity	8.5%	10.5%	0.8
MSCI ACWI ex USA Gross	8.3%	10.9%	0.7
eV ACWI ex-US Equity Unhedged Gross Median	9.9%	11.8%	0.8

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Fidelity	7.8%	9.9%	0.8
MSCI ACWI ex USA Gross	7.3%	10.5%	0.7
eV ACWI ex-US Equity Unhedged Gross Median	9.2%	11.4%	0.8

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

Manager	Fund Incepted	Data Source	Manager	Fund Incepted	Data Source
Northern Trust Russell 1000	8/31/2017	Mellon	Northern Trust Long Term Gov't Bond	7/31/2017	Northern Trust
BlackRock Russell 1000 Growth	6/30/2010	BlackRock	Prime Property Fund	9/30/2015	Prime Property
Jackson Square	8/31/2006	Northern Trust	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	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 12/31/2017, Dodge and Cox Fixed and Pimco are in liquidation and combine for $87,200.59 of residual value.

Glossary

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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - 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: Portfolio Excess Return / 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.

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Stanislaus County Employees' Retirement Association
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Agenda

February 27, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: 2017 Actuarial Valuation

II. ITEM NUMBER: 8.a

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION: Accept the June 30, 2017 Actuarial Valuation (Attachment 1) as presented

V. ANALYSIS: In December of 2017, Cheiron presented the preliminary 2017 Actuarial Valuation results. At that time, the Board sent the actuary back to finalize the valuation with no changes to the results.

The June 30, 2017 Actuarial Valuation sets employer and employee rates for fiscal year 2018-2019 and the funded status of the plan as of June 30, 2017. Overall, aggregate employer contribution rates are increasing by approximately 2.6% in spite of a 14.7% gross investment return experienced by the plan in fiscal year 2016-2017. This is mainly attributable to the final year of a 3-year employer rate phase-in due to changes in mortality assumptions and a 50 basis point (0.50%) drop in the actuarial discount rate. Actuarial and market value funded ratios stand at 74.3% and 74.5%, representing increases from the prior year's valuation of 1.5% and 5.4%, respectively.

Regarding member contribution rates, there is no change in rates for legacy members. Tier 6 (PEPRA) member rates remain stable for the County pool, while the Ceres and Special District pool realized an increase of over 1% for Safety members and a slight decrease for General members.

Tier 6 membership continues to climb. As of June 30, 2017, 36.5% of all active StanCERA members are enrolled in the Tier 6 formula.

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

Rick Santos, Executive Director

Chris Wisdom, Retirement Investment Officer

2/27/18
Item 8.a

Stanislaus County Employees' Retirement Association

Actuarial Valuation as of June 30, 2017

Produced by Cheiron

February 2018

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February 21, 2018

Board of Retirement
Stanislaus County Employees' Retirement Association
832 12th Street, Suite 600
Modesto, CA 95353

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Stanislaus County Employees' Retirement Association (StanCERA, the Fund, the Plan) as of June 30, 2017. This report contains information on the Plan's assets and liabilities. This report also discloses employer contribution levels and required disclosures for the Plan's CAFR. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of StanCERA. This report is for the use of StanCERA and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

Cheiron's report was prepared solely for StanCERA for the purposes described herein, except that the Plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. It is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, EA, FCA, MAAA
Consulting Actuary

Jonathan Chipko, FSA, FCA, EA, MAAA
Consulting Actuary

FOREWORD

Cheiron has performed the actuarial valuation of the Stanislaus County Employees' Retirement Association as of June 30, 2017. The valuation is organized as follows:

- In Section I, the **Executive Summary,** we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends;

- The **Main Body** of the report presents details on the Plan's

  - Section II - Assets
  - Section III - Liabilities
  - Section IV- Contributions
  - Section V- Required CAFR Exhibits

- In the **Appendices** we conclude our report with detailed information describing Plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent Plan provisions (Appendix C), a glossary of key actuarial terms (Appendix D), and tables containing member contribution rates (Appendix E).

The results of this report rely on future Plan experience conforming to the underlying assumptions. To the extent that actual Plan experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied on information (some oral and some written) supplied by the StanCERA staff. This information includes, but is not limited to, Plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

SECTION I – EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The funded status of the Plan,
- Past and expected trends in the funding progress of the Plan, and
- Employer and employee contribution rates for Plan Year 2018-2019.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key results, (C) an examination of the historical trends, and (D) the projected outlook for the Plan.

A. Valuation Basis

This valuation determines the employer contributions required for the employers' fiscal years beginning July 1, 2018. The employers include the County of Stanislaus and related employers, the City of Ceres, and other participating Special Districts.

The Plan's funding policy is to collect contributions from the employers and employees equal to the sum of:

- The Normal Cost under the Entry Age Normal Cost Method,
- Amortization of the Unfunded Actuarial Liability (UAL), and
- The Fund's expected administrative expenses.

The UAL payment is determined as the amount needed to fund the outstanding UAL as of June 30, 2017 over a period of 19 years as a level percentage of pay.

This valuation was prepared based on the Plan provisions shown in Appendix C.

Actuarial experience studies are performed every three years. This valuation was performed based on the economic and demographic assumptions that were determined in the Actuarial Experience Study performed by Cheiron as of June 30, 2015 and adopted by the Board on March 16, 2016. This valuation is the third and final to use the above experience study as the basis for the assumptions. A summary of the assumptions and methods used in the current valuation is shown in Appendix B.

B. Key Findings of this Valuation

The key results of the June 30, 2017 actuarial valuation are as follows:

- The actuarially determined employer contribution rate increased from 29.01% of payroll to 31.65% of payroll for the current valuation. The contribution rate reflects the final year of a three-year phase-in of the impact of changes to the economic and demographic assumptions first adopted for the June 30, 2015 actuarial valuation. Without the phase-in, the actuarial cost would have been 31.95% of pay for the prior valuation.

- The Plan's funded ratio, the ratio of Actuarial Assets over Actuarial Liability, increased from 72.8% to 74.3%. Likewise, the Plan's funded ratio on a market value basis increased from 69.1% to 74.5%.

- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from $691.3 million to $679.9 million as of June 30, 2017. This decrease in UAL was largely due to investment and demographic gains.

- During the year ending June 30, 2017, the return on Plan assets was 14.4% on a market value basis net of investment (but not administrative) expenses, as compared to the 7.25% assumption. The Actuarial Value of Assets recognizes 20% of the difference between the expected and actual return on the Market Value of Assets (MVA). This method of smoothing the asset gains and losses returned 8.3% on the smoothed value of assets, an actuarial asset gain of $20.8 million. The gain in the Actuarial Value of Assets reflects the continued recognition of past investment losses, which partially offsets the higher market return this year.

- During the 2016-17 Plan Year, the actuarial liabilities of the Plan increased less than expected, largely due to salary increases lower than expected. These and other unexpected changes resulted in a liability gain of $8.1 million.

- Overall participant membership increased compared to last year. There were 506 new hires and rehires during 2016-2017 and the total active population increased from 4,248 to 4,309, or 1.4%. Total projected payroll increased from $263,395,718 to $269,544,436, or 2.3%.

- The Actuarial Experience Study as of June 30, 2015 recommended changes to many of the actuarial assumptions used in this valuation. The Retirement Board adopted these changes for the June 30, 2015 valuation. The Retirement Board decided to implement a three-year phase-in of the impact of these changes on the employer contribution rates.

  For this valuation, the phase-in is in its third and final year, and the impact of the changes from the assumptions are now fully reflected in the rates, which are approximately 0.5% of

SECTION I – EXECUTIVE SUMMARY

pay higher than they would have been without the phase-in. The phase-in of rate increases is consistent with practices described by the California Actuarial Advisory Panel (CAAP), as well as other actuarial organizations.

In Tables I-1 and I-2, we summarize the key results of the valuation with respect to assets and liabilities, contribution and membership. We also include the employer contribution rate after the impact of the final year of the three-year phase-in. The results are presented and compared for both the current and prior Plan year.

Table I-1
Stanislaus County Employees' Retirement Association
Summary of Key Valuation Results
(in millions)

Valuation Date	**June 30, 2016**	**June 30, 2017**
Fiscal Year End	**2018**	**2019**
Actuarial Liability	$ 2,537.1	$ 2,648.2
Actuarial Value of Assets[1]	$ 1,845.8	$ 1,968.2
Unfunded Actuarial Liability (Actuarial Value)	$ 691.3	$ 679.9
Funding Ratio (Actuarial Value)	72.8%	74.3%
Market Value of Assets[1]	$ 1,752.7	$ 1,973.8
Unfunded Actuarial Liability (Market Value)	$ 784.3	$ 674.3
Funding Ratio (Market Value)	69.1%	74.5%
Net Employer Contribution Rate[2]	31.95%	31.65%
Employer Contribution Rate after Phase-In	29.01%	31.65%

[1] Net of non-valuation reserves.

[2] Prior to phase in of the assumption change.

SECTION I – EXECUTIVE SUMMARY

Table I-2
Membership Total

Item	June 30, 2016	June 30, 2017	% Change
Actives	4,248	4,309	1.4%
Current Inactives	1,030	1,071	4.0%
Retired Members	3,651	3,746	2.6%
Total Members	8,929	9,126	2.2%
Ratio of Retired Members to Active Members	85.9%	86.9%	
Active Member Payroll (FYE 2017/2018)	$ 263,395,718	$ 269,544,436	2.3%
Average Pay per Active	$ 62,005	$ 62,554	0.9%

The ratio of retired members to active members is a measure of the maturity of the plan. It shows how many retirees are supported by each active member. A higher ratio indicates a more mature plan and potentially higher risk since the retiree benefits are larger relative to the contribution base, i.e. the active member payroll. Table I-2 shows that the ratio of retired members to active members continues to increase, indicating the ongoing maturation of the Plan.

Assets and Liabilities

Table I-3 presents a comparison between the June 30, 2016 and June 30, 2017 StanCERA assets, liabilities, Unfunded Actuarial Liability, and funding ratios, both on a market and smoothed basis.

SECTION I – EXECUTIVE SUMMARY

Table I-3
Assets & Liabilities
(in millions)

Item	June 30, 2016	June 30, 2017	% Change
Actuarial Liability			
Actives	$ 975.7	$ 992.1	1.7%
Current Inactives	134.2	145.9	8.8%
Retired Members	1,427.2	1,510.2	5.8%
Total Actuarial Liability	$ 2,537.1	$ 2,648.2	4.4%
Market Value of Assets (MVA)	$ 1,752.7	$ 1,973.8	12.6%
Actuarial Value of Assets (AVA)	$ 1,845.8	$ 1,968.2	6.6%
Unfunded Actuarial Liability - MVA	$ 784.4	$ 674.3	-14.0%
Unfunded Actuarial Liability - AVA	$ 691.3	$ 679.9	-1.6%
Funding Ratio - MVA	69.1%	74.5%	5.4%
Funding Ratio - AVA	72.8%	74.3%	1.5%

Table I-3 indicates that the Actuarial Liability increased by 4.4% and the Actuarial Value of Assets increased by 6.6%, resulting in an increase in the funding ratio from 72.8% as of June 30, 2016 to 74.3% as of June 30, 2017. The increase in Actuarial Liability was offset by investment gains as well as liability gains, which led to the accompanying increase in the funded status. StanCERA employs a commonly used actuarial smoothing method on the market value that dampens market volatility. The Actuarial Value of Assets increased by less than the market value because of the impact of deferred investment losses from prior years. The funding ratio measured on a Market Value of Assets basis was 74.5% as of June 30, 2017.

Section II provides additional information explaining the development of the Actuarial Value of Assets.

SECTION I – EXECUTIVE SUMMARY

Changes in UAL

The Unfunded Actuarial Liability (UAL) for StanCERA decreased by $11.4 million, from $691.3 million to $679.9 million. Table I-4 below presents the specific components of the change in the UAL.

As noted above, the return on the actuarial assets used to compute the UAL and the employer contribution rate was 8.3% during the 2016-17 Plan Year. Investment returns greater than the assumed rate of 7.25% decreased the UAL by $20.8 million.

Liability gains decreased the UAL by $8.1 million, mainly due to salary increases lower than expected.

Changes in the valuation software programing decreased the UAL by $0.8 million.

The UAL also increased by $20.1 million due to contributions smaller than the actuarially determined amount. This is a result of the 12-month lag in the implementation of contribution rates and the phase-in of the impact of the assumption changes.

The expected change in the UAL due to the yearly amortization of the UAL balance – a decrease of $1.9 million, as a result of the amortization schedule for the current year – combined with the above UAL changes to produce an overall decrease of $11.4 million.

Table I-4
Decrease in Unfunded Actuarial Liability

	Experience		in millions
1.	Unfunded actuarial liability, 6/30/2016	$	691.3
2.	Expected change in unfunded actuarial liability	$	(1.9)
3.	Unfunded decrease due to investment gain		(20.8)
4.	Unfunded increase due to contribution shortfall		20.1
5.	Unfunded decrease due to liability gain		(8.1)
7.	Unfunded change due to programming changes		(0.8)
8.	Total change in unfunded actuarial liability	$	(11.4)
9.	Unfunded actuarial liability, 6/30/2017	$	679.9

Changes in Employer Contributions

Thus far, the experience of the 2016-17 Plan year has been presented in terms of the UAL and funded ratio. Table I-5 below summarizes the impact of actuarial experience and changes in assumptions on the employer contribution rate.

Table I-5
Employer Contribution Reconciliation

Item	Total	Normal Cost	Amortization	Admin Expense
FYE 2018 Net Employer Contribution Rate with Phase-In	***29.01%***	***11.54%***	***16.57%***	***0.91%***
Impact of Phase-in	2.94%	0.43%	2.47%	0.03%
FYE 2018 Net Employer Contribution Rate - Full	***31.95%***	***11.97%***	***19.04%***	***0.94%***
Change Due to Asset Gain	-0.57%	0.00%	-0.57%	0.00%
Change Due to Contribution Shortfall	0.55%	0.00%	0.55%	0.00%
Change Due to Demographic Changes	-0.41%	-0.19%	-0.22%	0.00%
Change Due to Effect of Payroll on Amortization	0.17%	0.00%	0.17%	0.00%
Change Due to Programming Changes	-0.04%	-0.01%	-0.03%	0.00%
FYE 2019 Net Employer Contribution Rate - Full	***31.65%***	***11.77%***	***18.94%***	***0.94%***

Before adjusting for Plan experience during the year, there was an expected change in due to the phase-in of prior assumption changes from the 2012-2015 Experience Study. A review of the changes in the employer contribution rate from the prior valuation reveals that Plan experience during the year – including demographic and salary changes, as well as asset experience – resulted in a net decrease in the full employer contribution rate of 0.30%:

- Asset experience produced an investment gain on a smoothed basis, as described earlier. The smoothed loss decreased the contribution rate by 0.57% of pay.

  The ratio of actuarial to Market Value of Assets is 99.7%. There are now $5.6 million in net deferred gains as of June 30, 2017, as well as $18 million in a non-valuation Contingency Reserve.

- The Plan received a smaller contribution than the actuarially determined amount. The net impact of the shortfall was an increase in the cost by 0.55% of pay.

SECTION I – EXECUTIVE SUMMARY

- The demographic experience of the Plan – rates of retirement, death, disability, and termination, as well as salary and COLA changes – caused a decrease in cost of 0.41% of pay. Lower than expected salary increases for returning members was the largest factor contributing to a decrease in the Unfunded Actuarial Liability and the associated amortization payment. New entrants and losses associated with new retirees and COLA increases offset the gains. The decrease in the amortization payment was also aided by a reduction in the employer-paid Normal Cost as a result of the continued transition of the active workforce to membership in the new PEPRA tiers, which reflect lower benefit levels for new hires.

- Overall payroll was lower than expected by about $2.4 million. As a result, the unfunded liability amortization payment and administrative expenses were spread over a smaller payroll base than expected, and the employer contribution rate increased by 0.17% of pay.

- The impact of updates to actuarial software coding decreased the cost by 0.04% of pay.

<u>Plan Risk</u>

Table I-6 shows the ratio of assets to active member payroll for StanCERA.

Table I-6
Asset to Payroll Ratio as of June 30, 2017

Active Member Payroll	$	269,544,436
Assets (Market Value)	$	1,973,847,972
Ratio of Assets to Payroll		7.32
Ratio with 100% Funding		9.82

One of the most important measures of a plan's risk is the ratio of plan assets to payroll. The table above shows StanCERA's assets as a percentage of active member payroll. This ratio indicates the sensitivity of the Plan to the returns earned on Plan assets.

We note in the table that Plan assets currently are 7.3 times covered payroll for the Plan; as a point of reference, the average asset-to-payroll ratio for the '37 Act systems as a whole is currently around 7.4. As funding improves and the Plan reaches 100% funding, the ratio of asset to payroll will increase past nine times payroll, perhaps higher depending on the Plan's future demographic makeup.

To appreciate the impact of the ratio of assets to payroll on plan cost, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the Plan cost is nil, because the assets are so small.

On the other hand, consider the situation for StanCERA. Suppose StanCERA's assets lose 10% of their value in a year. Since they are assumed to earn 7.25%, there is an actuarial loss of 17.25% of Plan assets. Based on the current ratio of asset to payroll (732%), that means the loss in assets is about 126% of active payroll (732% of the 17.25% loss). There is only one source of funding to make up for this loss: the employers. Consequently, barring future offsetting investment gains, the employer has to make up the asset loss in future contributions. In this example of a one-year loss of 10%, this shortfall will eventually require an additional annual amortization payment in the vicinity of 9.49% of payroll if amortized over 19 years.

As the Plan matures and becomes better funded, the ratio of asset to payroll will increase. When assets are 982% of pay, the 10% loss discussed above will translate to a loss of over 169% of payroll, which when amortized over 19 years will increase the employer contribution by 12.73% of member pay. Therefore, the Plan is likely to become significantly more sensitive to market variation in the future than it is today.

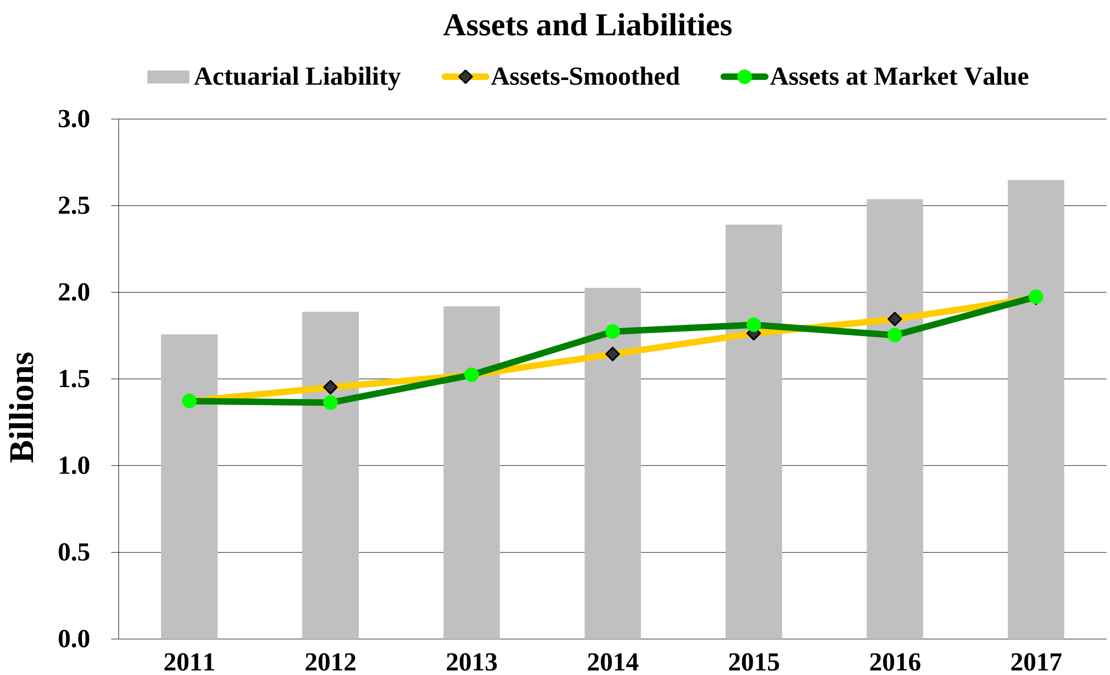
C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

SECTION I – EXECUTIVE SUMMARY

Assets and Liabilities

The chart compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentage shown in the table below the graph is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio has decreased from 78.1% in 2011 to 74.3% as of June 30, 2017. The drop in the funded ratio in 2015 was primarily due to changes in assumptions. The funded ratio has increased from the 72.8% of last year because of liability and investment gains.

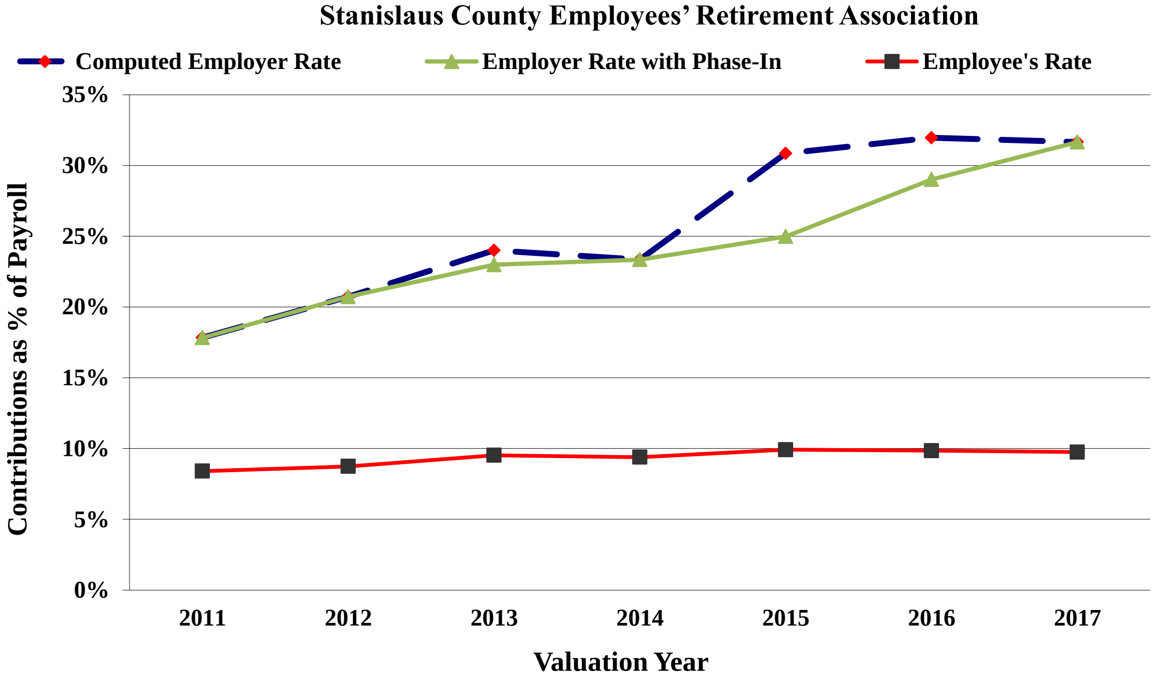


Valuation Year	2011	2012	2013	2014	2015	2016	2017
Funded Ratio	78.1%	76.9%	79.4%	81.1%	73.7%	72.8%	74.3%
UAL (Billions)	$ 0.39	$ 0.44	$ 0.40	$ 0.38	$ 0.63	$ 0.69	$ 0.68

SECTION I – EXECUTIVE SUMMARY

Contribution Trends

In the chart, we present the historical trends for the StanCERA contribution rates. The employer contribution rates have risen since 2011 as result of the investment losses from 2008-2009, compounded by demographic losses and changes to the actuarial assumptions and methods. The average employee contribution rates have also increased as the Plan's economic and demographic assumptions have changed.

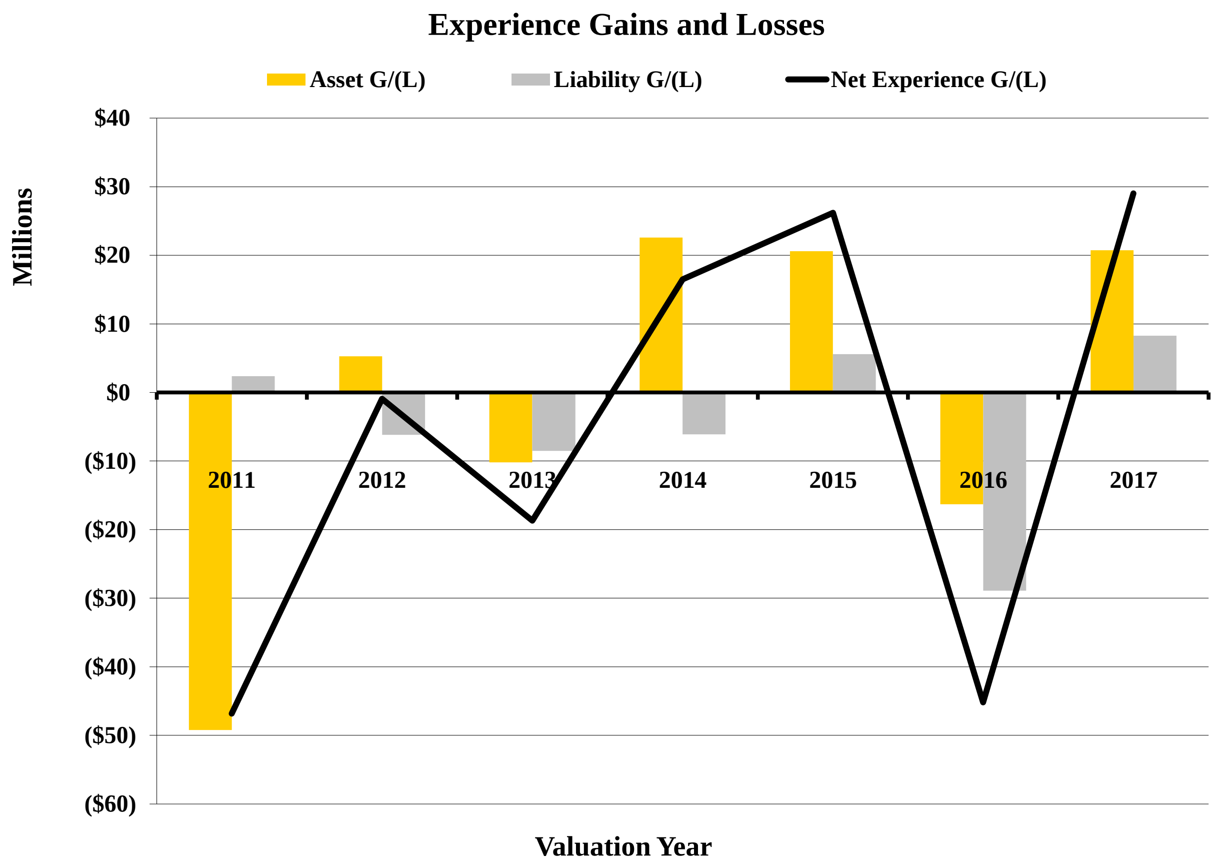


SECTION I – EXECUTIVE SUMMARY

Gains and Losses

The following chart for StanCERA presents the pattern of annual gains and losses, broken into the investment and liability components. The investment gains and losses represent the changes on a smoothed basis (i.e. based on the Actuarial Value of Assets). The chart does not include any changes in StanCERA's assets and liabilities attributable to changes to actuarial methods, procedures or assumptions or Plan benefit changes.

The investment loss in 2010-2011 was the most significant gain or loss during the last seven years. The Plan experienced more modest gains and losses from 2011-2012 through 2014-2015. In 2015-2016, the Plan experienced the largest investment and liability losses in five years. This was followed by large investment and liability gains this year.



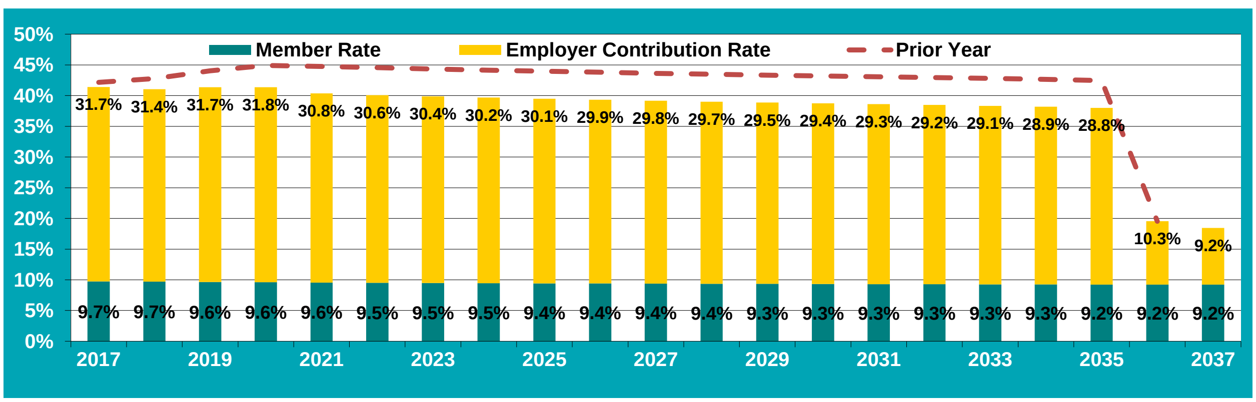
D. Future Expected Financial Trends

The analysis of projected financial trends is an important component of this valuation. In this Section, we present our assessment of the implications of the June 30, 2017 valuation results in terms of benefit security (assets over liabilities). All the projections in this section are based on the current investment return assumption of 7.25%. We have assumed future total payroll increases of 3.25% per year.

The graph shows the expected employer and employee contribution rates based on achieving the 7.25% assumption **each year** for the next 20 years. This scenario is highly unlikely: even if the Plan does achieve an **average** return of 7.25% over this time period, the returns in each given year will certainly vary. The expected total contribution rates based on the prior year valuation as of June 30, 2016 are shown (in the dashed line) for comparison.

The contribution rate graph shows that employer contribution rates are expected to stay relatively stable until current unfunded liability amortization period (19 years) ends.

Projection of Contributions, 7.25% Return Each Year



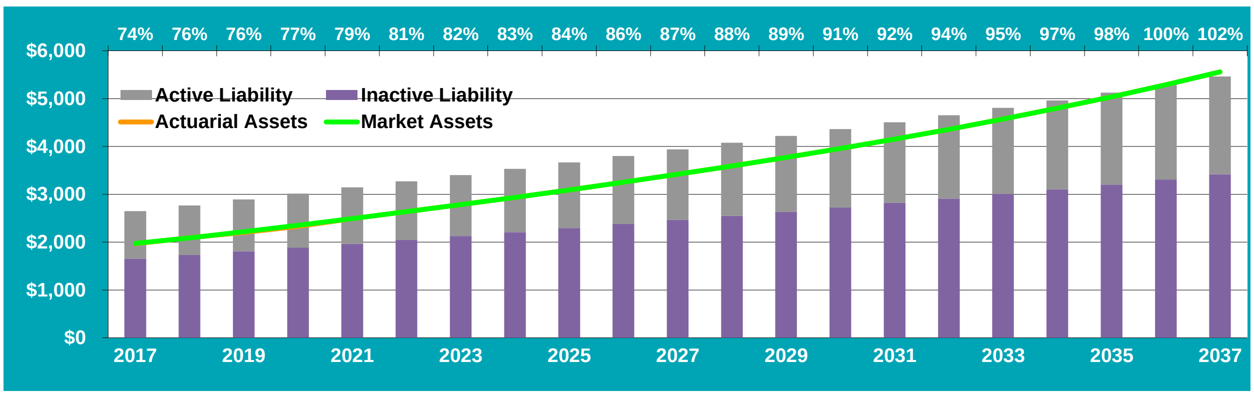
The total contribution rate (employer plus employee) is approximately 41% of member payroll for the June 30, 2017 valuation; it is expected to gradually decline to approximately 38% if all actuarial assumptions are met. The gradual decline is due to the expected hiring of new PEPRA members to replace the legacy employees as they retire, thus lowering the average normal cost of the Plan.

After 19 years, the total contribution rate is expected to drop due to the end of the current unfunded liability amortization period, to a level around 18% of pay, representing the expected Normal Cost plus administrative expenses. The end of the amortization period only impacts the employer contribution rate. It has no impact on the employee contribution rate.

Asset and Liability Projections:

The graph shows the projection of assets and liabilities assuming that assets will earn the 7.25% assumption each year during the projection period. The funded ratio shown is based on Actuarial Value of Assets.

Projection of Assets And Liabilities, 7.25% Return Each Year
($ millions)



The graph above shows that the projected funded status increases over the next 20 years to gradually exceed 100%, as can be expected based on the amortization policy, assuming the actuarial assumptions are achieved.

However, as above, it is the **actual** return on Plan assets that will determine the future funding status and contribution rate to the Fund. The Actuarial Value of Assets is less than the Market Value of Assets as of June 30, 2017, and the two are assumed to be equal past 2021.

SECTION II – ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2016 and June 30, 2017,
- Statement of the **changes** in market values during the year,
- Development of the **Actuarial Value of Assets**,
- An assessment of historical **investment performance versus inflation**, and
- An allocation of the unfunded liability between the **valuation subgroups**.

Disclosure

There are two types of asset values disclosed in the valuation, the Market Value of Assets, and the Actuarial Value of Assets. The market value represents "snap-shot" or "cash-out" values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the Actuarial Value of Assets which reflects smoothing of annual investment returns.

Table II-1 on the next page discloses and compares each asset class as of June 30, 2016 and June 30, 2017.

SECTION II – ASSETS

Table II-1
Statement of Assets at Market Value

Assets	Fiscal Year ending June 30, 2016	Fiscal Year ending June 30, 2017
Cash and Cash Equivalents	$ 55,503,333	$ 92,153,518
Total Cash and Cash Equivalents	$ 55,503,333	$ 92,153,518
Receivables		
Interest and Dividends	$ 7,165,933	$ 6,443,406
Contributions	4,516,013	5,039,247
Securities Transactions	47,333,635	63,078,011
Total Receivables	$ 59,015,581	$ 74,560,664
Fixed Assets		
Capitalized Software	$ 97,028	$ 64,686
Real Estate Occupied	1,688,922	1,669,945
Real Estate Leased	1,126,171	1,113,517
Other	446,502	1,062,537
Total Fixed Assets	$ 3,358,623	$ 3,910,685
Investments at Market Value		
Fixed Income	$ 523,222,780	$ 460,780,851
Equities	1,068,159,217	1,294,693,635
Collateral on Loaned Securities	196,552,545	140,584,293
Other	144,572,623	166,288,705
Total Investments	$ 1,932,507,165	$ 2,062,347,484
Liabilities		
Accounts Payable	$ (10,429,303)	$ (11,953,339)
Security Transactions Payable	(69,993,618)	(85,803,403)
Collateral Held for Loaned Securities	(196,552,545)	(140,584,293)
Other	(495,523)	(408,005)
Total Liabilities	$ (277,470,989)	$ (238,749,040)
Market Value of Assets	**$ 1,772,913,713**	**$ 1,994,223,311**

Changes in Market Value

The components of asset change are:

- Contributions (employers and employee)
- Benefit payments
- Expenses (investment and administrative)
- Investment income (realized and unrealized)

Table II-2 on the next page shows the components of change in the Market Value of Assets during the fiscal years ending June 30, 2016 and June 30, 2017.

SECTION II – ASSETS

Table II-2
Changes in Market Values

Additions	Fiscal Year ending June 30, 2016	Fiscal Year ending June 30, 2017
Contributions		
Employer's Contribution	$ 58,196,310	$ 63,024,560
Members' Contributions	23,916,508	25,463,745
Total Contributions	**$ 82,112,818**	**$ 88,488,305**
Net Investment Income		
Net Appreciation/(Depreciation) in		
Fair Value of Investments	$ (70,114,702)	$ 216,142,516
Interest and Dividends	47,206,807	45,117,367
Commission Recapture	46,825	20,827
Other Investment Income	197,502	159,696
Total Investment Income	**$ (22,663,568)**	**$ 261,440,406**
Investment Expense	(9,440,764)	(9,985,798)
Net Investment Income	**$ (32,104,332)**	**$ 251,454,608**
Securities Lending Activities		
Securities Lending Income	$ 1,116,644	$ 1,221,133
Expenses from Securities Lending Activities	(334,588)	(366,036)
Net Securities Lending Income	**782,056**	**855,097**
Total Net Investment Income	$ **(31,322,276)**	$ **252,309,705**
Total Additions	**$ 50,790,542**	**$ 340,798,010**
Deductions		
Benefits	$ 106,946,768	$ 114,290,758
Refunds	1,219,042	2,553,100
Administrative Costs	2,315,223	2,644,554
Total Deductions	$ **110,481,033**	$ **119,488,412**
Net Increase/(Decrease)	**$ (59,690,491)**	**$ 221,309,598**
Net Assets Beginning of Year	**$ 1,832,604,204**	**$ 1,772,913,713**
Net Assets End of Year	**$ 1,772,913,713**	**$ 1,994,223,311**
Approximate Return	**-1.72%**	**14.36%**

SECTION II – ASSETS

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce the volatile results which could develop due to short-term fluctuations in the Market Value of Assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The Market Value of Assets is adjusted to recognize, over a five-year period, investment earnings which are greater than (or less than) the assumed investment return. However, in no event will the Actuarial Value of Assets be less than 80% or more than 120% of market value on the valuation date.

The Valuation Assets are the portion of the Actuarial Assets dedicated to funding the basic pension benefits. The Valuation Assets exclude the value of any non-valuation reserves, such as reserves established for legal contingencies. The Valuation Assets also exclude the value of any non-valuation contingency reserves, which have been established according to the Board's funding policy. In valuations prior to the June 30, 2014 valuation, a reserve associated with the Burial Allowance was excluded from the Valuation Assets; both the assets and liabilities associated with this benefit are included in this valuation.

The table on the following page shows the development of the Actuarial Asset and Valuation Assets values.

SECTION II – ASSETS

Table II-3
Development of Actuarial Value of Assets for 6/30/2017

Item		Total
1. Market Value as of 6/30/2016	$	1,772,913,713
2. Non-Investment Cash Flow for 2016-2017		(31,000,107)
3. Expected Return in 2016-2017		127,432,152
4. Expected Market Value as of 6/30/2017: (1 + 2 + 3)	$	1,869,345,758
5. Actual Return in 2016-2017		252,309,705
6. Actual Return Above Expected in 2016-2017: (5 - 3)		124,877,553
7. Market Value as of 6/30/2017	$	1,994,223,311
8. Deferred Recognition of Returns Above Expected		
A. 2016-2017 (80% of $124,877,553)		99,902,042
B. 2015-2016 (60% of -$163,175,725)		(97,905,435)
C. 2014-2015 (40% of -$69,060,690)		(27,624,276)
D. 2013-2014 (20% of $156,253,060)		31,250,612
E. Total	$	5,622,943
9. Preliminary Actuarial Value of Assets: (7 - 8e)	$	1,988,600,368
10. Corridor Limit		
A. 80% of Net Market Value		1,595,378,649
B. 120% of Net Market Value		2,393,067,973
11. Actuarial Value after Corridor as of 6/30/2017	**$**	**1,988,600,368**
12. Rate of Return on Actuarial Value of Assets		8.30%
13. Ratio of Actuarial Value to Market Value: (11 ÷ 7)		**99.7%**
14. Special (Non Valuation) Reserves:		
A. Health Insurance Reserves		0
B. Special COL Reserve		0
C. Legal Contingency Reserve		2,202,759
D. Tier 3 Disability Reserve		1,560
E. Contingency Reserve		18,171,020
F. Total Special Reserves (Market Value)	$	20,375,339
15. Adjusted Total Special Reserves (99.7% of Market, Except Contingency)	$	20,369,124
16. **Pension Reserves at Actuarial Value (Valuation Assets): (11 - 15)**	**$**	**1,968,231,244**

Historical Investment Performance

The table shows the historical annual asset returns on a Market Value, Actuarial Value, and Valuation Asset basis, as well in the increase in the Consumer Price Index (CPI) since 1997. Note that the returns prior to 2013 are expressed net of investment and administrative expenses; the returns for 2013 (and future years) are expressed net of investment expenses only.

Table II-4
Net Return on Assets vs. Increase in Consumer Price Index

Year Ended June 30	Net Return at Market Value	Net Return at Actuarial Value	Net Return at Valuation Assets	Increase in Consumer Price Index[1]
1997	20.4%			2.3%
1998	13.4%			1.7%
1999	10.6%			2.0%
2000	6.3%			3.7%
2001	7.0%			3.2%
2002	-4.5%			1.1%
2003	5.2%		4.9%	2.1%
2004	6.1%		6.3%	3.3%
2005	8.2%		5.5%	2.5%
2006	9.9%		10.8%	4.3%
2007	16.0%	10.8%	0.6%	2.7%
2008	-8.5%	8.0%	16.7%	5.0%
2009	-17.2%	-9.6%	-9.4%	-1.4%
2010	15.6%	13.0%	14.7%	1.1%
2011	22.1%	3.5%	4.2%	3.6%
2012	0.1%	6.4%	6.5%	1.7%
2013	13.9%	7.0%	7.2%	1.8%
2014	18.0%	9.4%	9.5%	2.1%
2015	3.9%	9.1%	9.0%	0.1%
2016	-1.7%	6.3%	6.3%	1.0%
2017	14.4%	8.3%	8.4%	1.6%
20-Year Compound Average	**6.5%**	**N/A**	**N/A**	**2.1%**
15-Year Compound Average	**6.5%**	**N/A**	**6.6%**	**2.1%**
10-Year Compound Average	**5.3%**	**6.0%**	**7.1%**	**1.6%**
5-Year Compound Average	**9.4%**	**8.0%**	**8.1%**	**1.3%**

[1] Based on All Urban Consumers - U.S. City Average, June indices.

Allocation of Unfunded Actuarial Liability by Valuation Subgroup

The following table shows the allocation of the Unfunded Actuarial Liability between the two valuation subgroups (County / Former County Members and City of Ceres / Special District Members). The Valuation Assets are reduced by the liability associated with the inactive members and the refundable contribution balances for active members, and the remaining assets are allocated to each subgroup based on their share of the active liability. These UAL balances are used to calculate each subgroup's amortization payment.

Table II-5
Allocation of 6/30/2017 Unfunded Liability
(in thousands)

		County and Former County	Ceres and Other Districts	Total
1.	Actuarial Value of Assets			$ 1,968,231
2.	Accumulated Employee Contributions	193,027	13,359	206,386
3.	Inactive Actuarial Liability	1,590,718	65,367	1,656,085
4.	**Net Assets for Distribution [1 - 2 - 3]**			**$ 105,760**
5.	Active Actuarial Liability	$ 927,353	$ 64,724	$ 992,077
6.	Allocation of Remaining Assets	93.48%	6.52%	100.00%
7.	Remaining Assets	98,860	6,900	105,760
8.	Total Assets for Actives [2 + 7]	291,888	20,259	312,146
9.	Active Funded Ratio [8 ÷ 5]	31.5%	31.3%	31.5%
10.	**Actuarial Value of Assets [3 + 8]**	**$ 1,882,606**	**$ 85,626**	**$ 1,968,231**
11.	AVA Funded Ratio [10 ÷ (3 + 5)]	74.76380%	65.81990%	74.3%
12.	**Unfunded Actuarial Liability [5 - 8]**	**$ 635,465**	**$ 44,465**	**$ 679,930**

Within the two valuation subgroups (County / Former County Members and City of Ceres / Special District Members), the Actuarial Value of Assets and the Unfunded Actuarial Liability are allocated between Safety and General based on Actuarial Liability. See Table III-1.

SECTION III – LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities at June 30, 2016 and June 30, 2017,
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, represents the amount of money needed today to fully fund all benefits of the Plan both earned as of the valuation date and those to be earned in the future by current Plan participants, under the current Plan provisions.

- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the Present Value of Future Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. The method used for this Plan is called the **Entry Age Normal** (EAN) funding method.

- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Valuation Assets.

Table III-1 on the following page discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of Plan assets yields, for each respective type, a **net surplus,** or an **Unfunded Actuarial Liability**.

SECTION III – LIABILITIES

Table III-1
Present Value of Future Benefits and Actuarial Liability
(in thousands)

	General: County and Former County	General: Ceres and Other Districts	Safety: County and Former County	Safety: Ceres and Other Districts	June 30, 2017 Total	June 30, 2016 Total
Present Value of Future Benefits						
Actives	$ 982,880	$ 38,220	$ 334,131	$ 53,482	$ 1,408,712	$ 1,386,514
Terminated Vested	100,819	5,204	31,071	8,840	145,934	134,179
Retirees	967,120	24,802	284,511	17,830	1,294,262	1,210,208
Disabled	48,978	2,599	75,443	5,145	132,166	127,435
Beneficiaries	54,622	373	28,154	573	83,723	89,524
Total StanCERA	**$ 2,154,418**	**$ 71,198**	**$ 753,311**	**$ 85,870**	**$ 3,064,797**	**$ 2,947,860**
Actuarial Liability						
Total Present Value of Benefits	$ 2,154,418	$ 71,198	$ 753,311	$ 85,870	$ 3,064,797	$ 2,947,860
Present Value of Future Normal Costs						
Employer Portion	150,955	6,126	63,302	9,592	229,976	228,047
Employee Portion	126,523	4,634	48,878	6,624	186,659	182,745
Actuarial Liability	$ 1,876,940	$ 60,437	$ 641,131	$ 69,654	$ 2,648,162	$ 2,537,067
Actuarial Value of Assets	$ 1,403,272	$ 39,780	$ 479,334	$ 45,846	$ 1,968,231	$ 1,845,764
Funded Ratio	74.8%	65.8%	74.8%	65.8%	74.3%	72.8%
Unfunded Actuarial Liability/(Surplus)	$ 473,668	$ 20,658	$ 161,797	$ 23,808	$ 679,930	$ 691,302

SECTION III – LIABILITIES

The table shows the Actuarial Liabilities for each of the valuation subgroups (General and Safety), split by members' status.

Table III-2
Liabilities by Group as of June 30, 2017
(in thousands)

	General		Safety		Total
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	
Actuarial Liability					
Actives	$ 705,402	$ 27,459	$ 221,951	$ 37,265	$ 992,077
Terminated Vested	100,819	5,204	31,071	8,840	145,934
Retirees	967,120	24,802	284,511	17,830	1,294,262
Disabled	48,978	2,599	75,443	5,145	132,166
Beneficiaries	54,622	373	28,154	573	83,723
Total	**$ 1,876,940**	**$ 60,437**	**$ 641,131**	**$ 69,654**	**$ 2,648,162**

Changes in Liabilities

Each of the Liabilities disclosed in the prior tables are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure Plan assets

Table III-3
Development of 2017 Experience Gain/(Loss)
(in millions)

	Item		Cost
1.	Unfunded Actuarial Liability at June 30, 2016	$	691.3
2.	Middle of year actuarial liability payment		(50.2)
3.	Interest to end of year on 1 and 2		48.3
4.	Expected Unfunded Actuarial Liability at June 30, 2017 (1+2+3)	$	689.4
5.	Actual Unfunded Liability at June 30, 2017		679.9
6.	Difference: (4 - 5)	$	9.5
7.	Portion of difference due to:		
	A. Investment experience	$	20.8
	B. Contribution (shortfall)/excess		(20.1)
	C. Programming changes		0.8
	D. New entrant loss		(2.3)
	E. Other experience		10.4
	F. Total		9.5

SECTION IV – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the Normal Cost and the Unfunded Actuarial Liability is the **Entry Age Normal (EAN)** cost method. There are three components to the total contribution: the **Normal Cost rate** (employee and employer), the **Unfunded Actuarial Liability rate** (UAL rate), and the **Administrative Expense** contribution.

The Normal Cost rate is determined in the following steps. First, an individual Normal Cost rate is determined by taking the value, as of entry age into the Plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary producing a Normal Cost rate that should remain relatively constant over a member's career.

The total Normal Cost is computed by adding the expected dollar amount of each active member's Normal Cost for the current year – known as the Individual Entry Age Method. The total Normal Cost is adjusted with interest to the middle of the year, to reflect the fact that the Normal Cost contributions are paid throughout the year as member payroll payments are made. Finally, the total Normal Cost rate is reduced by the member contribution rate to produce the employer Normal Cost rate. The member contribution rate for each subgroup is determined by adding the expected contributions for each member and dividing by the projected pay for each subgroup.

The EAN Actuarial Liability is calculated by subtracting the present value of future total Normal Cost from the Present Value of Future Benefits (as described on page 23).

The Unfunded Actuarial Liability (UAL) is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. The UAL payment is determined as the amount needed to fund the UAL over a closed 19-year period as a level percentage of payroll.

Beginning with the June 30, 2012 actuarial valuation, the Board adopted a policy of adding an amount equal to the expected annual administrative expense to the employer's required contribution. Prior to the June 30, 2012 actuarial valuation, the administrative expenses were included as an offset to the assumed earnings rate, and were shared between the employees and employers. For the June 30, 2017 valuation, this amount is estimated to be $2.546 million.

Beginning with the June 30, 2015 actuarial valuation, the Board adopted a three-year phase-in of the impact of the assumption changes on the employer contribution rate. For this valuation, the phase-in is in its third and final year.

SECTION IV – CONTRIBUTIONS

The table presents the calculation of the contribution rates for the Plan for this valuation and compares the total contribution rate with the prior year rate. The tables on the following pages contain more details on the calculation of the UAL amortization payments, as well as details on the calculation of the contribution rates for each group and tier. This includes the third year of phase-in of the assumption change.

Table IV-1
Development of the Net Employer Contribution Rate as of June 30, 2017 for FYE 2019

	June 30, 2017					June 30, 2016
	General		Safety		COMPOSITE	COMPOSITE
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts		
1. Total Normal Cost Rate	18.88%	20.84%	30.84%	32.54%	**21.52%**	**21.82%**
2. Member Contribution Rate	8.80%	8.66%	13.26%	13.31%	**9.75%**	**9.85%**
3. Employer Normal Cost Rate (1-2)	10.08%	12.18%	17.58%	19.23%	**11.77%**	**11.97%**
4. UAL Amortization	17.41%	19.82%	24.15%	25.24%	**18.94%**	**19.04%**
5. Administrative Expense Rate	0.85%	0.98%	1.28%	1.37%	**0.94%**	**0.94%**
6. Net Employer Contribution Rate (3+4+5)	28.34%	32.98%	43.01%	45.84%	**31.65%**	**31.95%**
7. Phase-In of Assumption Changes	0.00%	0.00%	0.00%	0.00%	**0.00%**	**-2.94%**
8. Final Employer Contribution Rate (6+7)	28.34%	32.98%	43.01%	45.84%	**31.65%**	**29.01%**

SECTION IV – CONTRIBUTIONS

Table IV-2 contains the details of the calculations of the UAL rates for the Plan.

Table IV-2

Development of UAL Amortization Rates

	General		Safety		TOTAL
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	
Salary Scale:					
2018+	3.25%	3.25%	3.25%	3.25%	N/A
Amortization Factor	13.3156	13.3156	13.3156	13.3156	N/A
Payroll	$ 204,314,978	$ 7,828,729	$ 50,316,812	$ 7,083,917	$ 269,544,436
Unfunded Actuarial Liability (actuarial value)	$ 473,668,316	$ 20,657,516	$ 161,796,965	$ 23,807,676	$ 679,930,473
UAL Amortization	$ 35,572,451	$ 1,551,378	$ 12,150,939	$ 1,787,954	$ 51,062,722
UAL Amortization Rate	17.41%	19.82%	24.15%	25.24%	18.94%

SECTION IV – CONTRIBUTIONS

Tables IV-3 and IV-4 contain the calculations of the employer contribution rates for each group and tier, and reflects the third year of the three-year phase-in of the assumption change.

Table IV-3
Development of the General Member Contribution Rate as of June 30, 2017 for FYE 2019

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	PEPRA	TOTAL
County and Former County							
A. Total Normal Cost Rate	21.63%	17.67%	2.89%	17.04%	20.46%	16.09%	**18.88%**
B. Member Contribution Rate	8.44%	8.00%	0.00%	1.39%	9.38%	8.04%	**8.80%**
C. Employer Normal Cost Rate (A-B)	13.19%	9.67%	2.89%	15.65%	11.08%	8.05%	**10.08%**
D. UAL Amortization Rate	17.41%	17.41%	17.41%	17.41%	17.41%	17.41%	**17.41%**
E. Administrative Expense Rate	0.94%	0.83%	0.62%	1.02%	0.88%	0.78%	**0.85%**
F. Net June 30, 2017 Contribution Rate (C+D+E)	**31.54%**	**27.91%**	**20.92%**	**34.08%**	**29.37%**	**26.24%**	**28.34%**
Ceres and Other Districts							
A. Total Normal Cost Rate		16.29%		0.00%	22.34%	16.94%	**20.84%**
B. Member Contribution Rate		7.80%		0.00%	8.77%	8.47%	**8.66%**
C. Employer Normal Cost Rate (A-B)		8.49%		0.00%	13.57%	8.47%	**12.18%**
D. UAL Amortization Rate		19.82%		19.82%	19.82%	19.82%	**19.82%**
E. Administrative Expense Rate		0.87%		0.61%	1.03%	0.87%	**0.98%**
F. Net June 30, 2017 Contribution Rate (C+D+E)		**29.18%**		**20.43%**	**34.42%**	**29.16%**	**32.98%**

Administrative expenses allocated based on projected Employer Normal Cost and UAL Amortization contributions. See Table IV-5.

SECTION IV – CONTRIBUTIONS

Table IV-4 Development of the Safety Member Contribution Rate as of June 30, 2017 for FYE 2019	Tier 2	Tier 4	Tier 5	PEPRA	TOTAL
County and Former County					
A. Total Normal Cost Rate	30.11%	0.00%	33.36%	26.09%	**30.84%**
B. Member Contribution Rate	12.68%	0.00%	13.43%	13.04%	**13.26%**
C. Employer Normal Cost Rate (A-B)	17.43%	0.00%	19.93%	13.05%	**17.58%**
D. UAL Amortization Rate	24.15%	24.15%	24.15%	24.15%	**24.15%**
E. Administrative Expense Rate	1.28%	0.74%	1.36%	1.14%	**1.28%**
F. Net June 30, 2017 Contribution Rate (C+D+E)	**42.86%**	**24.89%**	**45.44%**	**38.34%**	**43.01%**
Ceres and Other Districts					
A. Total Normal Cost Rate			32.89%	30.82%	**32.54%**
B. Member Contribution Rate			12.88%	15.41%	**13.31%**
C. Employer Normal Cost Rate (A-B)			20.01%	15.41%	**19.23%**
D. UAL Amortization Rate			25.24%	25.24%	**25.24%**
E. Administrative Expense Rate			1.39%	1.25%	**1.37%**
F. Net June 30, 2017 Contribution Rate (C+D+E)			**46.64%**	**41.90%**	**45.84%**

Administrative expenses allocated based on projected Employer Normal Cost and UAL Amortization contributions. See Table IV-6.

SECTION IV – CONTRIBUTIONS

Tables IV-5 and IV-6 show the allocation of the administrative expense for each group and tier. The administrative expense is allocated to each group and tier based on their share of the projected employer contributions prior to inclusion of the administrative expense.

Table IV-5
Development of the General Member Administrative Expense Rate as of June 30, 2017 for FYE 2019

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	PEPRA	TOTAL
County and Former County							
A. Projected Payroll for FYE 2019	$ 45,148	$ 14,066,507	$ 684,934	$ 1,583,136	$ 126,498,634	$ 61,436,619	**$ 204,314,978**
B. Employer Normal Cost Rate	13.19%	9.67%	2.89%	15.65%	11.08%	8.05%	
C. UAL Amortization Rate	17.41%	17.41%	17.41%	17.41%	17.41%	17.41%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)	30.60%	27.08%	20.30%	33.06%	28.49%	25.46%	
E. Projected Employer Contribution for FYE 2019 Prior to Administrative Expense							
1. Normal Cost (A*B)	$ 5,955	$ 1,360,231	$ 19,795	$ 247,761	$ 14,016,049	$ 4,945,648	**$ 20,595,439**
2. UAL Amortization (A*C)	7,860	2,448,979	119,247	275,624	22,023,412	10,696,115	**35,571,237**
3. Total Prior to Administrative Expense (A*D)	$ 13,815	$ 3,809,210	$ 139,042	$ 523,385	$ 36,039,461	$ 15,641,763	**$ 56,166,676**
F. Allocated Administrative Expense	$ 425	$ 117,131	$ 4,275	$ 16,094	$ 1,108,196	$ 480,977	**$ 1,727,099**
G. Administrative Expense Rate (F÷A)	**0.94%**	**0.83%**	**0.62%**	**1.02%**	**0.88%**	**0.78%**	
H. Projected Employer Contribution for FYE 2019 Due to Administrative Expense (A*G)	$ 424	$ 116,752	$ 4,247	$ 16,148	$ 1,113,188	$ 479,206	**$ 1,729,965**
Ceres and Other Districts							
A. Projected Payroll for FYE 2019		$ 229,955		$ 57,753	$ 5,630,406	$ 1,910,615	**$ 7,828,729**
B. Employer Normal Cost Rate		8.49%		0.00%	13.57%	8.47%	
C. UAL Amortization Rate		19.82%		19.82%	19.82%	19.82%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)		28.31%		19.82%	33.39%	28.29%	
E. Projected Employer Contribution for FYE 2019 Prior to Administrative Expense							
1. Normal Cost (A*B)		$ 19,523		$ 0	$ 764,047	$ 161,829	**$ 945,399**
2. UAL Amortization (A*C)		45,577		11,447	1,115,946	378,684	**1,551,654**
3. Total Prior to Administrative Expense (A*D)		$ 65,100		$ 11,447	$ 1,879,993	$ 540,513	**$ 2,497,053**
F. Allocated Administrative Expense		$ 2,002		$ 352	$ 57,809	$ 16,621	**$ 76,783**
G. Administrative Expense Rate (F÷A)		**0.87%**		**0.61%**	**1.03%**	**0.87%**	
H. Projected Employer Contribution for FYE 2019 Due to Administrative Expense (A*G)		$ 2,001		$ 352	$ 57,993	$ 16,622	**$ 76,968**

SECTION IV – CONTRIBUTIONS

Table IV-6
Development of the Safety Member Administrative Expense Rate as of June 30, 2017 for FYE 2019

	Tier 2	Tier 4	Tier 5	PEPRA	TOTAL
County and Former County					
A. Projected Payroll for FYE 2019	$ 3,476,625	$ 85,389	$ 30,955,689	$ 15,799,109	**$ 50,316,812**
B. Employer Normal Cost Rate	17.43%	0.00%	19.93%	13.05%	
C. UAL Amortization Rate	24.15%	24.15%	24.15%	24.15%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)	41.58%	24.15%	44.08%	37.20%	
E. Projected Employer Contribution for FYE 2019 Prior to Administrative Expense					
1. Normal Cost (A*B)	$ 605,976	$ 0	$ 6,169,469	$ 2,061,784	**$ 8,837,229**
2. UAL Amortization (A*C)	839,605	20,621	7,475,799	3,815,485	**12,151,510**
3. Total Prior to Administrative Expense (A*D)	$ 1,445,581	$ 20,621	$ 13,645,268	$ 5,877,269	**$ 20,988,739**
F. Allocated Administrative Expense	$ 44,451	$ 634	$ 419,586	$ 180,723	**$ 645,394**
G. Administrative Expense Rate (F÷A)	**1.28%**	**0.74%**	**1.36%**	**1.14%**	
H. Projected Employer Contribution for FYE 2019 Due to Administrative Expense (A*G)	$ 44,501	$ 632	$ 420,997	$ 180,110	**$ 646,240**
Ceres and Other Districts					
A. Projected Payroll for FYE 2019			$ 5,894,478	$ 1,189,439	**$ 7,083,917**
B. Employer Normal Cost Rate			20.01%	15.41%	
C. UAL Amortization Rate			25.24%	25.24%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)			45.25%	40.65%	
E. Projected Employer Contribution for FYE 2019 Prior to Administrative Expense					
1. Normal Cost (A*B)			$ 1,179,485	$ 183,293	**$ 1,362,778**
2. UAL Amortization (A*C)			1,487,766	300,214	**1,787,980**
3. Total Prior to Administrative Expense (A*D)			$ 2,667,251	$ 483,507	**$ 3,150,758**
F. Allocated Administrative Expense			$ 82,017	$ 14,868	**$ 96,884**
G. Administrative Expense Rate (F÷A)			**1.39%**	**1.25%**	
H. Projected Employer Contribution for FYE 2019 Due to Administrative Expense (A*G)			$ 81,933	$ 14,868	**$ 96,801**

SECTION V – REQUIRED CAFR EXHIBITS

The GASB adopted Statement Nos. 67 and 68 which replaced GASB Statement Nos. 25 and 27. GASB 67 is effective for periods beginning after June 15, 2013 (first effective June 30, 2014 for the Plan) and GASB 68 is effective for fiscal years beginning after June 15, 2014 (first effective for the fiscal year July 1, 2014 to June 30, 2015 for the Employers). The disclosures needed to satisfy the new GASB requirements can be found in the StanCERA GASB 67/68 Report as of June 30, 2017.

In accordance with Government Finance Officers Association (GFOA) and their recommended checklist for Comprehensive Annual Financial Reports (CAFRs), we continue to prepare the Solvency Test disclosure and Actuarial Gain/Loss exhibit.

Solvency Test

The solvency test shows the portion of actuarial liabilities for active member contributions, inactive members, and the employer financed portion of the active members that are covered by the Actuarial Value of Assets.

The Actuarial Accrued Liability under GASB 25 is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Beginning June 30, 2015, liabilities are discounted at the assumed valuation interest rate of 7.25%.

SECTION V – REQUIRED CAFR EXHIBITS

Table V-1
SOLVENCY TEST
(dollars in thousands)

Valuation Date June 30,	(1) Active Member Contributions	(2) Retirees And Beneficiaries	(3) Active And Terminated Members	Actuarial Accrued Liabilities	Valuation Assets	Portion of Actuarial Liabilities Covered by Reported Assets (1)	(2)	(3)
2003	$ 176,622	$ 455,784	$ 325,689	$ 958,095	$ 928,022	100%	100%	91%
2004	166,806	518,922	349,617	1,035,345	993,180	100%	100%	88%
2005	205,556	551,810	358,994	1,116,310	1,049,691	100%	100%	81%
2006 [1]	219,907	619,109	355,888	1,194,904	1,154,048	100%	100%	89%
2008 [2]	272,657	739,838	536,329	1,548,824	1,317,167	100%	100%	57%
2009	298,342	781,082	574,292	1,653,716	1,171,767	100%	100%	16%
2010	323,940	829,323	584,561	1,737,824	1,325,801	100%	100%	30%
2011	337,201	897,384	523,133	1,757,718	1,372,046	100%	100%	26%
2012	351,569	987,546	549,598	1,888,713	1,451,764	100%	100%	20%
2013 [3]	191,968	1,065,792	661,466	1,919,227	1,524,076	100%	100%	40%
2014	193,301	1,144,734	688,335	2,026,371	1,644,077	100%	100%	44%
2015	196,074	1,337,781	857,667	2,391,522	1,763,629	100%	100%	27%
2016	200,960	1,427,166	908,941	2,537,067	1,845,764	100%	100%	24%
2017	206,386	1,510,151	931,625	2,648,162	1,968,231	100%	100%	27%

[1] Results recalculated, reflecting Level 1 assumption changes (new retirement, termination and withdrawal decrements) & new EFI EAN methodology.

[2] Reflects transfer as of June 30, 2008 of $50 million from Non-Valuation to Valuation Reserves.

[3] Reflects change to include only refundable contribution balance.

SECTION V – REQUIRED CAFR EXHIBITS

Table V-2 displays the historical experience of gains and losses for the Plan. Each year there will be a gain or loss due to both assets and liabilities. In addition, there can be gains or losses due to changes in plan provisions or due to the adoption of new assumptions and methods. This year there is a large gain due to high investment returns and due to plan experience.

Table V-2

	Actuarial (Gains)/Losses (Change in UAAL beyond expected)				
Plan Year Ending	Asset Sources	Liability Sources	Total	Changes in Plan Provisions	Changes in Assumptions/Methods
6/30/2004	$ 8,536,049	$ 12,492,070	$ 21,028,119	$ 0	$ (2,088,246)
6/30/2005	26,573,640	11,238,430	37,812,070	0	0
6/30/2006	(27,756,878)	21,366,204	(6,390,674)	0	(14,845,293)
6/30/2007 [1]	86,178,774	0	86,178,774	0	134,470,779
6/30/2008	(50,709,169)	67,324,195	16,615,026	0	0
6/30/2009	228,905,354	12,996,828	241,902,182	0	0
6/30/2010	(76,507,113)	37,492,978	(39,014,135)	0	(51,743,766)
6/30/2011	49,205,018	(2,387,353)	46,817,665	0	(72,085,966)
6/30/2012	(5,283,786)	6,191,029	907,243	0	52,606,350
6/30/2013	10,200,000	8,500,000	18,700,000	0	(63,400,000)
6/30/2014	(22,600,000)	6,100,000	(16,500,000)	0	400,000
6/30/2015	(20,600,000)	(5,600,000)	(26,200,000)	0	269,800,000
6/30/2016 [2]	16,300,000	28,900,000	45,200,000	0	0
6/30/2017	(20,800,000)	(8,900,000)	(29,700,000)	0	0

[1] Actuarial valuation was not performed for fiscal year ending June 30, 2007.

[2] Changes due to Actuarial Audit included as Liability Loss of $700,000.

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by the StanCERA as of June 30, 2017. Cheiron did not audit any of the data. However, we performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

	General Members		Safety Members		Total	
	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017
Active Participants						
Number	3,521	3,552	727	757	4,248	4,309
Average Age	45.15	45.02	38.11	37.73	43.94	43.74
Average Service	10.62	10.59	10.29	10.06	10.56	10.50
Average Pay (does not reflect impact of furloughs)	$ 56,364	$ 56,801	$ 71,555	$ 71,843	$ 58,964	$ 59,444
Service Retired						
Number	2,552	2,614	367	390	2,919	3,004
Average Age	69.64	69.90	64.76	64.84	69.02	69.24
Average Annual Total Benefit	$ 29,368	$ 30,139	$ 53,226	$ 55,279	$ 32,368	$ 33,403
Beneficiaries						
Number	334	338	94	93	428	431
Average Age	73.11	72.84	66.90	66.26	71.75	71.42
Average Annual Total Benefit	$ 16,980	$ 17,694	$ 27,902	$ 29,212	$ 19,379	$ 20,179
Duty Disabled						
Number	102	101	123	125	225	226
Average Age	68.02	68.86	57.58	58.33	62.31	63.04
Average Annual Total Benefit	$ 24,834	$ 25,421	$ 37,475	$ 38,340	$ 31,744	$ 32,566
Ordinary Disabled						
Number	72	78	7	7	79	85
Average Age	64.57	64.04	58.00	59.00	63.99	63.62
Average Annual Total Benefit	$ 16,412	$ 17,127	$ 23,013	$ 23,703	$ 16,996	$ 17,669
Total In Pay						
Number	3,060	3,131	591	615	3,651	3,746
Average Age	69.84	70.04	63.52	63.66	68.82	68.99
Average Annual Total Benefit	$ 27,560	$ 28,319	$ 45,562	$ 47,535	$ 30,474	$ 31,474
Terminated Vested						
Number	399	416	80	80	479	496
Average Age	49.88	49.75	42.48	43.19	48.64	48.69
Average Service	10.23	10.46	9.27	9.71	10.07	10.34
Transfers						
Number	398	424	153	151	551	575
Average Age	46.51	46.42	41.22	41.76	45.04	45.20
Average Service	6.80	6.96	7.32	7.22	6.95	7.03
Total Inactives						
Number	797	840	233	231	1,030	1,071
Average Age	48.20	48.07	41.65	42.26	46.72	46.81
Average Service	8.52	8.69	7.99	8.08	8.40	8.56

APPENDIX A – MEMBERSHIP INFORMATION

Data pertaining to active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator on electronic media. As is usual in studies of this type, Member data was neither verified nor audited. Cheiron did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Plan Year Ending	Added During Year	Allowance Added	Removed During Year	Allowance Removed	At End of Year	Annual Allowance	% Increase in Retiree Allowance	Average Annual Allowance
2008	369	$ 9,084,777	(148)	$ (1,731,738)	2,666	$ 63,296,000	19.18%	$ 23,742
2009	156	$ 2,168,425	(71)	$ (647,870)	2,751	$ 66,720,003	5.41%	$ 24,253
2010	159	$ 3,349,900	(80)	$ (751,427)	2,830	$ 71,464,735	7.11%	$ 25,334
2011	263	$ 4,724,416	(78)	$ (1,194,042)	3,015	$ 74,826,404	4.70%	$ 25,732
2012	226	$ 3,565,634	(99)	$ (978,729)	3,142	$ 80,157,222	7.12%	$ 26,737
2013	198	$ 6,036,138	(91)	$ (1,144,584)	3,249	$ 89,975,736	12.25%	$ 27,694
2014	222	$ 6,703,273	(86)	$ (1,725,066)	3,385	$ 96,405,454	7.15%	$ 28,480
2015	237	$ 7,778,716	(83)	$ (2,043,313)	3,539	$ 104,052,097	7.93%	$ 29,402
2016	211	$ 7,066,750	(99)	$ (2,160,689)	3,651	$ 111,260,240	6.93%	$ 30,474
2017	202	$ 6,749,973	(107)	$ (2,471,229)	3,746	$ 117,901,627	5.97%	$ 31,474

APPENDIX A – MEMBERSHIP INFORMATION

	County and Former County						Ceres and Other Districts						Total County and Former County, Ceres and Other Districts	
	General Members		Safety Members		Total		General Members		Safety Members		Total			
	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017
Active Participants														
Number	3,393	3,429	645	675	4,038	4,104	128	123	82	82	210	205	4,248	4,309
Average Age	45.13	44.97	38.09	37.58	44.01	43.76	45.55	46.33	38.27	38.95	42.70	43.38	43.94	43.74
Average Service	10.58	10.54	10.21	9.92	10.52	10.44	11.73	12.08	10.87	11.26	11.40	11.75	10.56	10.50
Average Pay[1]	$ 56,134	$ 56,662	$ 70,051	$ 70,581	$ 58,357	$ 58,952	$ 62,462	$ 60,674	$ 83,383	$ 82,237	$ 70,632	$ 69,299	$ 58,964	$ 59,444
Terminated Vested														
Number	384	399	71	69	455	468	15	17	9	11	24	28	479	496
Average Age	49.84	49.79	42.58	43.41	48.71	48.85	50.93	48.59	41.67	41.82	47.46	45.93	48.64	48.69
Average Service	10.22	10.41	9.28	9.69	10.07	10.31	10.59	11.46	9.17	9.84	10.06	10.82	10.07	10.34
Transfers														
Number	370	395	125	121	495	516	28	29	28	30	56	59	551	575
Average Age	46.83	46.75	40.92	41.36	45.34	45.49	42.21	41.86	42.57	43.40	42.39	42.64	45.04	45.20
Average Service	6.75	6.86	6.98	6.80	6.81	6.85	7.56	8.28	8.85	8.92	8.21	8.61	6.95	7.03
Total Inactives														
Number	754	794	196	190	950	984	43	46	37	41	80	87	1,030	1,071
Average Age	48.36	48.28	41.52	42.10	46.95	47.09	45.26	44.35	42.35	42.98	43.91	43.70	46.72	46.81
Average Service	8.52	8.65	7.82	7.85	8.37	8.49	8.62	9.46	8.93	9.16	8.76	9.32	8.40	8.56

[1] All payroll figures shown are annual.

APPENDIX A – MEMBERSHIP INFORMATION

County and Former County Members

	General Members												Safety Members					
	Tier 1		Tier 2		Tier 3		Tier 4		Tier 5		PEPRA		Tiers 1 & 4		Tiers 2 & 5		PEPRA	
	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017
Active Participants																		
Number	1	1	247	232	15	13	23	18	2,070	1,911	1,037	1,254	1	1	446	417	198	257
Average Age	57.00	58.00	39.66	40.70	53.40	53.85	61.22	61.56	49.59	50.22	37.05	37.43	62.00	63.00	42.09	42.72	28.93	29.14
Average Service	17.76	18.76	5.25	6.39	18.05	19.11	35.00	35.92	15.40	16.31	1.58	2.05	21.63	22.69	13.96	14.69	1.72	2.12
Average Pay[1]	$ 41,745	$ 43,509	$ 54,911	$ 57,684	$ 51,118	$ 50,775	$ 86,099	$ 84,760	$ 62,361	$ 63,781	$ 43,416	$ 45,293	$ 81,949	$ 82,290	$ 76,864	$ 79,332	$ 54,645	$ 56,335
Terminated Vested																		
Number	11	8	58	56	21	20	1	2	293	311	0	2	0	0	70	69	1	0
Average Age	62.55	63.75	55.86	53.93	56.05	57.10	67.00	67.00	47.67	48.23	0.00	31.50	0.00	0.00	42.83	43.41	25.00	0.00
Average Service	10.20	10.17	8.77	7.83	12.74	12.70	5.55	18.28	10.34	10.72	0.00	4.99	0.00	0.00	9.41	9.69	0.24	0.00
Transfers																		
Number	5	6	119	125	13	13	2	1	207	212	24	38	1	1	115	110	9	10
Average Age	61.80	63.00	48.18	48.08	50.08	51.08	59.00	58.00	46.71	47.16	35.33	35.79	68.00	69.00	41.29	41.81	33.22	33.60
Average Service	11.59	11.57	2.89	3.21	14.61	15.21	14.33	3.27	8.92	9.33	1.25	1.63	6.08	6.08	7.41	7.27	1.67	1.62
Total Inactives																		
Number	16	14	177	181	34	33	3	3	500	523	24	40	1	1	185	179	10	10
Average Age	62.31	63.43	50.69	49.89	53.76	54.73	61.67	64.00	47.27	47.80	35.33	35.58	68.00	69.00	41.87	42.42	32.40	33.60
Average Service	10.63	10.77	4.81	4.64	13.46	13.69	11.41	13.28	9.75	10.16	1.25	1.80	6.08	6.08	8.16	8.21	1.52	1.62

[1] All payroll figures shown are annual.

CERES and Other District Members

	General Members												Safety Members					
	Tier 1		Tier 2		Tier 3		Tier 4		Tier 5		PEPRA		Tiers 1 & 4		Tiers 2 & 5		PEPRA	
	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017	7/1/2016	7/1/2017
Active Participants																		
Number	0	0	4	4	0	0	2	1	86	78	36	40	0	0	68	62	14	20
Average Age	0.00	0.00	45.00	46.00	0.00	0.00	62.00	70.00	48.77	50.21	37.00	38.20	0.00	0.00	39.54	40.65	32.07	33.70
Average Service	0.00	0.00	10.56	11.54	0.00	0.00	42.13	48.83	15.31	16.42	1.64	2.75	0.00	0.00	12.91	14.14	0.97	2.32
Average Pay[1]	$ 0	$ 0	$ 52,363	$ 55,402	$ 0	$ 0	$ 65,243	$ 55,657	$ 70,998	$ 69,374	$ 43,040	$ 44,360	$ 0	$ 0	$ 89,555	$ 91,204	$ 53,405	$ 54,440
Terminated Vested																		
Number	1	1	4	4	0	0	0	0	9	11	1	1	0	0	9	11	0	0
Average Age	62.00	63.00	56.25	57.25	0.00	0.00	0.00	0.00	48.33	44.64	42.00	43.00	0.00	0.00	41.67	41.82	0.00	0.00
Average Service	5.32	5.32	7.59	7.59	0.00	0.00	0.00	0.00	12.21	13.26	13.29	13.29	0.00	0.00	9.17	9.84	0.00	0.00
Transfers																		
Number	0	0	5	4	0	0	0	0	21	23	2	2	0	0	27	29	1	1
Average Age	0.00	0.00	51.00	48.25	0.00	0.00	0.00	0.00	41.38	41.78	29.00	30.00	0.00	0.00	43.07	43.86	29.00	30.00
Average Service	0.00	0.00	2.19	1.99	0.00	0.00	0.00	0.00	9.39	9.90	1.75	2.25	0.00	0.00	9.12	9.16	1.73	1.73
Inactives																		
Number	1	1	9	8	0	0	0	0	30	34	3	3	0	0	36	40	1	1
Average Age	62.00	63.00	53.33	52.75	0.00	0.00	0.00	0.00	43.47	42.71	33.33	34.33	0.00	0.00	42.72	43.30	29.00	30.00
Average Service	5.32	5.32	4.59	4.79	0.00	0.00	0.00	0.00	10.24	10.99	5.59	5.93	0.00	0.00	9.13	9.35	1.73	1.73

[1] All payroll figures shown are annual.

APPENDIX A – MEMBERSHIP INFORMATION

Valuation Date	Plan Type	Number	Annual Payroll	Average Annual Salary	Increase in Average Pay
June 30, 2003	General	3,626	$163,505,000	$45,092	6.76%
	Safety	637	$34,159,000	$53,625	3.98%
	Total	4,263	$197,664,000	$46,367	5.23%
June 30, 2004	General	3,618	$164,462,000	$45,457	0.81%
	Safety	630	$35,501,000	$56,351	5.08%
	Total	4,248	$199,963,000	$47,072	1.52%
June 30, 2005	General	3,651	$173,399,000	$47,494	4.48%
	Safety	687	$38,282,000	$55,723	-1.11%
	Total	4,338	$211,681,000	$48,797	3.66%
June 30, 2006	General	3,702	$179,767,000	$48,559	2.24%
	Safety	689	$40,001,000	$58,057	4.19%
	Total	4,391	$219,768,000	$50,050	2.57%
June 30, 2008	General	3,719	$230,942,000	$62,098	27.88%
	Safety	731	$44,638,000	$61,064	5.18%
	Total	4,450	$275,580,000	$61,928	23.73%
June 30, 2009	General	3,627	$201,144,000	$55,457	-10.69%
	Safety	739	$47,172,000	$63,832	4.53%
	Total	4,366	$248,316,000	$56,875	-8.16%
June 30, 2010	General	3,464	$202,200,198	$58,372	5.26%
	Safety	685	$46,630,275	$68,073	6.64%
	Total	4,149	$248,830,473	$59,974	5.45%
June 30, 2011	General	3,232	$184,906,498	$57,211	-1.99%
	Safety	637	$41,800,298	$65,621	-3.60%
	Total	3,869	$226,706,796	$58,596	-2.30%
June 30, 2012	General	3,233	$179,260,736	$55,447	-3.08%
	Safety	661	$41,657,273	$63,022	-3.96%
	Total	3,894	$220,918,009	$56,733	-3.18%
June 30, 2013	General	3,230	$176,437,755	$54,625	-1.48%
	Safety	694	$42,590,563	$61,370	-2.62%
	Total	3,924	$219,028,318	$55,818	-1.61%
June 30, 2014	General	3,303	$179,606,090	$54,377	-0.45%
	Safety	689	$43,422,198	$63,022	2.69%
	Total	3,992	$223,028,288	$55,869	0.09%
June 30, 2015	General	3,421	$188,550,804	$55,116	1.36%
	Safety	723	$49,166,923	$68,004	7.91%
	Total	4,144	$237,717,727	$57,364	2.68%
June 30, 2016	General	3,521	$198,457,059	$56,364	2.26%
	Safety	727	$52,020,521	$71,555	5.22%
	Total	4,248	$250,477,580	$58,964	2.79%
June 30, 2017	General	3,552	$201,758,423	$56,801	0.78%
	Safety	757	$54,385,261	$71,843	0.40%
	Total	4,309	$256,143,684	$59,444	0.81%

Actuarial valuation was not performed for fiscal year ending June 30, 2007.

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Retired Members as of June 30, 2017

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
35-39	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
40-44	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
45-49	0	$ 0	3	$ 62,963	0	$ 0	0	$ 0	3	$ 62,963
50-54	44	$ 19,450	56	$ 61,505	0	$ 0	5	$ 29,966	105	$ 42,380
55-59	191	$ 26,469	54	$ 50,727	7	$ 22,487	4	$ 101,080	256	$ 32,643
60-64	452	$ 33,444	72	$ 50,295	15	$ 36,515	4	$ 109,338	543	$ 36,322
65-69	683	$ 32,621	68	$ 55,818	20	$ 25,594	2	$ 69,636	773	$ 34,576
70-74	526	$ 32,670	58	$ 59,939	11	$ 30,967	0	$ 0	595	$ 35,297
75-79	310	$ 27,074	39	$ 50,780	6	$ 37,898	0	$ 0	355	$ 29,861
80-84	148	$ 23,998	15	$ 61,621	3	$ 43,901	0	$ 0	166	$ 27,758
85-89	116	$ 24,260	4	$ 21,379	0	$ 0	0	$ 0	120	$ 24,164
90-94	62	$ 20,487	6	$ 28,694	0	$ 0	0	$ 0	68	$ 21,211
95+	20	$ 17,262	0	$ 0	0	$ 0	0	$ 0	20	$ 17,262
All Ages	2,552	$ 30,120	375	$ 54,475	62	$ 30,915	15	$ 75,385	3,004	$ 33,403

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Service-Connected Disabled Members as of June 30, 2017

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
25-29	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
30-34	0	$ 0	2	$ 18,051	0	$ 0	0	$ 0	2	$ 18,051
35-39	0	$ 0	4	$ 34,644	0	$ 0	0	$ 0	4	$ 34,644
40-44	1	$ 15,458	7	$ 31,939	0	$ 0	1	$ 51,751	9	$ 32,309
45-49	2	$ 23,256	14	$ 38,350	0	$ 0	1	$ 30,609	17	$ 36,119
50-54	1	$ 30,648	18	$ 35,247	1	$ 30,270	0	$ 0	20	$ 34,768
55-59	6	$ 25,336	16	$ 31,815	0	$ 0	0	$ 0	22	$ 30,048
60-64	21	$ 24,558	22	$ 42,428	1	$ 23,712	1	$ 40,309	45	$ 33,626
65-69	20	$ 25,311	17	$ 46,173	1	$ 28,647	2	$ 40,733	40	$ 35,032
70-74	18	$ 25,090	12	$ 37,176	3	$ 21,669	1	$ 81,961	34	$ 30,726
75-79	15	$ 27,971	5	$ 37,719	0	$ 0	0	$ 0	20	$ 30,408
80-84	5	$ 24,244	2	$ 37,343	0	$ 0	0	$ 0	7	$ 27,987
85-89	5	$ 28,562	0	$ 0	0	$ 0	0	$ 0	5	$ 28,562
90-94	1	$ 18,085	0	$ 0	0	$ 0	0	$ 0	1	$ 18,085
95+	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
All Ages	95	$ 25,472	119	$ 37,869	6	$ 24,606	6	$ 47,683	226	$ 32,566

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Nonservice-Connected Disabled Members as of June 30, 2017

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
35-39	0	$ 0	0	$ 0	1	$ 22,254	0	$ 0	1	$ 22,254
40-44	3	$ 15,821	0	$ 0	0	$ 0	0	$ 0	3	$ 15,821
45-49	4	$ 19,871	1	$ 22,924	0	$ 0	1	$ 36,023	6	$ 23,071
50-54	11	$ 15,505	0	$ 0	0	$ 0	0	$ 0	11	$ 15,505
55-59	8	$ 20,484	1	$ 26,149	0	$ 0	0	$ 0	9	$ 21,114
60-64	9	$ 17,640	2	$ 22,742	0	$ 0	0	$ 0	11	$ 18,567
65-69	17	$ 15,764	1	$ 14,639	0	$ 0	0	$ 0	18	$ 15,701
70-74	13	$ 20,714	1	$ 20,703	0	$ 0	0	$ 0	14	$ 20,714
75-79	8	$ 13,585	0	$ 0	0	$ 0	0	$ 0	8	$ 13,585
80-84	1	$ 12,195	0	$ 0	0	$ 0	0	$ 0	1	$ 12,195
85-89	2	$ 14,096	0	$ 0	0	$ 0	0	$ 0	2	$ 14,096
90-94	1	$ 7,187	0	$ 0	0	$ 0	0	$ 0	1	$ 7,187
95+	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
All Ages	77	$ 17,061	6	$ 21,650	1	$ 22,254	1	$ 36,023	85	$ 17,669

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Beneficiaries as of June 30, 2017

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	1	$ 31,150	2	$ 18,318	0	$ 0	0	$ 0	3	$ 22,595
25-29	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
30-34	1	$ 37,656	0	$ 0	0	$ 0	0	$ 0	1	$ 37,656
35-39	1	$ 7,690	0	$ 0	0	$ 0	0	$ 0	1	$ 7,690
40-44	5	$ 9,961	1	$ 10,835	0	$ 0	0	$ 0	6	$ 10,107
45-49	9	$ 13,064	5	$ 24,148	0	$ 0	0	$ 0	14	$ 17,023
50-54	17	$ 13,237	6	$ 35,838	0	$ 0	0	$ 0	23	$ 19,133
55-59	16	$ 14,181	11	$ 19,279	0	$ 0	2	$ 31,757	29	$ 17,327
60-64	31	$ 16,546	11	$ 25,997	0	$ 0	0	$ 0	42	$ 19,021
65-69	47	$ 18,724	14	$ 28,764	1	$ 11,516	0	$ 0	62	$ 20,874
70-74	62	$ 19,625	11	$ 39,123	0	$ 0	0	$ 0	73	$ 22,563
75-79	36	$ 18,182	18	$ 31,199	2	$ 20,373	0	$ 0	56	$ 22,444
80-84	37	$ 17,682	5	$ 33,614	0	$ 0	0	$ 0	42	$ 19,578
85-89	33	$ 20,614	7	$ 29,894	0	$ 0	0	$ 0	40	$ 22,238
90-94	26	$ 17,405	0	$ 0	0	$ 0	0	$ 0	26	$ 17,405
95+	13	$ 13,941	0	$ 0	0	$ 0	0	$ 0	13	$ 13,941
All Ages	335	$ 17,696	91	$ 29,156	3	$ 17,420	2	$ 31,757	431	$ 20,179

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Benefit Form Elections as of June 30, 2017

	County and Former County		Ceres and Other Districts		Total
	General	Safety	General	Safety	
Service Retired					
Option #0 (Unmodified 60% to Spouse)	2,108	331	47	12	2,498
Option #1 (Cash Refund)	209	10	6	0	225
Option #2 (100% Continuance)	203	30	9	2	244
Option #3 (50% Continuance)	28	3	0	1	32
Option #4 (Other)	4	1	0	0	5
Total Service Retired	2,552	375	62	15	3,004
Ordinary Disability					
Option #0 (Unmodified 60% to Spouse)	68	4	1	1	74
Option #1 (Cash Refund)	5	2	0	0	7
Option #2 (100% Continuance)	4	0	0	0	4
Option #3 (50% Continuance)	0	0	0	0	0
Total Ordinary Disability	77	6	1	1	85
Duty Disability					
Option #0 (Unmodified 60% to Spouse)	85	107	5	5	202
Option #1 (Cash Refund)	1	1	1	0	3
Option #2 (100% Continuance)	6	10	0	1	17
Option #3 (50% Continuance)	3	1	0	0	4
Total Duty Disability	95	119	6	6	226
Total	2,724	500	69	22	3,315

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2017
General Members (County and Former County)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	1	0	0	0	0	0	0	0	0	0	0	0	1
20-24	29	2	3	0	0	0	0	0	0	0	0	0	34
25-29	104	89	71	28	6	6	0	0	0	0	0	0	304
30-34	67	74	49	64	43	76	22	0	0	0	0	0	395
35-39	56	50	69	48	30	91	94	28	0	0	0	0	466
40-44	37	28	35	27	24	70	129	113	10	0	0	0	473
45-49	23	26	25	30	8	53	109	116	55	10	0	0	455
50-54	24	23	24	18	10	48	91	110	77	48	11	0	484
55-59	23	17	15	14	10	39	74	112	64	63	14	8	453
60-64	7	9	5	4	3	25	57	77	28	39	10	7	271
65-69	0	1	0	4	1	14	12	19	9	10	2	4	76
70 & Over	0	1	0	0	0	1	5	8	1	1	0	0	17
Total Count	371	320	296	237	135	423	593	583	244	171	37	19	3,429

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	46,847	0	0	0	0	0	0	0	0	0	0	0	46,847
20-24	36,026	33,467	36,833	0	0	0	0	0	0	0	0	0	35,947
25-29	41,670	40,572	41,503	44,853	46,936	49,027	0	0	0	0	0	0	41,852
30-34	42,751	43,454	50,248	48,724	58,837	53,903	51,295	0	0	0	0	0	49,153
35-39	43,198	46,847	46,571	47,184	49,449	59,661	57,018	57,009	0	0	0	0	51,734
40-44	47,132	47,079	46,440	52,805	51,158	61,996	57,812	63,802	64,674	0	0	0	57,071
45-49	42,004	41,453	44,489	48,505	61,958	57,869	61,843	66,837	68,724	70,585	0	0	59,678
50-54	59,361	43,837	50,558	52,310	56,673	59,206	63,103	66,022	69,870	72,327	60,712	0	63,060
55-59	55,536	54,028	46,634	47,992	55,460	60,718	65,521	61,820	67,372	73,249	89,283	66,399	63,951
60-64	39,509	47,605	40,346	79,992	54,001	50,713	58,528	59,307	61,921	85,109	69,097	89,346	62,468
65-69	0	56,844	0	59,267	42,502	66,816	65,520	66,154	75,487	57,246	47,787	50,061	63,983
70 & Over	0	176,206	0	0	0	265,000	83,579	48,250	42,349	61,953	0	0	79,376
Average	44,197	44,437	45,895	49,327	54,403	58,877	60,401	63,387	67,926	74,538	73,090	71,413	56,662

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2017
General Members (Ceres and Other Districts)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	1	2	1	0	0	0	0	0	0	0	0	0	4
25-29	3	1	2	3	0	0	0	0	0	0	0	0	9
30-34	1	3	0	1	1	1	0	0	0	0	0	0	7
35-39	1	2	2	0	3	4	4	2	0	0	0	0	18
40-44	0	2	2	1	0	2	4	5	1	0	0	0	17
45-49	1	1	1	0	0	3	6	1	0	0	1	0	14
50-54	0	0	2	0	1	0	5	7	0	2	1	0	18
55-59	1	0	1	1	0	4	1	6	2	3	0	0	19
60-64	0	0	0	0	2	0	3	2	2	1	1	0	11
65-69	0	0	0	1	0	2	1	0	0	0	0	0	4
70 & Over	0	0	0	0	0	1	0	0	0	0	0	1	2
Total Count	8	11	11	7	7	17	24	23	5	6	3	1	123

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	31,056	36,936	40,244	0	0	0	0	0	0	0	0	0	36,293
25-29	32,133	30,312	37,396	41,563	0	0	0	0	0	0	0	0	36,244
30-34	36,959	40,316	0	41,198	48,503	66,629	0	0	0	0	0	0	44,891
35-39	50,700	45,118	46,055	0	43,010	68,950	58,273	66,041	0	0	0	0	55,725
40-44	0	55,486	35,160	41,283	0	55,614	62,541	72,247	66,643	0	0	0	59,520
45-49	99,382	85,269	47,362	0	0	121,886	55,729	44,290	0	0	83,885	0	75,730
50-54	0	0	85,618	0	42,025	0	53,125	73,224	0	64,383	58,358	0	65,477
55-59	73,584	0	49,628	37,764	0	73,779	60,084	65,291	65,967	67,711	0	0	65,420
60-64	0	0	0	0	43,192	0	58,924	53,391	89,987	55,679	50,175	0	59,615
65-69	0	0	0	37,579	0	127,690	55,028	0	0	0	0	0	86,997
70 & Over	0	0	0	0	0	121,175	0	0	0	0	0	55,657	88,416
Average	48,510	46,510	49,608	40,359	43,706	87,705	57,298	67,335	75,710	64,596	64,139	55,657	60,674

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2017
Safety Members (County and Former County)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	23	11	2	0	0	0	0	0	0	0	0	0	36
25-29	29	34	37	26	17	2	0	0	0	0	0	0	145
30-34	9	12	17	8	12	29	16	0	0	0	0	0	103
35-39	4	2	7	5	6	14	61	14	0	0	0	0	113
40-44	0	2	2	2	3	5	37	44	9	0	0	0	104
45-49	2	0	2	0	1	6	11	31	31	8	0	0	92
50-54	1	1	1	1	0	2	10	18	9	8	0	0	51
55-59	0	1	1	0	4	0	4	5	2	0	1	0	18
60-64	0	0	0	0	0	0	2	4	1	2	0	0	9
65-69	0	0	0	0	1	1	1	0	1	0	0	0	4
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	68	63	69	42	44	59	142	116	53	18	1	0	675

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	52,238	54,752	57,053	0	0	0	0	0	0	0	0	0	53,274
25-29	48,510	51,245	56,570	59,991	66,027	69,109	0	0	0	0	0	0	55,605
30-34	54,948	58,460	62,334	59,029	65,037	71,136	76,108	0	0	0	0	0	65,914
35-39	40,228	52,094	65,108	59,192	67,172	66,630	76,659	80,505	0	0	0	0	72,176
40-44	0	58,551	63,045	69,919	62,543	72,087	76,103	81,786	91,266	0	0	0	78,528
45-49	68,268	0	73,692	0	48,089	74,788	78,857	82,202	90,181	80,977	0	0	83,042
50-54	72,134	81,144	81,008	155,335	0	68,633	77,939	83,668	92,847	92,718	0	0	86,072
55-59	0	71,211	60,101	0	81,863	0	70,424	82,794	83,848	0	68,765	0	77,272
60-64	0	0	0	0	0	0	80,069	78,991	82,290	76,458	0	0	79,034
65-69	0	0	0	0	90,630	81,141	151,491	0	94,428	0	0	0	104,423
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	51,065	54,282	59,959	62,456	67,267	70,535	77,112	81,982	90,510	85,693	68,765	0	70,581

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2017
General Members (Ceres and Other Districts)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	1	1	0	0	0	0	0	0	0	0	0	0	2
25-29	3	3	2	1	1	0	0	0	0	0	0	0	10
30-34	1	4	1	0	5	5	4	0	0	0	0	0	20
35-39	0	0	0	0	0	4	5	2	0	0	0	0	11
40-44	2	0	1	0	0	1	6	6	1	0	0	0	17
45-49	0	1	0	0	0	1	0	7	3	2	0	0	14
50-54	1	0	1	0	0	0	0	1	1	0	0	0	4
55-59	0	0	0	0	0	0	0	0	1	0	1	0	2
60-64	0	0	0	0	0	1	0	0	0	0	1	0	2
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	8	9	5	1	6	12	15	16	6	2	2	0	82

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	38,059	47,352	0	0	0	0	0	0	0	0	0	0	42,706
25-29	44,250	54,673	61,094	67,257	69,886	0	0	0	0	0	0	0	55,610
30-34	65,692	56,617	86,448	0	72,762	84,774	80,250	0	0	0	0	0	74,364
35-39	0	0	0	0	0	86,406	86,635	88,055	0	0	0	0	86,810
40-44	49,356	0	71,314	0	0	73,554	90,818	95,711	136,796	0	0	0	88,209
45-49	0	63,923	0	0	0	70,936	0	99,237	116,342	96,333	0	0	97,944
50-54	65,107	0	64,673	0	0	0	0	92,799	120,795	0	0	0	85,843
55-59	0	0	0	0	0	0	0	0	85,167	0	104,059	0	94,613
60-64	0	0	0	0	0	94,036	0	0	0	0	162,318	0	128,177
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	50,040	55,751	68,925	67,257	72,283	84,002	86,605	96,115	115,298	96,333	133,188	0	82,237

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
All Members

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2016	**4,248**	**551**	**327**	**479**	**79**	**225**	**2,919**	**428**	**9,256**
New Entrants	483	0	0	0	0	0	0	0	483
Rehires	23	(4)	(5)	(10)	0	0	0	0	4
Duty Disabilities	0	(1)	0	(1)	0	2	0	0	0
Ordinary Disabilities	(5)	(1)	0	(1)	7	0	0	0	0
Retirements	(117)	(16)	(1)	(28)	0	0	162	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(76)	(2)	0	77	0	0	0	0	(1)
Died, With Beneficiaries' Benefit Payable	(4)	0	0	0	(1)	0	(21)	26	0
Died, Without Beneficiary, and Other Terminations	(109)	0	104	(1)	0	(1)	(54)	0	(61)
Transfers	(26)	51	(5)	(12)	0	0	0	0	8
Beneficiary Deaths	0	0	0	0	0	0	0	(28)	(28)
Domestic Relations Orders	0	0	0	0	0	0	0	5	5
Withdrawals Paid	(108)	(2)	(40)	(7)	0	0	0	0	(157)
Member Reclassifications	0	(1)	1	0	0	0	(2)	0	(2)
July 1, 2017	**4,309**	**575**	**381**	**496**	**85**	**226**	**3,004**	**431**	**9,507**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
General Members (County and Former County)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2016	**3,393**	**370**	**277**	**384**	**72**	**96**	**2,495**	**332**	**7,419**
New Entrants	390	0	0	0	0	0	0	0	390
Rehires	19	(3)	(3)	(9)	0	0	0	0	4
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	(5)	0	0	(1)	6	0	0	0	0
Retirements	(92)	(11)	(1)	(26)	0	0	130	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(63)	(1)	0	63	0	0	0	0	(1)
Died, With Beneficiaries' Benefit Payable	(3)	0	0	0	(1)	0	(19)	23	0
Died, Without Beneficiary, and Other Terminations	(92)	0	89	(1)	0	(1)	(52)	0	(57)
Transfers	(28)	41	(5)	(7)	0	0	0	0	1
Beneficiary Deaths	0	0	0	0	0	0	0	(23)	(23)
Domestic Relations Orders	0	0	0	0	0	0	0	3	3
Withdrawals Paid	(90)	0	(31)	(6)	0	0	0	0	(127)
Member Reclassifications	0	(1)	(1)	2	0	0	(2)	0	(2)
July 1, 2017	**3,429**	**395**	**325**	**399**	**77**	**95**	**2,552**	**335**	**7,607**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
Safety Members (County and Former County)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2016	**645**	**125**	**37**	**71**	**6**	**117**	**353**	**92**	**1,446**
New Entrants	78	0	0	0	0	0	0	0	78
Rehires	3	(1)	(1)	(1)	0	0	0	0	0
Duty Disabilities	0	(1)	0	(1)	0	2	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(20)	(4)	0	(1)	0	0	25	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(6)	(1)	0	7	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	(1)	0	0	0	0	0	(1)	2	0
Died, Without Beneficiary, and Other Terminations	(12)	0	10	0	0	0	(2)	0	(4)
Transfers	2	5	0	(3)	0	0	0	0	4
Beneficiary Deaths	0	0	0	0	0	0	0	(5)	(5)
Domestic Relations Orders	0	0	0	0	0	0	0	2	2
Withdrawals Paid	(14)	(2)	(6)	(1)	0	0	0	0	(23)
Member Reclassifications	0	0	2	(2)	0	0	0	0	0
July 1, 2017	**675**	**121**	**42**	**69**	**6**	**119**	**375**	**91**	**1,498**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
General Members (Ceres and Other Districts)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2016	**128**	**28**	**7**	**15**	**0**	**6**	**57**	**2**	**243**
New Entrants	7	0	0	0	0	0	0	0	7
Rehires	1	0	(1)	0	0	0	0	0	0
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	0	(1)	0	0	1	0	0	0	0
Retirements	(4)	(1)	0	(1)	0	0	6	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(4)	0	0	4	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	0	(1)	1	0
Died, Without Beneficiary, and Other Terminations	(1)	0	1	0	0	0	0	0	0
Transfers	(1)	3	0	(1)	0	0	0	0	1
Beneficiary Deaths	0	0	0	0	0	0	0	0	0
Domestic Relations Orders	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(3)	0	(2)	0	0	0	0	0	(5)
Member Reclassifications	0	0	0	0	0	0	0	0	0
July 1, 2017	**123**	**29**	**5**	**17**	**1**	**6**	**62**	**3**	**246**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
Safety Members (Ceres and Other Districts)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2016	**82**	**28**	**6**	**9**	**1**	**6**	**14**	**2**	**148**
New Entrants	8	0	0	0	0	0	0	0	8
Rehires	0	0	0	0	0	0	0	0	0
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(1)	0	0	0	0	0	1	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(3)	0	0	3	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	0	0	0	0
Died, Without Beneficiary, and Other Terminations	(4)	0	4	0	0	0	0	0	0
Transfers	1	2	0	(1)	0	0	0	0	2
Beneficiary Deaths	0	0	0	0	0	0	0	0	0
Domestic Relations Orders	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(1)	0	(1)	0	0	0	0	0	(2)
Member Reclassifications	0	0	0	0	0	0	0	0	0
July 1, 2017	**82**	**30**	**9**	**11**	**1**	**6**	**15**	**2**	**156**

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of July 1, 2017 are:

Actuarial Methods

1. Actuarial Cost Method

Annual contributions to the Stanislaus County Employees' Retirement Association (the Plan) are computed under the Entry Age Normal Actuarial Cost Method, computed to the final decrement.

Under this Cost Method, the Normal Cost is calculated as the amount necessary to fund Members' benefits as a level percentage of total payroll over their projected working lives. At each valuation date, the Actuarial Liability is equal to the difference between the liability for the Members' total projected benefit and the present value of future Normal Cost contributions.

The excess of the Actuarial Liability over Plan assets is the Unfunded Actuarial Liability, and the liability for each valuation group is amortized as a level percentage of payroll over a closed period (19 years as of the current valuation).

Amounts may be added to or subtracted from the Unfunded Actuarial Liability due to Plan amendments or changes in actuarial assumptions.

The total Plan cost is the sum of the Normal Cost (computed on an Individual basis), the amortization of the Unfunded Actuarial Liability, and the expected Administrative Expenses.

The increase in Plan cost due to the change in assumptions as a result of the Actuarial Experience Study Report for the period covering July 1, 2012 through June 30, 2015 is phased-in over three years, beginning with the cost calculated in the June 30, 2015 actuarial valuation. For this valuation, the phase-in is in its third and final year.

2. Actuarial Value of Plan Assets

The Actuarial Value of Plan assets is a modified market-related value. The Market Value of Assets is adjusted to recognize, over a five-year period, differences between actual investment earnings and the assumed investment return. The Actuarial Value of Assets is limited to no less than 80% and no more than 120% of the market value.

The detailed calculations of the Actuarial Value of Plan assets are shown in Section II.

3. Changes in Actuarial Methods

None

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

All actuarial assumptions are based on the Actuarial Experience Study Report for the period covering July 1, 2012 through June 30, 2015 report. The assumptions were adopted at the March 16, 2016 Board meeting.

4. **Rate of Return**

   The annual rate of return on all Plan assets is assumed to be 7.25%, net of investment expenses.

5. **Cost of Living**

   The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 3.00% per year.

6. **Administrative Expenses**

   An allowance of $2,546,160 for Plan administrative expenses has been included in the annual cost calculated.

7. **Interest Credited to Employee Accounts**

   The employee accounts are credited with 0.25% interest annually.

8. **Increases in Pay**

   Base salary increase: 3.25%

   Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown below.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Longevity & Promotion Increases		
Service	General	Safety
0	6.00%	7.00%
1	5.00%	6.00%
2	4.00%	5.00%
3	3.00%	4.00%
4	2.00%	3.00%
5	1.50%	2.00%
6	1.00%	1.75%
7	0.75%	1.50%
8	0.50%	1.25%
9	0.50%	1.00%
10	0.50%	0.75%
11+	0.50%	0.50%

9. PEPRA Compensation Limit

The assumption used for increasing the compensation limit that applies to PEPRA members is 3.0%

10. Post Retirement COLA

100% of CPI up to 3% annually with banking, 2.7% annual increases assumed. Increases are assumed to occur on April 1.

11. Social Security Wage Base

General Plan 3 members have their benefits offset by an assumed Social Security Benefit. For projecting the Social Security Benefit, the annual Social Security Wage Base increase is assumed to be 3.25% per year.

12. Internal Revenue Code Section 415 Limit

The Internal Revenue Code Section 415 maximum benefit limitations are not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement.

13. Internal Revenue Code Section 401(a)(17)

The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

14. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the following table.

Percentage Married	
Gender	**Percentage**
Males	80%
Females	50%

Spouses of male members are assumed to be three years younger than the member and spouses of female members are assumed to be two years older than the member.

15. Accumulated Vacation Time Load

Active members' service retirement and related benefits are loaded by 3.0% for Safety Members and 3.5% for General Members for conversion of vacation time. No other adjustment is made to the liabilities for anticipated future service purchases.

16. Rates of Separation

Rates of termination apply to all active Members who terminate their employment.

Separate rates of termination are assumed among Safety and General Members.

Termination Rates		
Years of Service	**General All**	**Safety All**
0	18.0%	18.0%
1	14.0%	12.0%
2	11.7%	9.0%
3	9.4%	7.0%
4	7.1%	6.0%
5	5.0%	5.0%
10	3.5%	5.0%
15	2.9%	3.4%
20	1.5%	0.0%
25	1.3%	0.0%
30+	0.0%	0.0%

Termination rates do not apply once a member is eligible for retirement.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

17. Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members, and are based on service. The rates do not overlap with the service retirement rates.

50% of all General Member terminations with less than 10 years of service are assumed to take a refund of contributions, as well as 20% of those with 10 or more years of service.

35% of all Safety Member terminations with less than 10 years of service are assumed to take a refund of contributions, and 10% of those with 10 or more years are assumed to take a refund.

18. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Vested terminated Tier 3 General Members are assumed to begin receiving benefits at age 65 while all other General Members are assumed to begin at age 58; terminated Safety Members are assumed to begin receiving benefits at age 53. 25% of vested terminated General Members are assumed to be reciprocal; 50% of vested terminated Safety Members are assumed to be reciprocal.

Reciprocal members are assumed to receive 4% annual pay increases from the date of transfer to the assumed retirement date.

19. Form of Benefit

Upon retirement, all married members are assumed to elect the normal payment form (joint & 50% survivor annuity for Tier 3 and joint & 60% survivor annuity for all other tiers). Non-married members are assumed to elect a single life annuity. Actual form elections are not anticipated to materially affect results due to the actuarially equivalent optional form factors.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

20. Rates of Service-Connected Disability

Separate rates of duty disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. On the next page are sample rates:

Rates of Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0043%	0.0002%	0.0759%
25	0.0102%	0.0004%	0.1932%
30	0.0211%	0.0008%	0.3457%
35	0.0284%	0.0024%	0.5309%
40	0.0401%	0.0056%	0.7426%
45	0.0613%	0.0101%	1.1297%
50	0.0897%	0.0162%	1.5092%
55	0.1227%	0.0249%	1.7230%
60	0.1637%	0.0349%	0.0000%
65	0.0000%	0.0000%	0.0000%

21. Rates of Nonservice-Connected Disability

Separate rates of ordinary disability are assumed among Safety and General Members. Rates of ordinary disability for Safety Members are assumed to follow the CalPERS Public Agency Police Non-Industrial Disability table; rates of ordinary disability for General Members are assumed to follow the CalPERS Public Agency Miscellaneous Non-Industrial Disability table. The rates shown are applied after five Years of Service. On the next page are sample rates:

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Rates of Non Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0170%	0.0100%	0.0100%
25	0.0170%	0.0100%	0.0100%
30	0.0190%	0.0240%	0.0200%
35	0.0490%	0.0810%	0.0300%
40	0.1220%	0.1550%	0.0400%
45	0.1910%	0.2180%	0.0500%
50	0.2130%	0.2290%	0.0800%
55	0.2210%	0.1790%	0.1300%
60	0.2220%	0.1350%	0.2000%
65	0.2100%	0.1180%	0.2000%
70	0.1800%	0.1140%	0.2000%
75	0.1420%	0.1180%	0.2000%
80	0.1420%	0.1180%	0.2000%
81+	0.0000%	0.0000%	0.0000%

22. Rates of Mortality for Non-Annuitants

Rates of ordinary death for active Members are specified by the CalPERS Pre-Retirement Non-Industrial Mortality table, adjusted by 100.3% for males and 98.8% for females, with generational mortality improvements projected from 2009 using Scale MP-2015. Duty related mortality rates are only applicable for Safety Active Members, and are based on the CalPERS Pre-Retirement Individual Death table without adjustment or projection.

The table on the following page provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

	Non-Annuitant Mortality Rates		
	Ordinary Death - General and Safety		Duty Death
Age	Male	Female	Safety All
20	0.0330%	0.0209%	0.0030%
25	0.0426%	0.0241%	0.0070%
30	0.0522%	0.0262%	0.0100%
35	0.0607%	0.0368%	0.0120%
40	0.0798%	0.0525%	0.0130%
45	0.1129%	0.0745%	0.0140%
50	0.1651%	0.1049%	0.0150%
55	0.2428%	0.1508%	0.0160%
60	0.3556%	0.2198%	0.0170%
65	0.5107%	0.3233%	0.0180%
70	0.7110%	0.4616%	0.0190%

23. Rates of Mortality for Nonservice-Connected Disabled Retirees

Rates of mortality for current nonservice-connected disabled Members are specified by the CalPERS Non-Industrially Disabled Annuitant Mortality table, adjusted by 96.4% for males and 110.4% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Nonservice-Connected Disabled Mortality Rates		
Age	Male	Female
45	1.250%	0.943%
50	1.720%	1.358%
55	2.020%	1.402%
60	2.539%	1.667%
65	3.008%	2.259%
70	3.750%	3.107%
75	5.204%	4.269%
80	7.934%	6.642%
85	12.692%	10.910%
90	17.804%	17.755%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

24. Rates of Mortality for Service-Connected Disabled Retirees

Rates of mortality for current service-connected disabled Members are specified by the CalPERS Industrially Disabled Annuitant Mortality table, adjusted by 100.2% for males and 100.1% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Service-Connected Disabled Mortality Rates		
Age	Male	Female
45	0.339%	0.298%
50	0.533%	0.496%
55	0.637%	0.460%
60	0.869%	0.634%
65	1.431%	1.068%
70	2.216%	1.777%
75	3.842%	2.955%
80	6.642%	4.983%
85	10.410%	7.967%
90	16.218%	12.347%

25. Rates of Mortality for Emerging Disabled Retirees

Rates of mortality for future disabled retirees, both nonservice- and service-connected, are specified by mortality tables consisting of blends of the mortality assumptions for current nonservice- and service-connected disabled retirees. The blend for future disabled Safety retirees is 5% and 95%, respectively. The blend for future disabled General retirees is 75% and 25%, respectively. The proportions reflect the expected splits in future disabled retirees between nonservice- and service-connected disablements.

26. Rates of Mortality for Healthy Annuitants

Rates of mortality for retired Members and their beneficiaries are specified by the CalPERS Healthy Annuitant table, adjusted by 93.4% for males and 107.9% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The table on the following page provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Healthy Annuitant Mortality Rates		
Age	**Male**	**Female**
45	0.225%	0.229%
50	0.497%	0.534%
55	0.594%	0.496%
60	0.763%	0.576%
65	0.986%	0.807%
70	1.649%	1.365%
75	2.786%	2.366%
80	4.928%	3.987%
85	8.807%	7.202%
90	15.118%	13.310%

27. Mortality Improvement

As mentioned above, the mortality assumptions employ a fully generational mortality improvement projection from base year 2009 using Scale MP-2015.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

28. Rates of Retirement

Retirement is assumed to occur among eligible members in accordance with the table below:

Rates of Retirement General			
	Years of Service		
Age	0-9	10-29	30+
40-44	0.00%	0.00%	0.00%
45-49	0.00%	0.00%	10.00%
50-54	0.00%	5.00%	10.00%
55	0.00%	10.00%	25.00%
56	0.00%	10.00%	25.00%
57	0.00%	10.00%	25.00%
58	0.00%	15.00%	25.00%
59	0.00%	15.00%	25.00%
60	0.00%	15.00%	25.00%
61	0.00%	20.00%	25.00%
62	0.00%	25.00%	40.00%
63	0.00%	20.00%	25.00%
64	0.00%	25.00%	25.00%
65	0.00%	35.00%	35.00%
66	0.00%	45.00%	45.00%
67	0.00%	20.00%	25.00%
68	0.00%	20.00%	25.00%
69	0.00%	20.00%	25.00%
70	50.00%	50.00%	100.00%
71	50.00%	50.00%	100.00%
72	50.00%	50.00%	100.00%
73	50.00%	50.00%	100.00%
74	50.00%	50.00%	100.00%
75+	100.00%	100.00%	100.00%

Rates of Retirement Safety			
	Years of Service		
Age	0-9	10-19	20+
40-48	0.00%	0.00%	5.00%
49	0.00%	0.00%	20.00%
50	0.00%	10.00%	30.00%
51	0.00%	10.00%	20.00%
52	0.00%	10.00%	20.00%
53	0.00%	10.00%	20.00%
54	0.00%	10.00%	20.00%
55	0.00%	10.00%	30.00%
56	0.00%	10.00%	30.00%
57	0.00%	10.00%	30.00%
58	0.00%	10.00%	30.00%
59	0.00%	10.00%	30.00%
60	0.00%	25.00%	100.00%
61	0.00%	25.00%	100.00%
62	0.00%	25.00%	100.00%
63	0.00%	25.00%	100.00%
64	0.00%	25.00%	100.00%
65	0.00%	100.00%	100.00%
66	0.00%	100.00%	100.00%
67	0.00%	100.00%	100.00%
68	0.00%	100.00%	100.00%
69	0.00%	100.00%	100.00%
70+	100.00%	100.00%	100.00%

29. Changes in Actuarial Assumptions

The administrative expenses assumption increased by 3.00% from $2,472,000 to $2,546,160, per the procedure established in the Actuarial Experience Study Report for the period covering July 1, 2012 through June 30, 2015.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

All actuarial calculations are based on our understanding of the statutes governing the StanCERA as contained in the County Employees Retirement Law (CERL) of 1937, with provisions adopted by the County Board of Supervisors, a district Board of Directors, or the StanCERA Board, effective through June 30, 2017. The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the State Code. This summary does not attempt to cover all the detailed provisions of the law.

A. Definitions

Compensation: Compensation means the cash remuneration for services paid by the employer. It includes base pay and certain differential, incentive, and special pay allowances defined by the Board of Retirement. Overtime is excluded, with the exception of overtime paid under the Fair Labor Standards Act that is regular and recurring.

For Tier 6 (PEPRA) members, only pensionable compensation up to the PEPRA Compensation Limit will count for computing Plan benefits and employee contributions and employer contributions. For those participating in Social Security, the compensation cap is $118,775 for calendar year 2017. For those not participating in Social Security, the compensation cap is $142,530 for calendar year 2017. In addition, it is possible that some sources of compensation, such as any payments deemed to be terminal or special pays, may be excluded from the benefit and contribution computations for PEPRA members.

Credited Service: In general, Credited Service is earned for the period during which Member Contributions are paid. Since Tier 3 Members participate in a non-contributory Plan, their Credited Service is calculated based on their date of Membership only.

Temporary service for which the Member was not credited, or service for which the Member withdrew his or her Member Contributions, may be purchased by paying or repaying the Member Contributions with interest. The categories of services that credit may be purchased for are listed below:

- **Prior Part-time Service**: If a Member worked for an employer within the Association on a part-time or 'extra help' basis before his membership in the Retirement Association, the Member may buyback this service.
- **Intermittent Part-time Service**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

- **Prior full time Service:** Member may buyback full time service that may have been cashed out upon termination.
- **Leave of Absence (Including absence with State Disability or Worker's Compensation):** No unpaid leave of absence can be bought back except for absence due to medical reasons of up to one year.
- **Public Service:** Only Tier 1 and 4 Members may buy back this service.
- **Military Time:** Only Tier 1 and 4 Members may buy back this service.
- **Enhance Prior Tier Service:** Applies to certain active and deferred Members with Tier 1, 2 or 3 service.
- **Military "call up"**
- **AB 2766:** Only Safety Employees can buy back this service.

A percentage of credited sick leave may be credited according to the Member's applicable bargaining unit.

Final Compensation: For Members belonging to Tier 2, Tier 3, and Tier 6, Final Compensation means the highest Compensation earned during any 36 consecutive months of the Member's employment. For all others, it is the highest Compensation earned during any twelve months of employment.

General Member: Any Member who is not a Safety Member is a General Member.

Safety Member: Any sworn Member engaged in law enforcement, probation, or fire suppression is a Safety Member.

B. Membership

Eligibility: All full-time, permanent employees of Stanislaus County, City of Ceres, Stanislaus County Superior Court, Salida Sanitary District, East Side Mosquito Abatement, Keyes Community Services, Hills Ferry Cemetery, and StanCOG hired on or after October 1, 1988 become Members on their date of appointment. All others hired before October 1, 1988 became Members on the first day of the calendar month following their date of appointment.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Detailed membership eligibility according to Tier and membership date is shown in Table 1 on the following page.

C. Service Retirement

Eligibility: New members who meet the requirements to enter a legacy tier under PEPRA will enter Tier 2; all other new members will enter Tier 6.

Tier 3 General Members are eligible to retire at age 55 if they have earned 10 years of Credited Service. Tier 6 (PEPRA) General Members are eligible to retire at age 52 if they have earned five years of Credited Service. All other General Members are eligible to retire at age 50 if they have earned five years of Credited Service and have been an Association member for at least 10 years. Alternatively, General non-PEPRA Members are eligible to retire at any age after having earned 30 years of Credited Service, or upon reaching age 70 with no service requirement.

Safety Members are eligible to retire at age 50 if they have earned five years of Credited Service and have been an Association member for at least 10 years. Alternatively, Safety Members are eligible to retire at any age after having earned 20 years of Credited Service, or upon reaching age 70 with no service requirement. The 20-year Credited Service retirement eligibility is not applicable to Tier 6 (PEPRA) Safety Members, nor is the 10-year Association membership requirement.

Benefit Amount: The Service Retirement Benefit payable to the Member is equal to the Member's Final Compensation multiplied by credited service, the benefit factor from Table 1 and the age factor from Table 2 corresponding to the Member's code section. The appropriate code sections for each group are listed in Table 1. For Tier 3 members, the age factors are applied *after* the benefit amount as determined under Table 1 has been offset by the designated fraction of the member's projected age 65 Social Security benefit.

For Tier 3 Members with Credited Service up to 35 years, the percentage of Final Compensation may not exceed 70% and for those with more than 35 years, it may not exceed 80%. For all other non-PEPRA Members, the percentage of Final Compensation may not exceed 100%. For those members integrated with Social Security (other than Tiers 3 and 6), Retirement Benefits based on the first $350 of monthly Final Average Compensation are reduced by one-third.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Table 1: Member Group Descriptions

Group	Open or Closed	FAP	Max Cola	Code Section	Description	Top Retirement Factor Age	Benefit Factor
General Tier I	Closed	1	3	31676.12	2% at 57	62	2.00%
General Tier II	Open	3	3	31676.1	2% at 62	65	1.67%
General Tier III	Closed	3	0	31499.14	Non-Contributory	65	First 35 Years: 2.0% of FAS less 1/35th of Social Security benefit at age 65. Next 10 Years: 1% of FAS
General Tier IV	Closed	1	3	31676.14	2% at 55	65	1.67%
General Tier V	Closed	1	3	31676.14	2% at 55	65	1.67%
General Tier VI	Open	3	3	7522.2	PEPRA	67	1.00%
Safety Tier II	Open	3	3	31664	2% at 50	50	2.00%
Safety Tier IV	Closed	1	3	31664.1	3% at 50	50	3.00%
Safety Tier V	Closed	1	3	31664.1	3% at 50	50	3.00%
Safety Tier VI	Open	3	3	7522.25 (2)	PEPRA	57	1.00%

Table 2: Age Factors

Age	Safety 2% at Age 50 CERL §: 31664	Safety 3% at Age 50 CERL §: 31664.1	Safety PEPRA GC §: 7522.25 Opt2	General 2% at Age 62 CERL §: 31676.1	General 2% at Age 57 CERL §: 31676.12	General 2% at Age 55 CERL §: 31676.14	General 2% at Age 65 CERL §: 31499.14	General PEPRA GC §: 7522.20
41	0.6258	0.6258	N/A	N/A	N/A	N/A	N/A	N/A
42	0.6625	0.6625	N/A	N/A	N/A	N/A	N/A	N/A
43	0.7004	0.7004	N/A	N/A	N/A	N/A	N/A	N/A
44	0.7397	0.7397	N/A	N/A	N/A	N/A	N/A	N/A
45	0.7805	0.7805	N/A	N/A	N/A	N/A	N/A	N/A
46	0.8226	0.8226	N/A	N/A	N/A	N/A	N/A	N/A
47	0.8678	0.8678	N/A	N/A	N/A	N/A	N/A	N/A
48	0.9085	0.9085	N/A	N/A	N/A	N/A	N/A	N/A
49	0.9522	0.9522	N/A	N/A	N/A	N/A	N/A	N/A
50	1.0000	1.0000	2.0000	0.7091	0.6681	0.8850	N/A	N/A
51	1.0516	1.0000	2.1000	0.7457	0.7056	0.9399	N/A	N/A
52	1.1078	1.0000	2.2000	0.7816	0.7454	1.0000	N/A	1.0000
53	1.1692	1.0000	2.3000	0.8181	0.7882	1.0447	N/A	1.1000
54	1.2366	1.0000	2.4000	0.8556	0.8346	1.1048	N/A	1.2000
55	1.3099	1.0000	2.5000	0.8954	0.8850	1.1686	0.3900	1.3000
56	1.3099	1.0000	2.6000	0.9382	0.9399	1.2365	0.4300	1.4000
57	1.3099	1.0000	2.7000	0.9846	1.0000	1.3093	0.4700	1.5000
58	1.3099	1.0000	2.7000	1.0350	1.0447	1.3608	0.5100	1.6000
59	1.3099	1.0000	2.7000	1.0899	1.1048	1.4123	0.5600	1.7000
60	1.3099	1.0000	2.7000	1.1500	1.1686	1.4638	0.6100	1.8000
61	1.3099	1.0000	2.7000	1.1947	1.2365	1.5153	0.6700	1.9000
62	1.3099	1.0000	2.7000	1.2548	1.3093	1.5668	0.7400	2.0000
63	1.3099	1.0000	2.7000	1.3186	1.3093	1.5668	0.8200	2.1000
64	1.3099	1.0000	2.7000	1.3865	1.3093	1.5668	0.9000	2.2000
65	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.3000
66	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.4000
67	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.5000

Form of Benefit: The Service Retirement Benefit will be paid monthly beginning at retirement and for the life of the Member. If the member selects the unmodified benefit form, in the event of the Member's death 60% of the

APPENDIX C – SUMMARY OF PLAN PROVISIONS

benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits for all retired members other than those in Tier 3 are adjusted to reflect changes in the CPI for the San Francisco Bay Area since the prior year. Benefits may be increased or decreased, but the cumulative changes shall never reduce the benefit below the original monthly allowance. Annual increases may not exceed the COLA figures shown in Table 1, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than the figures shown.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit of $5,000 will be payable upon the death of a retired member. No death benefit is payable for Tier 3 retired members.

D. Service-Connected Disability

Eligibility: All non-Tier 3 Members are eligible for Service-Connected Disability Retirement benefits at any age if they are permanently disabled as a result of injuries or illness sustained in the line of duty. Tier 3 Members are not eligible to receive disability benefits.

Benefit Amount: The Service-Connected Disability Retirement Benefit payable to Members is equal to the greater of 50% of their Final Compensation or – if the Member is eligible at disability for a Service Retirement Benefit – the Service Retirement Benefit accrued on the date of disability.

Form of Benefit: The Service-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement and for the life of the Member; in the event of the Member's death, 100% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

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Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of $5,000 will be payable upon the death of the member.

E. Nonservice-Connected Disability

Eligibility: Tier 3 Members are not eligible to receive disability benefits. All other Members are eligible for Nonservice-Connected Disability Retirement benefits if they are permanently disabled at any age after earning five years of Credited Service.

Benefit Amount: The Nonservice-Connected Disability Retirement Benefit payable to Tier 1 General Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 62, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-Connected Disability Retirement Benefit payable to Tiers 2, 4, 5, and 6 General Members is equal to the greatest of:

- 1.5% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.5% of Final Compensation at disability multiplied by years of Credited Service projected to age 65, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-Connected Disability Retirement Benefit payable to Safety Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 55, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Form of Benefit: The Nonservice-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement, and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of $5,000 will be payable upon the death of the member.

F. Death Benefit

Eligibility: A Tier 3 Member's survivors are not eligible to receive death benefits. All other Members' survivors are eligible to receive different Death benefits dependent on the Member's cause of death and retirement eligibility.

Benefit Amount: In the event the Member's death resulted from injury or illness sustained in connection with the Member's duties, the Death Benefit payable to a surviving spouse, domestic partner, or eligible dependent children will be the greater of 50% of the Member's Final Compensation at the time of death or the Service Retirement Benefit.

In the event the Member's death did not result from injury or illness sustained in connection with the Member's duties and at the time of death, the Member was eligible for Service Retirement or Non-Service Connected Disability (i.e. the employee was employed at least five years), the Death Benefit payable to the spouse, partner or children will be 60% of the survivor benefit based on benefit due on Member's date of death.

In all other cases, the designated beneficiary (not necessarily a spouse/partner/child) will receive a refund of the Member's contributions with interest plus one month of Final Compensation for each year of service to a maximum of six years.

Form of Benefit: Annuity death benefits will be paid monthly beginning at the Member's death and for the life of the surviving spouse/partner or to the age of majority of dependent minor children if there is no spouse/partner. Lump sum benefits will be paid as described above.

COLA adjustments (as described for the annuity benefits) are also available.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

G. Withdrawal Benefits

Eligibility:	Tier 3 Members are not eligible to receive withdrawal benefits. All other Members are eligible for a Withdrawal Benefit upon termination of employment, if not eligible to receive or electing to waive a monthly benefit.
Benefit Amount:	The Withdrawal Benefit is a refund of the Member's accumulated Contributions with interest. Upon receipt of the Withdrawal Benefit, the Member forfeits all Credited Service.
Form of Benefit:	The Withdrawal Benefit is paid in a lump sum upon election by the Member.

H. Deferred Vested Benefit

Eligibility:	A Member is eligible for a Deferred Vested Benefit upon termination of employment after earning five years of Credited Service, including reciprocity service from another system. For Tier 3 Members, the vesting requirement is 10 years of Credited Service. The Member must leave his or her Member Contributions with interest on deposit with the Plan. This requirement does not apply to Tier 3 Members since they participate in a non-contributory Plan.
Benefit Amount:	The Deferred Vested Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service and Final Compensation on the date of termination.
Form of Benefit:	The Deferred Vested Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary. Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of $5,000 will be payable upon the death of the member. No death benefit is payable for Tier 3 retired members.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

I. Reciprocal Benefit

Eligibility: A Member is eligible for a Reciprocal Benefit upon termination of employment after earning five years of Credited Service and entry, within a specified period of time, into another retirement system recognized as a reciprocal system by the Plan. For Tier 3 Members, the vesting requirement is 10 years of Credited Service.

The Member must leave his or her Member Contributions with interest on deposit with the Plan. This requirement does not apply to Tier 3 Members since they participate in a non-contributory Plan.

Benefit Amount: The Reciprocal Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service on the date of termination and Final Compensation on the date of retirement; Final Compensation is based on the highest of the Compensation earned under this Plan or the reciprocal plan.

Form of Benefit: The Reciprocal Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available.

A lump sum benefit of $5,000 will be payable upon the death of the member. No death benefit is payable for Tier 3 retired members.

J. Optional Benefit Forms

Prior to retirement, a member may elect to convert his retirement allowance into a benefit of equivalent Actuarial Value in accordance with one of the optional forms described below.

1. A reduced retirement allowance payable during his life with the provision that on his death the excess, if any, of his accumulated deductions at the time of retirement over the annuity payments made to him will be paid to his designated beneficiary or estate; or
2. A reduced retirement allowance payable during his life with the provision that after his death the reduced allowance will be continued

for life to the beneficiary designated by him at the time of his retirement; or

3. A reduced retirement allowance payable during his life with the provision that after his death an allowance of one-half of his reduced allowance will be continued for life to the beneficiary designated by him at the time of his retirement.

In addition, a member participating in Social Security may elect to receive an increased monthly allowance before age 62 (earliest possible receipt of Social Security benefits) and then take a reduced monthly allowance at age 62 and after. This option will not affect any monthly payments payable to a beneficiary. This option is not available to those receiving a disability benefit.

K. Member Contributions

Other than Tiers 3 and 6, all Members contribute a percentage of Compensation to the Plan through payroll deduction. The percentage contributed depends on the Member's nearest age upon joining the Plan. Members do not contribute after earning 30 years of Credited Service.

Tier 6 (PEPRA) Members must contribute half of the Normal Cost of the Plan. Contributions for these members will be based on the Normal Cost associated with their benefits, including COLA; General and Safety members will pay different rates. Members will continue to contribute after earnings 30 years of service.

City of Ceres members in Tiers 1 and 4 pay the Tier 2 and 5 rates ("Full" rates), rather than the rates for their respective Tiers ("Half" rates).

Interest is credited semiannually to each Member's accumulated contributions. The crediting rate is set by the Board; the current annual rate is 0.25%.

The employee contribution rates are shown in the Appendix E.

L. Changes in Plan Provisions

No change

APPENDIX D – GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits that will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date, with each value based on the same set of actuarial assumptions.

9. Amortization Payment

The portion of the pension plan contribution, which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liability.

12. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets. The Unfunded Actuarial Liability is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling StanCERA's benefit obligation in the event of a plan termination or other similar action. However, it is an appropriate measure for assessing the need for or the amount of future contributions.

APPENDIX E – MEMBER CONTRIBUTION RATES

Employee Normal contribution rates vary by benefit formula as defined in the CERL and described in the table below, with the exception that City of Ceres members in Tiers 1 and 4 pay the Tier 2 and 5 rates ("Full" rates), rather than the rates for their respective Tiers ("Half" rates).

Plan/Tier	Code Section	Member Contribution Provides Average Annuity
General Tier 1	31621.5	1/200th of Final Average Salary (FAS) at age 60
General Tier 2	31621	1/120th of Final Average Salary (FAS) at age 60
General Tier 3	NA	NA
General Tier 4	31621.3	1/240th of Final Average Salary (FAS) at age 55
General Tier 5	31621.9	1/120th of Final Average Salary (FAS) at age 55
Safety Tier 2	31639.25	1/100th of Final Average Salary (FAS) at age 50
Safety Tier 4	31639.5	1/200th of Final Average Salary (FAS) at age 50
Safety Tier 5	31639.25	1/100th of Final Average Salary (FAS) at age 50

Employee COLA contribution rates are determined based on 50% of the normal cost associated with the expected COLA benefits, including all forms of decrement and the value of any assumed joint and survivor benefits, determined for each individual entry age.

Similar to the benefit formulas, for those members integrated with Social Security (other than Tiers 3 and 6), contributions based on the first $350 of monthly compensation are reduced by one-third.

The rates were changed following the Experience Study covering the period June 30, 2012 through June 30, 2015. The current employee contribution rates are shown in the following tables, and were determined based on the assumptions used in the current actuarial valuation. These assumptions include an interest rate of 7.25% per annum, an average salary increase of 3.25% per year (plus longevity and promotion increases), and the CalPERS mortality tables with adjustment as specified in the Appendix B and projected using Scale MP-2015 from 2009 to 2037 for General members and to 2039 for Safety members. The projection periods are based upon the duration of liabilities for the respective groups as of June 30, 2015. The rates are blended using a male/female weighting of 25% male / 75% female for General members, and 80% male / 20% female for Safety members. Basic and COLA rates were determined based on an assumption that members would cease making contributions after 30 years of service.

Employee contribution rates for Tier 6 (PEPRA) members are determined based on half the Normal Cost (including COLA) for the PEPRA members, computed separately for General and Safety members, and for County and Ceres / Other District members. Due to the passage of SB13, contribution rates for PEPRA members are not rounded, and are recomputed each year.

The member contribution rates shown in this appendix apply only to pensionable compensation (up to the PEPRA Compensation Limits for PEPRA members).

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 1				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350
16	2.26%	3.40%	1.12%	1.68%
17	2.26%	3.40%	1.12%	1.68%
18	2.26%	3.40%	1.12%	1.68%
19	2.26%	3.40%	1.12%	1.68%
20	2.26%	3.40%	1.12%	1.68%
21	2.28%	3.42%	1.15%	1.73%
22	2.30%	3.45%	1.18%	1.77%
23	2.31%	3.47%	1.21%	1.81%
24	2.33%	3.49%	1.23%	1.85%
25	2.34%	3.51%	1.27%	1.90%
26	2.35%	3.52%	1.29%	1.94%
27	2.35%	3.53%	1.33%	1.99%
28	2.36%	3.54%	1.36%	2.04%
29	2.36%	3.54%	1.39%	2.08%
30	2.36%	3.54%	1.42%	2.13%
31	2.41%	3.61%	1.45%	2.18%
32	2.46%	3.69%	1.49%	2.23%
33	2.51%	3.76%	1.52%	2.28%
34	2.56%	3.83%	1.56%	2.34%
35	2.61%	3.91%	1.60%	2.40%
36	2.66%	3.99%	1.65%	2.47%
37	2.71%	4.06%	1.69%	2.54%
38	2.76%	4.14%	1.74%	2.61%
39	2.82%	4.22%	1.79%	2.68%
40	2.87%	4.31%	1.83%	2.75%
41	2.93%	4.39%	1.87%	2.80%
42	2.99%	4.48%	1.90%	2.85%
43	3.05%	4.57%	1.93%	2.90%
44	3.11%	4.66%	1.97%	2.95%
45	3.17%	4.75%	1.99%	2.99%
46	3.23%	4.85%	2.03%	3.04%
47	3.30%	4.95%	2.05%	3.08%
48	3.37%	5.05%	2.08%	3.12%
49	3.44%	5.16%	2.09%	3.14%
50	3.52%	5.28%	2.11%	3.16%
51	3.60%	5.40%	2.11%	3.17%
52	3.68%	5.52%	2.09%	3.13%
53	3.75%	5.63%	2.05%	3.07%
54	3.82%	5.73%	2.01%	3.02%
55	3.88%	5.82%	1.97%	2.96%
56	3.92%	5.88%	1.91%	2.86%
57	3.93%	5.89%	1.78%	2.67%
58	3.78%	5.67%	1.75%	2.62%
59+	3.74%	5.61%	1.71%	2.57%

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 2				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350
16	3.56%	5.33%	0.91%	1.36%
17	3.56%	5.33%	0.91%	1.36%
18	3.56%	5.33%	0.91%	1.36%
19	3.56%	5.33%	0.91%	1.36%
20	3.56%	5.33%	0.91%	1.36%
21	3.58%	5.38%	0.93%	1.39%
22	3.61%	5.41%	0.95%	1.42%
23	3.63%	5.45%	0.97%	1.45%
24	3.65%	5.48%	0.99%	1.48%
25	3.67%	5.51%	1.01%	1.51%
26	3.69%	5.53%	1.03%	1.55%
27	3.70%	5.55%	1.06%	1.59%
28	3.71%	5.56%	1.09%	1.63%
29	3.71%	5.56%	1.11%	1.66%
30	3.71%	5.57%	1.13%	1.70%
31	3.78%	5.68%	1.16%	1.74%
32	3.86%	5.79%	1.19%	1.79%
33	3.94%	5.90%	1.23%	1.84%
34	4.01%	6.02%	1.25%	1.88%
35	4.09%	6.14%	1.29%	1.93%
36	4.17%	6.26%	1.33%	1.99%
37	4.25%	6.38%	1.36%	2.04%
38	4.34%	6.51%	1.40%	2.10%
39	4.42%	6.64%	1.43%	2.15%
40	4.51%	6.77%	1.47%	2.21%
41	4.60%	6.90%	1.50%	2.25%
42	4.69%	7.04%	1.53%	2.29%
43	4.78%	7.17%	1.55%	2.33%
44	4.88%	7.32%	1.57%	2.36%
45	4.98%	7.46%	1.60%	2.40%
46	5.08%	7.62%	1.62%	2.43%
47	5.18%	7.77%	1.65%	2.47%
48	5.29%	7.94%	1.67%	2.51%
49	5.40%	8.11%	1.69%	2.54%
50	5.52%	8.28%	1.71%	2.57%
51	5.63%	8.45%	1.73%	2.59%
52	5.74%	8.61%	1.73%	2.60%
53	5.83%	8.75%	1.73%	2.60%
54	5.90%	8.85%	1.73%	2.59%
55	5.94%	8.91%	1.70%	2.55%
56	5.94%	8.90%	1.64%	2.46%
57	5.90%	8.85%	1.54%	2.31%
58	6.03%	9.04%	1.51%	2.26%
59+	6.24%	9.36%	1.48%	2.22%

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 4				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350
16	2.05%	3.07%	1.21%	1.81%
17	2.05%	3.07%	1.21%	1.81%
18	2.05%	3.07%	1.21%	1.81%
19	2.05%	3.07%	1.21%	1.81%
20	2.05%	3.07%	1.21%	1.81%
21	2.05%	3.08%	1.24%	1.86%
22	2.06%	3.09%	1.27%	1.90%
23	2.06%	3.10%	1.30%	1.95%
24	2.07%	3.10%	1.33%	1.99%
25	2.07%	3.10%	1.35%	2.03%
26	2.11%	3.16%	1.39%	2.08%
27	2.15%	3.23%	1.41%	2.12%
28	2.19%	3.29%	1.44%	2.16%
29	2.24%	3.35%	1.47%	2.20%
30	2.28%	3.42%	1.50%	2.25%
31	2.33%	3.49%	1.53%	2.30%
32	2.37%	3.56%	1.57%	2.35%
33	2.42%	3.63%	1.61%	2.41%
34	2.47%	3.70%	1.65%	2.47%
35	2.51%	3.77%	1.69%	2.53%
36	2.56%	3.84%	1.73%	2.60%
37	2.61%	3.92%	1.78%	2.67%
38	2.67%	4.00%	1.83%	2.74%
39	2.72%	4.08%	1.87%	2.81%
40	2.77%	4.16%	1.93%	2.89%
41	2.83%	4.24%	1.96%	2.94%
42	2.89%	4.33%	1.99%	2.98%
43	2.95%	4.42%	2.02%	3.03%
44	3.01%	4.52%	2.05%	3.07%
45	3.08%	4.62%	2.07%	3.11%
46	3.15%	4.72%	2.10%	3.15%
47	3.22%	4.83%	2.11%	3.17%
48	3.29%	4.93%	2.13%	3.20%
49	3.35%	5.02%	2.14%	3.21%
50	3.40%	5.10%	2.14%	3.21%
51	3.43%	5.14%	2.13%	3.20%
52	3.44%	5.16%	2.11%	3.16%
53	3.31%	4.96%	2.06%	3.09%
54+	3.28%	4.91%	2.03%	3.05%

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 5				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350
16	4.09%	6.14%	1.21%	1.81%
17	4.09%	6.14%	1.21%	1.81%
18	4.09%	6.14%	1.21%	1.81%
19	4.09%	6.14%	1.21%	1.81%
20	4.09%	6.14%	1.21%	1.81%
21	4.11%	6.16%	1.24%	1.86%
22	4.12%	6.18%	1.27%	1.90%
23	4.13%	6.19%	1.30%	1.95%
24	4.13%	6.20%	1.33%	1.99%
25	4.14%	6.20%	1.35%	2.03%
26	4.22%	6.33%	1.39%	2.08%
27	4.30%	6.45%	1.41%	2.12%
28	4.39%	6.58%	1.44%	2.16%
29	4.47%	6.71%	1.47%	2.20%
30	4.56%	6.84%	1.50%	2.25%
31	4.65%	6.98%	1.53%	2.30%
32	4.74%	7.11%	1.57%	2.35%
33	4.84%	7.25%	1.61%	2.41%
34	4.93%	7.40%	1.65%	2.47%
35	5.03%	7.54%	1.69%	2.53%
36	5.13%	7.69%	1.73%	2.60%
37	5.23%	7.84%	1.78%	2.67%
38	5.33%	8.00%	1.83%	2.74%
39	5.44%	8.16%	1.87%	2.81%
40	5.55%	8.32%	1.93%	2.89%
41	5.66%	8.49%	1.96%	2.94%
42	5.78%	8.66%	1.99%	2.98%
43	5.90%	8.84%	2.02%	3.03%
44	6.02%	9.03%	2.05%	3.07%
45	6.16%	9.23%	2.07%	3.11%
46	6.30%	9.45%	2.10%	3.15%
47	6.44%	9.65%	2.11%	3.17%
48	6.57%	9.86%	2.13%	3.20%
49	6.69%	10.04%	2.14%	3.21%
50	6.80%	10.19%	2.14%	3.21%
51	6.86%	10.29%	2.13%	3.20%
52	6.88%	10.31%	2.11%	3.16%
53	6.62%	9.93%	2.06%	3.09%
54+	6.55%	9.83%	2.03%	3.05%

APPENDIX E – MEMBER CONTRIBUTION RATES

Safety Tier 2				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350
20	4.90%	7.35%	1.83%	2.75%
21	5.00%	7.50%	1.91%	2.87%
22	5.10%	7.65%	1.97%	2.96%
23	5.21%	7.81%	2.04%	3.06%
24	5.31%	7.97%	2.10%	3.15%
25	5.42%	8.13%	2.17%	3.25%
26	5.53%	8.29%	2.23%	3.35%
27	5.64%	8.46%	2.30%	3.45%
28	5.75%	8.63%	2.37%	3.55%
29	5.87%	8.81%	2.44%	3.66%
30	5.99%	8.99%	2.52%	3.78%
31	6.12%	9.18%	2.60%	3.90%
32	6.24%	9.37%	2.68%	4.02%
33	6.38%	9.56%	2.77%	4.15%
34	6.51%	9.77%	2.84%	4.26%
35	6.65%	9.98%	2.92%	4.38%
36	6.80%	10.20%	2.99%	4.48%
37	6.95%	10.42%	3.05%	4.58%
38	7.10%	10.64%	3.13%	4.69%
39	7.23%	10.85%	3.21%	4.81%
40	7.36%	11.05%	3.30%	4.95%
41	7.49%	11.23%	3.34%	5.01%
42	7.61%	11.41%	3.37%	5.06%
43	7.70%	11.55%	3.41%	5.11%
44	7.76%	11.64%	3.43%	5.14%
45	7.77%	11.66%	3.43%	5.15%
46	7.74%	11.60%	3.46%	5.19%
47	7.65%	11.48%	3.48%	5.22%
48	7.83%	11.75%	3.50%	5.25%
49+	8.10%	12.15%	3.52%	5.28%

APPENDIX E – MEMBER CONTRIBUTION RATES

Safety Tier 4				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350
20	2.59%	3.89%	2.49%	3.74%
21	2.64%	3.97%	2.60%	3.90%
22	2.70%	4.05%	2.68%	4.02%
23	2.75%	4.13%	2.75%	4.13%
24	2.81%	4.21%	2.83%	4.24%
25	2.87%	4.30%	2.90%	4.35%
26	2.92%	4.39%	2.97%	4.46%
27	2.98%	4.47%	3.05%	4.57%
28	3.04%	4.57%	3.12%	4.68%
29	3.11%	4.66%	3.19%	4.79%
30	3.17%	4.75%	3.23%	4.85%
31	3.24%	4.85%	3.28%	4.92%
32	3.30%	4.95%	3.35%	5.03%
33	3.37%	5.06%	3.43%	5.14%
34	3.44%	5.17%	3.51%	5.26%
35	3.52%	5.28%	3.59%	5.39%
36	3.60%	5.39%	3.66%	5.49%
37	3.68%	5.52%	3.74%	5.61%
38	3.76%	5.65%	3.83%	5.74%
39	3.85%	5.77%	3.92%	5.88%
40	3.93%	5.89%	4.03%	6.04%
41	4.00%	6.00%	4.02%	6.03%
42	4.07%	6.11%	4.01%	6.02%
43	4.15%	6.22%	4.02%	6.03%
44	4.22%	6.33%	4.02%	6.03%
45	4.26%	6.39%	4.02%	6.03%
46	4.28%	6.42%	4.05%	6.07%
47	4.27%	6.41%	4.07%	6.10%
48	4.11%	6.17%	4.09%	6.13%
49+	4.05%	6.08%	4.11%	6.16%

APPENDIX E – MEMBER CONTRIBUTION RATES

Safety Tier 5				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350
20	5.18%	7.78%	2.49%	3.74%
21	5.29%	7.93%	2.60%	3.90%
22	5.40%	8.10%	2.68%	4.02%
23	5.51%	8.26%	2.75%	4.13%
24	5.62%	8.43%	2.83%	4.24%
25	5.73%	8.60%	2.90%	4.35%
26	5.85%	8.77%	2.97%	4.46%
27	5.97%	8.95%	3.05%	4.57%
28	6.09%	9.13%	3.12%	4.68%
29	6.21%	9.32%	3.19%	4.79%
30	6.34%	9.51%	3.23%	4.85%
31	6.47%	9.71%	3.28%	4.92%
32	6.60%	9.91%	3.35%	5.03%
33	6.74%	10.12%	3.43%	5.14%
34	6.89%	10.33%	3.51%	5.26%
35	7.04%	10.56%	3.59%	5.39%
36	7.19%	10.79%	3.66%	5.49%
37	7.36%	11.03%	3.74%	5.61%
38	7.53%	11.29%	3.83%	5.74%
39	7.69%	11.54%	3.92%	5.88%
40	7.85%	11.78%	4.03%	6.04%
41	8.00%	12.00%	4.02%	6.03%
42	8.15%	12.22%	4.01%	6.02%
43	8.29%	12.44%	4.02%	6.03%
44	8.43%	12.65%	4.02%	6.03%
45	8.52%	12.78%	4.02%	6.03%
46	8.56%	12.84%	4.05%	6.07%
47	8.54%	12.81%	4.07%	6.10%
48	8.22%	12.33%	4.09%	6.13%
49+	8.10%	12.15%	4.11%	6.16%

APPENDIX E – MEMBER CONTRIBUTION RATES

PEPRA Rates				
	General		Safety	
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts
	8.04%	8.47%	13.04%	15.41%

Assumptions:

Interest: 7.25%

Salary: 2017 Valuation Scale (Service based, includes wage inflation at 3.25%)

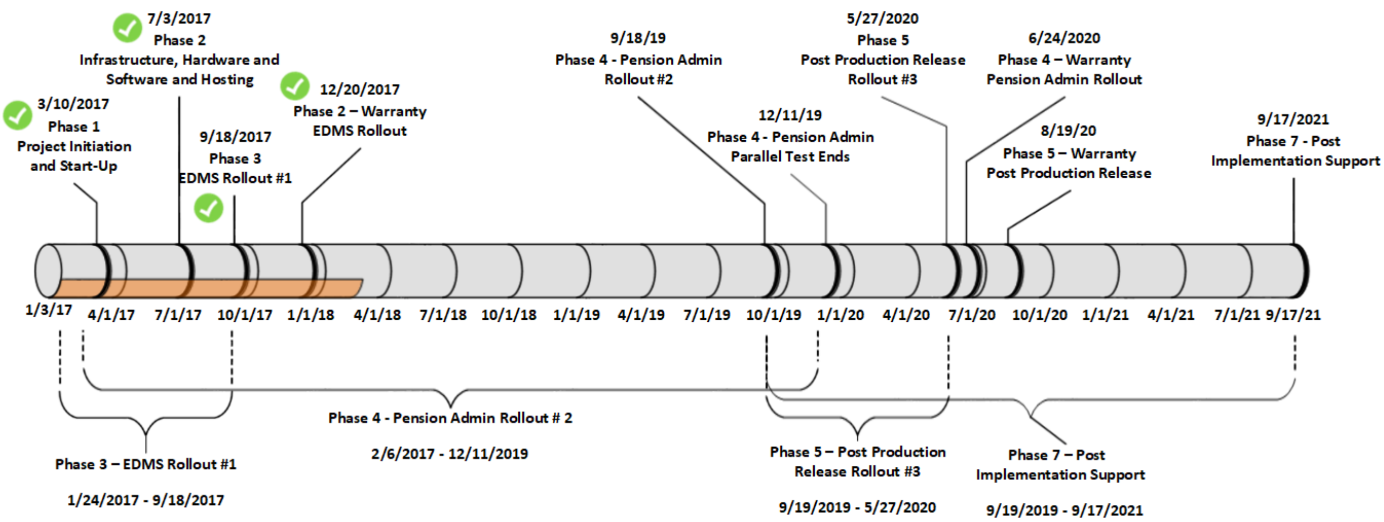
Mortality: Because the PEPRA contributions rates are based on 50% of the actual Normal Cost, the mortality rates are the same as those used in the Actuarial Valuation (CalPERS mortality tables with adjustments based on StanCERA experience projected generationally from 2009 using Scale MP-2015)

CHEIRON

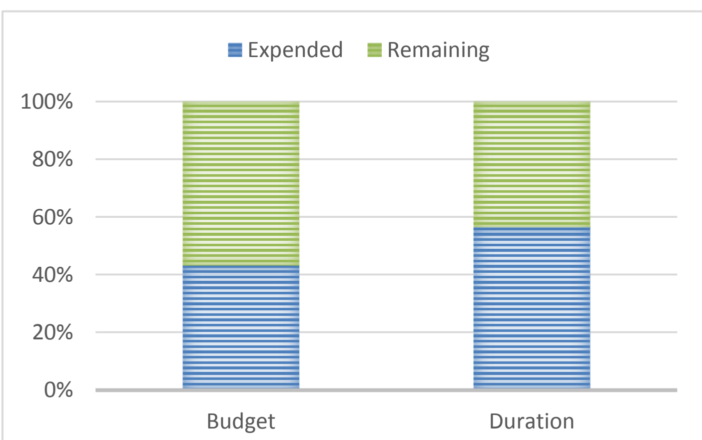
Classic Values, Innovative Advice

PAS Implementation
Linea Bi-weekly Status Update

Sponsor:	Rick Santos	Report Date:	02-23-2018



Baseline 12/01/2016 STATUS



Budget as of 01/31/18

Risks & Issues:

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

Accomplishments:

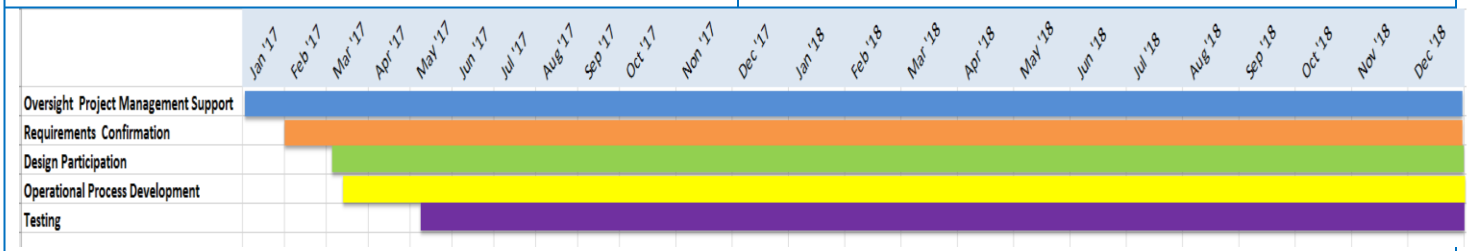
- Completed Phase 4C UAT process, excluding confirmation of currently resolved bugs.
- Completed QA testing process for Imaging production release and held results review meeting with testers that led to a “Go” decision for the release.
- Began implementation of the employer integration plans including release of the initial upload file specification to two employers.

Upcoming:

- Coordinate retesting and closure of Phase 4C UAT bugs and changes as they are resolved.
- Continue to assist with and track employer integration efforts, roll-out of transmittal file specification, and scheduling of employer feedback meeting.

Ongoing Project Contributions

- Facilitate weekly Project Manager’s meetings and create meeting minutes.
- Facilitate monthly Steering Committee Meetings and create meeting minutes.
- Participate in Tegrit work sessions, review meeting minutes, and compile resulting decision logs and action items.
- Regularly review action items for follow up and completion.
- Review and hold group review sessions for BSRD deliverables made by Tegrit.
- Track requirements, as discussed in work sessions and BSRDs, using the RTM and meet with StanCERA PM to update requirements confirmation.
- Manage and participate in system testing efforts, including review of test scripts, compiling of results, input of PIRs, and tracking of issue resolution.



Stanislaus County Employees' Retirement Association
832 12th Street, Ste. 600, Modesto, CA 95354 • PO Box 3150, Modesto, CA 95353 • www.stancera.org • 209-525-6393 • 209-558-4976 Fax

Agenda

February 27, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Kellie Gomes, Executive Board Assistant

I. SUBJECT: SACRS 2018 Spring Business Meeting

II. ITEM NUMBER: 8.c

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION: None

V. ANALYSIS: Each year in May, the SACRS (State Association of County Retirement Systems) elects members to serve as President, Vice President, Treasurer and Secretary for the next fiscal year. The Constitution of SACRS states that "the purpose of the Association is to provide forums for disseminating knowledge of, and developing expertise in, the 1937 Act retirement systems; and further, that the Association foster and take an active role in the legislative process as it affects SACRS retirement systems".

Today two proxy's will be needed one primary and one alternate to vote on behalf of StanCERA at the 2018 Spring SACRS business meeting in May. Attached is the SACRS BOD 2018-2019 election process which outlines the deadlines and provides a nomination form. All interested candidates must complete this form and submit it along with a letter of intent. Both the form and the letter of intent must be submitted no later than March 1, 2018.

StanCERA Board of Retirement will be presented the ballot and Business Meeting packet at the March or April board meeting depending on availability of documents.

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

Kellie Gomes
Kellie Gomes, Executive Board Assistant

Rick Santos, Executive Director

2/27/18
Attachment
8.c

January 9, 2018

To: SACRS Trustees & SACRS Administrators/CEO's
From: Ray McCray, SACRS Immediate Past President, Nominating Committee Chair
SACRS Nominating Committee
Re: SACRS Board of Director Elections 2018-2019 Elections

SACRS BOD 2018-2019 election process will begin **January 2018**. Please review the following timeline and distribute to your Board of Trustees.

DEADLINE	DESCRIPTION
March 1, 2018	Any regular member may submit nominations for the election of a Director to the Nominating Committee, provided the Nominating Committee receives those nominations prior to the first Business Day after March 1 of each calendar year. Nominations shall not be accepted from the floor on the day of the election.
March 25, 2018	The Nominating Committee will report a final ballot to each regular member County Retirement System prior to March 25.
May 18, 2018	Nominating Committee to conduct elections during the SACRS Business Meeting at the Spring Conference (May 15-18, 2018).
May 18, 2018	Board of Directors take office for 1 year

Per SACRS Bylaws, Article VIII, Section 1. Board of Director and Section 2. Elections of Directors:

Section 1. Board of Directors. The Board shall consist of the officers of SACRS as described in Article VI, Section 1, the immediately Past President, and two (2) regular members.

A. Immediate Past President. The immediate Past President, while he or she is a regular member of SACRS, shall also be a member of the Board. In the event the immediate Past President is unable to serve on the Board, the most recent Past President who qualifies shall serve as a member of the Board.

B. Two (2) Regular Members. Two (2) regular members shall also be members of the Board with full voting rights.

Section 2. Elections of Directors. Any regular member may submit nominations for the election of a Director to the Nominating Committee, provided the Nominating Committee receives those nominations prior to the first Business Day after March 1 of each calendar year. Nominations shall not be accepted from the floor on the day of the election.

The Nominating Committee will report a final ballot to each regular member County Retirement System prior to March 25.

The Administrator of each regular member County Retirement System shall be responsible for communicating the Nominating Committee's recommended ballot and final ballot to each trustee and placing the election of SACRS Directors on his or her board agenda. The Administrator shall acknowledge the completion of these responsibilities with the Nominating Committee.

Director elections shall take place during the first regular meeting of each calendar year. The election shall be conducted by an open roll call vote, and shall conform with Article V, Sections 6 and 7 of the Bylaws.

Newly elected Directors shall assume their duties at the conclusion of the meeting at which they are elected, with the exception of the office of Treasurer. The incumbent Treasurer shall co-serve with the newly elected Treasurer through the completion of the current fiscal year.

Interested candidates should submit their letter of intent and the form included in this letter to the Nominating Committee no later than the cut-off dates listed in the schedule. Candidates may submit for only one position on the Board:

- President
- Vice President
- Treasurer
- Secretary
- Regular Member 1
- Regular Member 2

The elections will be held at the SACRS Spring Conference May 15 – 18, 2018 at the Anaheim Marriott, Anaheim, CA. Elections will be held during the Annual Business meeting on Friday, May 18, 2018.

If you have any questions, please contact me at Ray McCray, raym1@sbcglobal.net or (209) 417-4472.

Thank you for your prompt attention to this timely matter.

Sincerely,

Ray McCray

Ray McCray, San Joaquin CERA Trustee
SACRS Nominating Committee Chair

CC: SACRS Board of Directors
SACRS Nominating Committee Members
Sulema H. Peterson, SACRS Administrator

SACRS Nomination Submission Form
SACRS Board of Directors Elections 2018-2019

All interested candidates must complete this form and submit it along with a letter of intent. **Both the form and the letter of intent must be submitted no later than March 1, 2018.** Please submit to the Nominating Committee Chair at raym1@sbcglobal.net or to SACRS at sulema@sacrs.org. If you have any questions, please feel free to contact Sulema Peterson at SACRS at (916) 441-1850.

Name of Candidate	
Candidate Contact Information (Phone Number, Email Address and Mailing Address MUST be included)	
Name of Retirement System Candidate Currently Serves On	
Current Position On Retirement Board (Chair, Alternate, Retiree, General Elected, Etc)	
Applying for SACRS Board of Directors Position (You may only select one)	○ President ○ Vice President ○ Treasurer ○ Secretary ○ Regular Member
Brief Bio	

Agenda

SACRS VOTING PROXY FORM

The following are authorized by the ___________________________ County Retirement Board to vote on behalf of the County Retirement System at the upcoming SACRS Conference

(if you have more than one alternate, please attach the list of alternates in priority order):

______________________________________ Voting Delegate

____________________________________ Alternate Voting Delegate

These delegates were approved by the Retirement Board on _____ / _____ / _____.

The person authorized to fill out this form on behalf of the Retirement Board:

Signature: ________________________________

Print Name: ________________________________

Position: ________________________________

Date: ________________________________

Please send your system's voting proxy by April 1, 2018 to Sulema H. Peterson, SACRS Administrator at Sulema@sacrs.org.